ULP 000439

**Department of Energy**
**Office of Legacy Management**

November 30, 2009

OLM-SRS-2009-172

Mr. Rich Ziegler, Vice President
Golden Eagle Uranium, LLC
6767 South Spruce Street, Suite 100
Centennial, CO 80112

Subject: Credit for Reclamation Performed in Lieu of Royalties

Dear Mr. Ziegler:

The U.S. Department of Energy (DOE) and its contractor have monitored the reclamation work scope performed by Golden Eagle Uranium, LLC (GEU), in lieu of annual royalty payments for the 2009–2010 lease year, and have concluded that the work was completed in a satisfactory manner. In accordance with DOE's letter dated June 15, 2009, GEU is hereby credited with annual royalty payments in the aggregate amount of $55,000 to be distributed and credited to GEU's eight lease tracts as indicated: C–JD5A ($4,800); C–SR–10 ($3,900); C–SR–11A ($12,400); C–SR–15A ($10,900); C–SR–16 ($5,200); C–WM–17 ($6,000); C–LP–22 ($7,900); and C–LP–22A ($3,900). DOE greatly appreciates GEU's efforts in addressing these issues and we trust that this arrangement was beneficial for both parties.

If you have questions concerning this matter, please contact me at (720) 377–9683.

Sincerely,

Jana E. McBarron
for Steven R. Schiesswohl
Realty Officer

cc: Project File (E. Cotter)



ULP 010.07(B)

ULP 000449

**Department of Energy**
**Office of Legacy Management**

November 30, 2009

OLM-SRS-2009-172

Mr. Rich Ziegler, Vice President
Golden Eagle Uranium, LLC
6767 South Spruce Street, Suite 100
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Sincerely,

Jana E. McBarron
for Steven R. Schiesswohl
Realty Officer

cc: Project File (E. Cotter)



ULP 027.07(B)

ULP 000451

**Department of Energy**
**Office of Legacy Management**

November 30, 2009

OLM-SRS-2009-172

Mr. Rich Ziegler, Vice President
Golden Eagle Uranium, LLC
6767 South Spruce Street, Suite 100
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If you have questions concerning this matter, please contact me at (720) 377–9683.

Sincerely,

Jana E. McBarron
for Steven R. Schiesswohl
Realty Officer

cc: Project File (E. Cotter)



ULP 028.07(B)

ULP 000379

# DOE Uranium Leasing Program

## Golden Eagle Uranium — Work Scope for Reclamation in-lieu-of Royalty

### Background

During the fall of 2008, the U.S. Department of Energy Office of Legacy Management (DOE) redefined and realigned the boundaries of its uranium lease tracts to incorporate lands located inside its withdrawal boundaries that were valid claims at the time of the withdrawals but have since became invalid. As a result of those boundary redefinition/realignment activities, many of the current lease tracts now contain mining-related features that are associated with abandoned uranium mine sites located on those claims. By incorporating these lands into its lease tracts, DOE accepted the reclamation liability associated with those mining-related features.

### Current Status

On January 6, 2009, DOE notified its leaseholders of the aforementioned mining-related features located on their respective lease tracts. Specifically, Golden Eagle Uranium, LLC, was notified of various features located on Lease Tracts C–SR–10, C–SR–11A, C–SR–16, C–LP–22, and C–LP–22A. In that letter and during subsequent discussions, Golden Eagle Uranium, LLC, was offered two options. The first option was to incorporate one or more of the specific features into its respective lease operations, thereby accepting the reclamation liability associated with those features incorporated. For those features that were not accepted under first option, Golden Eagle Uranium, LLC, was given the option to fully reclaim the features in-lieu-of some portion of its annual royalty payments. That work scope is outlined below.

### Work Scope

C–SR–10:

The abandoned mine site located on the former Uintah claims needs to be addressed. Each of the six adits shall be permanently closed with large boulders and rocks and then backfilled with available mine-waste-rock materials. The mine-waste-rock dumps shall be recontoured to remove materials from the drainage channel and then blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 0.9 acres).

The abandoned mine site located on the former Vinegaroon claim needs to be addressed. The portal shall be permanently closed with large boulders and rocks and then backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured, as appropriate, to blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 0.1 acres).

A small subsidence that leads into the reclaimed Ortmeyer mine needs to be addressed. This subsidence shall be backfilled with available surface soil materials and reseeded with an approved seed mixture.

ULP 010.07(B)

A subsided shaft located on the former Otero claim needs to be addressed. This subsidence shall be backfilled with available surface soil materials and reseeded with an approved seed mixture.

Several open drill holes located on the lease tract shall be permanently closed with polyurethane foam plugs and then covered with surface soil materials and reseeded with an approved seed mixture.

C–SR–11A:
The abandoned mine site located on the former Lucky Strike claim needs to be addressed. The portal shall be permanently closed with large boulders and rocks and then backfilled with available mine-waste-rock materials. The ore chute shall be dismantled and buried on-site. The mine-waste-rock dump shall be recontoured to blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 0.3 acres).

C–SR–16:
The subsidence features located at the Charles T and Charles T Southwest areas need to be addressed. These subsidence features shall be backfilled with available surface soil materials and reseeded with an approved seed mixture (approximately 0.2 acres).

Several small surface pits and trenches located on the former IV claim need to be addressed. These pits and trenches shall be backfilled with available mine-waste-rock and other surface soil materials and then reseeded with an approved seed mixture (approximately 0.1 acres).

The subsidence located at the P7 portal of the Hawk mines need to be addressed. This subsidence shall be backfilled with available mine-waste-rock and other surface soil materials and then reseeded with an approved seed mixture (approximately 0.1 acres).

The subsided shaft located at the old Ann mine need to be addressed. This subsidence shall be backfilled with available surface soil materials and reseeded with an approved seed mixture.

C–LP–22:
A power pole (San Miguel Power Association) located on top of the mine-waste-rock dump at the Donald C mine site need to be removed to facilitate the reclamation of the site.

The large abandoned mine site located on the former Donald C claim needs to be addressed. All wooden timbers and debris shall be gathered, placed in the decline trench, and burned. Subsequently, all trash and debris shall be gathered and placed in the decline trench prior to closure. The decline portal shall then be closed with large boulders and rocks and backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured to blend in with the natural topography of the area, covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 2.0 acres).

The smaller abandoned mine site located on the former Donald C claim needs to be addressed. The decline portal shall then be closed with large boulders and rocks and backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured to blend in

with the natural topography of the area, covered with other available surface soil materials, and reseeded with an approved seed mixture (approximately 0.3 acres).

The large abandoned mine site located on the former First National Bank claim needs to be addressed. All wooden timbers and debris shall be gathered and burned. All trash and debris shall be gathered and placed in the shaft prior to closure. The shaft shall then be backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured to blend in with the natural topography of the area, covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 1.6 acres).

The six (nine) vents associated with the aforementioned mines shall be permanently closed with polyurethane foam plugs and then covered with surface soil materials and reseeded with an approved seed mixture.

C–SR–22A:
The large abandoned Hidden Basin mine site needs to be addressed. All wooden timbers and debris shall be gathered, placed in the decline trench, and burned. Subsequently, all trash and debris shall be gathered and placed in the decline trench prior to closure. The decline portal shall then be closed with large boulders and rocks and backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured to blend in with the natural topography of the area, covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 1.8 acres).

The seven vents associated with the Hidden Basin mine shall be permanently closed with polyurethane foam plugs and then covered with surface soil materials and reseeded with an approved seed mixture.

The subsidence at the TNT No. 1 mine portal needs to be addressed. The subsidence shall be backfilled with available surface soil materials and reseeded with an approved seed mixture.

The open drill hole located near boundary monument AP–4 shall be permanently closed with polyurethane foam plugs and then covered with surface soil materials and reseeded with an approved seed mixture.

**Note**: The total work to be performed is in excess of the total annual royalties that are owed for the 2009 lease year (aggregate sum of $55,000). Accordingly, the work scope identified herein is equitable to $55,000. The additional work scope will be discussed in a similar fashion next year.

**Note:** This work shall be performed to the satisfaction of the DOE Realty Officer and/or his LMS Contractor representatives from S.M. Stoller Corporation, who shall provide project oversight of the reclamation field activities.

## Summary of Estimated Costs for Reclamation Field Activities -- Golden Eagle Uranium in-lieu-of Royalties

| | | | C-SR-10 | | | | C-SR-11A | | | C-SR-16 | | | | C-LP-22 | | | C-LP-22A | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date (Sept - Oct | Unit Cost | Mob | | | | | | | | | | | | | | | | | DM | Total |
| Equip. Operator | 2,000 | | 2 | 3 | 2 | 2 | | 1 | | 2 | 2 | 2 | | 2 | 2 | 1 | 1 | | | 22 |
| Laborer | 1,400 | | | 1 | | 1 | | 1 | | | | 1 | | 1 | 1 | 1 | 1 | | | 8 |
| Trackhoe (320 | 4,560 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | | 1 | 16 |
| Trackhoe (307 | 3,600 | | | | | | | | | | | | | | | | | | | 0 |
| Mini-Excavato | 1,400 | | | | | | | | | | | | | | | | | | | 0 |
| Dozer (D-8 | 6,800 | | | | | | | | | | | | | | | | | | | 0 |
| Dozer (D-6 | 5,520 | 1 | | | | | | | | | | | | 1 | 1 | 1 | | | 1 | 5 |
| Dozer (D-4 | 2,540 | | | | | | | | | | | | | | | | | | | 0 |
| FE Loader (966 | 3,120 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 | | | | | | 1 | 10 |
| Backhoe (580 | 2,640 | | | | | | | | | | | | | | | | | | | 0 |
| Skidster Loade | 1,680 | 1 | | | | 1 | | | | | | | | | | | | | | 2 |
| Grader/Maintaine | 3,120 | | | | | | | | | | | | | | | | | | | 0 |
| Dump Truck (tdm | 2,880 | | | | | | | | | | | | | | | | | | | 0 |
| Dump Truck (rock | | | | | | | | | | | | | | | | | | | | 0 |
| Water Truck | 2,880 | | | | | | | | | | | | | | | | 1 | | | 1 |
| Flatbed Trailer | 700 | | | | | | | | | | | | | | | | | | | 0 |
| Pickup (4X4 | 1,920 | | | 1 | | | | | | | | | | | | | | | | 1 |
| Portable Weld | 540 | | | 2 | | | | | | | | | | | | | | | | 2 |
| Oxy/Acet Torch Kl | 540 | | | 2 | | | | | | | | | | | | | | | | 2 |
| Bat Gate Inst. (LS | 4,446 | | | 1 | | | | | | | | | | | | | | | | 1 |
| Seed Mix (LS | 300 | | | | | 1 | | 0.3 | | | | 0.5 | | | 1 | | | | | 2.8 |
| PUF (LS | 200 | | | | | | | | | | | | | | 2 | | | | | 2 |
| | | | | | | | | | | | | | | | | | | | | 0 |
| SUB (Initials | | | | | | | | | | | | | | | | | | | | |
| GJO (Initials | | | | | | | | | | | | | | | | | | | | |

# GEU Reclamation in-lieu-of Royalties - Estimated Costs

| Description | Days on Job | 4-day Weeks | Cost per Week | Total Cost |
|---|---|---|---|---|
| Equip. Operators | 22 | 5.5 | 2,000 | 11000 |
| Laborers | 8 | 2 | 1,400 | 2800 |
| Trackhoe (320) | 16 | 4 | 4,560 | 18240 |
| Trackhoe (307) | 0 | 0 | 3,600 | 0 |
| Mini-Excavator | 0 | 0 | 1,400 | 0 |
| Dozer (D–8) | 0 | 0 | 6,800 | 0 |
| Dozer (D–6) | 5 | 1.25 | 5,520 | 6900 |
| Dozer (D–4) | 0 | 0 | 2,540 | 0 |
| FE Loader (966) | 10 | 2.5 | 3,120 | 7800 |
| Backhoe (580) | 0 | 0 | 2,640 | 0 |
| Skidster Loader | 2 | 0.5 | 1,680 | 840 |
| Grader/Maintainer | 0 | 0 | 3,120 | 0 |
| Dump Truck (tdm) | 0 | 0 | 2,880 | 0 |
| Dump Truck (rock) | 0 | 0 | 0 | 0 |
| Water Truck | 1 | 0.25 | 2,880 | 720 |
| Flatbed Trailer | 0 | 0 | 700 | 0 |
| Pickup (4X4) | 1 | 0.25 | 1,920 | 480 |
| Portable Welder | 2 | 0.5 | 540 | 270 |
| Oxy/Acet Torch Kit | 2 | 0.5 | 540 | 270 |
| Bat Gate Inst. (LS) | 1 | 1 | 4,446 | 4,446 |
| Seed Mix (LS) | 2.8 | 2.8 | 300 | 840 |
| PUF (LS) | 2 | 2 | 200 | 400 |
| | 0 | 0 | 0 | 0 |
| | | | | - |
| | | | Total Cost | 55006 |

Little Maverick Drilling Company

PO Box 370
Naturita, CO 81422-0370

# Invoice

| Date | Invoice # |
|---|---|
| 10/13/2009 | 124 |

| Bill To |
|---|
| ATTN: DON CORAM<br>Gold Eagle Mining<br>P.O. Box 3007<br>Montrose, Co. 81402 |

| P.O. No. | Terms | Project |
|---|---|---|
| | | |

| Quantity | Description | Rate | Amount |
|---|---|---|---|
| 1 | JOB SITE MATERIALS CULVERT 6'X20' | 2,522.00 | 2,522.00 |
| 1 | JOB SITE MATERIALS CULVERT 5'X10' | 1,600.00 | 1,600.00 |
| 120 | JOB SITE MATERIALS 80' OF STEEL 3"X3"X1/4 ANGLE IRON @ $2.70 PER FOOT | 2.70 | 324.00 |
| 10 | WELDER | 120.00 | 1,200.00 |
| 10 | WELDER HELPER | 45.00 | 450.00 |

CONTACT NUMBER 970-327-0211
THANK YOU FOR YOUR BUSINESS

**Total** $6,096.00

# Site Specific
# Storm Water Management Plan

**Lease Tract#:** C-SR-10 **Site:** Uintah Claims **Work Area:** Slick Rock, CO/Legin Group
**Work Scope:** Mine Closure / Reclamation

Construction activities will be managed to minimize the volume of storm water entering the disturbed portion of the work area, contain and control the volume of storm water which falls within that area, and minimize the potential for the migration of soil/sediments.

The following engineering control measures have been selected as being applicable to the specific work area disturbance:

_____ **Option #1:** Storm diversion will be accomplished by the installation of ditches, berms, or contouring to minimize the potential for erosion of the portion of the work area.

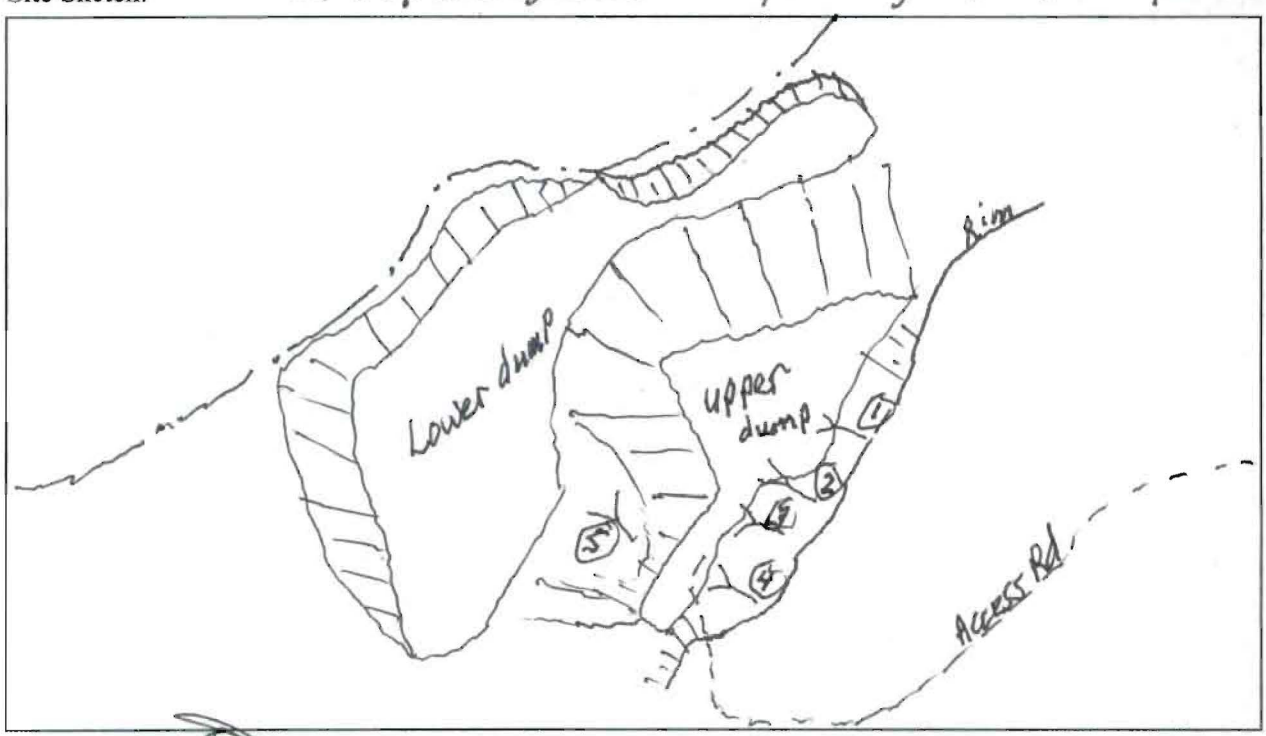
__X__ **Option #2:** Storm water containment/control will be accomplished within the disturbed portion of the work area by construction of catchment basins, including "pocking" of the recontoured materials.

_____ **Option #3:** Migration of soil/sediments will be minimized by the installation of silt fences/barricades utilizing fabric or straw bales.

__X__ **Option #4:** Soil stabilization will be accomplished by seeding the disturbed portion of the work area to establish a viable, diverse stand of grasses, shrubs and forbs.

_____ **Option #5:** No action required.

Site Sketch: Rip-Rap Toe of Dumps along drainage w/Large Rock/Boulders




Signature: _____ Date: 5/26/09

MINE 9
MINE 8
UINTAH 1
UINTAH 5
UINTAH 2
UINTAH 3
Open Adit
UINTAH 4
C-SR-10

# Site Specific
# Storm Water Management Plan

**Lease Tract#:** C-5R-10 **Site:** Vinegaroon **Work Area:** Slickrock/Bishop Canyon
**Work Scope:** Backfill portal and rock dump

Construction activities will be managed to minimize the volume of storm water entering the disturbed portion of the work area, contain and control the volume of storm water which falls within that area, and minimize the potential for the migration of soil/sediments.

The following engineering control measures have been selected as being applicable to the specific work area disturbance:

_____ **Option #1:** Storm diversion will be accomplished by the installation of ditches, berms, or contouring to minimize the potential for erosion of the portion of the work area.

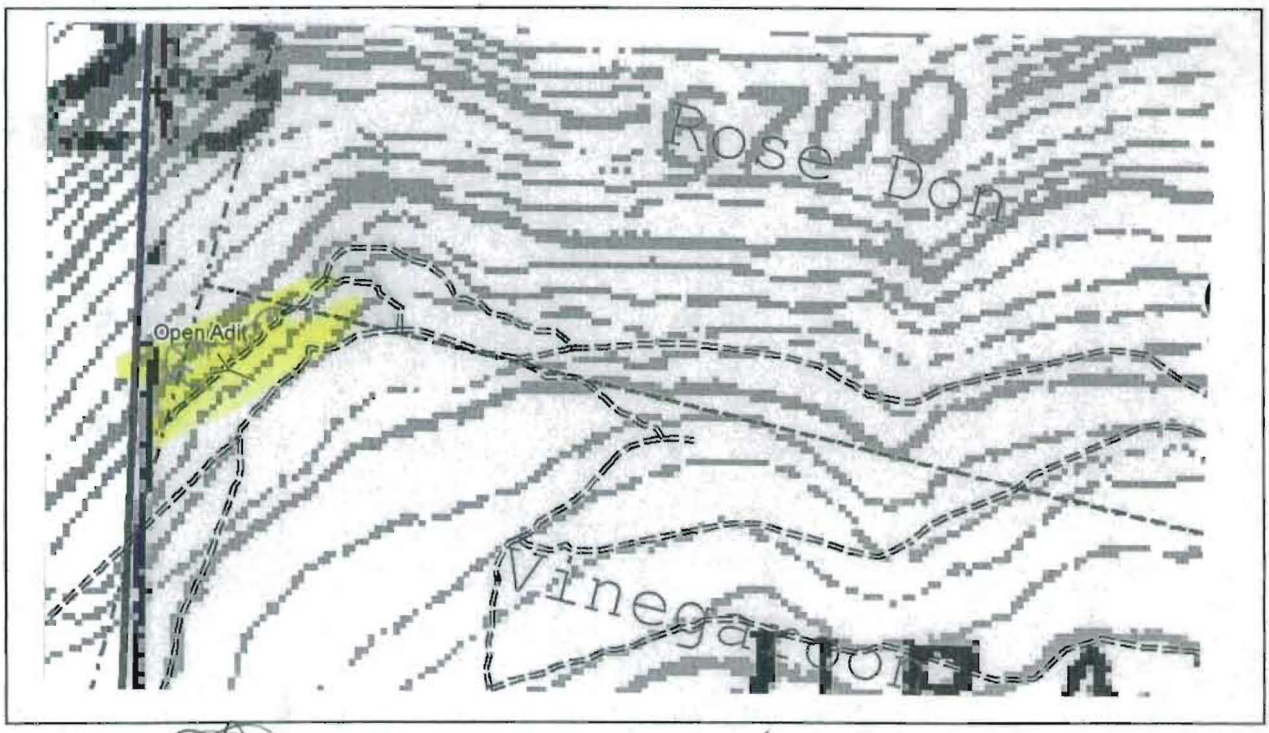
_X_ **Option #2:** Storm water containment/control will be accomplished within the disturbed portion of the work area by construction of catchment basins, including "pocking" of the recontoured materials.

_____ **Option #3:** Migration of soil/sediments will be minimized by the installation of silt fences/barricades utilizing fabric or straw bales.

_X_ **Option #4:** Soil stabilization will be accomplished by seeding the disturbed portion of the work area to establish a viable, diverse stand of grasses, shrubs and forbs.

_____ **Option #5:** No action required.

Site Sketch: Note: Rock dump after backfilling portal.




Signature: _____ Date: 5/26/09

# Site Specific
# Storm Water Management Plan

**Lease Tract#:** C-SR-10 **Site:** Otto Shaft **Work Area:** Slick Rock/Begin group
**Work Scope:** Backfill Subsided Shaft

Construction activities will be managed to minimize the volume of storm water entering the disturbed portion of the work area, contain and control the volume of storm water which falls within that area, and minimize the potential for the migration of soil/sediments.

The following engineering control measures have been selected as being applicable to the specific work area disturbance:

X **Option #1:** Storm diversion will be accomplished by the installation of ditches, berms, or contouring to minimize the potential for erosion of the portion of the work area.

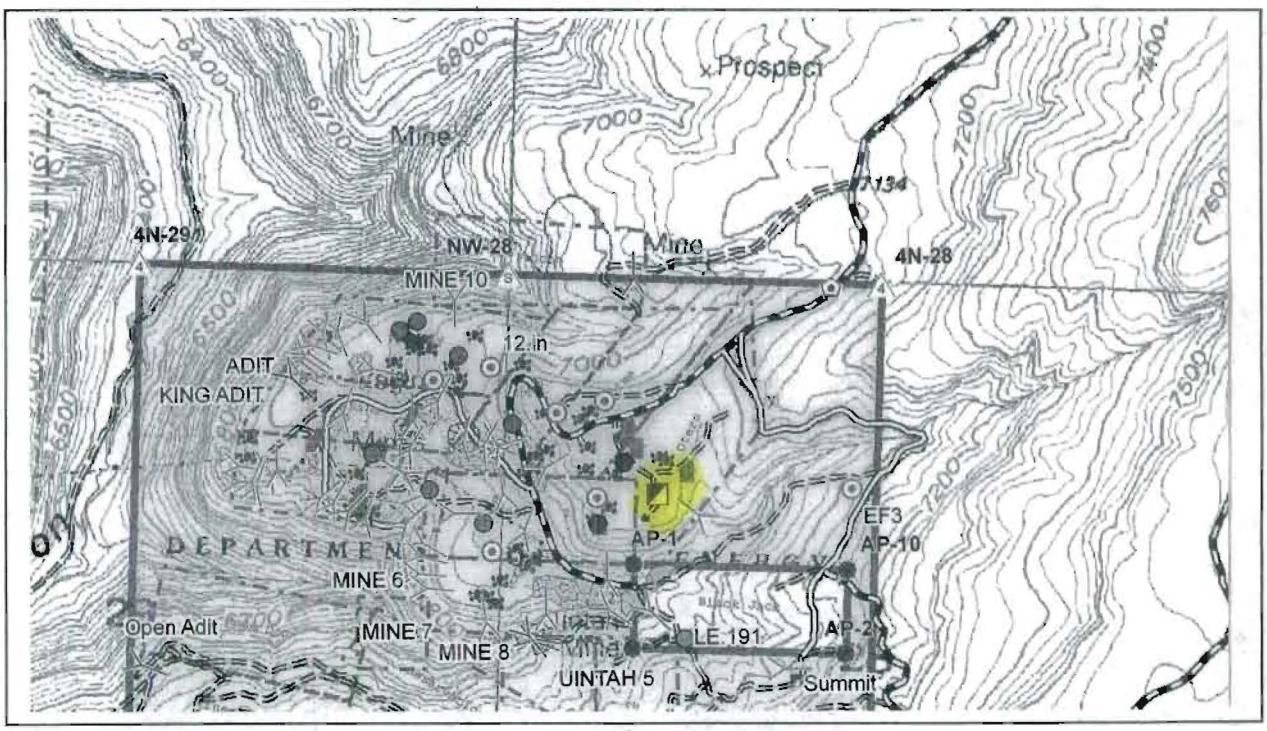
_____ **Option #2:** Storm water containment/control will be accomplished within the disturbed portion of the work area by construction of catchment basins, including "pocking" of the recontoured materials.

_____ **Option #3:** Migration of soil/sediments will be minimized by the installation of silt fences/barricades utilizing fabric or straw bales.

X **Option #4:** Soil stabilization will be accomplished by seeding the disturbed portion of the work area to establish a viable, diverse stand of grasses, shrubs and forbs.

_____ **Option #5:** No action required.

Site Sketch:




Signature: _____ Date: 5/26/09

# Site Specific
# Storm Water Management Plan

**Lease Tract#:** C-SR-10 **Site:** Ortmeyer **Work Area:** Slick Rock/Legin Group
**Work Scope:** Back fill Subsidence

Construction activities will be managed to minimize the volume of storm water entering the disturbed portion of the work area, contain and control the volume of storm water which falls within that area, and minimize the potential for the migration of soil/sediments.

The following engineering control measures have been selected as being applicable to the specific work area disturbance:

_____ **Option #1:** Storm diversion will be accomplished by the installation of ditches, berms, or contouring to minimize the potential for erosion of the portion of the work area.

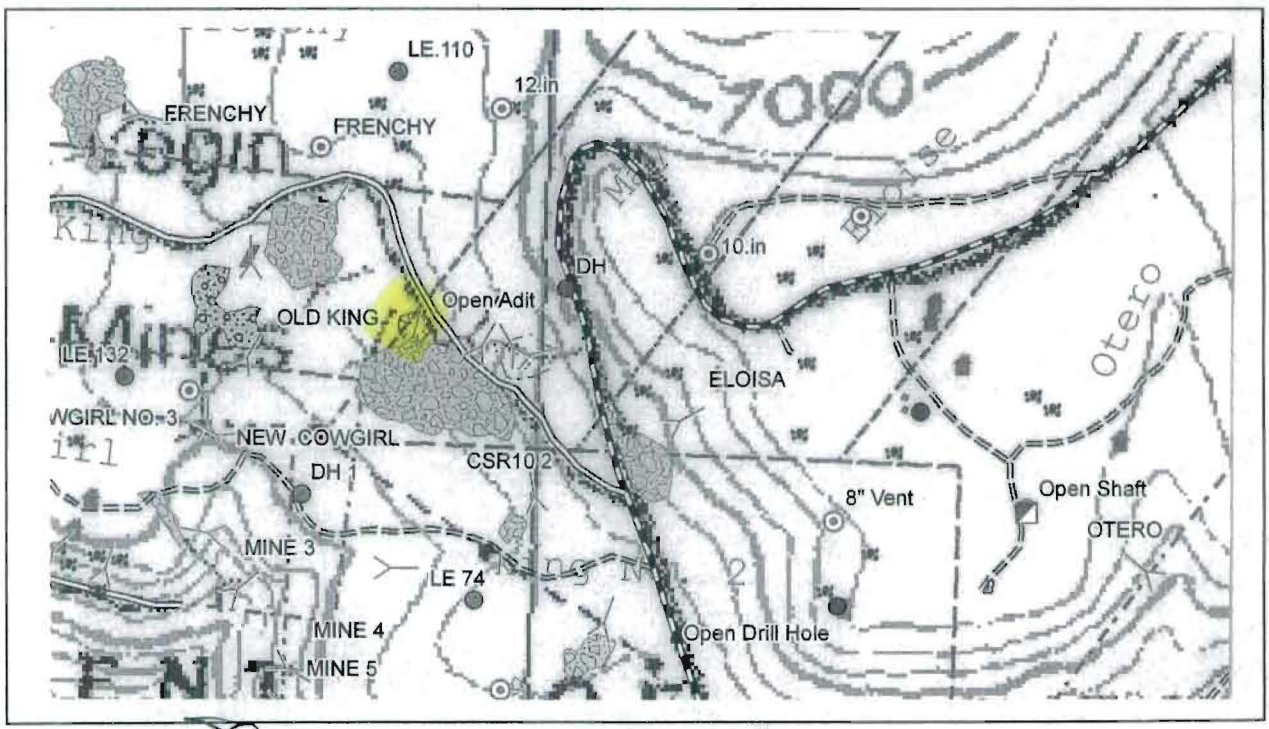
_____ **Option #2:** Storm water containment/control will be accomplished within the disturbed portion of the work area by construction of catchment basins, including "pocking" of the recontoured materials.

_____ **Option #3:** Migration of soil/sediments will be minimized by the installation of silt fences/barricades utilizing fabric or straw bales.

X **Option #4:** Soil stabilization will be accomplished by seeding the disturbed portion of the work area to establish a viable, diverse stand of grasses, shrubs and forbs.

X **Option #5:** No action required. other than Seed

Site Sketch:




Signature: _____ Date: 5/26/09

# U.S. Department of Energy
# Office of Legacy Management
# National Environmental Policy Act – Environmental Checklist

| | | |
|---|---|---|
| **Project/Activity Title**<br>Reclamation Projects in Slick Rock Lease Tract C-SR-10 | **NEPA ID Number**<br>LM 12-09 | **Date**<br>July 27, 2009 |
| **LM Site Name**<br>Uranium Leasing Program, CO | **LM Site Program**<br>Reuse and Property Management | |
| **Contractor NEPA Coordinator**<br>Sandra Beranich | **Signature**<br>Sandra Beranich 7-27-09 | |
| **Contractor Task Manager**<br>Ed Cotter | **Signature**<br>7/27/09 | |
| **DOE Project Manager**<br>Steven Schiesswohl | 2009.07.27 15:57:05 -06'00' | |

**A. Brief Project/Activity Description:**
The U.S. Department of Energy (DOE) Office of Legacy Management (LM) proposes to reclaim two abandoned mine sites, a small subsidence and a subsided shaft, and several open drill holes on DOE Lease Tract C-SR-10. Independent contractors associated with the lessee would complete the work, and all projects would be completed within 4 days. C-SR-10 is a 618-acre isolated lease tract in San Miguel County, southwest of the former town of Slick Rock and west of State Highway 141.

The two abandoned mine sites would be permanently closed with boulders and rocks, then backfilled, re-contoured, pocked, and reseeded. One abandoned mine (former Uintah claim) covers approximately 0.9 acre; the other (former Vinegaroon claim) covers 0.1 acre.

The subsidence that leads into the reclaimed Ortmeyer mine—and the subsided shaft on the former Otero claim—would be backfilled with available surface soil materials and reseeded.

The open drill holes would be permanently closed with polyurethane foam plugs and covered with native surface soil materials.

**B. Environmental Concerns:**
If the proposed action could affect human health and the environment, the "yes" column is checked, and an explanation of the degree, type, and magnitude of the physical, chemical, and radiological sources of impacts is given below. Additional description or explanation is provided on attached sheets as necessary.

| Element | Yes | No | Element | Yes | No |
|---|---|---|---|---|---|
| Air emissions/air quality | X | | Exposure/impacts to public or workers | | X |
| Noise | X | | Need for public awareness/involvement | | X |
| Solid waste generation | | X | Transportation/traffic control required | | X |
| Mixed waste management | | X | Access to/use of DOE property | | X |
| Chemical storage on site | | X | Visual resources impacted | | X |
| Pesticide/herbicide use | | X | Cultural/arch resources present | | X |
| Toxic substances management | | X | Wetland/floodplain impacted | | X |

| Element | Yes | No | Element | Yes | No |
|---|---|---|---|---|---|
| Regulated quantities of petroleum used or stored on site | | X | Protected species present: Federal, state, or Tribe listed | X | |
| Radioactive materials/soils | | X | Migratory birds breeding or nesting | X | |
| Surface (ground) disturbance | X | | Wild/scenic rivers impacted | | X |
| Surface water use/ contamination | | X | Prime/unique farmlands present | | X |
| Surface water quality | | X | Groundwater use/contamination | | X |
| Groundwater quality affected | | X | Other Considerations? | | X |

**C. Explanation and qualification of all "yes" responses:**

Air emissions/air quality: Use of heavy equipment would result in minor and temporary amounts of fugitive dust being present during the duration of the proposed actions.
Noise: Noise levels would be temporarily elevated during use of the heavy equipment.
Surface (ground) disturbance: Reclaiming the mines and associated features would result in minor surface disturbance. The long-term affect would be to remove health and safety concerns and to improve habitat conditions.
Protected species present: Prior to reclamation work in the abandoned mines, the openings would be tarped for 1 day to exclude use by the Townsend big-eared bat. The State of Colorado Division of Wildlife accepts this practice.
Migratory birds breeding or nesting: The work is scheduled to avoid breeding and nesting periods and is not anticipated to affect migratory birds.

**D. Recommendation:**

The proposed action to complete various reclamation activities related to past mining activities would be considered categorically excluded from further environmental evaluation under Title 10 *Code of Federal Regulations* Part 1021, Appendix B to Subpart D, B1.3(k), "Erosion control and soil stabilization measures (such as reseeding and revegetation)."

Meets Criteria ✓ Does Not Meet Criteria_____ Unsure_____

**E. NEPA Determination**

I have reviewed the scope of actions proposed under Section A of this Environmental Checklist, and the information relevant to the potential for environmental impacts in Section B, and determined the following:

✓ The proposed actions meet the criteria for categorical exclusion.

__ The proposed actions do not meet the criteria for categorical exclusion; therefore, I recommend that the LM NEPA Planning Board be convened based on my recommendation (see attached rationale) to complete:

( ) an Interim Action ( ) an Environmental Assessment
( ) an Environmental Impact Statement ( ) a Supplemental Analysis

LM NEPA Compliance Officer — Date: 8/24/09

Distribution upon signature:
R. Bush, LM NEPA Compliance officer
S. Schiesswohl, DOE Project Manager
S. Beranich, Stoller NEPA Coordinator (e)
E. Cotter, Stoller Task Manager (e)
S. Osborn, Stoller Compliance Manager (e)
rc-grand.junction

8100

NEPA Number

RECEIVED
AUG 27 2009

CONFIDENTIAL

Casefile
Number SJ09040

*CULTURAL RESOURCE ACTION MEMORANDUM*
*(CASEFILE DOCUMENT)*

**PROJECT NAME:** *Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 1, Slick Rock Area, San Miguel County (SJ09040).*

**INVENTORY DATE:** August 19, 2009
**CULTURAL CONTRACTOR:** Alpine Archaeological Consultants, Inc.

**LEGAL DESCRIPTION OF INVENTORY:** T43-44N R18-19W
**CULTURAL VALUES FOUND AND THEIR SIGNIFICANCE (National Register eligibility):**
Not Eligible: 5SM1945, 5SM3692, 5SM6556-6570
IF: 5SM6571-6575
**TRADITIONAL CULTURAL PROPERTIES, SACRED SITES, OR TRADITIONAL USE AREAS IDENTIFIED:** none known
**ADDITIONAL WORK NEEDED:**
**FORMAL NATIVE AMERICAN CONSULTATION PURSUANT TO THE 1978 NATIVE AMERICAN RELIGIOUS FREEDOM ACT:**
**NEEDED? YES: NO: X**
**WHY?**
**WITH WHOM?** N/A
**DATE CONSULTATIONS SENT OUT:** Quarterly SOPA (30 day waiting period)

CONDITIONS OF APPROVAL TO PROTECT CULTURAL VALUES:

1. If subsurface cultural resources are unearthed during operations, activity in the vicinity of the cultural resource will cease and a BLM representative notified immediately. Pursuant to 43 CFR 10.4 the holder of this authorization must notify the authorized officer, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, the operator must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

2. The operator is responsible for informing all persons associated with this project that they will be subject to prosecution for knowingly disturbing Native American Indian shrines, historic and prehistoric archaeology sites, or for collecting artifacts of any kind, including historic items and/or arrowheads and pottery fragments from Federal lands

8/19/2009
Date Reviewing Archaeologist

8/19/09
Date Field Office Manager

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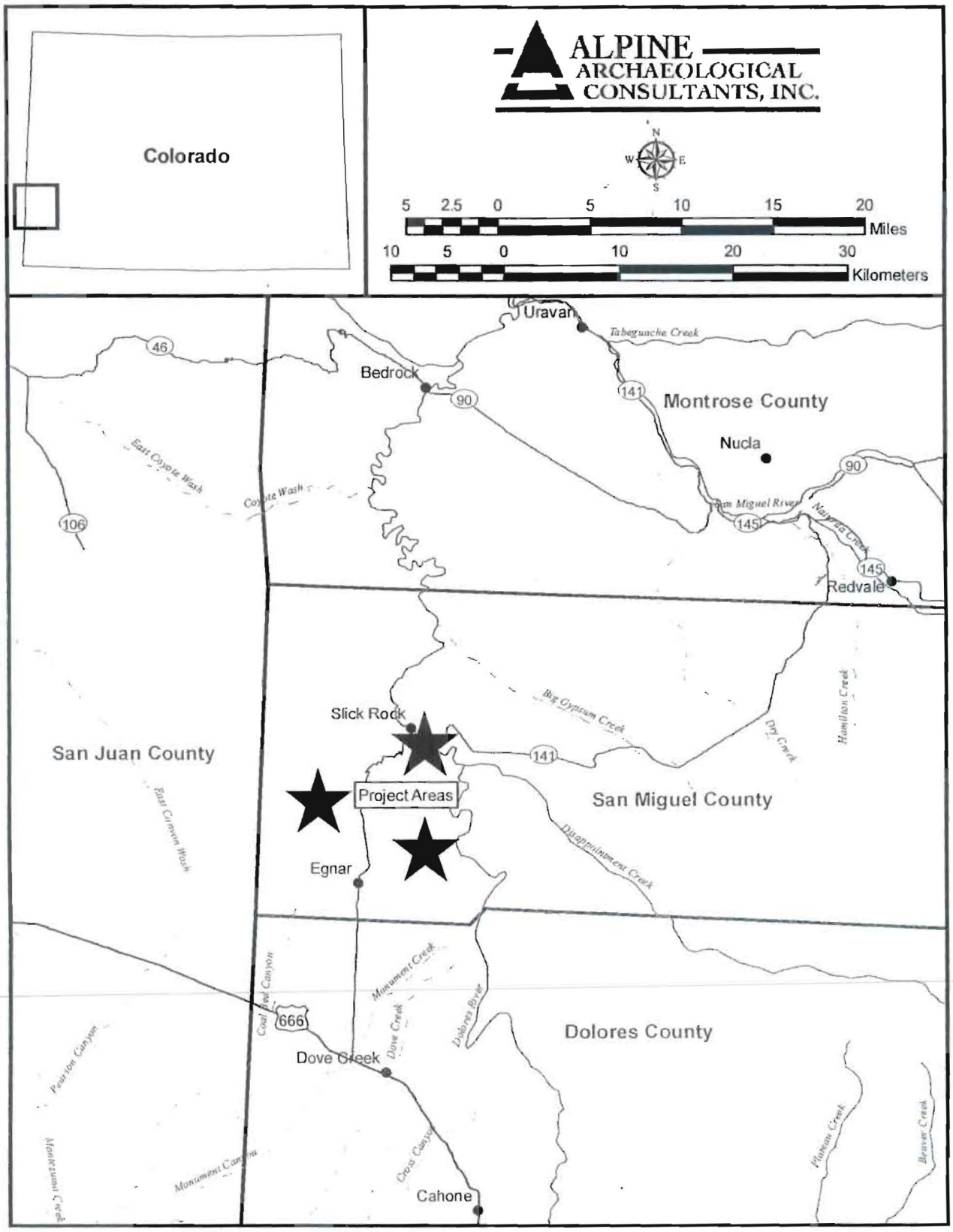


Figure 1. General location of Phase 1 project areas.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**

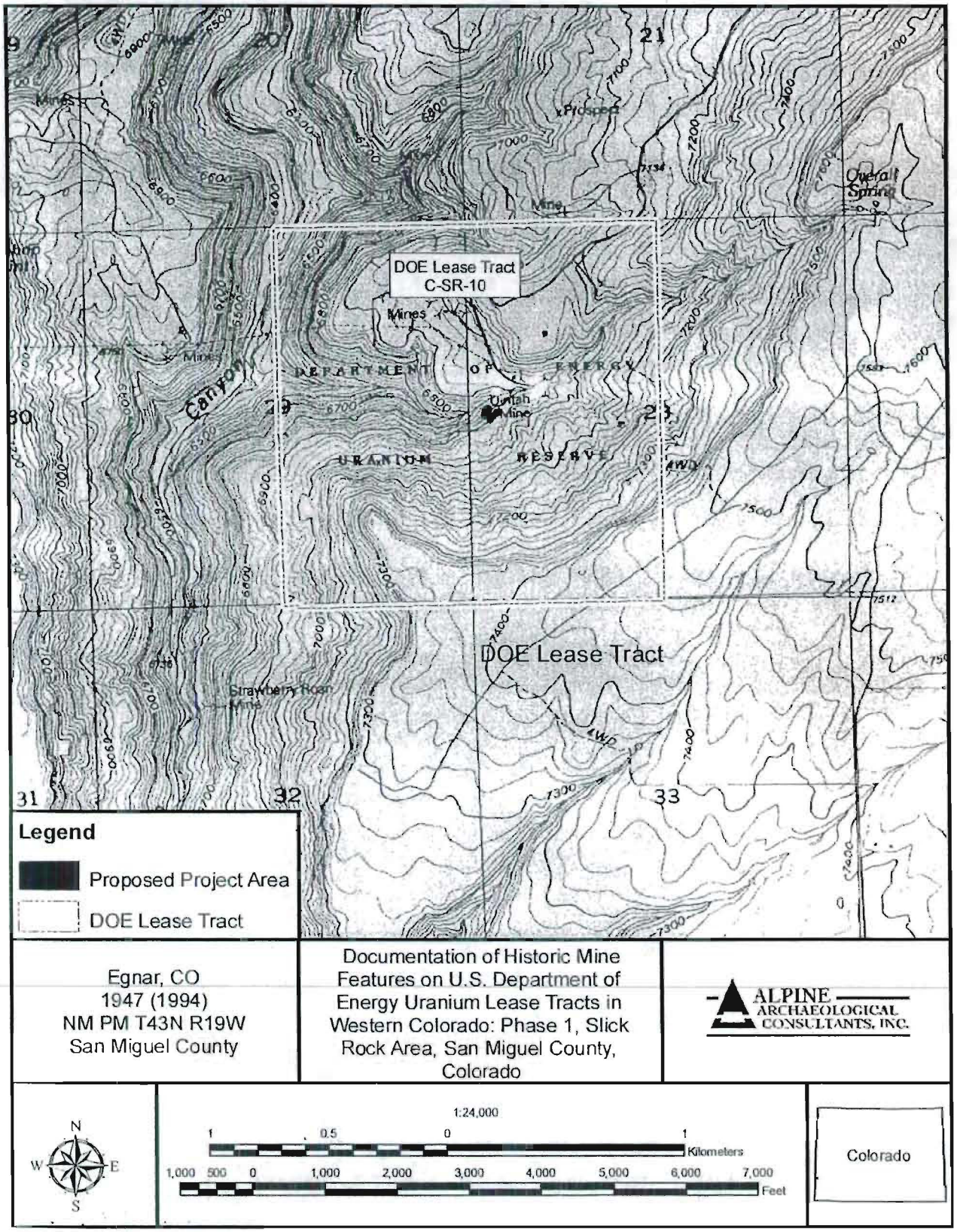


Figure 2. Location of Phase 1 project area.

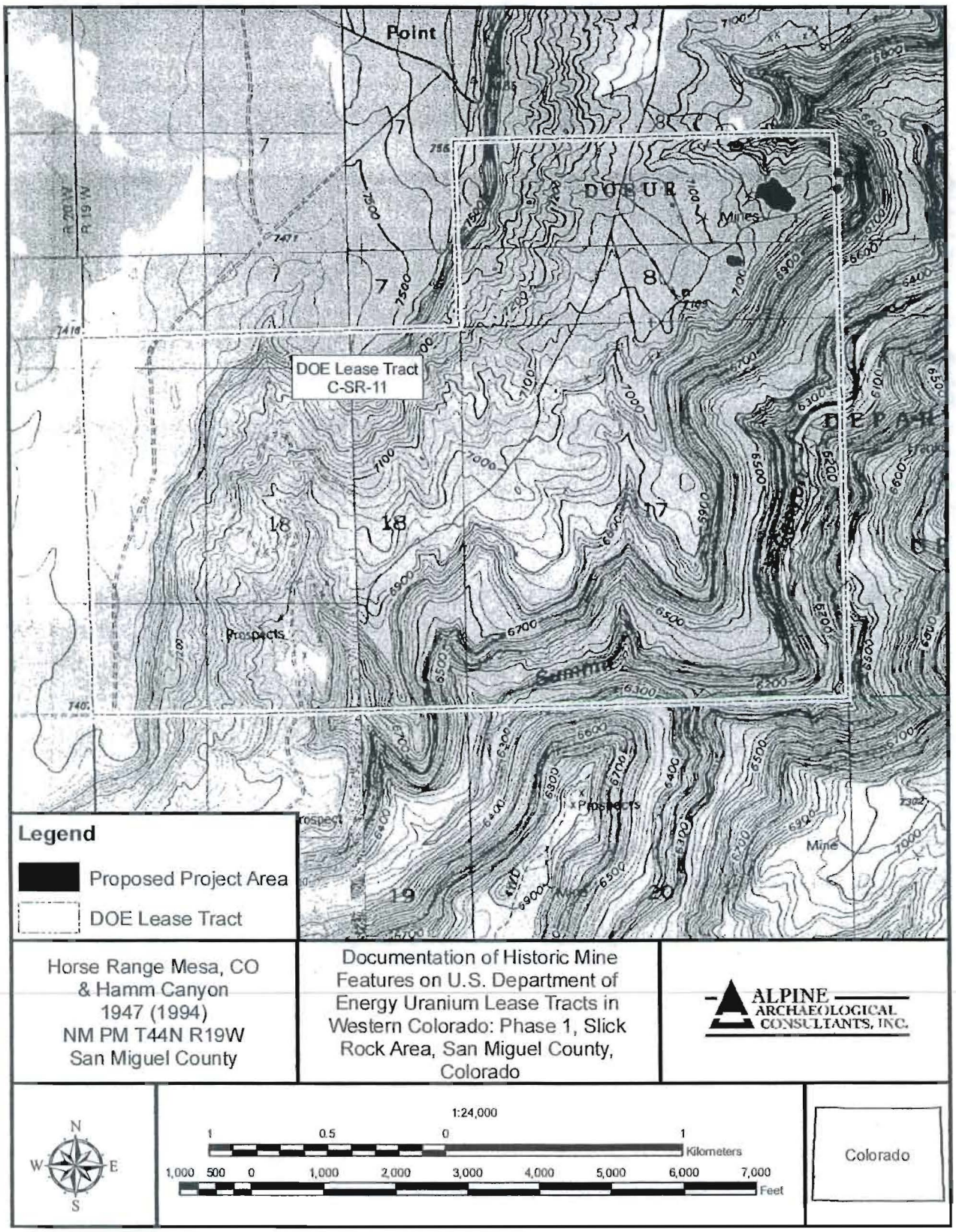


Figure 3. Location of Phase 1 project area.



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**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**

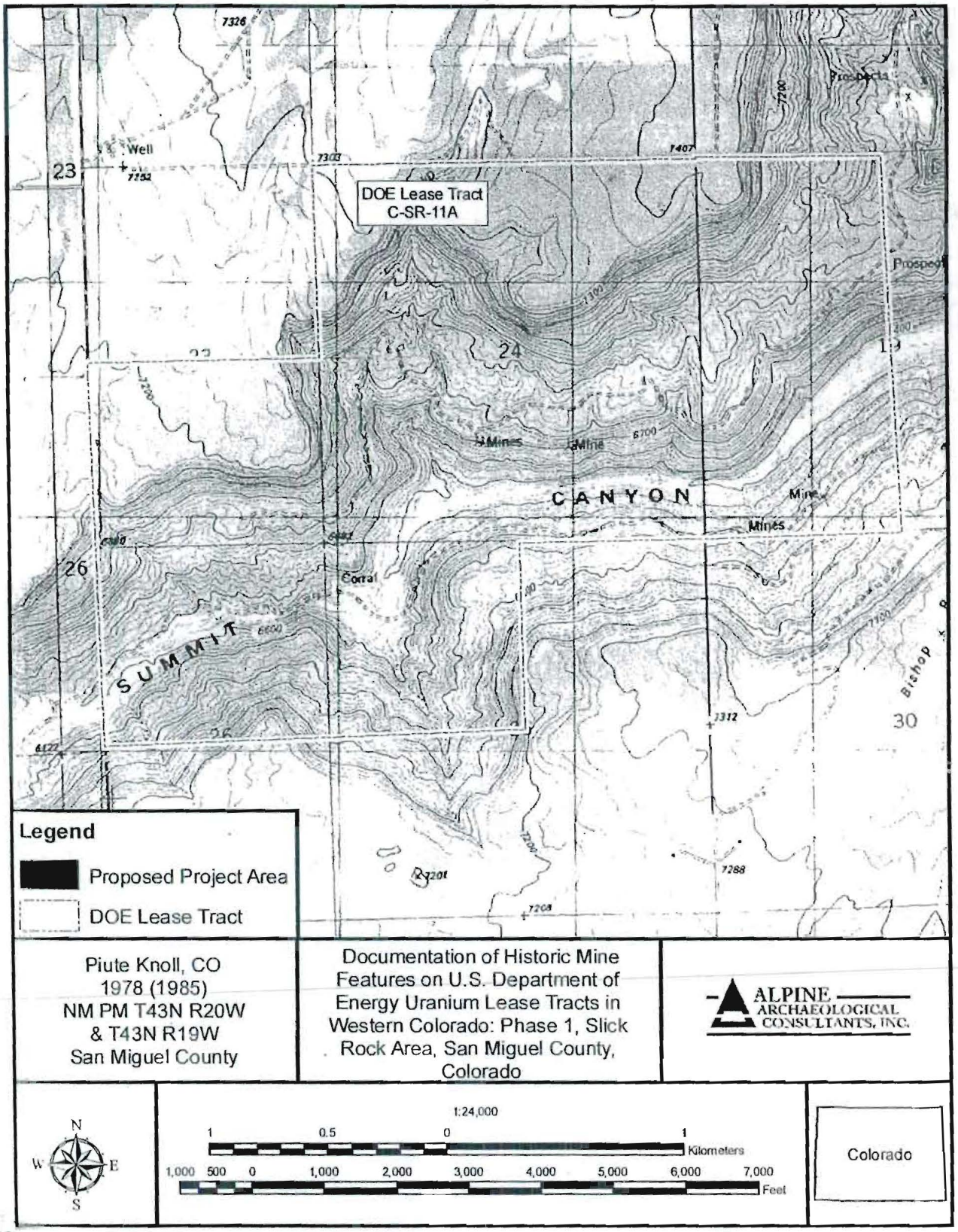


Figure 4. Location of Phase 1 project area.

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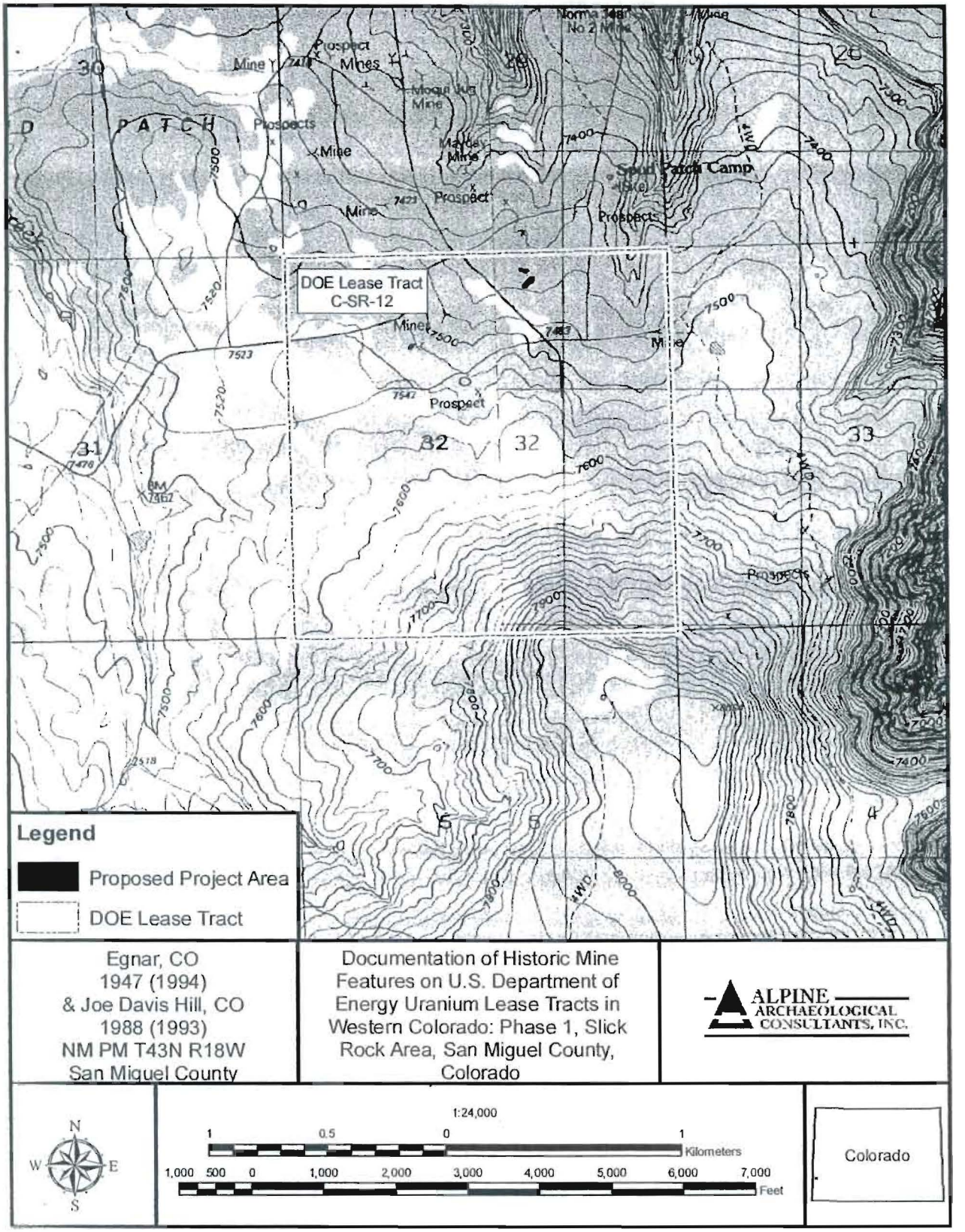


Figure 5. Location of Phase 1 project area.

CONFIDENTIAL

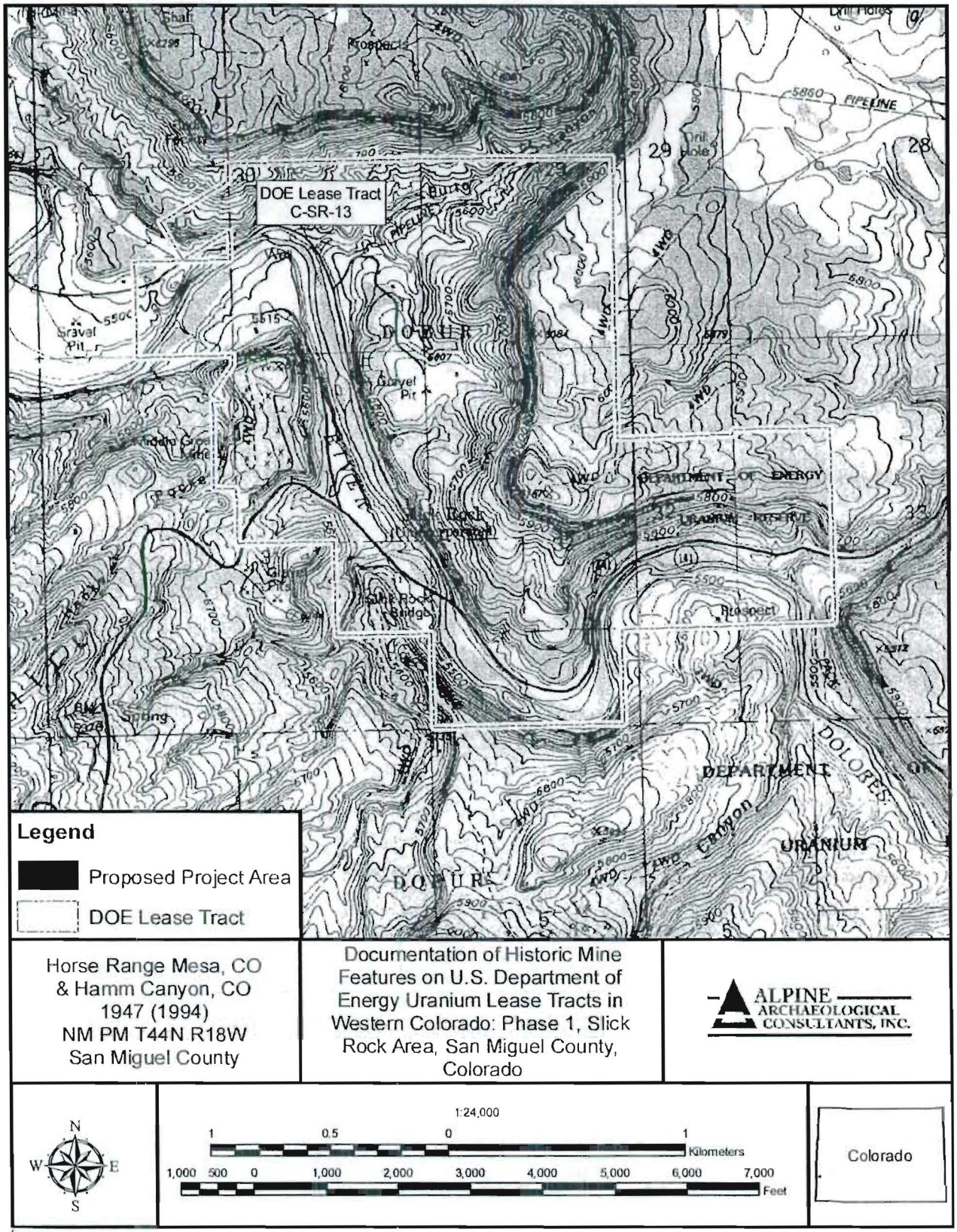


Figure 6. Location of Phase 1 project area.

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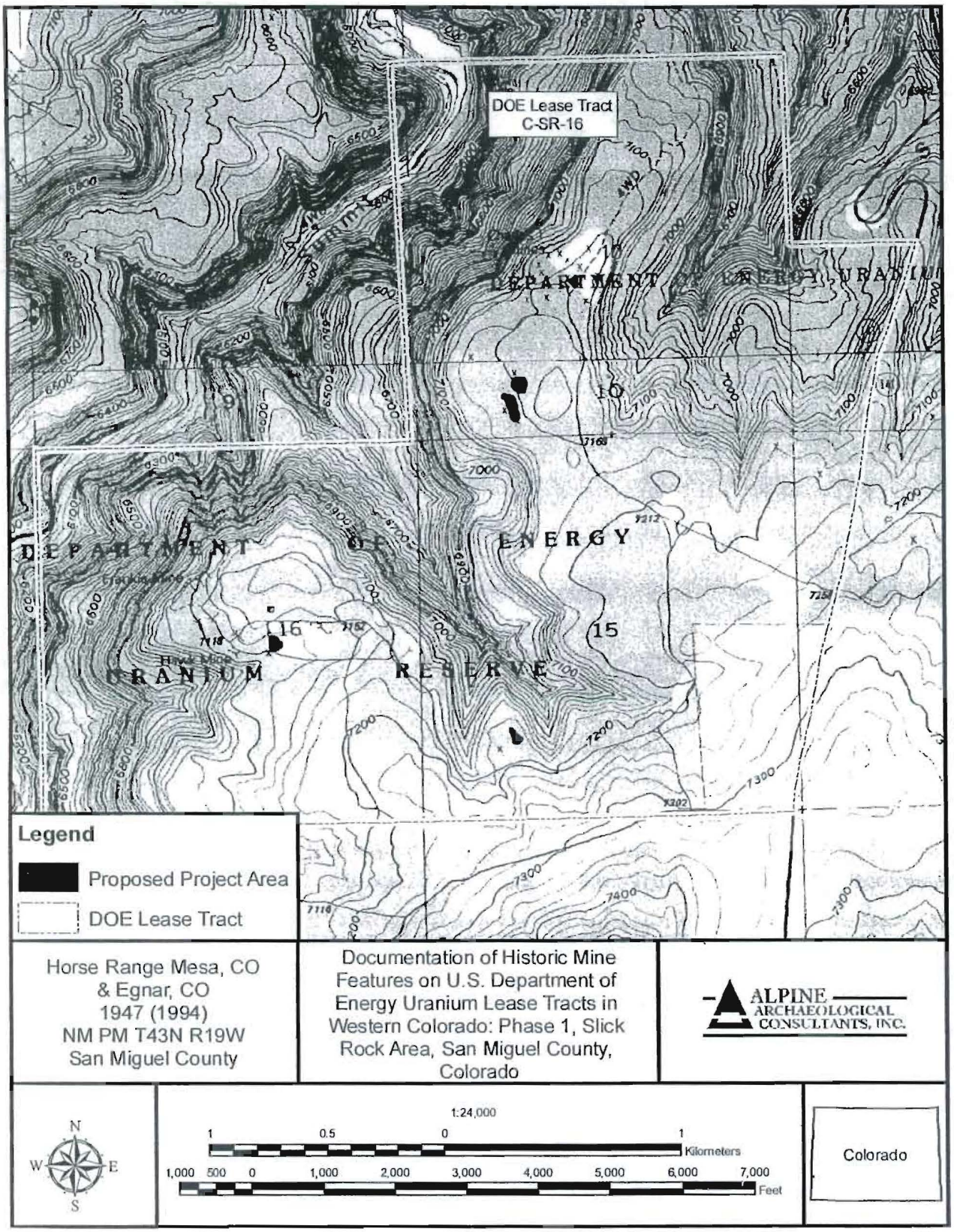


Figure 7. Location of Phase 1 project area.

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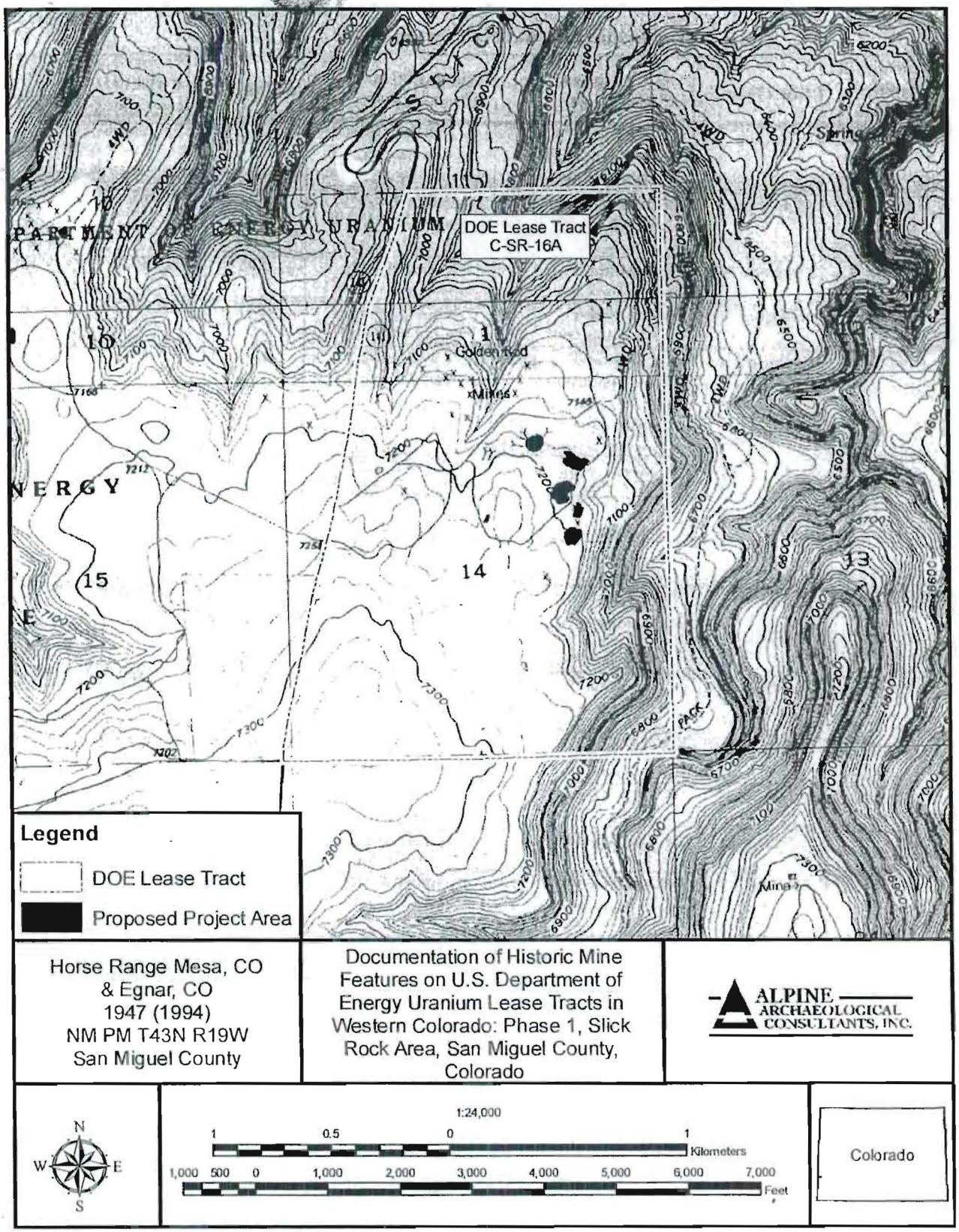


Figure 8. Location of Phase 1 project area.

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**Table 1. Locations of Phase 1 Project Work.**

| Lease Tract No. | Project Area | Claim Name | Proposed Activities | Legal Location (New Mexico PM) | Acreage | Recorded Cultural Resources |
|---|---|---|---|---|---|---|
| [illegible] 10 | 1 | Uintah | Closure of six adits, recontouring of waste-rock dumps | T 43N, R 19W, Section 28, SW, NW | 1.12 | 5SM6556 |
| | 2 | Vinegaroon | Closure of one adit, recontouring of waste-rock dump | T 43N, R 19W, Section 29, NW, SE | 0.04 | 5SM6557 |
| | 3 | Ortmeyer | Backfilling of subsidence | T 43N, R 19W, Section 29, NE, NE | 0.05 | 5SM6571 |
| | 4 | Otero | Backfilling of subsided shaft | T 43N, R 19W, Section 28, SW, NW | 0.13 | 5SM6558 |
| [illegible] 11 | 5 | Blackbird and Radium No. 8 | Backfilling of several large surface pits, trenches, and adits, recontouring of waste-rock dumps | T 43N, R 19W, Section 8, NE, SE | 3.80 | 5SM6559 |
| | 6 | Radium No. 8 | Closure of two adits | T 43N, R 19W, Section 9, NW, SW | 0.59 | 5SM6560 |
| | 7 | San Miguel | Closure of subsidence | T 43N, R 19W, Section 8, NW, SE | 0.29 | 5SM6561 |
| | 20 | Ike No. 1 | Closure of subsidence | T 43N, R 19W, Section 8, SW, SE | 0.70 | 5SM6572 |
| [illegible] | 8 | Lucky Strike | Closure of adit, dismantling of ore chute, recontouring of waste-rock dump | T 43N, R 19W, Section 19, SE, SW | 0.08 | 5SM6562 |
| [illegible] 12 | 9 | Sarvis Nos. 2 and 3 | Closure of two adits, recontouring of waste-rock dumps | T 43N, R 18W, Section 32, NW, NE | 0.64 | 5SM6563; 5SM6564 |
| | 10 | Jupiter | Closure of subsided mine portal | T 43N, R 18W, Section 32, NE, NW | 0.17 | 5SM6573 |
| [illegible] 13 | 11 | Slick Rock Mill Site | Backfilling of subsidence | T 44N, R 18W, Section 30, SW, SE | 0.10 | 5SM1945 |
| | 12 | Ellison | Backfilling of subsidence | T 44N, R 18W, Section 31, NE, NE | 0.29 | 5SM6574 |
| [illegible] 16 | 13 | Charles T and Charles T Southwest | Backfilling of subsidences | T 43N, R 19W, Section 10, SW | 3.09 | 5SM6565; 5SM6566 |
| | 14 | I.V. | Backfilling of several small surface pits and trenches | T 43N, R 19W, Section 15, SW | 0.72 | 5SM6567 |
| | 15 | Hawk | Backfilling of subsidence | T 43N, R 19W, Section 16, SW, NE | 0.84 | 5SM3692 |
| | 16 | Old Ann | Backfilling of subsided shaft | T 43N, R 19W, Section 16, SW, NE | 0.04 | 5SM6568 |
| [illegible] | 17 | Golden Rod | Backfilling of subsidence | T 43N, R 19W, Section 14, NW, NE | 1.17 | |
| | 18 | Golden Rod No. 3 | Backfilling of subsidence | T 43N, R 19W, Section 14, NW, NE | 0.16 | |
| | 19 | Golden Rod, Keystone, and Santa Maria | Backfilling of several surface pits and trenches | T 43N, R 19W, Section 14, NE | 5.04 | |

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# Meeting/Teleconference Record

**Date:** 8/24/09

**To:** Ed Cotter

**From:** Marilyn Kastens

**Subject:** Cultural Clearance for Conducting Mine Reclamation on Uranium Lease Tracts in San Miguel County

Persons Present/Contacted:

| Name | Company/Agency | Telephone Number/Extension |
|---|---|---|
| Vince MacMillan<br>BLM Archaeologist | BLM, Dolores Public Lands Office | 970-882-6832 |
| Marilyn Kastens<br>Cultural Resource Coordinator | SM Stoller Corp. | X6781 |
| | | |

**Issue 1: Cultural Clearance for Abandoned Mine Land Reclamation—**
DOE submitted the report, *Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 1, Slick Rock Area, San Miguel County, Colorado* to Vince MacMillan (BLM archaeologist) on July 22, 2009, requesting concurrence in DOE's determination of "No Effect" to historic properties. M. Kastens called V. MacMillan on 8/24/09 to get a verbal clearance, as DOE had not received a written concurrence. V. MacMillan stated that DOE was cleared to conduct the work and that BLM had made a determination of "No Adverse Effect." The determination of "No Adverse Effect" was made rather than "No Effect" because cultural sites that are *not* eligible to the NRHP would be adversely affected (When M. Kastens asked about Isolated Finds, V. MacMillan said that the determination would then be "No Effect" [he thought]). V. Macmillan pointed out that it would be best if DOE would avoid making a preliminary determination and not use the words "No Effect, No Adverse Effect, and Adverse Effect," because that determination is legally made by BLM or SHPO, not the agency proposing the action. V. MacMillan stated that Helen Mary Johnson (BLM Goelogist) would be sending DOE the written concurrence and suggested that we call her if we have not yet received it.

**Issue 2: Tribal Consultation on Uranium Lease Tracts—**
M. Kastens asked how BLM conducted tribal consultations and if DOE would need to notify the tribes when cultural resources were involved in a proposed activity. V. MacMillan stated that BLM has an annual meeting and consultation with tribes, wherein they discuss upcoming proposed activities, and tribes provide input. This is considered adequate consultation for most activities, especially those that have No Adverse Effect. If an activity would have an unavoidable adverse effect on tribe-sensitive features, BLM would conduct a project-specific consultation with all 23 tribes.

Because BLM is responsible for cultural resource management on ULP lease tracts, DOE does not need to conduct separate tribal consultations; BLM will conduct this.

**Follow Up Action Required:**
M. Kastens needs to contact BLM archaeologists at the Montrose and Grand Junction offices to determine if their tribal consultation policies are similar to those of the Dolores Public Lands Office. If so, M. Kastens should revise the ULP Procedures Manual accordingly.

**Affect Scope/Schedule or Budget:** YES __ NO _X_

**Explain:**

CC: ULS Project File (Ed Cotter)

**Department of Energy**
**Office of Legacy Management**

July 22, 2009

OLM-SRS-2009-090

Mr. Vince MacMillan, Archaeologist
Dolores Public Lands Office
29211 Highway 184
Dolores, CO 81323

Subject: Request for Concurrence in DOE's Determination of No Effect to Historic Properties on Uranium Lease Tracts, San Miguel County

Dear Mr. MacMillan:

The U.S. Department of Energy Office of Legacy Management (DOE) is proposing to reclaim and mitigate hazards at numerous abandoned mine sites on DOE's uranium lease tracts in San Miguel County. Whereas, DOE manages the mineral resources and mining operations on these lease tracts, the Bureau of Land Management manages the surface resources. The abandoned mine features, which include open portals, subsided vent shafts, and unreclaimed waste rock dumps, are located at 20 project sites on seven different lease tracts. The area of potential effect totals less than 20 acres. Table 1 in the enclosed reports, entitled *Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase I, Slick Rock Area, San Miguel County, Colorado*, lists the legal locations and acreages of the 20 project sites. Additionally, Appendix A of the report includes 1:24,000-scale maps showing cultural resource site locations. Proposed activities at each of the project sites are summarized in the "Results" section.

DOE has determined that none of the abandoned mine site features found within the potential area of effect are eligible for inclusion in the National Register of Historic Places. Please review the report, prepared by Alpine Archaeological Consultants, Inc., for DOE, and let us know if you concur in our determination of "No Effect" to historic properties.

If you have specific questions or comments, please contact my contractor staff, Ed Cotter, at (970) 248-6056 (Ed.Cotter@lm.doe.gov). If you have general questions about the uranium leasing program, please contact me at (720) 377-9683 (Steve.Schiesswohl@lm.doe.gov).

Thank you for your review and consideration of the enclosed report.

Sincerely,

2009.07.22
14:36:44 -06'00'

Steven R. Schiesswohl
Realty Officer

Enclosures (2 copies)

cc w/o enclosures:
E. Cotter, Stoller (e)
M. Kastens, Stoller (e)
Project File (E. Cotter)

Contains Privileged Information – Do Not Release C-SR-10

# DOCUMENTATION OF HISTORIC MINE FEATURES ON U.S. DEPARTMENT OF ENERGY URANIUM LEASE TRACTS IN WESTERN COLORADO: PHASE 1, SLICK ROCK AREA, SAN MIGUEL COUNTY, COLORADO

by

Summer Moore-McMillan
and
Jeremy Omvig

Alpine Archaeological Consultants, Inc.
P.O. Box 2075
Montrose, Colorado 81402
(970) 249-6761

Prepared for

S. M. Stoller Corporation
2597 B ¾ Road
Grand Junction, CO 81503
Contract GS-10F-00045, Purchase Order #0000004277

Under the provisions of
Colorado BLM Cultural Resource Use Permit No. C-46920

BLM Project Authorization No. SJ09040

July 2009

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

**Table 1. Locations of Phase 1 Project Work.**

| Lease Tract No. | Project Area | Claim Name | Proposed Activities | Legal Location (New Mexico PM) | Acreage | Recorded Cultural Resources |
|---|---|---|---|---|---|---|
| C-SR-10 | 1 | Uintah | Closure of six adits, recontouring of waste-rock dumps | T 43N, R 19W, Section 28, SW, NW | 1.12 | 5SM6556 |
| | 2 | Vinegaroon | Closure of one adit, recontouring of waste-rock dump | T 43N, R 19W, Section 29, NW, SE | 0.04 | 5SM6557 |
| | 3 | Ortmeyer | Backfilling of subsidence | T 43N, R 19W, Section 29, NE, NE | 0.05 | 5SM6571 |
| | 4 | Otero | Backfilling of subsided shaft | T 43N, R 19W, Section 28, SW, NW | 0.13 | 5SM6558 |
| C-SR-11 | 5 | Blackbird and Radium No. 8 | Backfilling of several large surface pits, trenches, and adits, recontouring of waste-rock dumps | T 43N, R 19W, Section 8, NE, SE | 3.80 | 5SM6559 |
| | 6 | Radium No. 8 | Closure of two adits | T 43N, R 19W, Section 9, NW, SW | 0.59 | 5SM6560 |
| | 7 | San Miguel | Closure of subsidence | T 43N, R 19W, Section 8, NW, SE | 0.29 | 5SM6561 |
| | 20 | Ike No. 1 | Closure of subsidence | T 43N, R 19W, Section 8, SW, SE | 0.70 | 5SM6572 |
| C-SR-11A | 8 | Lucky Strike | Closure of adit, dismantling of ore chute, recontouring of waste-rock dump | T 43N, R 19W, Section 19, SE, SW | 0.08 | 5SM6562 |
| C-SR-12 | 9 | Sarvis Nos. 2 and 3 | Closure of two adits, recontouring of waste-rock dumps | T 43N, R 18W, Section 32, NW, NE | 0.64 | 5SM6563; 5SM6564 |
| | 10 | Jupiter | Closure of subsided mine portal | T 43N, R 18W, Section 32, NE, NW | 0.17 | 5SM6573 |
| C-SR-13 | 11 | Slick Rock Mill Site | Backfilling of subsidence | T 44N, R 18W, Section 30, SW, SE | 0.10 | 5SM1945 |
| | 12 | Ellison | Backfilling of subsidence | T 44N, R 18W, Section 31, NE, NE | 0.29 | 5SM6574 |
| C-SR-16 | 13 | Charles T and Charles T Southwest | Backfilling of subsidences | T 43N, R 19W, Section 10, SW | 3.09 | 5SM6565; 5SM6566 |
| | 14 | I.V. | Backfilling of several small surface pits and trenches | T 43N, R 19W, Section 15, SW | 0.72 | 5SM6567 |
| | 15 | Hawk | Backfilling of subsidence | T 43N, R 19W, Section 16, SW, NE | 0.84 | 5SM3692 |
| | 16 | Old Ann | Backfilling of subsided shaft | T 43N, R 19W, Section 16, SW, NE | 0.04 | 5SM6568 |
| C-SR-16A | 17 | Golden Rod | Backfilling of subsidence | T 43N, R 19W, Section 14, NW, NE | 1.17 | |
| | 18 | Golden Rod No. 3 | Backfilling of subsidence | T 43N, R 19W, Section 14, NW, NE | 0.16 | |
| | 19 | Golden Rod, Keystone, and Santa Maria | Backfilling of several surface pits and trenches | T 43N, R 19W, Section 14, NE | 5.04 | |

**Table 2. Previously Conducted Cultural Resource Inventories by Phase 1 Lease Tract.**

| Lease Tract No. | Reference | Document ID | Project Description | Area Surveyed (Acres) |
|---|---|---|---|---|
| C-SR-10 | Arrington 1979 | DRA-7931 | Power line | 6.6 |
| | Matlock 1980 | DRA-8043 | Drill holes | 10.4 |
| | Stump 1997 | SM.LM.R89 | Stock ponds | 0.2 |
| C-SR-11 | Ebel 1981 | SM.LM.NR12 | Seismic lines | 9.4 |
| | Fuller 1996 | SM.LM.R56 | Uranium lease tracts | 52.3 |
| | Simpson 2002a | SM.LM.R94 | Fire rehabilitation | 2.2 |
| | Simpson 2002b | SM.LM.R100 | Drill holes | 1.3 |
| | Brown 2004 | SM.LM.NR128 | Drill holes | 0.8 |
| | Fuller 2005 | SM.LM.R177 | Uranium lease tract | 17.6 |
| C-SR-11A | Scott 1976 | SM.LM.NR129 | Power line | 11.9 |
| C-SR-12 | Harden 1983 | MC.FS.R92 | Seismic lines | 1.9 |
| C-SR-13 | Conner 1980 | SM.LM.R120 | Mill site and pipeline | 1.0 |
| | Errickson and Ives 1983 | MC.R.R43 | Recreation area | 22.6 |
| | Hammack 1987 | SM.E.R2 | Mill tailings remediation | 59.7 |
| | Arrington 1987 | SM.LM.R10 | Slick Rock pit | 7.2 |
| | Hammack 1990 | SM.LM.R33 | Seismic lines | 4.6 |
| | Witkind 1991 | SM.LM.NR57 | Placer mining | 1.0 |
| | Hammack and Hammack 1995 | SM.LM.R47 | Uranium disposal site | 4.0 |
| | Hammack 1995 | SM.LM.R52 | Waterline | 9.5 |
| | Brown 2002 | SM.FS.NR24 | Mine bat gates | 0.1 |
| | Brown 2005 | SM.LM.NR134 | Power line | 0.1 |
| C-SR-16 | Stump 1997 | SM.LM.R89 | Stock ponds | 1.0 |
| C-SR-16A | Anonymous 1984 | SM.LM.R114 | Fiber optic cable | 12.3 |
| | Sesler 1990 | SM.LM.R83 | Seismic lines | 3.2 |
| | Stump 1997 | SM.LM.R89 | Stock ponds | 0.5 |

**Table 3. Cultural Resources Within the Phase 1 Lease Tracts Eligible or Potentially Eligible for Inclusion on the National Register of Historic Places.**

| Lease Tract No. | Site No. | Site Type | NRHP Eligibility | Report Reference |
|---|---|---|---|---|
| C-SR-10 | 5SM2782 | Prehistoric Camp | Officially Needs Data | Fuller and Dean 1996 |
| C-SR-11 | 5SM1988 | Historic Cabin | Officially Needs Data | Arrington 1988 |
| | 5SM2014 | Prehistoric Rock Art | Officially Needs Data | Arrington 1988 |
| C-SR-13 | 5SM633 | Prehistoric Rockshelter and Historic Trail | Field Needs Data | None |
| | 5SM2733 | Historic Mining Camp | Officially Eligible | Hammock and Hammock 1995 |
| | 5SM3670 | Historic Highway | Field Eligible | Dobson-Brown and Autobee 2002 |
| C-SR-16 | 5SM3692 | Historic Mine | Field Needs Data | Stump 1997 |
| C-SR-16A | 5SM3670 | Historic Highway | Field Eligible | Dobson-Brown and Autobee 2002 |

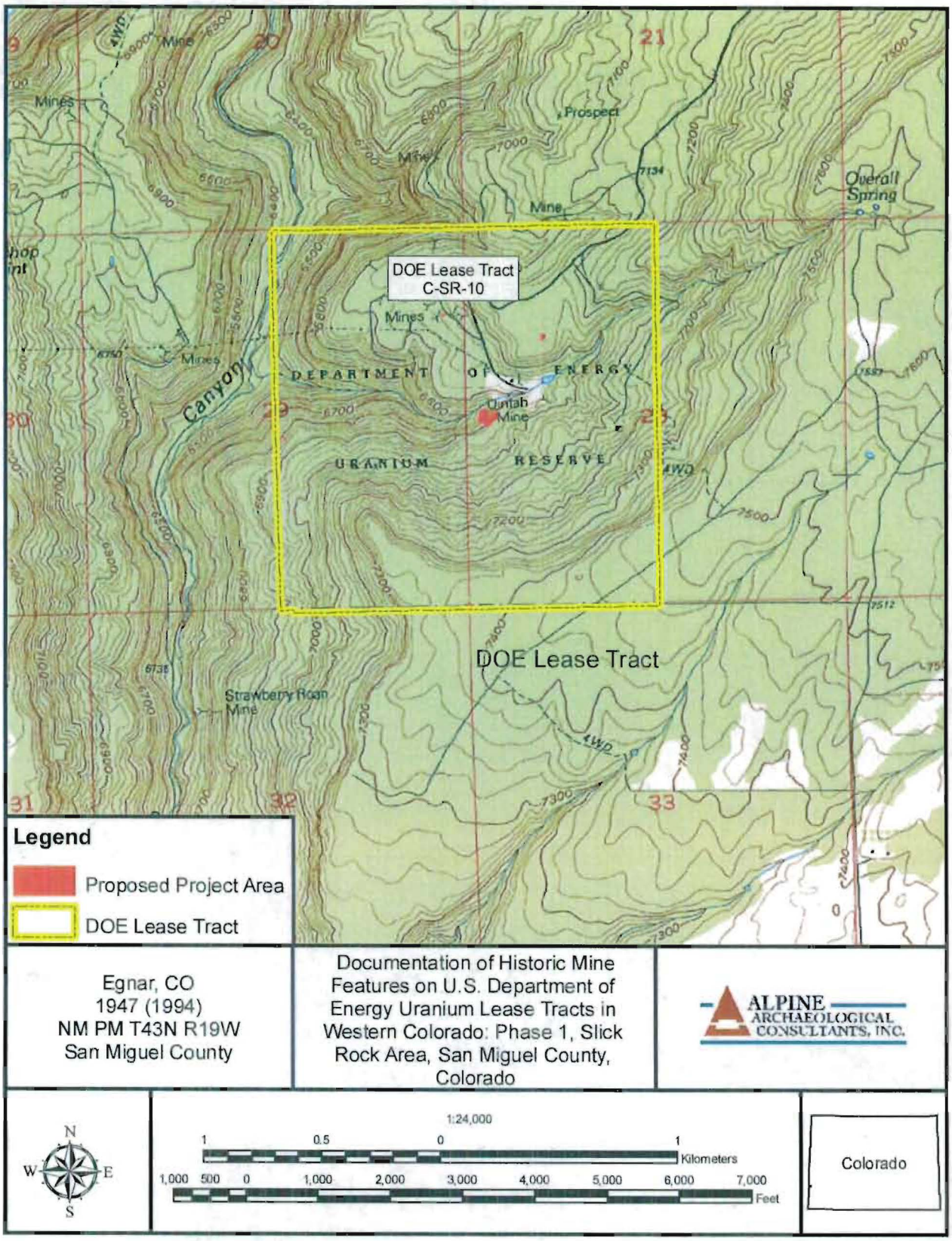



Figure 2. Location of Phase 1 project area.

Only two previously recorded cultural resource sites were identified within the proposed Slick Rock project areas. Project Area No. 11, which falls within Lease Tract C-SR-13, overlaps a portion of the Slick Rock town site. The town site was recorded as site 5SM1945 in 1987, at which time it was evaluated as not eligible for the NRHP (Hammack 1987). Additionally, Project Area No. 15, which is within Lease Tract C-SR-16, falls within the area recorded as site 5SM3692. This site, which consists of an adit and several waste dumps at the Hawk Mine and is listed in Table 3, was recorded in 1997. It was evaluated as Needs Data at that time (Stump 1997).

DOE and BLM archaeologists previously determined that it was not necessary to inventory for prehistoric sites within each of the small project areas, which all fell within the historic footprint of known mining operations. Consequently, the Alpine crew went into the field prepared to document each of the historic uranium mining locations slated for reclamation activities, as well as to evaluate the effects of proposed project activities on each of these properties. At two previously recorded sites, 5SM1945 and 5SM3692, the crew was prepared to reevaluate previously recorded cultural resources and assess the effects of project activities.

## FIELD METHODS

Each of the areas proposed for reclamation was visited specifically for recordation of the affected historic uranium mining properties. At each area, Stoller personnel identified and flagged the limits of proposed disturbance, including features slated for reclamation, borrow locations of fill soil and rock, and areas of potential vehicle traffic outside of established roads. Recordation was conducted by two archaeologists with specific mapping, photography, and description tasks. As DOE and BLM archaeologists had previously agreed that site recordation would be limited to the immediate area of the disturbance, no attempt was made to identify the perimeters of the historic properties. The areas within the proposed disturbances were intensively inspected for cultural features and artifacts. All cultural resources encountered in the project area were recorded on the appropriate Colorado Cultural Resource Survey forms. The boundaries of the proposed disturbance and the historic properties and cultural features identified within each disturbed area were mapped using a Trimble GeoXT Global Positioning Systems (GPS) unit capable of sub-meter accuracy. Field notes and photographs resulting from the project are on file at Alpine Archaeological Consultants, Inc. in Montrose, Colorado. No artifacts were collected in the course of the project.

## RESULTS

Inspection of the 20 project areas resulted in the recordation of 17 cultural resource sites and five isolated finds. As expected, no additional cultural resources were discovered during the inventories. Site location maps and site maps are provided in Appendices A and B, respectively. Site forms are included in Appendix C. Isolated find forms are included in Appendix D.

### Lease Tract C-SR-10

#### *5SM6556 – The Uintah Mine*

The Uintah Mine (5SM6556) is a 0.71-acre uranium mine on the northwest-facing slope of a tributary drainage to Bishop Canyon. The mine is on the unpatented Uintah mining claim within the DOE Uranium Reserve, on land managed by the BLM-DFO. The elevation of the site is 6,880 ft. (2,097 m). Vegetation in the area is primarily pinyon and juniper with Gambel oak, serviceberry, and mountain mahogany in association. The site includes five adits, an opening in the rock face for an explosives magazine or machine shop, an artifact concentration, and a waste-rock pile (see Appendix B-1). Waste-rock Pile 1 is extremely large, measuring 210 ft. northeast-southwest by 60 ft. northwest-southeast. It extends downslope below the level of the upper tier of mines; the top has been leveled off to create a work area for the upper tier (Adits 2 through 5 and Feature 6).

Adit 1 is a mine portal measuring approximately 5 ft. wide and 4½ ft. tall. The adit lies at the base of a band of outcropping sandstone bedrock. It is the lowest adit on the slope at the Uintah Mine and may be the oldest portal, as DOE personnel indicated to the field crew that the presence of four adjacent adits on the upper slope may suggest that a better ore vein was discovered in that area subsequent to the working of Adit 1. The adit enters the sandstone outcrop at a 120-degree angle. The portal is almost entirely blocked by a pile of rock rubble, making it difficult to ascertain the dimensions of the interior portions of the adit. The rubble pile contains several 3 by 10-in. planks, suggesting that the portal may have once been covered by a shed roof. Several artifacts were observed near the mouth of the adit, including a painted oil can, a fuse with a blasting cap, and a 3-gallon metal pail.

Adit 2 is a mine portal with a caved brow, measuring 6 ft. wide and 5 ft. tall. This adit is the southernmost of a row of four adits on the upper bench of the Uintah Mine, all of which have been excavated into an exposed band of sandstone at the leveled top of the waste rock pile. It enters the sandstone outcrop at a 120-degree angle. The collapse of the portal brow left a pile of rubble at the base of the portal opening. A debarked, 6- in.-diameter saw-cut log post still stands on the northern side of the opening, although the overhanging rock it supported is no longer present. An informal post-and-lintel support is visible a few ft. back from the entryway, consisting of three log posts and a 3 by 10- in. plank crossbeam wedged in place by chunks of lumber of various sizes. The vertical posts, which could not be approached for measurement due to safety concerns, are saw-cut pine logs measuring between 8 and 12 in. in diameter. From the portal opening, a large gap or "window" could be seen in the northern wall of the adit, connecting Adit 2 with adjacent Adit 3. This gap was likely created by the extraction of high-grade ore from the walls of each adit. No artifacts were observed in association with Adit 2.

Adit 3 is a mine portal measuring 8 ft. wide and 6 ft. tall. The adit is 17 ft. northeast of Adit 2 and enters the same sandstone outcrop at a 120-degree angle. It is supported by a series of post-and-lintel braces. The vertical posts are saw-cut, 8- in.-diameter pine logs, whereas the crossbeams are 6 by 8- in. milled beams. Mine wedges of various sizes have been stacked atop the beams to wedge them to the roof. At the entryway, a crossbeam is wedged between the sides of the portal; this crossbeam and the lintel of the post-and-lintel support behind it appear to have supported a shed roof of which only one deteriorated plank is still present. Adit 3 is recessed, with the actual entryway approximately 12 ft. behind the exterior of the rock face. The shed roof appears to have covered approximately 7 ft. of this space. The rubble pile beneath the original location of the shed roof contains several 2 by 12- in. planks that were likely once part of the fallen roof. This adit was evidently operated using rubber-tired mine buggies, as tire depressions measuring 6 ft. wide along the outside edge can be seen running the visible length of the tunnel. In some places, thick tread impressions can still be seen quite clearly. Windows to Adit 2 and Adit 4 are visible from Adit 3. A drill bit, measuring 58½ in. long and 1½ in. in diameter, was observed on the floor of the adit.

Adit 4 is a mine portal measuring 4 ft. wide and 5 ft. tall. The adit is 20 ft. north of Adit 3, entering the same band of sandstone at a 120-degree angle. No support or roofing structure is visible, save one 7- in.-diameter vertical log post set 5 ft. back into the tunnel on the northern side. This support post has a ½- in. cable lashed to it, which may be have been associated with a mechanical pulling system. Mine wedges have been stacked on top of the post to affix it to the ceiling. An air hose, a water pipe, and a length of wire all run from the area of the portal opening back into the tunnel. The air hose, which has approximately a 1¼- in. interior diameter, disappears into the ground at the portal opening; the water pipe, which has a 2½- in. interior diameter, is simply disconnected, leaving an open, threaded end. The end of the wire is held down at the portal opening with a piece of tabular sandstone. The wire was strung along the top of the tunnel, with an attached ground wire wedged into a crack in the sandstone ceiling several ft. back from the portal opening. Within the adit, an $^{11}/_{16}$-in.-wide metal belt or hoop with a "Stanley" tag was observed on the ground. Outside the tunnel opening, a rusted aerosol can is wedged into the ground on the

northern side of the portal, and several pieces of deteriorated, partially burned milled beams are strewn about. The origin of these beams is unknown.

Adit 5 is a mine portal measuring 10 ft. wide and 6 ft. tall. The adit is 17 ft. northeast of Adit 4, and, like the other adits on this bench, enters the sandstone outcrop at a 120-degree angle. There is no support or roof structure visible—in fact, the tunnel was so stable that our DOE guides allowed us to enter it to record the interior. Adit 5 contains a pull-off area approximately 15 ft. into the tunnel, which veers off to the north and stops short. This area likely represents a waiting area for vehicles or people to wait to let the ore transport vehicles pass. A large "window" or gap connects Adit 5 with Feature 1, a cavity in the sandstone outcrop lying immediately north of Adit 5. As Feature 1 is higher than Adit 5, these two areas are connected by an inclined earthen ramp that would have been passable by vehicle. The ramp is now covered with a trash scatter. The floor of Adit 5 contains an assortment of wooden planks and an artifact scatter, the contents of which are summarized in Table 4. With regard to dates, two artifacts, a Skoal can and a dynamite box, yielded dates of 1978. The NAPA grease gun, according to a NAPA customer service representative, was produced in the late 1960s to early 1970s. Overall, the artifact scatter within Adit 5 contains a modest assemblage of mid- to late-twentieth century industrial and mining-related artifacts.

Feature 1 is a small opening or cavity in the sandstone rock face that opens into Adit 5. This feature may represent the remains of an explosives magazine or machine shop. At the entryway, the cavity is oriented at a 116-degree angle. It measures 7½ ft. tall and 11½ ft. wide. The floor is covered with rock rubble. No support or roof structure is present, and several large boulders appear to have fallen down from the brow to the ground at the entrance of the opening. Artifacts associated with Feature 1 include a crushed metal drum and a K&W Waterless Soap tin, which measures 7½ in. tall and 5½ in. in diameter. The tin has a friction lid and a smaller 3- in.-diameter pry lid on the bottom for dispensing. Additionally, a crushed rubber tire can be seen partially buried by the fallen boulders—the letters "_RIP_" can be seen on the sidewall of the tire.

Artifact Concentration 1 is a trash dump approximately 45 ft. southeast of Adit 2, in the southeastern corner of the site and slightly uphill from the primary area of mine operations. Tin cans identified within the scatter included approximately 12 hole-in-top, punch-opened evaporated milk cans, 10 church key-opened beverage cans, five knife-opened food cans, three mechanically opened food cans, and three key-opened meat tins. An aluminum sardine can with key and lid was identified, which was marked "NORWAY / 204 / NORVGE." One metal friction lid was identified with spout, which read "PRY UP AT ARROW." An aluminum lid was also observed, which was embossed "Smoothie / MIXER / and / MEASURE / Aluminum." Glass artifacts included a clear glass quart jar with a screw-cap finish, a clear glass medicine bottle, and a milk glass bowl. The quart jar was embossed "Duraglas" on the base. The Duraglas mark reportedly dates after September 4, 1940. It is a trademark of the Owens Illinois Glass Company (Toulouse 1971:170 and 403). One earthenware teacup fragment with a polychrome floral design was also observed.

*Historical Background*

The Uintah claim was initially located on December 22, 1939, by Oscar A. Krabbe, Clark Krabbe, W. W. Goforth, and C. A. Snyder (San Miguel County Courthouse, County Clerk's Office, Book 174, Page 81). An Amended Location Certificate was filed for the claim on November 16, 1941, by Oscar A. Krabbe. Affidavits of Labor (AOL) were filed by Oscar A. Krabbe annually from 1942 until 1948 (San Miguel County Courthouse, County Clerk's Office, Book 120, Page 390). The claim appears to have been taken over by W. H. Holdane between 1948 and 1949, as the AOL was filed by him for the years 1949 to 1952 (San Miguel County Courthouse, County Clerk's Office, Book 204, Page 450-I). Ore production at the Uintah Mine was first reported to the AEC in 1948, at which time 227.08 tons were reported. Wolf M. Fletcher is given as the operator; Fletcher may have leased the mine from W. H. Holdane for this year.

**Table 4. Artifacts Observed in Adit 5.**

| Artifact | Quantity | Embossing/Marks | Dimensions |
|---|---|---|---|
| Cardboard SKOAL can with metal lid | 1 | 'UNITED STATES / TOBACCO CO' embossed on lid, 'Made Jul 1978' stamped on bottom of can | N/A |
| Pair, yellow rubber gloves | 1 | None | N/A |
| Metal spade head | 1 | None | 11 in. by 9 in. |
| Rubber tire | 1 | None | 31 in. in diameter |
| Metal drum | 1 | 'TEXACO / TRACK ROLL / LUBRICANT MEDIUM / __ LB NET 54.430 KILOS' | 27 in. high by 14 ½ in. in diameter |
| Metal gear pieces | 2 | None | 7 in. and 8 ½ in. in diameter |
| Cardboard dynamite boxes | 2 | side panel printing '50LBS PS 1 X 6" / HERCULES / HERCON / 3X / 45% VOL. STRENGTH / TAMPTITE / FUME CLASS I / 9/215 AUG 9-78-J-1' | 17 in. by 15 in. by 8 in. |
| Cardboard produce box | 1 | 'MR. RADISH' | 16 in. by 13 in. by 12 in. |
| Crushed cardboard boxes | 4 | None | N/A |
| Coiled rubber hose | 1 | None | 2-in. outside diameter, approximately 10 ft. long, with threaded metal fittings on each end |
| Metal light housing, possibly for ore car or mine buggy | 1 | None | 6 in. in diameter |
| Yellow plastic rain jacket | 1 | None | N/A |
| Aluminum pull-tab soda cans | 2 | Coke and Orange Crush | N/A |
| Cardboard box | 1 | 'AC / GUIDE / SEALED BEAM' | 4⅞ in. on all sides |
| Cardboard box | 1 | NAPA BALKAMP Grease Gun Model 4-852 | N/A |
| Cardboard box | 1 | DUST FOE 66 Respirator | N/A |
| Can | 1 | Mac's Starting Fluid | N/A |
| Oil Filter | 1 | None | 5-¼-in. by 3-¾-in. diameter<br>5¼ in. by 3¾ in. in diameter |

By 1953, the Ward Mining Company appears to have assumed ownership of the claim. Ward filed the AOL in 1953 and 1954 (San Miguel County Courthouse, County Clerk's Office, Book 222, Page 8-37). The Atlas Mining Company appears to have acquired the claim between 1954 and 1955, as Atlas filed the AOL for the first time in 1955 (San Miguel County Courthouse, County Clerk's Office, Book 254, Page 301). Mine production during this period is unknown, as no AEC tonnage records exist for the years between 1949 and 1955. C. L. Tuchscher, who likely leased the Uintah from Atlas Mining Company, filed the AOL in 1956 (San Miguel County Courthouse, County Clerk's Office, Book 267A, Page 120). AEC records indicate that the Uintah claim, registered under Tuchscher's name, produced 16.47 tons of ore in 1956. Between 1957 and 1959, the Climax Uranium Company leased the Uintah (San Miguel County Courthouse, County Clerk's Office, Book 272, Page 61, and Book 275, Page 3). AEC records indicate that the claim produced 624.30 tons of ore in 1957 and 741.35 tons in 1958. These tonnages are much higher than the other tonnages listed in the AEC records, suggesting that the period that the mine was leased to Climax may have been among its

most productive. Based on AEC records, the claim appears to have been leased to Jerry Mayfield in 1961 and 1962, with 36.32 tons of ore produced in 1961 and 190.98 tons produced in 1962. Arvan Burwell is also listed in the AEC records as producing 331.13 tons of ore from the Uintah in 1962. Burwell appears to have leased the Uintah again in 1963; 32.23 tons of ore were attributed to him for this year.

In 1960 and 1961, the Atlasta Mining Company filed the AOL for the Uintah claim (San Miguel County Courthouse, County Clerk's Office, Book 295, Page 156; Book 295, Page 236). Although no AOL records were located for the period between 1962 and 1966, it appears that the Atlasta Mining Company again filed the AOL in 1967 and 1968 (San Miguel County Courthouse, County Clerk's Office, Book 321, Page 32). B & M Mining Company filed the AOL in 1969; B & M is credited in the AEC records with extracting 50.56 tons of ore in 1968, the last year that ore-production records exist for the Uintah. Jack M. Simpson filed the AOL for the years 1970 and 1971, after which no AOL records appear for the following two years (San Miguel County Courthouse, County Clerk's Office, Book 321, Page 890, and Book 339, Page 942). In 1974, the Mining Service Exchange filed the AOL (San Miguel County Courthouse, County Clerk's Office, Book 350, Page 281). In 1975, it was filed by W. D. Tripp (San Miguel County Courthouse, County Clerk's Office, Book 354, Page 314), and, in 1976, it was again filed by the Mining Service Exchange (San Miguel County Courthouse, County Clerk's Office, Book 360, Page 702). The AOL was filed in 1977 by the Energy Reserve Group (San Miguel County Courthouse, County Clerk's Office, Book 368, Page 435). W. D. Tripp filed the AOL every year between 1978 and 1991, after which the claim appears to have lapsed (San Miguel County Courthouse, County Clerk's Office, Book 373, Page 290 and Book 498, Page 851). Recorded ore production for the Uintah claim prior to 1971 totaled 2,269 tons, including 211 lbs. of uranium and 1,194 lbs. of vanadium (Nelson-Moore et al. 1978).

*National Register Recommendations*

The Uintah claim was maintained for approximately 50 years, from 1941 until 1991. Consequently, use of the mine spans the last three periods of significance as defined by Twitty (2008), including World War II (1941-1945), the Atomic era (1946-1963), and the Last Boom (1974-1980). Based on evidence for heavy production under lease to the Climax Uranium Company in 1957 and 1958, it appears that the mine may have been used most intensively during Twitty's (2008) fifth period of significance, the Atomic era. Climax Uranium emerged as a major mining company during the Atomic era, likely basing its success on productive mines such as the Uintah. Although the mine may have been an important producer of uranium ore during the Cold War period, the integrity of the site is low in terms of Twitty's (2008) significance criteria focusing on architectural, engineering, and archaeological integrity. No structures, machinery, or foundations can now be seen at the Uintah Mine. Based on the tire-track depressions in Adit 3 the mine appears to have been operated using rubber-tired mine buggies, little information remains to provide evidence as to the mine's specific method of operation. In addition, based on its remote location, it is not very visible as a mining landscape element. Alpine recommends the Uintah Mine as not eligible for the NRHP.

*Potential Project Impacts*

The Uintah Mine has been proposed for reclamation. Each of the six portals or openings in the sandstone bedrock will be permanently closed with large boulders and rocks and then backfilled with available mine waste-rock materials. The mine waste-rock dump will be recontoured to remove materials from the drainage channel and they will be blended into the natural topography of the area. The area will then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture.

*Management Recommendations*

Because Alpine recommends the Uintah Mine as ineligible for the NRHP, no further historical or archaeological work is recommended.

### *5SM6557 – The Vinegaroon Mine*

The Vinegaroon Mine (5SM6557) is a 0.04-acre uranium mine on the west-facing slope of Bishop Canyon. The mine is on the unpatented Vinegaroon mining claim within the DOE Uranium Reserve, on land managed by the BLM-DFO. The elevation of the site is 6,840 ft. (2,085 m). Vegetation in the area is primarily pinyon and juniper with Gambel oak, serviceberry, and mountain mahogany in association. The site includes one adit, one cavity in the bedrock probably used as an explosives magazine, and a large waste-rock pile (see Appendix B-2). Waste-rock Pile 1 measures 25 ft. along the slope below the mine and extends 35 ft. downslope.

Adit 1 is a mine portal measuring 7 ft. wide and 6½ ft. tall, at the base of a band of outcropping sandstone bedrock. The work area lies partially on top of the leveled top of the waste rock pile. The portal enters the bedrock outcrop at a 164-degree angle. "VINEGAROON" has been scratched into the rock above the brow of the portal. The entryway is supported by one pine log post on the northeastern side of the entrance and a juniper log lintel wedged between the walls. All posts used for tunnel support are between 6 in. and 8 in. in diameter. Additional sets of supports can be seen going back into the tunnel, each of which consists of a juniper log lintel and two pine log posts on either side. Additional juniper logs can be seen lying in storage on the floor, along with a length of 2- in.-diameter water pipe. Artifacts encountered near Adit 1 include a short length of garden hose directly outside the mine and a ½- in.-diameter wire rope lying across a deadfall juniper tree just off the rim of the waste-rock pile.

Feature 1 is a cavity blasted out of the sandstone rock face approximately 10 ft. northeast of Adit 1. The opening of this cavity, which likely represents a powder magazine, is 4½ ft. wide and 4 ft. tall. The cavity is approximately 10 ft. long and enters the rock face at a 130-degree angle. Although a 4- in.-diameter juniper log has been propped upright to the left of the opening, this post has no apparent support function. A fragment of milled lumber or plywood lies at the back of the cavity. Adit 1 was once accessible through a window or gap blasted into the back of the cavity, but rock has since been stacked in the window to close it off from Adit 1.

*Historical Background*

The Vinegaroon claim was first located on December 1, 1939, by Oscar A. Krabbe, W. W. Goforth, and C. A. Snyder. The AOL documents were filed by C. A. Snyder between 1943 and 1950 (San Miguel County Courthouse, County Clerk's Office, Book 204, Page 3). In 1953, James J. Rychtarik filed the AOL (San Miguel County Courthouse, County Clerk's Office, Book 222, Page 8-79), and in 1954 and 1955, the AOL was filed by C. S. Gillaspey (San Miguel County Courthouse, County Clerk's Office, Book 222, Page 8-483). Rychtarik and Gillaspey were likely lessees to the Snyders, who appear to have retained ownership of the mine until 1969. Uranium Metals, Inc. and Ruben Snyder alternate AOL entries between 1956 and 1968 (San Miguel County Courthouse, County Clerk's Office, Book 295, Page 319; Book 302, Page 50; Book 302, Page 68; Book 302, Page 338; and Book 310, Page 24-26). In 1961, Uranium Metals appears to have filed the AOL as a lessee, likely indicating that the company was still leasing the mine from Snyder (San Miguel County Courthouse, County Clerk's Office, Book 295, Page 233).

In 1969 and 1970, Bruce B. Hall filed the AOL, possibly indicating a change of ownership at that time (San Miguel County Courthouse, County Clerk's Office, Book 321, Page 599). The 1971 AOL was filed by Silver Bell Industries (San Miguel County Courthouse, County Clerk's Office, Book 339, Page 943), and in 1972 and 1973, the AOL was filed by Edwin C. Hall (San Miguel County Courthouse, County Clerk's Office, Book 342, Page 457). The 1974 AOL was filed by Grant Fredrickson, and in 1975 and 1976, the AOL was again filed by Edwin C. Hall (San Miguel County Courthouse, County Clerk's Office, Book 350, Page 257; Book 254, Page 246). The last AOL record was filed in 1977 by Warren E. Wright, after which it appears that the claim was allowed to lapse (San Miguel County Courthouse, County Clerk's Office, Book 367, Page 99).

*National Register Recommendations*

The Vinegaroon claim was maintained between 1943 and 1977, an interval that spans the last three periods of significance as defined by Twitty (2008). These periods of significance include World War II (1941-1945), the Atomic era (1946-1963), and the Last Boom (1974-1980). Due to a lack of AEC records for the Vinegaroon Mine, the relative importance of production during each of these periods is unknown. The integrity of the site is low in terms of Twitty's (2008) significance criteria focusing on architectural, engineering, and archaeological integrity, as nearly all physical remains save the tunnel and powder magazine have been removed, and no structures are present. The method of operation of the Vinegaroon was either very simple or is no longer evident. The mine is quite remote and, as such, does not comprise a visible feature of the mining landscape. Consequently, Alpine recommends the Vinegaroon Mine as not eligible for the NRHP.

*Potential Project Impacts*

The Vinegaroon Mine has been proposed for reclamation. The portal will be permanently closed with large boulders and rocks and then backfilled with available mine waste-rock materials. The mine waste-rock dump will be recontoured, as appropriate, to blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture.

*Management Recommendations*

Because Alpine recommends the Vinegaroon Mine as ineligible for the NRHP, no further archaeological or historical work is recommended.

***5SM6558 – The Otero Mine***

The Otero Mine (5SM6558) is a reclaimed uranium mine on a flat bench above an unnamed tributary to Bishop Canyon. The mine is on the unpatented Otero claim within the DOE Uranium Reserve, on land administered by the BLM-DFO. The elevation of the site is 7,060 ft. (2,152 m), and it is primarily vegetated by pinyon and juniper forest with Gambel oak, serviceberry, and mountain mahogany in association. The site includes a subsidence that has developed into the reclaimed mine, two mine waste-rock piles, and three AEC standpipes (see Appendix B-3). No artifacts were observed at the site, save several deteriorated pieces of milled lumber.

The subsidence at the Otero Mine has occurred within a vertical shaft, based on information obtained from the DOE. The subsidence measures 10 ft., 10 in. north-south by 8 ft., 10 in. east-west and 2 ft., 3 in. deep. The entire area around the subsidence has been recontoured using the decomposing mudstone that was brought up from the shaft during mining operations. Two waste-rock piles remain at the site. Waste-rock Pile 1, which lies 20 ft. north of the subsidence, measures 47 ft. northeast-southwest by 28 ft. northwest-southeast; Waste-rock Pile 2 lies 9 ft. southeast of the subsidence and measures 18 ft. north-south by 15 ft. east-west.

Three standpipes were observed at the mine, which cover drill holes bored by the AEC during the Cold War era. Standpipe 1, which is at the western corner of the site, is numbered "LE-317." Standpipe 2, which is in the southeastern corner of the site, has no label, and Standpipe 3, which is at the southern boundary of the site, reads "LE-401." Twitty (2008) observes that drill holes dug by the AEC in association with the USGS that are less than 500 ft. apart were likely dug in response to a positive test probe. As a result, it appears probable that the drill holes at the Otero, which are less than 100 ft. apart, were dug following the excavation of at least one positive drill hole. Consequently, the Otero lode was likely identified as part of the AEC drilling program.

*Historical Background*

The Otero claim was originally located on August 12, 1945, by the Union Mines Development Corporation (San Miguel County Courthouse, County Clerk's Office, Book 204, Page 196). A notice in Lieu of Assessment work was filed for the mine in 1947 (San Miguel County Courthouse, County Clerk's Office, Book 204, Page 325). In 1954, AEC records indicate that William R. McCormick recovered 76.42 tons of uranium ore from the Otero Mine. Unfortunately, no other historical information could be found for this claim.

*National Register Recommendations*

Although only limited historical documentation is available, the Otero Mine appears to have been in operation primarily during Twitty's (2008) fifth period of significance, the Atomic era (1946-1963). Based on the presence of AEC standpipes at the site, the mine it appears that the mine was likely located through the AEC's Atomic-era drilling program. The presence of these standpipes, therefore, strongly associates activities at the site with the Atomic era, as defined by Twitty (2008). However, as the Otero Mine has been reclaimed, the site possesses no integrity in terms of Twitty's (2008) significance criteria focusing on architectural, engineering, and archaeological integrity. Alpine recommends the Otero Mine as ineligible for the NRHP.

*Potential Project Impacts*

The subsided shaft at the former Otero Mine will be backfilled with available surface soil materials and reseeded with an approved seed mixture.

*Management Recommendations*

Because Alpine recommends the reclaimed Otero Mine as ineligible for the NRHP, no further archaeological or historical work is recommended.

**Lease Tract C-SR-11**

***5SM6559 – The Blackbird/Radium No. 8 Mine***

The Blackbird/Radium No. 8 Mine (5SM6559) is a 2.8-acre uranium mine on the southeast-facing rim of Summit Canyon. The mine is on the unpatented Blackbird and Radium No. 8 mining claims within the DOE Uranium Reserve, on land managed by the BLM-DFO. The elevation of the site is 7,060 ft. (2,152 m). It is on land primarily vegetated by pinyon and juniper forest in association with sagebrush. Evidence remains at the Blackbird/Radium No. 8 Mine of both an inclined tunnel mine and an open-cut mine, which have been designated as Loci 1 and 2, respectively (see Appendix B-4). Artifacts at the site include scattered industrial and domestic refuse, in addition to a car body disposed of in the open mine. Seven waste-rock piles were identified at the site, the dimensions of which are provided in Table 5.

**Table 5. Waste-Rock Pile Dimensions at the Blackbird/Radium No. 8 Mine.**

| Waste-Rock Pile No. | North-South Dimensions (ft.) | East-West Dimensions (ft.) |
|---|---|---|
| 1 | 160 | 165 |
| 2 | 40 | 35 |
| 3 | 30 | 20 |
| 4 | 85 | 150 |
| 5 | 15 | 50 |
| 6 | 40 | 30 |
| 7 | 95 | 100 |

### Isolated Finds

Five isolated finds were recorded during project work, which all consisted of areas with reclaimed mine features that have since subsided. These isolated finds are summarized in Table 11. In each case, besides the subsidence or subsidences, no other cultural remains were present to justify recordation of a site. Isolated finds were recorded on the Ortmeyer, the Ike No. 1, the Jupiter, the Ellison, and the Golden Rod claims. The subsidence at the Jupiter claim (5SM6573) had a small artifact scatter nearby, consisting of sanitary cans, a bucket lid, and a pipefitting—however, as none of these artifacts are diagnostic, and due to reclamation their context is completely destroyed, the area was recorded as an isolated find rather than a site. Isolated finds, by definition, are considered insignificant cultural resources; these resources are all recommended as ineligible for NRHP nomination and require no further work.

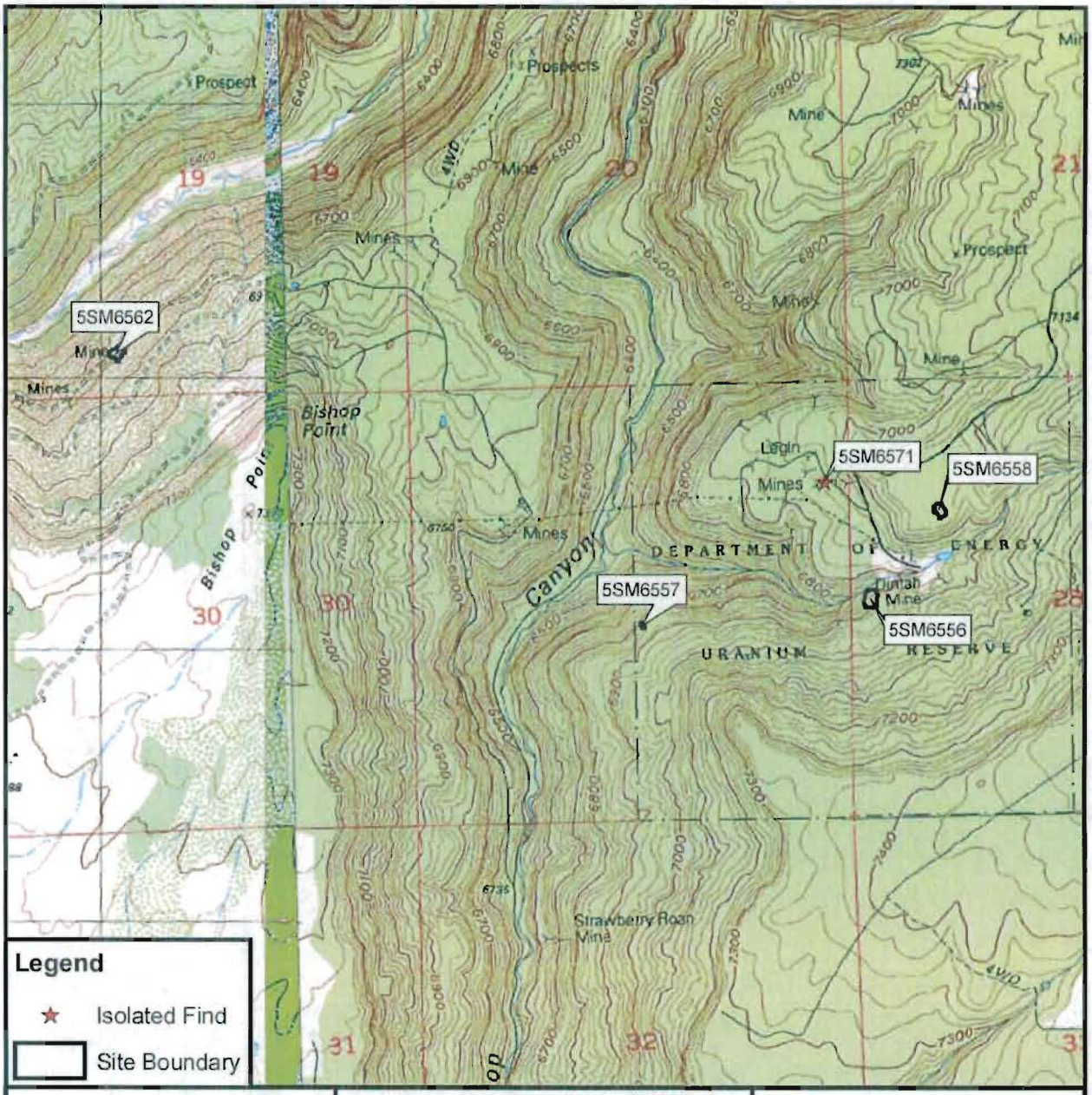
**Table 11. Isolated Finds.**

| Isolate No. | Lease Tract | Mining Claim | Subsidence Dimensions | Subsidence Depth | Artifacts |
|---|---|---|---|---|---|
| 5SM6571 | C-SR-10 | Ortmeyer | 70 ft. by 61 ft. | 20 ft. | None |
| 5SM6572 | C-SR-10 | Ike No. 1 | 12 ft. by 4 ft. | 1-2 ft. | 1 piece of strap metal |
| 5SM6573 | C-SR-12 | Jupiter | Subsidence 1: 6 ft. by 6 ft.; Subsidence 2: 15 ft. by 10 ft. | Subsidence 1: 25-30 ft.; Subsidence 2: 5 ft. | 20 sanitary cans; metal lid to 5-gallon lubricant bucket; 2-in.-diameter screw-top metal pipe fitting |
| 5SM6574 | C-SR-13 | Ellison | 5 ft. wide and 4 ft. high | 20+ ft. | None |
| 5SM6575 | C-SR-16A | Golden Rod | 7 ft. by 4 ft. | 20 ft. | None |

## SUMMARY AND RECOMMENDATIONS

The historic mine features documentation on seven DOE uranium lease tracts resulted in the examination of 19.04 acres, all of which are on DOE Uranium Reserve lands administered by the BLM-DFO. Fifteen cultural resource sites were recorded during the inventory, all of which were evaluated as not eligible for inclusion on the National Register of Historic Places. No further archaeological or historical work is recommended at these sites. Five isolated finds were also recorded, which by definition are ineligible. The results of the project were as expected. Mine features proposed for reclamation or subsidence in-fill were recorded as cultural resource sites or isolated finds, depending on the nature of the resources within the area slated for disturbance.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**

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|---|---|---|
| Egnar, CO & Horse Range Mesa, CO 1947 (1994) NM PM T43N R19W San Miguel County | Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 1, Slick Rock Area, San Miguel County, Colorado | ALPINE ARCHAEOLOGICAL CONSULTANTS, INC. |

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

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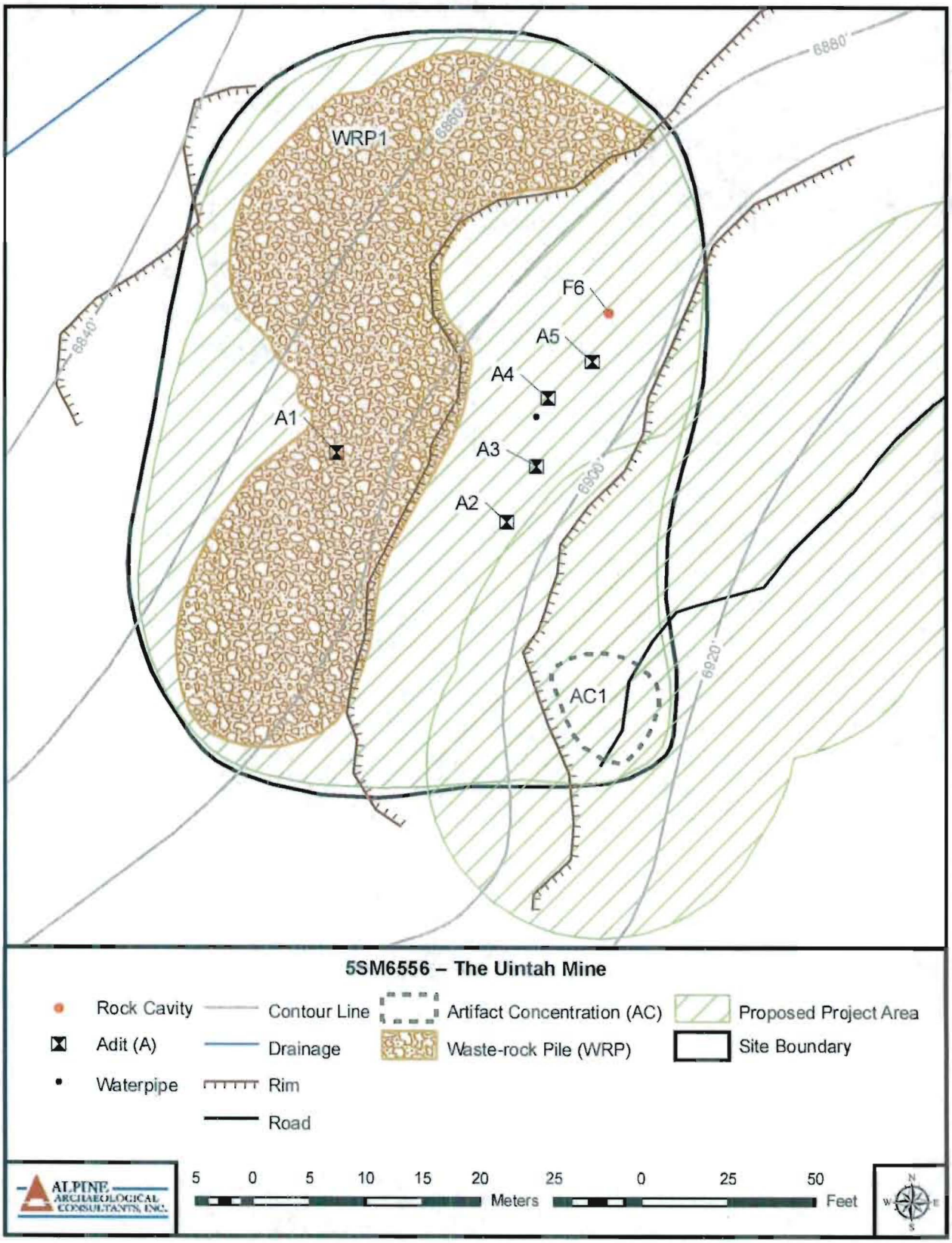

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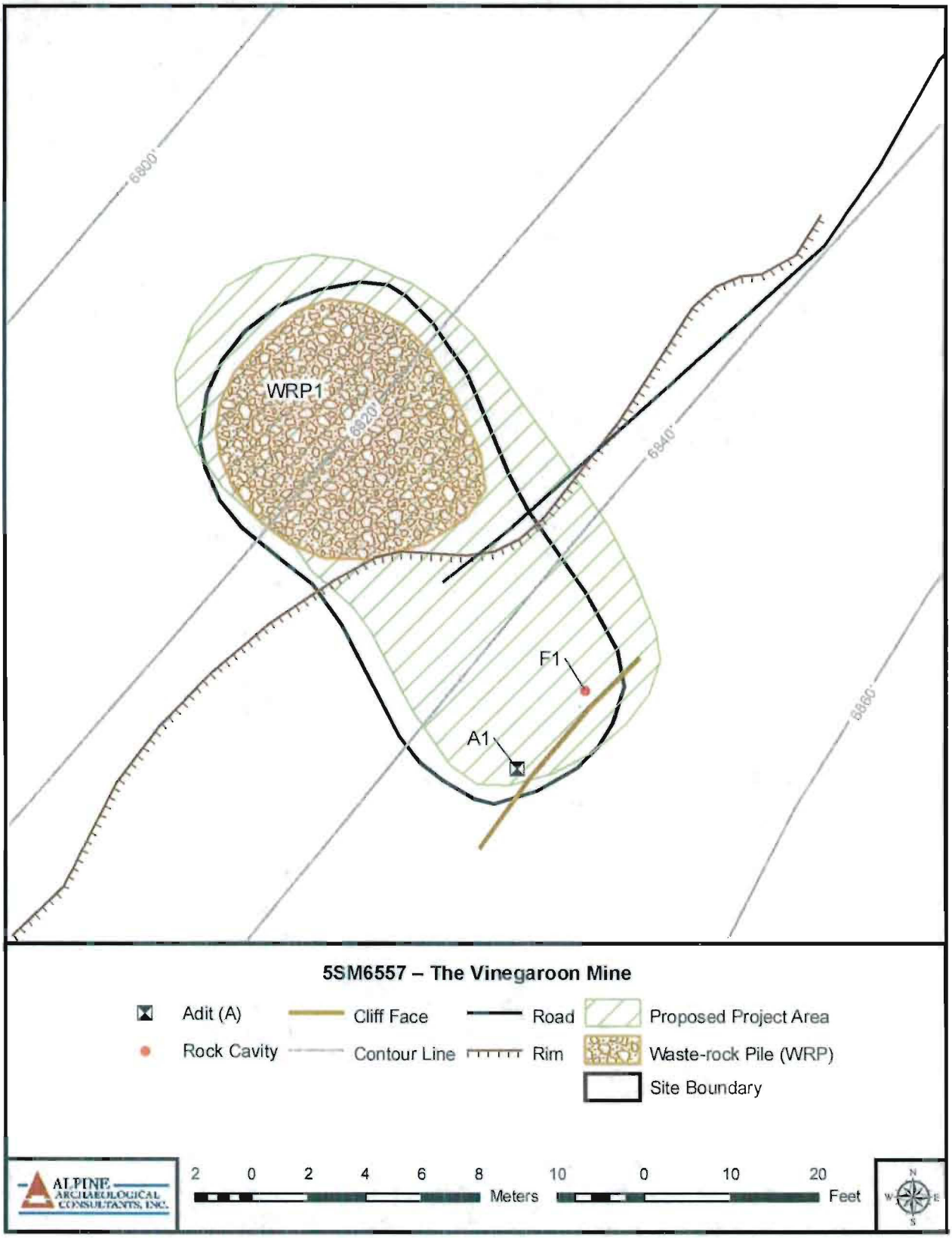

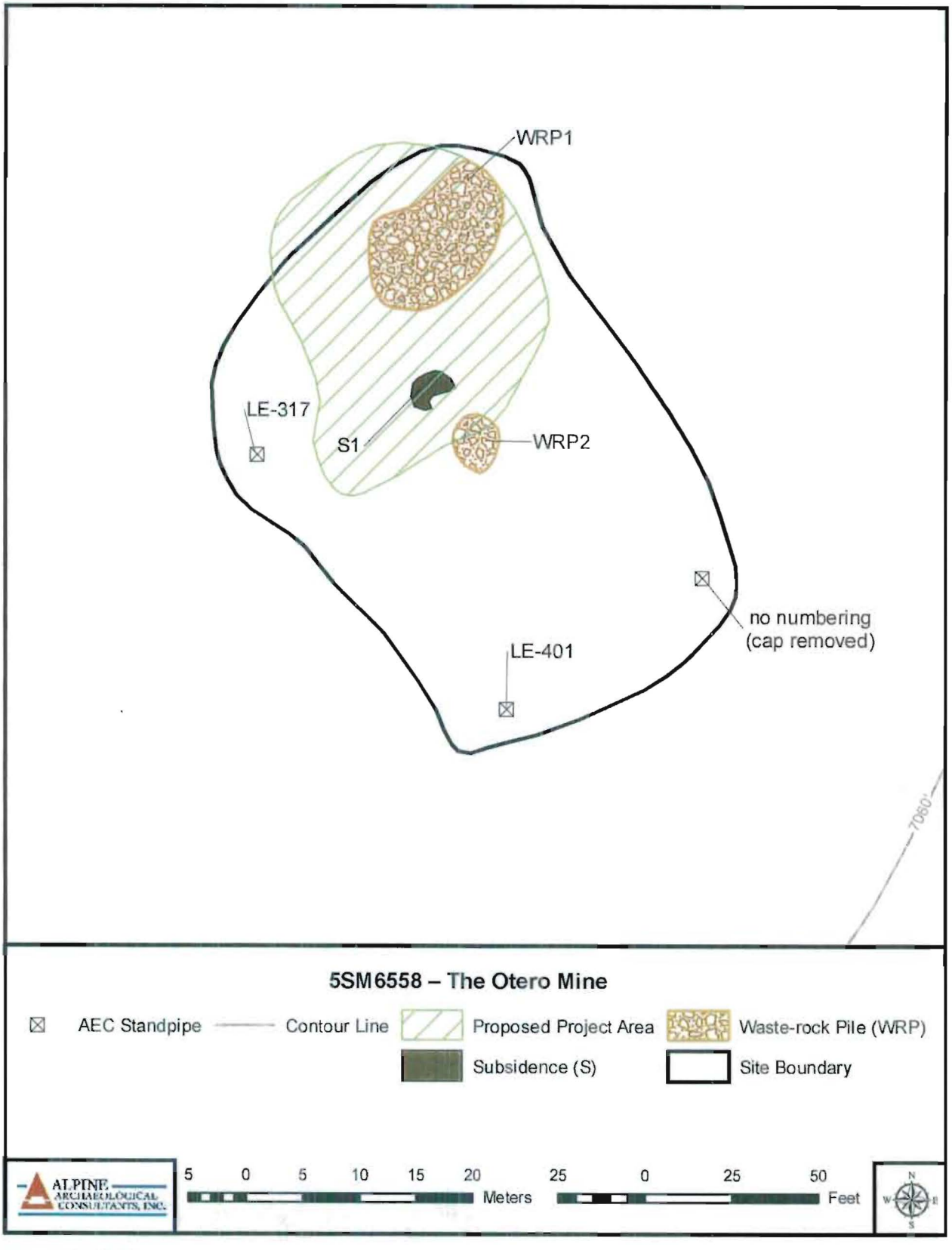
WRP1
LE-317
S1
WRP2
no numbering
(cap removed)
LE-401
7060'
5SM6558 – The Otero Mine
AEC Standpipe
Contour Line
Proposed Project Area
Waste-rock Pile (WRP)
Subsidence (S)
Site Boundary
ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.
5 0 5 10 15 20 Meters
25 0 25 50 Feet
N
W
E
S

COLORADO CULTURAL RESOURCE SURVEY

OAHP1400
Rev. 9/98

# Management Data Form

(page 1 of 4)

The Management Data Form should be completed for each cultural resource recorded during an archaeological survey. Exceptions to this are isolated finds and re-evaluations, neither of which require a Management Data Form.

1. Resource Number: 5SM6556
2. Temporary Resource Number: CSR10Uintah
3. Attachments (check as many as apply)
   - ☐ Prehistoric Archaeological Component
   - ☑ Historic Archaeological Component
   - ☐ Historic Architectural Component Form
   - ☑ Sketch/Instrument Map (required)
   - ☑ U.S.G.S. Map Photocopy (required)
   - ☑ Photograph(s)
   - ☐ Other, specify:
4. Official determination (OAHP use only)
   - ____ Determined Eligible
   - ____ Determined Not Eligible
   - ____ Nominated
   - ____ Need Data
   - ____ Contributing to NR Dist.
   - ____ Non Contributing to NR Dist.

## I. IDENTIFICATION

5. Resource name: Uintah Mine
6. Project Name/Number: DOE - Uranium Leases
7. Government Involvement: Local ☐ State ☐ Federal ☑
   Agency: Bureau of Land Management - Dolores Field Office, Department of Energy
8. Site Categories: Check as many as apply:
   Prehistoric: archaeological site ☐ paleontological site ☐
   in existing National Register District? ☐ name
   Historic: archaeology site ☑ building(s) ☐ structure(s) ☐ object(s) ☐
   in existing National Register District? ☐ name
9. Owner (s) Name and Address: Bureau of Land Management - Dolores Field Office/Department of Energy
10. Boundary Description and Justification: Extent of waste rock and mining features.
11. Site/Property Dimensions: 68 m x 42 m Area 2,884 m² 0.71 acres
    Area was calculated as: Length x Width ☑ (rectangle/square) OR (length x width) x 0.785 ☐ (ellipse)

## II. LOCATION

12. Legal Location

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | NM | Township | 43N | Range | 19W | Section | 28 | SW | 1/4 of | SW | 1/4 of | SW | 1/4 of | NW | 1/4 |
| PM | NM | Township | 43N | Range | 19W | Section | 28 | NW | 1/4 of | NW | 1/4 of | NW | 1/4 of | SW | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |

if section is irregular, explain alignment method:

Resource Number: 5SM6556
Temporary Resource Number: CSR10Uintah

## Management Data Form



13. USGS Quad Egnar, CO 7.5' ☑ 15' ☐ Date(s): 1947 (1994) (attach photocopy)
14. County: San Miguel 15. Other Maps:
16. UTM Reference: Check your Datum ☐ NAD 27 ☑ NAD 83

| | | | |
|---|---|---|---|
| A. | 12 | 677777 mE | 4203403 mN |
| B. | 12; | mE | mN |
| C. | 12; | mE | mN |
| D. | 12; | mE | mN |

17. Address: Lot Block: Addition
18. Location/Access: From the intersection of Co. Hwy. 141 with County Road S.8 near Slick Rock, CO, drive 6.8 miles southwest on Co. Hwy. 141. Turn west on County Road 7.N and continue 3.0 miles to the end of the county road. From the end of the county road, follow an ATV trail 200 ft. and turn west on another intersecting ATV trail. Travel 550 feet west on the ATV trail and park. The site lies approximately 300 ft. west and downslope.

### III. NATURAL ENVIRONMENT

19. Topographic Feature(s):

| | | |
|---|---|---|
| ☐ mountain | ☐ ledge | ☐ playa |
| ☐ hill | ☐ terrace/bench | ☐ talus slope |
| ☐ tableland/mesa | ☑ canyon | ☐ alluvial fan |
| ☐ ridge | ☐ valley | ☐ plain |
| ☐ saddle/pass | ☐ basin | ☐ dune |
| ☐ alcove/rockshelter | ☐ floodplain | ☐ |
| ☑ cliff | ☐ cutbank | ☐ |
| ☑ slope | ☐ arroyo/gully | ☐ |

20. Site Topographic Description (mention names landforms):
The site is on the northwest-facing slope of a tributary drainage to Bishop Canyon.

21. Site Elevation: 6,880 feet =(x .3048) 2097 meters 22. Aspect: 285 °
23. Degree of Slope on Site: 0-90 ° 24. Soil Depth: 0-20 cm
25. Soil Description (character and color): Reddish-brown sandy loam

26. Depositional Environment

| | | |
|---|---|---|
| ☐ Aeolian | ☑ Colluvial | ☑ Residual |
| ☐ Alluvial | ☐ Moraine | ☐ None |

☐ Other, specify:

27. Nearest Water: name/nature Bishop Canyon tributary/ permanent distance: 15 m 49 ft
28. Nearest Permanent Water: name: Bishop Canyon tributary distance: 15 m 49 ft
29. Vegetation on Site (list predominant species): Primarily pinyon and juniper

30. Vegetation Associations/Communities Surrounding Site: Pinyon and juniper with Gambel oak, serviceberry, and mountain mahogany in association.

Resource Number: 5SM6556
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## Management Data Form



### IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

31. Context or Theme: Mining - Uranium

specify: The Atomic Era (1946-1963), based on Twitty (2008)

32. Applicable National Register Criteria

- ☑ Does not meet any of the below National Register criteria
- ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history; or
- ☐ B. Associated with the lives of persons significant to our past; or
- ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent 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. Has yielded, or may be likely to yield, information important in history or prehistory; or
- ☐ Qualifies under exceptions A through G.

Level of Significance: National ☐ State ☐ Local ☐

33. Condition:

| a. Architectural/Structural | b. Archaeological/Paleontological |
|---|---|
| ☐ Excellent | ☐ Undisturbed |
| ☐ Good | ☐ Light disturbance |
| ☐ Fair | ☑ Moderate disturbance |
| ☐ Deteriorated | ☑ Heavy disturbance |
| ☐ Ruins | ☐ Total disturbance |

34. Describe Condition: No architectural elements; waste-rock eroding.

35. Vandalism: ☐ describe

36. National Register Eligibility Field Assessment:

Eligible ☐ Not Eligible ☑ Need Data ☐

Statement of Significance/N.R.H.P. Justification

The Uintah claim was maintained for approximately 50 years, from 1941 until 1991. Consequently, use of the mine spans the last three periods of significance as defined by Twitty (2008), including World War II (1941-1945), the Atomic era (1946-1963), and the Last Boom (1974-1980). Based on evidence for heavy production under lease to the Climax Uranium Company in 1957 and 1958, it appears that the mine may have been used most intensively during Twitty's (2008) fifth period of significance, the Atomic era. (Please see Management Data Continuation Page.)

37. Status in an Existing National Register District:

Contributing ☐ Non-Contributing ☐

38. National Register District Potential ☐

discuss

Resource Number: 5SM6556
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## Management Data Form



### V. MANAGEMENT AND ADMINISTRATIVE DATA

39. Threats to Resource: Water erosion ☐ Wind erosion ☐ Grazing ☐ Neglect ☐
Vandalism ☐ Recreation ☐ Construction ☐ Other (specify): Reclamation
comments:

40. Existing Protection: None ☑ Marked ☐ Fenced ☐ Patrolled ☐ Access controlled ☐
other (specify):

41. Local landmark designation: 42. Easement:

43. Management Recommendations:
Because Alpine recommends the Uintah Mine as ineligible for the NRHP, no further historical or archaeological work is recommended.

### VI. DOCUMENTATION

44. Previous Actions Accomplished at the site:
a. Excavations: Test ☐ Partial ☐ Complete ☐ Date(s):
b. Stabilization: Date(s):
c. HABS/HAER Documentation Date(s) and Numbers:
d. Other:

45. Known collections/reports/interviews and other references (list):

46. Primary Location of Additional Data: Alpine Archaeological Cons., 900 S. Townsend, Montrose, CO 81401

47. State or Federal Permit Number: BLM C-46920 Collection Authorized: ☐
Artifact Collection: ☐ Artifact Repository: N/A
Collection Method: Diagnostics ☐ Grab Sample ☐ Random Sample ☐ Transect ☐
Other (specify):

48. Photograph Numbers: SMM-DUL-09-1: images 63 - 85 Negatives filed at: N/A - Digital images

49. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 1, Slick Rock Area, San Miguel County, Colorado

50. Recorder(s): Summer Moore-McMillan, Jeremy Omvig Date(s): 6/24/2009

51. Recorder Affiliation: Alpine Archaeological Consultants, Inc. Montrose, CO

52. Phone Number: (970) 249-6167

NOTE: Please attach a sketch map, a photocopy of the USGS quad. map indicating resource location, and photographs.

COLORADO CULTURAL RESOURCE SURVEY

## Management Data Form

### Continuation Page

Resource Number: 5SM6556
Temporary Resource Number: CSR10Uintah

**36. National Register Eligibility Field Assessment:**
**Statement of Sigificance/N.R.H.P. Justification:**

Climax Uranium emerged as a major mining company during the Atomic era, likely basing its success on productive mines such as the Uintah. Although the mine may have been an important producer of uranium ore during the Cold War period, the integrity of the site is low in terms of Twitty's (2008) significance criteria focusing on architectural, engineering, and archaeological integrity. No structures, machinery, or foundations can now be seen at the Uintah Mine. Based on the tire-track depressions in Adit 3 the mine appears to have been operated using rubber-tired mine buggies, little information remains to provide evidence as to the mine's specific method of operation. In addition, based on its remote location, it is not very visible as a mining landscape element. Alpine recommends the Uintah Mine as not eligible for the NRHP.

Reference Cited:

Twitty, Eric (2008). "Guide to Assessing Historic Radium, Uranium, and Vanadium Mining Resources in Montrose and San Miguel Counties." Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

COLORADO CULTURAL RESOURCE SURVEY

OAHP1402
Rev. 9/98

# Historic Archaeological Component Form



Use this form in conjunction with the Managament Data Form. One of these forms should be completed for each historical resources with archaeologicial potential.

Does this form pertain to the site in general? ☑
OR
a particular feature/structure (please note feature/structure number)

1. Resource Number: 5SM6556 2. Temporary Resource Number: CSR10Uintah

3. Site/Feature Type: Uranium Mine

4. General Site/Feature Description:

The Uintah Mine (5SM6556) is a 0.71-acre uranium mine on the northwest-facing slope of a tributary drainage to Bishop Canyon. The mine is on the unpatented Uintah mining claim within the DOE Uranium Reserve, on land managed by the BLM-DFO. The elevation of the site is 6,880 ft. (2,097 m). Vegetation in the area is primarily pinyon and juniper with Gambel oak, serviceberry, and mountain mahogany in association. The site includes five adits, an opening in the rock face for an explosives magazine or machine shop, an artifact concentration, and a waste-rock pile. Waste-rock Pile 1 is extremely large, measuring 210 ft. northeast-southwest by 60 ft. northwest-southeast. It extends downslope below the level of the upper tier of mines; the top has been leveled off to create a work area for the upper tier (Adits 2 through 5 and Feature 6).

Adit 1 is a mine portal measuring approximately 5 ft. wide and 4½ ft. tall. The adit lies at the base of a band of outcropping sandstone bedrock. It is the lowest adit on the slope at the Uintah Mine and may be the oldest portal, as DOE personnel indicated to the field crew that the presence of four adjacent adits on the upper slope may suggest that a better ore vein was discovered in that area subsequent to the working of Adit 1. The adit enters the sandstone outcrop at a 120-degree angle. The portal is almost entirely blocked by a pile of rock rubble, making it difficult to ascertain the dimensions of the interior portions of the adit. The rubble pile contains several 3 by 10-in. planks, suggesting that the portal may have once been covered by a shed roof. Several artifacts were observed near the mouth of the adit, including a painted oil can, a fuse with a blasting cap, and a 3-gallon metal pail.

Adit 2 is a mine portal with a caved brow, measuring 6 ft. wide and 5 ft. tall. This adit is the southernmost of a row of four adits on the upper bench of the Uintah Mine, all of which have been excavated into an exposed band of sandstone at the leveled top of the waste rock pile. It enters the sandstone outcrop at a 120-degree angle. The collapse of the portal brow left a pile of rubble at the base of the portal opening. A debarked, 6- in.-diameter saw-cut log post still stands on the northern side of the opening, although the overhanging rock it supported is no longer present. An informal post-and-lintel support is visible a few ft. back from the entryway, consisting of three log posts and a 3 by 10- in. plank crossbeam wedged in place by chunks of lumber of various sizes. The vertical posts, which could not be approached for measurement due to safety concerns, are saw-cut pine logs measuring between 8 and 12 in. in diameter. From the portal opening, a large gap or " window" could be seen in the northern wall of the adit, connecting Adit 2 with adjacent Adit 3. This gap was likely created by the extraction of high-grade ore from the walls of each adit. No artifacts were observed in association with Adit 2.

(Please see Historic Archaeological Component Continuation Page.)

5. Historic Component Date(s) and/or Sociopolitical Period: 1941-1991
   Justification: Historical documents

6. Component Function(s)
   Original Use: Uranium mine
   Present Use: None
   Comments:

7. Ethnic affiliation of occupants: Historic
   Justification: Historical records

Resource Number 5SM6556

Temporary Resource Number: CSR10Uintah

## Historic Archaeological Component Form



8. Artifact Classes: Please list specific attributes on the first line and artifact quantity (either count or estimate on the second line. Particularly important attributes are listed following the artifact class.

A. Glass: type function, color, manufacturing technique, makers marks, inscritpions, thickness, shape

**Bottle glass:** ☐ purple ☑ clear ☐ aqua ☐ cobalt blue ☐ amber ☐ light green ☐ olive green ☐ yellowish other: milk glass

**Vessel finish:** ☐ hand-finished ☑ machine-made

**Vessel types:** Clear glass quart jar with screw-cap, clear glass medicine bottle, and milk glass bowl.

**Makers marks/embossing:** "Duraglas" (on base of quart jar).

**Other vessel types:**

**Total estimated number of vessels:**

B. Ceramics: type, function, surface treatment/glaze, shape, trademarks, color, decorations

**Earthenware:** Teacup fragment with polychrome floral design.

**Estimated number of vessels:** 1

**Stoneware:**

**Estimated number of vessels:**

**Porcelain:**

**Estimated number of vessels:**

C. Nails: size, material type and manufacture technique, if not wire or cut

**Cut nails:** ☐ **Quantity:** **Wirenails:** ☐ **Quantity:**

**Other fasteners:**

**Quantity:**

Resource Number 5SM6556

Temporary Resource Number:CSR10Uintah

## Historic Archaeological Component Form



D. Cans: function, size, material type, type of opening, seams, inscriptions — Quantity

**Hole-in-cap:**

**Hole-in-top:** Punch-opened evaporated milk cans — 12

**Sanitary:** 10 church-key-opened beverage cans, 5 knife-opened food cans, 3 mechanically opened food cans, 3 church-key-opened meat tins. — 21

**Other:** A painted oil can, can marked "MAC'S STARTING FLUID," one aluminum sardine can with key and lid marked "NORWAY / 204 / NORVGE", an aluminum lid embossed "Smoothie / MIXER / and / MEASURE / Aluminum," pull-tab Coke can, pull-tab Orange Crush can, SKOAL can marked "UNITED STATES TOBACCO CO" and "MADE JUL 1978." — 7

E. Cartridge Cases: type, size, inscriptions, material type

**Rimfire:**

**Centerfire:**

**Other:**

F. Construction Material: type, material, function (includes items such as logs, lumber, brick, adobe, cement, concrete, stone/rock, sheet metal, asphalt, tar, pipe)

**Window glass:** ☐ **Quantity:**

**Other:** 3 by 10-in. planks, 2 by 12-in. planks, partially burned milled beams.

G. Misc. Other Items: type, material, function (includes items such as utensils, stove parts, wire, nuts, bolts, rivets, screws, buckets, barrels, vehicle parts, machinery, leather, clothing, bone, funiture, buttons, etc.)

**List:** Fuse with blasting cap, 11/16-in.-wide metal belt or hoop with a "Stanley" tag, metal spade head, 2 rubber tires, metal drum marked "TEXACO / TRACK ROLL / LUBRICANT / MEDIUM / LB NET 54.430 KILOS," crushed metal drum, metal gear pieces, coiled rubber hose, metal light housing for ore car or mine buggy, oil filter, crushed cardboard boxes, cardboard produce box marked "MR. RADISH," cardboard box marked "AC / GUIDE / SEALED BEAM," cardboard box marked "NAPA BALKAMP GREASE GUN MODEL 4-852," cardboard box marked "DUST FOE 66 RESPIRATOR," cardboard dynamite box marked "50LBS PS 1 X 6 / HERCULES / HERCON / 3X / 45%," aerosol can, yellow plastic rain jacket, pair of yellow rubber gloves, K&W Waterless soap tin.

9. Artifact Density: ☐ Heavy ☑ Medium ☐ Light

Describe: Artifacts primarily located within adits; a trash dump - Artifact Concentration 1 - is located approximately 45 ft. southeast of Adit 2.

10. Additional Information:

Historical Background

The Uintah claim was initially located on December 22, 1939, by Oscar A. Krabbe, Clark Krabbe, W. W. Goforth, and C. A. Snyder (San Miguel County Courthouse, County Clerk's Office, Book 174, Page 81). An Amended Location Certificate was filed for the claim on November 16, 1941, by Oscar A. Krabbe. Affidavits of Labor (AOL) were filed by Oscar A. Krabbe annually from 1942 until 1948 (San Miguel County Courthouse, County Clerk's Office, Book 120, Page 390). The claim appears to have been taken over by W. H. Holdane between 1948 and 1949, as the AOL was filed by him for the years 1949 to 1952 (San Miguel County Courthouse, County Clerk's Office, Book 204, Page 450-I). Ore production at the Uintah Mine was first reported to the AEC in 1948, at which time 227.08 tons were reported. Wolf M. Fletcher is given as the operator; Fletcher may have leased the mine from W. H. Holdane for this year.

(Please see Historic Archaeological Component Continuation Page.)

Resource Number 5SM6556

Temporary Resource Number:CSR10Uintah

## Historic Archaeological Component Form



**Note: Complete parts 11 and 12 only if this form pertains to the site in general.**

11. Architectural Features(s). Please complete a Historic Architectural Component Form when appropriate.

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|

12.. Non-architectural features(s).

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|
| A1 | Mine adit/portal | Stone, wood planks | 5 by 4.5 ft. |
| A2 | Mine adit/portal of post-and-lintel construction | Stone and wooden planks | 6 by 5 ft. |
| A3 | Mine adit/portal with post-and-lintel bracing | Stone, wood planks | 8 by 6 ft. |
| A4 | Mine adit/portal - no support/roof structure visible | Stone | 4 by 5 ft. |
| A5 | Mine adit/portal - no support/roof structure visible | Stone | 10 x 6 ft. |
| F1 | Cavity in rock outcrop (possible explosives magazine or machine shop) | Stone | 7.5 by 11.5 ft. |
| WRP1 | Waste-rock pile | Discarded rock | 210 by 60 ft. |

13. Discuss Archaeological potentential:

The site has no archaeological potential.

14. Recorder(s): Summer Moore-McMillan, Jeremy Omvig

15. Date: 6/24/2009

COLORADO CULTURAL RESOURCE SURVEY

## Historic Archaeological Component Form

### Continuation Page

Resource Number: 5SM6556
Temporary Resource Number: CSR10Uintah

**4. General Site/Feature Description, Continued:**

Adit 3 is a mine portal measuring 8 ft. wide and 6 ft. tall. The adit is 17 ft. northeast of Adit 2 and enters the same sandstone outcrop at a 120-degree angle. It is supported by a series of post-and-lintel braces. The vertical posts are saw-cut, 8- in.-diameter pine logs, whereas the crossbeams are 6 by 8- in. milled beams. Mine wedges of various sizes have been stacked atop the beams to wedge them to the roof. At the entryway, a crossbeam is wedged between the sides of the portal; this crossbeam and the lintel of the post-and-lintel support behind it appear to have supported a shed roof of which only one deteriorated plank is still present. Adit 3 is recessed, with the actual entryway approximately 12 ft. behind the exterior of the rock face. The shed roof appears to have covered approximately 7 ft. of this space. The rubble pile beneath the original location of the shed roof contains several 2 by 12- in. planks that were likely once part of the fallen roof. This adit was evidently operated using rubber-tired mine buggies, as tire depressions measuring 6 ft. wide along the outside edge can be seen running the visible length of the tunnel. In some places, thick tread impressions can still be seen quite clearly. Windows to Adit 2 and Adit 4 are visible from Adit 3. A drill bit, measuring 58½ in. long and 1½ in. in diameter, was observed on the floor of the adit.

Adit 4 is a mine portal measuring 4 ft. wide and 5 ft. tall. The adit is 20 ft. north of Adit 3, entering the same band of sandstone at a 120-degree angle. No support or roofing structure is visible, save one 7- in.-diameter vertical log post set 5 ft. back into the tunnel on the northern side. This support post has a ½- in. cable lashed to it, which may be have been associated with a mechanical pulling system. Mine wedges have been stacked on top of the post to affix it to the ceiling. An air hose, a water pipe, and a length of wire all run from the area of the portal opening back into the tunnel. The air hose, which has approximately a 1¼- in. interior diameter, disappears into the ground at the portal opening; the water pipe, which has a 2½- in. interior diameter, is simply disconnected, leaving an open, threaded end. The end of the wire is held down at the portal opening with a piece of tabular sandstone. The wire was strung along the top of the tunnel, with an attached ground wire wedged into a crack in the sandstone ceiling several ft. back from the portal opening. Within the adit, an 11/16-in.-wide metal belt or hoop with a "Stanley" tag was observed on the ground. Outside the tunnel opening, a rusted aerosol can is wedged into the ground on the northern side of the portal, and several pieces of deteriorated, partially burned milled beams are strewn about. The origin of these beams is unknown.

Adit 5 is a mine portal measuring 10 ft. wide and 6 ft. tall. The adit is 17 ft. northeast of Adit 4, and, like the other adits on this bench, enters the sandstone outcrop at a 120-degree angle. There is no support or roof structure visible—in fact, the tunnel was so stable that our DOE guides allowed us to enter it to record the interior. Adit 5 contains a pull-off area approximately 15 ft. into the tunnel, which veers off to the north and stops short. This area likely represents a waiting area for vehicles or people to wait to let the ore transport vehicles pass. A large "window" or gap connects Adit 5 with Feature 1, a cavity in the sandstone outcrop lying immediately north of Adit 5. As Feature 1 is higher than Adit 5, these two areas are connected by an inclined earthen ramp that would have been passable by vehicle. The ramp is now covered with a trash scatter. The floor of Adit 5 contains an assortment of wooden planks and an artifact scatter, the contents of which are summarized in Table 4. With regard to dates, two artifacts, a Skoal can and a dynamite box, yielded dates of 1978. The NAPA grease gun, according to a NAPA customer service representative, was produced in the late 1960s to early 1970s. Overall, the artifact scatter within Adit 5 contains a modest assemblage of mid- to late-twentieth century industrial and mining-related artifacts.

Feature 1 is a small opening or cavity in the sandstone rock face that opens into Adit 5. This feature may represent the remains of an explosives magazine or machine shop. At the entryway, the cavity is oriented at a 116-degree angle. It measures 7½ ft. tall and 11½ ft. wide. The floor is covered with rock rubble. No support or roof structure is present, and several large boulders appear to have fallen down from the brow to the ground at the entrance of the opening. Artifacts associated with Feature 1 include a crushed metal drum and a K&W Waterless Soap tin, which measures 7½ in. tall and 5½ in. in diameter. The tin has a friction lid and a smaller 3- in.-diameter pry lid on the bottom for dispensing. Additionally, a crushed rubber tire can be seen partially buried by the fallen boulders—the letters "_RIP_" can be seen on the sidewall of the tire.

Artifact Concentration 1 is a trash dump approximately 45 ft. southeast of Adit 2, in the southeastern corner of the site and slightly uphill from the primary area of mine operations. Tin cans identified within the scatter included approximately 12 hole-in-top, punch-opened evaporated milk cans, 10 church key-opened beverage cans, five knife-opened food cans, three mechanically opened food cans, and three key-opened meat tins.

An aluminum sardine can with key and lid was identified, which was marked "NORWAY / 204 / NORVGE." One metal friction lid was identified with spout, which read "PRY UP AT ARROW." An aluminum lid was also observed, which was embossed "Smoothie / MIXER / and / MEASURE / Aluminum." Glass artifacts included a clear glass quart jar with a screw-cap finish, a clear glass medicine bottle, and a milk glass bowl. The quart jar was embossed " " on the base. The Duraglas mark reportedly dates after September 4, 1940. It is a trademark of the Owens Illinois Glass Company (Toulouse 1971:170 and 403). One earthenware teacup fragment with a polychrome floral design was also observed.

Reference Cited:

Toulouse, Julian Harrison (1971). Bottle Makers and Their Marks. Thomas Nelson, Inc., New York.

**10. Additional Information (Historical Background), Continued:**

By 1953, the Ward Mining Company appears to have assumed ownership of the claim. Ward filed the AOL in 1953 and 1954 (San Miguel County Courthouse, County Clerk's Office, Book 222, Page 8-37). The Atlas Mining Company appears to have acquired the claim between 1954 and 1955, as Atlas filed the AOL for the first time in 1955 (San Miguel County Courthouse, County Clerk's Office, Book 254, Page 301). Mine production during this period is unknown, as no AEC tonnage records exist for the years between 1949 and 1955. C. L. Tuchscher, who likely leased the Uintah from Atlas Mining Company, filed the AOL in 1956 (San Miguel County Courthouse, County Clerk's Office, Book 267A, Page 120). AEC records indicate that the Uintah claim, registered under Tuchscher's name, produced 16.47 tons of ore in 1956. Between 1957 and 1959, the Climax Uranium Company leased the Uintah (San Miguel County Courthouse, County Clerk's Office, Book 272, Page 61, and Book 275, Page 3). AEC records indicate that the claim produced 624.30 tons of ore in 1957 and 741.35 tons in 1958. These tonnages are much higher than the other tonnages listed in the AEC records, suggesting that the period that the mine was leased to Climax may have been among its most productive. Based on AEC records, the claim appears to have been leased to Jerry Mayfield in 1961 and 1962, with 36.32 tons of ore produced in 1961 and 190.98 tons produced in 1962. Arvan Burwell is also listed in the AEC records as producing 331.13 tons of ore from the Uintah in 1962. Burwell appears to have leased the Uintah again in 1963; 32.23 tons of ore were attributed to him for this year.

In 1960 and 1961, the Atlasta Mining Company filed the AOL for the Uintah claim (San Miguel County Courthouse, County Clerk's Office, Book 295, Page 156; Book 295, Page 236). Although no AOL records were located for the period between 1962 and 1966, it appears that the Atlasta Mining Company again filed the AOL in 1967 and 1968 (San Miguel County Courthouse, County Clerk's Office, Book 321, Page 32). B & M Mining Company filed the AOL in 1969; B & M is credited in the AEC records with extracting 50.56 tons of ore in 1968, the last year that ore-production records exist for the Uintah. Jack M. Simpson filed the AOL for the years 1970 and 1971, after which no AOL records appear for the following two years (San Miguel County Courthouse, County Clerk's Office, Book 321, Page 890, and Book 339, Page 942). In 1974, the Mining Service Exchange filed the AOL (San Miguel County Courthouse, County Clerk's Office, Book 350, Page 281). In 1975, it was filed by W. D. Tripp (San Miguel County Courthouse, County Clerk's Office, Book 354, Page 314), and, in 1976, it was again filed by the Mining Service Exchange (San Miguel County Courthouse, County Clerk's Office, Book 360, Page 702). The AOL was filed in 1977 by the Energy Reserve Group (San Miguel County Courthouse, County Clerk's Office, Book 368, Page 435). W. D. Tripp filed the AOL every year between 1978 and 1991, after which the claim appears to have lapsed (San Miguel County Courthouse, County Clerk's Office, Book 373, Page 290 and Book 498, Page 851). Recorded ore production for the Uintah claim prior to 1971 totaled 2,269 tons, including 211 lbs. of uranium and 1,194 lbs. of vanadium (Nelson-Moore et al. 1978).

Reference Cited:

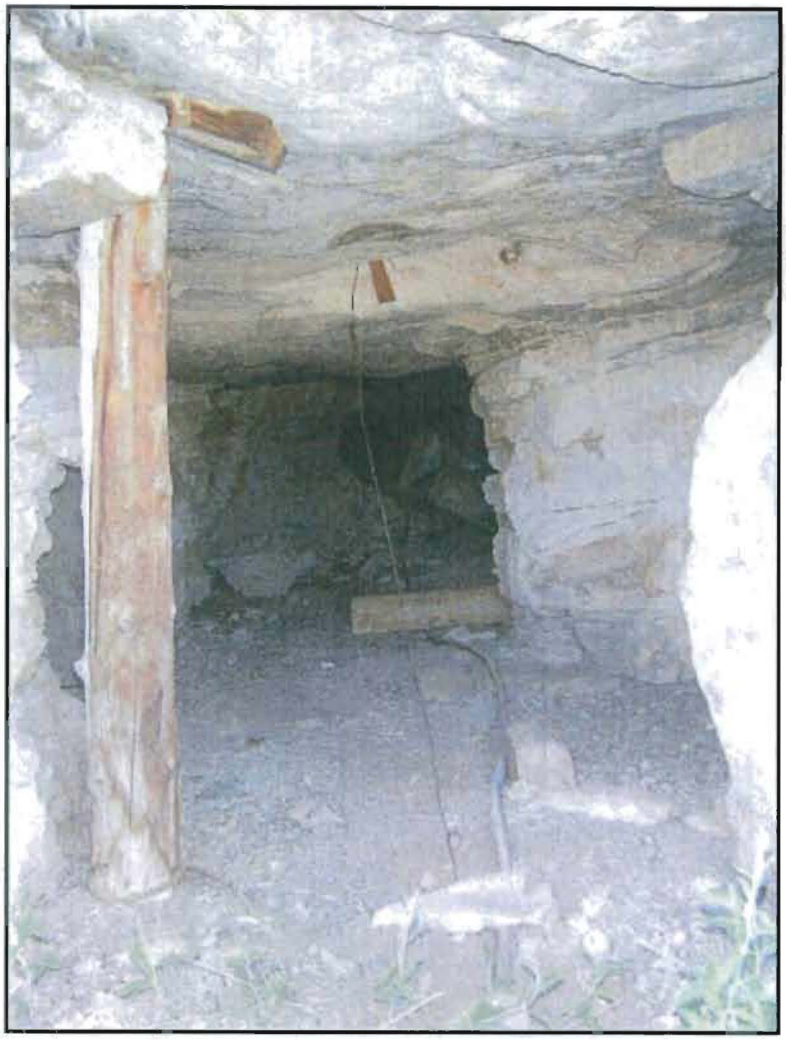
Nelson-Moore, James L, Donna Bishop Collins, and A. L. Hornbaker (1978). "Bulletin 40: Radioactive Mineral Occurrences of Colorado and Bibliography", Colorado Geological Survey, Department of Natural Resources, State of Colorado, Denver.

**5SM6556** Uintah Mines from opposite ridge, looking southeast.

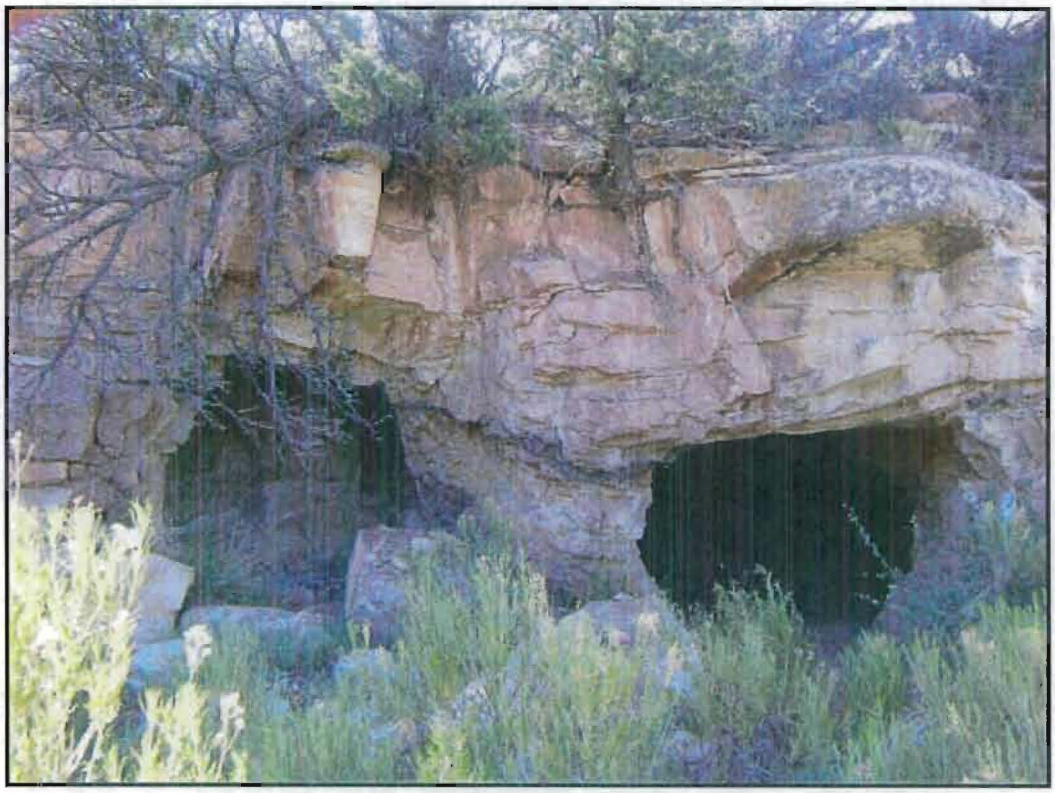
**5SM6556.** Feature 1; Uintah 6, facing southeast.

**5SM6556.** Feature 2; Uintah 5, looking east-northeast.

**5SM6556.** Feature 3; Uintah 4, facing southeast.



**5SM6556** Detail view of wire, hose, & post of Feature 4, Uintah 3, facing southeast.



**5SM6556.** Feature 5 and 6; Uintah 2 and 1, facing southeast.

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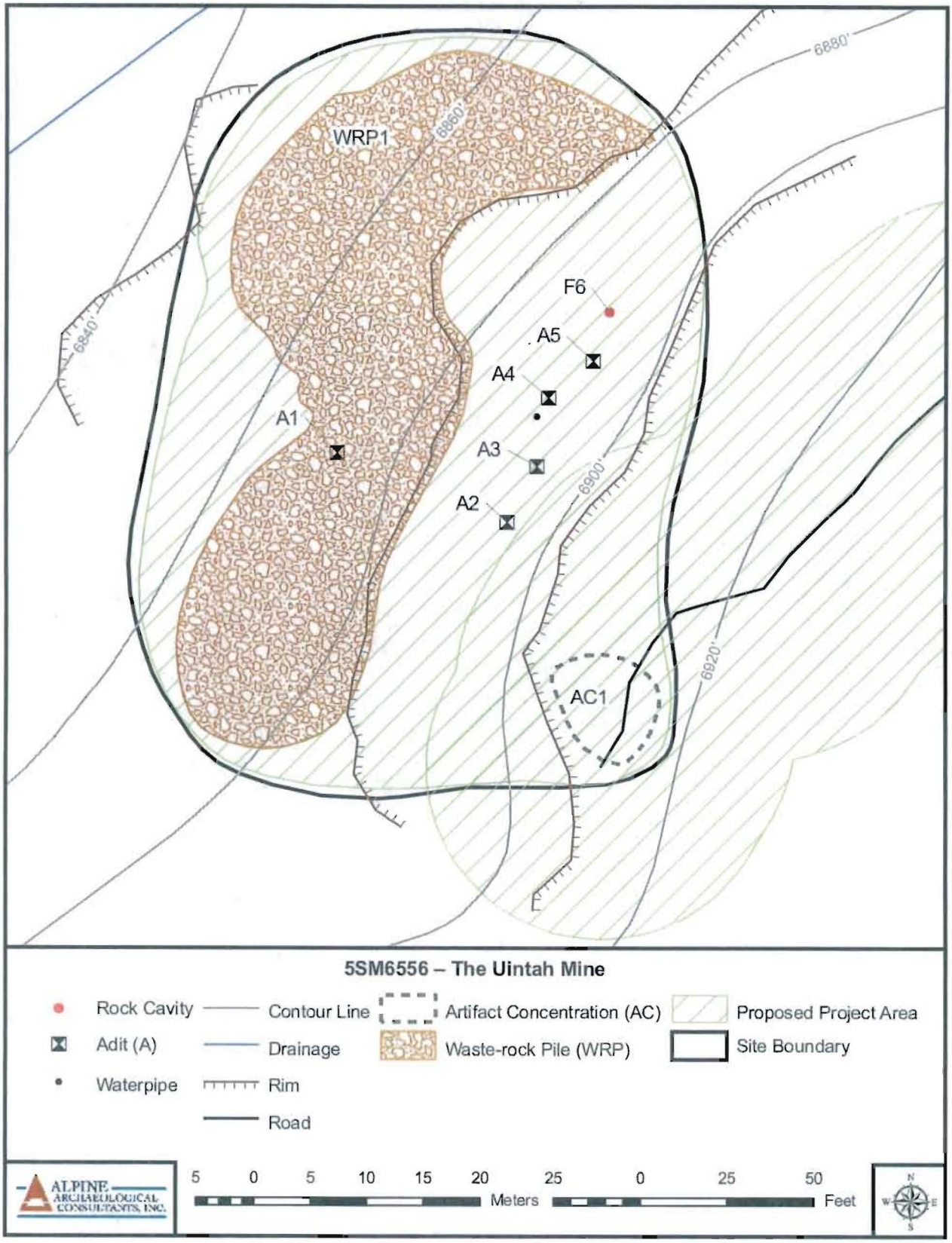
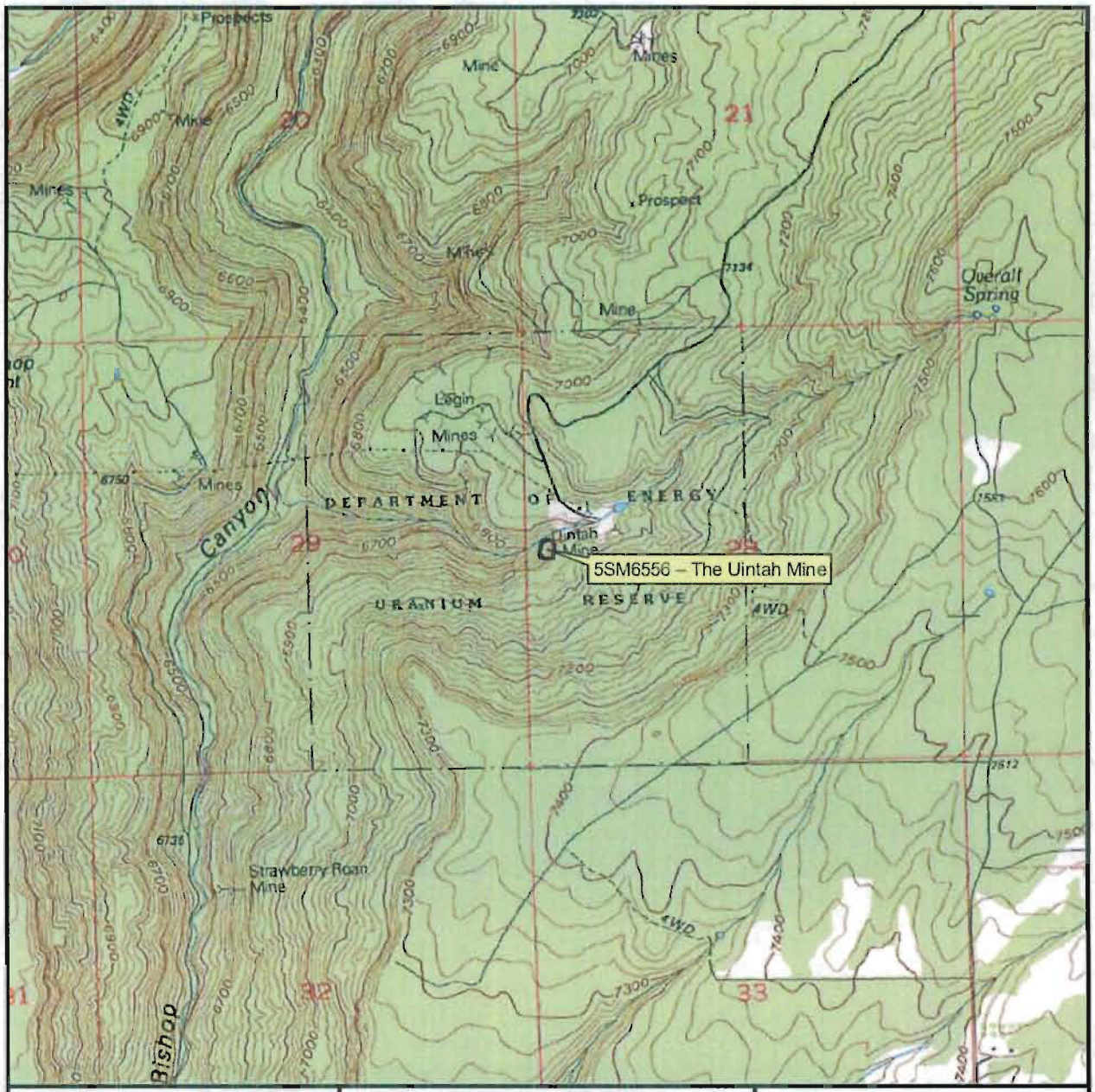


**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Egnar, CO
1947 (1994)
NM PM T43N R19W
San Miguel County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 1, Slick Rock Area, San Miguel County, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1400
Rev. 9/98

# Management Data Form



The Management Data Form should be completed for each cultural resource recorded during an archaeological survey. Exceptions to this are isolated finds and re-evaluations, neither of which require a Management Data Form.

1. Resource Number: 5SM6557
2. Temporary Resource Number: CSR10Vin

3. Attachments (check as many as apply)
   - ☐ Prehistoric Archaeological Component
   - ☑ Historic Archaeological Component
   - ☐ Historic Architectural Component Form
   - ☑ Sketch/Instrument Map (required)
   - ☑ U.S.G.S. Map Photocopy (required)
   - ☑ Photograph(s)
   - ☐ Other, specify:

4. Official determination (OAHP use only)
   - ____ Determined Eligible
   - ____ Determined Not Eligible
   - ____ Nominated
   - ____ Need Data
   - ____ Contributing to NR Dist.
   - ____ Non Contributing to NR Dist.

## I. IDENTIFICATION

5. Resource name: Vinegaroon Mine
6. Project Name/Number: DOE - Uranium Leases
7. Government Involvement: Local ☐ State ☐ Federal ☑
   Agency: Bureau of Land Management - Dolores Field Office, Department of Energy
8. Site Categories: Check as many as apply:
   Prehistoric: archaeological site ☐ paleontological site ☐
   in existing National Register District? ☐ name
   Historic: archaeology site ☑ building(s) ☐ structure(s) ☐ object(s) ☐
   in existing National Register District? ☐ name
9. Owner (s) Name and Address: Bureau of Land Management - Dolores Field Office/Department of Energy
10. Boundary Description and Justification: Extent of waste rock and mining features.
11. Site/Property Dimensions: 19 m x 8 m Area 153 m² 0.04 acres
    Area was calculated as: Length x Width ☑ (rectangle/square) OR (length x width) x 0.785 ☐ (ellipse)

## II. LOCATION

12. Legal Location

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | NM | Township | 43N | Range | 19W | Section | 29 | NW | 1/4 of | NW | 1/4 of | NW | 1/4 of | SE | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |

if section is irregular, explain alignment method:

Resource Number: 5SM6557
Temporary Resource Number: CSR10Vin

## Management Data Form



13. USGS Quad Egnar, CO 7.5' ☑ 15' ☐ Date(s): 1947 (1994) (attach photocopy)
14. County: San Miguel 15. Other Maps:
16. UTM Reference: Check your Datum ☐ NAD 27 ☑ NAD 83

| | | | |
|---|---|---|---|
| A. | 12 | 676934 mE | 4203304 mN |
| B. | 12; | mE | mN |
| C. | 12; | mE | mN |
| D. | 12; | mE | mN |

17. Address: Lot Block: Addition
18. Location/Access: From the intersection of Co. Hwy. 141 with County Road S.8 near Slick Rock, CO, drive 6.8 miles southwest on Co. Hwy. 141. Turn west on County Road 7.N and continue 3.0 miles to the end of the county road. From the end of the county road, follow an ATV trail 0.25 miles and turn west on another intersecting ATV trail. Travel 0.8 miles west on the ATV trail, turning right at each intersection, to reach the site.

### III. NATURAL ENVIRONMENT

19. Topographic Feature(s):

| | | |
|---|---|---|
| ☐ mountain | ☐ ledge | ☐ playa |
| ☐ hill | ☐ terrace/bench | ☐ talus slope |
| ☐ tableland/mesa | ☑ canyon | ☐ alluvial fan |
| ☐ ridge | ☐ valley | ☐ plain |
| ☐ saddle/pass | ☐ basin | ☐ dune |
| ☐ alcove/rockshelter | ☐ floodplain | ☐ |
| ☑ cliff | ☐ cutbank | ☐ |
| ☑ slope | ☐ arroyo/gully | ☐ |

20. Site Topographic Description (mention names landforms):
The site is on the west-facing slope of Bishop Canyon.

21. Site Elevation: 6,840 feet =(x .3048) 2085 meters 22. Aspect: 310 °
23. Degree of Slope on Site: 0-90 ° 24. Soil Depth: 0-20 cm
25. Soil Description (character and color): Reddish-brown sandy loam

26. Depositional Environment

| | | |
|---|---|---|
| ☐ Aeolian | ☑ Colluvial | ☑ Residual |
| ☐ Alluvial | ☐ Moraine | ☐ None |
| ☐ Other, specify: | | |

27. Nearest Water: name/nature Bishop Canyon tributary/ permanent distance: 235 m 771 ft
28. Nearest Permanent Water: name: Bishop Canyon tributary distance: 235 m 771 ft
29. Vegetation on Site (list predominant species): Primarily pinyon and juniper

30. Vegetation Associations/Communities Surrounding Site: Pinyon and juniper with Gambel oak, serviceberry, and mountain mahogany

Resource Number: 5SM6557
Temporary Resource Number: CSR10Vin

## Management Data Form



### IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

31. Context or Theme: Mining - Uranium

specify: The Atomic Era (1946-1963), based on Twitty (2008)

32. Applicable National Register Criteria

- [x] Does not meet any of the below National Register criteria
- [ ] A. Associated with events that have made a significant contribution to the broad pattern of our history; or
- [ ] B. Associated with the lives of persons significant to our past; or
- [ ] C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent 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. Has yielded, or may be likely to yield, information important in history or prehistory; or
- [ ] Qualifies under exceptions A through G.

Level of Significance: National ☐ State ☐ Local ☐

33. Condition:

a. Architectural/Structural
- [ ] Excellent
- [ ] Good
- [ ] Fair
- [ ] Deteriorated
- [ ] Ruins

b. Archaeological/Paleontological
- [ ] Undisturbed
- [ ] Light disturbance
- [x] Moderate disturbance
- [ ] Heavy disturbance
- [ ] Total disturbance

34. Describe Condition: No architectural elements; waste rock eroding.

35. Vandalism: ☐ describe

36. National Register Eligibility Field Assessment:

Eligible ☐ Not Eligible ☑ Need Data ☐

Statement of Significance/N.R.H.P. Justification

The Vinegaroon claim was maintained between 1943 and 1977, an interval that spans the last three periods of significance as defined by Twitty (2008). These periods of significance include World War II (1941-1945), the Atomic era (1946-1963), and the Last Boom (1974-1980). Due to a lack of AEC records for the Vinegaroon Mine, the relative importance of production during each of these periods is unknown. (Pease see Management Data Continuation Page.)

37. Status in an Existing National Register District:

Contributing ☐ Non-Contributing ☐

38. National Register District Potential ☐

discuss

Resource Number: 5SM6557
Temporary Resource Number: CSR10Vin

# Management Data Form



## V. MANAGEMENT AND ADMINISTRATIVE DATA

39. Threats to Resource: Water erosion ☐ Wind erosion ☐ Grazing ☐ Neglect ☐
Vandalism ☐ Recreation ☐ Construction ☐ Other (specify): Reclamation
comments:

40. Existing Protection: None ☑ Marked ☐ Fenced ☐ Patrolled ☐ Access controlled ☐
other (specify):

41. Local landmark designation: 42. Easement:

43. Management Recommendations:
Because Alpine recommends the Vinegaroon Mine as ineligible for the NRHP, no further archaeological or historical work is recommended.

## VI. DOCUMENTATION

44. Previous Actions Accomplished at the site:
a. Excavations: Test ☐ Partial ☐ Complete ☐ Date(s):
b. Stabilization: Date(s):
c. HABS/HAER Documentation Date(s) and Numbers:
d. Other:

45. Known collections/reports/interviews and other references (list):

46. Primary Location of Additional Data: Alpine Archaeological Cons., 900 S. Townsend, Montrose, CO 81401

47. State or Federal Permit Number: BLM C-46920 Collection Authorized: ☐
Artifact Collection: ☐ Artifact Repository: N/A
Collection Method: Diagnostics ☐ Grab Sample ☐ Random Sample ☐ Transect ☐
Other (specify):

48. Photograph Numbers: SMM-DUL-09-1: images 52, 93 - 98, SMM-DUL-09-2: images 1 and 2 Negatives filed at: N/A - Digital images

49. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 1, Slick Rock Area, San Miguel County, Colorado

50. Recorder(s): Summer Moore-McMillan, Jeremy Omvig Date(s): 6/24/2009

51. Recorder Affiliation: Alpine Archaeological Consultants, Inc. Montrose, CO

52. Phone Number: (970) 249-6167

NOTE: Please attach a sketch map, a photocopy of the USGS quad. map indicating resource location, and photographs.

COLORADO CULTURAL RESOURCE SURVEY

# Management Data Form

## Continuation Page

Resource Number: 5SM6557
Temporary Resource Number: CSR10Vin

**36. National Register Eligibility Field Assessment:**
**Statement of Sigificance/N.R.H.P. Justification:**

The integrity of the site is low in terms of Twitty's (2008) significance criteria focusing on architectural, engineering, and archaeological integrity, as nearly all physical remains save the tunnel and powder magazine have been removed, and no structures are present. The method of operation of the Vinegaroon was either very simple or is no longer evident. The mine is quite remote and, as such, does not comprise a visible feature of the mining landscape. Consequently, Alpine recommends the Vinegaroon Mine as not eligible for the NRHP.

Reference Cited:

Twitty, Eric (2008). "Guide to Assessing Historic Radium, Uranium, and Vanadium Mining Resources in Montrose and San Miguel Counties." Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

COLORADO CULTURAL RESOURCE SURVEY

OAHP1402
Rev. 9/98

# Historic Archaeological Component Form



Use this form in conjunction with the Managament Data Form. One of these forms should be completed for each historical resources with archaeologicial potential.

Does this form pertain to the site in general? ☑
OR
a particular feature/structure (please note feature/structure number)

1. Resource Number: 5SM6557 2. Temporary Resource Number: CSR10Vin

3. Site/Feature Type: Uranium Mine

4. General Site/Feature Description:

The Vinegaroon Mine (5SM6557) is a 0.04-acre uranium mine on the west-facing slope of Bishop Canyon. The mine is on the unpatented Vinegaroon mining claim within the DOE Uranium Reserve, on land managed by the BLM-DFO. The elevation of the site is 6,840 ft. (2,085 m). Vegetation in the area is primarily pinyon and juniper with Gambel oak, serviceberry, and mountain mahogany in association. The site includes one adit, one cavity in the bedrock probably used as an explosives magazine, and a large waste-rock pile. Waste-rock Pile 1 measures 25 ft. along the slope below the mine and extends 35 ft. downslope.

Adit 1 is a mine portal measuring 7 ft. wide and 6½ ft. tall, at the base of a band of outcropping sandstone bedrock. The work area lies partially on top of the leveled top of the waste rock pile. The portal enters the bedrock outcrop at a 164-degree angle. "VINEGAROON" has been scratched into the rock above the brow of the portal. The entryway is supported by one pine log post on the northeastern side of the entrance and a juniper log lintel wedged between the walls. All posts used for tunnel support are between 6 in. and 8 in. in diameter. Additional sets of supports can be seen going back into the tunnel, each of which consists of a juniper log lintel and two pine log posts on either side. Additional juniper logs can be seen lying in storage on the floor, along with a length of 2- in.-diameter water pipe. Artifacts encountered near Adit 1 include a short length of garden hose directly outside the mine and a ½- in.-diameter wire rope lying across a deadfall juniper tree just off the rim of the waste-rock pile.

Feature 1 is a cavity blasted out of the sandstone rock face approximately 10 ft. northeast of Adit 1. The opening of this cavity, which likely represents a powder magazine, is 4½ ft. wide and 4 ft. tall. The cavity is approximately 10 ft. long and enters the rock face at a 130-degree angle. Although a 4- in.-diameter juniper log has been propped upright to the left of the opening, this post has no apparent support function. A fragment of milled lumber or plywood lies at the back of the cavity. Adit 1 was once accessible through a window or gap blasted into the back of the cavity, but rock has since been stacked in the window to close it off from Adit 1.

5. Historic Component Date(s) and/or Sociopolitical Period: 1943-1977
   Justification: Historical documents

6. Component Function(s)
   Original Use: Uranium mine
   Present Use: None
   Comments:

7. Ethnic affiliation of occupants: Historic
   Justification: Historical records

Resource Number 5SM6557

Temporary Resource Number: CSR10Vin

## Historic Archaeological Component Form



8. Artifact Classes: Please list specific attributes on the first line and artifact quantity (either count or estimate on the second line. Particularly important attributes are listed following the artifact class.

A. Glass: type function, color, manufacturing technique, makers marks, inscritpions, thickness, shape

**Bottle glass:** ☐purple ☐clear ☐aqua ☐cobalt blue ☐amber
☐light green ☐olive green ☐yellowish other:

**Vessel finish:** ☐ hand-finished ☐ machine-made

**Vessel types:**

**Makers marks/embossing:**

**Other vessel types:**

**Total estimated number of vessels:**

B. Ceramics: type, function, surface treatment/glaze, shape, trademarks, color, decorations

**Earthenware:**

**Estimated number of vessels:**

**Stoneware:**

**Estimated number of vessels:**

**Porcelain:**

**Estimated number of vessels:**

C. Nails: size, material type and manufacture technique, if not wire or cut

**Cut nails:** ☐ **Quantity:** **Wirenails:** ☐ **Quantity:**

**Other fasteners:**

**Quantity:**

Resource Number 5SM6557

Temporary Resource Number:CSR10Vin

## Historic Archaeological Component Form



D. Cans: function, size, material type, type of opening, seams, inscriptions Quantity

**Hole-in-cap:**

**Hole-in-top:**

**Sanitary:**

**Other:**

E. Cartridge Cases: type, size, inscriptions, material type

**Rimfire:**

**Centerfire:**

**Other:**

F. Construction Material: type, material, function (includes items such as logs, lumber, brick, adobe, cement, concrete, stone/rock, sheet metal, asphalt, tar, pipe)

**Window glass:** ☐ **Quantity:**

**Other:** A fragment of milled lumber or plywood

G. Misc. Other Items: type, material, function (includes items such as utensils, stove parts, wire, nuts, bolts, rivets, screws, buckets, barrels, vehicle parts, machinery, leather, clothing, bone, funiture, buttons, etc.)

**List:** Length of 2-in.-diameter water pipe, length of garden hose, length of ½-in.-diameter wire rope.

9. Artifact Density: ☐ Heavy ☐ Medium ☑ Light

Describe: Only a few artifacts were observed near the mine portal.

10. Additional Information:

Historical Background

The Vinegaroon claim was first located on December 1, 1939, by Oscar A. Krabbe, W. W. Goforth, and C. A. Snyder. The AOL documents were filed by C. A. Snyder between 1943 and 1950 (San Miguel County Courthouse, County Clerk's Office, Book 204, Page 3). In 1953, James J. Rychtarik filed the AOL (San Miguel County Courthouse, County Clerk's Office, Book 222, Page 8-79), and in 1954 and 1955, the AOL was filed by C. S. Gillaspey (San Miguel County Courthouse, County Clerk's Office, Book 222, Page 8-483). Rychtarik and Gillaspey were likely lessees to the Snyders, who appear to have retained ownership of the mine until 1969. Uranium Metals, Inc. and Ruben Snyder alternate AOL entries between 1956 and 1968 (San Miguel County Courthouse, County Clerk's Office, Book 295, Page 319; Book 302, Page 50; Book 302, Page 68; Book 302, Page 338; and Book 310, Page 24-26). In 1961, Uranium Metals appears to have filed the AOL as a lessee, likely indicating that the company was still leasing the mine from Snyder (San Miguel County Courthouse, County Clerk's Office, Book 295, Page 233).

(Please see Historic Archaeological Component Continuation Page.)

Resource Number 5SM6557

Temporary Resource Number:CSR10Vin

## Historic Archaeological Component Form



**Note: Complete parts 11 and 12 only if this form pertains to the site in general.**

11. Architectural Features(s). Please complete a Historic Architectural Component Form when appropriate.

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|

12.. Non-architectural features(s).

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|
| A1 | Mine adit/portal with post-and-lintel framework | Stone, wooden planks | 7 by 6.5 ft. |
| F1 | Cavity blasted out of sandstone rock face | Stone | 4.5 by 4 ft. |
| WRP1 | Waste-rock pile | Discarded rock | 25 ft. diameter |

13. Discuss Archaeological potentential:

The site has no archaeological potential.

14. Recorder(s): Summer Moore-McMillan, Jeremy Omvig

15. Date: 6/24/2009

Resource Number: 5SM6557
Temporary Resource Number: CSR10Vin

**10. Additional Information (Historical Background), Continued:**

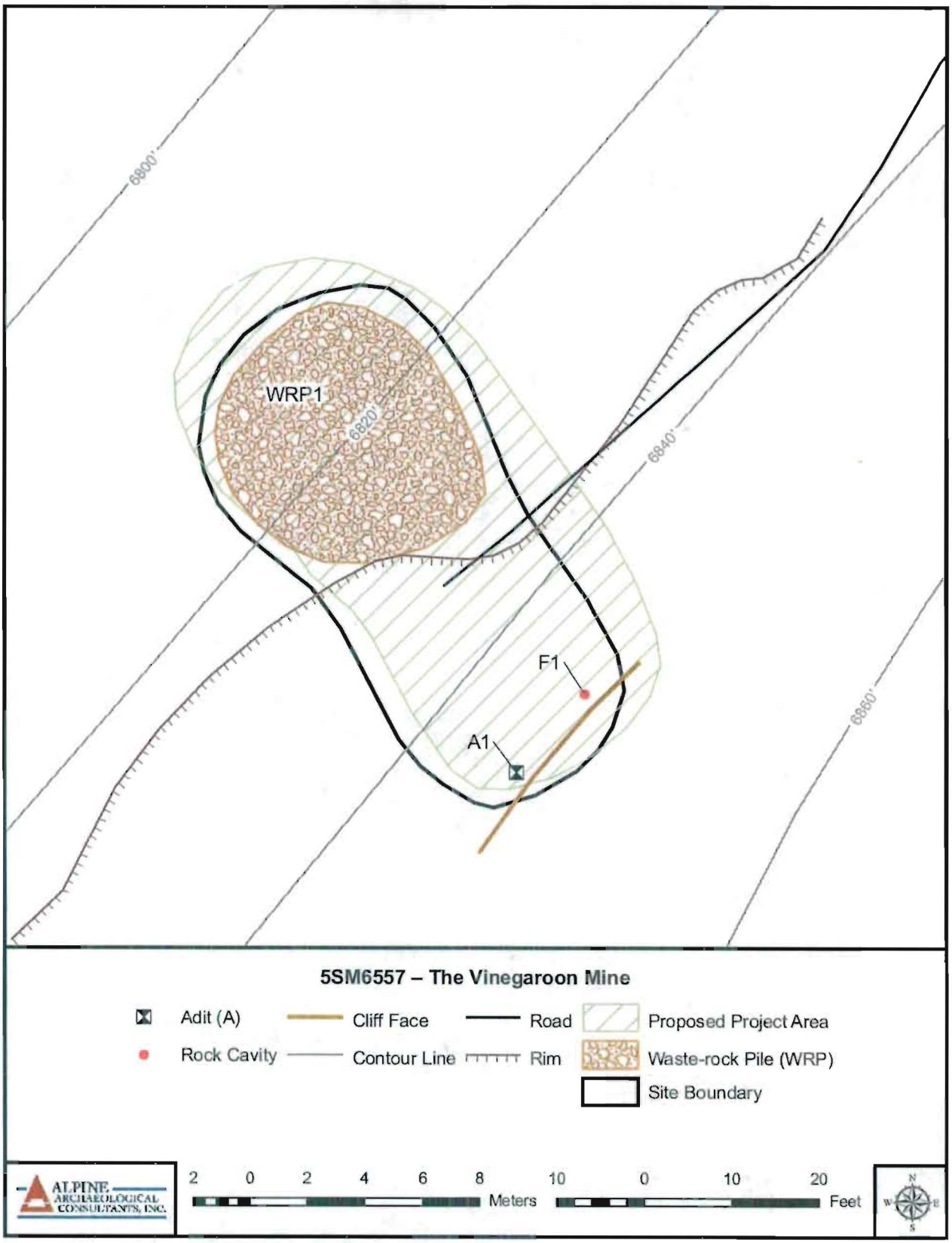
In 1969 and 1970, Bruce B. Hall filed the AOL, possibly indicating a change of ownership at that time (San Miguel County Courthouse, County Clerk's Office, Book 321, Page 599). The 1971 AOL was filed by Silver Bell Industries (San Miguel County Courthouse, County Clerk's Office, Book 339, Page 943), and in 1972 and 1973, the AOL was filed by Edwin C. Hall (San Miguel County Courthouse, County Clerk's Office, Book 342, Page 457). The 1974 AOL was filed by Grant Fredrickson, and in 1975 and 1976, the AOL was again filed by Edwin C. Hall (San Miguel County Courthouse, County Clerk's Office, Book 350, Page 257; Book 254, Page 246). The last AOL record was filed in 1977 by Warren E. Wright, after which it appears that the claim was allowed to lapse (San Miguel County Courthouse, County Clerk's Office, Book 367, Page 99).

**5SM6557** Vinegaroon claim from across canyon, looking east.

**5SM6557.** Vinegaroon portal and powder magazine, facing south-southwest.

**5SM6557.** Detail of Vinegaroon interior framing, looking southeast.

For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).



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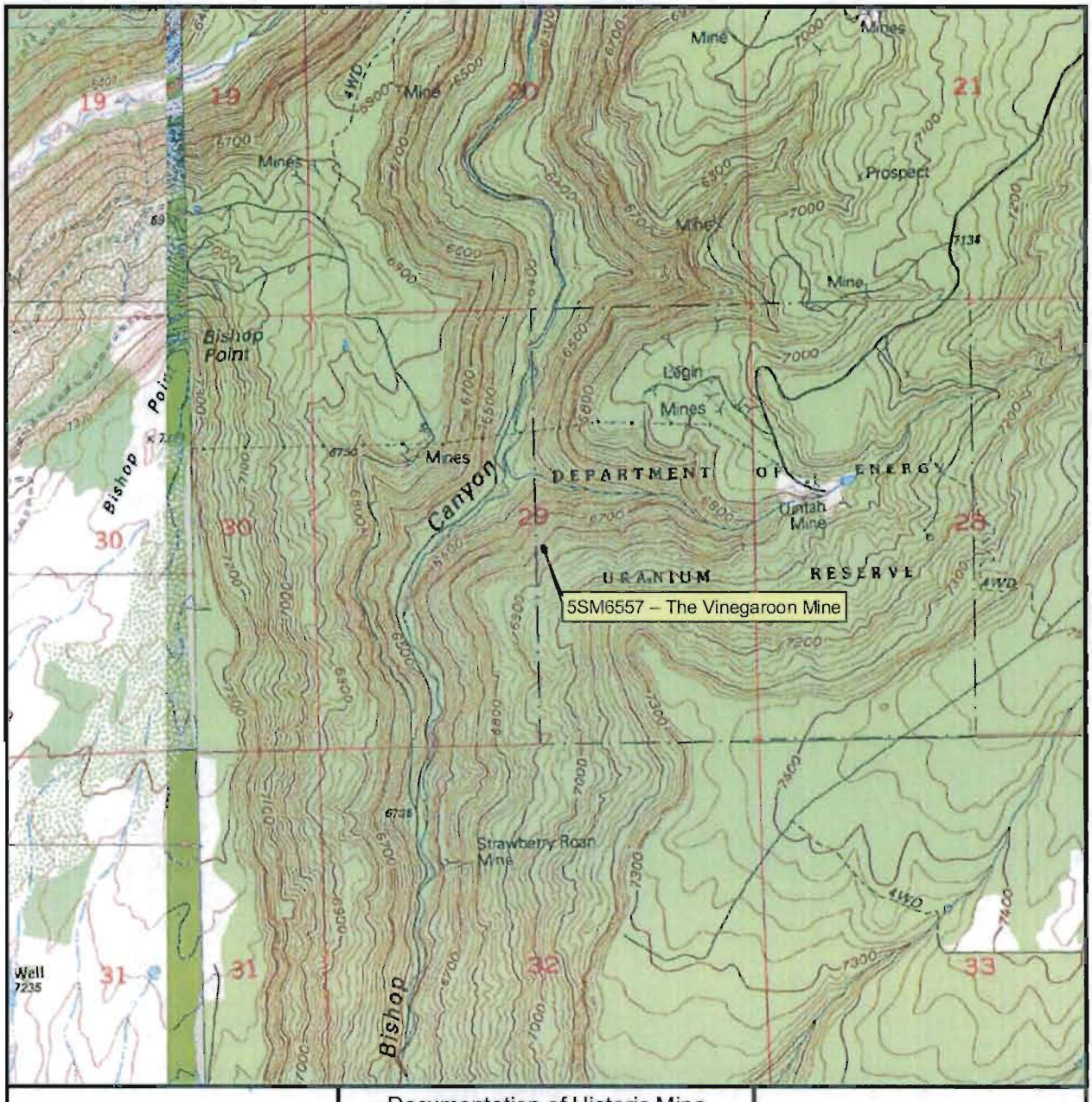



Egnar, CO
1947 (1994)
NM PM T43N R19W
San Miguel County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 1, Slick Rock Area, San Miguel County, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1400
Rev. 9/98

# Management Data Form



The Management Data Form should be completed for each cultural resource recorded during an archaeological survey. Exceptions to this are isolated finds and re-evaluations, neither of which require a Management Data Form.

1. Resource Number: 5SM6558
2. Temporary Resource Number: CSR10Otero
3. Attachments (check as many as apply)
   - ☐ Prehistoric Archaeological Component
   - ☑ Historic Archaeological Component
   - ☐ Historic Architectural Component Form
   - ☑ Sketch/Instrument Map (required)
   - ☑ U.S.G.S. Map Photocopy (required)
   - ☑ Photograph(s)
   - ☐ Other, specify:
4. Official determination (OAHP use only)
   - ____ Determined Eligible
   - ____ Determined Not Eligible
   - ____ Nominated
   - ____ Need Data
   - ____ Contributing to NR Dist.
   - ____ Non Contributing to NR Dist.

## I. IDENTIFICATION

5. Resource name: Otero Mine
6. Project Name/Number: DOE - Uranium Leases
7. Government Involvement: Local ☐ State ☐ Federal ☑
   Agency: Bureau of Land Management - Dolores Field Office, Department of Energy
8. Site Categories: Check as many as apply:
   Prehistoric: archaeological site ☐ paleontological site ☐
   in existing National Register District? ☐ name
   Historic: archaeology site ☑ building(s) ☐ structure(s) ☐ object(s) ☐
   in existing National Register District? ☐ name
9. Owner (s) Name and Address: Bureau of Land Management - Dolores Field Office/Department of Energy
10. Boundary Description and Justification: Extent of waste rock and mining features.
11. Site/Property Dimensions: 51 m x 30 m Area 1,535 m² 0.38 acres
    Area was calculated as: Length x Width ☑ (rectangle/square) OR (length x width) x 0.785 ☐ (ellipse)

## II. LOCATION

12. Legal Location

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | NM | Township | 43N | Range | 19W | Section | 28 | NE | 1/4 of | NE | 1/4 of | SW | 1/4 of | NW | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |

if section is irregular, explain alignment method:

Resource Number: 5SM6558
Temporary Resource Number: CSR10Otero

## Management Data Form



13. USGS Quad Egnar, CO 7.5' ☑ 15' ☐ Date(s): 1947 (1994) (attach photocopy)
14. County: San Miguel 15. Other Maps:
16. UTM Reference: Check your Datum ☐ NAD 27 ☑ NAD 83

| | | | |
|---|---|---|---|
| A. | 12; | 678032 mE | 4203728 mN |
| B. | 12; | mE | mN |
| C. | 12; | mE | mN |
| D. | 12; | mE | mN |

17. Address: Lot Block: Addition
18. Location/Access: From the intersection of Co. Hwy. 141 with County Road S.8 near Slick Rock, CO, drive 6.8 miles southwest on Co. Hwy. 141. Turn west on County Road 7.N and continue 2.5 miles to intersection with ATV trail. Turn south on ATV trail and continue 500 ft. At "Y" in the trail, turn south and continue 200 ft. to site.

### III. NATURAL ENVIRONMENT

19. Topographic Feature(s):

| | | |
|---|---|---|
| ☐ mountain | ☐ ledge | ☐ playa |
| ☐ hill | ☑ terrace/bench | ☐ talus slope |
| ☐ tableland/mesa | ☐ canyon | ☐ alluvial fan |
| ☐ ridge | ☐ valley | ☐ plain |
| ☐ saddle/pass | ☐ basin | ☐ dune |
| ☐ alcove/rockshelter | ☐ floodplain | ☐ |
| ☐ cliff | ☐ cutbank | ☐ |
| ☑ slope | ☐ arroyo/gully | ☐ |

20. Site Topographic Description (mention names landforms):
The site is on a flat bench above an unnamed tributary to Bishop Canyon.

21. Site Elevation: 7,060 feet =(x .3048) 2152 meters 22. Aspect: 175 °
23. Degree of Slope on Site: 0-10 ° 24. Soil Depth: 0-20 cm
25. Soil Description (character and color): Reddish-brown sandy loam
26. Depositional Environment

| | | |
|---|---|---|
| ☐ Aeolian | ☑ Colluvial | ☑ Residual |
| ☐ Alluvial | ☐ Moraine | ☐ None |

☐ Other, specify:

27. Nearest Water: name/nature Bishop Canyon tributary/ permanent distance: 125 m 410 ft
28. Nearest Permanent Water: name: Bishop Canyon tributary distance: 125 m 410 ft
29. Vegetation on Site (list predominant species): Pinyon and juniper forest
30. Vegetation Associations/Communities Surrounding Site: Pinyon and juniper with Gambel oak, serviceberry, and mountain mahogany

Resource Number: 5SM6558
Temporary Resource Number: CSR10Otero

## Management Data Form



### IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

31. Context or Theme: Mining - Uranium

specify: The Atomic Era (1946-1963), based on Twitty (2008)

32. Applicable National Register Criteria

☑ Does not meet any of the below National Register criteria

☐ A. Associated with events that have made a significant contribution to the broad pattern of our history; or

☐ B. Associated with the lives of persons significant to our past; or

☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent 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. Has yielded, or may be likely to yield, information important in history or prehistory; or

☐ Qualifies under exceptions A through G.

Level of Significance: National ☐ State ☐ Local ☐

33. Condition:

a. Architectural/Structural
- ☐ Excellent
- ☐ Good
- ☐ Fair
- ☐ Deteriorated
- ☐ Ruins

b. Archaeological/Paleontological
- ☐ Undisturbed
- ☐ Light disturbance
- ☐ Moderate disturbance
- ☐ Heavy disturbance
- ☑ Total disturbance

34. Describe Condition: The site has been reclaimed.

35. Vandalism: ☐ describe

36. National Register Eligibility Field Assessment:

Eligible ☐ Not Eligible ☑ Need Data ☐

Statement of Significance/N.R.H.P. Justification

Although only limited historical documentation is available, the Otero Mine appears to have been in operation primarily during Twitty's (2008) fifth period of significance, the Atomic era (1946-1963). Based on the presence of AEC standpipes at the site, the mine it appears that the mine was likely located through the AEC's Atomic-era drilling program. The presence of these standpipes, therefore, strongly associates activities at the site with the Atomic era, as defined by Twitty (2008). (Please see Management Data Continuation Page.)

37. Status in an Existing National Register District:

Contributing ☐ Non-Contributing ☐

38. National Register District Potential ☐

discuss

Resource Number: 5SM6558
Temporary Resource Number: CSR10Otero

## Management Data Form



### V. MANAGEMENT AND ADMINISTRATIVE DATA

39. Threats to Resource: Water erosion ☐ Wind erosion ☐ Grazing ☐ Neglect ☐
Vandalism ☐ Recreation ☐ Construction ☐ Other (specify): Reclamation
comments:

40. Existing Protection: None ☑ Marked ☐ Fenced ☐ Patrolled ☐ Access controlled ☐
other (specify):

41. Local landmark designation: 42. Easement:

43. Management Recommendations:
Because Alpine recommends the reclaimed Otero Mine as ineligible for the NRHP, no further archaeological or historical work is recommended.

### VI. DOCUMENTATION

44. Previous Actions Accomplished at the site:
a. Excavations: Test ☐ Partial ☐ Complete ☐ Date(s):
b. Stabilization: Date(s):
c. HABS/HAER Documentation Date(s) and Numbers:
d. Other:

45. Known collections/reports/interviews and other references (list):

46. Primary Location of Additional Data: Alpine Archaeological Cons., 900 S. Townsend, Montrose, CO 81401

47. State or Federal Permit Number: BLM C-46920 Collection Authorized: ☐
Artifact Collection: ☐ Artifact Repository: N/A
Collection Method: Diagnostics ☐ Grab Sample ☐ Random Sample ☐ Transect ☐
Other (specify):

48. Photograph Numbers: SMM-DUL-09-1: images 86 - 90 Negatives filed at: N/A - Digital images

49. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 1, Slick Rock Area, San Miguel County, Colorado

50. Recorder(s): Summer Moore-McMillan, Jeremy Omvig Date(s): 6/24/2009

51. Recorder Affiliation: Alpine Archaeological Consultants, Inc. Montrose, CO

52. Phone Number: (970) 249-6167

NOTE: Please attach a sketch map, a photocopy of the USGS quad. map indicating resource location, and photographs.

COLORADO CULTURAL RESOURCE SURVEY

# Management Data Form

## Continuation Page

Resource Number: 5SM6558
Temporary Resource Number: CSR10Otero

**36. National Register Eligibility Field Assessment:**
**Statement of Sigificance/N.R.H.P. Justification:**

However, as the Otero Mine has been reclaimed, the site possesses no integrity in terms of Twitty's (2008) significance criteria focusing on architectural, engineering, and archaeological integrity. Alpine recommends the Otero Mine as ineligible for the NRHP.

Reference Cited:

Twitty, Eric (2008). "Guide to Assessing Historic Radium, Uranium, and Vanadium Mining Resources in Montrose and San Miguel Counties." Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

COLORADO CULTURAL RESOURCE SURVEY

OAHP1402
Rev. 9/98

# Historic Archaeological Component Form



Use this form in conjunction with the Managament Data Form. One of these forms should be completed for each historical resources with archaeologicial potential.

Does this form pertain to the site in general? ☑
OR
a particular feature/structure (please note feature/structure number)

1. Resource Number: 5SM6558 2. Temporary Resource Number: CSR10Otero

3. Site/Feature Type: Uranium Mine

4. General Site/Feature Description:

The Otero Mine (5SM6558) is a reclaimed uranium mine on a flat bench above an unnamed tributary to Bishop Canyon. The mine is on the unpatented Otero claim within the DOE Uranium Reserve, on land administered by the BLM-DFO. The elevation of the site is 7,060 ft. (2,152 m), and it is primarily vegetated by pinyon and juniper forest with Gambel oak, serviceberry, and mountain mahogany in association. The site includes a subsidence that has developed into the reclaimed mine, two mine waste-rock piles, and three AEC standpipes. No artifacts were observed at the site, save several deteriorated pieces of milled lumber.

The subsidence at the Otero Mine has occurred within a vertical shaft, based on information obtained from the DOE. The subsidence measures 10 ft., 10 in. north-south by 8 ft., 10 in. east-west and 2 ft., 3 in. deep. The entire area around the subsidence has been recontoured using the decomposing mudstone that was brought up from the shaft during mining operations. Two waste-rock piles remain at the site. Waste-rock Pile 1, which lies 20 ft. north of the subsidence, measures 47 ft. northeast-southwest by 28 ft. northwest-southeast; Waste-rock Pile 2 lies 9 ft. southeast of the subsidence and measures 18 ft. north-south by 15 ft. east-west.

Three standpipes were observed at the mine, which cover drill holes bored by the AEC during the Cold War era. Standpipe 1, which is at the western corner of the site, is numbered "LE-317." Standpipe 2, which is in the southeastern corner of the site, has no label, and Standpipe 3, which is at the southern boundary of the site, reads "LE-401." Twitty (2008) observes that drill holes dug by the AEC in association with the USGS that are less than 500 ft. apart were likely dug in response to a positive test probe. As a result, it appears probable that the drill holes at the Otero, which are less than 100 ft. apart, were dug following the excavation of at least one positive drill hole. Consequently, the Otero lode was likely identified as part of the AEC drilling program.

5. Historic Component Date(s) and/or Sociopolitical Period: 1945-1954
   Justification: Historical documents

6. Component Function(s)
   Original Use: Uranium mine
   Present Use: None
   Comments:

7. Ethnic affiliation of occupants: Historic
   Justification: Historical records

Resource Number 5SM6558

Temporary Resource Number: CSR10Otero

## Historic Archaeological Component Form



8. Artifact Classes: Please list specific attributes on the first line and artifact quantity (either count or estimate on the second line. Particularly important attributes are listed following the artifact class.

A. Glass: type function, color, manufacturing technique, makers marks, inscritpions, thickness, shape

**Bottle glass:** ☐purple ☐clear ☐aqua ☐cobalt blue ☐amber
☐light green ☐olive green ☐yellowish other:

**Vessel finish:** ☐ hand-finished ☐ machine-made

**Vessel types:**

**Makers marks/embossing:**

**Other vessel types:**

**Total estimated number of vessels:**

B. Ceramics: type, function, surface treatment/glaze, shape, trademarks, color, decorations

**Earthenware:**

**Estimated number of vessels:**

**Stoneware:**

**Estimated number of vessels:**

**Porcelain:**

**Estimated number of vessels:**

C. Nails: size, material type and manufacture technique, if not wire or cut

**Cut nails:** ☐ **Quantity:** **Wirenails:** ☐ **Quantity:**

**Other fasteners:**

**Quantity:**

Resource Number 5SM6558

Temporary Resource Number:CSR10Otero

## Historic Archaeological Component Form



D. Cans: function, size, material type, type of opening, seams, inscriptions Quantity

**Hole-in-cap:**

**Hole-in-top:**

**Sanitary:**

**Other:**

E. Cartridge Cases: type, size, inscriptions, material type

**Rimfire:**

**Centerfire:**

**Other:**

F. Construction Material: type, material, function (includes items such as logs, lumber, brick, adobe, cement, concrete, stone/rock, sheet metal, asphalt, tar, pipe)

**Window glass:** ☐ **Quantity:**

**Other:** Several pieces of deteriorated milled lumber.

G. Misc. Other Items: type, material, function (includes items such as utensils, stove parts, wire, nuts, bolts, rivets, screws, buckets, barrels, vehicle parts, machinery, leather, clothing, bone, funiture, buttons, etc.)

**List:**

9. Artifact Density: ☐ Heavy ☐ Medium ☑ Light

Describe: No artifacts were observed at the site, save several deteriorated pieces of milled lumber.

10. Additional Information:

Historical Background

The Otero claim was originally located on August 12, 1945, by the Union Mines Development Corporation (San Miguel County Courthouse, County Clerk's Office, Book 204, Page 196). A notice in Lieu of Assessment work was filed for the mine in 1947 (San Miguel County Courthouse, County Clerk's Office, Book 204, Page 325). In 1954, AEC records indicate that William R. McCormick recovered 76.42 tons of uranium ore from the Otero Mine. Unfortunately, no other historical information could be found for this claim.

Resource Number 5SM6558

Temporary Resource Number:CSR10Otero

## Historic Archaeological Component Form



**Note: Complete parts 11 and 12 only if this form pertains to the site in general.**

11. Architectural Features(s). Please complete a Historic Architectural Component Form when appropriate.

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|

12.. Non-architectural features(s).

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|
| WRP1 | Northern waste-rock pile | Discarded rock | 47 x 28 ft. |
| WRP2 | Southern waste-rock pile, smaller of the two | Discarded rock | 18 x 15 ft. |
| LE-317 | AEC standpipe marking drillhole, labeled "LE-317" | Metal pipe | 3-in. dia. x 1 ft. |
| Standpipe | AEC standpipe marking drillhole, no label | Metal pipe | 3-in. dia. x 1 ft. |
| LE-401 | AEC standpipe marking drillhole, labeled "LE-401" | Metal pipe | 3-in. dia. x 1 ft. |

13. Discuss Archaeological potentential:

The site has no archaeological potential.

14. Recorder(s): Summer Moore-McMillan, Jeremy Omvig

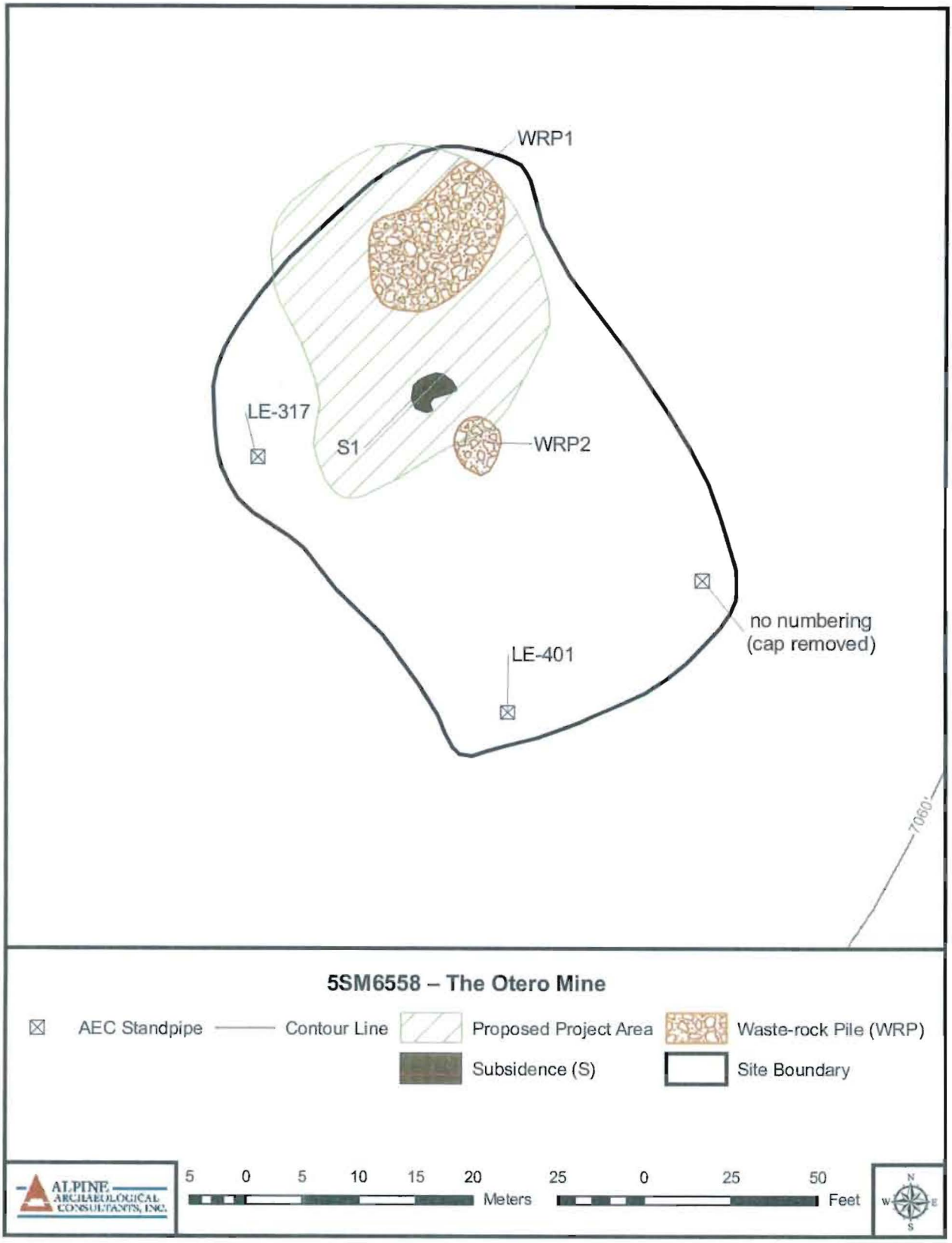
15. Date: 6/24/2009

**5SM6558** Overview of Otero disturbance area, looking north.

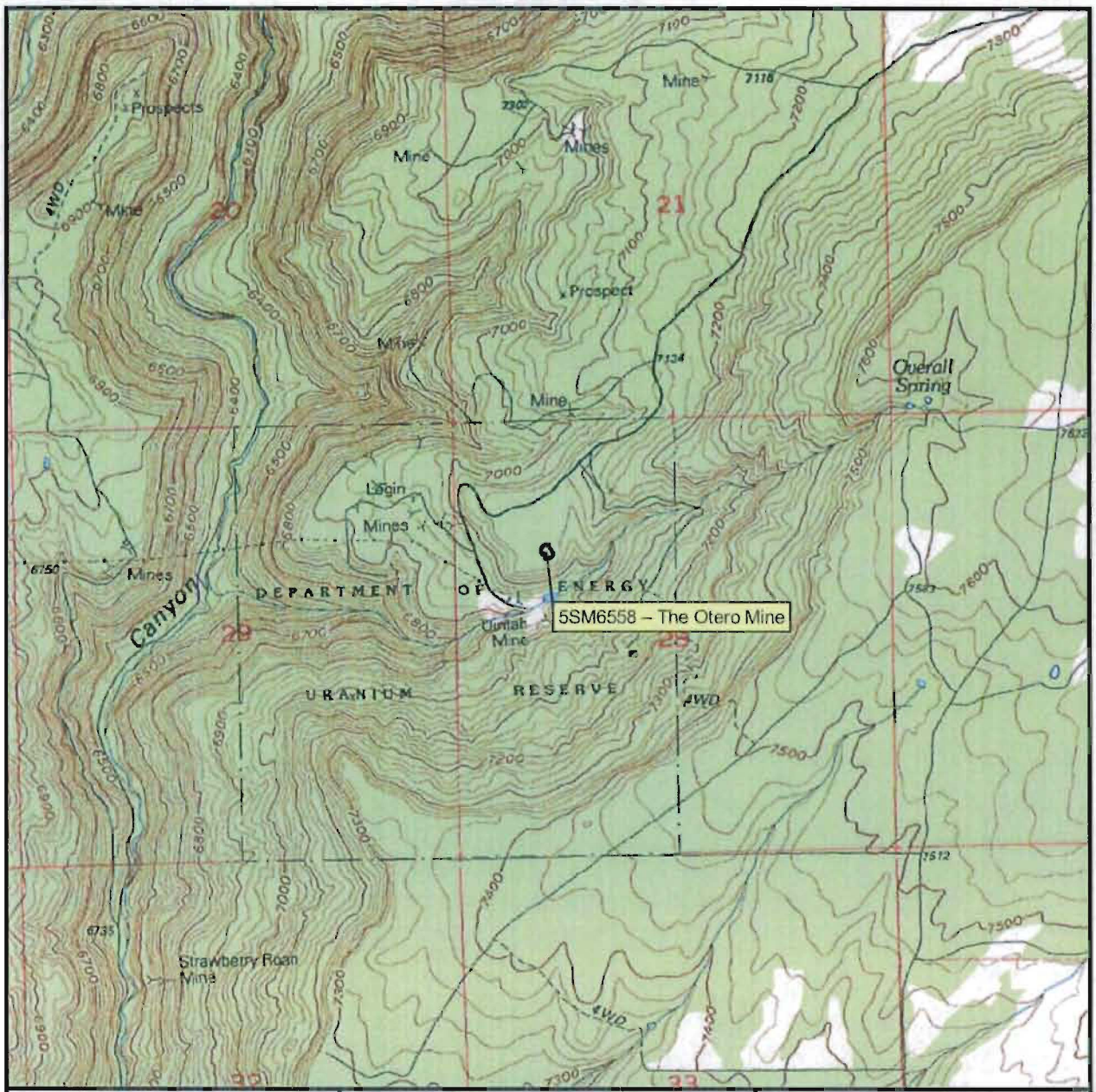
**5SM6558.** AEC standpipe "LE/317" at Otero, facing east.

**5SM6558.** AEC standpipe "LE/401" at Otero, facing northeast.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**



**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Egnar, CO
1947 (1994)
NM PM T43N R19W
San Miguel County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 1, Slick Rock Area, San Miguel County, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1408
Rev. 9/98

# Isolated Find Record

## I. IDENTIFICATION AND LOCATION

1. Resource Number: 5SM6571 2. Temporary Resource Number: IF-SMM-1
3. County: San Miguel
4. Legal Location: PM NM Township 43N Range 19W
   Sec 29 SE 1/4 of SE 1/4 of NE 1/4 of NE 1/4
   if section is irregular, explain alignment method:
5. UTMs: Zone 12 , 677604 mE, 4203835 mN NAD: 83
6. USGS Quad Name: Egnar,CO
   Date: 1947 (1994)

## II. ARCHAEOLOGICAL DATA

7. Artifacts: The isolated find is the reclaimed Ortmeyer uranium mine. No evidence of the original workings of the mine is now present. A subsidence has developed within the reclaimed area, which DOE personnel indicated is a collapsed drift. The subsidence measures 61 ft. by 70 ft. and is approximately 20 ft. deep. No artifacts were observed in association with the subsidence.

8. IF Dimensions: 5 X 5 m OR Single Artifact ☐
9. Inferred Function(s): reclaimed uranium mine
10. Cultural Affiliation/Time Period: Historic
11. Comments: San Miguel County Courthouse records were consulted for information about the location date for this claim, but no information was found.

## III. ENVIRONMENTAL DATA

12. Elevation: Feet: 6,950 Meters: 2,118
13. Soil: reddish-brown sandy loam
14. Topography: gently sloping area above the west-facing slope
15. Slope: Site: 5° Surrounding: 5°
16. Nearest Water: Name/Nature Bishop Canyon tributary/ permanent

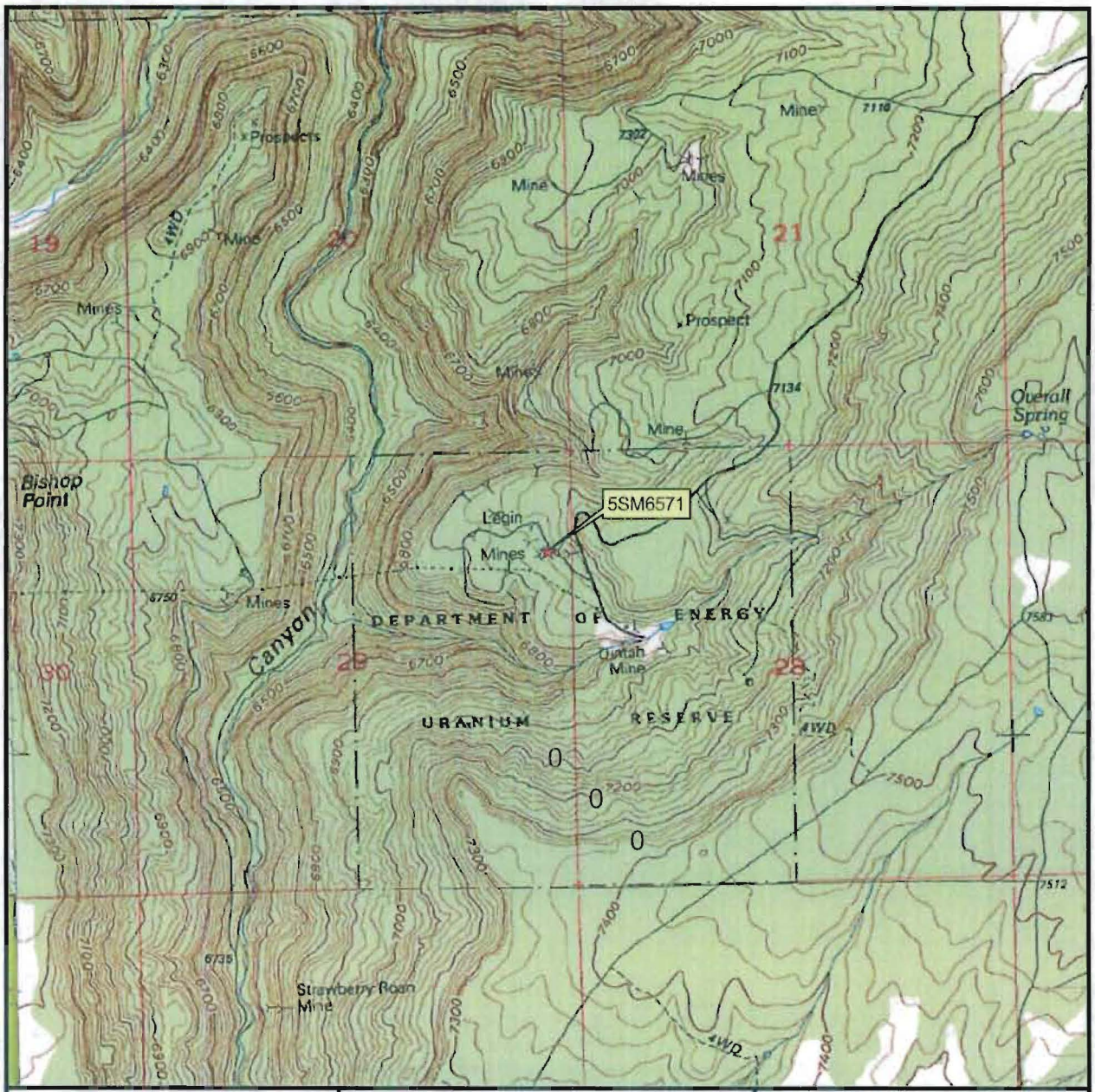
    Elevation: 6640 feet Distance: 385 m Direction: SW
17. Vegetation: pinyon and juniper forest with sagebrush and rabbitbrush

## IV. REFERENCE DATA

18. Collection?: ☐ Describe:
19. Repository: N/A
20. Landowner: Bureau of Land Mgmt, Dolores Field Office; Department of Energy
21. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 1, Slick Rock Area, San Miguel County, Colorado
22. Recorder(s): Summer Moore-McMillan, Jeremy Omvig
23. Recorder Affiliation: Alpine Archaeological Consultants, Inc.
24. Date(s): 6/24/2009

**5SM6571.** A west-facing view of the subsidence at Ortmeyer.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Egnar, CO
1947 (1994)
NM PM T43N R19W
San Miguel County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 1, Slick Rock Area, San Miguel County, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

## Cotter, Ed

**From:** Paul_Morey@blm.gov
**Sent:** Tuesday, September 08, 2009 4:37 PM
**To:** Cotter, Ed
**Cc:** Burns, Dan; Cotter, Ed; Turley, Kyle; Kirk Navo; Dayvault, Richard; Beranich, Sandy
**Subject:** RE: Uranium Leasing Program -- Reclamation of Uintah Mines on DOE Lease Tract C-SR-10

Ed,
That sounds good. Thanks for clarifying that for me.

Paul Morey
Wildlife Biologist
Dolores Public Lands Office
San Juan National Forest and San Juan BLM Resource Area
29211 Highway 184
Dolores, CO 81323
970-882-6853
Cell: 970-739-4809

"Cotter, Ed" <Ed.Cotter@lm.doe.gov>

09/02/2009 02:48 PM To
Paul_Morey@blm.gov, "Kirk Navo" <K.Navo@state.co.us>
cc
"Burns, Dan" <Dan.Burns@lm.doe.gov>, "Turley, Kyle" <Kyle.Turley@lm.doe.gov>, "Dayvault, Richard" <Richard.Dayvault@lm.doe.gov>, "Beranich, Sandy" <Sandy.Beranich@lm.doe.gov>, "Cotter, Ed" <Ed.Cotter@lm.doe.gov>
Subject
RE: Uranium Leasing Program -- Reclamation of Uintah Mines on DOE Lease Tract C-SR-10

Paul,

In response to your email, you are correct about Portals 3, 4, and 5, being the three mines farthest to the right on the main level of the site. During our initial assessment of the site, it was determined that portal 6, the lower portal, would be permanently closed to facilitate the recontouring of the waste-rock dump. That has not changed. We will tarp the opening to displace any bats that may be using it and then it will be permanently closed. As for portals 1 and 2, they are connected to each other; however, the workings are not extensive (less than 100 feet according to our map) and the brow to portal 1 is extremely unstable. For safety's sake, portals 1 and 2 were/are slated for permanent closure following the bat-displacement process. That closure scenario has not changed. I figured that if we were able to preserve the main mine workings for the bats in the area, then we should be able to permanently close all of the other portals. To that end, we did not re-assess the other portals for potential gate/culvert closures.

As for the cost of these closure activities, DOE has negotiated with its leaseholders to perform reclamation activities in-lieu-of annual royalty payments due to DOE for the various lease tracts. For C-SR-10 specifically, DOE has negotiated with Golden Eagle Uranium, LLC, (GEU) to perform this work. GEU will now document the added costs associated

with the fabrication/installation of these bat-gate structures and DOE will re-assess some of the other work that GEU was to perform this year to offset those costs. Any reclamation activities that we are not able to perform this year will be added to similar reclamation scope for 2010. This is a win-win-win scenario for all parties involved.

I hope this information clarifies the situation for you. If you have any other questions or concerns, please let me know.

Ed Cotter, Program Lead
Uranium Leasing Program

-----Original Message-----
From: Paul_Morey@blm.gov [mailto:Paul_Morey@blm.gov]
Sent: Tuesday, September 01, 2009 12:00 PM
To: Cotter, Ed
Cc: Burns, Dan; Cotter, Ed; Kirk.Navo@state.co.us; Turley, Kyle; Dayvault, Richard; Beranich, Sandy
Subject: Re: Uranium Leasing Program -- Reclamation of Uintah Mines on DOE Lease Tract C-SR-10

Hi Ed,
Thanks for assessing the feasibility for installing the bat structures in the Uintah portals. I had a couple questions about them. There are six portals at the Uintah mine complex; five are on the same level and one is below those five. I am assuming portals 3,4, and 5 are the three portals on the top level on the right as one is looking into them?? Our surveys indicated that bats were also using the two portals on the left. Because of the location of the sixth portal below the five on top, we weren't able to continuously survey that portal for bat activity with just one surveyor, so we're not sure the significance of that portal to bats. My question is, were the other three portals evaluated for bat gates/culverts also?

My final question is about the cost of the structures. You mentioned the DOE leaseholders will perform the work; are they also picking up the cost of the bat structures? Or, should BLM also be considering contributing to the structure's costs?

Paul Morey
Wildlife Biologist
Dolores Public Lands Office
San Juan National Forest and San Juan BLM Resource Area
29211 Highway 184
Dolores, CO 81323
970-882-6853
Cell: 970-739-4809

"Cotter, Ed" <Ed.Cotter@lm.doe.gov>

08/31/2009 09:00 AM To
Kirk.Navo@state.co.us, "Paul Morey" <Paul_Morey@blm.gov> cc "Beranich, Sandy" <Sandy.Beranich@lm.doe.gov>, "Burns, Dan" <Dan.Burns@lm.doe.gov>, "Dayvault, Richard" <Richard.Dayvault@lm.doe.gov>, "Turley, Kyle" <Kyle.Turley@lm.doe.gov>, "Cotter, Ed" <Ed.Cotter@lm.doe.gov> Subject Uranium Leasing Program -- Reclamation of Uintah Mines on DOE Lease Tract C-SR-10

Kirk, Paul,

Regarding the bat survey that was recently completed at the Uintah Mines complex on DOE Lease Tract C-SR-10, I had Dan Burns and Kyle Turley assess the possibility of gating some of the mine portals to conserve the mine workings as potential bat habitat. During their assessment, Dan and Kyle noted that the brow of Portal No. 3 was stable, and that a conventional bat-ladder structure could be fabricated and installed in place, about 10 feet inside the portal. They also noted that the brows of Portal Nos. 4 and 5 were not stable, and thus conventional bat-ladder structures could not be safely installed in them. However, in accordance with past reclamation activities, Dan and Kyle assessed the portals for the potential use of culvert gates. They noted that a 6-foot diameter culvert by 20 feet long, with a bat-ladder structure welded to the end of it, could be placed within Portal No. 4. Likewise, a 5-foot diameter culvert by 10 feet long, with a bat-ladder structure welded to the end of it, could be placed within Portal No. 5. The culverts would then be sealed to the surrounding rock with polyurethane foam and native rock. Photos of each portal are attached for your review. This work will be accomplished by the DOE Leaseholder as part of their reclamation work scope. The work is currently scheduled for some time in September.

I trust that this solution meets with your needs to conserve potential bat habitat.

If you have any questions, please let me know.

Ed Cotter, Program Lead
Uranium Leasing Program.

## Cotter, Ed

**From:** Navo, Kirk [K.Navo@state.co.us]
**Sent:** Monday, August 31, 2009 3:05 PM
**To:** Cotter, Ed
**Subject:** RE: Uranium Leasing Program -- Reclamation of Uintah Mines on DOE Lease Tract C-SR-10

As far as the gates go, this sounds ok to me. You'll have to see what the BLM decides regarding a gate decision.

Kirk

-----Original Message-----
From: Cotter, Ed [mailto:Ed.Cotter@lm.doe.gov]
Sent: Monday, August 31, 2009 9:23 AM
To: Navo, Kirk
Subject: FW: Uranium Leasing Program -- Reclamation of Uintah Mines on DOE Lease Tract C-SR-10

Kirk,

The first message got bounced back to me. Ed

-----Original Message-----
From: Cotter, Ed
Sent: Monday, August 31, 2009 9:01 AM
To: Kirk.Navo@state.co.us; Paul Morey
Cc: Beranich, Sandy; Burns, Dan; Dayvault, Richard; Turley, Kyle; Cotter, Ed
Subject: Uranium Leasing Program -- Reclamation of Uintah Mines on DOE Lease Tract C-SR-10

Kirk, Paul,

Regarding the bat survey that was recently completed at the Uintah Mines complex on DOE Lease Tract C-SR-10, I had Dan Burns and Kyle Turley assess the possibility of gating some of the mine portals to conserve the mine workings as potential bat habitat. During their assessment, Dan and Kyle noted that the brow of Portal No. 3 was stable, and that a conventional bat-ladder structure could be fabricated and installed in place, about 10 feet inside the portal. They also noted that the brows of Portal Nos. 4 and 5 were not stable, and thus conventional bat-ladder structures could not be safely installed in them. However, in accordance with past reclamation activities, Dan and Kyle assessed the portals for the potential use of culvert gates. They noted that a 6-foot diameter culvert by 20 feet long, with a bat-ladder structure welded to the end of it, could be placed within Portal No. 4. Likewise, a 5-foot diameter culvert by 10 feet long, with a bat-ladder structure welded to the end of it, could be placed within Portal No. 5. The culverts would then be sealed to the surrounding rock with polyurethane foam and native rock. Photos of each portal are attached for your review. This work will be accomplished by the DOE Leaseholder as part of their reclamation work scope. The work is currently scheduled for some time in September.

I trust that this solution meets with your needs to conserve potential bat habitat.

If you have any questions, please let me know.

Ed Cotter, Program Lead
Uranium Leasing Program.

## Cotter, Ed

**From:** Cotter, Ed
**Sent:** Monday, August 31, 2009 9:01 AM
**To:** Kirk.Navo@state.co.us; Paul Morey
**Cc:** Beranich, Sandy; Burns, Dan; Dayvault, Richard; Turley, Kyle; Cotter, Ed
**Subject:** Uranium Leasing Program -- Reclamation of Uintah Mines on DOE Lease Tract C-SR-10

**Attachments:** Picture 028.jpg; Picture 027.jpg; Picture 026.jpg

Picture 028.jpg (2 MB) Picture 027.jpg (3 MB) Picture 026.jpg (2 MB)

Kirk, Paul,

Regarding the bat survey that was recently completed at the Uintah Mines complex on DOE Lease Tract C-SR-10, I had Dan Burns and Kyle Turley assess the possibility of gating some of the mine portals to conserve the mine workings as potential bat habitat. During their assessment, Dan and Kyle noted that the brow of Portal No. 3 was stable, and that a conventional bat-ladder structure could be fabricated and installed in place, about 10 feet inside the portal. They also noted that the brows of Portal Nos. 4 and 5 were not stable, and thus conventional bat-ladder structures could not be safely installed in them. However, in accordance with past reclamation activities, Dan and Kyle assessed the portals for the potential use of culvert gates. They noted that a 6-foot diameter culvert by 20 feet long, with a bat-ladder structure welded to the end of it, could be placed within Portal No. 4. Likewise, a 5-foot diameter culvert by 10 feet long, with a bat-ladder structure welded to the end of it, could be placed within Portal No. 5. The culverts would then be sealed to the surrounding rock with polyurethane foam and native rock. Photos of each portal are attached for your review. This work will be accomplished by the DOE Leaseholder as part of their reclamation work scope. The work is currently scheduled for some time in September.

I trust that this solution meets with your needs to conserve potential bat habitat.

If you have any questions, please let me know.

Ed Cotter, Program Lead
Uranium Leasing Program.

3

4

5

## Cotter, Ed

**From:** Cotter, Ed
**Sent:** Monday, August 31, 2009 8:52 AM
**To:** Schiesswohl, Steve; Kilpatrick, Laura
**Cc:** Butherus, Michael; Cotter, Ed
**Subject:** FW: Slick Rock Bat Surveys

**Attachments:** Bat Surveys at Slick Rock Abandoned Mine Closures.docx; Picture 028.jpg; Picture 027.jpg; Picture 026.jpg

Bat Surveys at Slick Rock Aban... | Picture 028.jpg (2 MB) | Picture 027.jpg (3 MB) | Picture 026.jpg (2 MB)

Steve, Laura,

BLM recently completed bat surveys at several of the mines in the Slick Rock area that the ULP is proposing to reclaim as part of the leaseholders' reclamation in-lieu-of royalties work scope. One mine, the Uintah Mine on Lease Tract C-SR-10 was being used by multiple bats of at least two different species (please see the attached file for details). Based of this usage, the BLM and the Colorado Division of Wildlife would like to conserve this mine for its potential bat habitat.

Last week I instructed Dan Burns and Kyle Turley to assess the possibility of gating some of the mine portals to conserve the mine workings as potential bat habitat. During their assessment, Dan and Kyle noted that the brow of Portal No. 3 was stable, and that a conventional bat-ladder structure could be fabricated and installed in place about 10 feet inside the portal. They also noted that the brows of Portal Nos. 4 and 5 were not stable, and thus conventional bat-ladder structures could not be installed safely in them. However, in accordance with past reclamation activities, Dan and Kyle assessed the portals for the potential use of culvert gates. They noted that a 6-foot diameter culvert by 20 feet long, with a bat-ladder structure welded to the end of it, could be placed within Portal No. 4. Likewise, a 5-foot diameter culvert by 10 feet long, with a bat-ladder structure welded to the end of it, could be placed within Portal No. 5. Following placement, the culverts would be sealed to the surrounding rock with polyurethane foam and native rock. Photos of each portal are attached for your review. This work can be accomplished by the DOE Leaseholder (Golden Eagle Uranium, LLC) as part of their reclamation work scope. I've spoken to Rich Ziegler of GEU and he is fine with doing this. We will need to credit GEU for the cost of the materials for this work, which means that less reclamation dirt work will be accomplished this year on the Long Park area lease tracts. That can easily be done. The remaining Long Park work can be done next year.

Please review this information at your earliest opportunity and let me know in you have questions or comments.

Ed Cotter, Program Lead
Uranium Leasing Program

-----Original Message-----
From: Beranich, Sandy
Sent: Wednesday, August 19, 2009 12:20 PM
To: Cotter, Ed
Subject: FW: Slick Rock Bat Surveys

Ed,

See last paragraph for his recommendation on the Uintah mine complex. Suggest getting Kirk on the line next week with Paul. Could the reclamation of this mine just be put off? Or, do a portion of the portals in order to leave an opening for whatever bats are using it?

Sandy

-----Original Message-----
From: Paul_Morey@blm.gov [mailto:Paul_Morey@blm.gov]
Sent: Wednesday, August 19, 2009 8:49 AM
To: Beranich, Sandy
Subject: Slick Rock Bat Surveys

Hi Sandy,
Attached is my bat survey report for the Slick Rock mines we surveyed. I have not contacted Kirk to schedule a conference call due to my current participation on a local fire rehab team and our tentative schedule this week. The recommendations in my report were from recommendations from Kirk that he discussed with me two weeks ago. I will have more time next week to have a conference call. If you can look over the recommendations in the report, let DOE know what we are thinking about, and then if necessary we can schedule a conference call to discuss the options for the Uintah mine. Thanks.

Paul Morey
Wildlife Biologist
Dolores Public Lands Office
San Juan National Forest and San Juan BLM Resource Area
29211 Highway 184
Dolores, CO 81323
970-882-6853
Cell: 970-739-4809

## Cotter, Ed

**From:** Beranich, Sandy
**Sent:** Wednesday, August 19, 2009 12:20 PM
**To:** Cotter, Ed
**Subject:** FW: Slick Rock Bat Surveys

**Attachments:** Bat Surveys at Slick Rock Abandoned Mine Closures.docx

Bat Surveys at Slick Rock Aban...

Ed,

See last paragraph for his recommendation on the Uintah mine complex. Suggest getting Kirk on the line next week with Paul. Could the reclamation of this mine just be put off? Or, do a portion of the portals in order to leave an opening for whatever bats are using it?

Sandy

-----Original Message-----
From: Paul_Morey@blm.gov [mailto:Paul_Morey@blm.gov]
Sent: Wednesday, August 19, 2009 8:49 AM
To: Beranich, Sandy
Subject: Slick Rock Bat Surveys

Hi Sandy,
Attached is my bat survey report for the Slick Rock mines we surveyed. I have not contacted Kirk to schedule a conference call due to my current participation on a local fire rehab team and our tentative schedule this week. The recommendations in my report were from recommendations from Kirk that he discussed with me two weeks ago. I will have more time next week to have a conference call. If you can look over the recommendations in the report, let DOE know what we are thinking about, and then if necessary we can schedule a conference call to discuss the options for the Uintah mine. Thanks.

Paul Morey
Wildlife Biologist
Dolores Public Lands Office
San Juan National Forest and San Juan BLM Resource Area
29211 Highway 184
Dolores, CO 81323
970-882-6853
Cell: 970-739-4809

# Bat Surveys at Slick Rock Abandoned Mine Closures

**Prepared by: Paul Morey**

**Date Prepared: August 18, 2009**

***Background:***

The Department of Energy plans to close and reclaim mines on DOE's lease tracts on BLM land in the Slick Rock area in 2009 (see attached Slick Rock Lease Tract project description at map). Five of these mines/mine complexes have the potential for bat habitat within the mines. Kirk Navo from the Colorado Division of Wildlife was contacted by DOE's contractor, SM Stoller, to see if his bat crew could survey these mines prior to reclamation. He was unable to survey the mines due to the short time of the closures. The wildlife staff at the Dolores Public Lands office, coordinated by BLM wildlife biologist Paul Morey, assumed the responsibility to conduct bat exit surveys at these mine portals to determine bat occupation.

***Surveys:***

***August 4th***: Paul Morey visited the 5 mine sites during the day with SM Stoller representative Dan Burns to see if the mines could provide bat habitat. Mines at lease tracts **C-SR-10, C-SR-11, and CR-SR-11A** were deep enough to potentially provide bat habitat. The mines at **C-SR-12** were either filled with water or only about 15 deep. It was unlikely these sites provide significant habitat for bats.

Paul Morey and Kristen Philbrook conducted exit surveys between 2000 and 2130 at the **Uintah and Vinegaroon mines at C-SR-10**. Exit surveys consisted of standing outside the mine portal and estimating bat usage of the mines using bat detectors and visual counts.

*Vinegaroon Mine*: This mine consists of a single small partially collapsed portal. There were two bats that flew around the Vinegaroon mine, briefly flew into the mine and exited. There was no bat activity near this mine after 2100. Because of the lack of bats leaving this mine and size of the mine portal and depth, it is unlikely this is a significant bat roost site.

*Uintah Mine Complex*: This mine consists of six adits. Two adits connect and go back approximately 200 feet. The other four adits connect together and go back approximately 200 yards. During this survey, there were approximately 12 bats that entered and exited this mine complex. The different sizes and frequencies of these bats indicate there were at least two different species exiting the mine. Because of the number of interconnect portals, the depth of the mines, and the bat activity, there is a potential that this mine complex could be a significant roost site for area bats.

***August 5th*:** Paul Morey and Kristin Philbrook conducted exit surveys at two adits at the **Radium Mine No. 8 at C-SR-11** from 2000 to 2130.

*Explosives Adit*: This mine consists of a small portal with a partially open door. It was originally used to store explosives. There were no bats observed exiting or entering this portal. Because of the lack of bats leaving this mine and size of the mine portal and depth, it is unlikely this is a significant bat roost site.

*Main Portal:* This mine's portal is approximately 10' by 10' in size and likely goes back two hundred feet. Only two bats were observed exiting and re-entering this portal. Therefore, the mine is likely insignificant for bat roosting at this time.

***August 11th***: Paul Morey conducted exit surveys of one portal at the **Lucky Strike mine at C-SR-11A** between 2010 and 2135. This portal consisted of a partially collapsed portal approximately 4' by 6' feet in size. Several bats were flying approximately 30 yards from the entrance of the portal during the survey, but no bats were detected leaving or entering the mine. Because of the lack of bats leaving this mine and size of the mine portal and depth, it is unlikely this is a significant bat roost site.

***Conclusions/Recommendations:***

Mines with no to very little bat activity include the Vinagaroon in C-SR-10, both portals at Radium no. 8 in C-SR-11, and the Lucky Strike mine in C-SR-11A. It is unlikely that any of these mines provide significant bat roosting opportunities because of the low bat activity and the lack of complexity and depth of these mines. It is recommended that these mines could be closed and reclaimed without adverse impacts to the local bat populations. It is recommended (pers. comm. Kirk Navo, 8/5/09) that either chicken wire or a tarp be used over the entrance of the these mine sites for a minimum of a week prior reclamation activities to discourage bats leaving these mines at night from returning.

The mine complex at the Uintah mine may provide significant roosting opportunities for bats. This is based on the 12 bats and at least 2 species that were using the mines, the depth of the mines, and the complexity of the interconnected mines. It is difficult to ascertain the importance of this mine complex to bats from one survey (pers. comm. Kirk Navo). The survey conducted during August 4th may have been after the maternity period, and many bats may have either moved to another location or may be in torpor. An additional survey would likely be required at another time of the year to determine the importance of this mine complex to bats. The closure of this mine complex at this time may have adverse impacts on the local bat population. Therefore, it is not recommended that the Uintah mine complex be reclaimed until either additional surveys are completed or bat gates are installed on the portals. These surveys may not be possible until 2010 (per discussion with Kirk Navo). Kirk Navo should be consulted to determine when these surveys may be appropriate and who should survey them.

Paul Morey

Wildlife Biologist, BLM

Dolores Public Lands Office

## Cotter, Ed

**From:** Beranich, Sandy
**Sent:** Thursday, July 30, 2009 10:51 AM
**To:** Cotter, Ed
**Subject:** FW: Re bat mitigation on Slick Rock Lease Tracts

**Attachments:** Slick Rock Lease Tracts to Navo 6-25-09.doc; CDOW_Closure__guidelines__DMG.doc

Slick Rock Lease Tracts to Nav... CDOW_Closure__guidelines__DMG....

Hi Ed - hot off the wires!

Can we talk about this later today?

Sandy

-----Original Message-----
From: Paul_Morey@blm.gov [mailto:Paul_Morey@blm.gov]
Sent: Thursday, July 30, 2009 10:49 AM
To: Beranich, Sandy
Subject: Re: Re bat mitigation on Slick Rock Lease Tracts

Hi Sandy,
Thanks for the update. I don't know how much you and Kirk talked about using exclosures to prevent bat re-entry, but attached are some guidlelines that Kirk provided in the past using chicken wire and safe dates for the closures. Because we don't know if some of these mines are maternity roosts, and the safe dates for mine closures for these sites is after August 31, we could make some of our crew available to survey some of these mines for bats. It might be that some of the mines are not deep or large enough to provide a maternity roost. If that's the case for some of the closures, we could probably prioritize which ones could be closed first. I know the contractors are suppose to start next month, but we could probably get out there soon to check out the mines. However, we would likely need better locations of the mines (gps locations) or a representative from SM Stoller to show us the mines. Let me know if you think we can coordinate this. Thanks.

Paul Morey
Wildlife Biologist
Dolores Public Lands Office
San Juan National Forest and San Juan BLM Resource Area
29211 Highway 184
Dolores, CO 81323
970-882-6853
Cell: 970-739-4809

"Beranich, Sandy" <Sandy.Beranich@lm.doe.gov>

07/28/2009 11:08 AM To
Paul_Morey@BLM.gov
cc

"Cotter, Ed" <Ed.Cotter@lm.doe.gov>
Subject
Re bat mitigation on Slick Rock Lease Tracts

Hi Paul,

This is an informational summary for you on what has been discussed with Kirk Navo related to the DOE reclamation program and potential presence of bats in abandoned mines. As you may know, CDOW has no available personnel or funding to add abandoned mine sites to their current bat survey schedule in FY 2009. In order to schedule CDOW staff for survey work, they would like a two year advance warning. Kirk did not know of any adequately trained biologists that would be available for independent contract work related to bat surveys. Ed Cotter, Uranium Leasing Program Lead for SM Stoller, described our proposed use of tarps to cover mine openings prior to beginning any reclamation work. We also discussed past abandoned mine bat surveys that may have included some of our mines that were formerly on BLM-administered land (particularly in the Spud Patch Camp area). Unfortunately, none of our reclamation projects include mines already surveyed.

DOE has funding to complete various reclamation activities in 2009. Their plan for addressing the potential bat presence in abandoned mines is to use tarps to exclude any resident bats prior to closure. This activity would affect five mine sites; a description of the planned activities is attached. This attachment includes only the mine closure work that was previously provided to you as a part of a larger description of reclamation activities.

To avoid migratory bird issues, the work is planned for August. Our cultural resource surveys did not identify any resources that were eligible to the National Register of Historic Properties.

Do you need any additional information?

Sandy

## Cotter, Ed

**From:** Beranich, Sandy
**Sent:** Tuesday, July 28, 2009 11:08 AM
**To:** 'Paul Morey (Paul_Morey@BLM.gov)'
**Cc:** Cotter, Ed
**Subject:** Re bat mitigation on Slick Rock Lease Tracts

**Attachments:** Slick Rock Lease Tracts to Navo 6-25-09.doc

Slick Rock Lease Tracts to Nav...

Hi Paul,

This is an informational summary for you on what has been discussed with Kirk Navo related to the DOE reclamation program and potential presence of bats in abandoned mines. As you may know, CDOW has no available personnel or funding to add abandoned mine sites to their current bat survey schedule in FY 2009. In order to schedule CDOW staff for survey work, they would like a two year advance warning. Kirk did not know of any adequately trained biologists that would be available for independent contract work related to bat surveys. Ed Cotter, Uranium Leasing Program Lead for SM Stoller, described our proposed use of tarps to cover mine openings prior to beginning any reclamation work. We also discussed past abandoned mine bat surveys that may have included some of our mines that were formerly on BLM-administered land (particularly in the Spud Patch Camp area). Unfortunately, none of our reclamation projects include mines already surveyed.

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To avoid migratory bird issues, the work is planned for August. Our cultural resource surveys did not identify any resources that were eligible to the National Register of Historic Properties.

Do you need any additional information?

Sandy

SLICK ROCK LEASE TRACTS

C–SR–10:
Location: T 43 N, R 19 W, Sections 28 and 29.

1. The abandoned mine site located on the former Uintah claims needs to be addressed. Each of the six adits shall be permanently closed with large boulders and rocks and then backfilled with available mine-waste-rock materials. The mine-waste-rock dumps shall be re-contoured to remove materials from the drainage channel and then blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 0.9 acres).

2. The abandoned mine site located on the former Vinegaroon claim needs to be addressed. The portal shall be permanently closed with large boulders and rocks and then backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be re-contoured, as appropriate, to blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 0.1 acres).

C–SR–11: All work completed in about 3 weeks, 3 individual projects.
Location: T43 N, R19W, Section 8, SE1/4

1. Two large rim adits located on the former Radium No. 8 claim that need to be addressed. These adits shall be closed with large boulders and rocks, backfilled with available mine-waste-rock and other surface soil materials, pocked, and reseeded with an approved seed mixture.

C–SR–11A:
Location: T 43 N, R 19 W. Section 19, SE1/4 SW1/4

1. The abandoned mine site located on the former Lucky Strike claim needs to be addressed. The portal shall be permanently closed with large boulders and rocks and then backfilled with available mine-waste-rock materials. The ore chute shall be dismantled and buried on-site. The mine-waste-rock dump shall be re-contoured to blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 0.3 acres).

C–SR–12: Completed in about 2 days, 3 individual projects.
Location: T 43 N, R 18 W, Section 32 (2 projects in the NW1/4 and one project in the N1/2 of the NE1/4)

1. The abandoned mine sites located on the former Sarvis Nos. 2 and 3 claims needs to be addressed. The portals shall be permanently closed with large boulders and rocks and then backfilled with available mine-waste-rock materials. The mine-waste-rock dumps shall be re-contoured to blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 0.3 acres).

STATE OF COLORADO

Bill Owens, Governor
DEPARTMENT OF NATURAL RESOURCES
**DIVISION OF WILDLIFE**
AN EQUAL OPPORTUNITY EMPLOYER

Bruce McCloskey, Director
6060 Broadway
Denver, Colorado 80216
Telephone: (303) 297-1192

*For Wildlife-*
*For People*

Jim McArdle
AML Program Leader
Colorado Division of Minerals & Geology
1313 Sherman St, Room 215
Denver, CO 80203

February 2, 2006

RE: Guidelines for Closure work timing at mine sites in Colorado.

Dear Jim;

After recent discussions on this topic with Paul Krabacher, we thought it would be useful to provide general guidelines on when it is best to plan and conduct closure work at mines to minimize disturbance and potential impacts to bats roosting in mines pending closure activities. I provide 2 general sets of guidelines; one for mines in Western Colorado, and one for East of the Continental Divide, mountains, and foothills of Colorado. Because temperature patterns in the western part of the state seem to become favorable for bats to leave hibernation earlier, and start maternity activity earlier, the time frames are a bit different. Basically, it amounts to a 2 week difference, which may be helpful. I offer the following guidelines for your use.

1. In western Colorado, where the uranium mines are located, the **winter season should be considered from October 15 – April 15**. Disturbance at winter roost sites can be greatly reduced by planning closure work around these dates, avoiding construction activities during this time period. Once bats become active again, they can respond and disperse to the activity at the mine, hopefully avoiding any direct impact to individual bats. ***Work period for hibernation roosts is April 15 – October 15.***
2. **Fall roosting and/or transition roosting** periods should be considered from **September 1 – October 15**. This provides a time period when fall use typically is in effect, and usually a fall bat roost is also used as hibernacula. Therefore, a fall/winter roost site should be gated prior to September 1 if possible. If not possible, gate work activity should be stopped by an hour before sunset, and be **completed by October 15**. Also, a fan should be used during construction to prevent any fumes from welding work from entering into the mine site.
3. Prior to closure work at **winter/fall roosting** sites that will *not have* a bat gate installed, an exclusion may be recommended. The exclusion is intended to help prevent the entry and use of the site by bats, and prevent the trapping of bats inside the reclaimed mine feature. This would involve screening out bats by placing chicken wire (1" mesh or more) across the entire bat gate, as well as any un-gated but open access point to the mine complex. **The exclusion effort should take place a *minimum of 3 nights/days*** prior to the start of any construction activities. Longer periods of time (1 week) are appropriate, if possible. The chicken wire should cover the gate from the top to about 5-6" from the floor or bottom of the gate. This will help prevent bats from entering the mine, and also allow any bats that may be inside the mine prior to the exclusion effort, to escape for the mine before the closure operations begin. I would suggest that exclusions begin by September 1 at these fall/winter sites. They can go up at any time prior to the start of the fall transition season, but no later than September 30, to avoid weather related variations to fall bat

DEPARTMENT OF NATURAL RESOURCES, Russell George, Executive Director
WILDLIFE COMMISSION, Jeffrey Crawford, Chair • Tom Burke, Vice Chair • Ken Torres, Secretary
Members, Bernard Black • Rick Enstrom • Philip James • Claire O'Neal • Brad Phelps • Robert Shoemaker
Ex Officio Members, Russell George and Don Ament

activity. In addition, exclusions are not considered functional from October 1 – April 15, because bats are not active.

4. **Maternity roosts** will be the most critical, as these roosting habitats are very rare. To avoid disturbance and potential loss of these roost types will require more advanced planning for closure work. **The summer maternity season can be considered April 1 – August 31st on the west slope, and on the front range and general mountainous areas of the state, the maternity season is April 15 – August 31.** I recommend that any maternity site that cannot be avoided for closure work during the maternity season, has closure work planned for as late into the season as possible (**August**). This will allow for a time period when bat pups are more likely to be volant, and possibly minimize impacts by bats having the ability to leave the roost site. Additionally, work should proceed in a manner that allows a minimal amount of activity at the site for the first few days, again providing more time for any bats still using the site to react to the disturbance. ***Work period for maternity roosts is September 1 – April 1*** on the west slope, and ***September 1 – April 15*** on the Front Range.
5. For **summer roost sites** that are not maternity roosts, closures can be handled in the same manner, with construction work stopped by an hour before sunset, and a fan used to prevent any fumes from welding work from entering into the mine site. The time period to avoid, if possible, for these summer roosts would be **June 1 – July 31**.

Let me know if you have any questions, or if these time frames need additional considerations from your agency regarding closure issues.

Sincerely,

Kirk W Navo

Kirk W. Navo
Wildlife Conservation Biologist
Bats / Inactive Mines Project Leader
Monte Vista Service Center
0722 S. Rd 1E
Monte Vista, CO 81144
719-587-6906

**Department of Energy**
**Office of Legacy Management**

June 15, 2009

OLM-SRS-2009-066

Mr. Rich Ziegler, Vice President
Golden Eagle Uranium, LLC
6767 South Spruce Street, Suite 100
Centennial, CO 80112

Subject: Annual Royalties for Mining Lease Numbers AT(05–1)–ML–60.8–C–JD5A, C–SR–10, C–SR–11A, C–SR–15A, C–SR–16, C–WM–17, C–LP–22, and C–LP–22A

Dear Mr. Ziegler:

In accordance with the Lease Agreements for U.S. Department of Energy (DOE) Lease Tracts C–JD5A, C–SR–10, C–SR–11A, C–SR–15A, C–SR–16, C–WM–17, C–LP–22, and C–LP–22A, annual royalties in the aggregate amount of $55,000 are due and payable to DOE on June 27, 2009. With reference to recent discussions, DOE has identified specific work scope (hazard mitigation and reclamation activities) that can be performed on various DOE lease tracts in lieu of these annual royalty payments. The DOE has determined the value of this work scope is equitable to the royalties owed. A copy of the specific work scope is enclosed for your review.

On the basis of your review, if Golden Eagle Uranium, LLC (GEU) agrees to perform the work scope specified, please formalize your acceptance by signing in the space provided on the enclosure and returning that document to me. If accepted, please recognize that no payment for annual royalties will be due to DOE for the 2009–2010 lease year. Project personnel will coordinate a schedule with you that will ensure the completion of these activities in 2009. Upon completion of all activities, GEU will be credited with the appropriate annual royalty payments.

If you choose to decline this option at this time, the entire annual royalty amount ($55,000) is due and payable on June 27, 2009.

If you have questions concerning this matter, please contact me at (720) 377–9683.

Sincerely,

Steven R. Schiesswohl
2009.06.16 14:51:55
-06'00'

Steven R. Schiesswohl
Realty Officer

Enclosure

cc: Project File ULSCF 2.0 (E. Cotter)

**Acknowledgment and Acceptance**

Golden Eagle Uranium, LLC hereby acknowledges the work scope, and its determined value ($55,000), as referenced in the letter dated June 15, 2009. Golden Eagle Uranium, LLC hereby agrees to perform the defined work scope in lieu of the annual royalty payments due for Lease Tracts C–JD5A, C–SR–10, C–SR–11A, C–SR–15A, C–SR–16, C–WM–17, C–LP–22, and C–LP–22A for the 2009–2010 lease year (aggregate sum of $55,000). Golden Eagle Uranium, LLC further acknowledges that the performance of this work scope completely satisfies the annual royalties owed.

_____

Signature/Title

_____

Date

## Summary of Estimated Costs for Reclamation Field Activities -- Golden Eagle Uranium in-lieu-of Royalties

| | | | C-SR-10 | | | | | C-SR-11A | | | C-SR-16 | | | | C-LP-22 | | | | C-LP-22A | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date (Sept - Oct) | Unit Cost | Mob | | | | | | | | | | | | | | | | | | | | | DM | Total |
| Equip. Operators | 2,080 | | 2 | 2 | 2 | 2 | | | 1 | | | 2 | 2 | 2 | | | 2 | 2 | 2 | 2 | | 1 | | | 24 |
| Laborers | 1,400 | | | | | 1 | | | 1 | | | | | 1 | | | 1 | 1 | | 1 | | 1 | | | 7 |
| Trackhoe (320) | 4,560 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | | 1 | | 1 | 18 |
| Trackhoe (307) | 3,600 | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Mini-Excavator | 1,400 | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dozer (D-8) | 6,800 | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dozer (D-6) | 5,520 | 1 | | | | | | | | | | | | | | | 1 | 1 | 1 | 1 | | | | 1 | 6 |
| Dozer (D-4) | 2,540 | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| FE Loader (966) | 3,120 | 1 | 1 | 1 | 1 | 1 | | | | | | 1 | 1 | 1 | 1 | | | | | | | | | 1 | 10 |
| Backhoe (580) | 2,640 | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Skidster Loader | 1,680 | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | 2 |
| Grader/Maintainer | 3,120 | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dump Truck (tdm) | 2,880 | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dump Truck (rock) | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Water Truck | 2,880 | | | | | | | | | | | | | | | | 1 | | | | | 1 | | | 2 |
| Flatbed Trailer | 700 | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Pickup (4X4) | 1,920 | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Portable Welder | 540 | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Oxy/Acet Torch Kit | 540 | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Bat Gate Inst. (LS) | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Seed Mix (LS) | 300 | | | | | 1 | | | 0.3 | | | | | 0.5 | | | | | | 2.5 | | | | | 4.3 |
| PUF (LS) | 200 | | | | | | | | | | | | | | | | | 2 | | | | | | | 2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| SUB (Initials) | | | | | | | | | | | | | | | | | | | | | | | | | |
| GJO (Initials) | | | | | | | | | | | | | | | | | | | | | | | | | |

# GEU Reclamation in-lieu-of Royalties - Estimated Costs

| Description | Days on Job | 4-day Weeks | Cost per Week | Total Cost |
|---|---|---|---|---|
| Equip. Operators | 24 | 6 | 2,000 | 12000 |
| Laborers | 7 | 1.75 | 1,400 | 2450 |
| Trackhoe (320) | 18 | 4.5 | 4,560 | 20520 |
| Trackhoe (307) | 0 | 0 | 3,600 | 0 |
| Mini-Excavator | 0 | 0 | 1,400 | 0 |
| Dozer (D-8) | 0 | 0 | 6,800 | 0 |
| Dozer (D–6) | 6 | 1.5 | 5,520 | 8280 |
| Dozer (D–4) | 0 | 0 | 2,540 | 0 |
| FE Loader (966) | 10 | 2.5 | 3,120 | 7800 |
| Backhoe (580) | 0 | 0 | 2,640 | 0 |
| Skidster Loader | 2 | 0.5 | 1,680 | 840 |
| Grader/Maintainer | 0 | 0 | 3,120 | 0 |
| Dump Truck (tdm) | 0 | 0 | 2,880 | 0 |
| Dump Truck (rock) | 0 | 0 | 0 | 0 |
| Water Truck | 2 | 0.5 | 2,880 | 1440 |
| Flatbed Trailer | 0 | 0 | 700 | 0 |
| Pickup (4X4) | 0 | 0 | 1,920 | 0 |
| Portable Welder | 0 | 0 | 540 | 0 |
| Oxy/Acet Torch Kit | 0 | 0 | 540 | 0 |
| Bat Gate Inst. (LS) | 0 | 0 | | 0 |
| Seed Mix (LS) | [illegible] | 4.3 | 300 | 1290 |
| PUF (LS) | 2 | 2 | 200 | 400 |
| | 0 | 0 | 0 | 0 |
| | | | Total Cost | 55020 |

Contains Privileged Information

Do Not Release

May not be checked out or copied without approval from Ed Cotter of Marilyn Kastens

ULP 000539

# DOE Uranium Leasing Program

## Golden Eagle Uranium — Work Scope for Reclamation in-lieu-of Royalty

### Background

During the fall of 2008, the U.S. Department of Energy Office of Legacy Management (DOE) redefined and realigned the boundaries of its uranium lease tracts to incorporate lands located inside its withdrawal boundaries that were valid claims at the time of the withdrawals but have since became invalid. As a result of those boundary redefinition/realignment activities, many of the current lease tracts now contain mining-related features that are associated with abandoned uranium mine sites located on those claims. By incorporating these lands into its lease tracts, DOE accepted the reclamation liability associated with those mining-related features.

### Current Status

On January 6, 2009, DOE notified its leaseholders of the aforementioned mining-related features located on their respective lease tracts. Specifically, Golden Eagle Uranium, LLC, was notified of various features located on Lease Tracts C–SR–10, C–SR–11A, C–SR–16, C–LP–22, and C–LP–22A. In that letter and during subsequent discussions, Golden Eagle Uranium, LLC, was offered two options. The first option was to incorporate one or more of the specific features into its respective lease operations, thereby accepting the reclamation liability associated with those features incorporated. For those features that were not accepted under first option, Golden Eagle Uranium, LLC, was given the option to fully reclaim the features in-lieu-of some portion of its annual royalty payments. That work scope is outlined below.

### Work Scope

C–SR–10:

The abandoned mine site located on the former Uintah claims needs to be addressed. Each of the six adits shall be permanently closed with large boulders and rocks and then backfilled with available mine-waste-rock materials. The mine-waste-rock dumps shall be recontoured to remove materials from the drainage channel and then blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 0.9 acres).

The abandoned mine site located on the former Vinegaroon claim needs to be addressed. The portal shall be permanently closed with large boulders and rocks and then backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured, as appropriate, to blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 0.1 acres).

A small subsidence that leads into the reclaimed Ortmeyer mine needs to be addressed. This subsidence shall be backfilled with available surface soil materials and reseeded with an approved seed mixture.

ULP 027.07(B)

A subsided shaft located on the former Otero claim needs to be addressed. This subsidence shall be backfilled with available surface soil materials and reseeded with an approved seed mixture.

Several open drill holes located on the lease tract shall be permanently closed with polyurethane foam plugs and then covered with surface soil materials and reseeded with an approved seed mixture.

C–SR–11A:
The abandoned mine site located on the former Lucky Strike claim needs to be addressed. The portal shall be permanently closed with large boulders and rocks and then backfilled with available mine-waste-rock materials. The ore chute shall be dismantled and buried on-site. The mine-waste-rock dump shall be recontoured to blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 0.3 acres).

C–SR–16:
The subsidence features located at the Charles T and Charles T Southwest areas need to be addressed. These subsidence features shall be backfilled with available surface soil materials and reseeded with an approved seed mixture (approximately 0.2 acres).

Several small surface pits and trenches located on the former IV claim need to be addressed. These pits and trenches shall be backfilled with available mine-waste-rock and other surface soil materials and then reseeded with an approved seed mixture (approximately 0.1 acres).

The subsidence located at the P7 portal of the Hawk mines need to be addressed. This subsidence shall be backfilled with available mine-waste-rock and other surface soil materials and then reseeded with an approved seed mixture (approximately 0.1 acres).

The subsided shaft located at the old Ann mine need to be addressed. This subsidence shall be backfilled with available surface soil materials and reseeded with an approved seed mixture.

C–LP–22:
A power pole (San Miguel Power Association) located on top of the mine-waste-rock dump at the Donald C mine site need to be removed to facilitate the reclamation of the site.

The large abandoned mine site located on the former Donald C claim needs to be addressed. All wooden timbers and debris shall be gathered, placed in the decline trench, and burned. Subsequently, all trash and debris shall be gathered and placed in the decline trench prior to closure. The decline portal shall then be closed with large boulders and rocks and backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured to blend in with the natural topography of the area, covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 2.0 acres).

The smaller abandoned mine site located on the former Donald C claim needs to be addressed. The decline portal shall then be closed with large boulders and rocks and backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured to blend in

with the natural topography of the area, covered with other available surface soil materials, and reseeded with an approved seed mixture (approximately 0.3 acres).

The large abandoned mine site located on the former First National Bank claim needs to be addressed. All wooden timbers and debris shall be gathered and burned. All trash and debris shall be gathered and placed in the shaft prior to closure. The shaft shall then be backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured to blend in with the natural topography of the area, covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 1.6 acres).

The six (nine) vents associated with the aforementioned mines shall be permanently closed with polyurethane foam plugs and then covered with surface soil materials and reseeded with an approved seed mixture.

C–SR–22A:
The large abandoned Hidden Basin mine site needs to be addressed. All wooden timbers and debris shall be gathered, placed in the decline trench, and burned. Subsequently, all trash and debris shall be gathered and placed in the decline trench prior to closure. The decline portal shall then be closed with large boulders and rocks and backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured to blend in with the natural topography of the area, covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 1.8 acres).

The seven vents associated with the Hidden Basin mine shall be permanently closed with polyurethane foam plugs and then covered with surface soil materials and reseeded with an approved seed mixture.

The subsidence at the TNT No. 1 mine portal needs to be addressed. The subsidence shall be backfilled with available surface soil materials and reseeded with an approved seed mixture.

The open drill hole located near boundary monument AP–4 shall be permanently closed with polyurethane foam plugs and then covered with surface soil materials and reseeded with an approved seed mixture.

**Note**: The total work to be performed is in excess of the total annual royalties that are owed for the 2009 lease year (aggregate sum of $55,000). Accordingly, the work scope identified herein is equitable to $55,000. The additional work scope will be discussed in a similar fashion next year.

**Note:** This work shall be performed to the satisfaction of the DOE Realty Officer and/or his LMS Contractor representatives from S.M. Stoller Corporation, who shall provide project oversight of the reclamation field activities.

# Site Specific
# Storm Water Management Plan

**Lease Tract#:** C-Lp-22 **Site:** Donald "C" (Big) **Work Area:** Long Park
**Work Scope:** Close Mine portal and reclaim site

Construction activities will be managed to minimize the volume of storm water entering the disturbed portion of the work area, contain and control the volume of storm water which falls within that area, and minimize the potential for the migration of soil/sediments.

The following engineering control measures have been selected as being applicable to the specific work area disturbance:

X **Option #1:** Storm diversion will be accomplished by the installation of ditches, berms, or contouring to minimize the potential for erosion of the portion of the work area.

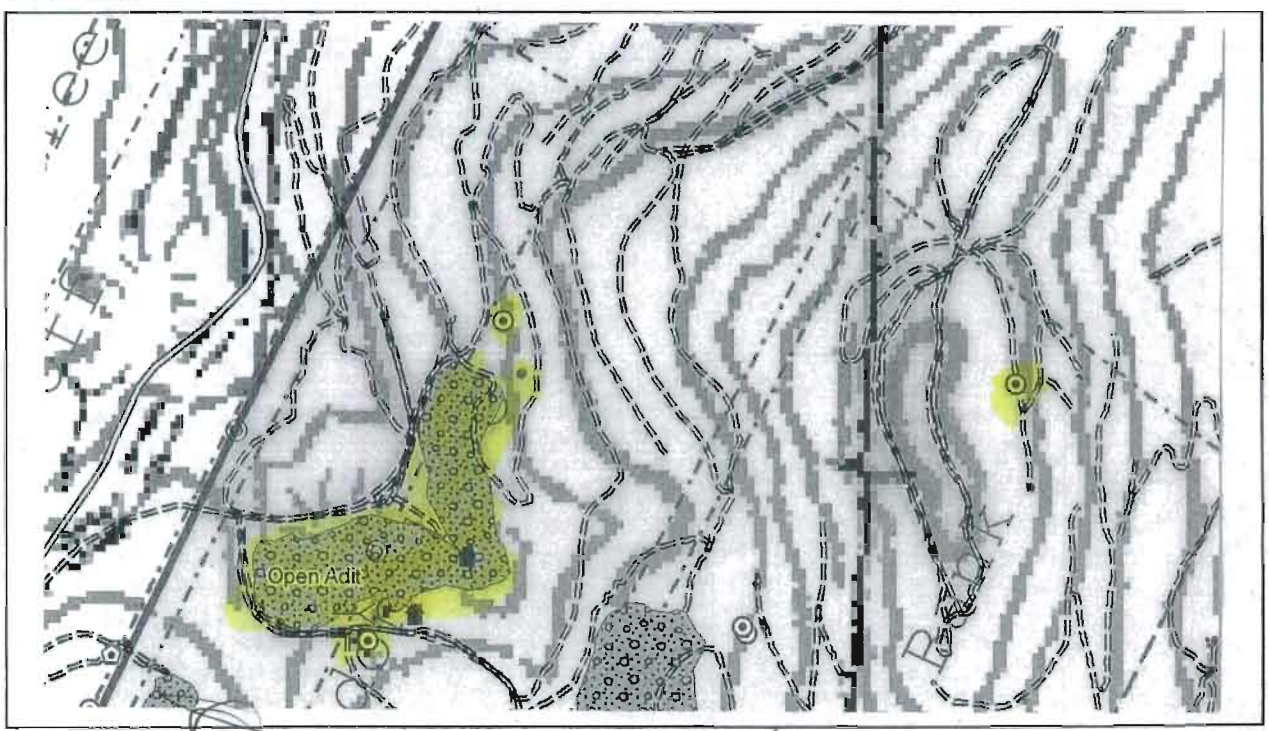
X **Option #2:** Storm water containment/control will be accomplished within the disturbed portion of the work area by construction of catchment basins, including "pocking" of the recontoured materials.

____ **Option #3:** Migration of soil/sediments will be minimized by the installation of silt fences/barricades utilizing fabric or straw bales.

X **Option #4:** Soil stabilization will be accomplished by seeding the disturbed portion of the work area to establish a viable, diverse stand of grasses, shrubs and forbs.

____ **Option #5:** No action required.

Site Sketch:




Signature: _____ Date: 5/26/09

# Site Specific
# Storm Water Management Plan

**Lease Tract#:** C-LP-22 **Site:** Donald "C" **Work Area:** Long Park
**Work Scope:** Close Mine portal & Reclaim Site.

Construction activities will be managed to minimize the volume of storm water entering the disturbed portion of the work area, contain and control the volume of storm water which falls within that area, and minimize the potential for the migration of soil/sediments.

The following engineering control measures have been selected as being applicable to the specific work area disturbance:

X **Option #1:** Storm diversion will be accomplished by the installation of ditches, berms, or contouring to minimize the potential for erosion of the portion of the work area.

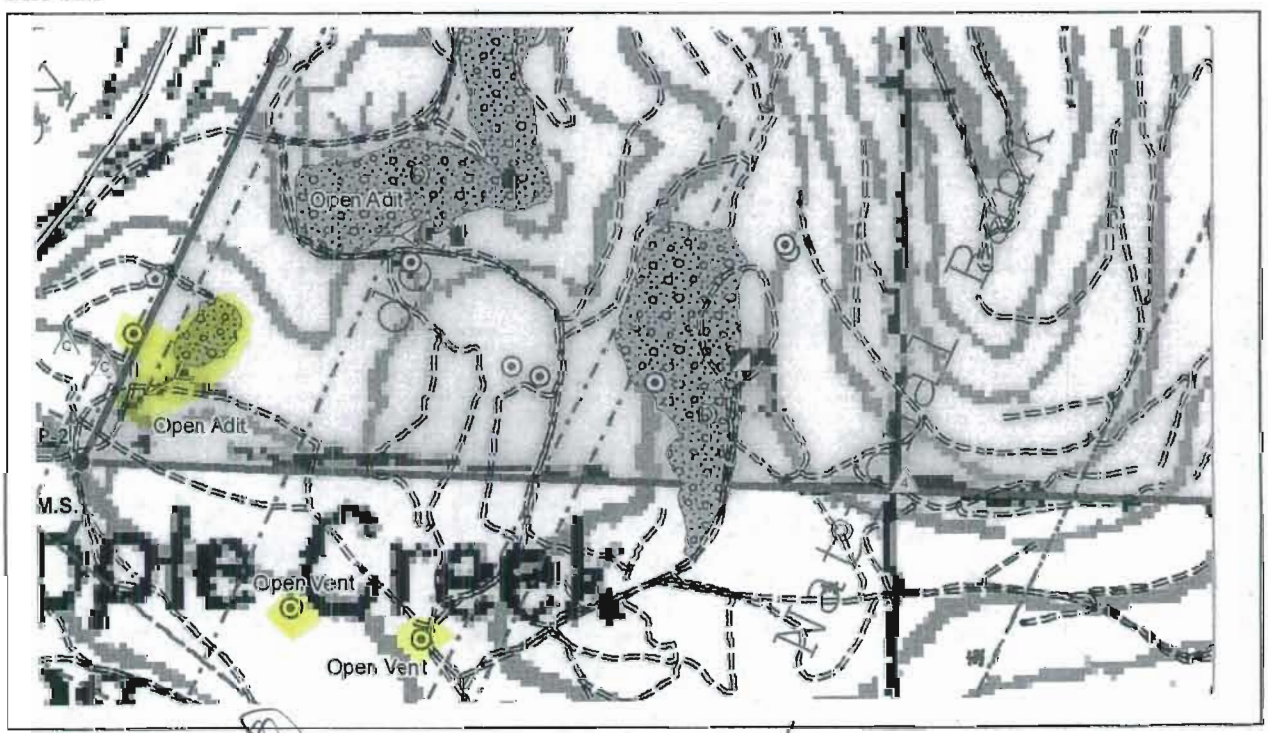
X **Option #2:** Storm water containment/control will be accomplished within the disturbed portion of the work area by construction of catchment basins, including "pocking" of the recontoured materials.

_____ **Option #3:** Migration of soil/sediments will be minimized by the installation of silt fences/barricades utilizing fabric or straw bales.

X **Option #4:** Soil stabilization will be accomplished by seeding the disturbed portion of the work area to establish a viable, diverse stand of grasses, shrubs and forbs.

_____ **Option #5:** No action required.

Site Sketch:




Signature: _____ Date: 5/26/09

# Site Specific
# Storm Water Management Plan

**Lease Tract#:** C-Lp-22 **Site:** 1ST. Nat. Bank **Work Area:** Long Park
**Work Scope:** Close Mine portal and Reclaim site

Construction activities will be managed to minimize the volume of storm water entering the disturbed portion of the work area, contain and control the volume of storm water which falls within that area, and minimize the potential for the migration of soil/sediments.

The following engineering control measures have been selected as being applicable to the specific work area disturbance:

X **Option #1:** Storm diversion will be accomplished by the installation of ditches, berms, or contouring to minimize the potential for erosion of the portion of the work area.

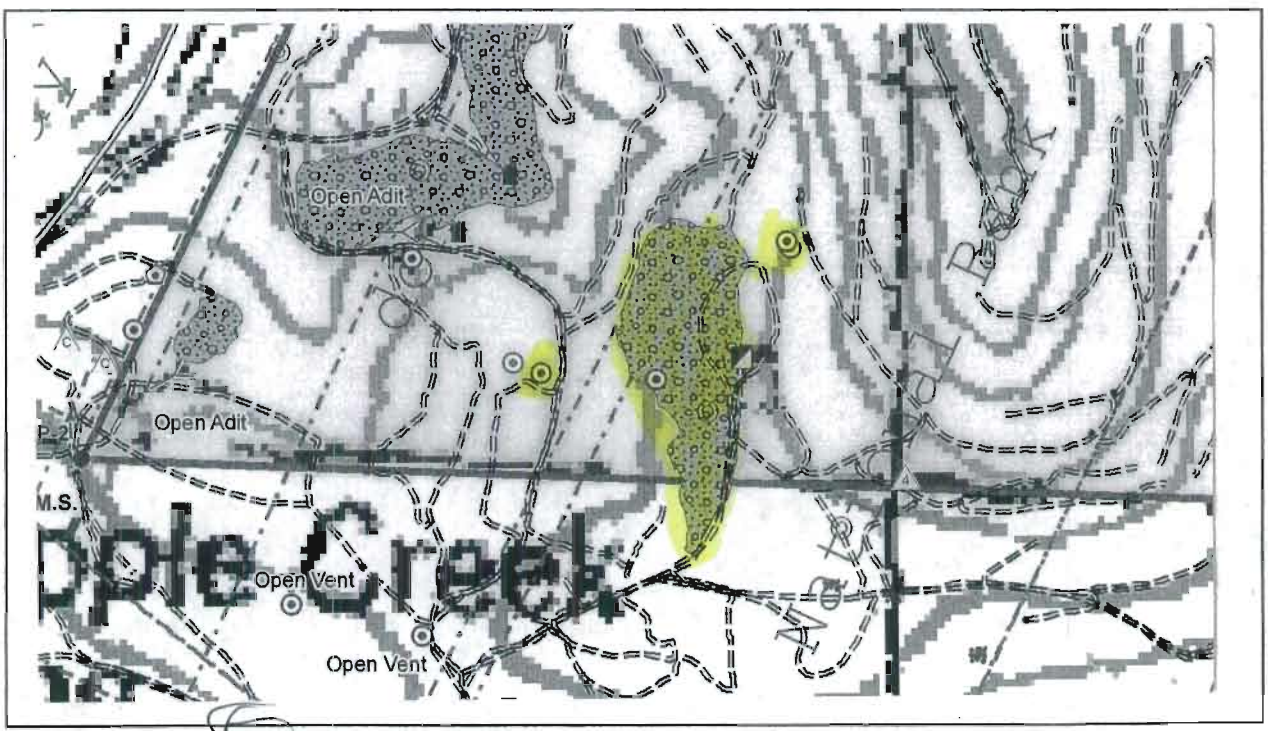
X **Option #2:** Storm water containment/control will be accomplished within the disturbed portion of the work area by construction of catchment basins, including "pocking" of the recontoured materials.

_____ **Option #3:** Migration of soil/sediments will be minimized by the installation of silt fences/barricades utilizing fabric or straw bales.

X **Option #4:** Soil stabilization will be accomplished by seeding the disturbed portion of the work area to establish a viable, diverse stand of grasses, shrubs and forbs.

_____ **Option #5:** No action required.

Site Sketch:




Signature: _____ Date: 5/26/09

# U.S. Department of Energy
# Office of Legacy Management
# National Environmental Policy Act – Environmental Checklist

| Project/Activity Title<br>Reclamation Projects on Paradox Lease Tract C-LP-22 | NEPA ID Number<br>LM 30-09 | Date<br>October 1, 2009 |
|---|---|---|
| **LM Site Name**<br>Uranium Leasing Program, CO | **LM Site Program**<br>Reuse and Property Management | |
| **Contractor NEPA Coordinator**<br>Sandra Beranich | **Signature** for SB | |
| **Contractor Task Manager**<br>Ed Cotter | **Signature** 10/7/09 | |
| **DOE Project Manager**<br>Steven Schiesswohl | **Signa** 2009.10.08 09:51:46 -06'00' | |

**A. Brief Project/Activity Description:**
The U.S. Department of Energy (DOE) Office of Legacy Management (LM) proposes to close and reclaim one open mine shaft, recontour a mine-waste-rock dump, and close and reclaim seven open vent shafts on its C-LP-22 uranium lease tract. Independent contractors associated with the lessee would complete the work, and all projects would be completed within 1.5 weeks. C-LP-22 is north of Paradox Valley and between East Paradox Creek and the San Miguel River in Montrose County.

The open mine shaft on C-LP-22 (First National Bank claim) would be backfilled with available mine-waste rock, covered with surface soil material, and seeded with an approved seed mixture. The mine-waste-rock dump would be recontoured with heavy equipment to blend in with the natural topography of the area, covered with available surface soil materials, pocked, and seeded with an approved seed mixture. These actions would disturb approximately 1.6 acres.

The seven open vents on the lease tract would be permanently closed and reclaimed. Heavy equipment and polyurethane foam would be used to close the vent shafts. If metal casings were present, soils adjacent to the vent shaft casings would be removed, and the metal casings would be crushed several feet below grade. A layer of polyurethane foam would then be sprayed over the crushed casing. If metal casings were not present, available material such as tree limbs and rocks would be placed several feet down the shaft, and then polyurethane foam would be sprayed on top of this "shelf" to seal the hole permanently. In either case, surface soil materials would be backfilled on top of the dried foam, and an approved seed mixture would be broadcast to complete the reclamation. These actions would disturb less than 0.01 acre at each vent location.

**B. Environmental Concerns:**
If the proposed action could affect human health and the environment, the "yes" column is checked, and an explanation of the degree, type, and magnitude of the physical, chemical, and radiological sources of impacts is given below. Additional description or explanation is provided on attached sheets as necessary.

| Element | Yes | No | Element | Yes | No |
|---|---|---|---|---|---|
| Air emissions/air quality | X | | Exposure/impacts to public or workers | | X |
| Noise | X | | Need for public awareness/involvement | | X |
| Solid waste generation | | X | Transportation/traffic control required | | X |
| Mixed waste management | | X | Access to/use of DOE property | | X |
| Chemical storage on site | | X | Visual resources impacted | | X |

| Element | Yes | No | Element | Yes | No |
|---|---|---|---|---|---|
| Pesticide/herbicide use | | X | Cultural/arch resources present | | X |
| Toxic substances management | | X | Wetland/floodplain impacted | | X |
| Regulated quantities of petroleum used or stored on site | | X | Protected species present: Federal, State, or Tribe listed | | X |
| Radioactive materials/soils | | X | Migratory birds breeding or nesting | | X |
| Surface (ground) disturbance | X | | Wild/scenic rivers impacted | | X |
| Surface water use/ contamination | | X | Prime/unique farmlands present | | X |
| Surface water quality | | X | Groundwater use/contamination | | X |
| Groundwater quality affected | | X | Other Considerations? | | X |

**C. Explanation and Qualification of All "Yes" Responses:**

Air emissions/air quality: Use of heavy equipment to move materials would result in minor and temporary amounts of fugitive dust being present during the duration of the proposed actions.
Noise: Noise levels would be temporarily elevated while heavy equipment is being used.
Surface (ground) disturbance: Reclaiming the open mine portal, mine-waste-rock dump, and seven open vents would result in minor surface disturbances encompassing less than 2 acres. The long-term result would be to improve surface site conditions, which would be considered a benefit to the environment.

**D. Recommendation:**

The proposed action to complete various reclamation activities related to past mining activities would be considered categorically excluded from further environmental evaluation under Title 10 *Code of Federal Regulations* Part 1021, Appendix B to Subpart D, B1.3(k), "Erosion control and soil stabilization measures (such as reseeding and revegetation)."

Meets Criteria ✓ Does Not Meet Criteria_____ Unsure_____

**E. NEPA Determination:**

I have reviewed the scope of actions proposed under Section A of this Environmental Checklist, and the information relevant to the potential for environmental impacts in Section B, and determined the following:

✓ The proposed actions meet the criteria for categorical exclusion.

__The proposed actions do not meet the criteria for categorical exclusion; therefore, I recommend that the LM NEPA Planning Board be convened based on my recommendation (see attached rationale) to complete:

( ) an Interim Action ( ) an Environmental Assessment
( ) an Environmental Impact Statement ( ) a Supplemental Analysis

LM NEPA Compliance Officer — 10/15/09 Date

Distribution upon signature:

R. Bush, LM NEPA Compliance officer
S. Schiesswohl, DOE Project Manager
S. Beranich, Stoller NEPA Coordinator
S. Osborn, Stoller Compliance Manager
rc-grand.junction (E. Cotter)

## Kastens, Marilyn

**From:** Burns, Dan
**Sent:** Monday, October 26, 2009 6:57 AM
**To:** Cotter, Ed; Kastens, Marilyn; Turley, Kyle
**Subject:** FW: notice to procede

Dan L. Burns
Field Operations Manager
Uranium Leasing Program
dan.burns@lm.doe.gov
Off:(970)248-6317
Cell:(970) 250-6268
-----Original Message-----
From: glade_hadden@blm.gov [mailto:glade_hadden@blm.gov]
Sent: Sunday, October 25, 2009 12:29 PM
To: Burns, Dan
Subject: notice to procede

Dan
This should serve as a notice to begin work on sites LP-23, JD-5 and JD-6.
Sorry for the delay - let me know if there is anything else you need.

Glade Hadden
Archaeologist
Uncompahgre Field Office

I also received a verbal "go-ahead" from Glade Hadden, by phone, on Sunday, 10/25/09.

## Cotter, Ed

**From:** Sheader, Linda
**Sent:** Friday, October 16, 2009 10:48 AM
**To:** Cotter, Ed; Kastens, Marilyn; Burns, Dan; Turley, Kyle; Beranich, Sandy
**Subject:** Inspection of proposed reclamation areas on lease tracts

Hi All,

Yesterday, I inspected several lease tracts with Ed and Marilyn to determine whether there were any potential ecology issues related to the proposed reclamation work. We inspected areas to be disturbed at the following locations:

1) C-LP-21: Abandoned mine site at Vanadium King No. 5 and subsided shaft on Long Park No. 16
2) C-LP-22: Two abandoned mine sites at Donald C Claim; abandoned site and 6 vents at First National Bank claim
3) C-SR-22A: Hidden Basin mine site; subsided portal at TNT-1; 7 vents; and open drill hole
4) C-LP-23: subsided portal on LP-23 mine; two open vents at Lexington claim

Time did not allow inspection of features on C-AM-19A, C-AM-20, C-JD-5 or C-JD-6. Of these, only C-AM-19A would still need to be visited because C-JD-5 and C-JD-6 only involve filling small drill holes, and C-AM-20 only involves welding a grate over a mine opening.

No evidence of threatened, endangered, candidate, or sensitive plant species was found at any of the areas proposed to be disturbed. I have two recommendations related to the proposed work:

1) Bat surveys are recommended before disturbing any open shafts or tunnels to prevent adverse impacts to bat species. I recommend that a bat expert be consulted to determine which, if any, open portals (including some of the subsided portals) provide potential habitat for bats. Before filling the openings, protocols for tarping should be followed to displace any bats occupying the shaft or tunnel. The small portal at the Donald C claim could be investigated as a possible place to install bat gates rather than filling the portal. Sandy would be the best person to coordinate wildlife actions related to this work.

2) Most of the proposed disturbance related to reclaiming waste rock piles would only affect mid-seral plant communities, containing mostly reclamation species. However, the toe of the rock pile at the First National Bank claim is located within high quality late-seral pinon-juniper forest. The forest contains a diversity of species including fishhook cactus (not the endangered hookless variety) and very old juniper trees. Disturbance to rabbitbrush and sagebrush communities up-slope and to the side of the pile would be preferable to disturbing the pinon-juniper woodland. If at all possible, it would be best to work from the top of the pile and to leave the toe undisturbed except to place soils and seed over the slope from above.

Please let me know if you have any questions or concerns, and the next time anyone is visiting Lease Tract 19A, I would like to come along if possible to inspect the mine adit at the south end of the Dolores claim.

Thanks much!

Linda

**Department of Energy**
**Office of Legacy Management**

September 23, 2009

OLM-LEK-2009-134

Mr. Glade Hadden, Archaeologist
U.S. Bureau of Land Management
Uncompahgre Field Office
2505 South Townsend Avenue
Montrose, CO 81401

Subject: Resubmission of DOE's Reclamation Proposal Concerning Abandoned Mine Features in the Uravan and Long Park Areas, Montrose County

Dear Mr. Hadden:

The U.S. Department of Energy Office of Legacy Management (DOE) is resubmitting a proposal to reclaim and mitigate hazards at numerous abandoned mine sites on DOE's uranium lease tracts in Montrose County. Please refer to the previously submitted cultural report, entitled *Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado*. The enclosed Table 1 lists the 27 mine site features that are proposed to be reclaimed and identifies the cultural site number and eligibility recommendation for each feature. Of the 27 mine site features, 14 are recommended as ineligible for inclusion in the National Register of Historic Places, and 13 are considered isolated finds. Topographic maps showing locations of the cultural resource sites are on pages A–1 through A–3 of the Class III cultural resource inventory. Please review the inventory report and let us know if you have cultural resource management concerns and concur with our recommendations of eligibility.

If you have specific questions or comments, please contact my contractor staff, Ed Cotter, at (970) 248-6056 (Ed.Cotter@lm.doe.gov). If you have general questions about the uranium leasing program, please contact me at (720) 880-5338 (Laura.Kilpatrick@lm.doe.gov). Thank you for your review and consideration of our proposed mine site reclamation activities.

Sincerely

2009.09.24
20:24:55 -06'00'

Laura E. Kilpatrick
Realty Officer

Enclosure (Table 1)

cc w/enclosure:
S. Schiesswohl, DOE (e)
E. Cotter, Stoller (e)
M. Kastens, Stoller (e)
Project File (E. Cotter)

*Table 1. Abandoned Mine Site Features Proposed for Reclamation and Cultural Resource Identification*

| Name/Location | Mine Feature and Proposed Reclamation | Cultural Resource Identification and Recommendation |
|---|---|---|
| Dolores Mine, C–AM–19A<br>T43N R19W Sec19 SWSE | Open adit will be closed with a polyurethane foam bulkhead | Site 5MN9235, recommended Not Eligible to National Register of Historic Places (NRHP) |
| Abajo No. 3 Mine, C–AM–19A | A subsided vent shaft will be backfilled with soil material and seeded | Site 5MN9252, considered Isolated Find (IF) |
| Town House Mine, C–AM–20<br>T48N R17W Sec20 SWSE | Open vent shaft will be closed with polyurethane foam plug, covered with soil, and seeded | Site 5MN9236, recommended Not Eligible to NRHP |
| Vanadium King No. 5 Mine, C–LP–21<br>T47N R17W Sec22 SESW and SWSW | Three open vent shafts will be closed with polyurethane foam plug, covered with soil, and seeded | Sites 5MN9238, 5MN9239, recommended Not Eligible to NRHP;<br>5MN9253, considered IF |
| First National Bank Mine, C–LP–22<br>T47N R17W Sec21 SWSE and SESW | Open mine shaft will be closed with available mine-waste-rock materials; mine-waste-rock dump will be recontoured to blend in with surrounding topography and seeded; three open vent shafts will be closed with polyurethane foam plugs, covered with soil, and seeded | Site 5MN9240, recommended Not Eligible to NRHP; Sites 5MN9256, 5MN9257, and 5MN9258 considered IFs |
| Cripple Creek Mines, C–LP–22<br>T47N R17W Sec 28 NENW and Sec21 SESW | Three open vent shafts will be closed with polyurethane foam plugs, covered with soil, and seeded | Sites 5MN9241and 5MN9242, recommended Not Eligible to NRHP;<br>Site 5MN9254, considered IF |
| Second National Bank Mine, C–LP–22<br>T47N R17W Sec 28 NWNE | Open vent shaft will be closed with polyurethane foam plug, covered with soil, and seeded | Site 5MN9255, considered IF |
| Hidden Basin Mine, C–LP–22A<br>T47N R17W Sec21 NWNW, Sec16 SWSW, and Sec17 SESE | Eight open vent shafts will be closed with polyurethane foam plugs, covered with soil, and seeded | Sites 5MN9245, 5MN9246, 5MN9247, 5MN9248, and 5MN9249, recommended Not Eligible to NRHP; Sites 5MN9259, 5MN9260, and 5MN9261, considered IFs |
| TNT No. 1 Mine, C–LP–22A<br>T47N R17W Sec21 NWSW | The subsided mine portal will be backfilled with available soil material and reseeded | Site 5MN9262, considered IF |
| TNT No. 2 Mine, C–LP–22A<br>T47N R17W Sec21 NESW | Open mine portal will be backfilled with available mine-waste-rock materials; mine-waste-rock dump will be recontoured to blend in with surrounding topography and seeded | Site 5MN9250, recommended Not Eligible to NRHP |
| LP–23 Mine, C–LP–23 (Tract 1)<br>T46N R17W Sec1 NWNE | The subsided mine portal will be backfilled with available soil material and reseeded | Site 5MN9263, considered IF |
| Lexington Mine, C–LP–23<br>T46N R17W Sec1 SWSE | Two open vent shafts will be closed with polyurethane foam plugs, covered with soil, and seeded | Site 5MN9251, recommended Not Eligible to NRHP; Site 5MN9264, considered IF |

# Meeting/Teleconference Record

**Date:** 9/21/09

**To:** Ed Cotter

**From:** Marilyn Kastens

**Subject:** Cultural Clearance for Conducting Abandoned Mine Reclamation on Uranium Lease Tracts in Montrose County (Uravan/Long Park Area)

Persons Present/Contacted:

| Name | Company/Agency | Telephone Number/Extension |
|---|---|---|
| Glade Hadden<br>BLM Archaeologist | BLM, Uncompahgre Field Office | 970-240-5303 |
| Marilyn Kastens<br>Cultural Resource Coordinator | SM Stoller Corp. | X6781 |
| | | |

**Issue: Cultural Clearance for Abandoned Mine Land Reclamation—**
DOE submitted the report, *Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado* to Glade Hadden (BLM archaeologist) on August 25, 2009, requesting his concurrence in DOE's proposal to conduct additional "Level II" archival documentation of five mine site properties that are considered eligible for inclusion in the National Register of Historic Places. DOE would like to conduct the additional documentation as mitigation for reclaiming hazardous mine site features and, through this work, destroying the integrity of these historic mine sites. Glade stated that he was going to have to consult with the State Historic Preservation Officer (SHPO) about DOE's proposal. He mentioned that he had talked to Dan Corson with the SHPO's office (Intergovernmental Services Director) about DOE's proposal and although Dan couldn't make a verbal determination, Glade got the impression that the SHPO's office would not concur with DOE's mitigation proposal. He had a suspicion that if DOE pursued the Level II archival documentation, then SHPO may not concur; SHPO may be more interested in preserving the mine sites. Glade recommended that we re-submit our "Determination" letter of 8/25/09 to him and address the 14 non-eligible cultural sites in one letter and address the 5 eligible mine sites in a second letter, as the latter is going to require consultation and will take time to work through the system. We have two main options concerning the 5 eligible mine sites:

Option 1: Continue on our present course and propose that a Level II archival documentation be prepared as mitigation. Glade recommended that if we went this route, we should get a detailed proposal from Alpine Archaeology concerning the Level II documentation process. Glade would present this proposal to SHPO and they would either concur or not concur. If SHPO concurs, DOE might need to prepare a Memorandum of Agreement that outlines the agreed-upon mitigation. If SHPO does not concur, then DOE/BLM would take the proposal to the regional Advisory Council on Historic Preservation (ACHP), who would review the proposal. ACHP would formally file their comments on the issue. DOE is then free to make its own decision and proceed accordingly. The ACHP comments are NOT binding; DOE would have the final say. This process would take a minimum of 60 days and could take up to 6 months to complete.

Option 2: Relook at our reclamation process and determine if we can mitigate safety hazards and maintain the integrity of eligible, historic mine site features such as ore bins, hoist houses, collapsed shed structures, waste rock dumps, residential trash dumps, etc. If we think we can do this, re-submit the "Determination" letter to BLM and describe how we will preserve historic features during mine site reclamation. During mine site reclamation, an archaeological monitor would need to be present on site to formally document that features are preserved in their historical context.

**Follow Up Action Required:** ULP personnel need to determine a course of action (Option 1 or 2).
**Affect Scope/Schedule or Budget:** **YES _X_ NO __ Explanation:** Under Option 1, it is unlikely that reclamation activities could occur at the 5 eligible mine sites before April 30, 2010. Under Option 2, revised reclamation methods could possibly be implemented before April 30, 2010.

CC: ULP Project File (Ed Cotter)

Contains Privileged Information – Do Not Release

BLM Project Authorization No. 09UN09

# DOCUMENTATION OF FOURTEEN HISTORIC MINE FEATURES AND THIRTEEN ISOLATED FINDS ON U.S. DEPARTMENT OF ENERGY URANIUM LEASE TRACTS IN WESTERN COLORADO: PHASE 2, URAVAN/LONG PARK AREA, MONTROSE COUNTY, COLORADO

by

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Under the direction of

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Prepared for

S. M. Stoller Corporation
2597 B ¾ Road
Grand Junction, CO 81503
Contract GS-10F-0004S, Purchase Order #0000004277

Under the provisions of
Colorado BLM Cultural Resource Use Permit No. C-46920

October 2009

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

## INTRODUCTION

S.M. Stoller Corporation (Stoller), the Legacy Management Support Contractor for the U.S. Department of Energy Office of Legacy Management (DOE) in Grand Junction, Colorado, is proposing to reclaim and mitigate hazards at numerous abandoned mine sites on DOE's uranium lease tracts in San Miguel, Montrose, and Mesa counties. The abandoned mine features, which include open portals, subsided vent shafts, and unreclaimed waste rock dumps, are located at approximately 38 separate project areas within 14 DOE lease tracts. The surface of DOE's lease tracts are managed by the Bureau of Land Management's (BLM's) Dolores, Uncompahgre, and Grand Junction field offices; DOE manages the minerals for uranium exploration and production. In order to comply with historic preservation obligations outlined in Section 106 of the National Historic Preservation Act (NHPA; 16 USC 470) and the National Environmental Policy Act (NEPA; 42 USC 4321), Stoller hired Alpine Archaeological Consultants, Inc. (Alpine) to conduct a Class III cultural resources inventory of the proposed project areas. This project falls under Contract GS-10F-0004S and Purchase Order #0000004277.

In order to facilitate the Section 106 consultation process with the three BLM offices, Stoller chose to divide the cultural resources inventory into three separate phases—consisting of groups of project areas in the Slick Rock, Uravan/Long Park, and Gateway areas—that will be reported separately. Each phase of the cultural resource inventory consists of several project areas on multiple lease tracts that have been grouped together based on geographic proximity and BLM field office. Eleven project areas in six lease tracts for the Uravan/Long Park phase of the project are reported herein.

Project work for the Uravan/Long Park phase of the cultural resource inventory was conducted between July 20 and 23, 2009, by Summer Moore-McMillan and Martha Bright of Alpine. The field crew was accompanied in the field by Stoller's reclamation supervisor, Dan Burns, who escorted the crew to each of the project areas and provided details about DOE's proposed reclamation activities. Summer Moore-McMillan served as field director, and Jonathon Horn served as Principal Investigator. The work was conducted under the provisions of Colorado BLM Cultural Resource Use Permit No. C-46920, which expires February 27, 2010, BLM Project Authorization No. 08UN09. No artifacts were collected during the inventory; field notes and photographs from the survey are on file at Alpine's office in Montrose, Colorado.

## LOCATION AND ENVIRONMENTAL SETTING

The Phase 2 project areas reported here are near Uravan, Colorado, in western Montrose County. Legal locations of the project areas are presented below in Table 1. The locations of the project areas are shown in Figure 1 through Figure 4. The topography is typical of the northern Colorado Plateau, with moderately high elevations and extensive exposures of nearly horizontal sedimentary rock formations. The occurrence of significant deposits of carnotite ore in west-central Colorado is due to the presence of what has been termed the "Uravan Mineral Belt." The Uravan Mineral Belt is a large "C"-shaped area stretching across much of west-central Colorado, in which exposures of sandstones from the Salt Wash Member of the Morrison formation have been shown to contain extensive deposits of uranium and vanadium ore (Chenoweth 1993). The present project, including all three phases of work in areas around Slick Rock, Uravan/Long Park, and Gateway, Colorado, falls entirely within the area known as the Uravan Mineral Belt. Elevations within the project areas range from approximately 5,560 to 6,580 ft. (1,695 to 2,006 m). The topography is dominated by mesas and deeply entrenched canyons. Vegetation within the project tracts is dominated by pinyon and juniper with an understory of big sagebrush.

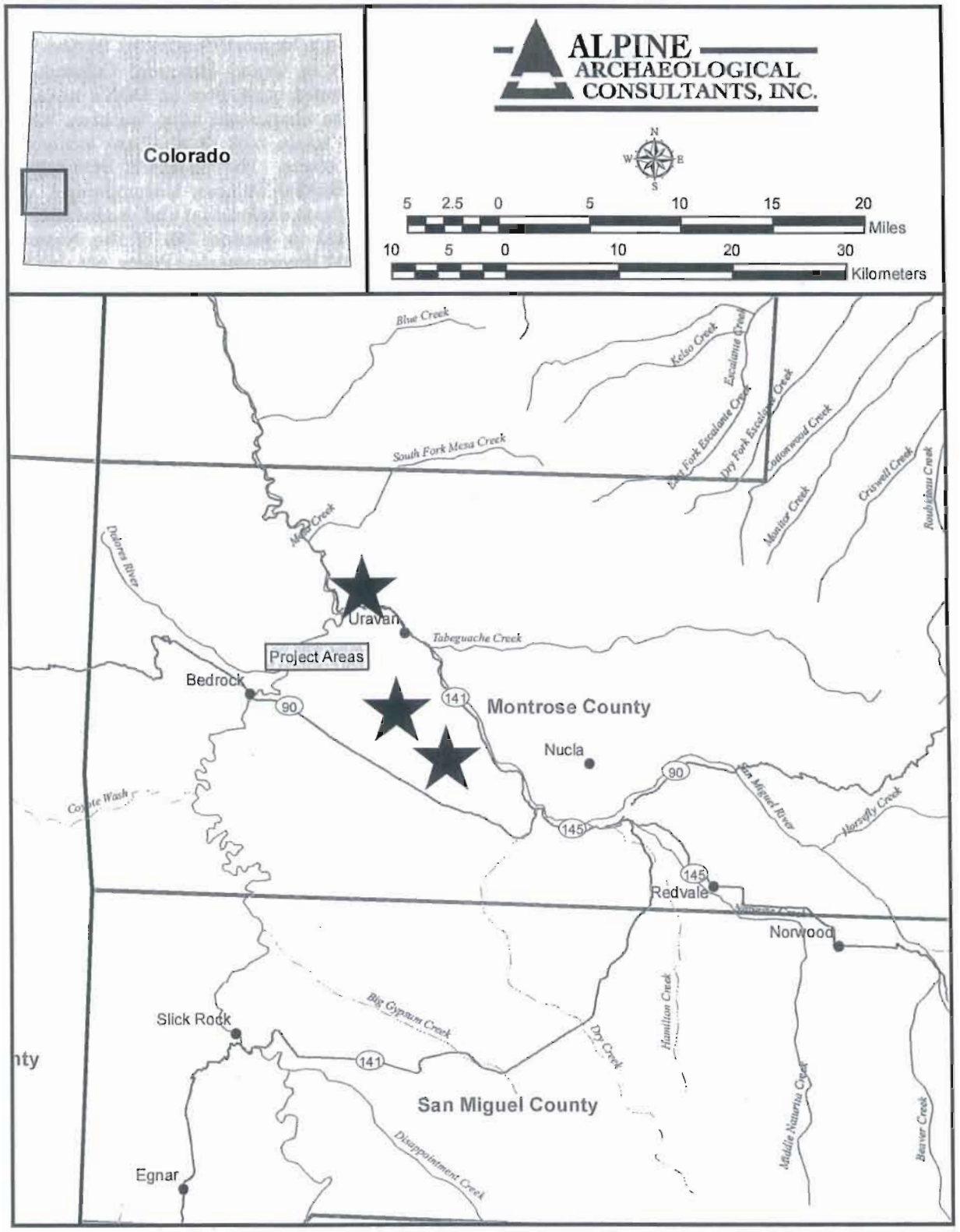



Figure 1. General location of Phase 2 project areas.

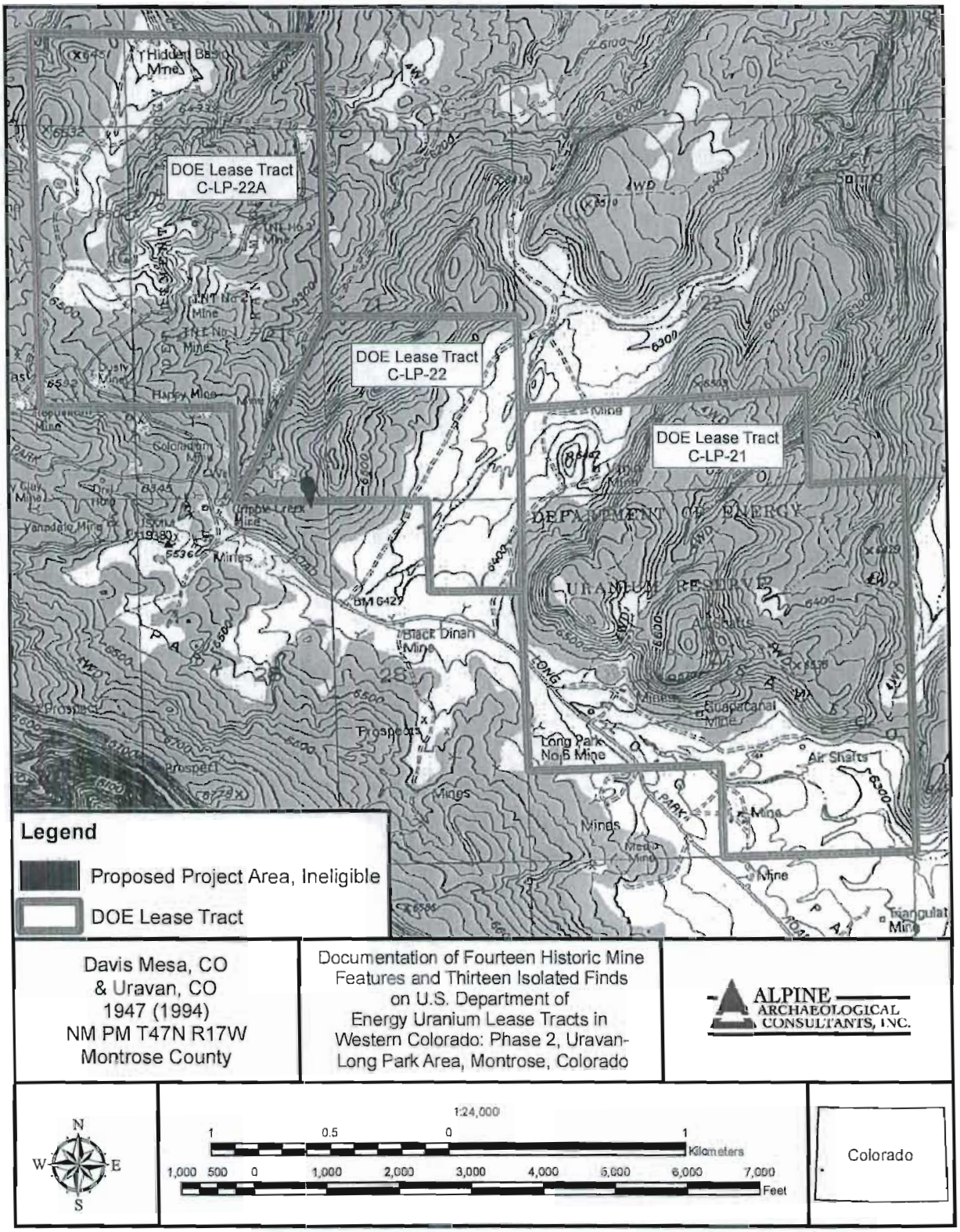



Figure 3. Locations of Phase 2 project areas in Lease Tracts C-LP-21, C-LP-22, and C-LP-22A.

**Table 1. Locations of Phase 2 Project Work.**

| Lease Tract No. | Project Area | Claim Name | Proposed Activities | Legal Location (New Mexico PM) | Project Area Acreage | Recorded Cultural Resources |
|---|---|---|---|---|---|---|
| C-AM-19A | 20 | Dolores | Closure of adit | T 43N, R 19W, Section 19, SW, SE | 0.07 | 5MN9235† |
| | 21 | Abajo No. 3 | Backfilling of subsided vent shaft | T 43N, R 19W, Section 19, SE, SE | <0.00 | 5MN9252* |
| C-AM-20 | 41 | Town House | Closure of vent | T 48N, R 17W, Section 20, SW, SE | 0.02 | 5MN9236 |
| C-LP-21 | 22 | Vanadium King No. 5 | Closure of three vents | T 47N, R 17W, Section 22, NW, SW and SW, SW | 0.08 | 5MN9238<br>5MN9239<br>5MN9253* |
| C-LP-22 | 24 | Cripple Creek | Closure of two vents | T 47N, R 17W, Section 21, SE, SW | 0.05 | 5MN9241<br>5MN9242 |
| | 25 | First National Bank; Second National Bank | Backfilling of shaft, burning of timbers and debris, recontouring of waste-rock dump, closure of 10 vents in the vicinity | T 47, R 17W, Section 21, SE, SW | 1.57 | 5MN9240<br>5MN9254*<br>5MN9255*<br>5MN9256*<br>5MN9257*<br>5MN9258* |
| C-SR-22A | 26 | Hidden Basin | Closure of eight vents | T 47N, R 17W, Section 16, SW, SW | 0.11 | 5MN9245<br>5MN9246<br>5MN9247<br>5MN9248<br>5MN9249<br>5MN9259*<br>5MN9260*<br>5MN9261* |
| | 27 | TNT No. 1 | Backfilling of mine portal subsidence | T 47N, R 17W, Section 21, NW, SW | 0.02 | MN9262* |
| | 42 | TNT No. 2 | Backfilling of mine portal subsidence | T 47N, R 17 W, Section 21, NE, SW | 0.08 | 5MN9250 |
| C-LP-23 | 28 | LP-23 (Tract 1) | Backfilling of mine portal subsidence | T 46N, R 17W, Section 1, NW, NE | 3.49 | 5MN9263* |
| | 29 | Lexington (Tract 3) | Closure of two vents | T 46N, R 17W, Section 1, SW, SE | 0.12 | 5MN9251<br>5MN9264* |

† Site 5MN9235 extends onto private land; all other cultural resources are on land managed by the BLM-UFO. * Isolated finds.

## HISTORICAL CONTEXT OF THE PROJECT AREA

As the Statement of Work (SOW) for this project specified that no prehistoric sites would be recorded, a discussion of only the Historic period within the project area is provided below. The first European people to enter the project area were Spanish explorers. Juan de Rivera led an expedition through the heart of the project area in 1765, in search of mineral wealth. In 1776, the Escalante-Dominguez Expedition passed through western Colorado in search of a route between Santa Fe and missions in California. As a result of these forays, the northern branch of the Old Spanish Trail was established through western Colorado. This served as an early Spanish trade route from Santa Fe by way of the San Luis Valley and was subsequently used by fur trappers, explorers, and as a connection to the Mormon settlements in the Uinta Valley of Utah as the Salt Lake Wagon Road.

Exploitation of the project area's natural resources by Euroamericans began in the 1820s with the arrival of fur trappers. One fur trader, James Pattie, traveled through western Colorado in 1826, following a route along the Colorado River near present-day Grand Junction. Another trapper, Antoine Roubideau, established a trading post west of Delta, Colorado, in 1828. The fort was destroyed in 1844, and knowledge of the fort's exact location is presently unknown. The fur industry

## PREVIOUS WORK AND EXPECTED RESULTS

Table 2 shows previously conducted cultural resource inventories separated by lease tract, as described in Reed (2006). Only two projects, two recent historic mine documentation projects by Twitty (2006; 2008b), actually overlap the present project area.

Multiple prehistoric and historic sites have been recorded within the lease tracts grouped into the Uravan/Long Park phase of this project. Twelve sites within the Uravan/Long Park uranium lease tracts are eligible for, or are potentially eligible for, inclusion on the NRHP. These include sites that have been officially determined to be NRHP-eligible by federal or state agencies, that have been recommended as eligible by site recorders but not formally evaluated by the agencies, and sites that are classified by either the agencies or the recorders as "need data." The "need data" sites consist of those that were not assessed for eligibility by either the agencies or the recorders and those that cannot be tenably evaluated because an understanding of key site attributes associated with site significance is lacking. None of the sites in the project tracts is actually listed on the NRHP. Table 3 lists eligible or potentially eligible sites by lease tract number.

Only four previously recorded cultural resource sites have been identified within the proposed Uravan/Long Park project areas. These sites were recorded during two recent historic mine documentation projects by Twitty (2006; 2008b). They include the Hidden Basin Mine (5MN7866), the Long Park No. 1 Mine (5MN8145), Shaft No. 1 at the Cripple Creek Mine (5MN8171), and Shaft No. 2 at the Cripple Creek Mine (5MN8172).

DOE and BLM archaeologists previously determined that it was not necessary to inventory for prehistoric sites within each of the small project areas, all of which fell within the historic footprint of known mining operations. Consequently, the Alpine crew went into the field prepared to document each of the historic uranium mining locations slated for reclamation activities, as well as to evaluate the effects of proposed project activities on each of these properties.

**Table 2. Previously Conducted Cultural Resource Inventories by Phase 2 Lease Tract.**

| Lease Tract No. | Reference | Document ID | Project Description | Area Surveyed (Acres) |
|---|---|---|---|---|
| C-AM-19A | Scott 1979 | MN.LM.NR43 | TV reflector | 4.7 |
| | Botsford 2001 | MC.LM.R228 | Grazing allotment | 83.6 |
| | Conner and Davenport 2001 | MN.LM.R88 | Vegetation treatment | 120.8 |
| C-LP-21 | Copeland 1980 | UNRA-80UN060 | Seismic lines | 9.4 |
| | Rupp 1984 | UNRA-84UB008 | Drilling program | 0.7 |
| | Lewis 1989 | MN.LM.NR125 | Drill holes | 0.0 |
| | Lewis 1996 | MN.LM.NR177 | Uranium lease | 1.9 |
| | Lewis 1997 | MN.LM.NR215 | Drill holes and road | 0.3 |
| | Hurt and Seymour 2001 | MC.LM.R310 | Seismic lines | 26.7 |
| | Unknown | UNRA-96122 | Unknown | 47.7 |
| C-LP-22 | Copeland 1980 | UNRA-80UN060 | Seismic lines | 0.2 |
| | Rupp 1984 | UNRA-84UB008 | Drilling program | 29.0 |
| | Lewis 1989 | MN.LM.NR125 | Drill holes | 0.1 |
| | Hurt and Seymour 2001 | MC.LM.R310 | Seismic lines | 10.2 |
| C-SR-22A | Copeland 1980 | UNRA-80UN060 | Seismic lines | 10.7 |
| | Lazorchak 2000 | MN.LM.NR342 | Grazing allotment | 8.5 |
| | Hurt and Seymour 2001 | MC.LM.R310 | Seismic lines | 11.4 |
| C-LP-23 | Copeland 1980 | UNRA-80UN060 | Seismic lines | 13.4 |
| | Duke 1982 | MN.LM.NR240 | Seismic lines | 2.2 |
| | Harden 1998 | MN.LM.R70 | Seismic lines | 0.9 |
| | Hurt and Seymour 2001 | MC.LM.R310 | Seismic lines | 13.8 |
| | Scott 2003 | MN.LM.R126 | Well pads and access roads | 3.0 |

**Table 3. Cultural Resources Within the Phase 2 Lease Tracts Eligible or Potentially Eligible for Inclusion on the National Register of Historic Places.**

| Lease Tract No. | Site No. | Site Type | NRHP Eligibility | Report Reference |
|---|---|---|---|---|
| C-AM-19A | 5MN1124 | Prehistoric Rockshelter | Field Needs Data | Copeland 1980 |
| | 5MN5651 | Prehistoric Camp | Officially Needs Data | Conner and Davenport 2001 |
| | 5MN5652 | Prehistoric Camp | Officially Needs Data | Conner and Davenport 2001 |
| | 5MN5655 | Prehistoric Camp | Officially Needs Data | Conner and Davenport 2001 |
| | 5MN5656 | Prehistoric Camp | Officially Eligible | Conner and Davenport 2001 |
| | 5MN5657 | Prehistoric Camp | Officially Needs Data | Conner and Davenport 2001 |
| C-LP-21 | 5MN5137 | Prehistoric Camp | Officially Eligible | Hurt and Seymour 2001 |
| | 5MN8145 | Uranium Mine | Officially Eligible | Twitty 2008b |
| C-LP-22 | 5MN8171 | Uranium Mine | Officially Eligible | Twitty 2008b |
| | 5MN8172 | Uranium Mine | Officially Eligible | Twitty 2008b |
| C-LP-22A | 5MN1289 | Prehistoric Camp | Field Needs Data | Copeland 1980 |
| | 5MN7866 | Uranium Mine | Officially Eligible | Twitty 2006 |

## FIELD METHODS

Each of the areas proposed for reclamation was visited specifically for recordation of the historic uranium mining properties slated for disturbance. At each area, Stoller personnel identified and flagged the limits of proposed disturbance, including features slated for reclamation, borrow locations of fill soil and rock, and areas of potential vehicle traffic outside of established roads. Recordation was conducted by two archaeologists with specific mapping, photography, and description tasks. As DOE and BLM archaeologists had previously agreed that site recordation would be limited to the immediate area of the disturbance, no attempt was made to identify the perimeters of the historic properties. The areas within the proposed disturbances were intensively inspected for cultural features and artifacts. All cultural resources encountered in the project area were recorded on the appropriate Colorado Cultural Resource Survey forms. The boundaries of the proposed disturbance and the historic properties and cultural features identified within each disturbed area were mapped using a Trimble GeoXT Global Positioning Systems (GPS) unit capable of sub-meter accuracy. Field notes and photographs resulting from the project are on file at Alpine Archaeological Consultants, Inc. in Montrose, Colorado. No artifacts were collected in the course of the project.

## RESULTS

Inspection of the 11 project areas resulted in the recordation of 14 new cultural resource sites and 13 isolated finds. Four previously recorded sites were reevaluated. As expected, no cultural resources other than sites selected for historic documentation were discovered during the inventories. Site location maps and site maps are provided in Appendices A and B, respectively. Site forms are included in Appendix C. Isolated find forms are included in Appendix D.

### Lease Tract C-AM-19A, Project Area 20

#### *5MN9235 – The Dolores Mine, Waste-Rock Disposal Adit*

The waste-rock disposal adit at the Dolores Mine (5MN9235) is situated along a sandstone cliff band on the south-facing escarpment of San Miguel Canyon. Whereas a portion of the mine is on the unpatented Dolores mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO, an additional portion of the site is on private land. The site encompasses 0.07 acres at an elevation of 5,560 ft. (1,695 m). Vegetation in the area consists primarily of sparse pinyon and

*National Register Recommendations*

The Vanadium King No. 5 Mine was initially located in 1949, during Twitty's (2008a) fifth period of significance, the Atomic Era (1946-1963). Based on AEC records, the Vanadium King No. 5 claim appears to have produced a considerable amount of uranium ore during this period. However, because site 5MN9239 consists only of a vent shaft, the remains of a platform, and a small artifact scatter, this site has little potential to represent the workings of the mine. Any additional equipment used at the vent shaft, such as a compressor or another piece of machinery, has been removed. Based on Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, due to the limited material remains at the site the integrity of the site can be considered very low. The vent shaft is not a visible feature of the mining landscape. Consequently, Alpine recommends site 5MN9239 as not eligible for the NRHP.

*Potential Project Impacts*

The vent shaft on the Vanadium King No. 5 claim will be permanently closed with polyurethane foam plug, covered with surface soil materials, and reseeded with an approved seed mixture.

*Management Recommendations*

Because Alpine recommends site 5MN9239 as ineligible for the NRHP, no further historical or archaeological work is recommended.

**Lease Tract C-LP-22, Project Area 25**

***5MN9240 – The First National Bank Mine***

The First National Bank Mine (5MN9240) is situated at the base of a narrow northeast-southwest-trending ridge, on the southwest-facing slope above Long Park. The mine is on the unpatented First National Bank mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site encompasses 1.27 acres at an elevation of 6,510 ft. (1,984 m). Vegetation in the area consists primarily of pinyon and juniper forest in association with rabbitbrush. The site includes multiple features associated with the surface plant of a uranium mining operation, including a vertical shaft, two wooden platforms, a collapsed structure, a hoist, a possible worktable, and a vent shaft (see Appendix B-5). These features are situated on top of a large waste-rock pile measuring 195 by 410 ft., oriented north to south.

A vertical shaft (Shaft 1) is situated along the eastern edge of the site, at the point where the leveled top of the waste-rock pile meets the intact slope. The subsidence around the shaft currently measures 22 by 31 ft., oriented north to south and is 11 ft., 8 in. deep. The entrance to the shaft, which was cut into sandstone bedrock, is partially visible at the bottom of the collapsed area of the subsidence. Because the entry is partially covered with earth and pieces of concrete, measurements were not taken. A 1-in.-diameter metal pipe and a 2-in.-diameter metal pipe lie within the subsided cavity; they may have originally run down into the underground mine through the shaft. Several large pieces of concrete with rebar reinforcements are also situated within the depression. Artifacts associated with Shaft 1 include a large metal door measuring 5 ft., 3 in. tall and 3 ft., 11 in. wide with a smaller hinged trap door cut into it, an oil can, and a length of $^{9}/_{16}$-in.-diameter wire rope.

Feature 1 is a small wooden platform lying immediately west of Shaft 1. It measures 5 ft. 2 in. by 6 ft., oriented east to west. The platform is supported at its northeastern corner by a rubber automobile tire likely used to level it. Two 6 by 6-in. beams lie directly on the ground, oriented north to south, onto which a platform constructed of 3 by 8-in. and 3 by 10-in. planks is nailed. Although the exact function of the platform is unknown, it likely functioned as a foundation for a piece of

equipment or machinery, such as an air compressor. No artifacts were observed in association with Feature 1.

Feature 2 is the remains of a collapsed structure situated directly south of Shaft 1. The feature measures 15 ft. square and consists primarily of scattered lumber remnants, including 2 by 4-in. boards, a 3 by 8-in. plank, and a 4 by 4-in. beam. A row of 2 by 12-in. planks oriented west-northwest is visible within the scattered lumber remnants; these planks may represent floor joists. A framed door or window, measuring 4½ ft. tall and 3 ft. 10 in. wide and constructed from 2 by 4-in. boards and chicken wire is also visible within the rubble. The function of the structure is also unknown, although it may have served as a machine shop. Artifacts associated with Feature 2 include a bundle of chicken wire and a bundle of braided wire.

Feature 3 is a mechanical hoist perched near the western edge the waste rock. The single-drum hoist was originally manufactured to run by steam power. Subsequently, it was modified to use power from an automobile engine. A metal frame has been welded to the front of the hoist to hold an engine, which has been removed. The outside diameter of the drum is 3 ft. 10 in. The maximum dimensions of the hoist footprint are 6 ft. 10 in. by 8 ft. Its maximum height, measured from the current ground surface, is 4 ft. Because the hoist is out of line with the mine shaft and is situated facing away from the shaft, it appears that it is no longer in its working position. The only visible markings on the hoist are "GC / 922." Although the hoist resembles early twentieth-century models, the use of a welding torch to affix a frame for an automobile engine suggests that it was used at the First National Bank Mine during the 1950s or later. One Sanitary can was observed in association.

Feature 4 is a wooden frame made from 4 by 6-in. beams and 2 by 6-in. boards, situated at the eastern edge of the site on a low bench above the waste-rock pile. It measures 2 ft. 10 in. by 4 ft. 4 in., generally oriented east-west. The feature has four vertical posts at the corners and diagonal braces on each side. Although its function is unclear, it is possible that it represents a worktable with a missing top. Artifacts observed in association with Feature 4 include a metal desk drawer, two square oil cans, a cylindrical oil can, and a length of ⅝-in.-diameter wire rope.

Feature 5 is the remains of a platform or foundation near the northeastern corner of the site, on a low bench above the waste-rock pile. Although a substantial portion of the feature is covered by earth, the visible portion of the platform measures 2 ft. 10 in. by 6 ft. 5 in., oriented east to west. The platform has a 6 by 8-in. beam along its length, with 2 by 10-in. planks attached perpendicularly. A deteriorated set of steps constructed with 3 by 8-in. board sides 2 by 12-in. plank steps, lies immediately west of the platform. Artifacts identified in association with Feature 5 include two coffee cans, one with a "FOLGER'S" logo and "SPECIAL! 10¢ OFF / REGULAR," a 1-gal. can lid, a metal hoop measuring ⅞-in. wide, a fragment of a gas heater grate, a section of ½-in.-mesh metal screen, a length of ⅝-in.-diameter wire rope, a length of 1½-in.-diameter rubber hose, and an oil can.

Feature 6 is an open vent shaft held open by a 13-in.-diameter metal pipe extending a maximum of 5 in. above the ground. The 13-in.-diameter pipe is within a metal pipe measuring 1 ft., 10 in. in diameter. This larger pipe is now mostly filled with soil, suggesting that the vent shaft was originally larger, having later been modified to make it smaller. A wooden platform surrounds the vent shaft. Although it has now collapsed to some extent and is partially buried with earth, the visible portion of the platform measures 4 by 6 ft., oriented generally north to south. The platform floor is constructed of 3 by 12-in. planks attached to at least one 4 by 6-in. joist. Rocks have been placed under the platform to provide additional support and leveling, as it is situated on a considerable slope. Although the exact purpose of the platform is unknown, it may have served as a level work area around the vent or it may have supported a piece of machinery or equipment, such as a fan or compressor. Artifacts observed in association with Feature 6 include a large coiled pile of

$^{11}/_{16}$-in.-diameter wire rope, a length of ½-in. wire rope, a section of chrome trim, a sheet of ½-in.-thick rubber, a portion of a head gasket, several fragments of clear glass, including one threaded jar finish, and four oil cans marked with the CANCO trademark. The CANCO mark began being used by the American Can Company in 1912. CANCO in a circle does not appear in advertisements until 1923 (Rock 1989:198). According to the U.S. Patent Office, the CANCO trademark as illustrated was first used in July 1912. The American Can Company of New York, New York, last renewed the trademark in 1962; it is no longer active.

Additional artifacts observed at the site include a similar assemblage of structural, industrial, domestic, and transportation-related objects. Structural artifacts include several fragments of milled lumber and a piece of corrugated sheet metal wrapped around two 2 by 4-in. boards. Industrial artifacts include 24 oil cans, several of which were marked with "20 20 W," a length of ¾-in.-diameter water pipe, a fragment of a 2-in.-diameter rubber tube, a 5-gal. bucket with a bail handle, a 5-gal. barrel, a shovel spade, and a yellow-painted exhaust pipe, likely from a piece of heavy machinery. Domestic artifacts include pieces of cobalt blue and amber bottle glass. The cobalt blue glass fragment is marked with Ⓜ. This is a mark of the Maryland Glass Corporation, Baltimore, Maryland. This mark has been in use since 1916. One of the primary products produced by the company was cobalt blue Bromo-Seltzer bottles for the Emerson Drug Company. The Maryland Glass Corporation was a wholly owned subsidiary of the Emerson Drug Company until 1956 when the company passed to the Warner-Lambert Pharmaceutical Company. The Dorcey Corporation of Chattanooga, Tennessee purchased the glass company in 1968. The mark ceased to be used about 1973 (Toulouse 1971:339-341). Additional domestic artifacts include 10 Sanitary cans, several with church key openings, the lid to a meat tin, a key-wind tin, an aluminum pull-tab beverage can, a metal lunch box, and a decorative fragment from a potbelly parlor stove. Transportation-related artifacts appear to be related to automobile use at the site and include a late 1930s-era pickup truck hood, an automobile tire, an automobile seat spring, and a dealer tag reading "HUDSON AND BE_ / "CHEVROLET" LEADVILLE." Jim Hudson was reportedly approved for a Chevrolet franchise in Leadville in 1974 (http://hudsonautosource.com/About-Us.aspx, accessed August 6, 2009).

*Historical Background*

The First National Bank claim was originally located by the USV on August 25, 1939. The location certificate mentions that it was located by diamond drilling (Montrose County Courthouse, County Clerk's Office, Book 201, Page 500). The first AOL for the mine was filed in 1948 by USV. AEC records indicate that 396.56 tons of ore were extracted from the mine. This tonnage is attributed to "NU C N CO," which may be a corruption of the initials of the Union Carbide Nuclear Corporation. The USV continued to file the AOL documents yearly through 1951 (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 123, 170, and 251; Book 348, Page 249). No AEC tonnage records are available from this period.

In 1952, Union Carbide and Carbon Corporation began filing the AOL documents. Under the names Union Carbide and Carbon Corporation, Union Carbide Nuclear Corporation, and Union Carbide Corporation, this company continued to file AOL documents for the mine yearly through 1983 (Montrose County Courthouse, County Clerk's Office, Book 352, Page 590; Book 360, Page 157; Book 374, Pages 68 and 541; Book 456, Page 22; Book 457, Page 222; Book 491, Page 205; Book 503, Pages 111 and 441; Book 522, Pages 209 and 528; Book 541, Pages 264, 453, 691, and 965; Book 562, Pages 167, 498, and 830; Book 588, Pages 61, 297, 533, and 761; Book 620, Pages 602 and 932; Book 661, Pages 206 and 622; Book 692, Page 708; Book 728, Page 19). Ore extraction from the First National Bank claim between 1954 and 1961, in addition to 1966, as recorded by the AEC, is summarized in Table 6.

**Table 6. Ore Production at the First National Bank Mine between 1954 and 1961, and 1966.**

| Year | Total Ore Production (Tons) |
|---|---|
| 1954 | 3,178.43 |
| 1955 | 4,130.05 |
| 1956 | 4,381.07 |
| 1957 | 2,883.33 |
| 1958 | 3,146.89 |
| 1959 | 1,512.62 |
| 1960 | 2,782.29 |
| 1961 | 1,561.98 |
| 1966 | 100.79 |

In 1984, the AOL was filed by Umetco Minerals Corporation, an entity created when Dow Chemical purchased the Union Carbide Corporation (Montrose County Courthouse, County Clerk's Office, Book 728, Page 366). The AOL documents continued to be filed by Umetco until 1992, after which the Vanadium King No. 5 claim appears to have been let lapse (Montrose County Courthouse, County Clerk's Office, Book 728, Pages 564, 747, and 907; Book 777, Pages 100, 437, 586, and 735). Recorded ore production for the First National Bank claim prior to 1971 totaled 24,074 tons, including 136,068 lbs. of uranium and 643,068 lbs. of vanadium (Nelson-Moore et al. 1978).

*National Register Recommendations*

The First National Bank Mine was initially located in 1939, during Twitty's (2008a) third period of significance, the Depression-Era Revival (1935-1940). Although the claim was maintained until 1992, it is likely that the most important period of production for the mine occurred during Twitty's (2008a) Atomic Era (1946-1963). AEC production figures indicate that the mine was consistently active between 1954 and 1961. It was also active in 1948 and 1966. Production figures during the 1950s were consistently high, peaking in 1956 with a total of 4,381.07 tons of ore extracted. As the mine was owned during this period by the USV, with whom the U.S. Government had a contract to produce uranium ore, it is likely that the mine produced uranium for the U.S. weapons industry. Although the First National Bank Mine appears to have been an important producer of ore during Twitty's (2008a) Atomic Era (1946-1963), in terms of Twitty's (2008a) established criteria for architectural, engineering, and archaeological integrity, the mine's integrity is fairly low. A hoist remains at the site; however, it appears to have been moved from its original position and has lost the capability to provide useful information about mine operations. The vertical shaft would have once been equipped with a headframe, probably wooden, which has been removed. Evidence of a rail system to demonstrate the method of mine operation is lacking. The remains of an informal structure (Feature 2), possibly a shop or shed, lie next to the shaft, but this feature is so deteriorated that it is impossible to determine its original function. Because the site is not particularly visible from any well-traveled road, and no mine features save the waste-rock pile can be discerned from the nearby dirt road, the mine does not comprise a visible feature of the mining landscape. Alpine recommends the First National Bank Mine as not eligible for the NRHP.

*Potential Project Impacts*

The First National Bank Mine is proposed for reclamation. All wooden timbers and debris will be gathered and burned. All trash and debris will be gathered and placed in the shaft prior to closure. The shaft will then be backfilled with available mine waste-rock materials. The mine waste-rock dump will be recontoured to blend in with the natural topography of the area, covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture.

*Management Recommendations*

Because Alpine recommends the First National Bank Mine (5MN9240) as ineligible for the NRHP, no further historical or archaeological work is recommended.

***5MN9241***

Site 5MN9241 is a vent shaft situated in a hilly area just north of Long Park. The vent is on the patented Cripple Creek mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site covers 0.02 acres at an elevation of 6,505 ft. (1,983 m). Vegetation in the area consists of pinyon and juniper forest in association with rabbitbrush. The site includes one open vent shaft surrounded by a small artifact scatter (see Appendix B-6).

Feature 1 is an open vent shaft with a pipe made of two 15-gal. oil lubricant barrels welded to one another and wedged into the shaft. The vent pipe, which extends approximately 3 ft. above the ground, is covered by a pry-off metal lid. A 9-in.-diameter hole has been cut out of the northeastern side of the vent pipe near the base. A short section of pipe, now removed, would have been inserted into the open area. This pipe may have been connected to a fan or compressor. The lubricant barrels are marked with "100 LBS NET / TEXACO / UNIVERSAL / GEAR / LUBRICANT_ / THE TEXAS COMPANY." Artifacts associated with Feature 1 include several fragments of rubber, a length of baling wire, a few fragments of milled lumber, a piece of strap metal, and two church-key-opened oil cans marked "S.A.E. / 30."

*Historical Background*

The Cripple Creek Lode was originally located on June 6, 1911, by John Shepherd, C. R. Shepherd, and C. M. Reed (Montrose County Courthouse, County Clerk's Office, Book 122, Page 156). Between 1912 and 1915, the mine appears to have been under the control of Thomas F. V. Curran, who filed the AOL documents during this period. Although the claim was patented by the Radium Luminous Material Corporation in 1918, USV appears to have owned the claim during Twitty's (2008a) fourth and fifth periods of significance, World War II (1941-1945) and the Atomic Era (1946-1963). Mine production during these periods appears to have been fairly significant (see Twitty 2008b). A more detailed historical background for the Cripple Creek Mine, as well as courthouse book and page references, is provided above under the site description for the Cripple Creek Mine, Shaft No. 1 (5MN8171).

*National Register Recommendations*

The Cripple Creek Mine was initially located in 1911, during Twitty's (2008a) second period of significance, the Radium and Vanadium Boom (1906-1922). The vent recorded as site 5MN9241 was likely installed during the 1940s or 1950s, when the surface plant at the mine was improved (Twitty 2008b). Although the Cripple Creek Mine, including Shaft No. 1 (5MN8171) and Shaft No. 2 (5MN8172), is considered a significant cultural resource, the single vent shaft and small artifact scatter recorded as site 5MN9241 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. Based on Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, due to the limited material remains at the site the integrity of the site can be considered very low. Additionally, the vent does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9241 not eligible for the NRHP.

*Potential Project Impacts*

The vent shaft will be permanently closed with a polyurethane foam plug and then covered with surface soil materials and reseeded with an approved seed mixture.

*Management Recommendations*

Because Alpine recommends site 5MN9241 as ineligible for the NRHP, no further historical or archaeological work is recommended.

***5MN9242***

Site 5MN9242 is a vent shaft situated in a hilly area just north of Long Park. The vent is on the patented Cripple Creek mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site covers an area of 0.03 acres at an elevation of 6,500 ft. (1,981 m). Vegetation in the area consists of pinyon and juniper forest in association with rabbitbrush. The site includes one open vent shaft and a small wooden platform (see Appendix B-7). No artifacts were identified at the site.

Feature 1 is an open vent shaft with a vent pipe made of four, 13-in.-diameter 15-gal. oil lubricant barrels welded together. The vent pipe stands approximately 7 ft. high and is open at the top. A 9-in.-diameter hole has been cut out of the southern side of the vent pipe at the base. A short pipe has been placed in the hole and fixed in place with baling wire. The pipe is oriented toward a small wooden platform where a fan or compressor may have been situated. The lubricant barrels are marked "100 LBS NET / TEXACO / UNIVERSAL / GEAR / LUBRICANT_ / THE TEXAS COMPANY." No artifacts were observed within the site boundaries.

Feature 2 is a small wooden platform immediately south of the vent shaft. The platform measures 2 ft. 3 in. by 2 ft. 8 in., oriented southwest to northeast. Visible remains consist of a floor of 2 by 6-in. planks that are likely fastened to parallel beams now buried under sediment. The wooden platform likely supported a fan or compressor that forced air into the adjacent vent.

*Historic Background*

The Cripple Creek Lode was originally located on June 6, 1911, by John Shepherd, C. R. Shepherd, and C. M. Reed (Montrose County Courthouse, County Clerk's Office, Book 122, Page 156). Between 1912 and 1915, the mine appears to have been under the control of Thomas F. V. Curran, who filed the AOL documents during this period. Although the claim was patented by the Radium Luminous Material Corporation in 1918, USV appears to have owned the claim during Twitty's (2008a) fourth and fifth periods of significance, World War II (1941-1945) and the Atomic Era (1946-1963). Mine production during these periods appears to have been fairly significant (see Twitty 2008b). A more detailed historical background for the Cripple Creek Mine, as well as courthouse book and page references, is provided above under the site description for the Cripple Creek Mine, Shaft No. 1 (5MN8171).

*National Register Recommendations*

The Cripple Creek Mine was initially located in 1911, during Twitty's (2008a) second period of significance, the Radium and Vanadium Boom (1906-1922). The vent recorded as site 5MN9242 was likely installed during the 1940s or 1950s, when the surface plant at the mine was improved (Twitty 2008b). Although the Cripple Creek Mine, including Shaft No. 1 (5MN8171) and Shaft No. 2 (5MN8172) is considered a significant cultural resource, the single vent shaft and wooden platform recorded as site 5MN9242 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. Based on Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, due to the limited material remains at the site the integrity of the site can be considered very low. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9242 not eligible for the NRHP.

*Potential Project Impacts*

The vent shaft will be permanently closed with a polyurethane foam plug and then covered with surface soil materials and reseeded with an approved seed mixture.

*Management Recommendations*

Because Alpine recommends site 5MN9242 as ineligible for the NRHP, no further historical or archaeological work is recommended.

**Lease Tract C-LP-22A, Project Area 26**

***5MN9245***

Site 5MN9245 is a vent shaft situated on a southwest-facing slope adjacent to Hidden Basin. The vent is on the unpatented Hidden Basin mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site encompasses an area of 0.02 acres at an elevation of 6,430 ft. (1,960 m). Vegetation in the area consists of sparse pinyon and juniper forest in association with sagebrush. The site includes a closed vent shaft surrounded by a small artifact scatter (see Appendix B-8).

Feature 1 is a closed vent shaft supported by a 12-in.-diameter crushed barrel or metal pipe. Although the vent pipe is now crushed, it currently extends approximately 1 ft. above the ground. Artifacts identified near the vent shaft include a length of 2¼-in.-diameter metal pipe, seven 1-qt. oil cans, a milk glass cosmetics jar with a round base and screw-top finish, a clear glass bottle base marked with a cursive "L," and an amber glass bottle marked "6 ⚓ 31 / ROUX / MADE IN U.S.A." on the base. The bottle has a screw-cap lid with a dropper. The ⚓ mark is the mark of the Anchor Hocking Glass Corporation of Lancaster, Ohio, in use since 1938 (Toulouse 1971:46-49). According to the U.S. Patent Office, the trademark was first used on glass containers in 1938. In 1983, the glass container business was reorganized as the Anchor Glass Container Corporation and a new anchor logo began to be used.

*Historical Background*

The Hidden Basin claim was first located by W. C. Huntley in 1944. The claim was sold to VCA around 1951 and remained in VCA hands until around 1970, when it appears to have come under the ownership of Union Carbide Corporation. In 1984, ownership of the claim was transferred to Umetco Minerals Corporation, which held the claim until 1992. A more detailed historical background for the Hidden Basin claim, as well as courthouse book and page references, is provided above under the site description for the Hidden Basin Mine (5MN7866).

*National Register Recommendations*

The Hidden Basin claim was initially located in 1944, just prior to Twitty's (2008a) fourth period of significance, the Atomic Era (1946-1963). Based on AEC records, the Hidden Basin claim appears to have produced substantial amounts of ore during the period. However, the single vent shaft and small artifact scatter recorded as site 5MN9245 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. Based on Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, the integrity of the site can be considered very low due to the limited material remains at the site. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9245 as not eligible for the NRHP.

In 1971, the Lexington Mine appears to have fallen under the control of Union Carbide Corporation, who continued to file the AOL documents through 1984 (Montrose County Courthouse, County Clerk's Office, Book 588, Pages 83, 361, 542, and 772; Book 620, Pages 35, 338, 627, and 917; Book 661, Pages 251 and 648; Book 692, Pages 291 and 698, Book 728, Pages 41 and 568). In 1985, the AOL was filed by Umetco Minerals Corporation, an entity created when Dow Chemical purchased the Union Carbide Corporation (Montrose County Courthouse, County Clerk's Office, Book 728, Page 347). The AOL documents continued to be filed by Umetco through 1991 (Montrose County Courthouse, County Clerk's Office, Book 728, Pages 756 and 897; Book 777, Pages 136, 299; 449, and 622). In 1992, the AOL was filed by Cyprus Foote Mineral Company (Montrose County Courthouse, County Clerk's Office, Book 777, Page 798). After this filing, the Lexington claim appears to have been allowed to lapse.

*National Register Recommendations*

The Lexington claim was initially located in 1939, during Twitty's (2008a) third period of significance, the Depression-Era Revival (1935-1940). However, due to the lack of AEC records, the dates of production are unknown. The single vent shaft, deteriorated platform, and small artifact scatter recorded as site 5MN9251 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. Based on Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, the integrity of the site can be considered very low due to the limited material remains at the site. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9251 not eligible for the NRHP.

*Management Recommendations*

Because Alpine recommends site 5MN9251 as ineligible for the NRHP, no further historical or archaeological work is recommended.

### Isolated Finds

Thirteen isolated finds were recorded during project work: two reclaimed mine features that have since subsided and 11 vent shafts. These isolated finds are summarized in Table 7. Each of the cultural resources recorded as isolated finds contained fewer than five artifacts in addition to the subsidence or vent shaft recorded. The isolated finds are all recommended as ineligible for NRHP nomination and require no further work.

## SUMMARY AND RECOMMENDATIONS

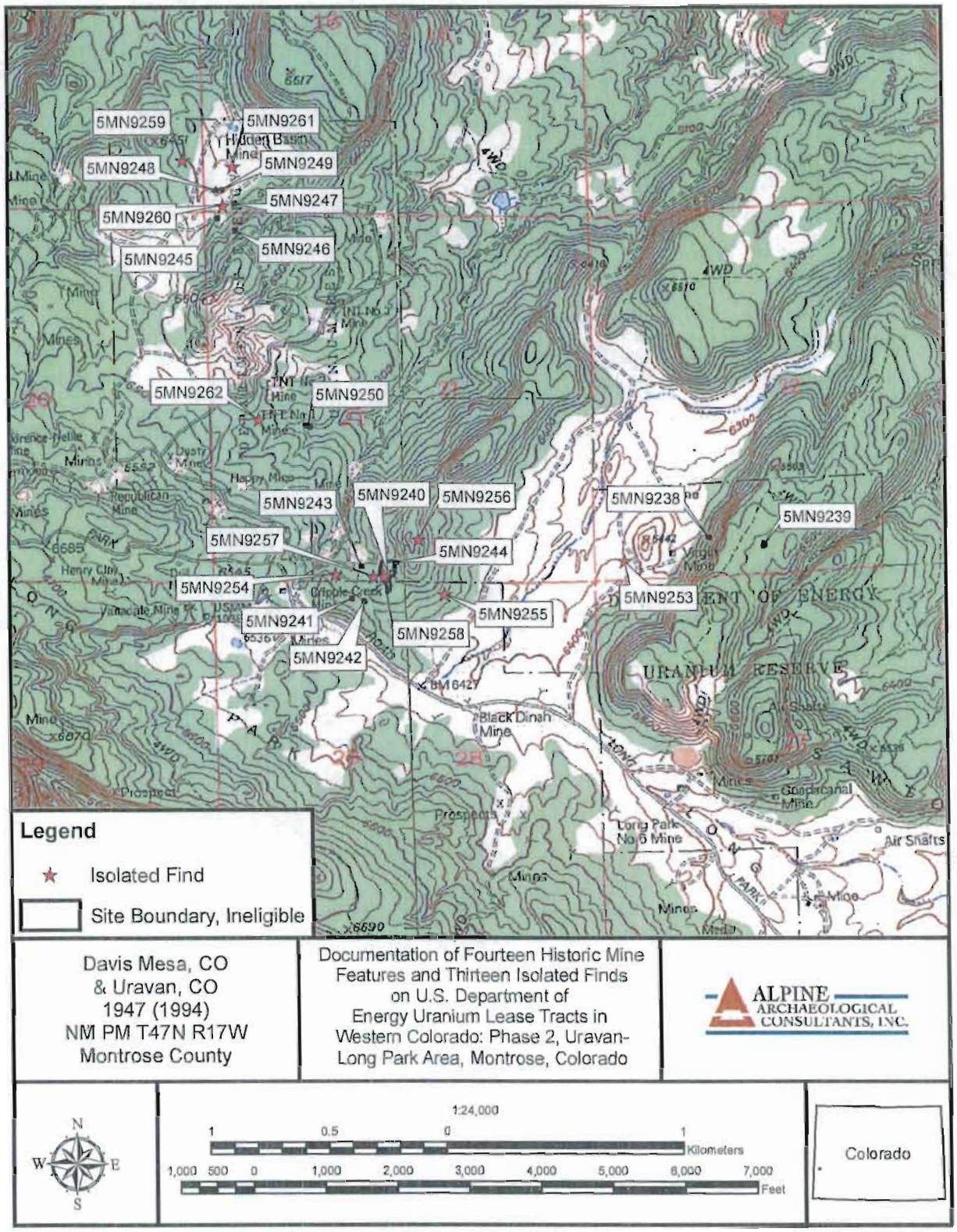
The historic mine features documentation on six DOE uranium lease tracts resulted in the examination of 5.61 acres. 5.60 acres are on DOE Uranium Reserve lands administered by the BLM-UFO, and 0.01 acres are on private land. Fourteen new cultural resource sites were recorded during the inventory. All of the recorded sites were evaluated as not eligible for inclusion on the NRHP (see Table 8), and, as a result, no further archaeological or historical work is recommended at these sites. Thirteen isolated finds were also recorded, which are NRHP-ineligible. The results of the project were as expected. Mine features proposed for reclamation were recorded as cultural resource sites or isolated finds, depending on the nature of the resources within the area slated for disturbance.

**Table 7. Isolated Finds.**

| Isolate No. | Lease Tract | Mining Claim | Description | Artifacts |
|---|---|---|---|---|
| 5MN9252 | C-AM-19A | Abajo No. 3 | Vent shaft with 20-in. diameter collared pipe | 35-in.-diameter fan, ⅜-in.-diameter wire rope |
| 5MN9253 | C-LP-21 | Vanadium King No. 5 (Vent 1) | Vent shaft with 8-in.-diameter galvanized steel stovepipe | None |
| 5MN9254 | C-LP-22 | Cripple Creek | Vent shaft encased by stack of 4 15-gal. lubricant oil barrels | None |
| 5MN9255 | C-LP-22 | Second National Bank | Vent shaft with 22-in.-diameter welded metal pipe | None |
| 5MN9256 | C-LP-22 | First National Bank | Vent shaft with 13 ½-in.-diameter metal pipe | Length of ½-in. wire rope, fragment of milled lumber, metal spring from car seat |
| 5MN9257 | C-LP-22 | First National Bank | Vent shaft with 8-in.-diameter galvanized steel stovepipe | Many fragments of a single clear glass liquor bottle |
| 5MN9258 | C-LP-22 | First National Bank | Vent shaft with 21-in.-diameter metal pipe | Metal chain belt |
| 5MN9259 | C-LP-22A | Hidden Basin | Vent shaft with 10-in.-diameter galvanized steel standpipe; an AEC standpipe is also situated in immediate association | Piece of strap metal, oil can |
| 5MN9260 | C-LP-22A | Hidden Basin | Vent shaft with 8-in.-diameter stovepipe | 2 oil cans, 2 Sanitary cans |
| 5MN9261 | C-LP-22A | Hidden Basin | Vent shaft with 8-in.-diameter stovepipe | 1¼-in.-diameter water pipe, length of ¼-in.-diameter wire rope, fragments of milled lumber, pry-off lid for lubricant barrel |
| 5MN9262 | C-LP-22A | TNT No. 1 | Subsidence measuring 8 ft. in diameter | None |
| 5MN9263 | C-LP-23 | C-LP-23 | Subsidence measuring 68 ft. by 44 ft. | Claim certificate in jar dating to 2007 (illegitimate) |
| 5MN9264 | C-LP-23 | Lexington | Collapsed vent shaft approximately 4 ft. in diameter, with no pipe | Length of coiled bailing wire |

Table 8. Summary of Management Recommendations for Project Sites.

| Site No. | Resource Type | | NRHP Eligibility | | Proposed Impacts | | Management Recommendations | | |
|---|---|---|---|---|---|---|---|---|---|
| | Prehistoric | Historic | Eligible | Not Eligible | Mine Reclamation | Vent Shaft, Mine Shaft, or Adit Closure | No Further Work | Avoid Historic Features or Mitigate | Monitor Project Work |
| 5MN9235 | | X | | X | | X | X | | |
| 5MN9236 | | X | | X | | X | X | | |
| 5MN9238 | | X | | X | | X | X | | |
| 5MN9239 | | X | | X | | X | X | | |
| 5MN9240 | | X | | X | X | | X | | |
| 5MN9241 | | X | | X | | X | X | | |
| 5MN9242 | | X | | X | | X | X | | |
| 5MN9245 | | X | | X | | X | X | | |
| 5MN9246 | | X | | X | | X | X | | |
| 5MN9247 | | X | | X | | X | X | | |
| 5MN9248 | | X | | X | | X | X | | |
| 5MN9249 | | X | | X | | X | X | | |
| 5MN9250 | | X | | X | X | | X | | |
| 5MN9251 | | X | | X | | X | X | | |




Davis Mesa, CO
& Uravan, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Fourteen Historic Mine Features and Thirteen Isolated Finds on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

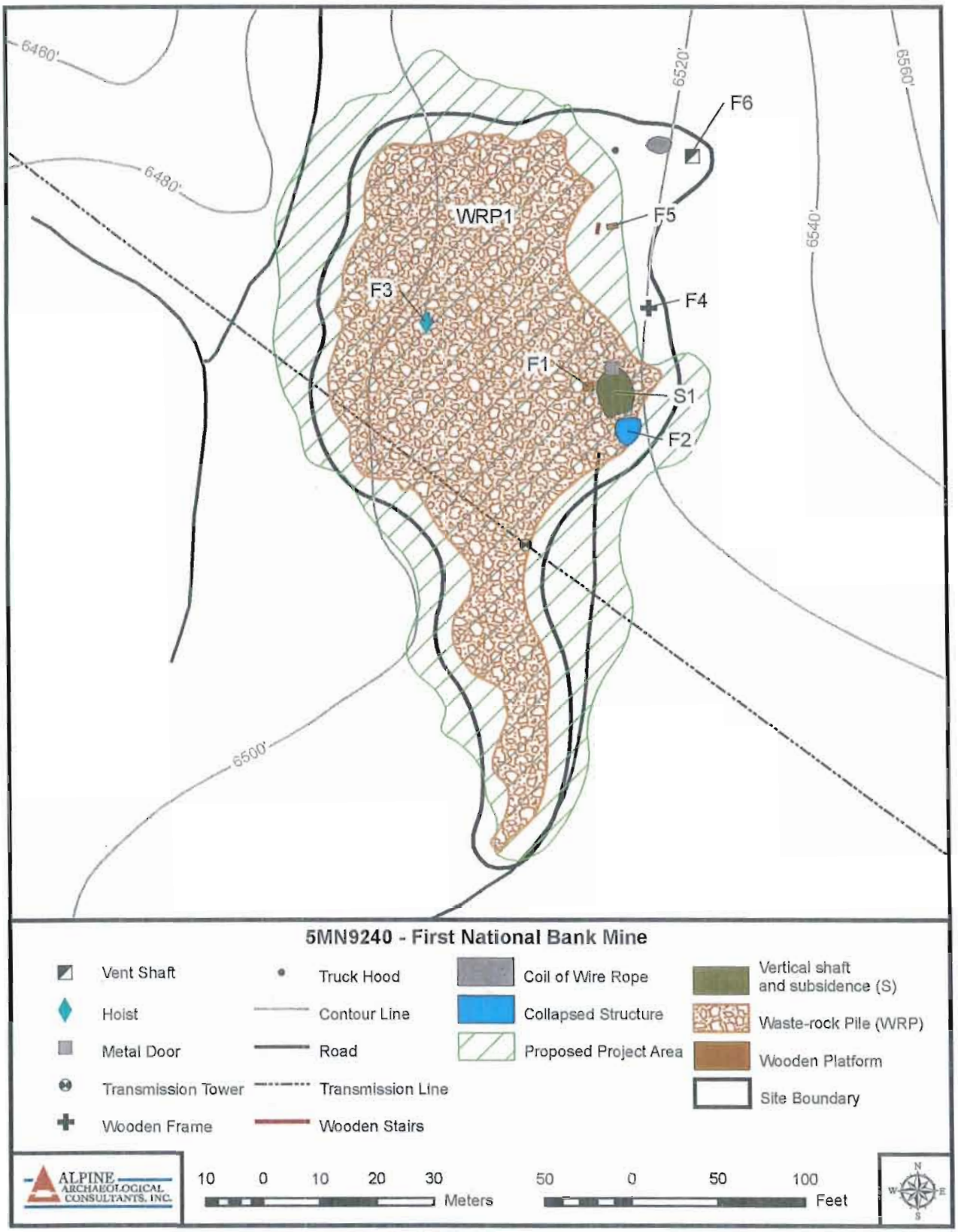
1:24,000

Kilometers

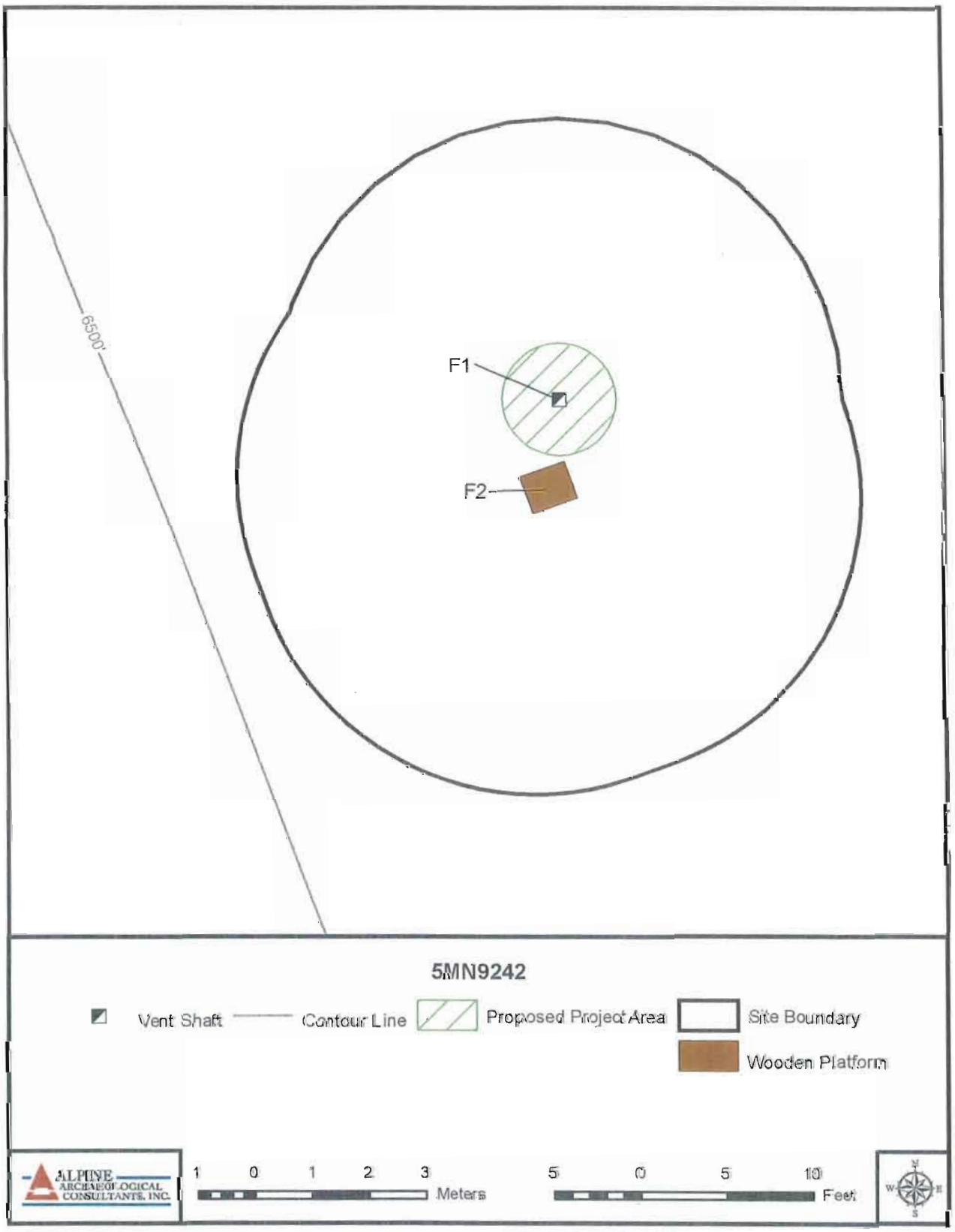
Feet

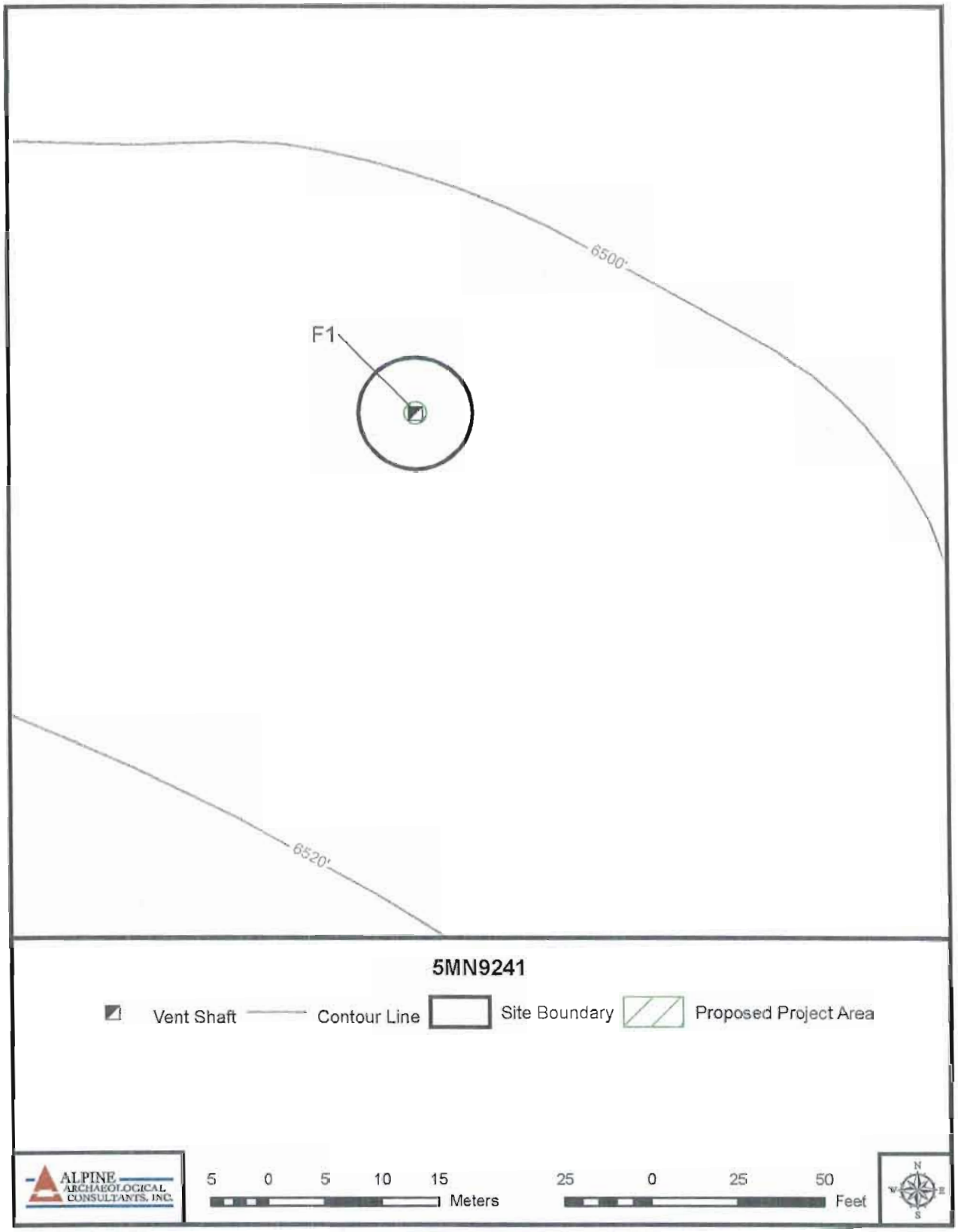
Colorado

For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).




Appendix B-5


6500'
F1
F2
5MN9242
Vent Shaft
Contour Line
Proposed Project Area
Site Boundary
Wooden Platform
ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.
1 0 1 2 3
Meters
5 0 5 10
Feet


6500'
F1
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5MN9241
Vent Shaft
Contour Line
Site Boundary
Proposed Project Area
ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.
5 0 5 10 15
Meters
25 0 25 50
Feet
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COLORADO CULTURAL RESOURCE SURVEY

OAHP1400
Rev. 9/98

# Management Data Form



The Management Data Form should be completed for each cultural resource recorded during an archaeological survey. Exceptions to this are isolated finds and re-evaluations, neither of which require a Management Data Form.

1. Resource Number: 5MN9240
2. Temporary Resource Number: First Natl. Bank
3. Attachments (check as many as apply)
   - ☐ Prehistoric Archaeological Component
   - ☑ Historic Archaeological Component
   - ☐ Historic Architectural Component Form
   - ☑ Sketch/Instrument Map (required)
   - ☑ U.S.G.S. Map Photocopy (required)
   - ☑ Photograph(s)
   - ☑ Other, specify: Ore Production Table
4. Official determination (OAHP use only)
   - ___ Determined Eligible
   - ___ Determined Not Eligible
   - ___ Nominated
   - ___ Need Data
   - ___ Contributing to NR Dist.
   - ___ Non Contributing to NR Dist.

## I. IDENTIFICATION

5. Resource name: First National Bank Mine
6. Project Name/Number: DOE - Uranium Leases
7. Government Involvement: Local ☐ State ☐ Federal ☑
   Agency: Bureau of Land Management - Uncompahgre Field Office, U.S. Department of Energy
8. Site Categories: Check as many as apply:
   Prehistoric: archaeological site ☐ paleontological site ☐
   in existing National Register District? ☐ name
   Historic: archaeology site ☑ building(s) ☐ structure(s) ☑ object(s) ☐
   in existing National Register District? ☐ name
9. Owner (s) Name and Address: Bureau of Land Management - Uncompahgre Field Office/U.S. Department of Energy
10. Boundary Description and Justification: Extent of waste rock and mining features.
11. Site/Property Dimensions: 134 m x 37 m Area 4,980 m² 1.2 acres
    Area was calculated as: Length x Width ☑ rectangle/square OR (length x width) x 0.785 ☐ ellipse

## II. LOCATION

12. Legal Location

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | NM | Township | 47N | Range | 17W | Section | 21 | SE | 1/4 of | SE | 1/4 of | SE | 1/4 of | SW | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |

if section is irregular, explain alignment method: SW corner, S edge

Resource Number: 5MN9240
Temporary Resource Number: First Natl. Bank

## Management Data Form



13. USGS Quad: Davis Mesa, CO 7.5' ☑ 15' ☐ Date(s) 1994 (attach photocopy)
14. County: Montrose 15. Other Maps:
16. UTM Reference: Check your Datum ☐ NAD 27 ☑ NAD 83

| | | | |
|---|---|---|---|
| A. | 12; | 696602 mE | 4242090 mN |
| B. | 12; | mE | mN |
| C. | 12; | mE | mN |
| D. | 12; | mE | mN |

17. Address: Lot Block: Addition:
18. Location/Access: From Naturita, CO, drive west on Colo. Hwy. 141 for 3.4 miles to the intersection of Colo. Hwy. 141 and Hwy. 90. Turn left on Hwy. 90 and continue for 5.5 miles before turning right on Montrose County Road EE22. Drive 8.7 miles along CR EE22 before turning right on an unnamed drill road. Continue northeast on this road for 1,000 ft. Park and walk approximately 750 ft. southeast to the site.

### III. NATURAL ENVIRONMENT

19. Topographic Feature(s):

| | | |
|---|---|---|
| ☐ mountain | ☐ ledge | ☐ playa |
| ☐ hill | ☐ terrace/bench | ☐ talus slope |
| ☐ tableland/mesa | ☐ canyon | ☐ alluvial fan |
| ☑ ridge | ☐ valley | ☐ plain |
| ☐ saddle/pass | ☐ basin | ☐ dune |
| ☐ alcove/rockshelter | ☐ floodplain | ☐ |
| ☐ cliff | ☐ cutbank | ☐ |
| ☑ slope | ☐ arroyo/gully | ☐ |

20. Site Topographic Description (mention names landforms):
The site is situated at the base of a narrow northeast-southwest-trending ridge, on the southwest-facing slope above Long Park.
21. Site Elevation: 6,510 feet =(x .3048) 1984 meters 22. Aspect: 300°
23. Degree of Slope on Site: 0-10° 24. Soil Depth: 0-20 cm
25. Soil Description (character and color): Medium-brown clay loam
26. Depositional Environment:

| | | |
|---|---|---|
| ☐ Aeolian | ☑ Colluvial | ☑ Residual |
| ☐ Alluvial | ☐ Moraine | ☐ None |
| ☐ Other, specify; | | |

27. Nearest Water: name/nature Unnamed drainage/ intermittent distance: 241 m 791 ft
28. Nearest Permanent Water: name Unnamed Spring distance: 2595 m 8514 ft
29. Vegetation on Site (list predominant species): Pinyon and juniper forest in association with rabbitbrush
30. Vegetation Associations/Communities Surrounding Site: Pinyon and juniper forest

Resource Number: 5MN9240
Temporary Resource Number: First Natl. Bank

## Management Data Form



### IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

31. Context or Theme: Mining - Uranium

    specify: The Atomic Era (1946-1963)

32. Applicable National Register Criteria:

    ☑ Does not meet any of the below National Register criteria

    ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history; or

    ☐ B. Associated with the lives of persons significant to our past; or

    ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent 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. Has yielded, or may be likely to yield, information important in history or prehistory; or

    ☐ Qualifies under exceptions A through G.

    Level of Significance: National ☐ State ☐ Local ☐

33. Condition:

| a. Architectural/Structural | b. Archaeological/Paleontological |
|---|---|
| ☐ Excellent | ☐ Undisturbed |
| ☐ Good | ☐ Light disturbance |
| ☐ Fair | ☐ Moderate disturbance |
| ☐ Deteriorated | ☑ Heavy disturbance |
| ☑ Ruins | ☐ Total disturbance |

34. Describe Condition: Structure in ruins; hoist displaced.

35. Vandalism: ☐ describe

36. National Register Eligibility Field Assessment:

    Eligible ☐ Not Eligible ☑ Need Data ☐

    Statement of Significance/N.R.H.P. Justification

    The First National Bank Mine was initially located in 1939, during Twitty's (2008) third period of significance, the Depression-Era Revival (1935-1940). Although the claim was maintained until 1992, it is likely that the most important period of production for the mine occurred during Twitty's (2008) Atomic Era (1946-1963). AEC production figures indicate that the mine was consistently active between 1954 and 1961. It was also active in 1948 and 1966. Production figures during the 1950s were consistently high, peaking in 1956 with a total of 4,381.07 tons of ore extracted. (Please see Management Data Continuation Page.)

37. Status in an Existing National Register District:

    Contributing ☐ Non-Contributing ☐

38. National Register District Potential ☐

    discuss As the mine was owned during this period by the USV, with whom the U.S. Government had a contract to produce uranium ore, it is likely that the mine produced uranium for the U.S. weapons industry. Although the First National Bank Mine appears to have been an important producer of

Resource Number: 5MN9240
Temporary Resource Number: First Natl. Bank

## Management Data Form



### V. MANAGEMENT AND ADMINISTRATIVE DATA

39. Threats to Resource: Water erosion ☐ Wind erosion ☐ Grazing ☐ Neglect ☐
Vandalism ☐ Recreation ☐ Construction ☐ Other (specify): Reclamation
comments:

40. Existing Protection: None ☑ Marked ☐ Fenced ☐ Patrolled ☐ Access controlled ☐
other (specify):

41. Local landmark designation: 42. Easement:

43. Management Recommendations:
Because Alpine recommends the First National Bank Mine (5MN9240) as ineligible for the NRHP, no further historical or archaeological work is recommended.

### VI. DOCUMENTATION

44. Previous Actions Accomplished at the site:
a. Excavations: Test ☐ Partial ☐ Complete ☐ Date(s):
b. Stabilization: Date(s):
c. HABS/HAER Documentation Date(s) and Numbers:
d. Other:

45. Known collections/reports/interviews and other references (list):

46. Primary Location of Additional Data: Alpine Archaeological Consultants, Inc.

47. State or Federal Permit Number: Colorado BLM Use Permit C-46920 Collection Authorized: ☐
Artifact Collection: ☐ Artifact Repository: N/A
Collection Method: Diagnostics ☐ Grab Sample ☐ Random Sample ☐ Transect ☐
Other (specify):

48. Photograph Numbers: SMM-DUL-09-4: 104 - 126 Negatives filed at: N/A - Digital images

49. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado

50. Recorder(s): Summer Moore-McMillan, Martha Bright Date(s): 7/22/09

51. Recorder Affiliation: Alpine Archaeological Consultants, Inc. Montrose, CO

52. Phone Number: (970) 249-6761

NOTE: Please attach a sketch map, a photocopy of the USGS quad. map indicating resource location, and photographs.

COLORADO CULTURAL RESOURCE SURVEY

OAHP1402
Rev. 9/98

# Historic Archaeological Component Form



Use this form in conjunction with the Managament Data Form. One of these forms should be completed for each historical resources with archaeologicial potential.

Does this form pertain to the site in general? ☑
OR
a particular feature/structure (please note feature/structure number)

1. Resource Number: 5MN9240 2. Temporary Resource Number: First Natl. Bank

3. Site/Feature Type: Uranium Mine

4. General Site/Feature Description:

The First National Bank Mine (5MN9240) is situated at the base of a narrow northeast-southwest-trending ridge, on the southwest-facing slope above Long Park. The mine is on the unpatented First National Bank mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site encompasses 1.27 acres at an elevation of 6,510 ft. (1,984 m). Vegetation in the area consists primarily of pinyon and juniper forest in association with rabbitbrush. The site includes multiple features associated with the surface plant of a uranium mining operation, including a vertical shaft, two wooden platforms, a collapsed structure, a hoist, a possible worktable, and a vent shaft. These features are situated on top of a large waste-rock pile measuring 195 by 410 ft., oriented north to south.

A vertical shaft (Shaft 1) is situated along the eastern edge of the site, at the point where the leveled top of the waste-rock pile meets the intact slope. The subsidence around the shaft currently measures 22 by 31 ft., oriented north to south and is 11 ft., 8 in. deep. The entrance to the shaft, which was cut into sandstone bedrock, is partially visible at the bottom of the collapsed area of the subsidence. Because the entry is partially covered with earth and pieces of concrete, measurements were not taken. A 1-in.-diameter metal pipe and a 2-in.-diameter metal pipe lie within the subsided cavity; they may have originally run down into the underground mine through the shaft. Several large pieces of concrete with rebar reinforcements are also situated within the depression. Artifacts associated with Shaft 1 include a large metal door measuring 5 ft., 3 in. tall and 3 ft., 11 in. wide with a smaller hinged trap door cut into it, an oil can, and a length of 9/16-in.-diameter wire rope.

Feature 1 is a small wooden platform lying immediately west of Shaft 1. It measures 5 ft. 2 in. by 6 ft., oriented east to west. The platform is supported at its northeastern corner by a rubber automobile tire likely used to level it. Two 6 by 6-in. beams lie directly on the ground, oriented north to south, onto which a platform constructed of 3 by 8-in. and 3 by 10-in. planks is nailed. Although the exact function of the platform is unknown, it likely functioned as a foundation for a piece of equipment or machinery, such as an air compressor. No artifacts were observed in association with Feature 1.

Feature 2 is the remains of a collapsed structure situated directly south of Shaft 1. The feature measures 15 ft. square and consists primarily of scattered lumber remnants, including 2 by 4-in. boards, a 3 by 8-in. plank, and a 4 by 4-in. beam. A row of 2 by 12-in. planks oriented west-northwest is visible within the scattered lumber remnants; these planks may represent floor joists. A framed door or window, measuring 4½ ft. tall and 3 ft. 10 in. wide and constructed from 2 by 4-in. boards and chicken wire is also visible within the rubble. (Please see Historic Archaeological Component Continuation Page.)

5. Historic Component Date(s) and/or Sociopolitical Period: 1939-1992
   Justification: Historical documents

6. Component Function(s)
   Original Use: Uranium mine
   Present Use: None
   Comments:

7. Ethnic affiliation of occupants: Historic
   Justification: Historical records

Resource Number 5MN9240

Temporary Resource Number: First Natl. Bank

## Historic Archaeological Component Form



8. Artifact Classes: Please list specific attributes on the first line and artifact quantity (either count or estimate on the second line. Particularly important attributes are listed following the artifact class.

A. Glass: type function, color, manufacturing technique, makers marks, inscritpions, thickness, shape

**Bottle glass:** ☐purple ☐clear ☐aqua ☑cobalt blue ☑amber
☐light green ☐olive green ☐yellowish other:

**Vessel finish:** ☐ hand-finished ☐ machine-made

**Vessel types:** Likely Bromo-Seltzer bottle fragment, generic bottle fragment

**Makers marks/embossing:** Mark of the Maryland Glass Corporation, used between 1916 and 1973

**Other vessel types:**

**Total estimated number of vessels:**

B. Ceramics: type, function, surface treatment/glaze, shape, trademarks, color, decorations

**Earthenware:**

**Estimated number of vessels:**

**Stoneware:**

**Estimated number of vessels:**

**Porcelain:**

**Estimated number of vessels:**

C. Nails: size, material type and manufacture technique, if not wire or cut

**Cut nails:** ☐ **Quantity:** **Wirenails:** ☐ **Quantity:**

**Other fasteners:**

**Quantity:**

Resource Number 5MN9240

Temporary Resource Number: First Natl. Bank

## Historic Archaeological Component Form



D. Cans: function, size, material type, type of opening, seams, inscriptions — Quantity

**Hole-in-cap:**

**Hole-in-top:**

**Sanitary:** Food cans, many church key-opened — 10

**Other:** Meat tin lid, key-wind tin, aluminum pull-tab beverage can, 28 cylindrical 1-qt. oil cans, some marked "20 20 W," 2 square oil cans, 2 coffee cans, 1 with "FOLGERS" logo and "SPECIAL! 10 ¢ OFF / REGULAR" — 35

E. Cartridge Cases: type, size, inscriptions, material type

**Rimfire:**

**Centerfire:**

**Other:**

F. Construction Material: type, material, function (includes items such as logs, lumber, brick, adobe, cement, concrete, stone/rock, sheet metal, asphalt, tar, pipe)

**Window glass:** ☐ **Quantity:**

**Other:** Piece of rolled corrugated sheet metal with 2 2 by 4-in. boards inside

G. Misc. Other Items: type, material, function (includes items such as utensils, stove parts, wire, nuts, bolts, rivets, screws, buckets, barrels, vehicle parts, machinery, leather, clothing, bone, funiture, buttons, etc.)

**List:** Fragments of milled lumber, late 1930s-era truck hood, decorative piece from potbelly parlor stove, 3/4-in.-diameter metal pipe, fragment of a 2-in.-diameter rubber tube, 5-gal. bucket with bail handle, automobile tire, metal lunchbox, car dealer decal with "HUDSON AND BE / CHEVROLET LEADVILLE," shovel spade, car seat spring, 5-gal. barrel, yellow-painted exhaust pipe, large metal door, length of 9/16-in.-diameter wire rope, bundle of chicken wire, bundle of braided wire, metal desk drawer, length of 3/8-in.-diameter wire rope, 1-gal. can lid, 7/8-in.-wide metal hoop, fragment of gas heater grate, section of 1/2-in. metal screen, length of 3/8-in.-diameter wire rope

9. Artifact Density: ☐ Heavy ☑ Medium ☐ Light

Describe: The site is littered with a medium-density scatter of structural, industrial, transportation-related, and domestic artifacts. The majority of the artifacts at the site cluster around the defined features.

10. Additional Information:

Historical Background

The First National Bank claim was originally located by the USV on August 25, 1939. The location certificate mentions that it was located by diamond drilling (Montrose County Courthouse, County Clerk's Office, Book 201, Page 500). The first AOL for the mine was filed in 1948 by USV. AEC records indicate that 396.56 tons of ore were extracted from the mine. This tonnage is attributed to "NU C N CO," which may be a corruption of the initials of the Union Carbide Nuclear Corporation. The USV continued to file the AOL documents yearly through 1951 (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 123, 170, and 251; Book 348, Page 249). No AEC tonnage records are available from this period.

In 1952, Union Carbide and Carbon Corporation began filing the AOL documents. Under the names Union Carbide and Carbon Corporation, Union Carbide Nuclear Corporation, and Union Carbide Corporation, this company continued to file AOL documents for the mine yearly through 1983 (Montrose County Courthouse, County Clerk's Office, Book 352, Page 590; Book 360, Page 157; Book 374, Pages 68 and 541; Book 456, Page 22; Book 457, Page 222; ... (please see Historic Archaeological Component Continuation Page.)

Resource Number 5MN9240

Temporary Resource Number: First Natl. Bank

## Historic Archaeological Component Form



**Note: Complete parts 11 and 12 only if this form pertains to the site in general.**

11. Architectural Features(s). Please complete a Historic Architectural Component Form when appropriate.

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|
| F2 | Collapsed building | Milled lumber | |

12.. Non-architectural features(s).

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|
| S1 | Vertical shaft and subsidence | Earth and rock | 22 by 31 ft. |
| F1 | Wooden platform | Milled lumber | |
| F3 | Hoist | Iron | |
| F4 | Wooden frame | Milled lumber | |
| F5 | Wooden platform | Milled lumber | |

13. Discuss Archaeological potentential:

The site has no archaeological potential.

14. Recorder(s): Summer Moore-McMillan, Martha Bright

15. Date: 7/22/09

Colorado Historical Society - Office of Archaeology and Historic Preservation,
1300 Broadway, Denver, CO 80203
1303-866-3395

**4. General Site/Feature Description, Continued:**

The function of the structure is also unknown, although it may have served as a machine shop. Artifacts associated with Feature 2 include a bundle of chicken wire and a bundle of braided wire.

Feature 3 is a mechanical hoist perched near the western edge the waste rock. The single-drum hoist was originally manufactured to run by steam power. Subsequently, it was modified to use power from an automobile engine. A metal frame has been welded to the front of the hoist to hold an engine, which has been removed. The outside diameter of the drum is 3 ft. 10 in. The maximum dimensions of the hoist footprint are 6 ft. 10 in. by 8 ft. Its maximum height, measured from the current ground surface, is 4 ft. Because the hoist is out of line with the mine shaft and is situated facing away from the shaft, it appears that it is no longer in its working position. The only visible markings on the hoist are "GC / 922." Although the hoist resembles early twentieth-century models, the use of a welding torch to affix a frame for an automobile engine suggests that it was used at the First National Bank Mine during the 1950s or later. One Sanitary can was observed in association.

Feature 4 is a wooden frame made from 4 by 6-in. beams and 2 by 6-in. boards, situated at the eastern edge of the site on a low bench above the waste-rock pile. It measures 2 ft. 10 in. by 4 ft. 4 in., generally oriented east-west. The feature has four vertical posts at the corners and diagonal braces on each side. Although its function is unclear, it is possible that it represents a worktable with a missing top. Artifacts observed in association with Feature 4 include a metal desk drawer, two square oil cans, a cylindrical oil can, and a length of ⅜-in.-diameter wire rope.

Feature 5 is the remains of a platform or foundation near the northeastern corner of the site, on a low bench above the waste-rock pile. Although a substantial portion of the feature is covered by earth, the visible portion of the platform measures 2 ft. 10 in. by 6 ft. 5 in., oriented east to west. The platform has a 6 by 8-in. beam along its length, with 2 by 10-in. planks attached perpendicularly. A deteriorated set of steps constructed with 3 by 8-in. board sides 2 by 12-in. plank steps, lies immediately west of the platform. Artifacts identified in association with Feature 5 include two coffee cans, one with a "FOLGER'S" logo and "SPECIAL! 10¢ OFF / REGULAR," a 1-gal. can lid, a metal hoop measuring ⅞-in. wide, a fragment of a gas heater grate, a section of ½-in.-mesh metal screen, a length of ¾-in.-diameter wire rope, a length of 1½-in.-diameter rubber hose, and an oil can.

Feature 6 is an open vent shaft held open by a 13-in.-diameter metal pipe extending a maximum of 5 in. above the ground. The 13-in.-diameter pipe is within a metal pipe measuring 1 ft., 10 in. in diameter. This larger pipe is now mostly filled with soil, suggesting that the vent shaft was originally larger, having later been modified to make it smaller. A wooden platform surrounds the vent shaft. Although it has now collapsed to some extent and is partially buried with earth, the visible portion of the platform measures 4 by 6 ft., oriented generally north to south. The platform floor is constructed of 3 by 12-in. planks attached to at least one 4 by 6-in. joist. Rocks have been placed under the platform to provide additional support and leveling, as it is situated on a considerable slope. Although the exact purpose of the platform is unknown, it may have served as a level work area around the vent or it may have supported a piece of machinery or equipment, such as a fan or compressor. Artifacts observed in association with Feature 6 include a large coiled pile of 11/16-in.-diameter wire rope, a length of ½-in. wire rope, a section of chrome trim, a sheet of ½-in.-thick rubber, a portion of a head gasket, several fragments of clear glass, including one threaded jar finish, and four oil cans marked with the trademark. The CANCO mark began being used by the American Can Company in 1912. CANCO in a circle does not appear in advertisements until 1923 (Rock 1989:198). According to the U.S. Patent Office, the CANCO trademark as illustrated was first used in July 1912. The American Can Company of New York, New York, last renewed the trademark in 1962; it is no longer active.

Additional artifacts observed at the site include a similar assemblage of structural, industrial, domestic, and transportation-related objects. Structural artifacts include several fragments of milled lumber and a piece of corrugated sheet metal wrapped around two 2 by 4-in. boards. Industrial artifacts include 24 oil cans, several of which were marked with "20 20 W," a length of ¾-in.-diameter water pipe, a fragment of a 2-in.-diameter rubber tube, a 5-gal. bucket with a bail handle, a 5-gal. barrel, a shovel spade, and a yellow-painted exhaust pipe, likely from a piece of heavy machinery. Domestic artifacts include pieces of cobalt blue and amber bottle glass. The cobalt blue glass fragment is marked with . This is a mark of the Maryland Glass Corporation, Baltimore, Maryland. This mark has been in use since 1916. One of the primary products

produced by the company was cobalt blue Bromo-Seltzer bottles for the Emerson Drug Company. The Maryland Glass Corporation was a wholly owned subsidiary of the Emerson Drug Company until 1956 when the company passed to the Warner-Lambert Pharmaceutical Company. The Dorcey Corporation of Chattanooga, Tennessee purchased the glass company in 1968. The mark ceased to be used about 1973 (Toulouse 1971:339-341). Additional domestic artifacts include 10 Sanitary cans, several with church key openings, the lid to a meat tin, a key-wind tin, an aluminum pull-tab beverage can, a metal lunch box, and a decorative fragment from a potbelly parlor stove. Transportation-related artifacts appear to be related to automobile use at the site and include a late 1930s-era pickup truck hood, an automobile tire, an automobile seat spring, and a dealer tag reading "HUDSON AND BE_ / "CHEVROLET" LEADVILLE." Jim Hudson was reportedly approved for a Chevrolet franchise in Leadville in 1974 (http://hudsonautosource.com/About-Us.aspx, accessed August 6, 2009).

References Cited:

Rock, Jim (1989). Tin Canisters: Their Identification. Typed manuscript on file, Bureau of Land Management, Montrose District Office, Montrose, Colorado.

Toulouse, Julian Harrison (1971). "Bottle Makers and Their Marks." Thomas Nelson, Inc., New York.

**10. Additional Information (Historical Background), Continued:**

... Book 491, Page 205; Book 503, Pages 111 and 441; Book 522, Pages 209 and 528; Book 541, Pages 264, 453, 691, and 965; Book 562, Pages 167, 498, and 830; Book 588, Pages 61, 297, 533, and 761; Book 620, Pages 602 and 932; Book 661, Pages 206 and 622; Book 692, Page 708; Book 728, Page 19). Ore extraction from the First National Bank claim between 1954 and 1961, in addition to 1966, as recorded by the AEC, is summarized in the attached table.

In 1984, the AOL was filed by Umetco Minerals Corporation, an entity created when Dow Chemical purchased the Union Carbide Corporation (Montrose County Courthouse, County Clerk's Office, Book 728, Page 366). The AOL documents continued to be filed by Umetco until 1992, after which the Vanadium King No. 5 claim appears to have been let lapse (Montrose County Courthouse, County Clerk's Office, Book 728, Pages 564, 747, and 907; Book 777, Pages 100, 437, 586, and 735). Recorded ore production for the First National Bank claim prior to 1971 totaled 24,074 tons, including 136,068 lbs. of uranium and 643,068 lbs. of vanadium (Nelson-Moore, et al. 1978).

Reference Cited:

Nelson-Moore, James L, Donna Bishop Collins, and A. L. Hornbaker (1978). "Bulletin 40: Radioactive Mineral Occurrences of Colorado and Bibliography", Colorado Geological Survey, Department of Natural Resources, State of Colorado, Denver.

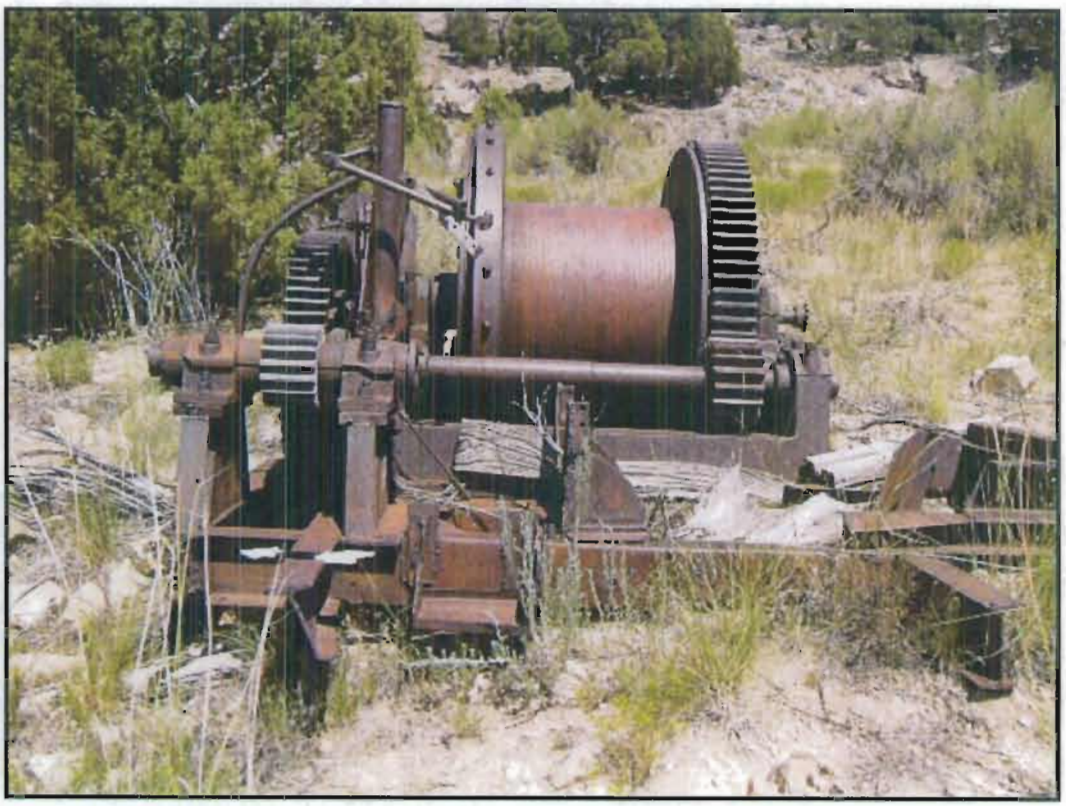
Ore Production, Site 5MN9240 (First National Bank Mine) between 1954 and 1961, and 1966.

| Year | Total Ore Production (Tons) |
|---|---|
| 1954 | 3,178.43 |
| 1955 | 4,130.05 |
| 1956 | 4,381.07 |
| 1957 | 2,883.33 |
| 1958 | 3,146.89 |
| 1959 | 1,512.62 |
| 1960 | 2,782.29 |
| 1961 | 1,561.98 |
| 1966 | 100.79 |

**5MN9240.** Overview of the First National Bank Mine, looking southeast.

**5MN9240.** Feature 1, small wooden platform (top right), facing northwest.

**5MN9240.** Feature 2, collapsed structure or platform, facing east.

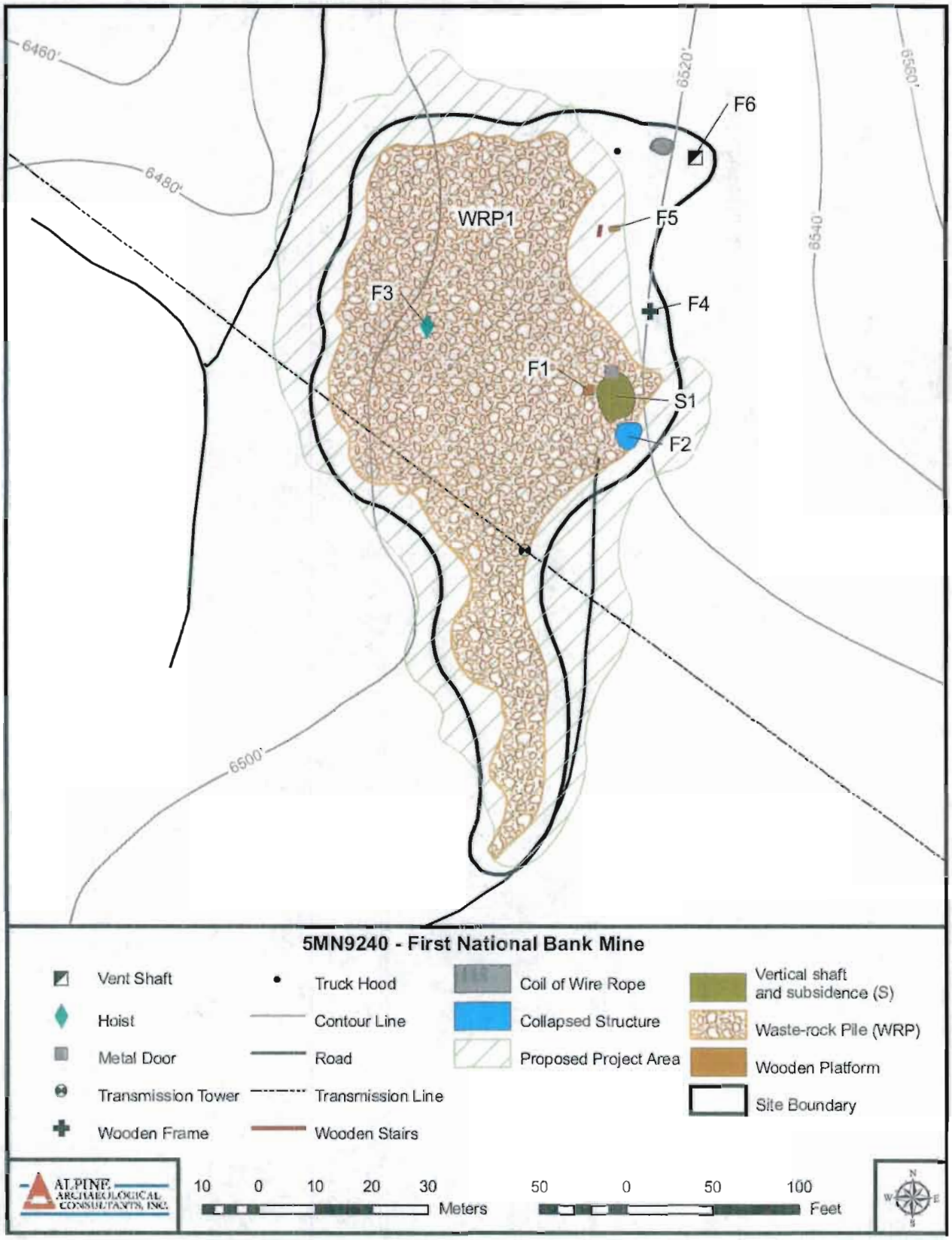


**5MN9240.** Feature 3, hoist, looking west.

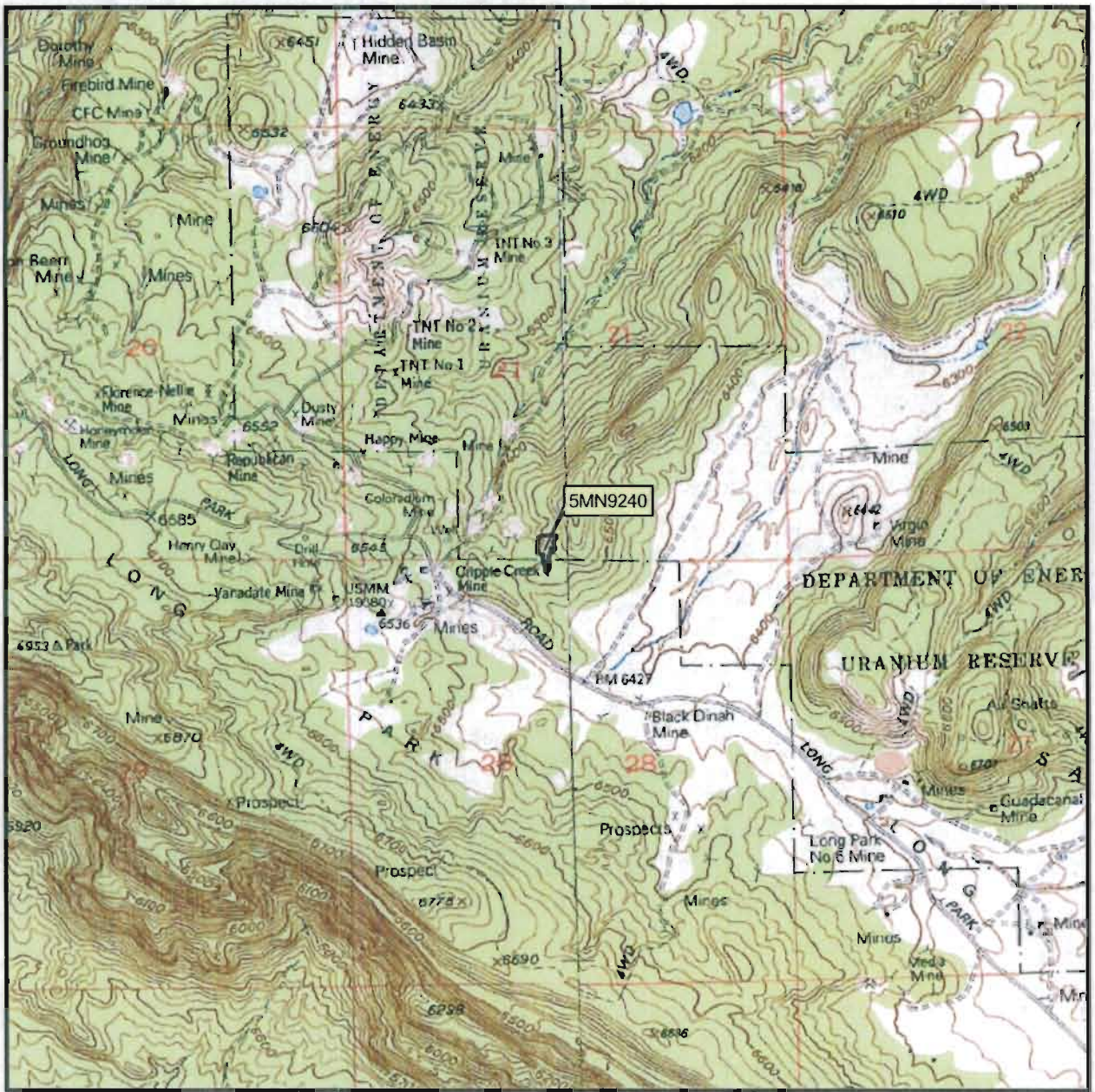
**5MN9240.** Feature 4, possible worktable, facing north.

**5MN9240.** Feature 5, platform or foundation, facing southwest.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**



**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1400
Rev. 9/98

# Management Data Form

(page 1 of 4)

The Management Data Form should be completed for each cultural resource recorded during an archaeological survey. Exceptions to this are isolated finds and re-evaluations, neither of which require a Management Data Form.

1. Resource Number: 5MN9241

2. Temporary Resource Number: Don. L V2

3. Attachments (check as many as apply)
   - ☐ Prehistoric Archaeological Component
   - ☑ Historic Archaeological Component
   - ☐ Historic Architectural Component Form
   - ☑ Sketch/Instrument Map (required)
   - ☑ U.S.G.S. Map Photocopy (required)
   - ☑ Photograph(s)
   - ☐ Other, specify:

4. Official determination (OAHP use only)
   - ____ Determined Eligible
   - ____ Determined Not Eligible
   - ____ Nominated
   - ____ Need Data
   - ____ Contributing to NR Dist.
   - ____ Non Contributing to NR Dist.

## I. IDENTIFICATION

5. Resource name:

6. Project Name/Number: DOE - Uranium Leases

7. Government Involvement: Local ☐ State ☐ Federal ☑

   Agency: Bureau of Land Management - Uncompahgre Field Office, U.S. Department of Energy

8. Site Categories: Check as many as apply:

   Prehistoric: archaeological site ☐ paleontological site ☐

   in existing National Register District? ☐ name

   Historic: archaeology site ☑ building(s) ☐ structure(s) ☐ object(s) ☐

   in existing National Register District? ☐ name

9. Owner (s) Name and Address: Bureau of Land Management - Uncompahgre Field Office/U.S. Department of Energy

10. Boundary Description and Justification: Extent of mining features and associated artifacts.

11. Site/Property Dimensions: 10 m x 8 m Area 78 m² 0.0 acres

    Area was calculated as: Length x Width ☑ (rectangle/square) OR (length x width) x 0.785 ☐ (ellipse)

## II. LOCATION

12. Legal Location

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | NM | Township | 47N | Range | 17W | Section | 28 | NE | 1/4 of | NW | 1/4 of | NE | 1/4 of | NW | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |

if section is irregular, explain alignment method: NW corner, N edge

Resource Number: 5MN9241
Temporary Resource Number: Don. L V2

## Management Data Form



13. USGS Quad: Davis Mesa, CO 7.5' ☑ 15' ☐ Date(s) 1994 (attach photocopy)
14. County: Montrose 15. Other Maps:
16. UTM Reference: Check your Datum ☐ NAD 27 ☑ NAD 83

| | | | |
|---|---|---|---|
| A. | 12; | 696449 mE | 4241980 mN |
| B. | 12; | mE | mN |
| C. | 12; | mE | mN |
| D. | 12; | mE | mN |

17. Address: Lot Block: Addition:
18. Location/Access: From Naturita, CO, drive west on Colo. Hwy. 141 for 3.4 miles to the intersection of Colo. Hwy. 141 and Hwy. 90. Turn left on Hwy. 90 and continue for 5.5 miles before turning right on Montrose County Road EE22. Drive 8.7 miles along CR EE22 before turning right on an unnamed drill road. Continue northeast on this road for 1,000 ft. Park and walk approximately 700 ft. southeast to the site.

### III. NATURAL ENVIRONMENT

19. Topographic Feature(s):

| | | |
|---|---|---|
| ☐ mountain | ☐ ledge | ☐ playa |
| ☑ hill | ☐ terrace/bench | ☐ talus slope |
| ☐ tableland/mesa | ☐ canyon | ☐ alluvial fan |
| ☐ ridge | ☐ valley | ☐ plain |
| ☐ saddle/pass | ☐ basin | ☐ dune |
| ☐ alcove/rockshelter | ☐ floodplain | ☐ |
| ☐ cliff | ☐ cutbank | ☐ |
| ☐ slope | ☐ arroyo/gully | ☐ |

20. Site Topographic Description (mention names landforms):
The site is situated in a hilly area just north of Long Park.

21. Site Elevation: 6,505 feet =(x .3048) 1983 meters 22. Aspect: 5°
23. Degree of Slope on Site: 0-10° 24. Soil Depth: 0-20 cm
25. Soil Description (character and color): Medium-brown clay loam

26. Depositional Environment:

| | | |
|---|---|---|
| ☐ Aeolian | ☑ Colluvial | ☑ Residual |
| ☐ Alluvial | ☐ Moraine | ☐ None |
| ☐ Other, specify: | | |

27. Nearest Water: name/nature Unnamed drainage/ intermittent distance: 204 m 669 ft
28. Nearest Permanent Water: name Unnamed Spring distance: 2822 m 9259 ft
29. Vegetation on Site (list predominant species): Pinyon and juniper forest in association with rabbitbrush

30. Vegetation Associations/Communities Surrounding Site: Pinyon and juniper forest

Resource Number: 5MN9241
Temporary Resource Number: Don. L V2

# Management Data Form



## IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

31. Context or Theme: Mining - Uranium
    specify: The Atomic Era (1946-1963)

32. Applicable National Register Criteria:
    - ☑ Does not meet any of the below National Register criteria
    - ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history; or
    - ☐ B. Associated with the lives of persons significant to our past; or
    - ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent 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. Has yielded, or may be likely to yield, information important in history or prehistory; or
    - ☐ Qualifies under exceptions A through G.

    Level of Significance: National ☐ State ☐ Local ☐

33. Condition:

| a. Architectural/Structural | b. Archaeological/Paleontological |
|---|---|
| ☐ Excellent | ☐ Undisturbed |
| ☐ Good | ☑ Light disturbance |
| ☐ Fair | ☐ Moderate disturbance |
| ☐ Deteriorated | ☐ Heavy disturbance |
| ☐ Ruins | ☐ Total disturbance |

34. Describe Condition: Vent shaft is rusted and part of pipe has been removed; no other features remain.

35. Vandalism: ☐ describe

36. National Register Eligibility Field Assessment:
    Eligible ☐ Not Eligible ☑ Need Data ☐
    Statement of Significance/N.R.H.P. Justification
    The Cripple Creek Mine was initially located in 1911, during Twitty's (2008a) second period of significance, the Radium and Vanadium Boom (1906-1922). The vent recorded as site 5MN9241 was likely installed during the 1940s or 1950s, when the surface plant at the mine was improved (Twitty 2008b). Although the Cripple Creek Mine, including Shaft No. 1 (5MN8171) and Shaft No. 2 (5MN8172), is considered a significant cultural resource, the single vent shaft and small artifact scatter recorded as site 5MN9241 have very limited potential to provide information about ... (Please see Management Data Continuation Page.)

37. Status in an Existing National Register District:
    Contributing ☐ Non-Contributing ☐

38. National Register District Potential ☐
    discuss

Resource Number: 5MN9241
Temporary Resource Number: Don. L V2

## Management Data Form



### V. MANAGEMENT AND ADMINISTRATIVE DATA

39. Threats to Resource: Water erosion ☐ Wind erosion ☐ Grazing ☐ Neglect ☐
Vandalism ☐ Recreation ☐ Construction ☐ Other (specify): Reclamation
comments:

40. Existing Protection: None ☑ Marked ☐ Fenced ☐ Patrolled ☐ Access controlled ☐
other (specify):

41. Local landmark designation: 42. Easement:

43. Management Recommendations:
Because Alpine recommends site 5MN9241 as ineligible for the NRHP, no further historical or archaeological work is recommended.

### VI. DOCUMENTATION

44. Previous Actions Accomplished at the site:
a. Excavations: Test ☐ Partial ☐ Complete ☐ Date(s):
b. Stabilization: Date(s):
c. HABS/HAER Documentation Date(s) and Numbers:
d. Other:

45. Known collections/reports/interviews and other references (list):

46. Primary Location of Additional Data: Alpine Archaeological Consultants, Inc.

47. State or Federal Permit Number: Colorado BLM Use Permit C-46920 Collection Authorized: ☐
Artifact Collection: ☐ Artifact Repository: N/A
Collection Method: Diagnostics ☐ Grab Sample ☐ Random Sample ☐ Transect ☐
Other (specify):

48. Photograph Numbers: SMM-DUL-09-4: 60 Negatives filed at: N/A - Digital images

49. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado

50. Recorder(s): Summer Moore-McMillan, Martha Bright Date(s): 7/21/09

51. Recorder Affiliation: Alpine Archaeological Consultants, Inc. Montrose, CO

52. Phone Number: (970) 249-6761

NOTE: Please attach a sketch map, a photocopy of the USGS quad. map indicating resource location, and photographs.

COLORADO CULTURAL RESOURCE SURVEY

# Management Data Form

## Continuation Page

Resource Number: 5MN9241
Temporary Resource Number: Don. L V2

**36. National Register Eligibility Field Assessment:**
**Statement of Sigificance/N.R.H.P. Justification:**

... how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. Based on Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, due to the limited material remains at the site the integrity of the site can be considered very low. Additionally, the vent does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9241 not eligible for the NRHP. (Please see Historic Archaeological Component Continuation Page for cited references.)

COLORADO CULTURAL RESOURCE SURVEY

OAHP1402
Rev. 9/98

# Historic Archaeological Component Form



Use this form in conjunction with the Managament Data Form. One of these forms should be completed for each historical resources with archaeologicial potential.

Does this form pertain to the site in general? ☑
OR
a particular feature/structure (please note feature/structure number)

1. Resource Number: 5MN9241 2. Temporary Resource Number: Don. L V2

3. Site/Feature Type: Vent Shaft - Uranium Mine

4. General Site/Feature Description:

Site 5MN9241 is a vent shaft situated in a hilly area just north of Long Park. The vent is on the patented Cripple Creek mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site covers 0.02 acres at an elevation of 6,505 ft. (1,983 m). Vegetation in the area consists of pinyon and juniper forest in association with rabbitbrush. The site includes one open vent shaft surrounded by a small artifact scatter.

Feature 1 is an open vent shaft with a pipe made of two 15-gal. oil lubricant barrels welded to one another and wedged into the shaft. The vent pipe, which extends approximately 3 ft. above the ground, is covered by a pry-off metal lid. A 9-in.-diameter hole has been cut out of the northeastern side of the vent pipe near the base. A short section of pipe, now removed, would have been inserted into the open area. This pipe may have been connected to a fan or compressor. The lubricant barrels are marked with "100 LBS NET / TEXACO / UNIVERSAL / GEAR / LUBRICANT / THE TEXAS COMPANY." Artifacts associated with Feature 1 include several fragments of rubber, a length of baling wire, a few fragments of milled lumber, a piece of strap metal, and two church-key-opened oil cans marked "S.A.E. / 30."

5. Historic Component Date(s) and/or Sociopolitical Period: 1911-1960s
   Justification: Historical documents

6. Component Function(s)
   Original Use: Vent shaft, uranium mine
   Present Use: None
   Comments:

7. Ethnic affiliation of occupants: Historic
   Justification: Historical records

Resource Number 5MN9241

Temporary Resource Number: Don. L V2

# Historic Archaeological Component Form



8. Artifact Classes: Please list specific attributes on the first line and artifact quantity (either count or estimate on the second line. Particularly important attributes are listed following the artifact class.

A. Glass: type function, color, manufacturing technique, makers marks, inscritpions, thickness, shape

**Bottle glass:** ☐ purple ☐ clear ☐ aqua ☐ cobalt blue ☐ amber ☐ light green ☐ olive green ☐ yellowish other:

**Vessel finish:** ☐ hand-finished ☐ machine-made

**Vessel types:**

**Makers marks/embossing:**

**Other vessel types:**

**Total estimated number of vessels:**

B. Ceramics: type, function, surface treatment/glaze, shape, trademarks, color, decorations

**Earthenware:**

**Estimated number of vessels:**

**Stoneware:**

**Estimated number of vessels:**

**Porcelain:**

**Estimated number of vessels:**

C. Nails: size, material type and manufacture technique, if not wire or cut

**Cut nails:** ☐ **Quantity:** **Wirenails:** ☐ **Quantity:**

**Other fasteners:**

**Quantity:**

Resource Number 5MN9241

Temporary Resource Number: Don. L V2

## Historic Archaeological Component Form



D. Cans: function, size, material type, type of opening, seams, inscriptions — Quantity

**Hole-in-cap:**

**Hole-in-top:**

**Sanitary:**

**Other:** Oil cans, church key-opened, "S.A.E. / 30" — 2

E. Cartridge Cases: type, size, inscriptions, material type

**Rimfire:**

**Centerfire:**

**Other:**

F. Construction Material: type, material, function (includes items such as logs, lumber, brick, adobe, cement, concrete, stone/rock, sheet metal, asphalt, tar, pipe)

**Window glass:** ☐ **Quantity:**

**Other:** Several fragments of milled lumber

G. Misc. Other Items: type, material, function (includes items such as utensils, stove parts, wire, nuts, bolts, rivets, screws, buckets, barrels, vehicle parts, machinery, leather, clothing, bone, funiture, buttons, etc.)

**List:** Several fragments of rubber, a length of baling wire, a piece of strap metal.

9. Artifact Density: ☐ Heavy ☑ Medium ☐ Light

Describe: There is a small scatter of industrial artifacts surrounding the vent shaft.

10. Additional Information:

Historical Background

The Cripple Creek Lode was originally located on June 6, 1911, by John Shepherd, C. R. Shepherd, and C. M. Reed (Montrose County Courthouse, County Clerk's Office, Book 122, Page 156). Between 1912 and 1915, the mine appears to have been under the control of Thomas F. V. Curran, who filed the AOL documents during this period. Although the claim was patented by the Radium Luminous Material Corporation in 1918, USV appears to have owned the claim during Twitty's (2008a) fourth and fifth periods of significance, World War II (1941-1945) and the Atomic Era (1946-1963). Mine production during these periods appears to have been fairly significant (see Twitty 2008b). A more detailed historical background for the Cripple Creek Mine, as well as courthouse book and page references, is provided above under the site description for the Cripple Creek Mine, Shaft No. 1 (5MN8171).

(Please see Historic Archaeological Component Continuation Page for cited references.)

Resource Number 5MN9241

Temporary Resource Number: Don. L V2

## Historic Archaeological Component Form



**Note: Complete parts 11 and 12 only if this form pertains to the site in general.**

11. Architectural Features(s). Please complete a Historic Architectural Component Form when appropriate.

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|

12.. Non-architectural features(s).

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|
| F1 | Vent shaft | Metal and earth | 13-in. diameter |

13. Discuss Archaeological potentential:

The site has no archaeological potential.

14. Recorder(s): Summer Moore-McMillan, Martha Bright

15. Date: 7/21/09

Resource Number: 5MN9241
Temporary Resource Number: Don. L V2

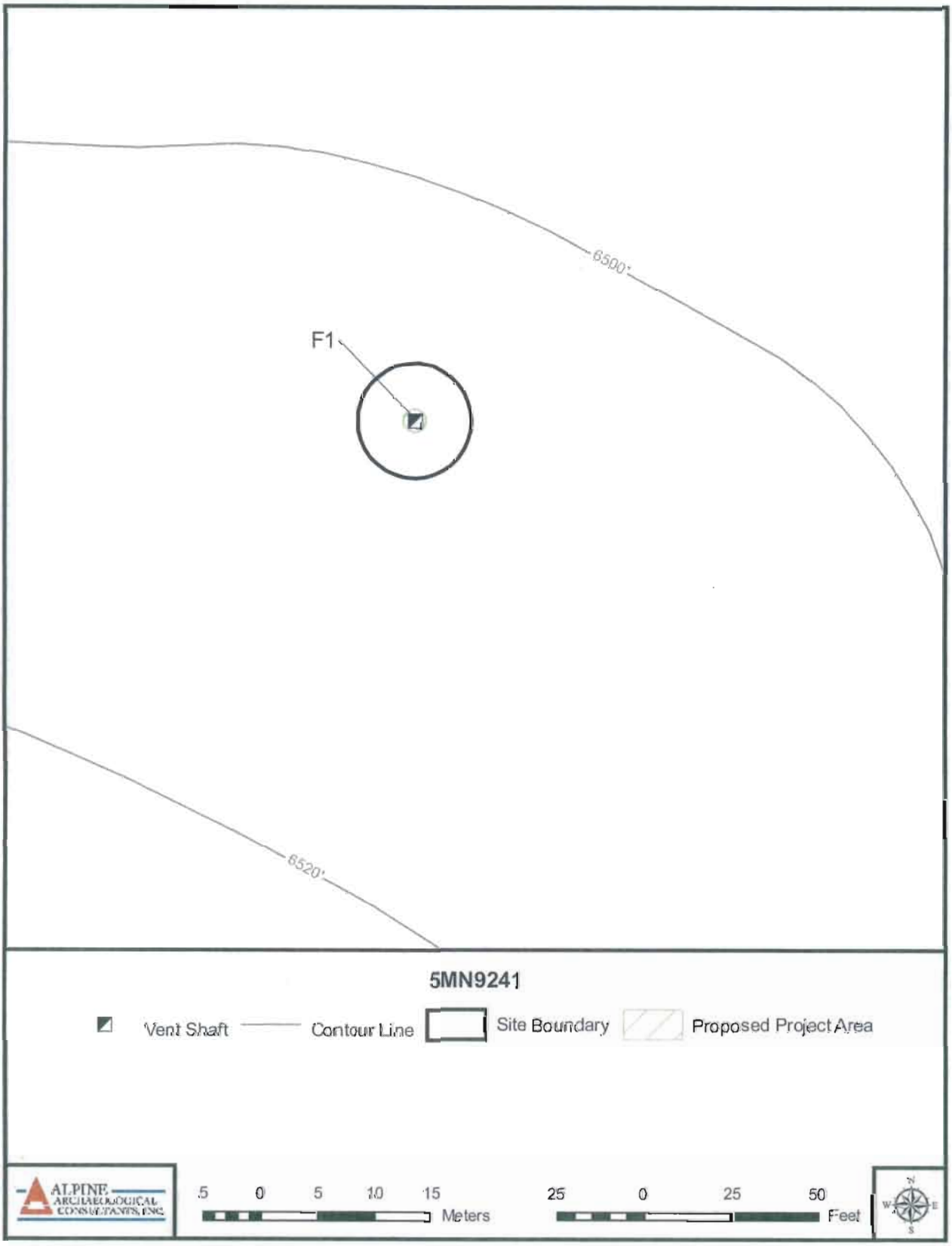
**10. Additional Information (Historical Background), Continued:**
References Cited:

Twitty, Eric (2008a). "Guide to Assessing Historic Radium, Uranium, and Vanadium Mining Resources in Montrose and San Miguel Counties." Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

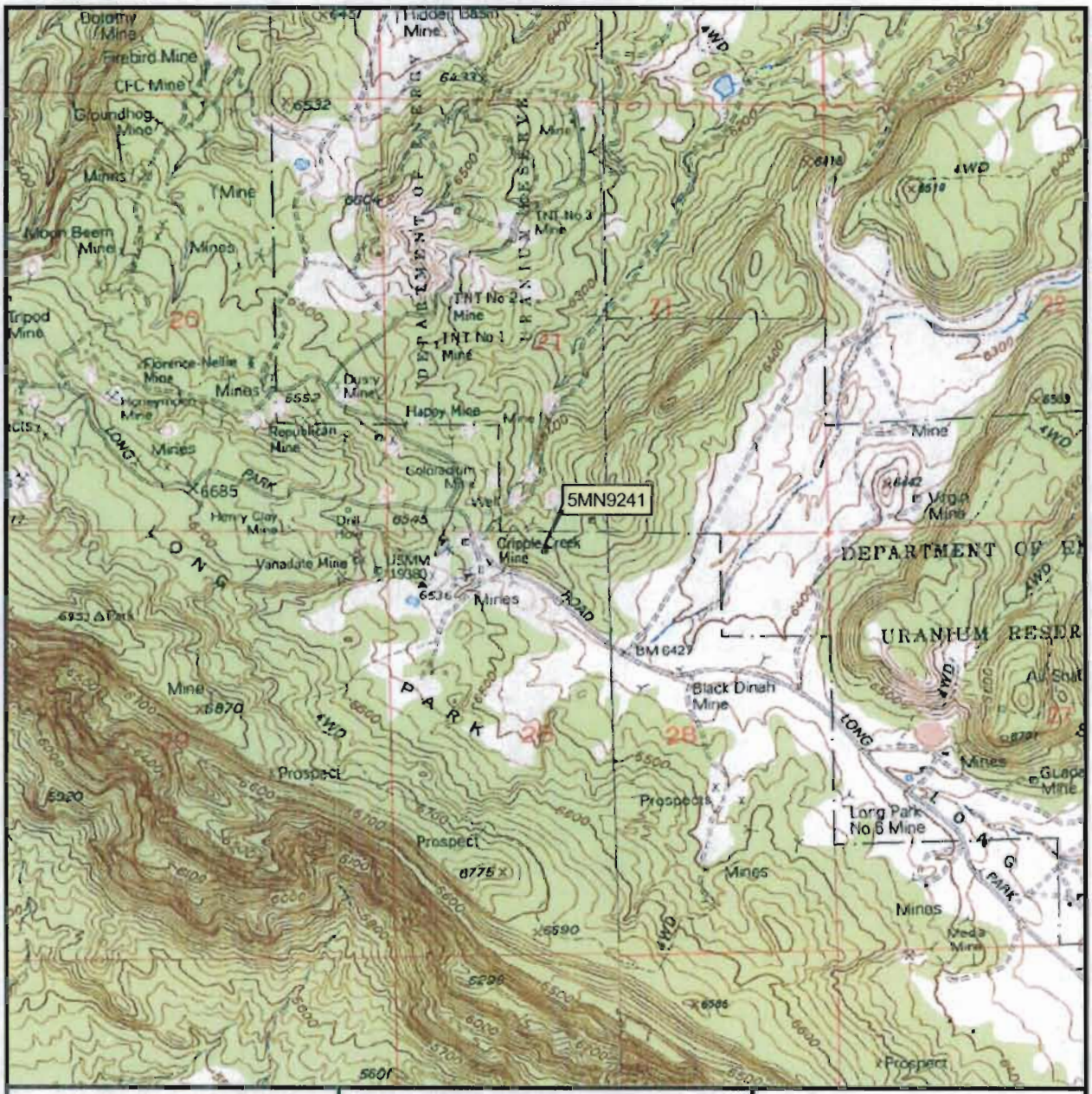
Twitty, Eric (2008b). "Radioactive Metals Mining on the Western Slope: An Inventory of Select Historic Sites, Montrose and San Miguel Counties, Colorado." Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

**5MN9241.** Feature 1, vent shaft, facing southwest.

For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).



**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1400
Rev. 9/98

# Management Data Form



The Management Data Form should be completed for each cultural resource recorded during an archaeological survey. Exceptions to this are isolated finds and re-evaluations, neither of which require a Management Data Form.

1. Resource Number: 5MN9242
2. Temporary Resource Number: Don. L V3
3. Attachments (check as many as apply)
   - ☐ Prehistoric Archaeological Component
   - ☑ Historic Archaeological Component
   - ☐ Historic Architectural Component Form
   - ☑ Sketch/Instrument Map (required)
   - ☑ U.S.G.S. Map Photocopy (required)
   - ☑ Photograph(s)
   - ☐ Other, specify:
4. Official determination (OAHP use only)
   - ____ Determined Eligible
   - ____ Determined Not Eligible
   - ____ Nominated
   - ____ Need Data
   - ____ Contributing to NR Dist.
   - ____ Non Contributing to NR Dist.

## I. IDENTIFICATION

5. Resource name:
6. Project Name/Number: DOE - Uranium Leases
7. Government Involvement: Local ☐ State ☐ Federal ☑
   Agency: Bureau of Land Management - Uncompahgre Field Office, U.S. Department of Energy
8. Site Categories: Check as many as apply:
   Prehistoric: archaeological site ☐ paleontological site ☐
   in existing National Register District? ☐ name
   Historic: archaeology site ☑ building(s) ☐ structure(s) ☐ object(s) ☐
   in existing National Register District? ☐ name
9. Owner (s) Name and Address: Bureau of Land Management - Uncompahgre Field Office/U.S. Department of Energy
10. Boundary Description and Justification: Extent of mining features and associated artifacts.
11. Site/Property Dimensions: 12 m x 9 m Area 104 m² 0.0 acres
    Area was calculated as: Length x Width ☑ rectangle/square OR (length x width) x 0.785 ☐ ellipse

## II. LOCATION

12. Legal Location

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | NM | Township | 47N | Range | 17W | Section | 28 | NW | 1/4 of | NE | 1/4 of | NE | 1/4 of | NW | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |

if section is irregular, explain alignment method: NW corner, N edge

Resource Number: 5MN9242
Temporary Resource Number: Don. L V3

## Management Data Form



13. USGS Quad Davis Mesa, CO 7.5' ☑ 15' ☐ Date(s): 1994 (attach photocopy)
14. County: Montrose 15. Other Maps:
16. UTM Reference: Check your Datum ☐ NAD 27 ☑ NAD 83

| | | | |
|---|---|---|---|
| A. | 12; | 696501 mE | 4241969 mN |
| B. | 12; | mE | mN |
| C. | 12; | mE | mN |
| D. | 12; | mE | mN |

17. Address: Lot Block: Addition
18. Location/Access: From Naturita, CO, drive west on Colo. Hwy. 141 for 3.4 miles to the intersection of Colo. Hwy. 141 and Hwy. 90. Turn left on Hwy. 90 and continue for 5.5 miles before turning right on Montrose County Road EE22. Drive 8.7 miles along CR EE22 before turning right on an unnamed drill road. Continue northeast on this road for 1,000 ft. Park and walk approximately 875 ft. southeast to the site.

### III. NATURAL ENVIRONMENT

19. Topographic Feature(s):

| | | |
|---|---|---|
| ☐ mountain | ☐ ledge | ☐ playa |
| ☑ hill | ☐ terrace/bench | ☐ talus slope |
| ☐ tableland/mesa | ☐ canyon | ☐ alluvial fan |
| ☐ ridge | ☐ valley | ☐ plain |
| ☐ saddle/pass | ☐ basin | ☐ dune |
| ☐ alcove/rockshelter | ☐ floodplain | ☐ |
| ☐ cliff | ☐ cutbank | ☐ |
| ☐ slope | ☐ arroyo/gully | ☐ |

20. Site Topographic Description (mention names landforms):
The site is situated in a hilly area just north of Long Park.

21. Site Elevation: 6,500 feet =(x .3048) 1981 meters 22. Aspect: 275 °
23. Degree of Slope on Site: 0-10 ° 24. Soil Depth: 0-20 cm
25. Soil Description (character and color): Medium-brown clay loam

26. Depositional Environment

| | | |
|---|---|---|
| ☐ Aeolian | ☑ Colluvial | ☑ Residual |
| ☐ Alluvial | ☐ Moraine | ☐ None |
| ☐ Other, specify: | | |

27. Nearest Water: name/nature Unnamed drainage/ intermittent distance: 250 m 820 ft
28. Nearest Permanent Water: name: Unnamed Spring distance: 2777 m 9111 ft
29. Vegetation on Site (list predominant species): Pinyon and juniper forest in association with rabbitbrush

30. Vegetation Associations/Communities Surrounding Site: Pinyon and juniper forest

Resource Number: 5MN9242
Temporary Resource Number: Don. L V3

## Management Data Form



### IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

31. Context or Theme: Mining - Uranium

    specify: The Atomic Era (1946-1963)

32. Applicable National Register Criteria

    ☑ Does not meet any of the below National Register criteria

    ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history; or

    ☐ B. Associated with the lives of persons significant to our past; or

    ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent 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. Has yielded, or may be likely to yield, information important in history or prehistory; or

    ☐ Qualifies under exceptions A through G.

    Level of Significance: National ☐ State ☐ Local ☐

33. Condition:

| a. Architectural/Structural | b. Archaeological/Paleontological |
|---|---|
| ☐ Excellent | ☐ Undisturbed |
| ☐ Good | ☐ Light disturbance |
| ☐ Fair | ☑ Moderate disturbance |
| ☐ Deteriorated | ☐ Heavy disturbance |
| ☑ Ruins | ☐ Total disturbance |

34. Describe Condition: Wooden platform collapsed; any additional features have been removed.

35. Vandalism: ☐ describe

36. National Register Eligibility Field Assessment:

    Eligible ☐ Not Eligible ☑ Need Data ☐

    Statement of Significance/N.R.H.P. Justification

    The Cripple Creek Mine was initially located in 1911, during Twitty's (2008a) second period of significance, the Radium and Vanadium Boom (1906-1922). The vent recorded as site 5MN9242 was likely installed during the 1940s or 1950s, when the surface plant at the mine was improved (Twitty 2008b). Although the Cripple Creek Mine, including Shaft No. 1 (5MN8171) and Shaft No. 2 (5MN8172) is considered a significant cultural resource, the single vent shaft and wooden platform recorded as site 5MN9242 have very limited potential to provide information about ... (Please see Management Data Continuation Page.)

37. Status in an Existing National Register District:

    Contributing ☐ Non-Contributing ☐

38. National Register District Potential ☐

    discuss

Resource Number: 5MN9242
Temporary Resource Number: Don. L V3

# Management Data Form



## V. MANAGEMENT AND ADMINISTRATIVE DATA

39. Threats to Resource: Water erosion ☐ Wind erosion ☐ Grazing ☐ Neglect ☐
Vandalism ☐ Recreation ☐ Construction ☐ Other (specify): Reclamation
comments:

40. Existing Protection: None ☑ Marked ☐ Fenced ☐ Patrolled ☐ Access controlled ☐
other (specify):

41. Local landmark designation: 42. Easement:

43. Management Recommendations:
Because Alpine recommends site 5MN9242 as ineligible for the NRHP, no further historical or archaeological work is recommended.

## VI. DOCUMENTATION

44. Previous Actions Accomplished at the site:
a. Excavations: Test ☐ Partial ☐ Complete ☐ Date(s):
b. Stabilization: Date(s):
c. HABS/HAER Documentation Date(s) and Numbers:
d. Other:

45. Known collections/reports/interviews and other references (list):

46. Primary Location of Additional Data: Alpine Archaeological Consultants, Inc.

47. State or Federal Permit Number: Colorado BLM Use Permit C-46920 Collection Authorized: ☐
Artifact Collection: ☐ Artifact Repository: N/A
Collection Method: Diagnostics ☐ Grab Sample ☐ Random Sample ☐ Transect ☐
Other (specify):

48. Photograph Numbers: SMM-DUL-09-4: 61 - 64 Negatives filed at: N/A - Digital images

49. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado

50. Recorder(s): Summer Moore-McMillan, Martha Bright Date(s): 7/22/09

51. Recorder Affiliation: Alpine Archaeological Consultants, Inc. Montrose, CO

52. Phone Number: (970) 249-6167

NOTE: Please attach a sketch map, a photocopy of the USGS quad. map indicating resource location, and photographs.

COLORADO CULTURAL RESOURCE SURVEY

# Management Data Form

**Continuation Page**

Resource Number: 5MN9242
Temporary Resource Number: Don. L V3

**36. National Register Eligibility Field Assessment:**
**Statement of Sigificance/N.R.H.P. Justification:**

... how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. Based on Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, due to the limited material remains at the site the integrity of the site can be considered very low. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9242 not eligible for the NRHP. (Please see Historic Archaeological Component Continuation Page for cited references.)

COLORADO CULTURAL RESOURCE SURVEY

OAHP1402
Rev. 9/98

# Historic Archaeological Component Form



Use this form in conjunction with the Managament Data Form. One of these forms should be completed for each historical resources with archaeologicial potential.

Does this form pertain to the site in general? ☑
OR
a particular feature/structure (please note feature/structure number)

1. Resource Number: 5MN9242 2. Temporary Resource Number: Don. L V3

3. Site/Feature Type: Vent Shaft - Uranium Mine

4. General Site/Feature Description:

Site 5MN9242 is a vent shaft situated in a hilly area just north of Long Park. The vent is on the patented Cripple Creek mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site covers an area of 0.03 acres at an elevation of 6,500 ft. (1,981 m). Vegetation in the area consists of pinyon and juniper forest in association with rabbitbrush. The site includes one open vent shaft and a small wooden platform. No artifacts were identified at the site.

Feature 1 is an open vent shaft with a vent pipe made of four, 13-in.-diameter 15-gal. oil lubricant barrels welded together. The vent pipe stands approximately 7 ft. high and is open at the top. A 9-in.-diameter hole has been cut out of the southern side of the vent pipe at the base. A short pipe has been placed in the hole and fixed in place with baling wire. The pipe is oriented toward a small wooden platform where a fan or compressor may have been situated. The lubricant barrels are marked "100 LBS NET / TEXACO / UNIVERSAL / GEAR / LUBRICANT / THE TEXAS COMPANY." No artifacts were observed within the site boundaries.

Feature 2 is a small wooden platform immediately south of the vent shaft. The platform measures 2 ft. 3 in. by 2 ft. 8 in., oriented southwest to northeast. Visible remains consist of a floor of 2 by 6-in. planks that are likely fastened to parallel beams now buried under sediment. The wooden platform likely supported a fan or compressor that forced air into the adjacent vent.

5. Historic Component Date(s) and/or Sociopolitical Period: 1911-1960s
   Justification: Historical documents

6. Component Function(s)
   Original Use: Vent shaft, uranium mine
   Present Use: None
   Comments:

7. Ethnic affiliation of occupants: Historic
   Justification: Historical records

Resource Number 5MN9242

Temporary Resource Number: Don. L V3

## Historic Archaeological Component Form



8. Artifact Classes: Please list specific attributes on the first line and artifact quantity (either count or estimate on the second line. Particularly important attributes are listed following the artifact class.

A. Glass: type function, color, manufacturing technique, makers marks, inscritpions, thickness, shape

**Bottle glass:** ☐purple ☐clear ☐aqua ☐cobalt blue ☐amber ☐light green ☐olive green ☐yellowish other:

**Vessel finish:** ☐ hand-finished ☐ machine-made

**Vessel types:**

**Makers marks/embossing:**

**Other vessel types:**

**Total estimated number of vessels:**

B. Ceramics: type, function, surface treatment/glaze, shape, trademarks, color, decorations

**Earthenware:**

**Estimated number of vessels:**

**Stoneware:**

**Estimated number of vessels:**

**Porcelain:**

**Estimated number of vessels:**

C. Nails: size, material type and manufacture technique, if not wire or cut

**Cut nails:** ☐ **Quantity:** **Wirenails:** ☐ **Quantity:**

**Other fasteners:**

**Quantity:**

Resource Number 5MN9242

Temporary Resource Number: Don. L V3

## Historic Archaeological Component Form



D. Cans: function, size, material type, type of opening, seams, inscriptions Quantity

**Hole-in-cap:**

**Hole-in-top:**

**Sanitary:**

**Other:**

E. Cartridge Cases: type, size, inscriptions, material type

**Rimfire:**

**Centerfire:**

**Other:**

F. Construction Material: type, material, function (includes items such as logs, lumber, brick, adobe, cement, concrete, stone/rock, sheet metal, asphalt, tar, pipe)

**Window glass:** ☐ **Quantity:**

**Other:**

G. Misc. Other Items: type, material, function (includes items such as utensils, stove parts, wire, nuts, bolts, rivets, screws, buckets, barrels, vehicle parts, machinery, leather, clothing, bone, funiture, buttons, etc.)

**List:**

9. Artifact Density: ☐ Heavy ☐ Medium ☐ Light

Describe: There were no artifacts identified at the site.

10. Additional Information:

Historic Background

The Cripple Creek Lode was originally located on June 6, 1911, by John Shepherd, C. R. Shepherd, and C. M. Reed (Montrose County Courthouse, County Clerk's Office, Book 122, Page 156). Between 1912 and 1915, the mine appears to have been under the control of Thomas F. V. Curran, who filed the AOL documents during this period. Although the claim was patented by the Radium Luminous Material Corporation in 1918, USV appears to have owned the claim during Twitty's (2008a) fourth and fifth periods of significance, World War II (1941-1945) and the Atomic Era (1946-1963). Mine production during these periods appears to have been fairly significant (see Twitty 2008b). A more detailed historical background for the Cripple Creek Mine, as well as courthouse book and page references, is provided above under the site description for the Cripple Creek Mine, Shaft No. 1 (5MN8171).

(Please see Historic Archaeological Component Continuation Page for cited references.)

Resource Number 5MN9242

Temporary Resource Number: Don. L V3

## Historic Archaeological Component Form



**Note: Complete parts 11 and 12 only if this form pertains to the site in general.**

11. Architectural Features(s). Please complete a Historic Architectural Component Form when appropriate.

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|

12. Non-architectural features(s).

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|
| F1 | Vent shaft | Metal and earth | 13-in. diameter |
| F2 | Wooden platform | Milled lumber | 2 ft. 3 in. by 2 ft |

13. Discuss Archaeological potentential:

The site has no archaeological potential.

14. Recorder(s): Summer Moore-McMillan, Martha Bright

15. Date: 7/22/09

Resource Number: 5MN9242
Temporary Resource Number: Don. L V3

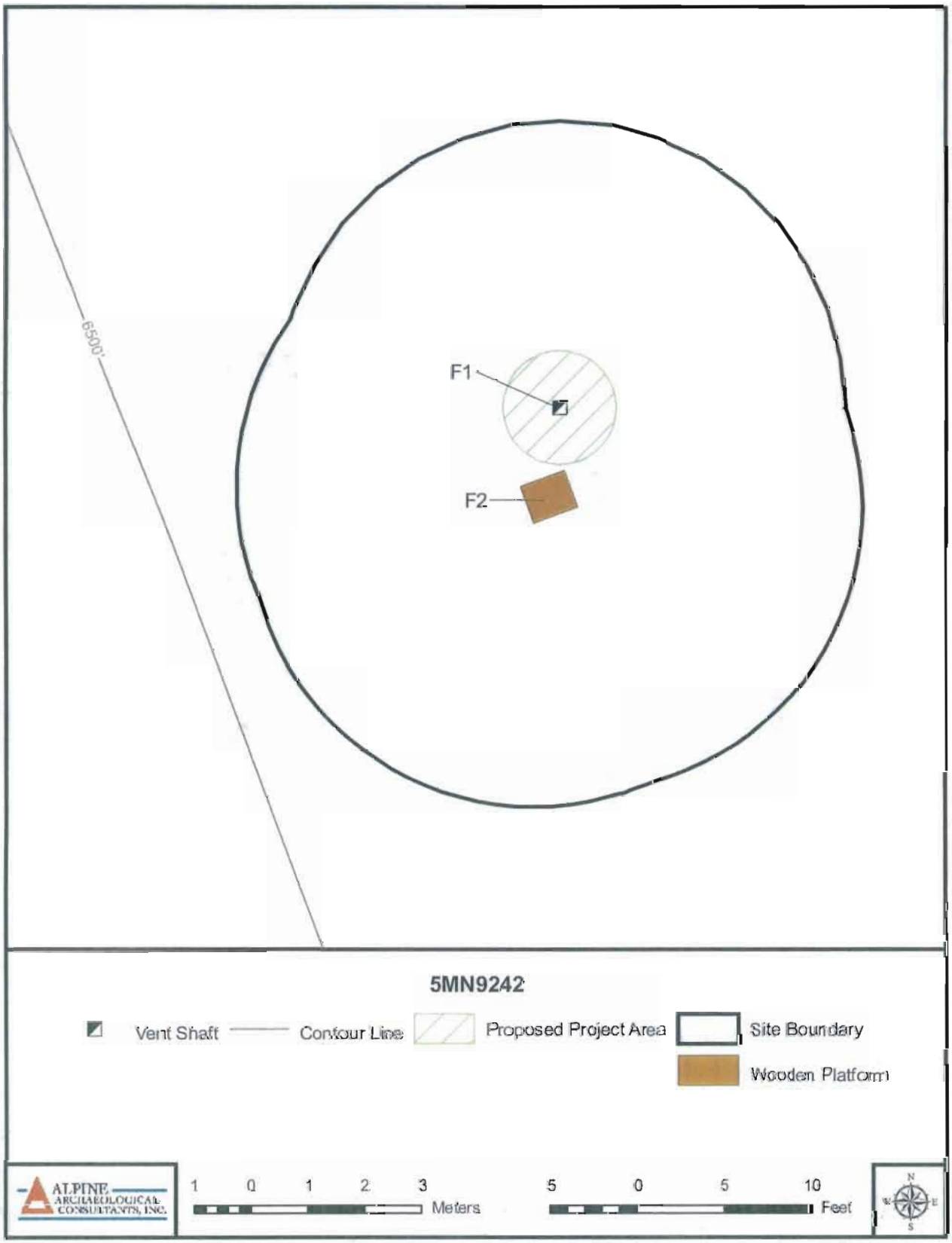
**10. Additional Information (Historical Background), Continued:**
References Cited:

Twitty, Eric (2008a). "Guide to Assessing Historic Radium, Uranium, and Vanadium Mining Resources in Montrose and San Miguel Counties." Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

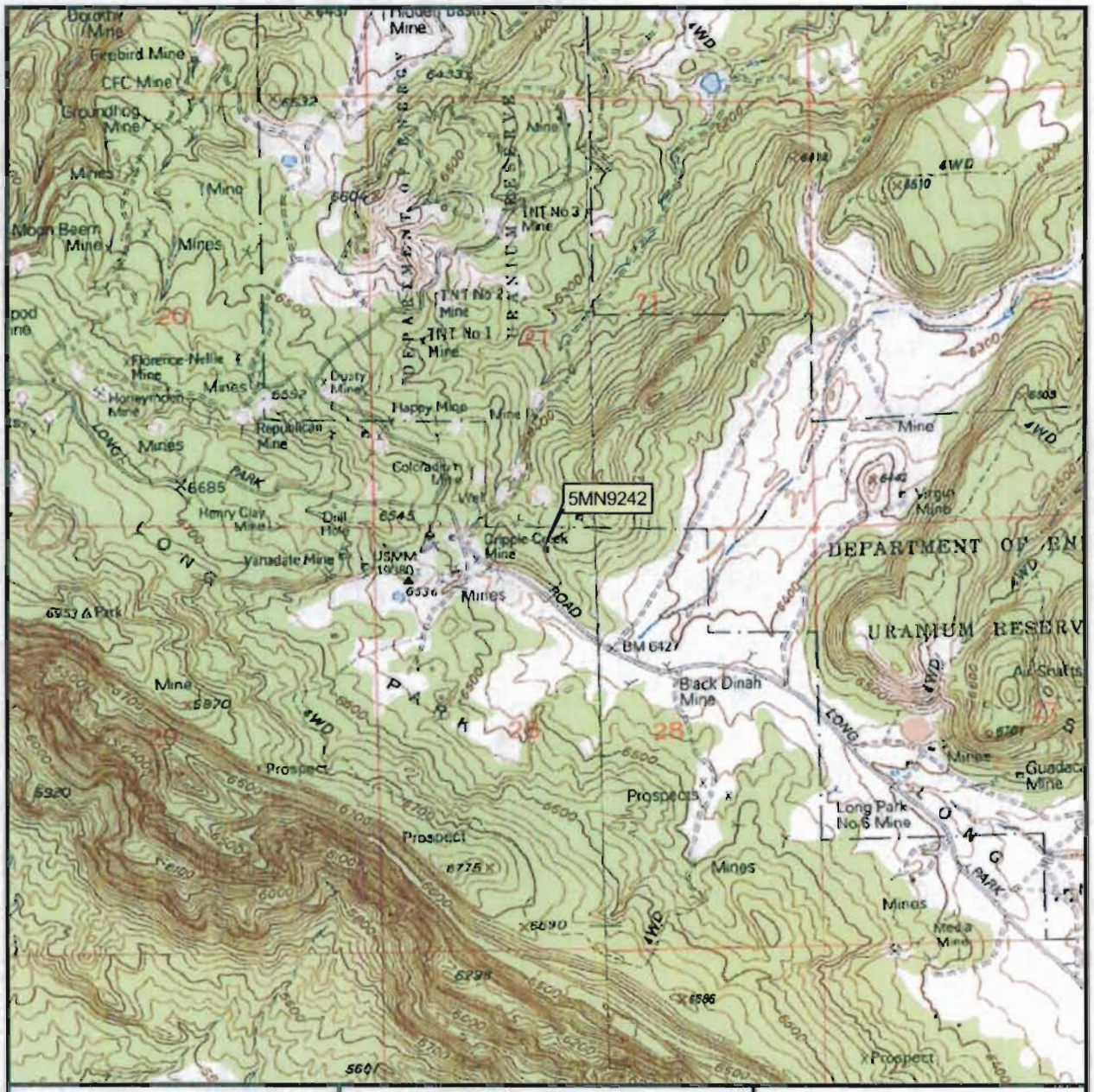
Twitty, Eric (2008b). "Radioactive Metals Mining on the Western Slope: An Inventory of Select Historic Sites, Montrose and San Miguel Counties, Colorado." Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

**5MN9242.** Overview of site, including Feature 1, vent shaft, and Feature 2, small wooden platform, facing north.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**



**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1408
Rev. 9/98

# Isolated Find Record

## I. IDENTIFICATION AND LOCATION

1. Resource Number: 5MN9254 2. Temporary Resource Number: IF-DL-V1
3. County: Montrose
4. Legal Location: PM NM Township 47N Range 17W
   Sec 21 SE 1/4 of SW 1/4 of SE 1/4 of SW 1/4
   if section is irregular, explain alignment method: SW corner, S edge
5. UTMs: Zone 12 , 696381 mE, 4242085 mN NAD: 83
6. USGS Quad Name: Davis Mesa, CO
   Date: 1994

## II. ARCHAEOLOGICAL DATA

7. Artifacts: The isolated find is an open vent shaft with four 15-gal. lubricant oil barrels inserted into the shaft. The barrels are 13 in. in diameter. A 9-in.-diameter hole has been cut out of north side of the vent pipe to form a ventilation duct and lies nearby. Verbiage on the barrels read "THUBAN " and "120 LBS. NET".

8. IF Dimensions: 5 X 5 m OR Single Artifact ☐
9. Inferred Function(s): vent shaft for a uranium mine
10. Cultural Affiliation/Time Period: Historic
11. Comments: The Cripple Creek Lode was originally located on June 6, 1911, by John Shepherd, C. R. Shepherd, and C. M. Reed ... (please see Isolated Find Record Continuation Page.)

## III. ENVIRONMENTAL DATA

12. Elevation: Feet: 6480 Meters: 1,975
13. Soil: medium-brown clay loam
14. Topography: hilly area just north of Long Park
15. Slope: Site: 0-10° Surrounding: 0-10°
16. Nearest Water: Name/Nature Unnamed drainage/ intermittent

    Elevation: 6,420 feet Distance: 90 m Direction: WNW
17. Vegetation: pinyon and juniper forest in association with rabbitbrush

## IV. REFERENCE DATA

18. Collection?: ☐ Describe:
19. Repository: N/A
20. Landowner: Bureau of Land Mgmt, Uncompahgre Field Office/Dept. of Energy
21. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado
22. Recorder(s): Summer Moore-McMillan, Martha Bright
23. Recorder Affiliation: Alpine Archaeological Consultants, Inc.
24. Date(s): 7/21/2009

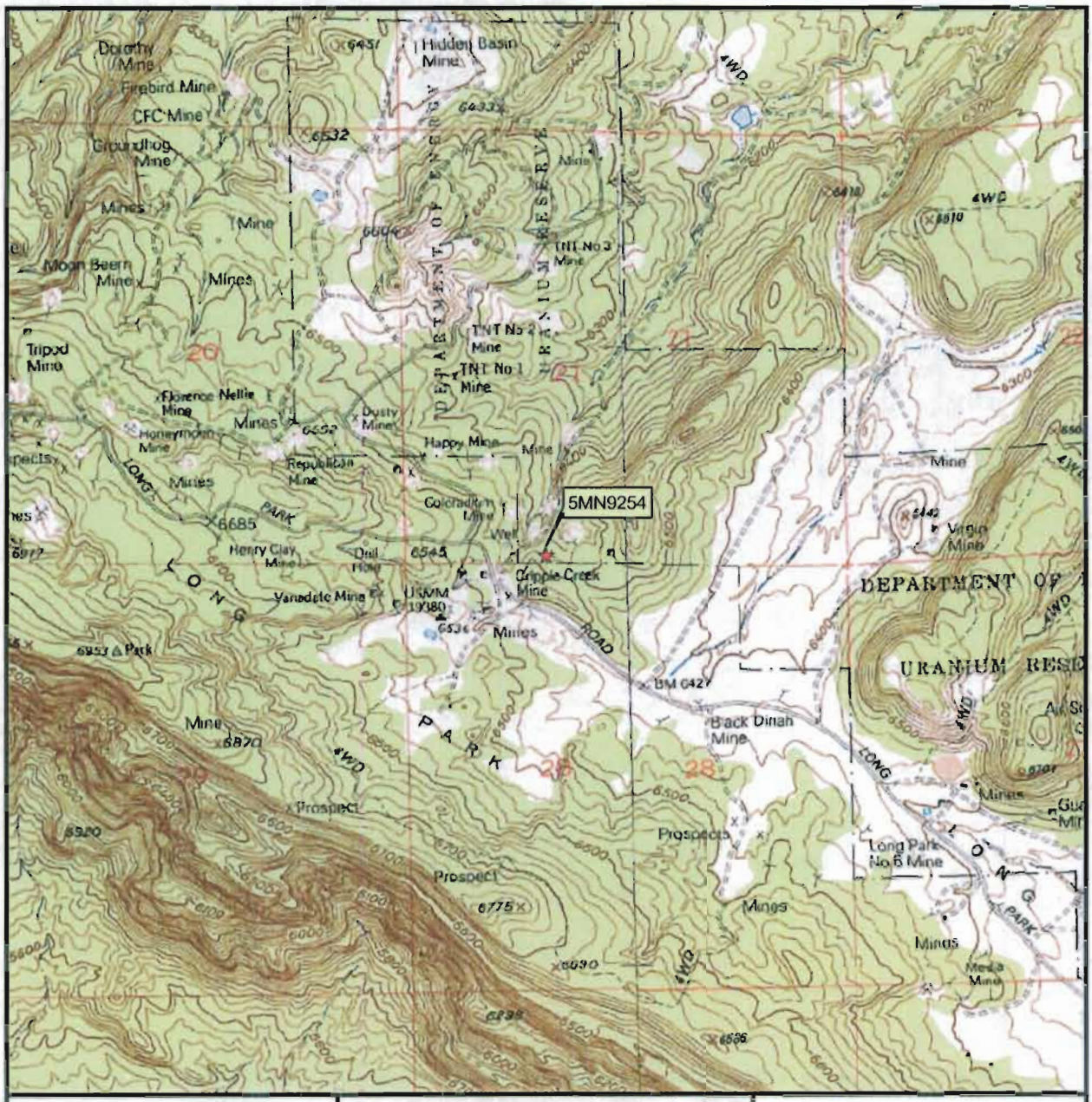
Resource No.: 5MN9254

Temp. Resource Number: IF-DL-V1

11. Comments, Continued:
... (Montrose County Courthouse, County Clerk's Office, Book 122, Page 156). The first AOL was filed in 1912 by Thomas F. V. Curran, who also filed AOL documents for the claim in 1915 and 1916 (Montrose County Courthouse, County Clerk's Office, Book 18, Pages 115, 248, and 249). Also in 1916, Radium Luminous Material Corporation filed an AOL for the Cripple Creek claim, and this company filed the AOL in 1920, as well (Montrose County Courthouse, County Clerk's Office, Book 18, Pages 259 and 372). The claim was patented on June 27, 1918, to Radium Luminous Material Corporation under Mineral Survey No. 19799 (www.glorecords.blm.gov; Accession No. 638534).

**5MN9254.** Overview of Donald L. Vent Shaft No.1, facing southwest.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

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Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1408
Rev. 9/98

# Isolated Find Record

## I. IDENTIFICATION AND LOCATION

1. Resource Number: 5MN9255 2. Temporary Resource Number: IF-DL-V4
3. County: Montrose
4. Legal Location: PM NM Township 47N Range 17W
   Sec 28 NE 1/4 of NW 1/4 of NW 1/4 of NE 1/4
   if section is irregular, explain alignment method: NE corner, N edge
5. UTMs: Zone 12 , 696847 mE, 4241996 mN NAD: 83
6. USGS Quad Name: Uravan, CO
   Date: 1994

## II. ARCHAEOLOGICAL DATA

7. Artifacts: The isolated find is an open vent shaft with a 22-in.-diameter metal pipe inserted into it. The pipe has welded seams and stands 33 in. tall above the ground. The metal pipe has a 10-in.-diameter hole cut into the southwestern side, into which a pipe could be inserted to form a ventilation duct. There are no artifacts in immediate association.

8. IF Dimensions: 5 X 5 m OR Single Artifact ☐
9. Inferred Function(s): vent shaft for a uranium mine
10. Cultural Affiliation/Time Period: Historic
11. Comments: Although no historic research for the Second National Bank Mine was attempted, it is likely that the history of this mine is similar to ... (please see Isolated Find Record Continuation Page.)

## III. ENVIRONMENTAL DATA

12. Elevation: Feet: 6460 Meters: 1,969
13. Soil: medium-brown clay loam
14. Topography: east-facing slope of an intermittent drainage running south and perpendicular to Long Park
15. Slope: Site: 0-10° Surrounding: 0-10°
16. Nearest Water: Name/Nature Unnamed drainage/ intermittent

    Elevation: 6,400 feet Distance: 290 m Direction: SSE
17. Vegetation: pinyon and juniper forest in association with rabbitbrush, sagebrush and saltbush

## IV. REFERENCE DATA

18. Collection?: ☐ Describe:
19. Repository: N/A
20. Landowner: Bureau of Land Mgmt, Uncompahgre Field Office/Dept. of Energy
21. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado
22. Recorder(s): Summer Moore-McMillan, Martha Bright
23. Recorder Affiliation: Alpine Archaeological Consultants, Inc.
24. Date(s): 7/21/2009

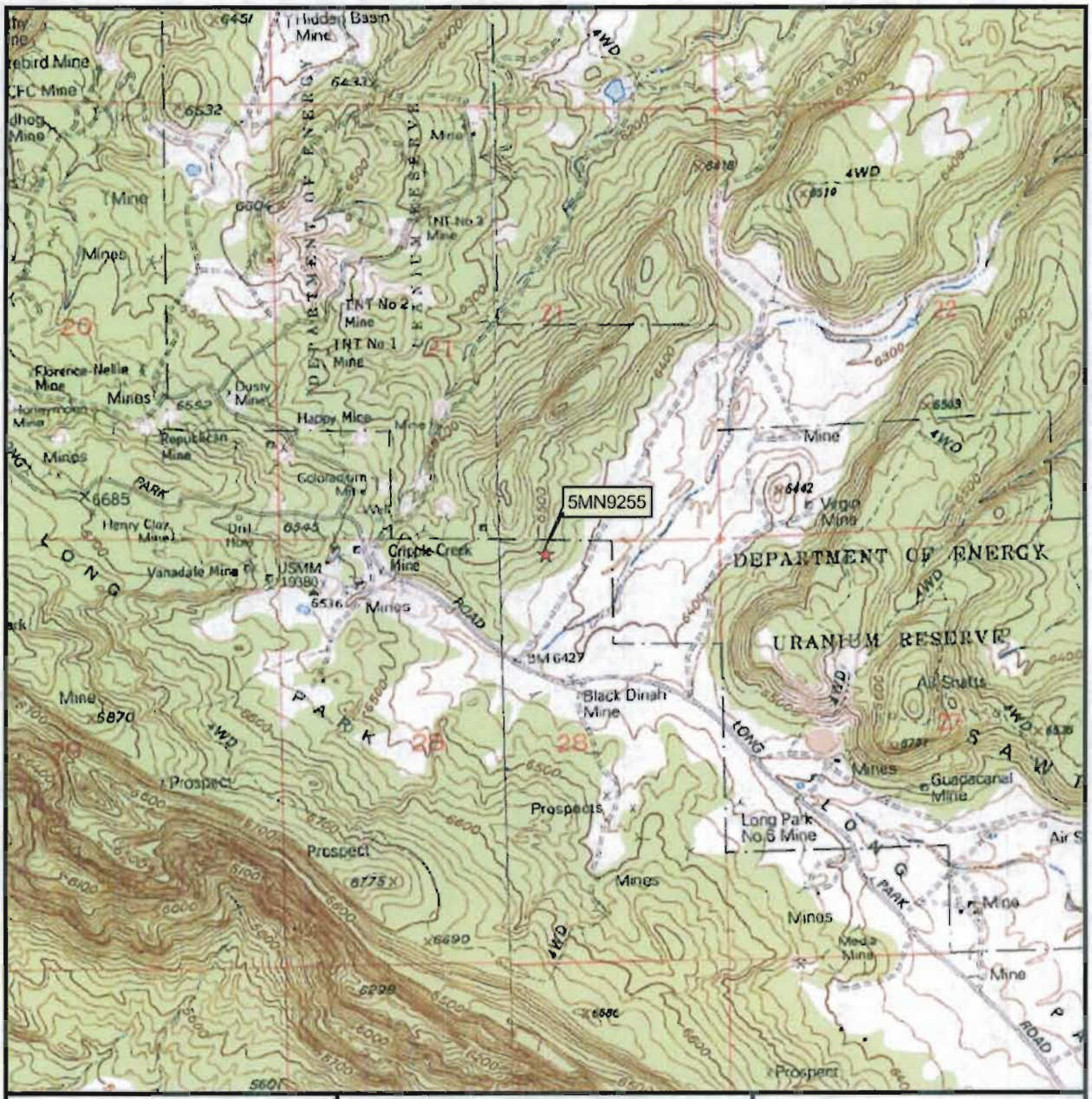
Resource No.: 5MN9255

Temp. Resource Number: IF-DL-V4

11. Comments, Continued:
... that of the First National Bank Mine. A historical background for this mine operation is given in the report for this project (Moore-McMillan 2009).

**5MN9255.** Overview of Donald L. Vent Shaft No.4, facing north-northwest.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

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Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1408
Rev. 9/98

# Isolated Find Record

## I. IDENTIFICATION AND LOCATION

1. Resource Number: 5MN9256 2. Temporary Resource Number: IF-DL-V5
3. County: Montrose
4. Legal Location: PM NM Township 47N Range 17W
   Sec 21 NW 1/4 of SW 1/4 of SW 1/4 of SE 1/4
   if section is irregular, explain alignment method: SE corner, S edge
5. UTMs: Zone 12 , 696737 mE, 4242234 mN NAD: 83
6. USGS Quad Name: Uravan, CO
   Date: 1994

## II. ARCHAEOLOGICAL DATA

7. Artifacts: The isolated find is an open vent shaft with a 13 1/2-in.-diameter metal pipe inserted into it. The pipe extends 9 in. above the ground. Two 2 1/4-in.-diameter holes have been cut into opposite sides of the vent pipe, on a northwest-southeast axis. Artifacts in immediate association include a length of 1/2-in.-diameter wire rope, a piece of milled lumber, and a metal spring (likely from a car seat).

8. IF Dimensions: 5 X 5 m OR Single Artifact ☐
9. Inferred Function(s): vent shaft for a uranium mine
10. Cultural Affiliation/Time Period: Historic
11. Comments: The First National Bank claim was originally located by the USV on August 25, 1939. The location certificate mentions that it was ... (please see Isolated Find Record Continuation Page.)

## III. ENVIRONMENTAL DATA

12. Elevation: Feet: 6580 Meters: 2,006
13. Soil: medium-brown clay loam
14. Topography: E-facing slope of a narrow ridge between two intermittent drainages running S to Long Park
15. Slope: Site: 0-10° Surrounding: 0-10°
16. Nearest Water: Name/Nature Unnamed drainage/ intermittent

    Elevation: 6,380 feet Distance: 348 m Direction: WNW
17. Vegetation: pinyon and juniper forest in association with rabbitbrush, sagebrush, saltbush

## IV. REFERENCE DATA

18. Collection?: ☐ Describe:
19. Repository: N/A
20. Landowner: Bureau of Land Mgmt, Uncompahgre Field Office/Dept. of Energy
21. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado
22. Recorder(s): Summer Moore-McMillan, Martha Bright
23. Recorder Affiliation: Alpine Archaeological Consultants, Inc.
24. Date(s): 7/21/2009

Resource No.: 5MN9256

Temp. Resource Number: IF-DL-V5

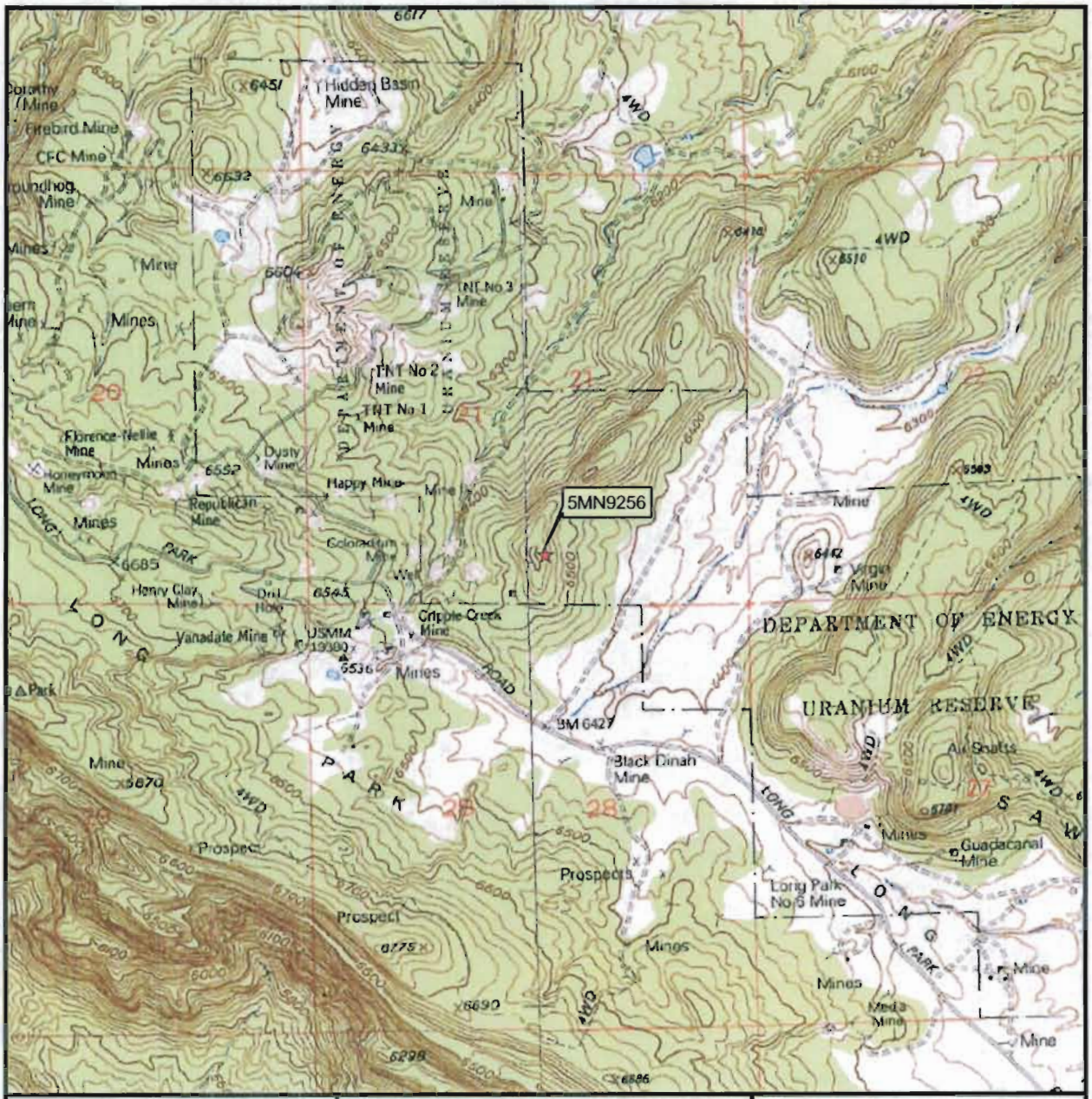
11. Comments, Continued:
... located by diamond drilling (Montrose County Courthouse, County Clerk's Office, Book 201, Page 500). The first AOL for the mine was filed in 1948 by USV. AEC records indicate that 396.56 tons of ore were extracted from the mine. This tonnage is attributed to "NU C N CO," which may be a corruption of the initials of the Union Carbide Nuclear Corporation. The USV continued to file the AOL documents yearly through 1951 (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 123, 170, and 251; Book 348, Page 249).

In 1952, Union Carbide and Carbon Corporation began filing the AOL documents. Under the names Union Carbide and Carbon Corporation, Union Carbide Nuclear Corporation, and Union Carbide Corporation, this company continued to file AOL documents for the mine yearly through 1983 (Montrose County Courthouse, County Clerk's Office, Book 352, Page 590; Book 360, Page 157; Book 374, Pages 68 and 541; Book 456, Page 22; Book 457, Page 222; Book 491, Page 205; Book 503, Pages 111 and 441; Book 522, Pages 209 and 528; Book 541, Pages 264, 453, 691, and 965; Book 562, Pages 167, 498, and 830; Book 588, Pages 61, 297, 533, and 761; Book 620, Pages 602 and 932; Book 661, Pages 206 and 622; Book 692, Page 708; Book 728, Page 19).

In 1984, the AOL was filed by Umetco Minerals Corporation, an entity created when Dow Chemical purchased the Union Carbide Corporation (Montrose County Courthouse, County Clerk's Office, Book 728, Page 366). The AOL documents continued to be filed by Umetco until 1992, after which the Vanadium King No. 5 claim appears to have been let lapse (Montrose County Courthouse, County Clerk's Office, Book 728, Pages 564, 747, and 907; Book 777, Pages 100, 437, 586, and 735).

**5MN9256.** Overview of Donald L. Vent Shaft No.5, facing northwest.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

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Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1408
Rev. 9/98

# Isolated Find Record

## I. IDENTIFICATION AND LOCATION

1. Resource Number: 5MN9257 2. Temporary Resource Number: IF-DL-V8
3. County: Montrose
4. Legal Location: PM NM Township 47N Range 17W
   Sec 21 SW 1/4 of SE 1/4 of SE 1/4 of SW 1/4
   if section is irregular, explain alignment method: SW corner, S edge
5. UTMs: Zone 12 , 696543 mE, 4242075 mN NAD: 83
6. USGS Quad Name: Davis Mesa, CO
   Date: 1994

## II. ARCHAEOLOGICAL DATA

7. Artifacts: The isolated find is an open vent shaft with an 8-in.-diameter galvanized steel stovepipe inserted into it. The vent pipe extends 3 ft. 8 in. above the ground. Associated artifacts include 10 to 15 pieces of clear glass from a single bottle (probably a liquor bottle) with a round base and no maker's mark.

8. IF Dimensions: 5 X 5 m OR Single Artifact ☐
9. Inferred Function(s): vent shaft for a uranium mine
10. Cultural Affiliation/Time Period: Historic
11. Comments: The First National Bank claim was originally located by the USV on August 25, 1939. The location certificate mentions that it was ... (please see Isolated Find Record Continuation Page.)

## III. ENVIRONMENTAL DATA

12. Elevation: Feet: 6490 Meters: 1,978
13. Soil: medium-brown clay loam
14. Topography: southwest of a southwest-northeast-trending ridge north of Long Park
15. Slope: Site: 0-10° Surrounding: 0-10°
16. Nearest Water: Name/Nature Unnamed drainage/ intermittent
    Elevation: 6,420 feet Distance: 245 m Direction: W
17. Vegetation: pinyon and juniper forest in association with rabbitbrush, sagebrush, saltbush

## IV. REFERENCE DATA

18. Collection?: ☐ Describe:
19. Repository: N/A
20. Landowner: Bureau of Land Mgmt, Uncompahgre Field Office/Dept. of Energy
21. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado
22. Recorder(s): Summer Moore-McMillan, Martha Bright
23. Recorder Affiliation: Alpine Archaeological Consultants, Inc.
24. Date(s): 7/22/2009

Resource No.: 5MN9257

Temp. Resource Number: IF-DL-V8

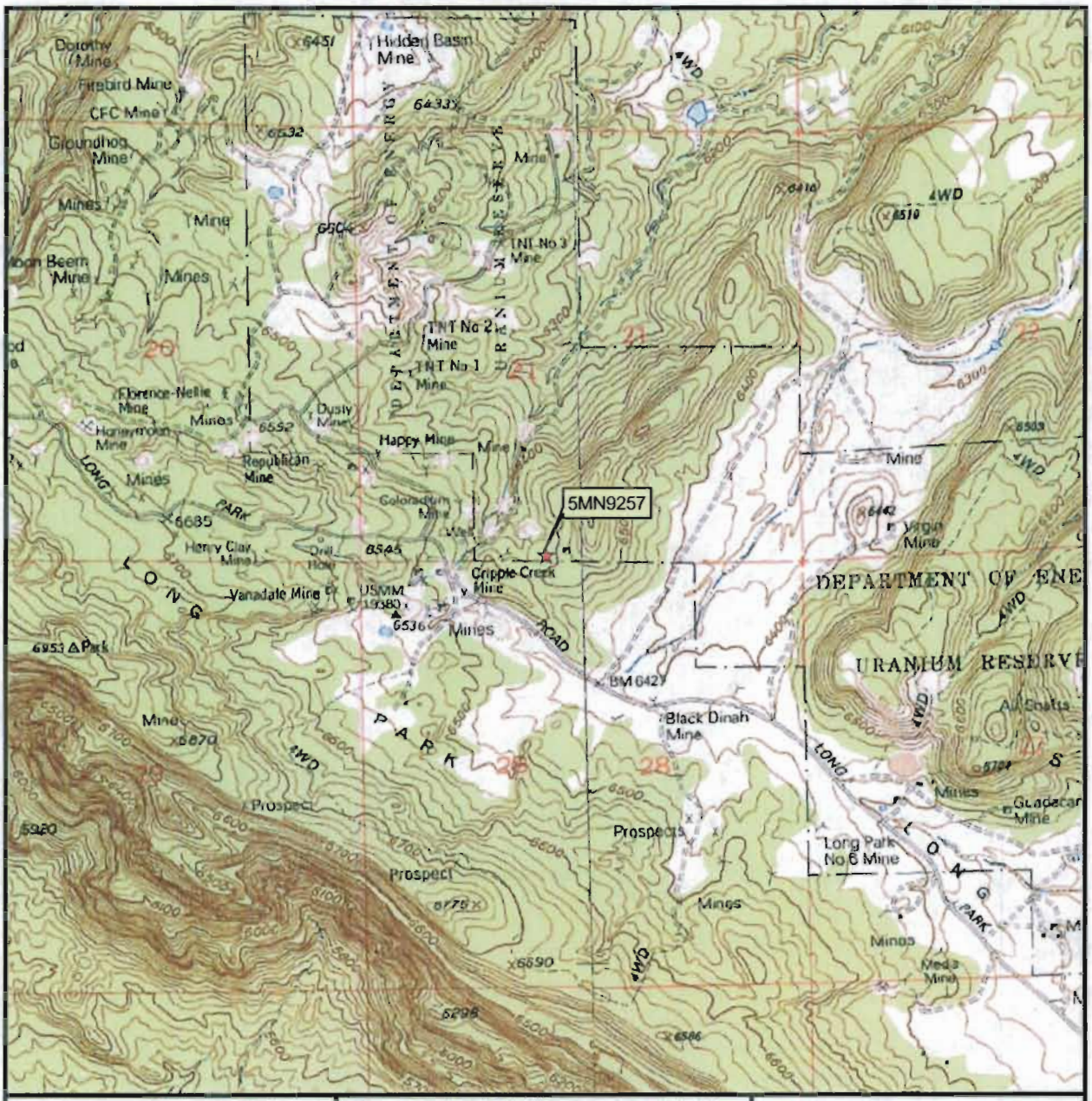
11. Comments, Continued:
... located by diamond drilling (Montrose County Courthouse, County Clerk's Office, Book 201, Page 500). The first AOL for the mine was filed in 1948 by USV. AEC records indicate that 396.56 tons of ore were extracted from the mine. This tonnage is attributed to "NU C N CO," which may be a corruption of the initials of the Union Carbide Nuclear Corporation. The USV continued to file the AOL documents yearly through 1951 (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 123, 170, and 251; Book 348, Page 249).

In 1952, Union Carbide and Carbon Corporation began filing the AOL documents. Under the names Union Carbide and Carbon Corporation, Union Carbide Nuclear Corporation, and Union Carbide Corporation, this company continued to file AOL documents for the mine yearly through 1983 (Montrose County Courthouse, County Clerk's Office, Book 352, Page 590; Book 360, Page 157; Book 374, Pages 68 and 541; Book 456, Page 22; Book 457, Page 222; Book 491, Page 205; Book 503, Pages 111 and 441; Book 522, Pages 209 and 528; Book 541, Pages 264, 453, 691, and 965; Book 562, Pages 167, 498, and 830; Book 588, Pages 61, 297, 533, and 761; Book 620, Pages 602 and 932; Book 661, Pages 206 and 622; Book 692, Page 708; Book 728, Page 19).

In 1984, the AOL was filed by Umetco Minerals Corporation, an entity created when Dow Chemical purchased the Union Carbide Corporation (Montrose County Courthouse, County Clerk's Office, Book 728, Page 366). The AOL documents continued to be filed by Umetco until 1992, after which the Vanadium King No. 5 claim appears to have been let lapse (Montrose County Courthouse, County Clerk's Office, Book 728, Pages 564, 747, and 907; Book 777, Pages 100, 437, 586, and 735).

**5MN9257.** Overview of Donald L. Vent Shaft No.8, facing south-southwest.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**

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|---|---|---|
| Davis Mesa, CO<br>1947 (1994)<br>NM PM T47N R17W<br>Montrose County | Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado | ALPINE ARCHAEOLOGICAL CONSULTANTS, INC. |

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Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1408
Rev. 9/98

# Isolated Find Record

## I. IDENTIFICATION AND LOCATION

1. Resource Number: 5MN9258 2. Temporary Resource Number: IF-DL-V9
3. County: Montrose
4. Legal Location: PM NM Township 47N Range 17W
   Sec 21 SE 1/4 of SE 1/4 of SE 1/4 of SW 1/4
   if section is irregular, explain alignment method: SW corner, S edge
5. UTMs: Zone 12 , 696589 mE, 4242076 mN NAD: 83
6. USGS Quad Name: Davis Mesa, CO
   Date: 1994

## II. ARCHAEOLOGICAL DATA

7. Artifacts: The isolated find is an open vent shaft with a 21-in.-diameter steel pipe. The vent pipe extends 3 ft. 3 in. above the ground. The vent shaft is situated at the base of a waste-rock pile and is partially surrounded by waste rock. A metal grate has been welded at the top of the pipe, and an 11 1/4-in.-diameter hole has been cut out from the west side. A piece of deteriorated rubber-backed canvas, probably the remains of a tarp, has been attached to the perimeter of the pipe with baling wire. A piece of a 3/4-in.-wide metal chain belt was found in association.

8. IF Dimensions: 5 X 5 m OR Single Artifact ☐
9. Inferred Function(s): vent shaft for a uranium mine
10. Cultural Affiliation/Time Period: Historic
11. Comments: The First National Bank claim was originally located by the USV on August 25, 1939. The location certificate mentions that it was ... (please see Isolated Find Record Continuation Page.)

## III. ENVIRONMENTAL DATA

12. Elevation: Feet: 6500 Meters: 1,981
13. Soil: medium-brown silty clay loam
14. Topography: southwest of a southwest-northeast-trending ridge north of Long Park
15. Slope: Site: 0-10° Surrounding: 0-10°
16. Nearest Water: Name/Nature Unnamed drainage/ intermittent
    Elevation: 6,380 feet Distance: 280 m Direction: WNW
17. Vegetation: pinyon and juniper forest in association with rabbitbrush and sagebrush

## IV. REFERENCE DATA

18. Collection?: ☐ Describe:
19. Repository: N/A
20. Landowner: Bureau of Land Mgmt, Uncompahgre Field Office/Dept. of Energy
21. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado
22. Recorder(s): Summer Moore-McMillan, Martha Bright
23. Recorder Affiliation: Alpine Archaeological Consultants, Inc.
24. Date(s): 7/22/2009

Resource No.: 5MN9258

Temp. Resource Number: IF-DL-V9

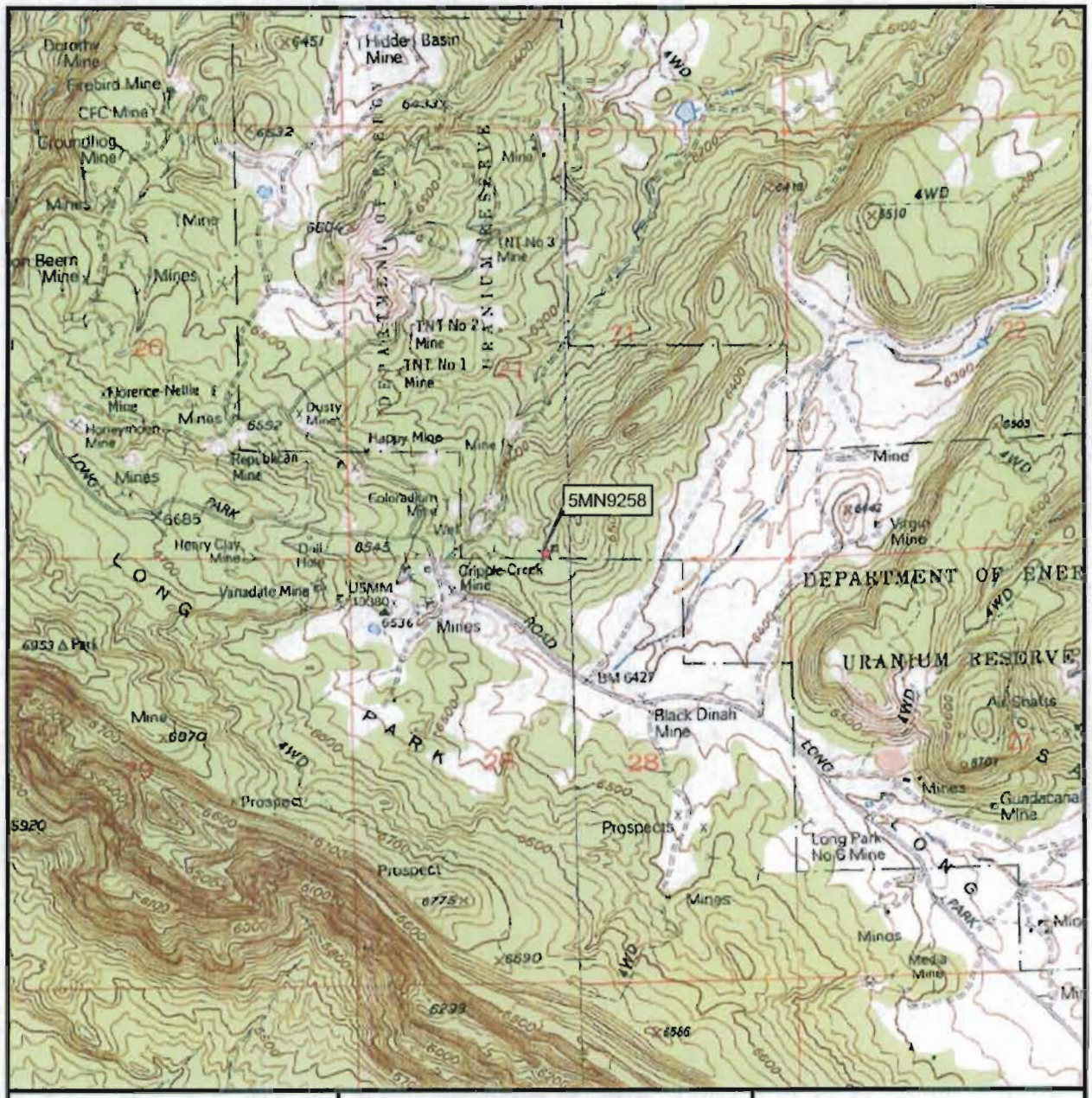
11. Comments, Continued:
... located by diamond drilling (Montrose County Courthouse, County Clerk's Office, Book 201, Page 500). The first AOL for the mine was filed in 1948 by USV. AEC records indicate that 396.56 tons of ore were extracted from the mine. This tonnage is attributed to "NU C N CO," which may be a corruption of the initials of the Union Carbide Nuclear Corporation. The USV continued to file the AOL documents yearly through 1951 (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 123, 170, and 251; Book 348, Page 249).

In 1952, Union Carbide and Carbon Corporation began filing the AOL documents. Under the names Union Carbide and Carbon Corporation, Union Carbide Nuclear Corporation, and Union Carbide Corporation, this company continued to file AOL documents for the mine yearly through 1983 (Montrose County Courthouse, County Clerk's Office, Book 352, Page 590; Book 360, Page 157; Book 374, Pages 68 and 541; Book 456, Page 22; Book 457, Page 222; Book 491, Page 205; Book 503, Pages 111 and 441; Book 522, Pages 209 and 528; Book 541, Pages 264, 453, 691, and 965; Book 562, Pages 167, 498, and 830; Book 588, Pages 61, 297, 533, and 761; Book 620, Pages 602 and 932; Book 661, Pages 206 and 622; Book 692, Page 708; Book 728, Page 19).

In 1984, the AOL was filed by Umetco Minerals Corporation, an entity created when Dow Chemical purchased the Union Carbide Corporation (Montrose County Courthouse, County Clerk's Office, Book 728, Page 366). The AOL documents continued to be filed by Umetco until 1992, after which the Vanadium King No. 5 claim appears to have been let lapse (Montrose County Courthouse, County Clerk's Office, Book 728, Pages 564, 747, and 907; Book 777, Pages 100, 437, 586, and 735).

**5MN9258.** Overview of Donald L. Vent Shaft No.9, facing northeast.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

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1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

**Department of Energy**
**Office of Legacy Management**

June 15, 2009

OLM-SRS-2009-066

Mr. Rich Ziegler, Vice President
Golden Eagle Uranium, LLC
6767 South Spruce Street, Suite 100
Centennial, CO 80112

Subject: Annual Royalties for Mining Lease Numbers AT(05–1)–ML–60.8–C–JD5A, C–SR–10, C–SR–11A, C–SR–15A, C–SR–16, C–WM–17, C–LP–22, and C–LP–22A

Dear Mr. Ziegler:

In accordance with the Lease Agreements for U.S. Department of Energy (DOE) Lease Tracts C–JD5A, C–SR–10, C–SR–11A, C–SR–15A, C–SR–16, C–WM–17, C–LP–22, and C–LP–22A, annual royalties in the aggregate amount of $55,000 are due and payable to DOE on June 27, 2009. With reference to recent discussions, DOE has identified specific work scope (hazard mitigation and reclamation activities) that can be performed on various DOE lease tracts in lieu of these annual royalty payments. The DOE has determined the value of this work scope is equitable to the royalties owed. A copy of the specific work scope is enclosed for your review.

On the basis of your review, if Golden Eagle Uranium, LLC (GEU) agrees to perform the work scope specified, please formalize your acceptance by signing in the space provided on the enclosure and returning that document to me. If accepted, please recognize that no payment for annual royalties will be due to DOE for the 2009–2010 lease year. Project personnel will coordinate a schedule with you that will ensure the completion of these activities in 2009. Upon completion of all activities, GEU will be credited with the appropriate annual royalty payments.

If you choose to decline this option at this time, the entire annual royalty amount ($55,000) is due and payable on June 27, 2009.

If you have questions concerning this matter, please contact me at (720) 377–9683.

Sincerely,

Steven R. Schiesswohl
2009.06.16 14:51:55
-06'00'

Steven R. Schiesswohl
Realty Officer

Enclosure

cc: Project File ULSCF 2.0 (E. Cotter)

**Acknowledgment and Acceptance**

Golden Eagle Uranium, LLC hereby acknowledges the work scope, and its determined value ($55,000), as referenced in the letter dated June 15, 2009. Golden Eagle Uranium, LLC hereby agrees to perform the defined work scope in lieu of the annual royalty payments due for Lease Tracts C–JD5A, C–SR–10, C–SR–11A, C–SR–15A, C–SR–16, C–WM–17, C–LP–22, and C–LP–22A for the 2009–2010 lease year (aggregate sum of $55,000). Golden Eagle Uranium, LLC further acknowledges that the performance of this work scope completely satisfies the annual royalties owed.

_____

Signature/Title

_____

Date

## Summary of Estimated Costs for Reclamation Field Activities -- Golden Eagle Uranium in-lieu-of Royalties

| | | | C-SR-10 | | | | C-SR-11A | | | | C-SR-16 | | | | C-LP-22 | | | | C-LP-22A | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date (Sept - Oct | Unit Cost | Mob | | | | | | | | | | | | | | | | | | | | | DM | Total |
| Equip. Operator | 2,000 | | 2 | 3 | 2 | 2 | | 1 | | | 2 | 2 | 2 | | 2 | 2 | 1 | | 1 | | | | | 22 |
| Laborer | 1,400 | | | 1 | | 1 | | 1 | | | | | 1 | | 1 | 1 | 1 | | 1 | | | | | 8 |
| Trackhoe (320 | 4,560 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | | | | 1 | 16 |
| Trackhoe (307 | 3,600 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Mini-Excavato | 1,400 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dozer (D-8 | 6,800 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dozer (D-6 | 3,520 | 1 | | | | | | | | | | | | | 1 | 1 | 1 | | | | | | 1 | 5 |
| Dozer (D-4 | 2,540 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| FE Loader (966 | 3,120 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 | 1 | | | | | | | | | 1 | 10 |
| Backhoe (580 | 2,640 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Skidster Loade | 1,680 | 1 | | | | 1 | | | | | | | | | | | | | | | | | | 2 |
| Grader/Maintaine | 3,120 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dump Truck (tdm | 2,880 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dump Truck (rock | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Water Truck | 2,880 | | | | | | | | | | | | | | | | | | 1 | | | | | 1 |
| Flatbed Traile | 700 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Pickup (4X4 | 1,920 | | | 1 | | | | | | | | | | | | | | | | | | | | 1 |
| Portable Welde | 540 | | | 2 | | | | | | | | | | | | | | | | | | | | 2 |
| Oxy/Acet Torch Ki | 540 | | | 2 | | | | | | | | | | | | | | | | | | | | 2 |
| Bat Gate Inst. (LS | 4,446 | | | 1 | | | | | | | | | | | | | | | | | | | | 1 |
| Seed Mix (LS | 300 | | | | | 1 | | 0.3 | | | | | 0.5 | | | 1 | | | | | | | | 2.8 |
| PUF (LS | 200 | | | | | | | | | | | | | | | 2 | | | | | | | | 2 |
| | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| SUB (Initials | | | | | | | | | | | | | | | | | | | | | | | | |
| CJO (Initials | | | | | | | | | | | | | | | | | | | | | | | | |

# GEU Reclamation in-lieu-of Royalties - Estimated Costs

| Description | Days on Job | 4-day Weeks | Cost per Week | Total Cost |
|---|---|---|---|---|
| Equip. Operators | 22 | 5.5 | 2,000 | 11000 |
| Laborers | 8 | 2 | 1,400 | 2800 |
| Trackhoe (320) | 16 | 4 | 4,560 | 18240 |
| Trackhoe (307) | 0 | 0 | 3,600 | 0 |
| Mini-Excavator | 0 | 0 | 1,400 | 0 |
| Dozer (D–8) | 0 | 0 | 6,800 | 0 |
| Dozer (D–6) | 5 | 1.25 | 5,520 | 6900 |
| Dozer (D–4) | 0 | 0 | 2,540 | 0 |
| FE Loader (966) | 10 | 2.5 | 3,120 | 7800 |
| Backhoe (580) | 0 | 0 | 2,640 | 0 |
| Skidster Loader | 2 | 0.5 | 1,680 | 840 |
| Grader/Maintainer | 0 | 0 | 3,120 | 0 |
| Dump Truck (tdm) | 0 | 0 | 2,880 | 0 |
| Dump Truck (rock) | 0 | 0 | 0 | 0 |
| Water Truck | 1 | 0.25 | 2,880 | 720 |
| Flatbed Trailer | 0 | 0 | 700 | 0 |
| Pickup (4X4) | 1 | 0.25 | 1,920 | 480 |
| Portable Welder | 2 | 0.5 | 540 | 270 |
| Oxy/Acet Torch Kit | 2 | 0.5 | 540 | 270 |
| Bat Gate Inst. (LS) | 1 | 1 | 4,446 | 4,446 |
| Seed Mix (LS) | 2.8 | 2.8 | 300 | 840 |
| PUF (LS) | 2 | 2 | 200 | 400 |
| | 0 | 0 | 0 | 0 |
| | | | Total Cost | 55006 |

## Summary of Estimated Costs for Reclamation Field Activities -- Golden Eagle Uranium in-lieu-of Royalties

| | | | C-SR-10 | | | | C-SR-11A | | | | C-SR-16 | | | | C-LP-22 | | | | C-LP-22A | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date (Sept - Oct) | Unit Cost | Mob | | | | | | | | | | | | | | | | | | | | | DM | Total |
| Equip. Operators | 2,000 | | 2 | 2 | 2 | 2 | | 1 | | | 2 | 2 | 2 | | 2 | 2 | 2 | 2 | 1 | | | | | 24 |
| Laborers | 1,400 | | | | | 1 | | 1 | | | | | 1 | | 1 | 1 | | 1 | 1 | | | | | 7 |
| Trackhoe (320) | 4,560 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 18 |
| Trackhoe (307) | 3,600 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Mini-Excavator | 1,400 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dozer (D-8) | 6,800 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dozer (D-6) | 5,520 | 1 | | | | | | | | | | | | | 1 | 1 | 1 | 1 | | | | | 1 | 6 |
| Dozer (D-4) | 2,540 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| FE Loader (966) | 3,120 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 | 1 | | | | | | | | | 1 | 10 |
| Backhoe (580) | 2,640 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Skidster Loader | 1,680 | 1 | | | | 1 | | | | | | | | | | | | | | | | | | 2 |
| Grader/Maintainer | 3,120 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dump Truck (tdm) | 2,880 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dump Truck (rock) | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Water Truck | 2,880 | | | | | | | | | | | | | | 1 | | | | 1 | | | | | 2 |
| Flatbed Trailer | 700 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Pickup (4X4) | 1,920 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Portable Welder | 540 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Oxy/Acet Torch Kit | 540 | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Bat Gate Inst. (LS) | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Seed Mix (LS) | 300 | | | | | 1 | | 0.3 | | | | | 0.5 | | | | | 2.5 | | | | | | 4.3 |
| PUF (LS) | 200 | | | | | | | | | | | | | | | 2 | | | | | | | | 2 |
| | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| SUB (Initials) | | | | | | | | | | | | | | | | | | | | | | | | |
| GJO (Initials) | | | | | | | | | | | | | | | | | | | | | | | | |

# GEU Reclamation in-lieu-of Royalties - Estimated Costs

| Description | Days on Job | 4-day Weeks | Cost per Week | Total Cost |
|---|---|---|---|---|
| Equip. Operators | 24 | 6 | 2,000 | 12000 |
| Laborers | 7 | 1.75 | 1,400 | 2450 |
| Trackhoe (320) | 18 | 4.5 | 4,560 | 20520 |
| Trackhoe (307) | 0 | 0 | 3,600 | 0 |
| Mini-Excavator | 0 | 0 | 1,400 | 0 |
| Dozer (D–8) | 0 | 0 | 6,800 | 0 |
| Dozer (D–6) | 6 | 1.5 | 5,520 | 8280 |
| Dozer (D–4) | 0 | 0 | 2,540 | 0 |
| FE Loader (966) | 10 | 2.5 | 3,120 | 7800 |
| Backhoe (580) | 0 | 0 | 2,640 | 0 |
| Skidster Loader | 2 | 0.5 | 1,680 | 840 |
| Grader/Maintainer | 0 | 0 | 3,120 | 0 |
| Dump Truck (tdm) | 0 | 0 | 2,880 | 0 |
| Dump Truck (rock) | 0 | 0 | 0 | 0 |
| Water Truck | 2 | 0.5 | 2,880 | 1440 |
| Flatbed Trailer | 0 | 0 | 700 | 0 |
| Pickup (4X4) | 0 | 0 | 1,920 | 0 |
| Portable Welder | 0 | 0 | 540 | 0 |
| Oxy/Acet Torch Kit | 0 | 0 | 540 | 0 |
| Bat Gate Inst. (LS) | 0 | 0 | | 0 |
| Seed Mix (LS) | 4.3 | 4.3 | 300 | 1290 |
| PUF (LS) | 2 | 2 | 200 | 400 |
| | 0 | 0 | 0 | 0 |
| | | | Total Cost | 55020 |

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ULP 000541

# DOE Uranium Leasing Program

## Golden Eagle Uranium — Work Scope for Reclamation in-lieu-of Royalty

### Background

During the fall of 2008, the U.S. Department of Energy Office of Legacy Management (DOE) redefined and realigned the boundaries of its uranium lease tracts to incorporate lands located inside its withdrawal boundaries that were valid claims at the time of the withdrawals but have since became invalid. As a result of those boundary redefinition/realignment activities, many of the current lease tracts now contain mining-related features that are associated with abandoned uranium mine sites located on those claims. By incorporating these lands into its lease tracts, DOE accepted the reclamation liability associated with those mining-related features.

### Current Status

On January 6, 2009, DOE notified its leaseholders of the aforementioned mining-related features located on their respective lease tracts. Specifically, Golden Eagle Uranium, LLC, was notified of various features located on Lease Tracts C–SR–10, C–SR–11A, C–SR–16, C–LP–22, and C–LP–22A. In that letter and during subsequent discussions, Golden Eagle Uranium, LLC, was offered two options. The first option was to incorporate one or more of the specific features into its respective lease operations, thereby accepting the reclamation liability associated with those features incorporated. For those features that were not accepted under first option, Golden Eagle Uranium, LLC, was given the option to fully reclaim the features in-lieu-of some portion of its annual royalty payments. That work scope is outlined below.

### Work Scope

C–SR–10:
The abandoned mine site located on the former Uintah claims needs to be addressed. Each of the six adits shall be permanently closed with large boulders and rocks and then backfilled with available mine-waste-rock materials. The mine-waste-rock dumps shall be recontoured to remove materials from the drainage channel and then blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 0.9 acres).

The abandoned mine site located on the former Vinegaroon claim needs to be addressed. The portal shall be permanently closed with large boulders and rocks and then backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured, as appropriate, to blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 0.1 acres).

A small subsidence that leads into the reclaimed Ortmeyer mine needs to be addressed. This subsidence shall be backfilled with available surface soil materials and reseeded with an approved seed mixture.

ULP 028.07(B)

A subsided shaft located on the former Otero claim needs to be addressed. This subsidence shall be backfilled with available surface soil materials and reseeded with an approved seed mixture.

Several open drill holes located on the lease tract shall be permanently closed with polyurethane foam plugs and then covered with surface soil materials and reseeded with an approved seed mixture.

C–SR–11A:
The abandoned mine site located on the former Lucky Strike claim needs to be addressed. The portal shall be permanently closed with large boulders and rocks and then backfilled with available mine-waste-rock materials. The ore chute shall be dismantled and buried on-site. The mine-waste-rock dump shall be recontoured to blend in with the natural topography of the area. The area shall then be covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 0.3 acres).

C–SR–16:
The subsidence features located at the Charles T and Charles T Southwest areas need to be addressed. These subsidence features shall be backfilled with available surface soil materials and reseeded with an approved seed mixture (approximately 0.2 acres).

Several small surface pits and trenches located on the former IV claim need to be addressed. These pits and trenches shall be backfilled with available mine-waste-rock and other surface soil materials and then reseeded with an approved seed mixture (approximately 0.1 acres).

The subsidence located at the P7 portal of the Hawk mines need to be addressed. This subsidence shall be backfilled with available mine-waste-rock and other surface soil materials and then reseeded with an approved seed mixture (approximately 0.1 acres).

The subsided shaft located at the old Ann mine need to be addressed. This subsidence shall be backfilled with available surface soil materials and reseeded with an approved seed mixture.

C–LP–22:
A power pole (San Miguel Power Association) located on top of the mine-waste-rock dump at the Donald C mine site need to be removed to facilitate the reclamation of the site.

The large abandoned mine site located on the former Donald C claim needs to be addressed. All wooden timbers and debris shall be gathered, placed in the decline trench, and burned. Subsequently, all trash and debris shall be gathered and placed in the decline trench prior to closure. The decline portal shall then be closed with large boulders and rocks and backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured to blend in with the natural topography of the area, covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 2.0 acres).

The smaller abandoned mine site located on the former Donald C claim needs to be addressed. The decline portal shall then be closed with large boulders and rocks and backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured to blend in

with the natural topography of the area, covered with other available surface soil materials, and reseeded with an approved seed mixture (approximately 0.3 acres).

The large abandoned mine site located on the former First National Bank claim needs to be addressed. All wooden timbers and debris shall be gathered and burned. All trash and debris shall be gathered and placed in the shaft prior to closure. The shaft shall then be backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured to blend in with the natural topography of the area, covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 1.6 acres).

The six (nine) vents associated with the aforementioned mines shall be permanently closed with polyurethane foam plugs and then covered with surface soil materials and reseeded with an approved seed mixture.

C–SR–22A:

The large abandoned Hidden Basin mine site needs to be addressed. All wooden timbers and debris shall be gathered, placed in the decline trench, and burned. Subsequently, all trash and debris shall be gathered and placed in the decline trench prior to closure. The decline portal shall then be closed with large boulders and rocks and backfilled with available mine-waste-rock materials. The mine-waste-rock dump shall be recontoured to blend in with the natural topography of the area, covered with other available surface soil materials, pocked, and reseeded with an approved seed mixture (approximately 1.8 acres).

The seven vents associated with the Hidden Basin mine shall be permanently closed with polyurethane foam plugs and then covered with surface soil materials and reseeded with an approved seed mixture.

The subsidence at the TNT No. 1 mine portal needs to be addressed. The subsidence shall be backfilled with available surface soil materials and reseeded with an approved seed mixture.

The open drill hole located near boundary monument AP–4 shall be permanently closed with polyurethane foam plugs and then covered with surface soil materials and reseeded with an approved seed mixture.

**Note**: The total work to be performed is in excess of the total annual royalties that are owed for the 2009 lease year (aggregate sum of $55,000). Accordingly, the work scope identified herein is equitable to $55,000. The additional work scope will be discussed in a similar fashion next year.

**Note:** This work shall be performed to the satisfaction of the DOE Realty Officer and/or his LMS Contractor representatives from S.M. Stoller Corporation, who shall provide project oversight of the reclamation field activities.

| Summary of Estimated Costs for Reclamation Field Activities -- Golden Eagle Uranium in-lieu-of Royalties | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | C-SR-10 | | | | C-SR-11A | | | | C-SR-16 | | | | C-LP-22 | | | | C-LP-22A | | | | | | | | | | | | | |
| Date (Sept - Oct | Unit Cost | Mob | | | | | | | | | | | | | | | | | | | | | | | | | | | | | DM | Total |
| Equip. Operator | 2,000 | | 2 | 3 | 2 | 2 | | 1 | | | 2 | 2 | 2 | | 2 | 2 | 1 | | 1 | | | | | | | | | | | | | 22 |
| Laborer | 1,400 | | | 1 | | 1 | | 1 | | | | | 1 | | 1 | 1 | 1 | | 1 | | | | | | | | | | | | | 8 |
| Trackhoe (320 | 4,560 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | | 1 | 1 | 1 | 1 | 1 | 1 | | | 1 | | | | | | | | | | | | 1 | 16 |
| Trackhoe (307 | 3,600 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Mini-Excavato | 1,400 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dozer (D-8 | 6,800 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dozer (D-6 | 5,520 | 1 | | | | | | | | | | | | | 1 | 1 | 1 | | | | | | | | | | | | | | 1 | 5 |
| Dozer (D-4 | 2,540 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| FE Loader (966 | 3,120 | 1 | 1 | 1 | 1 | 1 | | | | | 1 | 1 | 1 | 1 | | | | | | | | | | | | | | | | | 1 | 10 |
| Backhoe (580 | 2,640 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Skidster Loade | 1,680 | 1 | | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Grader/Maintaine | 3,120 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dump Truck (tdm | 2,880 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Dump Truck (rock | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Water Truck | 2,880 | | | | | | | | | | | | | | | | | | 1 | | | | | | | | | | | | | 1 |
| Flatbed Traile | 700 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| Pickup (4X4 | 1,920 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Portable Welde | 540 | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Oxy/Acet Torch Ki | 540 | | | 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 2 |
| Bat Gate Inst. (LS | 4,446 | | | 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | 1 |
| Seed Mix (LS | 300 | | | | | 1 | | 0.3 | | | | | 0.5 | | | 1 | | | | | | | | | | | | | | | | 2.8 |
| PUF (LS | 200 | | | | | | | | | | | | | | | 2 | | | | | | | | | | | | | | | | 2 |
| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | 0 |
| SUB (Initials | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| GJO (Initials | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

# GEU Reclamation in-lieu-of Royalties - Estimated Costs

| Description | Days on Job | 4-day Weeks | Cost per Week | Total Cost |
|---|---|---|---|---|
| Equip. Operators | 22 | 5.5 | 2,000 | 11000 |
| Laborers | 8 | 2 | 1,400 | 2800 |
| Trackhoe (320) | 16 | 4 | 4,560 | 18240 |
| Trackhoe (307) | 0 | 0 | 3,600 | 0 |
| Mini-Excavator | 0 | 0 | 1,400 | 0 |
| Dozer (D–8) | 0 | 0 | 6,800 | 0 |
| Dozer (D–6) | 5 | 1.25 | 5,520 | 6900 |
| Dozer (D–4) | 0 | 0 | 2,540 | 0 |
| FE Loader (966) | 10 | 2.5 | 3,120 | 7800 |
| Backhoe (580) | 0 | 0 | 2,640 | 0 |
| Skidster Loader | 2 | 0.5 | 1,680 | 840 |
| Grader/Maintainer | 0 | 0 | 3,120 | 0 |
| Dump Truck (tdm) | 0 | 0 | 2,880 | 0 |
| Dump Truck (rock) | 0 | 0 | 0 | 0 |
| Water Truck | 1 | 0.25 | 2,880 | 720 |
| Flatbed Trailer | 0 | 0 | 700 | 0 |
| Pickup (4X4) | 1 | 0.25 | 1,920 | 480 |
| Portable Welder | 2 | 0.5 | 540 | 270 |
| Oxy/Acet Torch Kit | 2 | 0.5 | 540 | 270 |
| Bat Gate Inst. (LS) | 1 | 1 | 4,446 | 4,446 |
| Seed Mix (LS) | 2.8 | 2.8 | 300 | 840 |
| PUF (LS) | 2 | 2 | 200 | 400 |
| | 0 | 0 | 0 | 0 |
| | | | Total Cost | 55006 |

# Site Specific
# Storm Water Management Plan

**Lease Tract#:** C-LP-22 A **Site:** Hidden Basin **Work Area:** Long Park/Hidden Basin
**Work Scope:** Close mine portal, vents and Reclaim Site

Construction activities will be managed to minimize the volume of storm water entering the disturbed portion of the work area, contain and control the volume of storm water which falls within that area, and minimize the potential for the migration of soil/sediments.

The following engineering control measures have been selected as being applicable to the specific work area disturbance:

X **Option #1:** Storm diversion will be accomplished by the installation of ditches, berms, or contouring to minimize the potential for erosion of the portion of the work area.

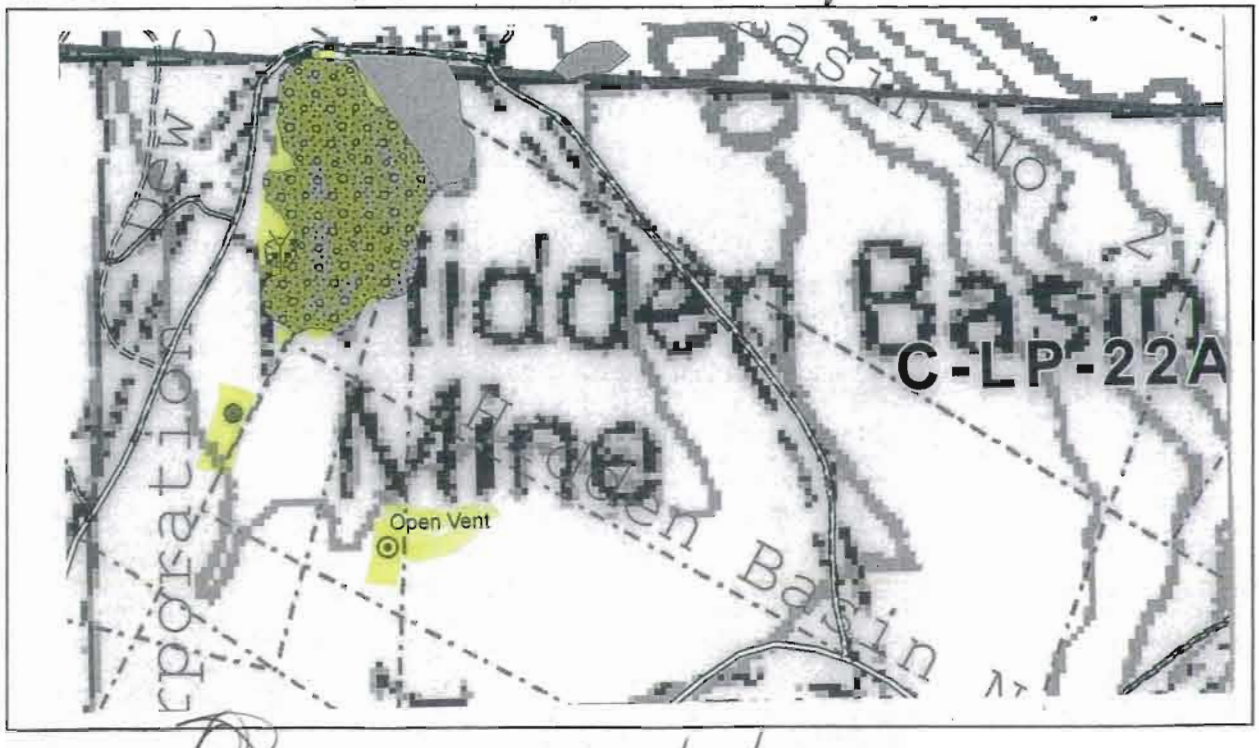
X **Option #2:** Storm water containment/control will be accomplished within the disturbed portion of the work area by construction of catchment basins, including "pocking" of the recontoured materials.

____ **Option #3:** Migration of soil/sediments will be minimized by the installation of silt fences/barricades utilizing fabric or straw bales.

X **Option #4:** Soil stabilization will be accomplished by seeding the disturbed portion of the work area to establish a viable, diverse stand of grasses, shrubs and forbs.

____ **Option #5:** No action required.

Site Sketch: Keep all Materials out of Drainage to East and pond Area.




Signature: _____ Date: 5/26/09

# Site Specific
# Storm Water Management Plan

**Lease Tract#:** C-LP-22A **Site:** TNT#1 **Work Area:** Longpark
**Work Scope:** Backfill Subsided portal

Construction activities will be managed to minimize the volume of storm water entering the disturbed portion of the work area, contain and control the volume of storm water which falls within that area, and minimize the potential for the migration of soil/sediments.

The following engineering control measures have been selected as being applicable to the specific work area disturbance:

_____ **Option #1:** Storm diversion will be accomplished by the installation of ditches, berms, or contouring to minimize the potential for erosion of the portion of the work area.

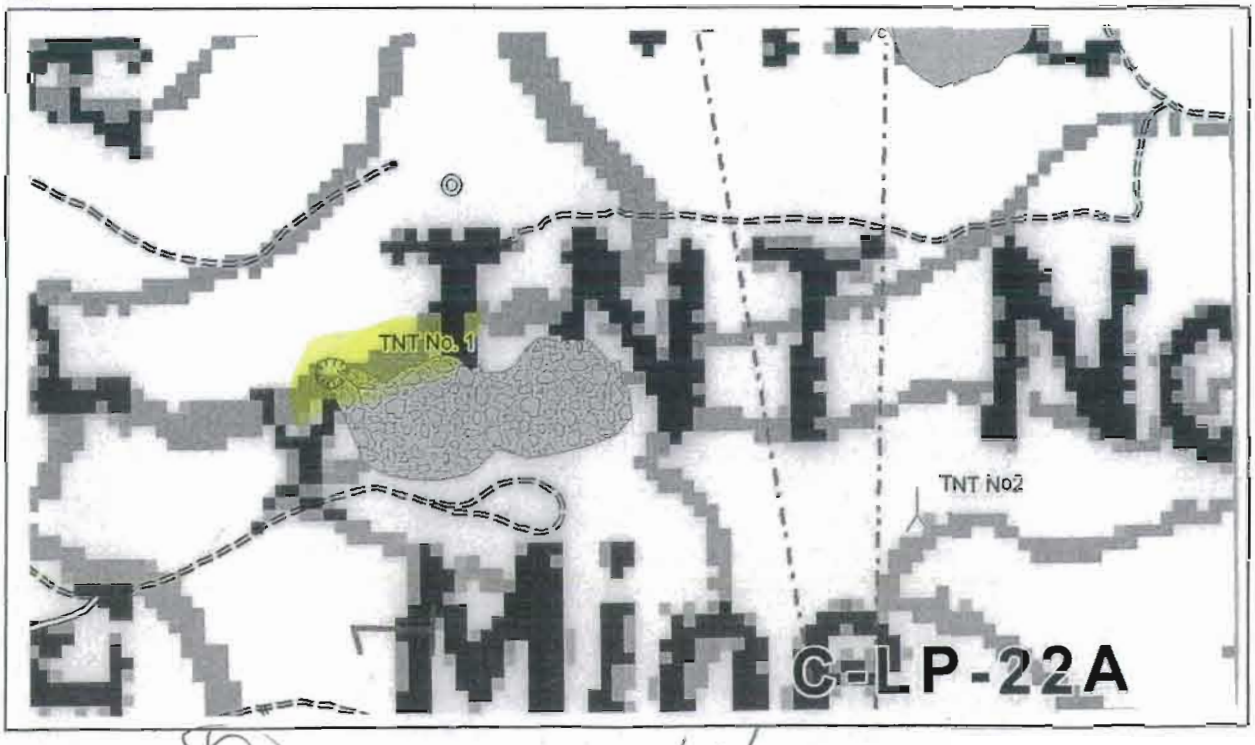
X **Option #2:** Storm water containment/control will be accomplished within the disturbed portion of the work area by construction of catchment basins, including "pocking" of the recontoured materials.

_____ **Option #3:** Migration of soil/sediments will be minimized by the installation of silt fences/barricades utilizing fabric or straw bales.

X **Option #4:** Soil stabilization will be accomplished by seeding the disturbed portion of the work area to establish a viable, diverse stand of grasses, shrubs and forbs.

_____ **Option #5:** No action required.

Site Sketch:




Signature: _____ Date: 5/26/09

# Site Specific
# Storm Water Management Plan

**Lease Tract#:** LP-22A **Site:** Fay Int #4 **Work Area:** Long Park
**Work Scope:** Close Subsided portal

Construction activities will be managed to minimize the volume of storm water entering the disturbed portion of the work area, contain and control the volume of storm water which falls within that area, and minimize the potential for the migration of soil/sediments.

The following engineering control measures have been selected as being applicable to the specific work area disturbance:

_____ **Option #1:** Storm diversion will be accomplished by the installation of ditches, berms, or contouring to minimize the potential for erosion of the portion of the work area.

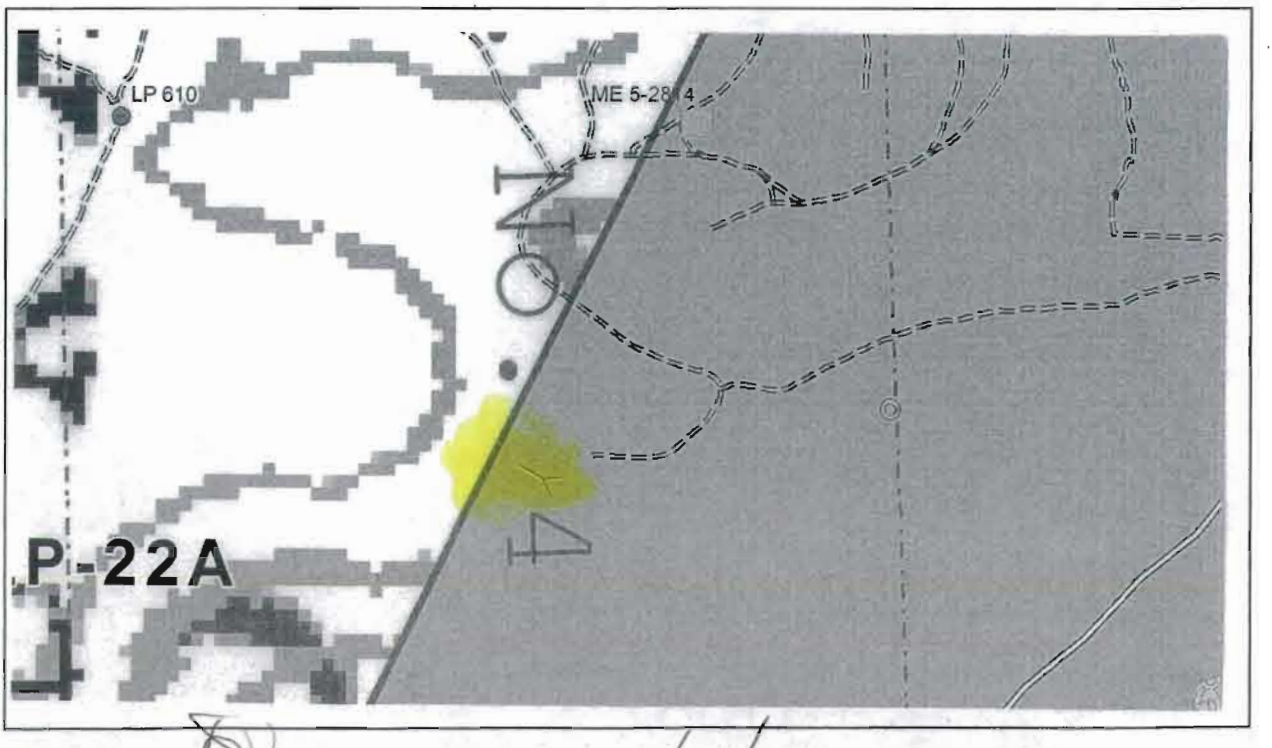
X **Option #2:** Storm water containment/control will be accomplished within the disturbed portion of the work area by construction of catchment basins, including "pocking" of the recontoured materials.

_____ **Option #3:** Migration of soil/sediments will be minimized by the installation of silt fences/barricades utilizing fabric or straw bales.

X **Option #4:** Soil stabilization will be accomplished by seeding the disturbed portion of the work area to establish a viable, diverse stand of grasses, shrubs and forbs.

_____ **Option #5:** No action required.

Site Sketch:




Signature: _____ Date: 5/26/09

# Site Specific
# Storm Water Management Plan

**Lease Tract#:** C-LP-22 A **Site:** Various Vents **Work Area:** Long Park
**Work Scope:** Close Various Vents using DUF and Soil and drillholes

Construction activities will be managed to minimize the volume of storm water entering the disturbed portion of the work area, contain and control the volume of storm water which falls within that area, and minimize the potential for the migration of soil/sediments.

The following engineering control measures have been selected as being applicable to the specific work area disturbance:

_____ **Option #1:** Storm diversion will be accomplished by the installation of ditches, berms, or contouring to minimize the potential for erosion of the portion of the work area.

_____ **Option #2:** Storm water containment/control will be accomplished within the disturbed portion of the work area by construction of catchment basins, including "pocking" of the recontoured materials.

_____ **Option #3:** Migration of soil/sediments will be minimized by the installation of silt fences/barricades utilizing fabric or straw bales.

X **Option #4:** Soil stabilization will be accomplished by seeding the disturbed portion of the work area to establish a viable, diverse stand of grasses, shrubs and forbs.

X **Option #5:** No action required. other than Seed

Site Sketch:

N/A

Signature: _____ Date: 5/26/09

# U.S. Department of Energy
# Office of Legacy Management
# National Environmental Policy Act – Environmental Checklist

| Project/Activity Title<br>Reclamation Projects on Paradox Lease Tract C-LP-22A | NEPA ID Number<br>LM 31-09 | Date<br>October 1, 2009 |
|---|---|---|
| **LM Site Name**<br>Uranium Leasing Program, CO | **LM Site Program**<br>Reuse and Property Management | |
| **Contractor NEPA Coordinator**<br>Sandra Beranich | **Signature** for SB | |
| **Contractor Task Manager**<br>Ed Cotter | **Signature** 10/7/09 | |
| **DOE Project Manager**<br>Steven Schiesswohl | **S** 2009.10.08 09:50:15 -06'00' | |

**A. Brief Project/Activity Description:**

The U.S. Department of Energy (DOE) Office of Legacy Management (LM) proposes to close and reclaim one subsided and one open mine portal, recontour a small mine-waste-rock dump, and close and reclaim eight open vent shafts on its C-LP-22A uranium lease tract. Independent contractors associated with the lessee would complete the work, and all projects would be completed within 1 week. C-LP-22A is north of Paradox Valley and between East Paradox Creek and the San Miguel River in Montrose County.

The subsided mine portal (TNT No. 1 Mine) and open mine portal (TNT No. 2 Mine) on the lease tract would be backfilled with available mine-waste rock and surface soil material and seeded with an approved seed mixture. The mine-waste-rock dump associated with the TNT No. 2 Mine would be recontoured with heavy equipment to blend in with the natural topography of the area, covered with available surface soil material, pocked or ripped, and seeded with an approved seed mixture. In total, these actions would disturb less than 0.2 acre.

The eight open vents on the Hidden Basin claim of the lease tract would be permanently closed and reclaimed. Heavy equipment and polyurethane foam would be used to close the vent shafts. If metal casings were present, soils adjacent to the vent shaft casings would be removed, and the metal casings would be crushed several feet below grade. A layer of polyurethane foam would then be sprayed over the crushed casing. If metal casings were not present, available material such as tree limbs and rocks would be placed several feet down the shaft, and then polyurethane foam would be sprayed on top of this "shelf" to seal the hole permanently. In either case, surface soil materials would be backfilled on top of the dried foam, and an approved seed mixture would be broadcast to complete the reclamation. These actions would disturb less than 0.01 acre at each vent location.

**B. Environmental Concerns:**

If the proposed action could affect human health and the environment, the "yes" column is checked, and an explanation of the degree, type, and magnitude of the physical, chemical, and radiological sources of impacts is given below. Additional description or explanation is provided on attached sheets as necessary.

| Element | Yes | No | Element | Yes | No |
|---|---|---|---|---|---|
| Air emissions/air quality | X | | Exposure/impacts to public or workers | | X |
| Noise | X | | Need for public awareness/involvement | | X |
| Solid waste generation | | X | Transportation/traffic control required | | X |

| Element | Yes | No | Element | Yes | No |
|---|---|---|---|---|---|
| Mixed waste management | | X | Access to/use of DOE property | | X |
| Chemical storage on site | | X | Visual resources impacted | | X |
| Pesticide/herbicide use | | X | Cultural/arch resources present | | X |
| Toxic substances management | | X | Wetland/floodplain impacted | | X |
| Regulated quantities of petroleum used or stored on site | | X | Protected species present: Federal, State, or Tribe listed | | X |
| Radioactive materials/soils | | X | Migratory birds breeding or nesting | | X |
| Surface (ground) disturbance | X | | Wild/scenic rivers impacted | | X |
| Surface water use/ contamination | | X | Prime/unique farmlands present | | X |
| Surface water quality | | X | Groundwater use/contamination | | X |
| Groundwater quality affected | | X | Other Considerations? | | X |

**C. Explanation and Qualification of All "Yes" Responses:**

Air emissions/air quality: Use of heavy equipment to move materials would result in minor and temporary amounts of fugitive dust being present during the duration of the proposed actions.
Noise: Noise levels would be temporarily elevated while heavy equipment is being used.
Surface (ground) disturbance: Reclaiming the two mine portals, mine-waste-rock dump, and eight open vents would result in minor surface disturbances encompassing less than 0.3 acre. The long-term result would be to improve surface site conditions, which would be considered a benefit to the environment.

**D. Recommendation:**

The proposed action to complete various reclamation activities related to past mining activities would be considered categorically excluded from further environmental evaluation under Title 10 *Code of Federal Regulations* Part 1021, Appendix B to Subpart D, B1.3(k), "Erosion control and soil stabilization measures (such as reseeding and revegetation)."

Meets Criteria ✓ Does Not Meet Criteria_____ Unsure_____

**E. NEPA Determination:**

I have reviewed the scope of actions proposed under Section A of this Environmental Checklist, and the information relevant to the potential for environmental impacts in Section B, and determined the following:

✓ The proposed actions meet the criteria for categorical exclusion.

__ The proposed actions do not meet the criteria for categorical exclusion; therefore, I recommend that the LM NEPA Planning Board be convened based on my recommendation (see attached rationale) to complete:

( ) an Interim Action ( ) an Environmental Assessment
( ) an Environmental Impact Statement ( ) a Supplemental Analysis

LM NEPA Compliance Officer 10/19/09 Date

Distribution upon signature:

R. Bush, LM NEPA Compliance officer
S. Schiesswohl, DOE Project Manager
S. Beranich, Stoller NEPA Coordinator
S. Osborn, Stoller Compliance Manager
rc-grand.junction (E. Cotter)

## Kastens, Marilyn

**From:** Burns, Dan
**Sent:** Monday, October 26, 2009 6:57 AM
**To:** Cotter, Ed; Kastens, Marilyn; Turley, Kyle
**Subject:** FW: notice to procede

Dan L. Burns
Field Operations Manager
Uranium Leasing Program
dan.burns@lm.doe.gov
Off:(970)248-6317
Cell:(970) 250-6268

-----Original Message-----
From: glade_hadden@blm.gov [mailto:glade_hadden@blm.gov]
Sent: Sunday, October 25, 2009 12:29 PM
To: Burns, Dan
Subject: notice to procede

Dan
This should serve as a notice to begin work on sites LP-23, JD-5 and JD-6.
Sorry for the delay - let me know if there is anything else you need.

Glade Hadden
Archaeologist
Uncompahgre Field Office

I also received a verbal "go-ahead" from Glade Hadden, by phone, on Sunday, 10/25/09.

## Cotter, Ed

**From:** Sheader, Linda
**Sent:** Friday, October 16, 2009 10:48 AM
**To:** Cotter, Ed; Kastens, Marilyn; Burns, Dan; Turley, Kyle; Beranich, Sandy
**Subject:** Inspection of proposed reclamation areas on lease tracts

Hi All,

Yesterday, I inspected several lease tracts with Ed and Marilyn to determine whether there were any potential ecology issues related to the proposed reclamation work. We inspected areas to be disturbed at the following locations:

1) C-LP-21: Abandoned mine site at Vanadium King No. 5 and subsided shaft on Long Park No. 16
2) C-LP-22: Two abandoned mine sites at Donald C Claim; abandoned site and 6 vents at First National Bank claim
3) C-SR-22A: Hidden Basin mine site; subsided portal at TNT-1; 7 vents; and open drill hole
4) C-LP-23: subsided portal on LP-23 mine; two open vents at Lexington claim

Time did not allow inspection of features on C-AM-19A, C-AM-20, C-JD-5 or C-JD-6. Of these, only C-AM-19A would still need to be visited because C-JD-5 and C-JD-6 only involve filling small drill holes, and C-AM-20 only involves welding a grate over a mine opening.

No evidence of threatened, endangered, candidate, or sensitive plant species was found at any of the areas proposed to be disturbed. I have two recommendations related to the proposed work:

1) Bat surveys are recommended before disturbing any open shafts or tunnels to prevent adverse impacts to bat species. I recommend that a bat expert be consulted to determine which, if any, open portals (including some of the subsided portals) provide potential habitat for bats. Before filling the openings, protocols for tarping should be followed to displace any bats occupying the shaft or tunnel. The small portal at the Donald C claim could be investigated as a possible place to install bat gates rather than filling the portal. Sandy would be the best person to coordinate wildlife actions related to this work.

2) Most of the proposed disturbance related to reclaiming waste rock piles would only affect mid-seral plant communities, containing mostly reclamation species. However, the toe of the rock pile at the First National Bank claim is located within high quality late-seral pinon-juniper forest. The forest contains a diversity of species including fishhook cactus (not the endangered hookless variety) and very old juniper trees. Disturbance to rabbitbrush and sagebrush communities up-slope and to the side of the pile would be preferable to disturbing the pinon-juniper woodland. If at all possible, it would be best to work from the top of the pile and to leave the toe undisturbed except to place soils and seed over the slope from above.

Please let me know if you have any questions or concerns, and the next time anyone is visiting Lease Tract 19A, I would like to come along if possible to inspect the mine adit at the south end of the Dolores claim.

Thanks much!

Linda

**Department of Energy**
**Office of Legacy Management**

September 23, 2009

OLM-LEK-2009-134

Mr. Glade Hadden, Archaeologist
U.S. Bureau of Land Management
Uncompahgre Field Office
2505 South Townsend Avenue
Montrose, CO 81401

Subject: Resubmission of DOE's Reclamation Proposal Concerning Abandoned Mine Features in the Uravan and Long Park Areas, Montrose County

Dear Mr. Hadden:

The U.S. Department of Energy Office of Legacy Management (DOE) is resubmitting a proposal to reclaim and mitigate hazards at numerous abandoned mine sites on DOE's uranium lease tracts in Montrose County. Please refer to the previously submitted cultural report, entitled *Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado*. The enclosed Table 1 lists the 27 mine site features that are proposed to be reclaimed and identifies the cultural site number and eligibility recommendation for each feature. Of the 27 mine site features, 14 are recommended as ineligible for inclusion in the National Register of Historic Places, and 13 are considered isolated finds. Topographic maps showing locations of the cultural resource sites are on pages A–1 through A–3 of the Class III cultural resource inventory. Please review the inventory report and let us know if you have cultural resource management concerns and concur with our recommendations of eligibility.

If you have specific questions or comments, please contact my contractor staff, Ed Cotter, at (970) 248-6056 (Ed.Cotter@lm.doe.gov). If you have general questions about the uranium leasing program, please contact me at (720) 880-5338 (Laura.Kilpatrick@lm.doe.gov). Thank you for your review and consideration of our proposed mine site reclamation activities.

Sincerely

2009.09.24
20:24:55 -06'00'

Laura E. Kilpatrick
Realty Officer

Enclosure (Table 1)

cc w/enclosure:
S. Schiesswohl, DOE (e)
E. Cotter, Stoller (e)
M. Kastens, Stoller (e)
Project File (E. Cotter)

*Table 1. Abandoned Mine Site Features Proposed for Reclamation and Cultural Resource Identification*

| Name/Location | Mine Feature and Proposed Reclamation | Cultural Resource Identification and Recommendation |
|---|---|---|
| Dolores Mine, C–AM–19A<br>T43N R19W Sec19 SWSE | Open adit will be closed with a polyurethane foam bulkhead | Site 5MN9235, recommended Not Eligible to National Register of Historic Places (NRHP) |
| Abajo No. 3 Mine, C–AM–19A | A subsided vent shaft will be backfilled with soil material and seeded | Site 5MN9252, considered Isolated Find (IF) |
| Town House Mine, C–AM–20<br>T48N R17W Sec20 SWSE | Open vent shaft will be closed with polyurethane foam plug, covered with soil, and seeded | Site 5MN9236, recommended Not Eligible to NRHP |
| Vanadium King No. 5 Mine, C–LP–21<br>T47N R17W Sec22 SESW and SWSW | Three open vent shafts will be closed with polyurethane foam plug, covered with soil, and seeded | Sites 5MN9238, 5MN9239, recommended Not Eligible to NRHP;<br>5MN9253, considered IF |
| First National Bank Mine, C–LP–22<br>T47N R17W Sec21 SWSE and SESW | Open mine shaft will be closed with available mine-waste-rock materials; mine-waste-rock dump will be recontoured to blend in with surrounding topography and seeded; three open vent shafts will be closed with polyurethane foam plugs, covered with soil, and seeded | Site 5MN9240, recommended Not Eligible to NRHP; Sites 5MN9256, 5MN9257, and 5MN9258 considered IFs |
| Cripple Creek Mines, C–LP–22<br>T47N R17W Sec 28 NENW and Sec21 SESW | Three open vent shafts will be closed with polyurethane foam plugs, covered with soil, and seeded | Sites 5MN9241and 5MN9242, recommended Not Eligible to NRHP;<br>Site 5MN9254, considered IF |
| Second National Bank Mine, C–LP–22<br>T47N R17W Sec 28 NWNE | Open vent shaft will be closed with polyurethane foam plug, covered with soil, and seeded | Site 5MN9255, considered IF |
| Hidden Basin Mine, C–LP–22A<br>T47N R17W Sec21 NWNW, Sec16 SWSW, and Sec17 SESE | Eight open vent shafts will be closed with polyurethane foam plugs, covered with soil, and seeded | Sites 5MN9245, 5MN9246, 5MN9247, 5MN9248, and 5MN9249, recommended Not Eligible to NRHP; Sites 5MN9259, 5MN9260, and 5MN9261, considered IFs |
| TNT No. 1 Mine, C–LP–22A<br>T47N R17W Sec21 NWSW | The subsided mine portal will be backfilled with available soil material and reseeded | Site 5MN9262, considered IF |
| TNT No. 2 Mine, C–LP–22A<br>T47N R17W Sec21 NESW | Open mine portal will be backfilled with available mine-waste-rock materials; mine-waste-rock dump will be recontoured to blend in with surrounding topography and seeded | Site 5MN9250, recommended Not Eligible to NRHP |
| LP–23 Mine, C–LP–23 (Tract 1)<br>T46N R17W Sec1 NWNE | The subsided mine portal will be backfilled with available soil material and reseeded | Site 5MN9263, considered IF |
| Lexington Mine, C–LP–23<br>T46N R17W Sec1 SWSE | Two open vent shafts will be closed with polyurethane foam plugs, covered with soil, and seeded | Site 5MN9251, recommended Not Eligible to NRHP; Site 5MN9264, considered IF |

# Meeting/Teleconference Record

**Date:** 9/21/09

**To:** Ed Cotter

**From:** Marilyn Kastens

**Subject:** Cultural Clearance for Conducting Abandoned Mine Reclamation on Uranium Lease Tracts in Montrose County (Uravan/Long Park Area)

Persons Present/Contacted:

| Name | Company/Agency | Telephone Number/Extension |
|---|---|---|
| Glade Hadden<br>BLM Archaeologist | BLM, Uncompahgre Field Office | 970-240-5303 |
| Marilyn Kastens<br>Cultural Resource Coordinator | SM Stoller Corp. | X6781 |
| | | |

**Issue: Cultural Clearance for Abandoned Mine Land Reclamation—**
DOE submitted the report, *Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado* to Glade Hadden (BLM archaeologist) on August 25, 2009, requesting his concurrence in DOE's proposal to conduct additional "Level II" archival documentation of five mine site properties that are considered eligible for inclusion in the National Register of Historic Places. DOE would like to conduct the additional documentation as mitigation for reclaiming hazardous mine site features and, through this work, destroying the integrity of these historic mine sites. Glade stated that he was going to have to consult with the State Historic Preservation Officer (SHPO) about DOE's proposal. He mentioned that he had talked to Dan Corson with the SHPO's office (Intergovernmental Services Director) about DOE's proposal and although Dan couldn't make a verbal determination, Glade got the impression that the SHPO's office would not concur with DOE's mitigation proposal. He had a suspicion that if DOE pursued the Level II archival documentation, then SHPO may not concur; SHPO may be more interested in preserving the mine sites. Glade recommended that we re-submit our "Determination" letter of 8/25/09 to him and address the 14 non-eligible cultural sites in one letter and address the 5 eligible mine sites in a second letter, as the latter is going to require consultation and will take time to work through the system. We have two main options concerning the 5 eligible mine sites:

Option 1: Continue on our present course and propose that a Level II archival documentation be prepared as mitigation. Glade recommended that if we went this route, we should get a detailed proposal from Alpine Archaeology concerning the Level II documentation process. Glade would present this proposal to SHPO and they would either concur or not concur. If SHPO concurs, DOE might need to prepare a Memorandum of Agreement that outlines the agreed-upon mitigation. If SHPO does not concur, then DOE/BLM would take the proposal to the regional Advisory Council on Historic Preservation (ACHP), who would review the proposal. ACHP would formally file their comments on the issue. DOE is then free to make its own decision and proceed accordingly. The ACHP comments are NOT binding; DOE would have the final say. This process would take a minimum of 60 days and could take up to 6 months to complete.

Option 2: Relook at our reclamation process and determine if we can mitigate safety hazards and maintain the integrity of eligible, historic mine site features such as ore bins, hoist houses, collapsed shed structures, waste rock dumps, residential trash dumps, etc. If we think we can do this, re-submit the "Determination" letter to BLM and describe how we will preserve historic features during mine site reclamation. During mine site reclamation, an archaeological monitor would need to be present on site to formally document that features are preserved in their historical context.

**Follow Up Action Required:** ULP personnel need to determine a course of action (Option 1 or 2).
**Affect Scope/Schedule or Budget:** **YES _X_ NO __** **Explanation:** Under Option 1, it is unlikely that reclamation activities could occur at the 5 eligible mine sites before April 30, 2010. Under Option 2, revised reclamation methods could possibly be implemented before April 30, 2010.

CC: ULP Project File (Ed Cotter)

Contains Privileged Information – Do Not Release

BLM Project Authorization No. 09UN09

# DOCUMENTATION OF FOURTEEN HISTORIC MINE FEATURES AND THIRTEEN ISOLATED FINDS ON U.S. DEPARTMENT OF ENERGY URANIUM LEASE TRACTS IN WESTERN COLORADO: PHASE 2, URAVAN/LONG PARK AREA, MONTROSE COUNTY, COLORADO

by

Summer Moore-McMillan
Project Director

Under the direction of

Jonathon C. Horn
Principal Investigator

Alpine Archaeological Consultants, Inc.
P.O. Box 2075
Montrose, Colorado 81402
(970) 249-6761

Prepared for

S. M. Stoller Corporation
2597 B ¾ Road
Grand Junction, CO 81503
Contract GS-10F-0004S, Purchase Order #0000004277

Under the provisions of
Colorado BLM Cultural Resource Use Permit No. C-46920

October 2009

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

## INTRODUCTION

S.M. Stoller Corporation (Stoller), the Legacy Management Support Contractor for the U.S. Department of Energy Office of Legacy Management (DOE) in Grand Junction, Colorado, is proposing to reclaim and mitigate hazards at numerous abandoned mine sites on DOE's uranium lease tracts in San Miguel, Montrose, and Mesa counties. The abandoned mine features, which include open portals, subsided vent shafts, and unreclaimed waste rock dumps, are located at approximately 38 separate project areas within 14 DOE lease tracts. The surface of DOE's lease tracts are managed by the Bureau of Land Management's (BLM's) Dolores, Uncompahgre, and Grand Junction field offices; DOE manages the minerals for uranium exploration and production. In order to comply with historic preservation obligations outlined in Section 106 of the National Historic Preservation Act (NHPA; 16 USC 470) and the National Environmental Policy Act (NEPA; 42 USC 4321), Stoller hired Alpine Archaeological Consultants, Inc. (Alpine) to conduct a Class III cultural resources inventory of the proposed project areas. This project falls under Contract GS-10F-0004S and Purchase Order #0000004277.

In order to facilitate the Section 106 consultation process with the three BLM offices, Stoller chose to divide the cultural resources inventory into three separate phases—consisting of groups of project areas in the Slick Rock, Uravan/Long Park, and Gateway areas—that will be reported separately. Each phase of the cultural resource inventory consists of several project areas on multiple lease tracts that have been grouped together based on geographic proximity and BLM field office. Eleven project areas in six lease tracts for the Uravan/Long Park phase of the project are reported herein.

Project work for the Uravan/Long Park phase of the cultural resource inventory was conducted between July 20 and 23, 2009, by Summer Moore-McMillan and Martha Bright of Alpine. The field crew was accompanied in the field by Stoller's reclamation supervisor, Dan Burns, who escorted the crew to each of the project areas and provided details about DOE's proposed reclamation activities. Summer Moore-McMillan served as field director, and Jonathon Horn served as Principal Investigator. The work was conducted under the provisions of Colorado BLM Cultural Resource Use Permit No. C-46920, which expires February 27, 2010, BLM Project Authorization No. 09UN09. No artifacts were collected during the inventory; field notes and photographs from the survey are on file at Alpine's office in Montrose, Colorado.

## LOCATION AND ENVIRONMENTAL SETTING

The Phase 2 project areas reported here are near Uravan, Colorado, in western Montrose County. Legal locations of the project areas are presented below in Table 1. The locations of the project areas are shown in Figure 1 through Figure 4. The topography is typical of the northern Colorado Plateau, with moderately high elevations and extensive exposures of nearly horizontal sedimentary rock formations. The occurrence of significant deposits of carnotite ore in west-central Colorado is due to the presence of what has been termed the "Uravan Mineral Belt." The Uravan Mineral Belt is a large "C"-shaped area stretching across much of west-central Colorado, in which exposures of sandstones from the Salt Wash Member of the Morrison formation have been shown to contain extensive deposits of uranium and vanadium ore (Chenoweth 1993). The present project, including all three phases of work in areas around Slick Rock, Uravan/Long Park, and Gateway, Colorado, falls entirely within the area known as the Uravan Mineral Belt. Elevations within the project areas range from approximately 5,560 to 6,580 ft. (1,695 to 2,006 m). The topography is dominated by mesas and deeply entrenched canyons. Vegetation within the project tracts is dominated by pinyon and juniper with an understory of big sagebrush.

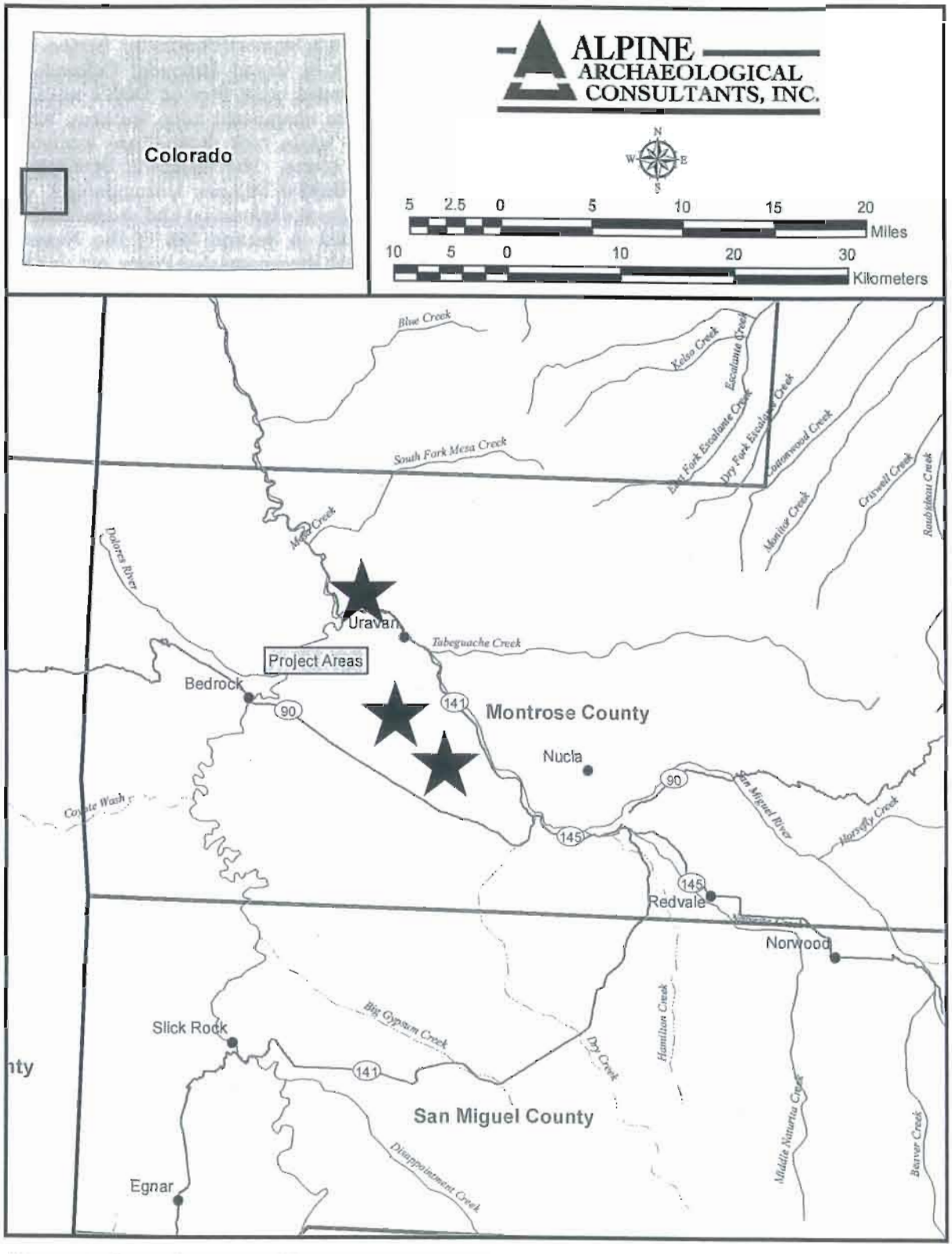



Figure 1. General location of Phase 2 project areas.

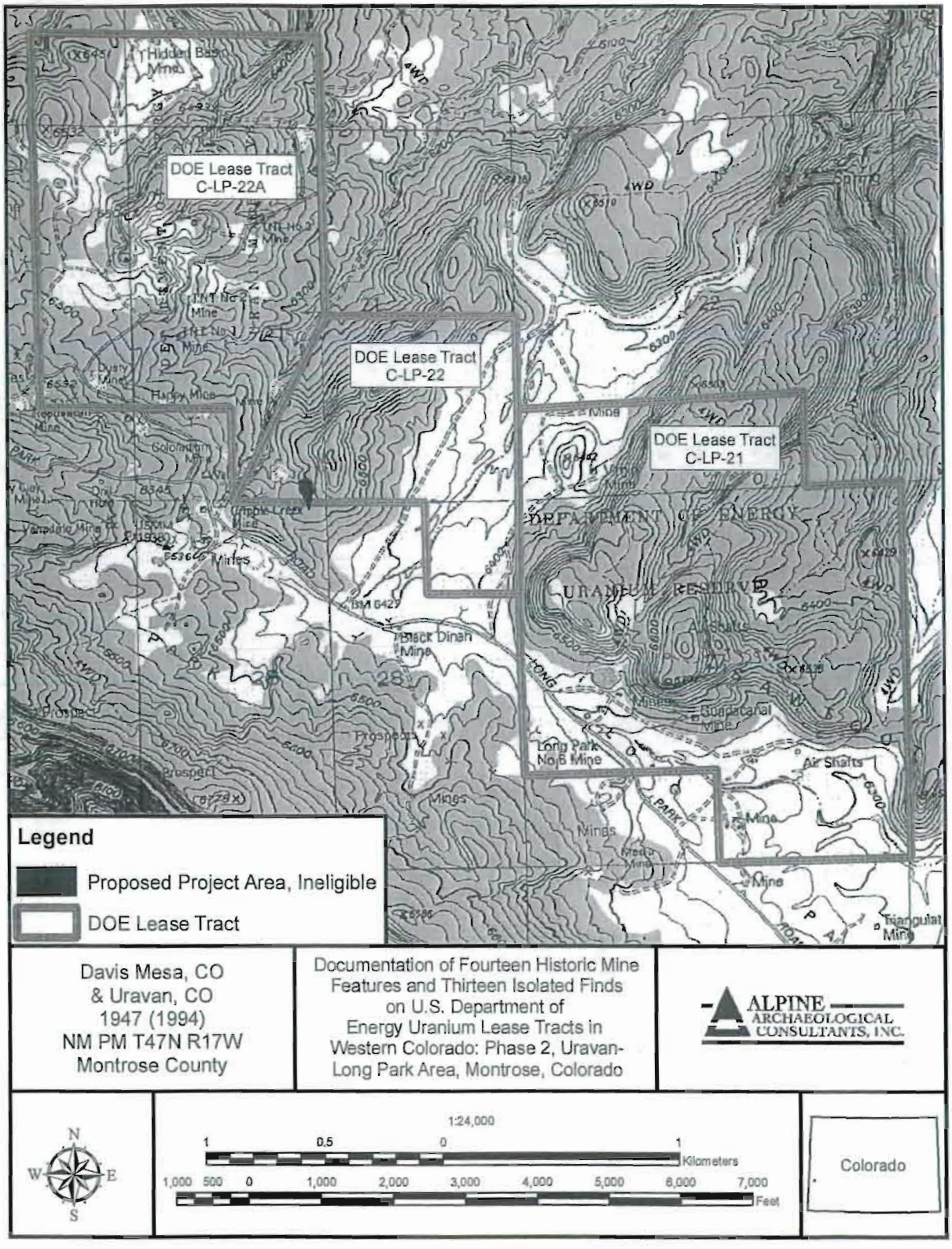



Figure 3. Locations of Phase 2 project areas in Lease Tracts C-LP-21, C-LP-22, and C-LP-22A.

Table 1. Locations of Phase 2 Project Work.

| Lease Tract No. | Project Area | Claim Name | Proposed Activities | Legal Location (New Mexico PM) | Project Area Acreage | Recorded Cultural Resources |
|---|---|---|---|---|---|---|
| C-AM-19A | 20 | Dolores | Closure of adit | T 43N, R 19W, Section 19, SW, SE | 0.07 | 5MN9235† |
| | 21 | Abajo No. 3 | Backfilling of subsided vent shaft | T 43N, R 19W, Section 19, SE, SE | <0.00 | 5MN9252* |
| C-AM-20 | 41 | Town House | Closure of vent | T 48N, R 17W, Section 20, SW, SE | 0.02 | 5MN9236 |
| C-LP-21 | 22 | Vanadium King No. 5 | Closure of three vents | T 47N, R 17W, Section 22, NW, SW and SW, SW | 0.08 | 5MN9238<br>5MN9239<br>5MN9253* |
| C-LP-22 | 24 | Cripple Creek | Closure of two vents | T 47N, R 17W, Section 21, SE, SW | 0.05 | 5MN9241<br>5MN9242 |
| | 25 | First National Bank; Second National Bank | Backfilling of shaft, burning of timbers and debris, recontouring of waste-rock dump, closure of 10 vents in the vicinity | T 47, R 17W, Section 21, SE, SW | 1.57 | 5MN9240<br>5MN9254*<br>5MN9255*<br>5MN9256*<br>5MN9257*<br>5MN9258* |
| C-SR-22A | 26 | Hidden Basin | Closure of eight vents | T 47N, R 17W, Section 16, SW, SW | 0.11 | 5MN9245<br>5MN9246<br>5MN9247<br>5MN9248<br>5MN9249<br>5MN9259*<br>5MN9260*<br>5MN9261* |
| | 27 | TNT No. 1 | Backfilling of mine portal subsidence | T 47N, R 17W, Section 21, NW, SW | 0.02 | MN9262* |
| | 42 | TNT No. 2 | Backfilling of mine portal subsidence | T 47N, R 17 W, Section 21, NE, SW | 0.08 | 5MN9250 |
| C-LP-23 | 28 | LP-23 (Tract 1) | Backfilling of mine portal subsidence | T 46N, R 17W, Section 1, NW, NE | 3.49 | 5MN9263* |
| | 29 | Lexington (Tract 3) | Closure of two vents | T 46N, R 17W, Section 1, SW, SE | 0.12 | 5MN9251<br>5MN9264* |

† Site 5MN9235 extends onto private land; all other cultural resources are on land managed by the BLM-UFO. * Isolated finds.

## HISTORICAL CONTEXT OF THE PROJECT AREA

As the Statement of Work (SOW) for this project specified that no prehistoric sites would be recorded, a discussion of only the Historic period within the project area is provided below. The first European people to enter the project area were Spanish explorers. Juan de Rivera led an expedition through the heart of the project area in 1765, in search of mineral wealth. In 1776, the Escalante-Dominguez Expedition passed through western Colorado in search of a route between Santa Fe and missions in California. As a result of these forays, the northern branch of the Old Spanish Trail was established through western Colorado. This served as an early Spanish trade route from Santa Fe by way of the San Luis Valley and was subsequently used by fur trappers, explorers, and as a connection to the Mormon settlements in the Uinta Valley of Utah as the Salt Lake Wagon Road.

Exploitation of the project area's natural resources by Euroamericans began in the 1820s with the arrival of fur trappers. One fur trader, James Pattie, traveled through western Colorado in 1826, following a route along the Colorado River near present-day Grand Junction. Another trapper, Antoine Roubideau, established a trading post west of Delta, Colorado, in 1828. The fort was destroyed in 1844, and knowledge of the fort's exact location is presently unknown. The fur industry

## PREVIOUS WORK AND EXPECTED RESULTS

Table 2 shows previously conducted cultural resource inventories separated by lease tract, as described in Reed (2006). Only two projects, two recent historic mine documentation projects by Twitty (2006; 2008b), actually overlap the present project area.

Multiple prehistoric and historic sites have been recorded within the lease tracts grouped into the Uravan/Long Park phase of this project. Twelve sites within the Uravan/Long Park uranium lease tracts are eligible for, or are potentially eligible for, inclusion on the NRHP. These include sites that have been officially determined to be NRHP-eligible by federal or state agencies, that have been recommended as eligible by site recorders but not formally evaluated by the agencies, and sites that are classified by either the agencies or the recorders as "need data." The "need data" sites consist of those that were not assessed for eligibility by either the agencies or the recorders and those that cannot be tenably evaluated because an understanding of key site attributes associated with site significance is lacking. None of the sites in the project tracts is actually listed on the NRHP. Table 3 lists eligible or potentially eligible sites by lease tract number.

Only four previously recorded cultural resource sites have been identified within the proposed Uravan/Long Park project areas. These sites were recorded during two recent historic mine documentation projects by Twitty (2006; 2008b). They include the Hidden Basin Mine (5MN7866), the Long Park No. 1 Mine (5MN8145), Shaft No. 1 at the Cripple Creek Mine (5MN8171), and Shaft No. 2 at the Cripple Creek Mine (5MN8172).

DOE and BLM archaeologists previously determined that it was not necessary to inventory for prehistoric sites within each of the small project areas, all of which fell within the historic footprint of known mining operations. Consequently, the Alpine crew went into the field prepared to document each of the historic uranium mining locations slated for reclamation activities, as well as to evaluate the effects of proposed project activities on each of these properties.

**Table 2. Previously Conducted Cultural Resource Inventories by Phase 2 Lease Tract.**

| Lease Tract No. | Reference | Document ID | Project Description | Area Surveyed (Acres) |
|---|---|---|---|---|
| C-AM-19A | Scott 1979 | MN.LM.NR43 | TV reflector | 4.7 |
| | Botsford 2001 | MC.LM.R228 | Grazing allotment | 83.6 |
| | Conner and Davenport 2001 | MN.LM.R88 | Vegetation treatment | 120.8 |
| C-LP-21 | Copeland 1980 | UNRA-80UN060 | Seismic lines | 9.4 |
| | Rupp 1984 | UNRA-84UB008 | Drilling program | 0.7 |
| | Lewis 1989 | MN.LM.NR125 | Drill holes | 0.0 |
| | Lewis 1996 | MN.LM.NR177 | Uranium lease | 1.9 |
| | Lewis 1997 | MN.LM.NR215 | Drill holes and road | 0.3 |
| | Hurt and Seymour 2001 | MC.LM.R310 | Seismic lines | 26.7 |
| | Unknown | UNRA-96122 | Unknown | 47.7 |
| C-LP-22 | Copeland 1980 | UNRA-80UN060 | Seismic lines | 0.2 |
| | Rupp 1984 | UNRA-84UB008 | Drilling program | 29.0 |
| | Lewis 1989 | MN.LM.NR125 | Drill holes | 0.1 |
| | Hurt and Seymour 2001 | MC.LM.R310 | Seismic lines | 10.2 |
| C-SR-22A | Copeland 1980 | UNRA-80UN060 | Seismic lines | 10.7 |
| | Lazorchak 2000 | MN.LM.NR342 | Grazing allotment | 8.5 |
| | Hurt and Seymour 2001 | MC.LM.R310 | Seismic lines | 11.4 |
| C-LP-23 | Copeland 1980 | UNRA-80UN060 | Seismic lines | 13.4 |
| | Duke 1982 | MN.LM.NR240 | Seismic lines | 2.2 |
| | Harden 1998 | MN.LM.R70 | Seismic lines | 0.9 |
| | Hurt and Seymour 2001 | MC.LM.R310 | Seismic lines | 13.8 |
| | Scott 2003 | MN.LM.R126 | Well pads and access roads | 3.0 |

**Table 3. Cultural Resources Within the Phase 2 Lease Tracts Eligible or Potentially Eligible for Inclusion on the National Register of Historic Places.**

| Lease Tract No. | Site No. | Site Type | NRHP Eligibility | Report Reference |
|---|---|---|---|---|
| C-AM-19A | 5MN1124 | Prehistoric Rockshelter | Field Needs Data | Copeland 1980 |
| | 5MN5651 | Prehistoric Camp | Officially Needs Data | Conner and Davenport 2001 |
| | 5MN5652 | Prehistoric Camp | Officially Needs Data | Conner and Davenport 2001 |
| | 5MN5655 | Prehistoric Camp | Officially Needs Data | Conner and Davenport 2001 |
| | 5MN5656 | Prehistoric Camp | Officially Eligible | Conner and Davenport 2001 |
| | 5MN5657 | Prehistoric Camp | Officially Needs Data | Conner and Davenport 2001 |
| C-LP-21 | 5MN5137 | Prehistoric Camp | Officially Eligible | Hurt and Seymour 2001 |
| | 5MN8145 | Uranium Mine | Officially Eligible | Twitty 2008b |
| C-LP-22 | 5MN8171 | Uranium Mine | Officially Eligible | Twitty 2008b |
| | 5MN8172 | Uranium Mine | Officially Eligible | Twitty 2008b |
| C-LP-22A | 5MN1289 | Prehistoric Camp | Field Needs Data | Copeland 1980 |
| | 5MN7866 | Uranium Mine | Officially Eligible | Twitty 2006 |

## FIELD METHODS

Each of the areas proposed for reclamation was visited specifically for recordation of the historic uranium mining properties slated for disturbance. At each area, Stoller personnel identified and flagged the limits of proposed disturbance, including features slated for reclamation, borrow locations of fill soil and rock, and areas of potential vehicle traffic outside of established roads. Recordation was conducted by two archaeologists with specific mapping, photography, and description tasks. As DOE and BLM archaeologists had previously agreed that site recordation would be limited to the immediate area of the disturbance, no attempt was made to identify the perimeters of the historic properties. The areas within the proposed disturbances were intensively inspected for cultural features and artifacts. All cultural resources encountered in the project area were recorded on the appropriate Colorado Cultural Resource Survey forms. The boundaries of the proposed disturbance and the historic properties and cultural features identified within each disturbed area were mapped using a Trimble GeoXT Global Positioning Systems (GPS) unit capable of sub-meter accuracy. Field notes and photographs resulting from the project are on file at Alpine Archaeological Consultants, Inc. in Montrose, Colorado. No artifacts were collected in the course of the project.

## RESULTS

Inspection of the 11 project areas resulted in the recordation of 14 new cultural resource sites and 13 isolated finds. Four previously recorded sites were reevaluated. As expected, no cultural resources other than sites selected for historic documentation were discovered during the inventories. Site location maps and site maps are provided in Appendices A and B, respectively. Site forms are included in Appendix C. Isolated find forms are included in Appendix D.

### Lease Tract C-AM-19A, Project Area 20

#### *5MN9235 – The Dolores Mine, Waste-Rock Disposal Adit*

The waste-rock disposal adit at the Dolores Mine (5MN9235) is situated along a sandstone cliff band on the south-facing escarpment of San Miguel Canyon. Whereas a portion of the mine is on the unpatented Dolores mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO, an additional portion of the site is on private land. The site encompasses 0.07 acres at an elevation of 5,560 ft. (1,695 m). Vegetation in the area consists primarily of sparse pinyon and

*Potential Project Impacts*

The vent shaft will be permanently closed with a polyurethane foam plug and then covered with surface soil materials and reseeded with an approved seed mixture.

*Management Recommendations*

Because Alpine recommends site 5MN9242 as ineligible for the NRHP, no further historical or archaeological work is recommended.

**Lease Tract C-LP-22A, Project Area 26**

***5MN9245***

Site 5MN9245 is a vent shaft situated on a southwest-facing slope adjacent to Hidden Basin. The vent is on the unpatented Hidden Basin mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site encompasses an area of 0.02 acres at an elevation of 6,430 ft. (1,960 m). Vegetation in the area consists of sparse pinyon and juniper forest in association with sagebrush. The site includes a closed vent shaft surrounded by a small artifact scatter (see Appendix B-8).

Feature 1 is a closed vent shaft supported by a 12-in.-diameter crushed barrel or metal pipe. Although the vent pipe is now crushed, it currently extends approximately 1 ft. above the ground. Artifacts identified near the vent shaft include a length of 2¼-in.-diameter metal pipe, seven 1-qt. oil cans, a milk glass cosmetics jar with a round base and screw-top finish, a clear glass bottle base marked with a cursive "L," and an amber glass bottle marked "6 ⚓ 31 / ROUX / MADE IN U.S.A." on the base. The bottle has a screw-cap lid with a dropper. The ⚓ mark is the mark of the Anchor Hocking Glass Corporation of Lancaster, Ohio, in use since 1938 (Toulouse 1971:46-49). According to the U.S. Patent Office, the trademark was first used on glass containers in 1938. In 1983, the glass container business was reorganized as the Anchor Glass Container Corporation and a new anchor logo began to be used.

*Historical Background*

The Hidden Basin claim was first located by W. C. Huntley in 1944. The claim was sold to VCA around 1951 and remained in VCA hands until around 1970, when it appears to have come under the ownership of Union Carbide Corporation. In 1984, ownership of the claim was transferred to Umetco Minerals Corporation, which held the claim until 1992. A more detailed historical background for the Hidden Basin claim, as well as courthouse book and page references, is provided above under the site description for the Hidden Basin Mine (5MN7866).

*National Register Recommendations*

The Hidden Basin claim was initially located in 1944, just prior to Twitty's (2008a) fourth period of significance, the Atomic Era (1946-1963). Based on AEC records, the Hidden Basin claim appears to have produced substantial amounts of ore during the period. However, the single vent shaft and small artifact scatter recorded as site 5MN9245 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. Based on Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, the integrity of the site can be considered very low due to the limited material remains at the site. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9245 as not eligible for the NRHP.

*Potential Project Impacts*

The vent shaft will be permanently closed with a polyurethane foam plug and then covered with surface soil materials and reseeded with an approved seed mixture.

*Management Recommendations*

Because Alpine recommends site 5MN9245 as ineligible for the NRHP, no further historical or archaeological work is recommended.

***5MN9246***

Site 5MN9246 is a vent shaft situated on a southwest-facing slope adjacent to Hidden Basin. The vent is on the unpatented Hidden Basin mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site covers 0.02 acres at an elevation of 6,500 ft. (1,981 m). Vegetation in the area consists of sparse pinyon and juniper forest in association with sagebrush. The site includes an open vent shaft surrounded by a small artifact scatter (see Appendix B-9).

Feature 1 is an open vent shaft from which a 14-in.-diameter oil lubricant barrel extends 1 ft. 8 in. above the ground. An 8-in.-diameter galvanized steel stovepipe has been affixed to the southern side of the barrel to serve as a ventilation duct. The oil lubricant barrel is marked: "UNIVERSAL GEAR LUBRICANT / EP 90 / MULTI-PURPOSE" and with the "TEXACO / T" logo. A 3 by 8-in. board lies beneath the end of the stovepipe, possibly representing the remnant of an equipment platform. The board is secured with railroad spikes. Artifacts associated with Feature 1 include a possible fan part, a crushed Sanitary can, an oil can, a piece of crushed galvanized steel stovepipe, and a length of baling wire.

*Historical Background*

The Hidden Basin claim was first located by W. C. Huntley in 1944. The claim was sold to VCA around 1951 and remained in VCA hands until around 1970, when it appears to have come under the ownership of Union Carbide Corporation. In 1984, ownership of the claim was transferred to Umetco Minerals Corporation, which held the claim until 1992. A more detailed historical background for the Hidden Basin claim, as well as courthouse book and page references, is provided above under the site description for the Hidden Basin Mine (5MN7866).

*National Register Recommendations*

The Hidden Basin claim was initially located in 1944, just prior to Twitty's (2008a) fourth period of significance, the Atomic Era (1946-1963). Based on AEC records, the Hidden Basin claim appears to have produced substantial amounts of ore during this period. However, the single vent shaft and small artifact scatter recorded as site 5MN9246 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. Based on Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, the integrity of the site can be considered very low due to the limited material remains at the site. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9246 as not eligible for the NRHP.

*Potential Project Impacts*

The vent shaft will be permanently closed with a polyurethane foam plug and then covered with surface soil materials and reseeded with an approved seed mixture.

*Management Recommendations*

Because Alpine recommends site 5MN9246 as ineligible for the NRHP, no further historical or archaeological work is recommended.

***5MN9247***

Site 5MN9247 is a vent shaft situated on a southwest-facing slope adjacent to Hidden Basin. The vent is on the unpatented Hidden Basin mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site covers 0.03 acres at an elevation of 6,420 ft. (1,957 m). Vegetation in the area consists of sparse pinyon and juniper forest in association with sagebrush. The site includes an open vent shaft surrounded by a small artifact scatter (see Appendix B-10).

Feature 1 is an open vent shaft with two 14-in-diameter oil lubricant barrels welded together over the vent hole to make a vent pipe 3 ft. 3 in. tall. An 8-in.-diameter galvanized steel stovepipe section has been inserted into the vent pipe on the southwestern side to form a ventilation duct. The pry-off lid to the lubricant barrel on the pipe lies adjacent to the vent shaft. Artifacts associated with Feature 1 include a broken ½-in.-wide hacksaw blade, a coiled length of ⅝-in.-diameter wire rope, fragments of milled lumber, and 16 1-qt. oil cans. Additionally, an artifact concentration of 61 oil cans (Artifact Concentration 1) was defined in a small wash to the north of the vent shaft.

*Historical Background*

The Hidden Basin claim was first located by W. C. Huntley in 1944. The claim was sold to VCA around 1951 and remained in VCA hands until around 1970, when it appears to have come under the ownership of Union Carbide Corporation. In 1984, ownership of the claim was transferred to Umetco Minerals Corporation, which held the claim until 1992. A more detailed historical background for the Hidden Basin claim, as well as courthouse book and page references, is provided above under the site description for the Hidden Basin Mine (5MN7866).

*National Register Recommendations*

The Hidden Basin claim was initially located in 1944, just prior to Twitty's (2008a) fourth period of significance, the Atomic Era (1946-1963). Based on AEC records, the Hidden Basin claim appears to have produced substantial amounts of ore during this period. However, the single vent shaft and small artifact scatter recorded as site 5MN9247 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. Based on Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, the integrity of the site can be considered very low due to the limited material remains at the site. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9247 as not eligible for the NRHP.

*Potential Project Impacts*

The vent shaft will be permanently closed with a polyurethane foam plug and then covered with surface soil materials and reseeded with an approved seed mixture.

*Management Recommendations*

Because Alpine recommends site 5MN9247 as ineligible for the NRHP, no further historical or archaeological work is recommended.

### *5MN9248*

Site 5MN9248 is a vent shaft in the southeastern portion of Hidden Basin. The vent is on the unpatented Hidden Basin mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site covers 0.02 acres at an elevation of 6,400 ft. (1,951 m). Vegetation in the area consists of sparse pinyon and juniper forest in association with sagebrush. The site includes an open vent shaft surrounded by a small artifact scatter (see Appendix B-11).

Feature 1 is an open vent shaft with a 10-in.-diameter galvanized steel stovepipe that extends 8 in. above the ground. An AEC standpipe was encountered 4 m northwest of the vent shaft with the marking "LP / 70." Artifacts associated with the vent shaft include four 1-qt. oil cans and several fragments of milled lumber.

#### *Historical Background*

The Hidden Basin claim was first located by W. C. Huntley in 1944. The claim was sold to VCA around 1951 and remained in VCA hands until around 1970, when it appears to have come under the ownership of Union Carbide Corporation. In 1984, ownership of the claim was transferred to Umetco Minerals Corporation, which held the claim until 1992. A more detailed historical background for the Hidden Basin claim, as well as courthouse book and page references, is provided above under the site description for the Hidden Basin Mine (5MN7866).

#### *National Register Recommendations*

The Hidden Basin claim was initially located in 1944, just prior to Twitty's (2008a) fourth period of significance, the Atomic Era (1946-1963). Based on AEC records, the Hidden Basin claim appears to have produced substantial amounts of ore during this period. However, the single vent shaft and small artifact scatter recorded as site 5MN9248 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. Based on Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, the integrity of the site can be considered very low due to the limited material remains at the site. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9248 as not eligible for the NRHP.

#### *Potential Project Impacts*

The vent shaft will be permanently closed with a polyurethane foam plug and then covered with surface soil materials and reseeded with an approved seed mixture.

#### *Management Recommendations*

Because Alpine recommends site 5MN9248 as ineligible for the NRHP, no further historical or archaeological work is recommended.

### *5MN9249*

Site 5MN9249 is a vent shaft in the southeastern portion of Hidden Basin. The vent is on the unpatented Hidden Basin mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site encompasses 0.02 acres at an elevation of 6,400 ft. (1,951 m). Vegetation in the area consists of sparse pinyon and juniper forest in association with sagebrush. The site includes an open vent shaft surrounded by a small artifact scatter (see Appendix B-12).

Feature 1 is an open vent shaft with an 8-in.-diameter galvanized steel stovepipe that extends 13 in. above the ground. The top of the pipe is broken, and several pieces of 8-in.-diameter stovepipe lie nearby, which originally may have been attached to the vent pipe above the vent shaft. Artifacts associated with the vent shaft include 12 oil cans, a can lid, a length of baling wire, and a fragment of cast iron.

*Historical Background*

The Hidden Basin claim was first located by W. C. Huntley in 1944. The claim was sold to VCA around 1951 and remained in VCA hands until around 1970, when it appears to have come under the ownership of Union Carbide Corporation. In 1984, ownership of the claim was transferred to Umetco Minerals Corporation, which held the claim until 1992. A more detailed historical background for the Hidden Basin claim, as well as courthouse book and page references, is provided above under the site description for the Hidden Basin Mine (5MN7866).

*National Register Recommendations*

The Hidden Basin claim was initially located in 1944, just prior to Twitty's (2008a) fourth period of significance, the Atomic Era (1946-1963). Based on AEC records, the Hidden Basin claim appears to have produced substantial amounts of ore during this period. However, the single vent shaft and small artifact scatter recorded as site 5MN9249 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. Based on Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, the integrity of the site can be considered very low due to the limited material remains at the site. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9249 as not eligible for the NRHP.

*Potential Project Impacts*

The vent shaft will be permanently closed with a polyurethane foam plug and then covered with surface soil materials and reseeded with an approved seed mixture.

*Management Recommendations*

Because Alpine recommends site 5MN9249 as ineligible for the NRHP, no further historical or archaeological work is recommended.

**Lease Tract C-SR-22A, Project Area 42**

***5MN9250 – The TNT No. 2 Mine***

Site 5MN9250 is a small uranium mine in an intermittent drainage tributary that runs south to Long Park. The vent is on the unpatented TNT No. 2 mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site boundary covers 0.08 acres at an elevation of 6,320 ft. (1,926 m). Vegetation in the area consists of sparse pinyon and juniper forest in association with sagebrush and rabbitbrush. The site includes a trench and subsided portal and a waste-rock pile shaped to form a loading dock (see Appendix B-13). Waste-Rock Pile 1 measures 20 by 40 ft., oriented east to west. Only a few artifacts, including several fragments of milled lumber and some fragments of a canvas tarp, were observed at the site.

Feature 1 is a trench leading down to a subsided portal. The trench, which is oriented east to west, measures a maximum of 28 ft. long and 16 ft. wide. Although the portal entrance was previously backfilled, it has now collapsed and must be backfilled again. No architectural support

elements are present within the portal or trench. A $^{15}/_{16}$-in.-diameter metal pipe can be seen emerging out of the ground within the trench.

Feature 2 is a retaining wall used to transform the top of Waste-Rock Pile 1 into a loading dock. The wall was constructed from two 7-in.-diameter sawn log posts on the eastern edge of the waste-rock pile, that hold a retaining wall of three 3 by 12-in. planks stacked end-on-end. The wall is currently 2½ ft. tall and 12½ ft. long. The posts on either end of the wall are supported by two lengths of ½-in.-diameter wire rope fixed to the ground. According to DOE personnel, an ore transport truck would have backed up to the loading dock, where a load of ore would have been hauled on top of the waste-rock pile in a wheelbarrow and dumped into the truck.

*Historical Background*

The TNT No. 2 Mine was originally located by Robert B. Munson on April 1, 1944 (Montrose County Courthouse, County Clerk's Office, Book 296, Page 292). The first AOL for the claim was filed in 1945 by Henry Brammeier, who continued to file the AOL documents through 1947 (Montrose County Courthouse, County Clerk's Office, Book 314, Page 120; Book 245, Page 75; Book 243, Page 105). Robert B. Munson and Henry Brammeier both filed AOL documents in 1948 (Montrose County Courthouse, County Clerk's Office, Book 330, Pages 385 and 494). In 1949, the AOL was filed by Henry Brammeier, et al., suggesting that these two individuals may have been involved in an ownership consortium during all or part of the previous history of the mine (Montrose County Courthouse, County Clerk's Office, Book 336, Page 540; Book 338, Page 52). In 1950, the AOL was filed by W. H. Pitts (Montrose County Courthouse, County Clerk's Office, Book 345, Page 20).

In 1951, VCA appears to have taken control over the mine, as the company filed the AOL through 1967 (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 287, 368, and 474; Book 374, Page 415; Book 418, Page 59-60; Book 446, Page 242; Book 456, Page 328; Book 457, Page 490; Book 491, Pages 358-359; Book 503, Page 237; Book 522, Pages 117 and 419; Book 541, Pages 117-119, 412, 634, and 854). AEC production records show that VCA extracted 255.46 tons of ore from the TNT No. 2 in 1966 and 18.12 tons in 1967. In 1968, the AOL was filed by Foote Mineral Company (Montrose County Courthouse, County Clerk's Office, Book 562, Page 113). In 1969 and 1970, the AOL documents were filed by Climax Uranium Company (Montrose County Courthouse, County Clerk's Office, Book 562, Pages 362 and 729).

In 1972, ownership of the TNT No. 2 appears to have fallen to Union Carbide Corporation, who continued to file the AOL documents through 1983 (Montrose County Courthouse, County Clerk's Office, Book 588, Pages 340, 574, and 803; Book 620, Pages 47, 350, 623, and 924; Book 661, Pages 247 and 638; Book 692, Pages 319 and 689; Book 728, Page 53). In 1984, the AOL was filed by Umetco Minerals Corporation, an entity created when Dow Chemical purchased the Union Carbide Corporation (Montrose County Courthouse, County Clerk's Office, Book 728, Page 347). The AOL documents continued to be filed by Umetco until 1992, after which the TNT No. 2 claim appears to have been allowed to lapse (Montrose County Courthouse, County Clerk's Office, Book 728, Pages 560, 742, and 914; Book 777, Pages 124, 307, 430, 630, and 731). Recorded ore production for the TNT No. 2 claim prior to 1971, calculated in conjunction with the TNT No. 1, totaled 274 tons, including 1,059 lbs. of uranium and 3,555 lbs. of vanadium (Nelson-Moore et al. 1978).

*National Register Recommendations*

The TNT No. 2 claim was maintained between 1944 and 1992, an interval that spans Twitty's (2008a) last three periods of significance. These periods of significance include World War II (1941-1945), the Atomic Era (1946-1963), and the Last Boom (1974-1980). AEC records show that the TNT No. 2 Mine produced a small amount of ore during Twitty's (2008a) fifth period of significance, the Atomic Era (1946-1963). However, the integrity of the site is low in terms of

Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, as nearly all physical remains save the loading dock wall have been removed, and no structures are present. The method of operation of the TNT No. 2 was likely very simple, consisting of wheelbarrow haulage, such that it left limited physical remains. The mine is quite remote and, as such, does not comprise a visible feature of the mining landscape. Consequently, Alpine recommends the TNT No. 2 Mine as not eligible for the NRHP.

*Potential Project Impacts*

The TNT No. 2 Mine is proposed for reclamation. All trash and debris will be gathered and placed in the inclined trench prior to closure. The inclined portal will then be backfilled with available mine waste-rock materials. The mine waste-rock dump will be recontoured to blend in with the natural topography of the area, covered with other available surface soil materials, and reseeded with an approved seed mixture.

*Management Recommendations*

Because Alpine recommends the TNT No. 2 Mine (5MN9250) as ineligible for the NRHP, no further historical or archaeological work is recommended.

**Lease Tract C-LP-23, Project Area 29**

***5MN9251***

Site 5MN9251 is a vent shaft on a bench above the south-facing escarpment of Paradox Valley. The vent is on the unpatented Lexington mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site encompasses an area of 0.12 acres at an elevation of 6,270 ft. (1,911 m). Vegetation in the area consists of pinyon and juniper forest in association with rabbitbrush and prickly pear cactus. The site includes a closed vent shaft, a collapsed platform, and a small artifact scatter (see Appendix B-14). A drill bit flagged with tape has been driven into the ground nearby, possibly to mark the location.

Feature 1 is a closed vent shaft with a length of 8-in.-diameter galvanized steel stovepipe that extends above the ground approximately 10 in.

Feature 2 is a collapsed wooden platform immediately southeast of the vent shaft. The platform consists of a scatter of deteriorated 2 by 4-in., 1 by 6-in., 1 by 8-in., and 1 by 10-in. boards. It measures approximately 8 by 10 ft., oriented north to south.

A small scatter of artifacts identified at the site was designated Artifact Concentration 1. This artifact scatter included a coffee can, 12 Sanitary cans, a metal 5-gal. drum lid, a rectangular meat tin, a metal light housing, a length of ½-in.-diameter wire rope, and a chunk of a 12-in.-diameter debarked log.

*Historical Background*

The Lexington claim was originally discovered by VCA on December 10, 1939 (Montrose County Courthouse, County Clerk's Office, Book 201, Page 539). The first AOL for the mine was filed in 1946 by VCA, who continued to file AOL documents through 1967 (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 54, 274, 356, and 468; Book 245, Page 81; Book 330, Page 225; Book 336, Page 532; Book 374, Pages 101 and 406; Book 418, Page 91; Book 446, Page 279; Book 456, Page 341; Book 457, Page 486; Book 491; Page 420; Book 503, Page 296; Book 522, Pages 63 and 347; Book 541, Pages 114, 357, 635, and 840). In 1968, the AOL was filed by Foote Mineral Company (Montrose County Courthouse, County Clerk's Office, Book 562, Page 105). In 1969, the AOL was filed by Climax Uranium Company, and, in 1970, the AOL was filed by Foote Mineral Company again (Montrose County Courthouse, County Clerk's Office, Book 562, Page 698).

In 1971, the Lexington Mine appears to have fallen under the control of Union Carbide Corporation, who continued to file the AOL documents through 1984 (Montrose County Courthouse, County Clerk's Office, Book 588, Pages 83, 361, 542, and 772; Book 620, Pages 35, 338, 627, and 917; Book 661, Pages 251 and 648; Book 692, Pages 291 and 698, Book 728, Pages 41 and 568). In 1985, the AOL was filed by Umetco Minerals Corporation, an entity created when Dow Chemical purchased the Union Carbide Corporation (Montrose County Courthouse, County Clerk's Office, Book 728, Page 347). The AOL documents continued to be filed by Umetco through 1991 (Montrose County Courthouse, County Clerk's Office, Book 728, Pages 756 and 897; Book 777, Pages 136, 299; 449, and 622). In 1992, the AOL was filed by Cyprus Foote Mineral Company (Montrose County Courthouse, County Clerk's Office, Book 777, Page 798). After this filing, the Lexington claim appears to have been allowed to lapse.

*National Register Recommendations*

The Lexington claim was initially located in 1939, during Twitty's (2008a) third period of significance, the Depression-Era Revival (1935-1940). However, due to the lack of AEC records, the dates of production are unknown. The single vent shaft, deteriorated platform, and small artifact scatter recorded as site 5MN9251 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. Based on Twitty's (2008a) significance criteria focusing on architectural, engineering, and archaeological integrity, the integrity of the site can be considered very low due to the limited material remains at the site. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9251 not eligible for the NRHP.

*Management Recommendations*

Because Alpine recommends site 5MN9251 as ineligible for the NRHP, no further historical or archaeological work is recommended.

### Isolated Finds

Thirteen isolated finds were recorded during project work: two reclaimed mine features that have since subsided and 11 vent shafts. These isolated finds are summarized in Table 7. Each of the cultural resources recorded as isolated finds contained fewer than five artifacts in addition to the subsidence or vent shaft recorded. The isolated finds are all recommended as ineligible for NRHP nomination and require no further work.

## SUMMARY AND RECOMMENDATIONS

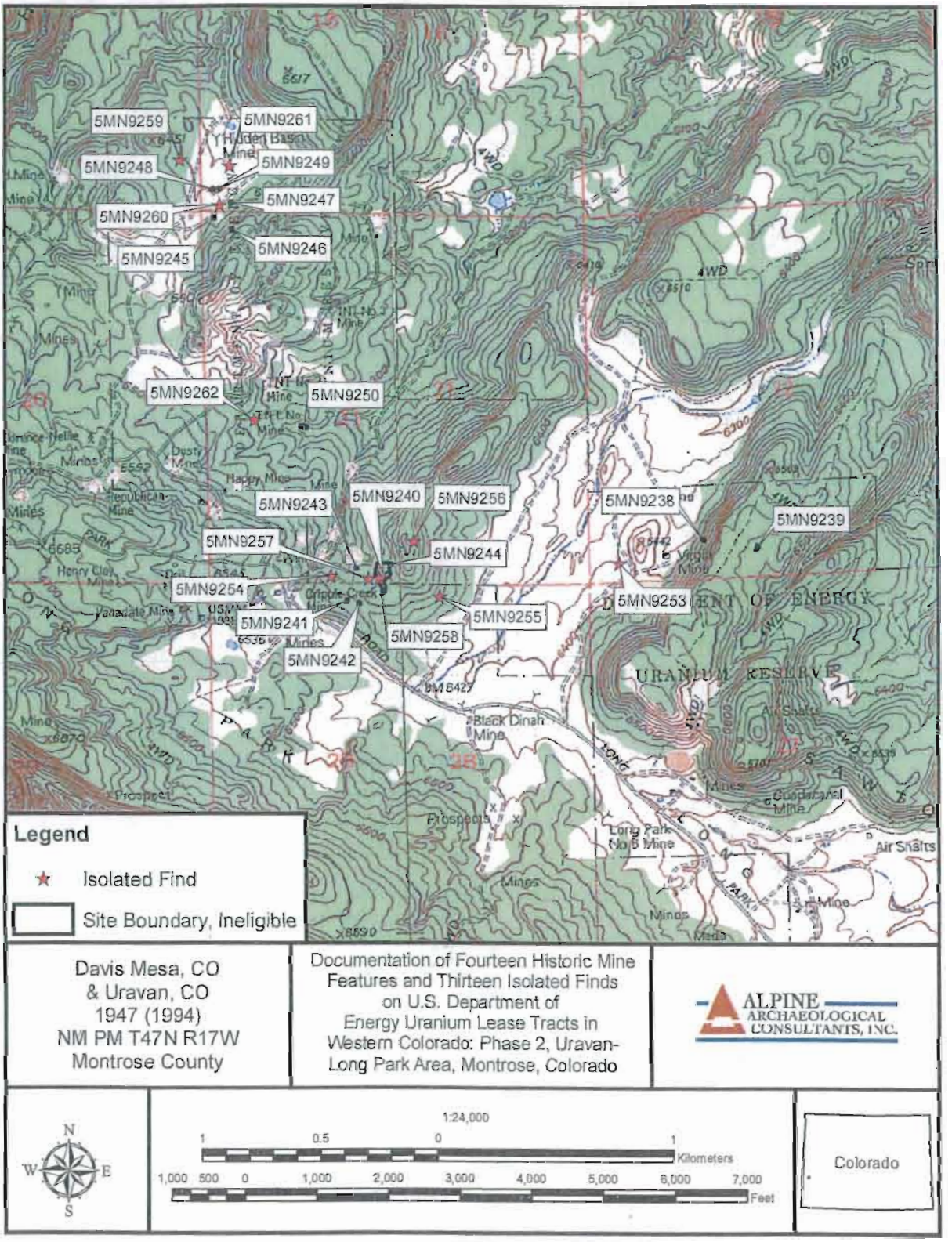
The historic mine features documentation on six DOE uranium lease tracts resulted in the examination of 5.61 acres. 5.60 acres are on DOE Uranium Reserve lands administered by the BLM-UFO, and 0.01 acres are on private land. Fourteen new cultural resource sites were recorded during the inventory. All of the recorded sites were evaluated as not eligible for inclusion on the NRHP (see Table 8), and, as a result, no further archaeological or historical work is recommended at these sites. Thirteen isolated finds were also recorded, which are NRHP-ineligible. The results of the project were as expected. Mine features proposed for reclamation were recorded as cultural resource sites or isolated finds, depending on the nature of the resources within the area slated for disturbance.

**Table 7. Isolated Finds.**

| Isolate No. | Lease Tract | Mining Claim | Description | Artifacts |
|---|---|---|---|---|
| 5MN9252 | C-AM-19A | Abajo No. 3 | Vent shaft with 20-in. diameter collared pipe | 35-in.-diameter fan, ⅝-in.-diameter wire rope |
| 5MN9253 | C-LP-21 | Vanadium King No. 5 (Vent 1) | Vent shaft with 8-in.-diameter galvanized steel stovepipe | None |
| 5MN9254 | C-LP-22 | Cripple Creek | Vent shaft encased by stack of 4 15-gal. lubricant oil barrels | None |
| 5MN9255 | C-LP-22 | Second National Bank | Vent shaft with 22-in.-diameter welded metal pipe | None |
| 5MN9256 | C-LP-22 | First National Bank | Vent shaft with 13 ½-in.-diameter metal pipe | Length of ½-in. wire rope, fragment of milled lumber, metal spring from car seat |
| 5MN9257 | C-LP-22 | First National Bank | Vent shaft with 8-in.-diameter galvanized steel stovepipe | Many fragments of a single clear glass liquor bottle |
| 5MN9258 | C-LP-22 | First National Bank | Vent shaft with 21-in.-diameter metal pipe | Metal chain belt |
| 5MN9259 | C-LP-22A | Hidden Basin | Vent shaft with 10-in.-diameter galvanized steel standpipe; an AEC standpipe is also situated in immediate association | Piece of strap metal, oil can |
| 5MN9260 | C-LP-22A | Hidden Basin | Vent shaft with 8-in.-diameter stovepipe | 2 oil cans, 2 Sanitary cans |
| 5MN9261 | C-LP-22A | Hidden Basin | Vent shaft with 8-in.-diameter stovepipe | 1¼-in.-diameter water pipe, length of ¼-in.-diameter wire rope, fragments of milled lumber, pry-off lid for lubricant barrel |
| 5MN9262 | C-LP-22A | TNT No. 1 | Subsidence measuring 8 ft. in diameter | None |
| 5MN9263 | C-LP-23 | C-LP-23 | Subsidence measuring 68 ft. by 44 ft. | Claim certificate in jar dating to 2007 (illegitimate) |
| 5MN9264 | C-LP-23 | Lexington | Collapsed vent shaft approximately 4 ft. in diameter, with no pipe | Length of coiled bailing wire |

Table 8. Summary of Management Recommendations for Project Sites.

| Site No. | Resource Type | | NRHP Eligibility | | Proposed Impacts | | Management Recommendations | | |
|---|---|---|---|---|---|---|---|---|---|
| | Prehistoric | Historic | Eligible | Not Eligible | Mine Reclamation | Vent Shaft, Mine Shaft, or Adit Closure | No Further Work | Avoid Historic Features or Mitigate | Monitor Project Work |
| 5MN9235 | | X | | X | | X | X | | |
| 5MN9236 | | X | | X | | X | X | | |
| 5MN9238 | | X | | X | | X | X | | |
| 5MN9239 | | X | | X | | X | X | | |
| 5MN9240 | | X | | X | X | | X | | |
| 5MN9241 | | X | | X | | X | X | | |
| 5MN9242 | | X | | X | | X | X | | |
| 5MN9245 | | X | | X | | X | X | | |
| 5MN9246 | | X | | X | | X | X | | |
| 5MN9247 | | X | | X | | X | X | | |
| 5MN9248 | | X | | X | | X | X | | |
| 5MN9249 | | X | | X | | X | X | | |
| 5MN9250 | | X | | X | X | | X | | |
| 5MN9251 | | X | | X | | X | X | | |




Davis Mesa, CO
& Uravan, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Fourteen Historic Mine Features and Thirteen Isolated Finds on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

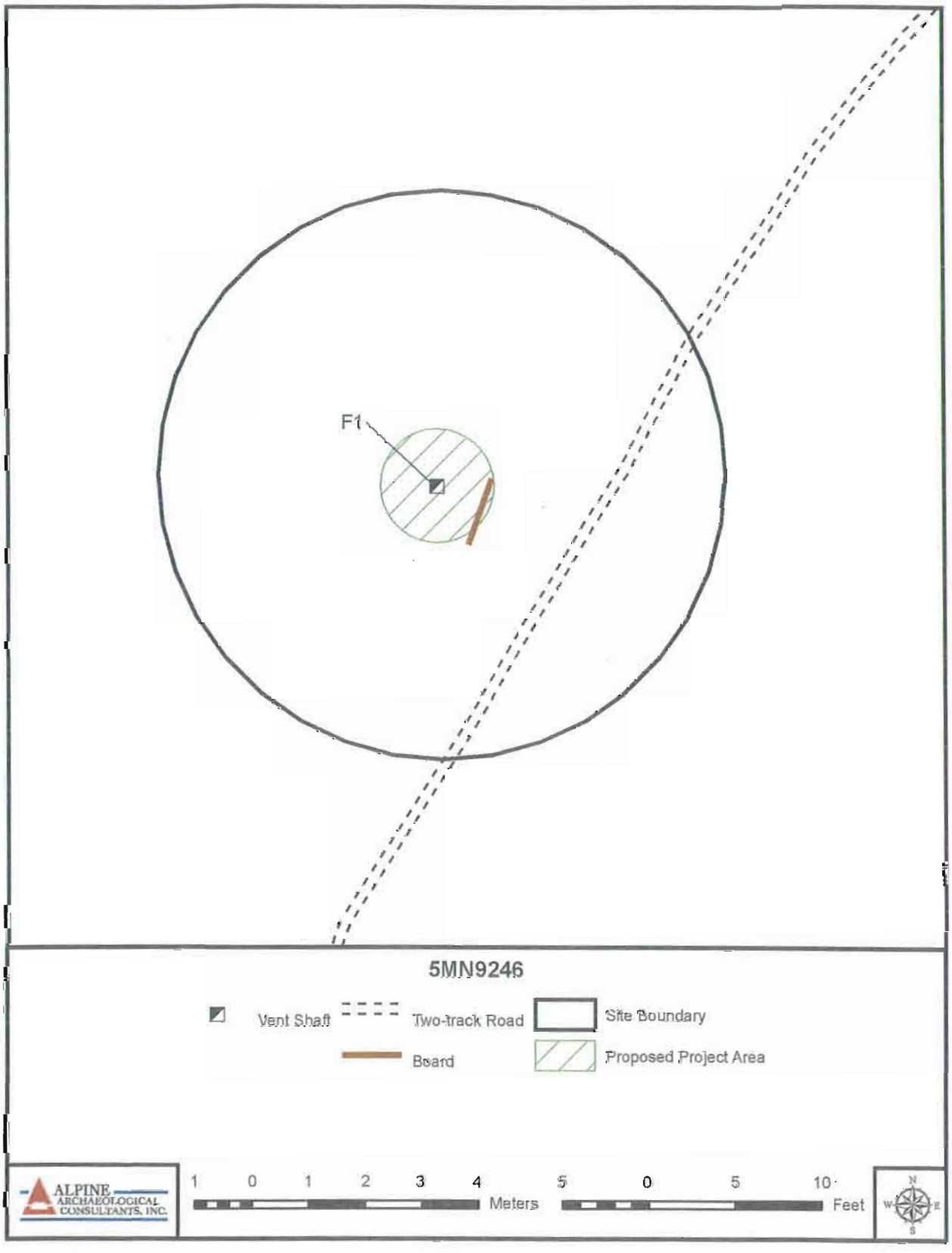
ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

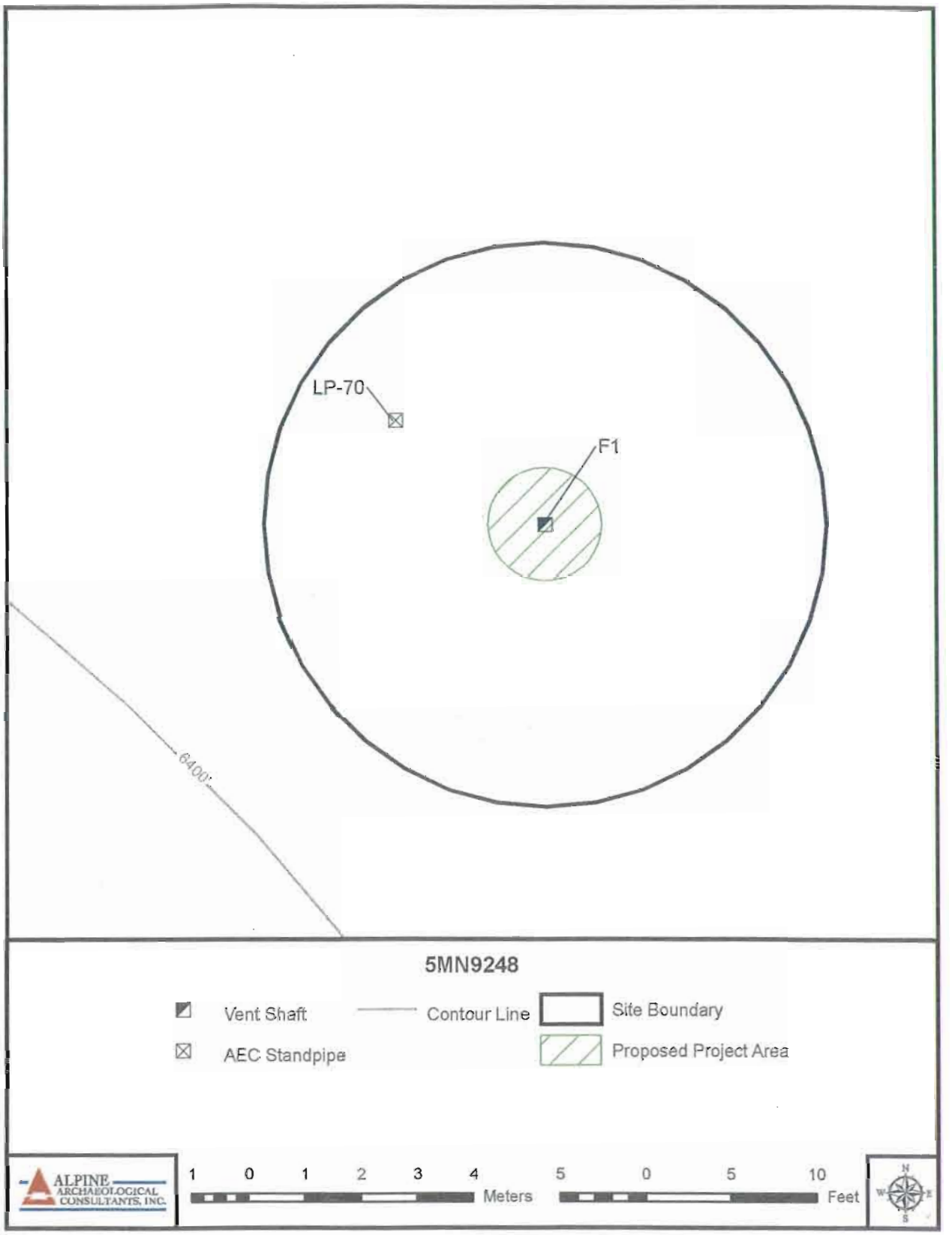
1:24,000

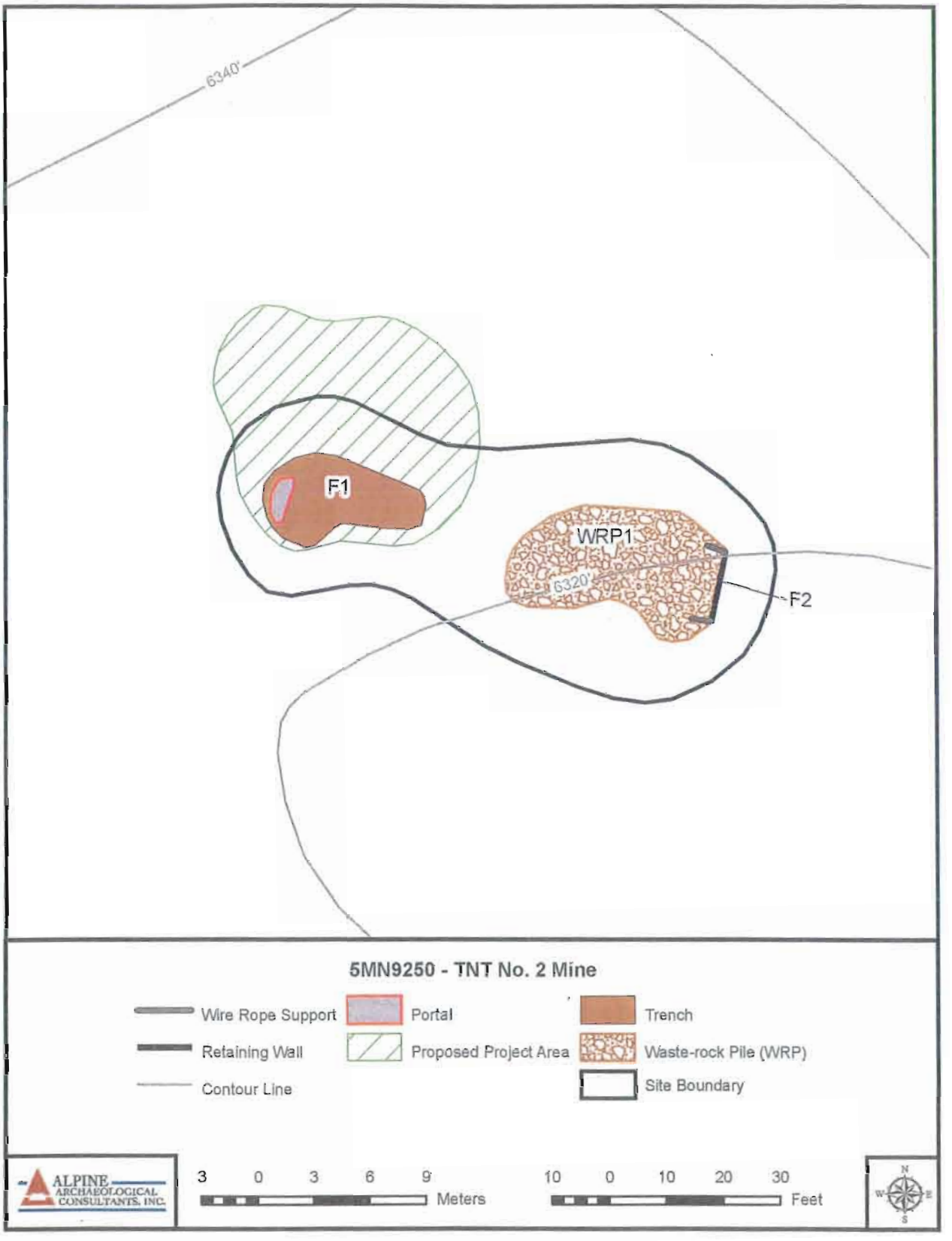
Kilometers

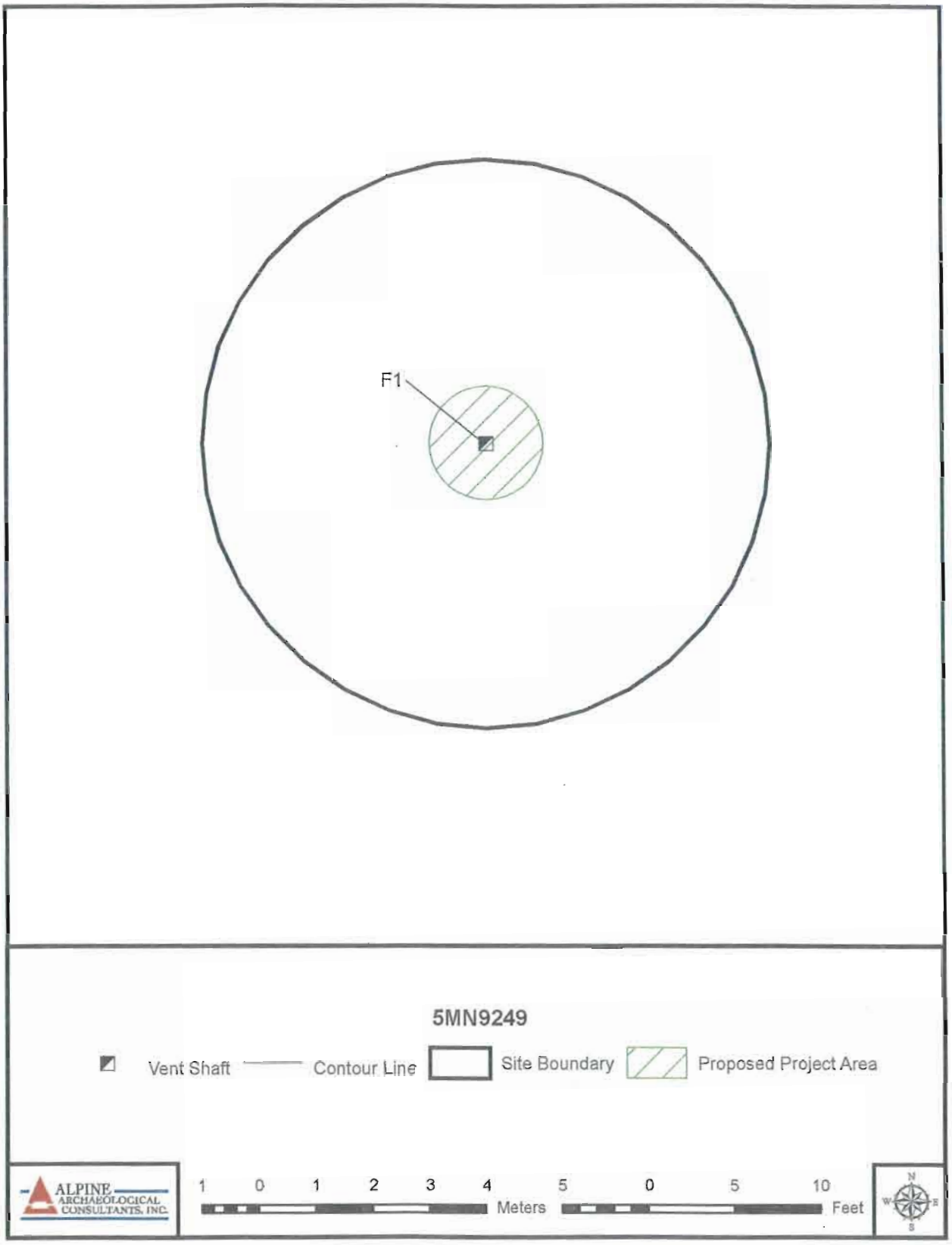
Feet

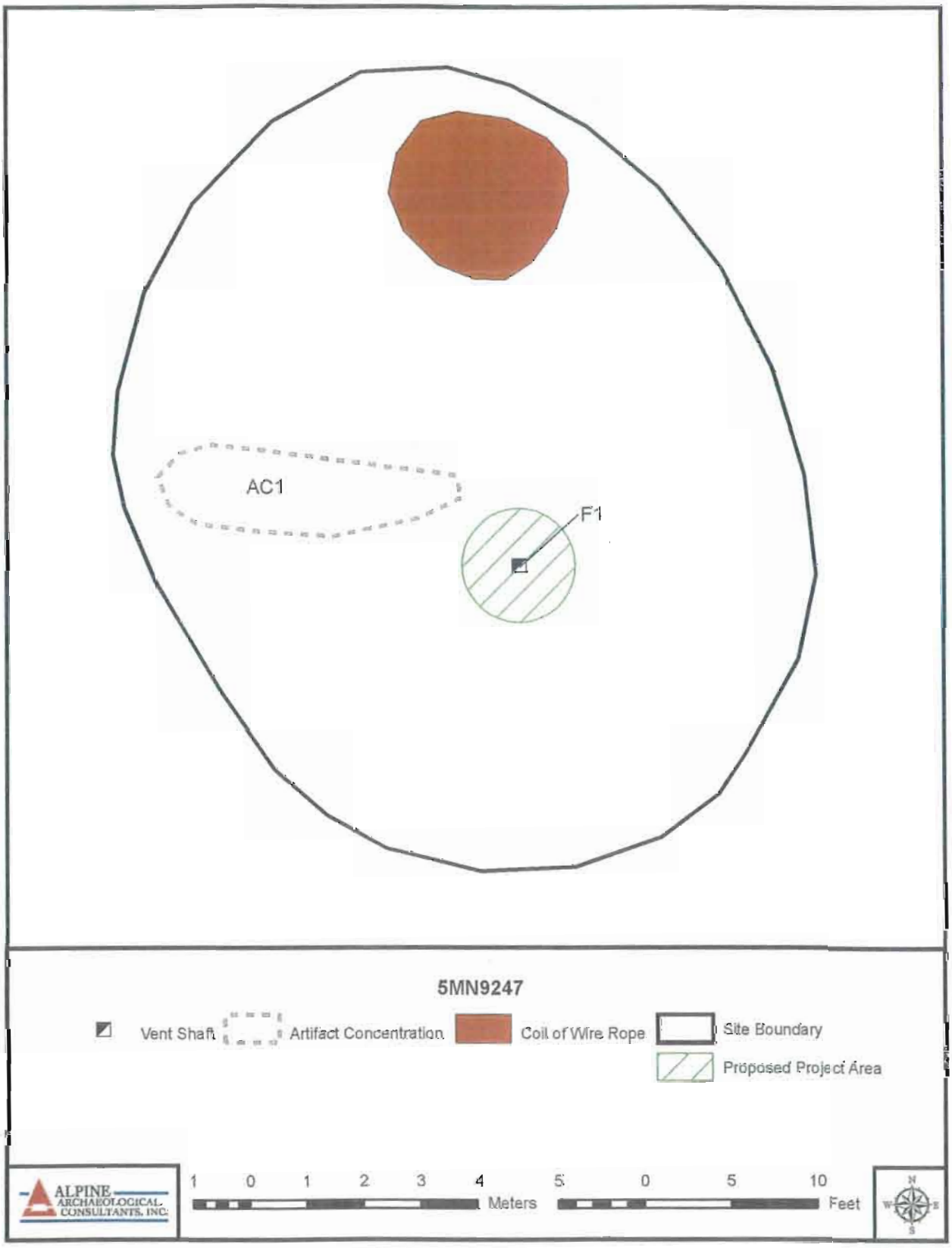
Colorado

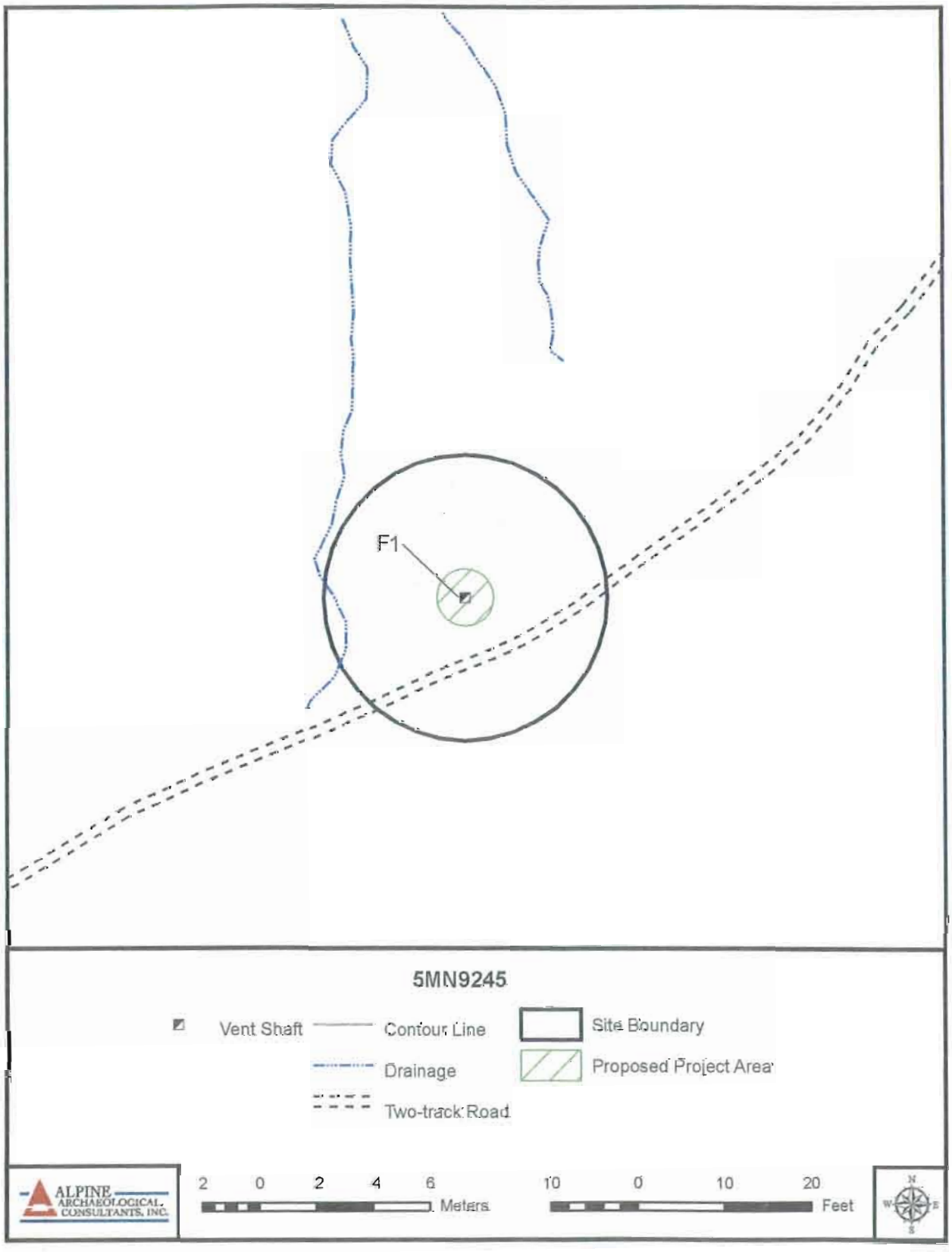

F1
5MN9246
Vent Shaft
Two-track Road
Site Boundary
Board
Proposed Project Area
ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.
1 0 1 2 3 4 Meters
5 0 5 10 Feet
N
W
E
S


LP-70
F1
6400
5MN9248
Vent Shaft
Contour Line
Site Boundary
AEC Standpipe
Proposed Project Area
ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.
1 0 1 2 3 4 Meters
5 0 5 10 Feet
N
W
E
S


6340'
F1
WRP1
6320'
F2
5MN9250 - TNT No. 2 Mine
Wire Rope Support
Portal
Trench
Retaining Wall
Proposed Project Area
Waste-rock Pile (WRP)
Contour Line
Site Boundary
ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.
3 0 3 6 9
Meters
10 0 10 20 30
Feet
N
W
E
S


F1
5MN9249
Vent Shaft
Contour Line
Site Boundary
Proposed Project Area
ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.
1 0 1 2 3 4 Meters
5 0 5 10 Feet
N
W
E
S


AC1
F1
5MN9247
Vent Shaft
Artifact Concentration
Coil of Wire Rope
Site Boundary
Proposed Project Area
ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.
1 0 1 2 3 4 Meters
5 0 5 10 Feet
N
W
E
S


F1
5MN9245
Vent Shaft
Contour Line
Site Boundary
Drainage
Proposed Project Area
Two-track Road
ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.
2 0 2 4 6
Meters
10 0 10 20
Feet
N
W
E
S

COLORADO CULTURAL RESOURCE SURVEY

OAHP1400
Rev. 9/98

# Management Data Form



The Management Data Form should be completed for each cultural resource recorded during an archaeological survey. Exceptions to this are isolated finds and re-evaluations, neither of which require a Management Data Form.

1. Resource Number: 5MN9245
2. Temporary Resource Number: Hidden Bas. V2
3. Attachments (check as many as apply)
   - ☐ Prehistoric Archaeological Component
   - ☑ Historic Archaeological Component
   - ☐ Historic Architectural Component Form
   - ☑ Sketch/Instrument Map (required)
   - ☑ U.S.G.S. Map Photocopy (required)
   - ☑ Photograph(s)
   - ☐ Other, specify:
4. Official determination (OAHP use only)
   - ____ Determined Eligible
   - ____ Determined Not Eligible
   - ____ Nominated
   - ____ Need Data
   - ____ Contributing to NR Dist.
   - ____ Non Contributing to NR Dist.

## I. IDENTIFICATION

5. Resource name:
6. Project Name/Number: DOE - Uranium Leases
7. Government Involvement: Local ☐ State ☐ Federal ☑
   Agency: Bureau of Land Management - Uncompahgre Field Office, U.S. Department of Energy
8. Site Categories: Check as many as apply:
   Prehistoric: archaeological site ☐ paleontological site ☐
   in existing National Register District? ☐ name
   Historic: archaeology site ☑ building(s) ☐ structure(s) ☐ object(s) ☐
   in existing National Register District? ☐ name
9. Owner (s) Name and Address: Bureau of Land Management - Uncompahgre Field Office/U.S. Department of Energy
10. Boundary Description and Justification: Extent of mining features and associated artifacts.
11. Site/Property Dimensions: 10 m x 8 m Area 78 m² 0.0 acres
    Area was calculated as: Length x Width ☑ (rectangle/square) OR (length x width) x 0.785 ☐ (ellipse)

## II. LOCATION

12. Legal Location

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | NM | Township | 47N | Range | 17W | Section | 21 | NW | 1/4 of | NW | 1/4 of | NW | 1/4 of | NW | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |

if section is irregular, explain alignment method: NW corner, N edge

Resource Number: 5MN9245
Temporary Resource Number: Hidden Bas. V2

## Management Data Form



13. USGS Quad Uravan, CO 7.5' ☑ 15' ☐ Date(s): 1994 (attach photocopy)
14. County: Montrose 15. Other Maps:
16. UTM Reference: Check your Datum ☐ NAD 27 ☑ NAD 83

| | | | |
|---|---|---|---|
| A. | 12; | 695890 mE | 4243604 mN |
| B. | 12; | mE | mN |
| C. | 12; | mE | mN |
| D. | 12; | mE | mN |

17. Address: Lot Block: Addition
18. Location/Access: From Naturita, CO, drive west on Colo. Hwy. 141 for 3.4 miles to the intersection of Colo. Hwy. 141 and Hwy. 90. Turn left on Hwy. 90 and continue for 5.5 miles before turning right on Montrose County Road EE22. Drive 8.9 miles along CR EE22 to a "Y" intersection in the county road. Turn right and continue for 0.3 miles. Turn right on an unnamed drill road and continue north-northeast for 1.1 miles to the site.

### III. NATURAL ENVIRONMENT

19. Topographic Feature(s):

| | | |
|---|---|---|
| ☐ mountain | ☐ ledge | ☐ playa |
| ☐ hill | ☐ terrace/bench | ☐ talus slope |
| ☐ tableland/mesa | ☐ canyon | ☐ alluvial fan |
| ☐ ridge | ☐ valley | ☐ plain |
| ☐ saddle/pass | ☑ basin | ☐ dune |
| ☐ alcove/rockshelter | ☐ floodplain | ☐ |
| ☐ cliff | ☐ cutbank | ☐ |
| ☑ slope | ☐ arroyo/gully | ☐ |

20. Site Topographic Description (mention names landforms):
The site is situated on the southwest-facing slope of Hidden Basin, which is an open valley approximately 1.5 miles east of Hieroglyphic Canyon.
21. Site Elevation: 6,430 feet =(x .3048) 1960 meters 22. Aspect: 345 °
23. Degree of Slope on Site: 0-10 ° 24. Soil Depth: 0-20 cm
25. Soil Description (character and color): Yellowish-brown sandy loam
26. Depositional Environment

| | | |
|---|---|---|
| ☐ Aeolian | ☑ Colluvial | ☑ Residual |
| ☐ Alluvial | ☐ Moraine | ☐ None |

☐ Other, specify:

27. Nearest Water: name/nature Unnamed drainage/ intermittent distance: 395 m 1296 ft
28. Nearest Permanent Water: name: Unnamed Spring distance: 2952 m 9685 ft
29. Vegetation on Site (list predominant species): Sparse pinyon and juniper forest in association with sagebrush
30. Vegetation Associations/Communities Surrounding Site: Pinyon and juniper forest

Resource Number: 5MN9245
Temporary Resource Number: Hidden Bas. V2

## Management Data Form



### IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

31. Context or Theme: Mining - Uranium

    specify: The Atomic Era (1946-1963)

32. Applicable National Register Criteria

    ☑ Does not meet any of the below National Register criteria

    ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history; or

    ☐ B. Associated with the lives of persons significant to our past; or

    ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent 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. Has yielded, or may be likely to yield, information important in history or prehistory; or

    ☐ Qualifies under exceptions A through G.

    Level of Significance: National ☐ State ☐ Local ☐

33. Condition:

| a. Architectural/Structural | b. Archaeological/Paleontological |
|---|---|
| ☐ Excellent | ☐ Undisturbed |
| ☐ Good | ☐ Light disturbance |
| ☐ Fair | ☑ Moderate disturbance |
| ☐ Deteriorated | ☐ Heavy disturbance |
| ☐ Ruins | ☐ Total disturbance |

34. Describe Condition: Vent pipe crushed; any additional features have been removed.

35. Vandalism: ☐ describe

36. National Register Eligibility Field Assessment:

    Eligible ☐ Not Eligible ☑ Need Data ☐

    Statement of Significance/N.R.H.P. Justification

    The Hidden Basin claim was initially located in 1944, just prior to Twitty's (2008) fourth period of significance, the Atomic Era (1946-1963). Based on AEC records, the Hidden Basin claim appears to have produced substantial amounts of ore during the period. However, the single vent shaft and small artifact scatter recorded as site 5MN9245 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. (Please see Management Data Continuation Page.)

37. Status in an Existing National Register District:

    Contributing ☐ Non-Contributing ☐

38. National Register District Potential ☐

    discuss

Resource Number: 5MN9245
Temporary Resource Number: Hidden Bas. V2

# Management Data Form



## V. MANAGEMENT AND ADMINISTRATIVE DATA

39. Threats to Resource: Water erosion ☐ Wind erosion ☐ Grazing ☐ Neglect ☐
Vandalism ☐ Recreation ☐ Construction ☐ Other (specify): Reclamation
comments:

40. Existing Protection: None ☑ Marked ☐ Fenced ☐ Patrolled ☐ Access controlled ☐
other (specify):

41. Local landmark designation: 42. Easement:

43. Management Recommendations:
Because Alpine recommends site 5MN9245 as ineligible for the NRHP, no further historical or archaeological work is recommended.

## VI. DOCUMENTATION

44. Previous Actions Accomplished at the site:
a. Excavations: Test ☐ Partial ☐ Complete ☐ Date(s):
b. Stabilization: Date(s):
c. HABS/HAER Documentation Date(s) and Numbers:
d. Other:

45. Known collections/reports/interviews and other references (list):

46. Primary Location of Additional Data: Alpine Archaeological Consultants, Inc.

47. State or Federal Permit Number: Colorado BLM Use Permit C-46920 Collection Authorized: ☐
Artifact Collection: ☐ Artifact Repository: N/A
Collection Method: Diagnostics ☐ Grab Sample ☐ Random Sample ☐ Transect ☐
Other (specify):

48. Photograph Numbers: SMM-DUL-09-4: 161 - 163 Negatives filed at: N/A - Digital images

49. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado

50. Recorder(s): Summer Moore-McMillan, Martha Bright Date(s): 7/23/09

51. Recorder Affiliation: Alpine Archaeological Consultants, Inc. Montrose, CO

52. Phone Number: (970) 249-6761

NOTE: Please attach a sketch map, a photocopy of the USGS quad. map indicating resource location, and photographs.

COLORADO CULTURAL RESOURCE SURVEY

## Management Data Form

### Continuation Page

Resource Number: 5MN9245
Temporary Resource Number: Hidden Bas. V2

36. **National Register Eligibility Field Assessment:**
**Statement of Sigificance/N.R.H.P. Justification:**

Based on Twitty's (2008) significance criteria focusing on architectural, engineering, and archaeological integrity, the integrity of the site can be considered very low due to the limited material remains at the site. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9245 as not eligible for the NRHP.

Reference Cited:

Twitty, Eric (2008). "Guide to Assessing Historic Radium, Uranium, and Vanadium Mining Resources in Montrose and San Miguel Counties." Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

COLORADO CULTURAL RESOURCE SURVEY

OAHP1402
Rev. 9/98

# Historic Archaeological Component Form



Use this form in conjunction with the Managament Data Form. One of these forms should be completed for each historical resources with archaeologicial potential.

Does this form pertain to the site in general? ☑
OR
a particular feature/structure (please note feature/structure number)

1. Resource Number: 5MN9245 2. Temporary Resource Number: Hidden Bas. V2

3. Site/Feature Type: Vent Shaft - Uranium Mine

4. General Site/Feature Description:

Site 5MN9245 is a vent shaft situated on a southwest-facing slope adjacent to Hidden Basin. The vent is on the unpatented Hidden Basin mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site encompasses an area of 0.02 acres at an elevation of 6,430 ft. (1,960 m). Vegetation in the area consists of sparse pinyon and juniper forest in association with sagebrush. The site includes a closed vent shaft surrounded by a small artifact scatter.

Feature 1 is a closed vent shaft supported by a 12-in.-diameter crushed barrel or metal pipe. Although the vent pipe is now crushed, it currently extends approximately 1 ft. above the ground. Artifacts identified near the vent shaft include a length of 2¼-in.-diameter metal pipe, seven 1-qt. oil cans, a milk glass cosmetics jar with a round base and screw-top finish, a clear glass bottle base marked with a cursive "L," and an amber glass bottle marked "6 <A> 31 / ROUX / MADE IN U.S.A." on the base (where <A> represents an anchor with a superimposed H). The bottle has a screw-cap lid with a dropper. The "<A>" mark is the mark of the Anchor Hocking Glass Corporation of Lancaster, Ohio, in use since 1938 (Toulouse 1971:46-49). According to the U.S. Patent Office, the trademark was first used on glass containers in 1938. In 1983, the glass container business was reorganized as the Anchor Glass Container Corporation and a new anchor logo began to be used.

Reference Cited:

Toulouse, Julian Harrison (1971). "Bottle Makers and Their Marks." Thomas Nelson, Inc., New York.

5. Historic Component Date(s) and/or Sociopolitical Period: 1944-1992
   Justification: Historical documents

6. Component Function(s)
   Original Use: Vent shaft, uranium mine
   Present Use: None
   Comments:

7. Ethnic affiliation of occupants: Historic
   Justification: Historical records

Resource Number 5MN9245

Temporary Resource Number: Hidden Bas. V2

## Historic Archaeological Component Form



8. Artifact Classes: Please list specific attributes on the first line and artifact quantity (either count or estimate on the second line. Particularly important attributes are listed following the artifact class.

A. Glass: type function, color, manufacturing technique, makers marks, inscritpions, thickness, shape

**Bottle glass:** ☐ purple ☑ clear ☐ aqua ☐ cobalt blue ☑ amber ☐ light green ☐ olive green ☐ yellowish other: milk glass

**Vessel finish:** ☐ hand-finished ☐ machine-made

**Vessel types:** a milk glass cosmetics jar with a round base and screw-top finish, a clear glass bottle base, and an amber glass bottle that has a screw-cap lid with a dropper

**Makers marks/embossing:** The clear glass bottle base is marked with a cursive "L," and the amber glass bottle is marked "6 <A> 31 / ROUX / MADE IN U.S.A." on the base, where <A> represents the Anchor Hocking maker's mark

**Other vessel types:**

**Total estimated number of vessels:** 3

B. Ceramics: type, function, surface treatment/glaze, shape, trademarks, color, decorations

**Earthenware:**

**Estimated number of vessels:**

**Stoneware:**

**Estimated number of vessels:**

**Porcelain:**

**Estimated number of vessels:**

C. Nails: size, material type and manufacture technique, if not wire or cut

**Cut nails:** ☐ **Quantity:** **Wirenails:** ☐ **Quantity:**

**Other fasteners:**

**Quantity:**

Resource Number 5MN9245

Temporary Resource Number: Hidden Bas. V2

## Historic Archaeological Component Form



D. Cans: function, size, material type, type of opening, seams, inscriptions — Quantity

**Hole-in-cap:**

**Hole-in-top:**

**Sanitary:**

**Other:** Oil cans — 7

E. Cartridge Cases: type, size, inscriptions, material type

**Rimfire:**

**Centerfire:**

**Other:**

F. Construction Material: type, material, function (includes items such as logs, lumber, brick, adobe, cement, concrete, stone/rock, sheet metal, asphalt, tar, pipe)

**Window glass:** ☐ **Quantity:**

**Other:**

G. Misc. Other Items: type, material, function (includes items such as utensils, stove parts, wire, nuts, bolts, rivets, screws, buckets, barrels, vehicle parts, machinery, leather, clothing, bone, funiture, buttons, etc.)

**List:** Length of 2¼-in.-diameter metal pipe

9. Artifact Density: ☐ Heavy ☑ Medium ☐ Light

Describe: There is a small scatter of domestic and industrial artifacts around the vent shaft.

10. Additional Information:

Historical Background

The Hidden Basin claim was first located by W. C. Huntley in 1944. The claim was sold to VCA around 1951 and remained in VCA hands until around 1970, when it appears to have come under the ownership of Union Carbide Corporation. In 1984, ownership of the claim was transferred to Umetco Minerals Corporation, which held the claim until 1992. A more detailed historical background for the Hidden Basin claim, as well as courthouse book and page references, is provided above under the site description for the Hidden Basin Mine (5MN7866).

Resource Number 5MN9245

Temporary Resource Number: Hidden Bas. V2

## Historic Archaeological Component Form



**Note: Complete parts 11 and 12 only if this form pertains to the site in general.**

11. Architectural Features(s). Please complete a Historic Architectural Component Form when appropriate.

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|

12.. Non-architectural features(s).

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|
| F1 | Vent shaft | Metal and earth | 12-in. diameter |

13. Discuss Archaeological potentential:

The site has no archaeological potential.

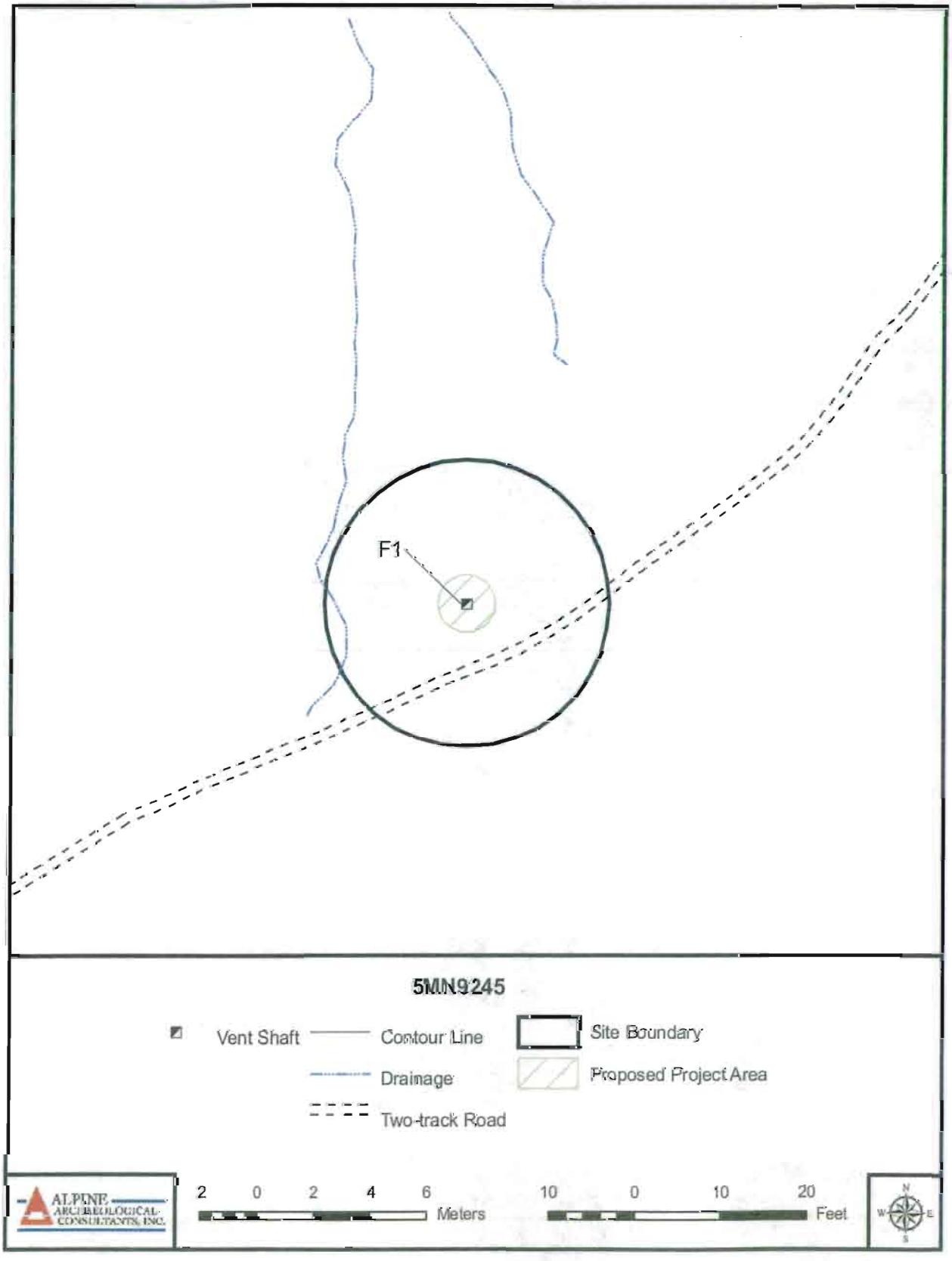
14. Recorder(s): Summer Moore-McMillan, Martha Bright

15. Date: 7/23/09

**5MN9245** Overview of site, looking north.

**5MN9245.** Feature 1, closed vent shaft, facing south-southeast.

For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).



**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**

Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1400
Rev. 9/98

# Management Data Form



The Management Data Form should be completed for each cultural resource recorded during an archaeological survey. Exceptions to this are isolated finds and re-evaluations, neither of which require a Management Data Form.

1. Resource Number: 5MN9246
2. Temporary Resource Number: Hidden Bas. V3
3. Attachments (check as many as apply)
   - ☐ Prehistoric Archaeological Component
   - ☑ Historic Archaeological Component
   - ☐ Historic Architectural Component Form
   - ☑ Sketch/Instrument Map (required)
   - ☑ U.S.G.S. Map Photocopy (required)
   - ☑ Photograph(s)
   - ☐ Other, specify:
4. Official determination (OAHP use only)
   - ____ Determined Eligible
   - ____ Determined Not Eligible
   - ____ Nominated
   - ____ Need Data
   - ____ Contributing to NR Dist.
   - ____ Non Contributing to NR Dist.

## I. IDENTIFICATION

5. Resource name:
6. Project Name/Number: DOE - Uranium Leases
7. Government Involvement: Local ☐ State ☐ Federal ☑
   Agency: Bureau of Land Management - Uncompahgre Field Office, U.S. Department of Energy
8. Site Categories: Check as many as apply:
   Prehistoric: archaeological site ☐ paleontological site ☐
   in existing National Register District? ☐ name
   Historic: archaeology site ☑ building(s) ☐ structure(s) ☐ object(s) ☐
   in existing National Register District? ☐ name
9. Owner (s) Name and Address: Bureau of Land Management - Uncompahgre Field Office/U.S. Department of Energy
10. Boundary Description and Justification: Extent of mining features and associated artifacts.
11. Site/Property Dimensions: 10 m x 8 m Area 78 m² 0.0 acres
    Area was calculated as: Length x Width ☑ rectangle/square OR (length x width) x 0.785 ☐ ellipse

## II. LOCATION

12. Legal Location

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | NM | Township | 47N | Range | 17W | Section | 21 | NE | 1/4 of | NW | 1/4 of | NW | 1/4 of | NW | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |

if section is irregular, explain alignment method: NW corner, N edge

Resource Number: 5MN9246
Temporary Resource Number: Hidden Bas. V3

## Management Data Form



13. USGS Quad Davis Mesa, CO 7.5' ☑ 15' ☐ Date(s): 1994 (attach photocopy)
14. County: Montrose 15. Other Maps:
16. UTM Reference: Check your Datum ☐ NAD 27 ☑ NAD 83

| | | | |
|---|---|---|---|
| A. | 12; | 695966 mE | 4243551 mN |
| B. | 12; | mE | mN |
| C. | 12; | mE | mN |
| D. | 12; | mE | mN |

17. Address: Lot Block: Addition
18. Location/Access: From Naturita, CO, drive west on Colo. Hwy. 141 for 3.4 miles to the intersection of Colo. Hwy. 141 and Hwy. 90. Turn left on Hwy. 90 and continue for 5.5 miles before turning right on Montrose County Road EE22. Drive 8.9 miles along CR EE22 to a "Y" intersection in the county road. Turn right and continue for 0.3 miles. Turn right on an unnamed drill road and continue north-northeast for 1.1 miles to the Hidden Basin Mine. From the mine, walk 0.2 miles south-southeast to the vent shaft.

### III. NATURAL ENVIRONMENT

19. Topographic Feature(s):

| | | |
|---|---|---|
| ☐ mountain | ☐ ledge | ☐ playa |
| ☐ hill | ☐ terrace/bench | ☐ talus slope |
| ☐ tableland/mesa | ☐ canyon | ☐ alluvial fan |
| ☐ ridge | ☐ valley | ☐ plain |
| ☐ saddle/pass | ☑ basin | ☐ dune |
| ☐ alcove/rockshelter | ☐ floodplain | ☐ |
| ☐ cliff | ☐ cutbank | ☐ |
| ☑ slope | ☐ arroyo/gully | ☐ |

20. Site Topographic Description (mention names landforms):
The site is situated on the southwest-facing slope of Hidden Basin, which is an open valley approximately 1.5 miles east of Hieroglyphic Canyon.
21. Site Elevation: 6,500 feet =(x .3048) 1981 meters 22. Aspect: 320 °
23. Degree of Slope on Site: 0-10 ° 24. Soil Depth: 0-20 cm
25. Soil Description (character and color): Yellowish-brown sandy loam
26. Depositional Environment

| | | |
|---|---|---|
| ☐ Aeolian | ☑ Colluvial | ☑ Residual |
| ☐ Alluvial | ☐ Moraine | ☐ None |
| ☐ Other, specify: | | |

27. Nearest Water: name/nature Unnamed drainage/ intermittent distance: 312 m 1024 ft
28. Nearest Permanent Water: name: Unnamed Spring distance: 2880 m 9449 ft
29. Vegetation on Site (list predominant species): Sparse pinyon and juniper forest in association with sagebrush
30. Vegetation Associations/Communities Surrounding Site: Pinyon and juniper forest

Resource Number: 5MN9246
Temporary Resource Number: Hidden Bas. V3

## Management Data Form



### IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

31. Context or Theme: Mining - Uranium

specify: The Atomic Era (1946-1963)

32. Applicable National Register Criteria

- ☑ Does not meet any of the below National Register criteria
- ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history; or
- ☐ B. Associated with the lives of persons significant to our past; or
- ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent 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. Has yielded, or may be likely to yield, information important in history or prehistory; or
- ☐ Qualifies under exceptions A through G.

Level of Significance: National ☐ State ☐ Local ☐

33. Condition:

| a. Architectural/Structural | b. Archaeological/Paleontological |
|---|---|
| ☐ Excellent | ☐ Undisturbed |
| ☐ Good | ☐ Light disturbance |
| ☐ Fair | ☑ Moderate disturbance |
| ☐ Deteriorated | ☐ Heavy disturbance |
| ☐ Ruins | ☐ Total disturbance |

34. Describe Condition: Any additional equipment or features associated with the vent shaft have been removed.

35. Vandalism: ☐ describe

36. National Register Eligibility Field Assessment:

Eligible ☐ Not Eligible ☑ Need Data ☐

Statement of Significance/N.R.H.P. Justification

The Hidden Basin claim was initially located in 1944, just prior to Twitty's (2008) fourth period of significance, the Atomic Era (1946-1963). Based on AEC records, the Hidden Basin claim appears to have produced substantial amounts of ore during this period. However, the single vent shaft and small artifact scatter recorded as site 5MN9246 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. (Please see Management Data Continuation Page.)

37. Status in an Existing National Register District:

Contributing ☐ Non-Contributing ☐

38. National Register District Potential ☐

discuss

Resource Number: 5MN9246
Temporary Resource Number: Hidden Bas. V3

# Management Data Form



## V. MANAGEMENT AND ADMINISTRATIVE DATA

39. Threats to Resource: Water erosion ☐ Wind erosion ☐ Grazing ☐ Neglect ☐
Vandalism ☐ Recreation ☐ Construction ☐ Other (specify): Reclamation
comments:

40. Existing Protection: None ☑ Marked ☐ Fenced ☐ Patrolled ☐ Access controlled ☐
other (specify):

41. Local landmark designation: 42. Easement:

43. Management Recommendations:
Because Alpine recommends site 5MN9246 as ineligible for the NRHP, no further historical or archaeological work is recommended.

## VI. DOCUMENTATION

44. Previous Actions Accomplished at the site:
a. Excavations: Test ☐ Partial ☐ Complete ☐ Date(s):
b. Stabilization: Date(s):
c. HABS/HAER Documentation Date(s) and Numbers:
d. Other:

45. Known collections/reports/interviews and other references (list):

46. Primary Location of Additional Data: Alpine Archaeological Consultants, Inc.

47. State or Federal Permit Number: Colorado BLM Use Permit C-46920 Collection Authorized: ☐
Artifact Collection: ☐ Artifact Repository: N/A
Collection Method: Diagnostics ☐ Grab Sample ☐ Random Sample ☐ Transect ☐
Other (specify):

48. Photograph Numbers: SMM-DUL-09-4: 164 - 167 Negatives filed at: N/A - Digital images

49. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado

50. Recorder(s): Summer Moore-McMillan, Martha Bright Date(s): 7/23/09

51. Recorder Affiliation: Alpine Archaeological Consultants, Inc. Montrose, CO

52. Phone Number: (970) 249-6761

NOTE: Please attach a sketch map, a photocopy of the USGS quad. map indicating resource location, and photographs.

Resource Number: 5MN9246
Temporary Resource Number: Hidden Bas. V3

**36. National Register Eligibility Field Assessment:**
**Statement of Sigificance/N.R.H.P. Justification:**

Based on Twitty's (2008) significance criteria focusing on architectural, engineering, and archaeological integrity, the integrity of the site can be considered very low due to the limited material remains at the site. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9246 as not eligible for the NRHP.

Reference Cited:

Twitty, Eric (2008). "Guide to Assessing Historic Radium, Uranium, and Vanadium Mining Resources in Montrose and San Miguel Counties." Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

COLORADO CULTURAL RESOURCE SURVEY

OAHP1402
Rev. 9/98

# Historic Archaeological Component Form



Use this form in conjunction with the Managament Data Form. One of these forms should be completed for each historical resources with archaeologicial potential.

Does this form pertain to the site in general? ☑
OR
a particular feature/structure (please note feature/structure number)

1. Resource Number: 5MN9246 2. Temporary Resource Number: Hidden Bas. V3

3. Site/Feature Type: Vent Shaft - Uranium Mine

4. General Site/Feature Description:

Site 5MN9246 is a vent shaft situated on a southwest-facing slope adjacent to Hidden Basin. The vent is on the unpatented Hidden Basin mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site covers 0.02 acres at an elevation of 6,500 ft. (1,960 m). Vegetation in the area consists of sparse pinyon and juniper forest in association with sagebrush. The site includes an open vent shaft surrounded by a small artifact scatter.

Feature 1 is an open vent shaft from which a 14-in.-diameter oil lubricant barrel extends 1 ft. 8 in. above the ground. An 8-in.-diameter galvanized steel stovepipe has been affixed to the southern side of the barrel to serve as a ventilation duct. The oil lubricant barrel is marked: "UNIVERSAL GEAR LUBRICANT / EP 90 / MULTI-PURPOSE" and with the "TEXACO / T" logo. A 3 by 8-in. board lies beneath the end of the stovepipe, possibly representing the remnant of an equipment platform. The board is secured with railroad spikes. Artifacts associated with Feature 1 include a possible fan part, a crushed Sanitary can, an oil can, a piece of crushed galvanized steel stovepipe, and a length of baling wire.

5. Historic Component Date(s) and/or Sociopolitical Period: 1944-1992
   Justification: Historical documents

6. Component Function(s)
   Original Use: Vent shaft, uranium mine
   Present Use: None
   Comments:

7. Ethnic affiliation of occupants: Historic
   Justification: Historical records

Resource Number 5MN9246

Temporary Resource Number: Hidden Bas. V3

## Historic Archaeological Component Form



8. Artifact Classes: Please list specific attributes on the first line and artifact quantity (either count or estimate on the second line. Particularly important attributes are listed following the artifact class.

A. Glass: type function, color, manufacturing technique, makers marks, inscritpions, thickness, shape

**Bottle glass:** ☐purple ☐clear ☐aqua ☐cobalt blue ☐amber ☐light green ☐olive green ☐yellowish other:

**Vessel finish:** ☐ hand-finished ☐ machine-made

**Vessel types:**

**Makers marks/embossing:**

**Other vessel types:**

**Total estimated number of vessels:**

B. Ceramics: type, function, surface treatment/glaze, shape, trademarks, color, decorations

**Earthenware:**

**Estimated number of vessels:**

**Stoneware:**

**Estimated number of vessels:**

**Porcelain:**

**Estimated number of vessels:**

C. Nails: size, material type and manufacture technique, if not wire or cut

**Cut nails:** ☐ **Quantity:** **Wirenails:** ☐ **Quantity:**

**Other fasteners:**

**Quantity:**

Resource Number 5MN9246

Temporary Resource Number: Hidden Bas. V3

## Historic Archaeological Component Form



D. Cans: function, size, material type, type of opening, seams, inscriptions — Quantity

**Hole-in-cap:**

**Hole-in-top:**

**Sanitary:** Crushed Sanitary can — 1

**Other:** Oil can — 1

E. Cartridge Cases: type, size, inscriptions, material type

**Rimfire:**

**Centerfire:**

**Other:**

F. Construction Material: type, material, function (includes items such as logs, lumber, brick, adobe, cement, concrete, stone/rock, sheet metal, asphalt, tar, pipe)

**Window glass:** ☐ **Quantity:**

**Other:**

G. Misc. Other Items: type, material, function (includes items such as utensils, stove parts, wire, nuts, bolts, rivets, screws, buckets, barrels, vehicle parts, machinery, leather, clothing, bone, funiture, buttons, etc.)

**List:** Possible metal fan part, a piece of crushed galvanized steel stovepipe, and a length of baling wire.

9. Artifact Density: ☐ Heavy ☐ Medium ☑ Light

Describe: There is a small scatter of industrial artifacts around the vent shaft.

10. Additional Information:

Historical Background

The Hidden Basin claim was first located by W. C. Huntley in 1944. The claim was sold to VCA around 1951 and remained in VCA hands until around 1970, when it appears to have come under the ownership of Union Carbide Corporation. In 1984, ownership of the claim was transferred to Umetco Minerals Corporation, which held the claim until 1992. A more detailed historical background for the Hidden Basin claim, as well as courthouse book and page references, is provided above under the site description for the Hidden Basin Mine (5MN7866).

Resource Number 5MN9246

Temporary Resource Number: Hidden Bas. V3

## Historic Archaeological Component Form



**Note: Complete parts 11 and 12 only if this form pertains to the site in general.**

11. Architectural Features(s). Please complete a Historic Architectural Component Form when appropriate.

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|

12.. Non-architectural features(s).

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|
| F1 | Vent shaft | Metal and earth | 14-in. diameter |

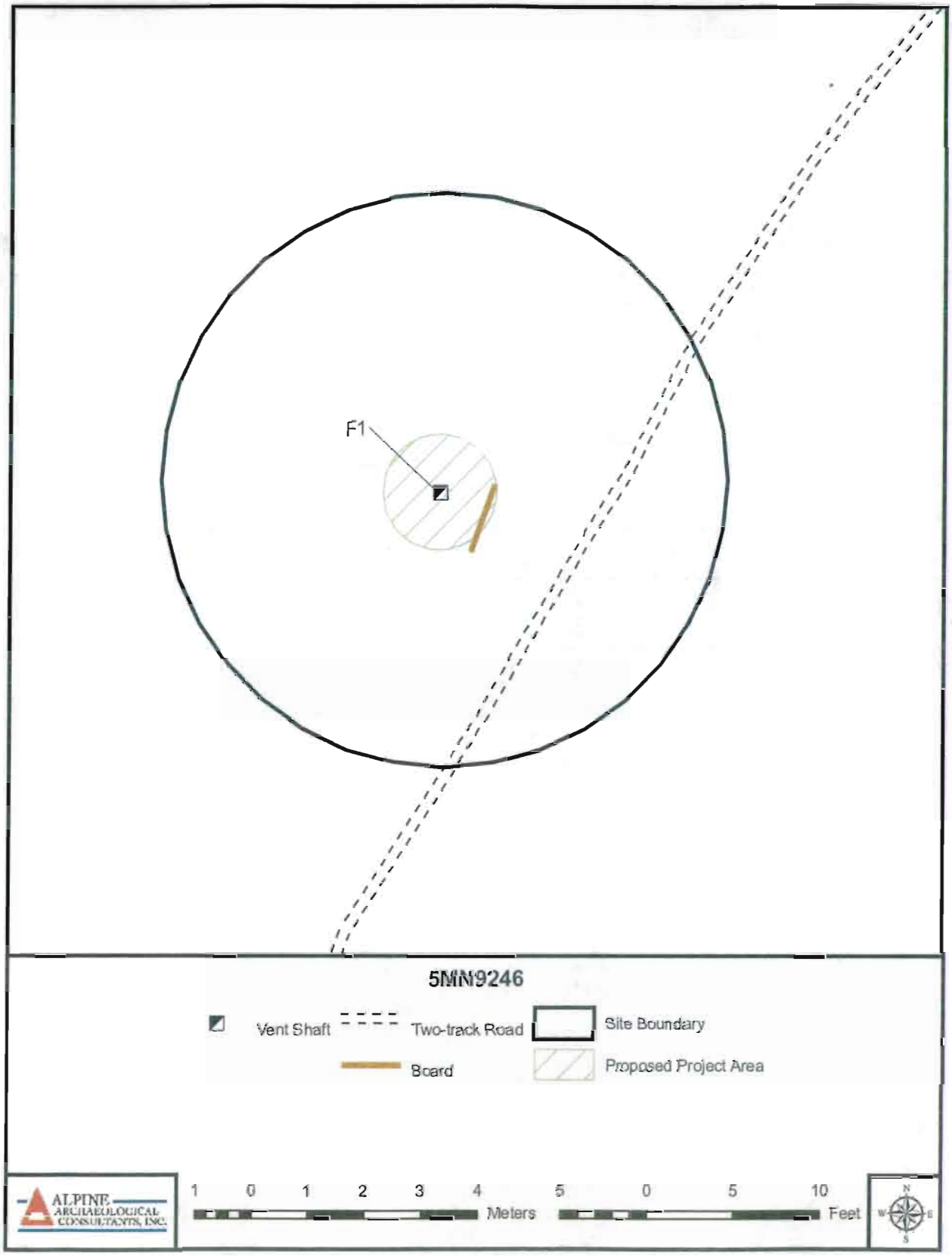
13. Discuss Archaeological potentential:
The site has no archaeological potential.

14. Recorder(s): Summer Moore-McMillan, Martha Bright

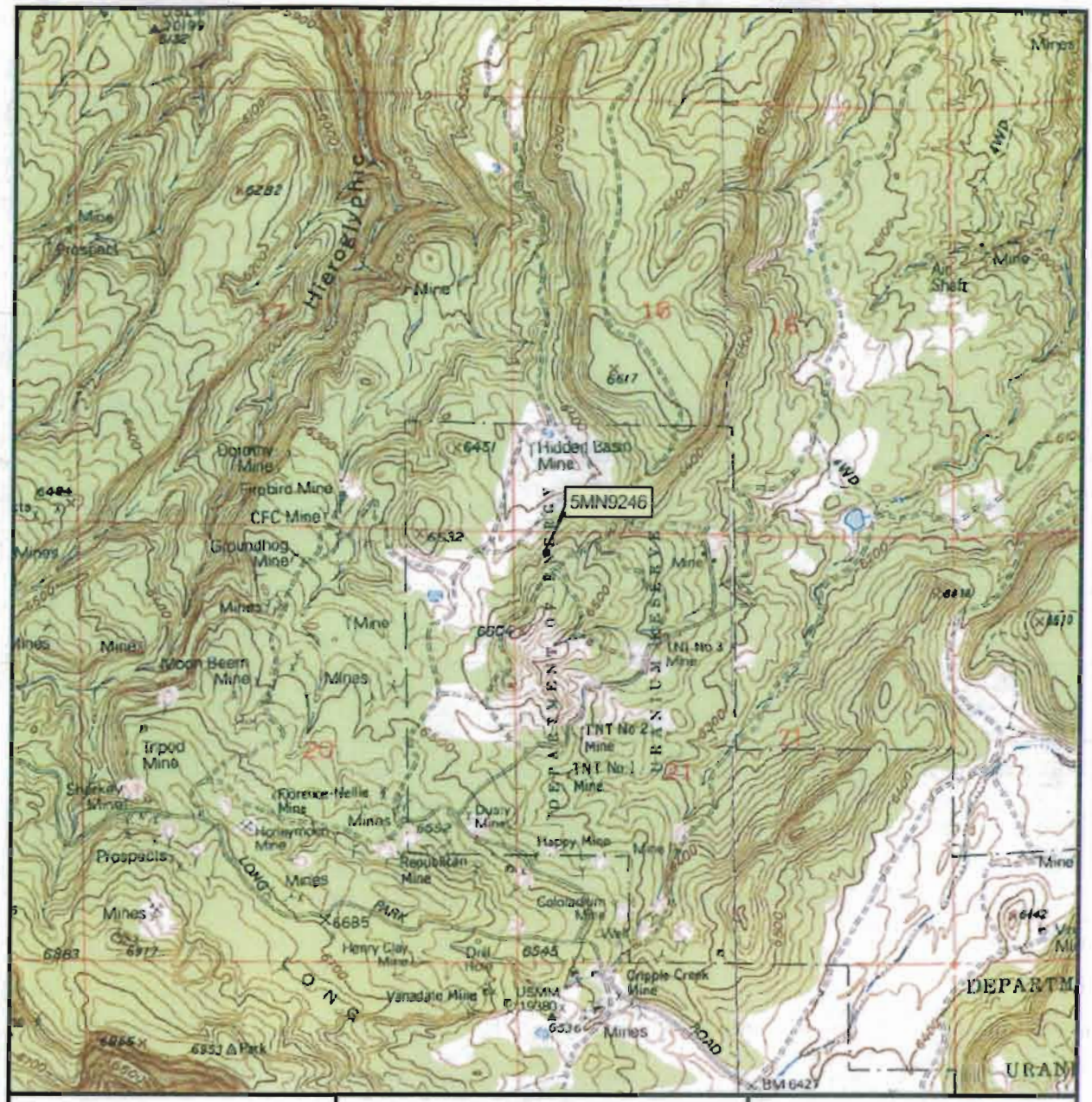
15. Date: 7/23/09

**5MN9246**. Overview of site, including Feature 1, vent shaft, facing northwest.

For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).



For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1400
Rev. 9/98

# Management Data Form



The Management Data Form should be completed for each cultural resource recorded during an archaeological survey. Exceptions to this are isolated finds and re-evaluations, neither of which require a Management Data Form.

1. Resource Number: 5MN9247
2. Temporary Resource Number: Hidden Bas. V4
3. Attachments (check as many as apply)
   - ☐ Prehistoric Archaeological Component
   - ☑ Historic Archaeological Component
   - ☐ Historic Architectural Component Form
   - ☑ Sketch/Instrument Map (required)
   - ☑ U.S.G.S. Map Photocopy (required)
   - ☑ Photograph(s)
   - ☐ Other, specify:
4. Official determination (OAHP use only)
   - ____ Determined Eligible
   - ____ Determined Not Eligible
   - ____ Nominated
   - ____ Need Data
   - ____ Contributing to NR Dist.
   - ____ Non Contributing to NR Dist.

## I. IDENTIFICATION

5. Resource name:
6. Project Name/Number: DOE - Uranium Leases
7. Government Involvement: Local ☐ State ☐ Federal ☑
   Agency: Bureau of Land Management - Uncompahgre Field Office, U.S. Department of Energy
8. Site Categories: Check as many as apply:
   Prehistoric: archaeological site ☐ paleontological site ☐
   in existing National Register District? ☐ name
   Historic: archaeology site ☑ building(s) ☐ structure(s) ☐ object(s) ☐
   in existing National Register District? ☐ name
9. Owner (s) Name and Address: Bureau of Land Management - Uncompahgre Field Office/U.S. Department of Energy
10. Boundary Description and Justification: Extent of mining features and associated artifacts.
11. Site/Property Dimensions: 11 m x 12 m Area 131 m² 0.0 acres
    Area was calculated as: Length x Width ☑ (rectangle/square) OR (length x width) x 0.785 ☐ (ellipse)

## II. LOCATION

12. Legal Location

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | NM | Township | 47N | Range | 17W | Section | 16 | SE | 1/4 of | SW | 1/4 of | SW | 1/4 of | SW | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |

if section is irregular, explain alignment method: SW corner, S edge

Resource Number: 5MN9247
Temporary Resource Number: Hidden Bas. V4

## Management Data Form



13. USGS Quad Davis Mesa, CO 7.5' ☑ 15' ☐ Date(s): 1994 (attach photocopy)
14. County: Montrose 15. Other Maps:
16. UTM Reference: Check your Datum ☐ NAD 27 ☑ NAD 83

| | | | |
|---|---|---|---|
| A. | 12: | 695963 mE | 4243666 mN |
| B. | 12: | mE | mN |
| C. | 12; | mE | mN |
| D. | 12; | mE | mN |

17. Address: Lot Block: Addition
18. Location/Access: From Naturita, CO, drive west on Colo. Hwy. 141 for 3.4 miles to the intersection of Colo. Hwy. 141 and Hwy. 90. Turn left on Hwy. 90 and continue for 5.5 miles before turning right on Montrose County Road EE22. Drive 8.9 miles along CR EE22 to a "Y" intersection in the county road. Turn right and continue for 0.3 miles. Turn right on an unnamed drill road and continue north-northeast for 1.1 miles to the Hidden Basin Mine. From the mine, walk 1,000 ft. south-southeast to the vent shaft.

### III. NATURAL ENVIRONMENT

19. Topographic Feature(s):

| | | |
|---|---|---|
| ☐ mountain | ☐ ledge | ☐ playa |
| ☐ hill | ☐ terrace/bench | ☐ talus slope |
| ☐ tableland/mesa | ☐ canyon | ☐ alluvial fan |
| ☐ ridge | ☐ valley | ☐ plain |
| ☐ saddle/pass | ☑ basin | ☐ dune |
| ☐ alcove/rockshelter | ☐ floodplain | ☐ |
| ☐ cliff | ☐ cutbank | ☐ |
| ☑ slope | ☐ arroyo/gully | ☐ |

20. Site Topographic Description (mention names landforms):
The site is situated on the southwest-facing slope of Hidden Basin, which is an open valley approximately 1.5 miles east of Hieroglyphic Canyon.
21. Site Elevation: 6,420 feet =(x .3048) 1957 meters 22. Aspect: 330 °
23. Degree of Slope on Site: 0-10 ° 24. Soil Depth: 0-20 cm
25. Soil Description (character and color): Yellowish-brown sandy loam
26. Depositional Environment

| | | |
|---|---|---|
| ☐ Aeolian | ☑ Colluvial | ☑ Residual |
| ☐ Alluvial | ☐ Moraine | ☐ None |
| ☐ Other, specify: | | |

27. Nearest Water: name/nature Unnamed drainage/ intermittent distance: 420 m 1378 ft
28. Nearest Permanent Water: name: Unnamed Spring distance: 2890 m 9482 ft
29. Vegetation on Site (list predominant species): Sparse pinyon and juniper forest in association with sagebrush
30. Vegetation Associations/Communities Surrounding Site: Pinyon and juniper forest

Resource Number: 5MN9247
Temporary Resource Number: Hidden Bas. V4

## Management Data Form



### IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

31. Context or Theme: Mining - Uranium

    specify: The Atomic Era (1946-1963)

32. Applicable National Register Criteria

    ☑ Does not meet any of the below National Register criteria

    ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history; or

    ☐ B. Associated with the lives of persons significant to our past; or

    ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent 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. Has yielded, or may be likely to yield, information important in history or prehistory; or

    ☐ Qualifies under exceptions A through G.

    Level of Significance: National ☐ State ☐ Local ☐

33. Condition:

| a. Architectural/Structural | b. Archaeological/Paleontological |
|---|---|
| ☐ Excellent | ☐ Undisturbed |
| ☐ Good | ☐ Light disturbance |
| ☐ Fair | ☑ Moderate disturbance |
| ☐ Deteriorated | ☐ Heavy disturbance |
| ☐ Ruins | ☐ Total disturbance |

34. Describe Condition: Vent pipe rusted; any additional features have been removed.

35. Vandalism: ☐ describe

36. National Register Eligibility Field Assessment:

    Eligible ☐ Not Eligible ☑ Need Data ☐

    Statement of Significance/N.R.H.P. Justification

    The Hidden Basin claim was initially located in 1944, just prior to Twitty's (2008) fourth period of significance, the Atomic Era (1946-1963). Based on AEC records, the Hidden Basin claim appears to have produced substantial amounts of ore during this period. However, the single vent shaft and small artifact scatter recorded as site 5MN9247 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. (Please see Management Data Continuation Page.)

37. Status in an Existing National Register District:

    Contributing ☐ Non-Contributing ☐

38. National Register District Potential ☐

    discuss

Resource Number: 5MN9247
Temporary Resource Number: Hidden Bas. V4

## Management Data Form



### V. MANAGEMENT AND ADMINISTRATIVE DATA

39. Threats to Resource: Water erosion ☐ Wind erosion ☐ Grazing ☐ Neglect ☐
Vandalism ☐ Recreation ☐ Construction ☐ Other (specify): Reclamation
comments:

40. Existing Protection: None ☑ Marked ☐ Fenced ☐ Patrolled ☐ Access controlled ☐
other (specify):

41. Local landmark designation: 42. Easement:

43. Management Recommendations:
Because Alpine recommends site 5MN9247 as ineligible for the NRHP, no further historical or archaeological work is recommended.

### VI. DOCUMENTATION

44. Previous Actions Accomplished at the site:
a. Excavations: Test ☐ Partial ☐ Complete ☐ Date(s):
b. Stabilization: Date(s):
c. HABS/HAER Documentation Date(s) and Numbers:
d. Other:

45. Known collections/reports/interviews and other references (list):

46. Primary Location of Additional Data: Alpine Archaeological Consultants, Inc.

47. State or Federal Permit Number: Colorado BLM Use Permit C-46920 Collection Authorized: ☐
Artifact Collection: ☐ Artifact Repository: N/A
Collection Method: Diagnostics ☐ Grab Sample ☐ Random Sample ☐ Transect ☐
Other (specify):

48. Photograph Numbers: SMM-DUL-09-4: 170 and 171 Negatives filed at: N/A - Digital images

49. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado

50. Recorder(s): Summer Moore-McMillan, Martha Bright Date(s): 7/23/09

51. Recorder Affiliation: Alpine Archaeological Consultants, Inc. Montrose, CO

52. Phone Number: (970) 249-6761

NOTE: Please attach a sketch map, a photocopy of the USGS quad. map indicating resource location, and photographs.

Resource Number: 5MN9247
Temporary Resource Number: Hidden Bas. V4

**36. National Register Eligibility Field Assessment:**
**Statement of Sigificance/N.R.H.P. Justification:**

Based on Twitty's (2008) significance criteria focusing on architectural, engineering, and archaeological integrity, the integrity of the site can be considered very low due to the limited material remains at the site. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9247 as not eligible for the NRHP.

Reference Cited:

Twitty, Eric (2008). "Guide to Assessing Historic Radium, Uranium, and Vanadium Mining Resources in Montrose and San Miguel Counties." Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

COLORADO CULTURAL RESOURCE SURVEY

OAHP1402
Rev. 9/98

# Historic Archaeological Component Form



Use this form in conjunction with the Managament Data Form. One of these forms should be completed for each historical resources with archaeologicial potential.

Does this form pertain to the site in general? ☑
OR
a particular feature/structure (please note feature/structure number)

1. Resource Number: 5MN9247 2. Temporary Resource Number: Hidden Bas. V4

3. Site/Feature Type: Vent Shaft - Uranium Mine

4. General Site/Feature Description:

Site 5MN9247 is a vent shaft situated on a southwest-facing slope adjacent to Hidden Basin. The vent is on the unpatented Hidden Basin mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site covers 0.03 acres at an elevation of 6,420 ft. (1,957 m). Vegetation in the area consists of sparse pinyon and juniper forest in association with sagebrush. The site includes an open vent shaft surrounded by a small artifact scatter.

□Feature 1 is an open vent shaft with two 14-in-diameter oil lubricant barrels welded together over the vent hole to make a vent pipe 3 ft. 3 in. tall. An 8-in.-diameter galvanized steel stovepipe section has been inserted into the vent pipe on the southwestern side to form a ventilation duct. The pry-off lid to the lubricant barrel on the pipe lies adjacent to the vent shaft. Artifacts associated with Feature 1 include a broken ½-in.-wide hacksaw blade, a coiled length of ⅝-in.-diameter wire rope, fragments of milled lumber, and 16 1-qt. oil cans. Additionally, an artifact concentration of 61 oil cans (Artifact Concentration 1) was defined in a small wash to the north of the vent shaft.

5. Historic Component Date(s) and/or Sociopolitical Period: 1944-1992
   Justification: Historical documents

6. Component Function(s)
   Original Use: Vent shaft, uranium mine
   Present Use: None
   Comments:

7. Ethnic affiliation of occupants: Historic
   Justification: Historical records

Resource Number 5MN9247

Temporary Resource Number: Hidden Bas. V4

## Historic Archaeological Component Form



8. Artifact Classes: Please list specific attributes on the first line and artifact quantity (either count or estimate on the second line. Particularly important attributes are listed following the artifact class.

A. Glass: type function, color, manufacturing technique, makers marks, inscritpions, thickness, shape

**Bottle glass:** ☐purple ☐clear ☐aqua ☐cobalt blue ☐amber ☐light green ☐olive green ☐yellowish other:

**Vessel finish:** ☐ hand-finished ☐ machine-made

**Vessel types:**

**Makers marks/embossing:**

**Other vessel types:**

**Total estimated number of vessels:**

B. Ceramics: type, function, surface treatment/glaze, shape, trademarks, color, decorations

**Earthenware:**

**Estimated number of vessels:**

**Stoneware:**

**Estimated number of vessels:**

**Porcelain:**

**Estimated number of vessels:**

C. Nails: size, material type and manufacture technique, if not wire or cut

**Cut nails:** ☐ **Quantity:** **Wirenails:** ☐ **Quantity:**

**Other fasteners:**

**Quantity:**

Resource Number 5MN9247

Temporary Resource Number: Hidden Bas. V4

## Historic Archaeological Component Form



D. Cans: function, size, material type, type of opening, seams, inscriptions — Quantity

**Hole-in-cap:**

**Hole-in-top:**

**Sanitary:**

**Other:** Oil cans — 77

E. Cartridge Cases: type, size, inscriptions, material type

**Rimfire:**

**Centerfire:**

**Other:**

F. Construction Material: type, material, function (includes items such as logs, lumber, brick, adobe, cement, concrete, stone/rock, sheet metal, asphalt, tar, pipe)

**Window glass:** ☐ **Quantity:**

**Other:** Fragments of milled lumber

G. Misc. Other Items: type, material, function (includes items such as utensils, stove parts, wire, nuts, bolts, rivets, screws, buckets, barrels, vehicle parts, machinery, leather, clothing, bone, funiture, buttons, etc.)

**List:** Broken ½-in.-wide hacksaw blade, a coiled length of ⅝-in.-diameter wire rope

9. Artifact Density: ☑ Heavy ☐ Medium ☑ Light

Describe: A heavy concentration of oil cans was identified at the site, in addition to a limited number of other industrial artifacts.

10. Additional Information:

Historical Background

The Hidden Basin claim was first located by W. C. Huntley in 1944. The claim was sold to VCA around 1951 and remained in VCA hands until around 1970, when it appears to have come under the ownership of Union Carbide Corporation. In 1984, ownership of the claim was transferred to Umetco Minerals Corporation, which held the claim until 1992. A more detailed historical background for the Hidden Basin claim, as well as courthouse book and page references, is provided above under the site description for the Hidden Basin Mine (5MN7866).

Resource Number 5MN9247

Temporary Resource Number: Hidden Bas. V4

## Historic Archaeological Component Form



**Note: Complete parts 11 and 12 only if this form pertains to the site in general.**

11. Architectural Features(s). Please complete a Historic Architectural Component Form when appropriate.

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|

12.. Non-architectural features(s).

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|
| F1 | Vent shaft | Metal and earth | 14-in. diameter |

13. Discuss Archaeological potentential:
*The site has no archaeological potential.*

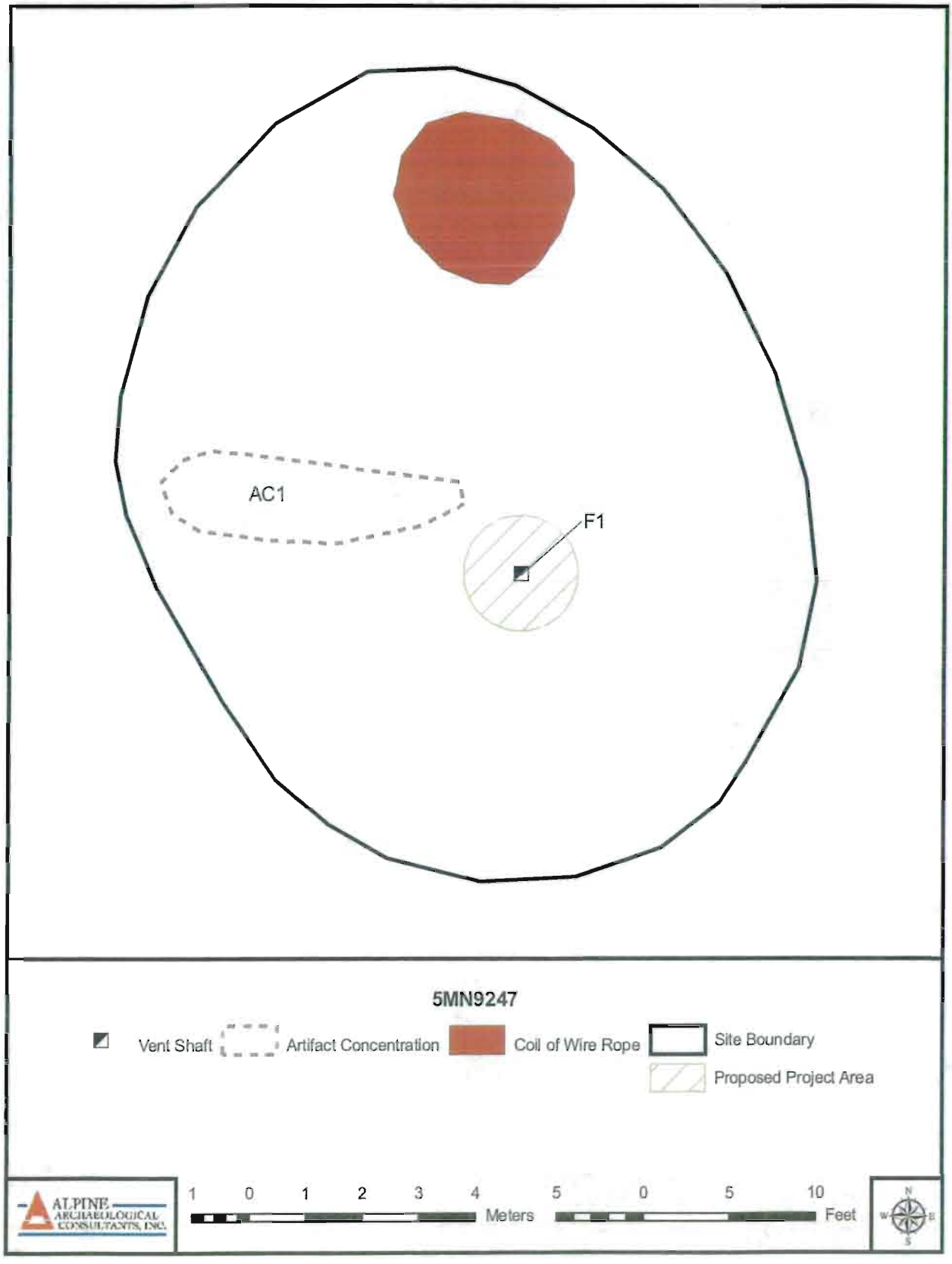
14. Recorder(s): Summer Moore-McMillan, Martha Bright

15. Date: 7/23/09

Colorado Historical Society - Office of Archaeology and Historic Preservation,
1300 Broadway, Denver, CO 80203
1303-866-3395

**5MN9247.** Overview of site, including Feature 1, vent shaft, facing northwest.

For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).



For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).

Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1400
Rev. 9/98

# Management Data Form



The Management Data Form should be completed for each cultural resource recorded during an archaeological survey. Exceptions to this are isolated finds and re-evaluations, neither of which require a Management Data Form.

1. Resource Number: 5MN9248
2. Temporary Resource Number: Hidden Bas. V6
3. Attachments (check as many as apply)
   - ☐ Prehistoric Archaeological Component
   - ☑ Historic Archaeological Component
   - ☐ Historic Architectural Component Form
   - ☑ Sketch/Instrument Map (required)
   - ☑ U.S.G.S. Map Photocopy (required)
   - ☑ Photograph(s)
   - ☐ Other, specify:
4. Official determination (OAHP use only)
   - ____ Determined Eligible
   - ____ Determined Not Eligible
   - ____ Nominated
   - ____ Need Data
   - ____ Contributing to NR Dist.
   - ____ Non Contributing to NR Dist.

## I. IDENTIFICATION

5. Resource name:
6. Project Name/Number: DOE - Uranium Leases
7. Government Involvement: Local ☐ State ☐ Federal ☑
   Agency: Bureau of Land Management - Uncompahgre Field Office, U.S. Department of Energy
8. Site Categories: Check as many as apply:
   Prehistoric: archaeological site ☐ paleontological site ☐
   in existing National Register District? ☐ name
   Historic: archaeology site ☑ building(s) ☐ structure(s) ☐ object(s) ☐
   in existing National Register District? ☐ name
9. Owner (s) Name and Address: Bureau of Land Management - Uncompahgre Field Office/U.S. Department of Energy
10. Boundary Description and Justification: Extent of mining features and associated artifacts.
11. Site/Property Dimensions: 10 m x 8 m Area 78 m² 0.0 acres
    Area was calculated as: Length x Width ☑ (rectangle/square) OR (length x width) x 0.785 ☐ (ellipse)

## II. LOCATION

12. Legal Location

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | NM | Township | 47N | Range | 17W | Section | 16 | SW | 1/4 of | SW | 1/4 of | SW | 1/4 of | SW | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |

if section is irregular, explain alignment method: SW corner, W edge

Resource Number: 5MN9248
Temporary Resource Number: Hidden Bas. V6

## Management Data Form



13. USGS Quad Davis Mesa, CO 7.5' ☑ 15' ☐ Date(s): 1994 (attach photocopy)
14. County: Montrose 15. Other Maps:
16. UTM Reference: Check your Datum ☐ NAD 27 ☑ NAD 83

| | | | |
|---|---|---|---|
| A. | 12; | 695887 mE | 4243723 mN |
| B. | 12; | mE | mN |
| C. | 12; | mE | mN |
| D. | 12; | mE | mN |

17. Address: Lot Block: Addition
18. Location/Access: From Naturita, CO, drive west on Colo. Hwy. 141 for 3.4 miles to the intersection of Colo. Hwy. 141 and Hwy. 90. Turn left on Hwy. 90 and continue for 5.5 miles before turning right on Montrose County Road EE22. Drive 8.9 miles along CR EE22 to a "Y" intersection in the county road. Turn right and continue for 0.3 miles. Turn right on an unnamed drill road and continue north-northeast for 1.1 miles to the Hidden Basin Mine. From the mine, walk 750 ft. south-southwest to the vent shaft.

### III. NATURAL ENVIRONMENT

19. Topographic Feature(s):

| | | |
|---|---|---|
| ☐ mountain | ☐ ledge | ☐ playa |
| ☐ hill | ☐ terrace/bench | ☐ talus slope |
| ☐ tableland/mesa | ☐ canyon | ☐ alluvial fan |
| ☐ ridge | ☐ valley | ☐ plain |
| ☐ saddle/pass | ☑ basin | ☐ dune |
| ☐ alcove/rockshelter | ☐ floodplain | ☐ |
| ☐ cliff | ☐ cutbank | ☐ |
| ☐ slope | ☐ arroyo/gully | ☐ |

20. Site Topographic Description (mention names landforms):
The site is situated in the southeastern portion of Hidden Basin, which is an open valley approximately 1.5 miles east of Hieroglyphic Canyon.
21. Site Elevation: 6,400 feet =(x .3048) 1951 meters 22. Aspect: 10 °
23. Degree of Slope on Site: 0-10 ° 24. Soil Depth: 0-20 cm
25. Soil Description (character and color): Yellowish-brown sandy loam
26. Depositional Environment

| | | |
|---|---|---|
| ☐ Aeolian | ☑ Colluvial | ☑ Residual |
| ☐ Alluvial | ☐ Moraine | ☐ None |

☐ Other, specify:

27. Nearest Water: name/nature Unnamed drainage/ intermittent distance: 500 m 1640 ft
28. Nearest Permanent Water: name: Unnamed Spring distance: 2970 m 9744 ft
29. Vegetation on Site (list predominant species): Sparse pinyon and juniper forest in association with sagebrush
30. Vegetation Associations/Communities Surrounding Site: Pinyon and juniper forest

Resource Number: 5MN9248
Temporary Resource Number: Hidden Bas. V6

## Management Data Form



### IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

31. Context or Theme: Mining - Uranium

specify: The Atomic Era (1946-1963)

32. Applicable National Register Criteria

☐ Does not meet any of the below National Register criteria

☐ A. Associated with events that have made a significant contribution to the broad pattern of our history; or

☐ B. Associated with the lives of persons significant to our past; or

☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent 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. Has yielded, or may be likely to yield, information important in history or prehistory; or

☐ Qualifies under exceptions A through G.

Level of Significance: National ☐ State ☐ Local ☐

33. Condition:

a. Architectural/Structural
- ☐ Excellent
- ☐ Good
- ☐ Fair
- ☐ Deteriorated
- ☐ Ruins

b. Archaeological/Paleontological
- ☐ Undisturbed
- ☐ Light disturbance
- ☑ Moderate disturbance
- ☐ Heavy disturbance
- ☐ Total disturbance

34. Describe Condition: Vent pipe crushed; any additional features have been removed.

35. Vandalism: ☐ describe

36. National Register Eligibility Field Assessment:

Eligible ☐ Not Eligible ☑ Need Data ☐

Statement of Significance/N.R.H.P. Justification

The Hidden Basin claim was initially located in 1944, just prior to Twitty's (2008a) fourth period of significance, the Atomic Era (1946-1963). Based on AEC records, the Hidden Basin claim appears to have produced substantial amounts of ore during this period. However, the single vent shaft and small artifact scatter recorded as site 5MN9248 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. (Please see Management Data Continuation Page.)

37. Status in an Existing National Register District:

Contributing ☐ Non-Contributing ☐

38. National Register District Potential ☐

discuss

Resource Number: 5MN9248
Temporary Resource Number: Hidden Bas. V6

## Management Data Form



### V. MANAGEMENT AND ADMINISTRATIVE DATA

39. Threats to Resource: Water erosion ☐ Wind erosion ☐ Grazing ☐ Neglect ☐
Vandalism ☐ Recreation ☐ Construction ☐ Other (specify): Reclamation
comments:

40. Existing Protection: None ☑ Marked ☐ Fenced ☐ Patrolled ☐ Access controlled ☐
other (specify):

41. Local landmark designation: 42. Easement:

43. Management Recommendations:
Because Alpine recommends site 5MN9248 as ineligible for the NRHP, no further historical or archaeological work is recommended.

### VI. DOCUMENTATION

44. Previous Actions Accomplished at the site:
a. Excavations: Test ☐ Partial ☐ Complete ☐ Date(s):
b. Stabilization: Date(s):
c. HABS/HAER Documentation Date(s) and Numbers:
d. Other:

45. Known collections/reports/interviews and other references (list):

46. Primary Location of Additional Data: Alpine Archaeological Consultants, Inc.

47. State or Federal Permit Number: Colorado BLM Use Permit C-46920 Collection Authorized: ☐
Artifact Collection: ☐ Artifact Repository: N/A
Collection Method: Diagnostics ☐ Grab Sample ☐ Random Sample ☐ Transect ☐
Other (specify):

48. Photograph Numbers: SMM-DUL-09-4: 174 and 175 Negatives filed at: N/A - Digital images

49. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado

50. Recorder(s): Summer Moore-McMillan, Martha Bright Date(s): 7/23/09

51. Recorder Affiliation: Alpine Archaeological Consultants, Inc. Montrose, CO

52. Phone Number: (970) 249-6761

NOTE: Please attach a sketch map, a photocopy of the USGS quad. map indicating resource location, and photographs.

COLORADO CULTURAL RESOURCE SURVEY

## Management Data Form

### Continuation Page

Resource Number: 5MN9248
Temporary Resource Number: Hidden Bas. V6

**36. National Register Eligibility Field Assessment:**
**Statement of Sigificance/N.R.H.P. Justification:**

Based on Twitty's (2008) significance criteria focusing on architectural, engineering, and archaeological integrity, the integrity of the site can be considered very low due to the limited material remains at the site. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9248 as not eligible for the NRHP.

Reference Cited:

Twitty, Eric (2008). "Guide to Assessing Historic Radium, Uranium, and Vanadium Mining Resources in Montrose and San Miguel Counties." Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

COLORADO CULTURAL RESOURCE SURVEY

OAHP1402
Rev. 9/98

# Historic Archaeological Component Form



Use this form in conjunction with the Managament Data Form. One of these forms should be completed for each historical resources with archaeologicial potential.

Does this form pertain to the site in general? ☑
OR
a particular feature/structure (please note feature/structure number)

1. Resource Number: 5MN9248 2. Temporary Resource Number: Hidden Bas. V6

3. Site/Feature Type: Vent Shaft - Uranium Mine

4. General Site/Feature Description:

Site 5MN9248 is a vent shaft in the southeastern portion of Hidden Basin. The vent is on the unpatented Hidden Basin mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site covers 0.02 acres at an elevation of 6,400 ft. (1,951 m). Vegetation in the area consists of sparse pinyon and juniper forest in association with sagebrush. The site includes an open vent shaft surrounded by a small artifact scatter.

Feature 1 is an open vent shaft with a 10-in.-diameter galvanized steel stovepipe that extends 8 in. above the ground. An AEC standpipe was encountered 4 m northwest of the vent shaft with the marking "LP / 70." Artifacts associated with the vent shaft include four 1-qt. oil cans and several fragments of milled lumber.

5. Historic Component Date(s) and/or Sociopolitical Period: 1944-1992
   Justification: Historical documents

6. Component Function(s)
   Original Use: Vent shaft, uranium mine
   Present Use: None
   Comments:

7. Ethnic affiliation of occupants: Historic
   Justification: Historical records

Resource Number 5MN9248

Temporary Resource Number: Hidden Bas. V6

## Historic Archaeological Component Form



8. Artifact Classes: Please list specific attributes on the first line and artifact quantity (either count or estimate on the second line. Particularly important attributes are listed following the artifact class.

A. Glass: type function, color, manufacturing technique, makers marks, inscritpions, thickness, shape

**Bottle glass:** ☐purple ☐clear ☐aqua ☐cobalt blue ☐amber
☐light green ☐olive green ☐yellowish other:

**Vessel finish:** ☐ hand-finished ☐ machine-made

**Vessel types:**

**Makers marks/embossing:**

**Other vessel types:**

**Total estimated number of vessels:**

B. Ceramics: type, function, surface treatment/glaze, shape, trademarks, color, decorations

**Earthenware:**

**Estimated number of vessels:**

**Stoneware:**

**Estimated number of vessels:**

**Porcelain:**

**Estimated number of vessels:**

C. Nails: size, material type and manufacture technique, if not wire or cut

**Cut nails:** ☐ **Quantity:** **Wirenails:** ☐ **Quantity:**

**Other fasteners:**

**Quantity:**

Resource Number 5MN9248

Temporary Resource Number: Hidden Bas. V6

## Historic Archaeological Component Form



D. Cans: function, size, material type, type of opening, seams, inscriptions — Quantity

**Hole-in-cap:**

**Hole-in-top:**

**Sanitary:**

**Other:** Oil cans — 4

E. Cartridge Cases: type, size, inscriptions, material type

**Rimfire:**

**Centerfire:**

**Other:**

F. Construction Material: type, material, function (includes items such as logs, lumber, brick, adobe, cement, concrete, stone/rock, sheet metal, asphalt, tar, pipe)

**Window glass:** ☐ **Quantity:**

**Other:** Several fragments of milled lumber

G. Misc. Other Items: type, material, function (includes items such as utensils, stove parts, wire, nuts, bolts, rivets, screws, buckets, barrels, vehicle parts, machinery, leather, clothing, bone, funiture, buttons, etc.)

**List:**

9. Artifact Density: ☐ Heavy ☐ Medium ☑ Light

Describe: A small number of structural and industrial artifacts was identified surrounding the vent shaft.

10. Additional Information:

Historical Background

The Hidden Basin claim was first located by W. C. Huntley in 1944. The claim was sold to VCA around 1951 and remained in VCA hands until around 1970, when it appears to have come under the ownership of Union Carbide Corporation. In 1984, ownership of the claim was transferred to Umetco Minerals Corporation, which held the claim until 1992. A more detailed historical background for the Hidden Basin claim, as well as courthouse book and page references, is provided above under the site description for the Hidden Basin Mine (5MN7866).

Resource Number 5MN9248

Temporary Resource Number: Hidden Bas. V6

## Historic Archaeological Component Form



**Note: Complete parts 11 and 12 only if this form pertains to the site in general.**

11. Architectural Features(s). Please complete a Historic Architectural Component Form when appropriate.

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|

12.. Non-architectural features(s).

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|
| F1 | Vent shaft | Metal and earth | 10-in. diameter |

13. Discuss Archaeological potentential:
The site has no archaeological potential.

14. Recorder(s): Summer Moore-McMillan, Martha Bright

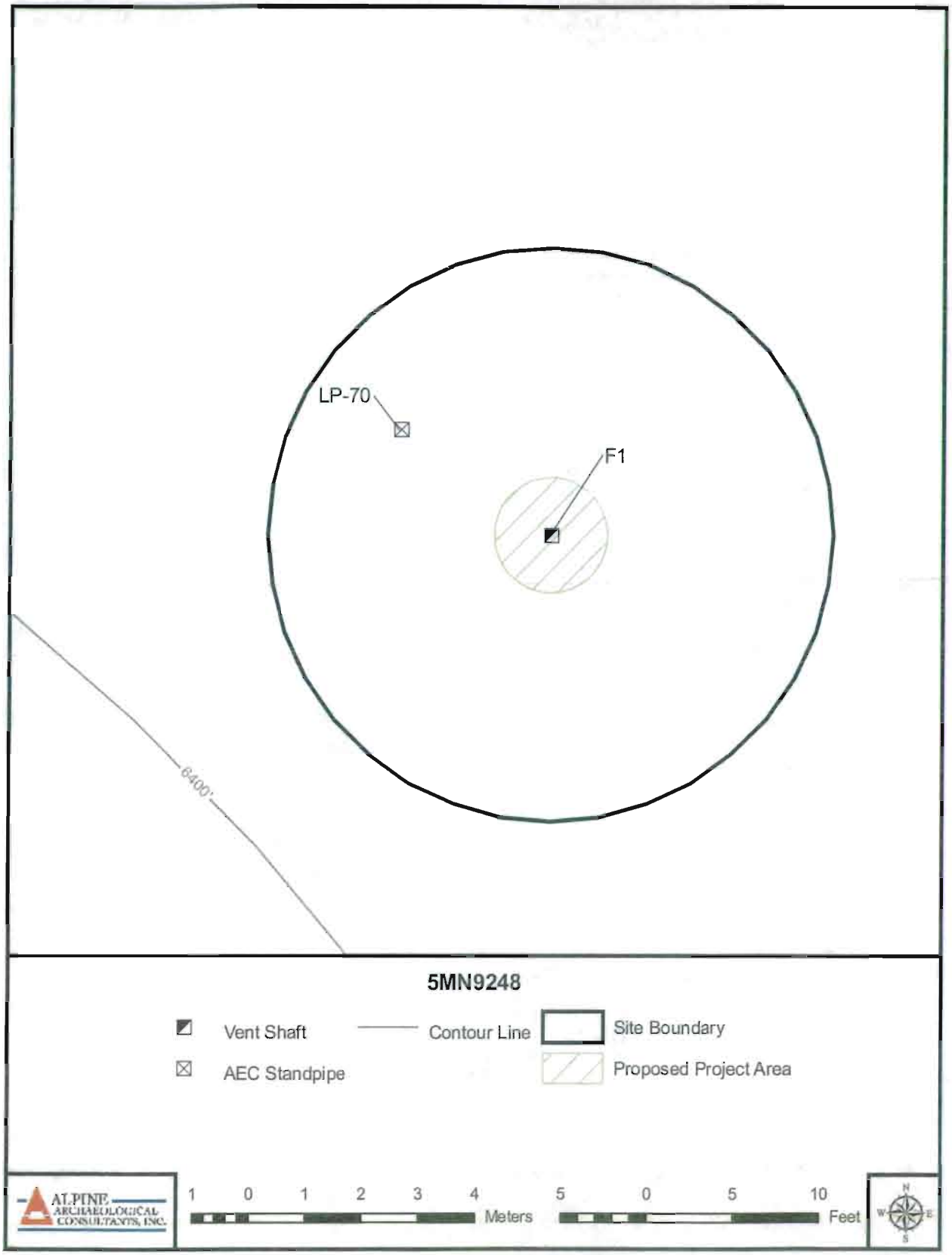
15. Date: 7/23/09

Colorado Historical Society - Office of Archaeology and Historic Preservation,
1300 Broadway, Denver, CO 80203
1303-866-3395

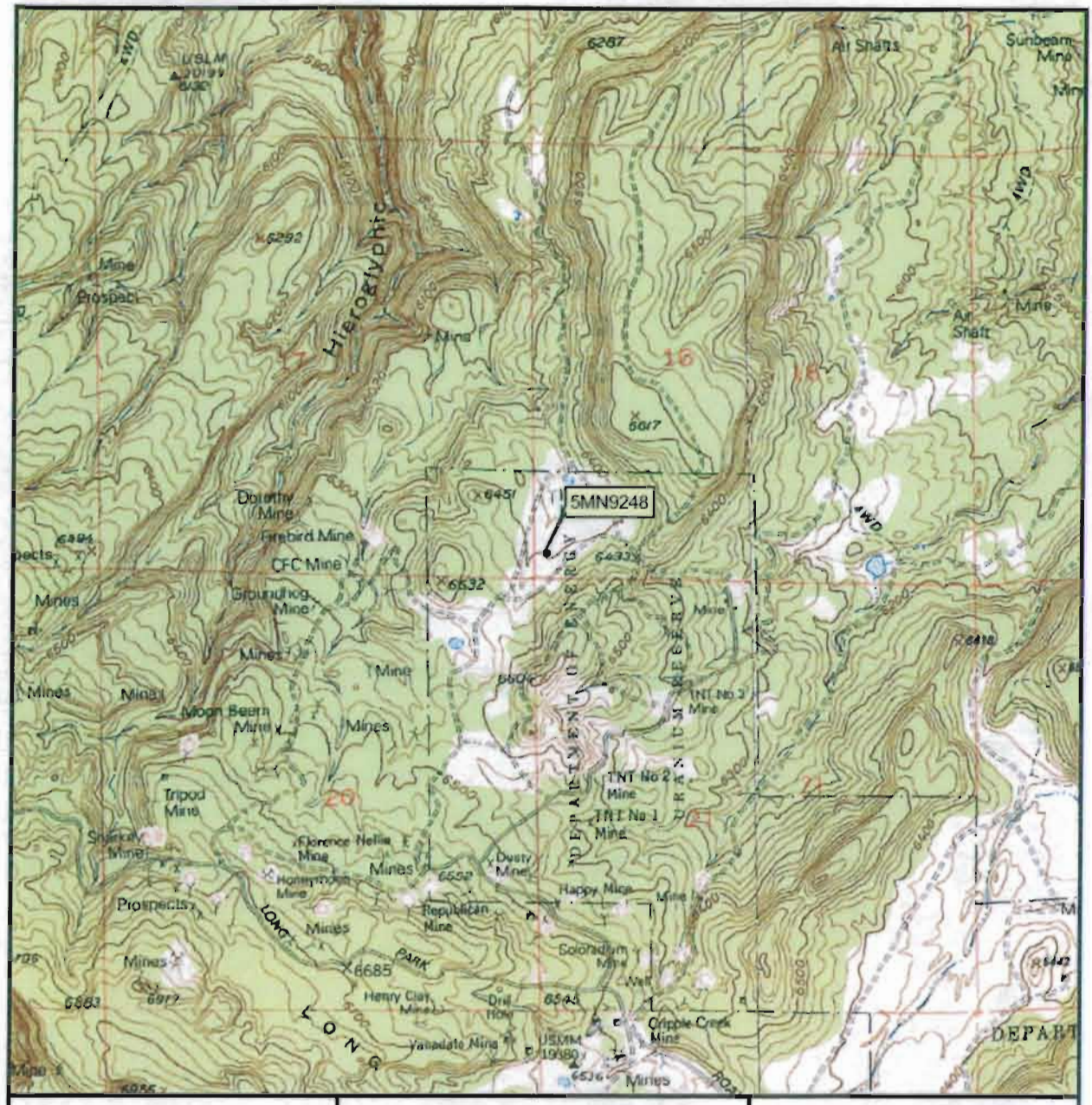
**5MN9248** Overview of site, looking northeast.

**5MN9248.** Feature 1, vent shaft, facing north.

For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).



**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1400
Rev. 9/98

# Management Data Form

(page 1 of 4)

The Management Data Form should be completed for each cultural resource recorded during an archaeological survey. Exceptions to this are isolated finds and re-evaluations, neither of which require a Management Data Form.

1. Resource Number: 5MN9249

2. Temporary Resource Number: Hidden Bas. V7

3. Attachments (check as many as apply)
   - ☐ Prehistoric Archaeological Component
   - ☑ Historic Archaeological Component
   - ☐ Historic Architectural Component Form
   - ☑ Sketch/Instrument Map (required)
   - ☑ U.S.G.S. Map Photocopy (required)
   - ☑ Photograph(s)
   - ☐ Other, specify:

4. Official determination (OAHP use only)
   - ____ Determined Eligible
   - ____ Determined Not Eligible
   - ____ Nominated
   - ____ Need Data
   - ____ Contributing to NR Dist.
   - ____ Non Contributing to NR Dist.

## I. IDENTIFICATION

5. Resource name:

6. Project Name/Number: DOE - Uranium Leases

7. Government Involvement: Local ☐ State ☐ Federal ☑

   Agency: Bureau of Land Management - Uncompahgre Field Office, U.S. Department of Energy

8. Site Categories: Check as many as apply:

   Prehistoric: archaeological site ☐ paleontological site ☐

   in existing National Register District? ☐ name

   Historic: archaeology site ☑ building(s) ☐ structure(s) ☐ object(s) ☐

   in existing National Register District? ☐ name

9. Owner (s) Name and Address: Bureau of Land Management - Uncompahgre Field Office/U.S. Department of Energy

10. Boundary Description and Justification: Extent of mining features and associated artifacts.

11. Site/Property Dimensions: 10 m x 8 m Area 78 m² 0.0 acres

    Area was calculated as: Length x Width ☑ (rectangle/square) OR (length x width) x 0.785 ☐ (ellipse)

## II. LOCATION

12. Legal Location

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | NM | Township | 47N | Range | 17W | Section | 16 | SW | 1/4 of | SW | 1/4 of | SW | 1/4 of | SW | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |

if section is irregular, explain alignment method: SW corner, W edge

Resource Number: 5MN9249
Temporary Resource Number: Hidden Bas. V7

## Management Data Form



13. USGS Quad Davis Mesa, CO 7.5' ☑ 15' ☐ Date(s): 1994 (attach photocopy)
14. County: Montrose 15. Other Maps:
16. UTM Reference: Check your Datum ☐ NAD 27 ☑ NAD 83

| | | | |
|---|---|---|---|
| A. | 12: | 695913 mE | 4243726 mN |
| B. | 12: | mE | mN |
| C. | 12: | mE | mN |
| D. | 12: | mE | mN |

17. Address: Lot Block: Addition
18. Location/Access: From Naturita, CO, drive west on Colo. Hwy. 141 for 3.4 miles to the intersection of Colo. Hwy. 141 and Hwy. 90. Turn left on Hwy. 90 and continue for 5.5 miles before turning right on Montrose County Road EE22. Drive 8.9 miles along CR EE22 to a "Y" intersection in the county road. Turn right and continue for 0.3 miles. Turn right on an unnamed drill road and continue north-northeast for 1.1 miles to the Hidden Basin Mine. From the mine, walk 750 ft. south-southwest to the vent shaft.

### III. NATURAL ENVIRONMENT

19. Topographic Feature(s):

| | | |
|---|---|---|
| ☐ mountain | ☐ ledge | ☐ playa |
| ☐ hill | ☐ terrace/bench | ☐ talus slope |
| ☐ tableland/mesa | ☐ canyon | ☐ alluvial fan |
| ☐ ridge | ☐ valley | ☐ plain |
| ☐ saddle/pass | ☑ basin | ☐ dune |
| ☐ alcove/rockshelter | ☐ floodplain | ☐ |
| ☐ cliff | ☐ cutbank | ☐ |
| ☐ slope | ☐ arroyo/gully | ☐ |

20. Site Topographic Description (mention names landforms):
The site is situated in the southeastern portion of Hidden Basin, which is an open valley approximately 1.5 miles east of Hieroglyphic Canyon.
21. Site Elevation: 6,400 feet =(x .3048) 1951 meters 22. Aspect: 355 °
23. Degree of Slope on Site: 0-10 ° 24. Soil Depth: 0-20 cm
25. Soil Description (character and color): Yellowish-brown sandy loam
26. Depositional Environment

| | | |
|---|---|---|
| ☐ Aeolian | ☑ Colluvial | ☑ Residual |
| ☐ Alluvial | ☐ Moraine | ☐ None |

☐ Other, specify:

27. Nearest Water: name/nature Unnamed drainage/ intermittent distance: 498 m 1634 ft
28. Nearest Permanent Water: name: Unnamed Spring distance: 2950 m 9678 ft
29. Vegetation on Site (list predominant species): Sparse pinyon and juniper forest in association with sagebrush
30. Vegetation Associations/Communities Surrounding Site: Pinyon and juniper forest

Resource Number: 5MN9249
Temporary Resource Number: Hidden Bas. V7

## Management Data Form



### IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

31. Context or Theme: Mining - Uranium

    specify: The Atomic Era (1946-1963)

32. Applicable National Register Criteria

    ☑ Does not meet any of the below National Register criteria

    ☐ A. Associated with events that have made a significant contribution to the broad pattern of our history; or

    ☐ B. Associated with the lives of persons significant to our past; or

    ☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent 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. Has yielded, or may be likely to yield, information important in history or prehistory; or

    ☐ Qualifies under exceptions A through G.

    Level of Significance: National ☐ State ☐ Local ☐

33. Condition:

| a. Architectural/Structural | b. Archaeological/Paleontological |
|---|---|
| ☐ Excellent | ☐ Undisturbed |
| ☐ Good | ☐ Light disturbance |
| ☐ Fair | ☑ Moderate disturbance |
| ☐ Deteriorated | ☐ Heavy disturbance |
| ☐ Ruins | ☐ Total disturbance |

34. Describe Condition: Vent pipe crushed; any additional features have been removed.

35. Vandalism: ☐ describe

36. National Register Eligibility Field Assessment:

    Eligible ☐ Not Eligible ☑ Need Data ☐

    Statement of Significance/N.R.H.P. Justification

    The Hidden Basin claim was initially located in 1944, just prior to Twitty's (2008) fourth period of significance, the Atomic Era (1946-1963). Based on AEC records, the Hidden Basin claim appears to have produced substantial amounts of ore during this period. However, the single vent shaft and small artifact scatter recorded as site 5MN9249 have very limited potential to provide information about how the mine was operated during the period of significance. Any additional equipment, including a compressor, fan, or other machinery, at the vent shaft has been removed. (Please see Management Data Continuation Page.)

37. Status in an Existing National Register District:

    Contributing ☐ Non-Contributing ☐

38. National Register District Potential ☐

    discuss

Resource Number: 5MN9249
Temporary Resource Number: Hidden Bas. V7

## Management Data Form



### V. MANAGEMENT AND ADMINISTRATIVE DATA

39. Threats to Resource: Water erosion ☐ Wind erosion ☐ Grazing ☐ Neglect ☐
Vandalism ☐ Recreation ☐ Construction ☐ Other (specify): Reclamation
comments:

40. Existing Protection: None ☑ Marked ☐ Fenced ☐ Patrolled ☐ Access controlled ☐
other (specify):

41. Local landmark designation: 42. Easement:

43. Management Recommendations:
Because Alpine recommends site 5MN9249 as ineligible for the NRHP, no further historical or archaeological work is recommended.

### VI. DOCUMENTATION

44. Previous Actions Accomplished at the site:
a. Excavations: Test ☐ Partial ☐ Complete ☐ Date(s):
b. Stabilization: Date(s):
c. HABS/HAER Documentation Date(s) and Numbers:
d. Other:

45. Known collections/reports/interviews and other references (list):

46. Primary Location of Additional Data: Alpine Archaeological Consultants, Inc.

47. State or Federal Permit Number: Colorado BLM Use Permit C-46920 Collection Authorized: ☐
Artifact Collection: ☐ Artifact Repository: N/A
Collection Method: Diagnostics ☐ Grab Sample ☐ Random Sample ☐ Transect ☐
Other (specify):

48. Photograph Numbers: SMM-DUL-09-4: 176 and 177 Negatives filed at: N/A - Digital images

49. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado

50. Recorder(s): Summer Moore-McMillan, Martha Bright Date(s): 7/23/09

51. Recorder Affiliation: Alpine Archaeological Consultants, Inc. Montrose, CO

52. Phone Number: (970) 249-6761

NOTE: Please attach a sketch map, a photocopy of the USGS quad. map indicating resource location, and photographs.

COLORADO CULTURAL RESOURCE SURVEY

## Management Data Form

### Continuation Page

Resource Number: 5MN9249
Temporary Resource Number: Hidden Bas. V7

**36. National Register Eligibility Field Assessment:**
**Statement of Sigificance/N.R.H.P. Justification:**

Based on Twitty's (2008) significance criteria focusing on architectural, engineering, and archaeological integrity, the integrity of the site can be considered very low due to the limited material remains at the site. Additionally, the vent shaft does not represent a visible feature of the mining landscape. Alpine recommends site 5MN9249 as not eligible for the NRHP.

Reference Cited:

Twitty, Eric (2008). "Guide to Assessing Historic Radium, Uranium, and Vanadium Mining Resources in Montrose and San Miguel Counties." Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

COLORADO CULTURAL RESOURCE SURVEY

OAHP1402
Rev. 9/98

# Historic Archaeological Component Form



Use this form in conjunction with the Managament Data Form. One of these forms should be completed for each historical resources with archaeologicial potential.

Does this form pertain to the site in general? ☑
OR
a particular feature/structure (please note feature/structure number)

1. Resource Number: 5MN9249 2. Temporary Resource Number: Hidden Bas. V7

3. Site/Feature Type: Vent Shaft - Uranium Mine

4. General Site/Feature Description:

Site 5MN9249 is a vent shaft in the southeastern portion of Hidden Basin. The vent is on the unpatented Hidden Basin mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site encompasses 0.02 acres at an elevation of 6,400 ft. (1,951 m). Vegetation in the area consists of sparse pinyon and juniper forest in association with sagebrush. The site includes an open vent shaft surrounded by a small artifact scatter.

Feature 1 is an open vent shaft with an 8-in.-diameter galvanized steel stovepipe that extends 13 in. above the ground. The top of the pipe is broken, and several pieces of 8-in.-diameter stovepipe lie nearby, which originally may have been attached to the vent pipe above the vent shaft. Artifacts associated with the vent shaft include 12 oil cans, a can lid, a length of baling wire, and a fragment of cast iron.

5. Historic Component Date(s) and/or Sociopolitical Period: 1944-1992
   Justification: Historical documents

6. Component Function(s)
   Original Use: Vent shaft, uranium mine
   Present Use: None
   Comments:

7. Ethnic affiliation of occupants: Historic
   Justification: Historical records

Resource Number 5MN9249

Temporary Resource Number: Hidden Bas. V7

## Historic Archaeological Component Form



8. Artifact Classes: Please list specific attributes on the first line and artifact quantity (either count or estimate on the second line. Particularly important attributes are listed following the artifact class.

A. Glass: type function, color, manufacturing technique, makers marks, inscritpions, thickness, shape

**Bottle glass:** ☐purple ☐clear ☐aqua ☐cobalt blue ☐amber ☐light green ☐olive green ☐yellowish other:

**Vessel finish:** ☐ hand-finished ☐ machine-made

**Vessel types:**

**Makers marks/embossing:**

**Other vessel types:**

**Total estimated number of vessels:**

B. Ceramics: type, function, surface treatment/glaze, shape, trademarks, color, decorations

**Earthenware:**

**Estimated number of vessels:**

**Stoneware:**

**Estimated number of vessels:**

**Porcelain:**

**Estimated number of vessels:**

C. Nails: size, material type and manufacture technique, if not wire or cut

**Cut nails:** ☐ **Quantity:** **Wirenails:** ☐ **Quantity:**

**Other fasteners:**

**Quantity:**

Resource Number 5MN9249

Temporary Resource Number: Hidden Bas. V7

## Historic Archaeological Component Form



D. Cans: function, size, material type, type of opening, seams, inscriptions — Quantity

**Hole-in-cap:**

**Hole-in-top:**

**Sanitary:**

**Other:** Oil cans, can lid — 13

E. Cartridge Cases: type, size, inscriptions, material type

**Rimfire:**

**Centerfire:**

**Other:**

F. Construction Material: type, material, function (includes items such as logs, lumber, brick, adobe, cement, concrete, stone/rock, sheet metal, asphalt, tar, pipe)

**Window glass:** ☐ **Quantity:**

**Other:**

G. Misc. Other Items: type, material, function (includes items such as utensils, stove parts, wire, nuts, bolts, rivets, screws, buckets, barrels, vehicle parts, machinery, leather, clothing, bone, funiture, buttons, etc.)

**List:** Length of baling wire, fragment of cast iron.

9. Artifact Density: ☐ Heavy ☑ Medium ☐ Light

Describe: There is a small scatter of industrial artifacts around the vent shaft.

10. Additional Information:

Historical Background

The Hidden Basin claim was first located by W. C. Huntley in 1944. The claim was sold to VCA around 1951 and remained in VCA hands until around 1970, when it appears to have come under the ownership of Union Carbide Corporation. In 1984, ownership of the claim was transferred to Umetco Minerals Corporation, which held the claim until 1992. A more detailed historical background for the Hidden Basin claim, as well as courthouse book and page references, is provided above under the site description for the Hidden Basin Mine (5MN7866).

Resource Number 5MN9249

Temporary Resource Number: Hidden Bas. V7

## Historic Archaeological Component Form



**Note: Complete parts 11 and 12 only if this form pertains to the site in general.**

11. Architectural Features(s). Please complete a Historic Architectural Component Form when appropriate.

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|

12.. Non-architectural features(s).

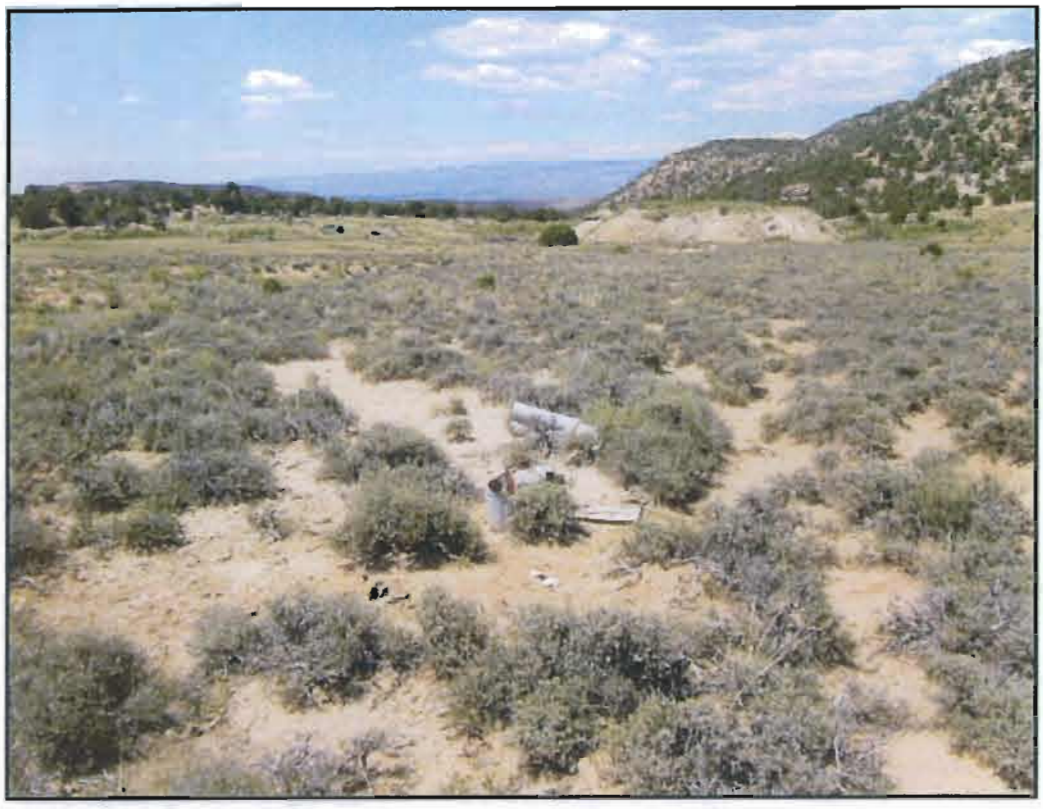
| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|
| F1 | Vent shaft | Metal and earth | 8-in. diameter |

13. Discuss Archaeological potentential:

The site has no archaeological potential.

14. Recorder(s): Summer Moore-McMillan, Martha Bright

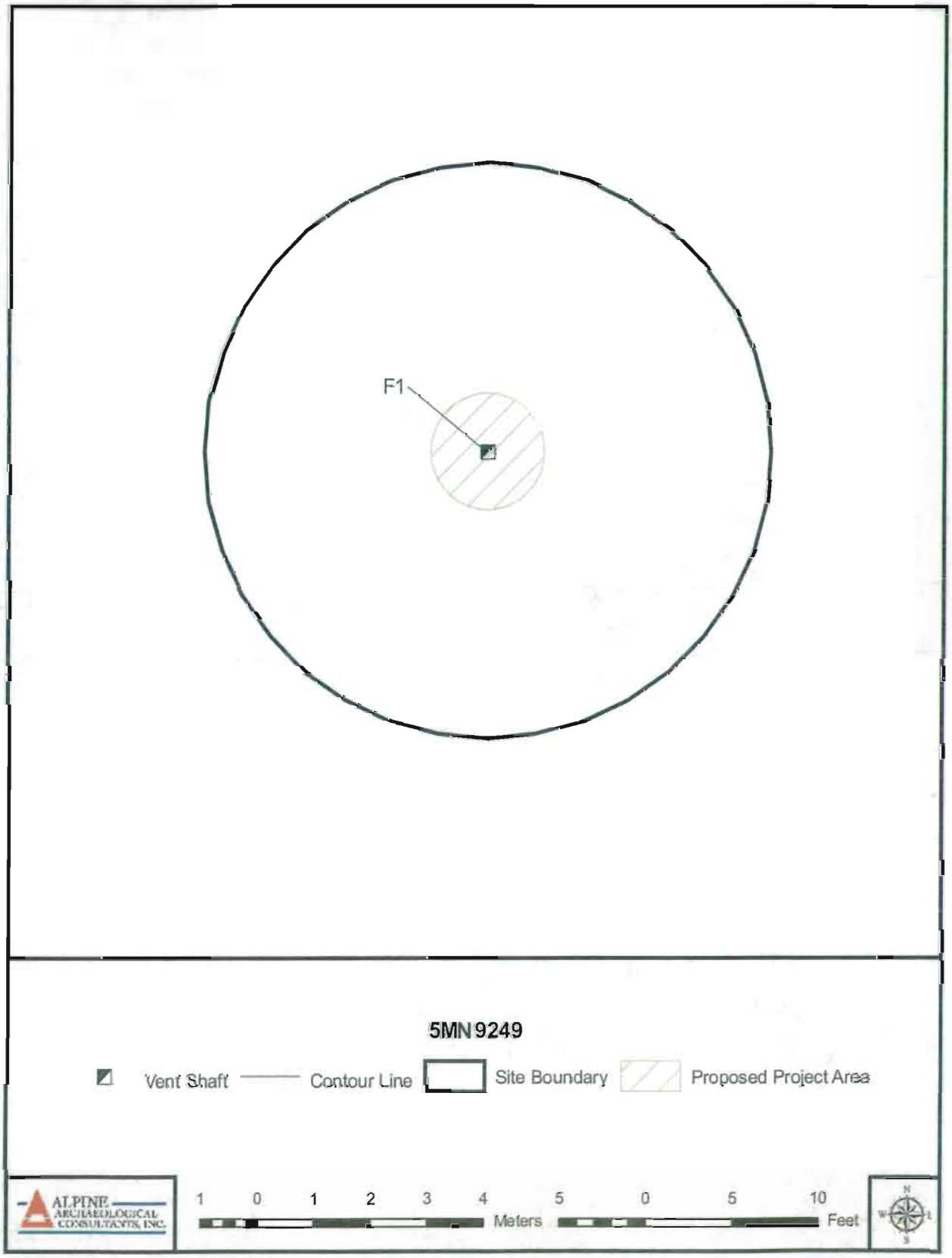
15. Date: 7/23/09



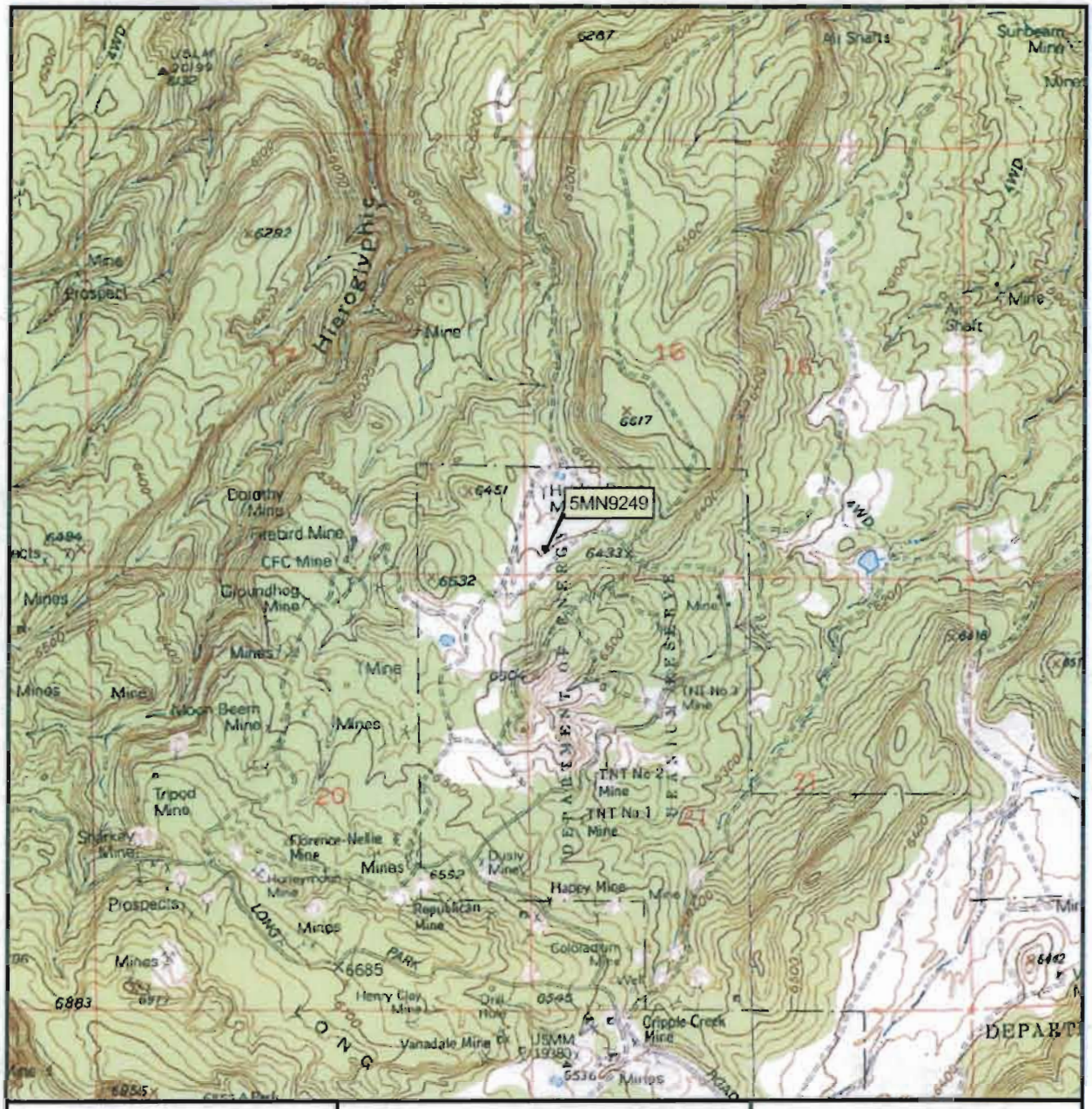
**5MN9249.** Overview of site, looking northeast.

**5MN9249.** Feature 1, vent shaft, facing north.

For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).



**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1400
Rev. 9/98

# Management Data Form



The Management Data Form should be completed for each cultural resource recorded during an archaeological survey. Exceptions to this are isolated finds and re-evaluations, neither of which require a Management Data Form.

1. Resource Number: 5MN9250
2. Temporary Resource Number: TNT 2
3. Attachments (check as many as apply)
   - ☐ Prehistoric Archaeological Component
   - ☑ Historic Archaeological Component
   - ☐ Historic Architectural Component Form
   - ☑ Sketch/Instrument Map (required)
   - ☑ U.S.G.S. Map Photocopy (required)
   - ☑ Photograph(s)
   - ☐ Other, specify:
4. Official determination (OAHP use only)
   - ____ Determined Eligible
   - ____ Determined Not Eligible
   - ____ Nominated
   - ____ Need Data
   - ____ Contributing to NR Dist.
   - ____ Non Contributing to NR Dist.

## I. IDENTIFICATION

5. Resource name: TNT No. 2 Mine
6. Project Name/Number: DOE - Uranium Leases
7. Government Involvement: Local ☐ State ☐ Federal ☑
   Agency: Bureau of Land Management - Uncompahgre Field Office, U.S. Department of Energy
8. Site Categories: Check as many as apply:
   Prehistoric: archaeological site ☐ paleontological site ☐
   in existing National Register District? ☐ name
   Historic: archaeology site ☑ building(s) ☐ structure(s) ☐ object(s) ☐
   in existing National Register District? ☐ name
9. Owner (s) Name and Address: Bureau of Land Management - Uncompahgre Field Office/U.S. Department of Energy
10. Boundary Description and Justification: Extent of waste rock and mining features.
11. Site/Property Dimensions: 30 m x 10 m Area 307 m² 0.1 acres
    Area was calculated as: Length x Width ☑ (rectangle/square) OR (length x width) x 0.785 ☐ (ellipse)

## II. LOCATION

12. Legal Location

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PM | NM | Township | 47N | Range | 17W | Section | 21 | SW | 1/4 of | NW | 1/4 of | NE | 1/4 of | SW | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |
| PM | | Township | | Range | | Section | | | 1/4 of | | 1/4 of | | 1/4 of | | 1/4 |

if section is irregular, explain alignment method: SW corner, W edge

Resource Number: 5MN9250
Temporary Resource Number: TNT 2

## Management Data Form



13. USGS Quad Davis Mesa, CO 7.5' ☑ 15' ☐ Date(s): 1994 (attach photocopy)
14. County: Montrose 15. Other Maps:
16. UTM Reference: Check your Datum ☐ NAD 27 ☑ NAD 83

| | | | |
|---|---|---|---|
| A. | 12; | 696269 mE | 4242715 mN |
| B. | 12; | mE | mN |
| C. | 12; | mE | mN |
| D. | 12; | mE | mN |

17. Address: Lot Block: Addition
18. Location/Access: From Naturita, CO, drive west on Colo. Hwy. 141 for 3.4 miles to the intersection of Colo. Hwy. 141 and Hwy. 90. Turn left on Hwy. 90 and continue for 5.5 miles before turning right on Montrose County Road EE22. Drive 8.9 miles along CR EE22 to a "Y" intersection in the county road. Turn right and continue for 0.5 miles to an unnamed drill road. Turn right and follow the drill road for 0.4 miles. Park and walk southeast approximately 875 ft. to the site.

### III. NATURAL ENVIRONMENT

19. Topographic Feature(s):

| | | |
|---|---|---|
| ☐ mountain | ☐ ledge | ☐ playa |
| ☐ hill | ☐ terrace/bench | ☐ talus slope |
| ☐ tableland/mesa | ☐ canyon | ☐ alluvial fan |
| ☐ ridge | ☑ valley | ☐ plain |
| ☐ saddle/pass | ☐ basin | ☐ dune |
| ☐ alcove/rockshelter | ☐ floodplain | ☐ |
| ☐ cliff | ☐ cutbank | ☐ |
| ☐ slope | ☐ arroyo/gully | ☐ |

20. Site Topographic Description (mention names landforms):
The site lies in an intermittent drainage tributary that runs south to Long Park.

21. Site Elevation: 6,320 feet =(x .3048) 1926 meters 22. Aspect: 65 °
23. Degree of Slope on Site: 0-10 ° 24. Soil Depth: 0-20 cm
25. Soil Description (character and color): Yellowish-brown sandy loam

26. Depositional Environment

| | | |
|---|---|---|
| ☐ Aeolian | ☑ Colluvial | ☑ Residual |
| ☐ Alluvial | ☐ Moraine | ☐ None |
| ☐ Other, specify: | | |

27. Nearest Water: name/nature Unnamed drainage/ intermittent distance: 243 m 797 ft
28. Nearest Permanent Water: name: Unnamed Spring distance: 2680 m 8793 ft
29. Vegetation on Site (list predominant species): Sparse pinyon and juniper forest in association with sagebrush and rabbitbrush
30. Vegetation Associations/Communities Surrounding Site: Pinyon and juniper forest

Resource Number: 5MN9250
Temporary Resource Number: TNT 2

## Management Data Form



### IV. NATIONAL/STATE REGISTER ELIGIBILITY ASSESSMENT

31. Context or Theme: Mining - Uranium

specify: The Atomic Era (1946-1963)

32. Applicable National Register Criteria

☑ Does not meet any of the below National Register criteria

☐ A. Associated with events that have made a significant contribution to the broad pattern of our history; or

☐ B. Associated with the lives of persons significant to our past; or

☐ C. Embodies the distinctive characteristics of a type, period, or method of construction, or that represent 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. Has yielded, or may be likely to yield, information important in history or prehistory; or

☐ Qualifies under exceptions A through G.

Level of Significance: National ☐ State ☐ Local ☐

33. Condition:

| a. Architectural/Structural | b. Archaeological/Paleontological |
|---|---|
| ☐ Excellent | ☐ Undisturbed |
| ☐ Good | ☐ Light disturbance |
| ☐ Fair | ☑ Moderate disturbance |
| ☐ Deteriorated | ☐ Heavy disturbance |
| ☐ Ruins | ☐ Total disturbance |

34. Describe Condition: Loading dock in good condition; shaft collapsed; any additional features have been removed.

35. Vandalism: ☐ describe

36. National Register Eligibility Field Assessment:

Eligible ☐ Not Eligible ☑ Need Data ☐

Statement of Significance/N.R.H.P. Justification

The TNT No. 2 claim was maintained between 1944 and 1992, an interval that spans Twitty's (2008) last three periods of significance. These periods of significance include World War II (1941-1945), the Atomic Era (1946-1963), and the Last Boom (1974-1980). AEC records show that the TNT No. 2 Mine produced a small amount of ore during Twitty's (2008) fifth period of significance, the Atomic Era (1946-1963). However, the integrity of the site is low in terms of Twitty's (2008) significance criteria focusing on architectural, engineering, and archaeological integrity, ... (please see Management Data Continuation Page.)

37. Status in an Existing National Register District:

Contributing ☐ Non-Contributing ☐

38. National Register District Potential ☐

discuss

Resource Number: 5MN9250
Temporary Resource Number: TNT 2

## Management Data Form



### V. MANAGEMENT AND ADMINISTRATIVE DATA

39. Threats to Resource: Water erosion ☐ Wind erosion ☐ Grazing ☐ Neglect ☐
Vandalism ☐ Recreation ☐ Construction ☐ Other (specify): Reclamation
comments:

40. Existing Protection: None ☑ Marked ☐ Fenced ☐ Patrolled ☐ Access controlled ☐
other (specify):

41. Local landmark designation: 42. Easement:

43. Management Recommendations:
Because Alpine recommends the TNT No. 2 Mine (5MN9250) as ineligible for the NRHP, no further historical or archaeological work is recommended.

### VI. DOCUMENTATION

44. Previous Actions Accomplished at the site:
a. Excavations: Test ☐ Partial ☐ Complete ☐ Date(s):
b. Stabilization: Date(s):
c. HABS/HAER Documentation Date(s) and Numbers:
d. Other:

45. Known collections/reports/interviews and other references (list):

46. Primary Location of Additional Data: Alpine Archaeological Consultants, Inc.

47. State or Federal Permit Number: Colorado BLM Use Permit C-46920 Collection Authorized: ☐
Artifact Collection: ☐ Artifact Repository: N/A
Collection Method: Diagnostics ☐ Grab Sample ☐ Random Sample ☐ Transect ☐
Other (specify):

48. Photograph Numbers: SMM-DUL-09-4: 127 - 131 Negatives filed at: N/A - Digital images

49. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado

50. Recorder(s): Summer Moore-McMillan, Martha Bright Date(s): 7/23/09

51. Recorder Affiliation: Alpine Archaeological Consultants, Inc. Montrose, CO

52. Phone Number: (970) 249-6761

NOTE: Please attach a sketch map, a photocopy of the USGS quad. map indicating resource location, and photographs.

COLORADO CULTURAL RESOURCE SURVEY

## Management Data Form

**Continuation Page**

Resource Number: 5MN9250
Temporary Resource Number: TNT 2

36. **National Register Eligibility Field Assessment:**
**Statement of Sigificance/N.R.H.P. Justification:**

... as nearly all physical remains save the loading dock wall have been removed, and no structures are present. The method of operation of the TNT No. 2 was likely very simple, consisting of wheelbarrow haulage, such that it left limited physical remains. The mine is quite remote and, as such, does not comprise a visible feature of the mining landscape. Consequently, Alpine recommends the TNT No. 2 Mine as not eligible for the NRHP.

Reference Cited:

Twitty, Eric (2008). "Guide to Assessing Historic Radium, Uranium, and Vanadium Mining Resources in Montrose and San Miguel Counties." Prepared by Mountain States Historical, Boulder, Colorado. Prepared for Western Colorado Interpretive Association, Delta, Colorado.

COLORADO CULTURAL RESOURCE SURVEY

OAHP1402
Rev. 9/98

# Historic Archaeological Component Form



Use this form in conjunction with the Managament Data Form. One of these forms should be completed for each historical resources with archaeologicial potential.

Does this form pertain to the site in general? ☑
OR
a particular feature/structure (please note feature/structure number)

1. Resource Number: 5MN9250 2. Temporary Resource Number: TNT 2

3. Site/Feature Type: Uranium Mine

4. General Site/Feature Description:

Site 5MN9250 is a small uranium mine in an intermittent drainage tributary that runs south to Long Park. The vent is on the unpatented TNT No. 2 mining claim within the DOE Uranium Reserve, on land managed by the BLM-UFO. The site boundary covers 0.08 acres at an elevation of 6,320 ft. (1,926 m). Vegetation in the area consists of sparse pinyon and juniper forest in association with sagebrush and rabbitbrush. The site includes a trench and subsided portal and a waste-rock pile shaped to form a loading dock. Waste-Rock Pile 1 measures 20 by 40 ft., oriented east to west. Only a few artifacts, including several fragments of milled lumber and some fragments of a canvas tarp, were observed at the site.

Feature 1 is a trench leading down to a subsided portal. The trench, which is oriented east to west, measures a maximum of 28 ft. long and 16 ft. wide. Although the portal entrance was previously backfilled, it has now collapsed and must be backfilled again. No architectural support elements are present within the portal or trench. A 15/16-in.-diameter metal pipe can be seen emerging out of the ground within the trench.

Feature 2 is a retaining wall used to transform the top of Waste-Rock Pile 1 into a loading dock. The wall was constructed from two 7-in.-diameter sawn log posts on the eastern edge of the waste-rock pile, that hold a retaining wall of three 3 by 12-in. planks stacked end-on-end. The wall is currently 2½ ft. tall and 12½ ft. long. The posts on either end of the wall are supported by two lengths of ½-in.-diameter wire rope fixed to the ground. According to DOE personnel, an ore transport truck would have backed up to the loading dock, where a load of ore would have been hauled on top of the waste-rock pile in a wheelbarrow and dumped into the truck.

5. Historic Component Date(s) and/or Sociopolitical Period: 1944-1992
   Justification: Historical documents

6. Component Function(s)
   Original Use: Uranium mine
   Present Use: None
   Comments:

7. Ethnic affiliation of occupants: Historic
   Justification: Historical records

Resource Number 5MN9250

Temporary Resource Number: TNT 2

## Historic Archaeological Component Form



8. Artifact Classes: Please list specific attributes on the first line and artifact quantity (either count or estimate on the second line. Particularly important attributes are listed following the artifact class.

A. Glass: type function, color, manufacturing technique, makers marks, inscritpions, thickness, shape

**Bottle glass:** ☐purple ☐clear ☐aqua ☐cobalt blue ☐amber ☐light green ☐olive green ☐yellowish other:

**Vessel finish:** ☐ hand-finished ☐ machine-made

**Vessel types:**

**Makers marks/embossing:**

**Other vessel types:**

**Total estimated number of vessels:**

B. Ceramics: type, function, surface treatment/glaze, shape, trademarks, color, decorations

**Earthenware:**

**Estimated number of vessels:**

**Stoneware:**

**Estimated number of vessels:**

**Porcelain:**

**Estimated number of vessels:**

C. Nails: size, material type and manufacture technique, if not wire or cut

**Cut nails:** ☐ **Quantity:** **Wirenails:** ☐ **Quantity:**

**Other fasteners:**

**Quantity:**

Resource Number 5MN9250

Temporary Resource Number: TNT 2

## Historic Archaeological Component Form



D. Cans: function, size, material type, type of opening, seams, inscriptions — Quantity

**Hole-in-cap:**

**Hole-in-top:**

**Sanitary:**

**Other:**

E. Cartridge Cases: type, size, inscriptions, material type

**Rimfire:**

**Centerfire:**

**Other:**

F. Construction Material: type, material, function (includes items such as logs, lumber, brick, adobe, cement, concrete, stone/rock, sheet metal, asphalt, tar, pipe)

**Window glass:** ☐ **Quantity:**

**Other:** Several fragments of milled lumber

G. Misc. Other Items: type, material, function (includes items such as utensils, stove parts, wire, nuts, bolts, rivets, screws, buckets, barrels, vehicle parts, machinery, leather, clothing, bone, funiture, buttons, etc.)

**List:** Fragments of a canvas tarp

9. Artifact Density: ☐ Heavy ☐ Medium ☑ Light

Describe: An extremely limited number of industrial and structural artifacts were found around the vent shaft.

10. Additional Information:

Historical Background

The TNT No. 2 Mine was originally located by Robert B. Munson on April 1, 1944 (Montrose County Courthouse, County Clerk's Office, Book 296, Page 292). The first AOL for the claim was filed in 1945 by Henry Brammeier, who continued to file the AOL documents through 1947 (Montrose County Courthouse, County Clerk's Office, Book 314, Page 120; Book 245, Page 75; Book 243, Page 105). Robert B. Munson and Henry Brammeier both filed AOL documents in 1948 (Montrose County Courthouse, County Clerk's Office, Book 330, Pages 385 and 494). In 1949, the AOL was filed by Henry Brammeier, et al., suggesting that these two individuals may have been involved in an ownership consortium during all or part of the previous history of the mine (Montrose County Courthouse, County Clerk's Office, Book 336, Page 540; Book 338, Page 52). In 1950, the AOL was filed by W. H. Pitts (Montrose County Courthouse, County Clerk's Office, Book 345, Page 20).

(Please see Historic Archaeological Component Continuation Page.)

Resource Number 5MN9250

Temporary Resource Number: TNT 2

## Historic Archaeological Component Form



**Note: Complete parts 11 and 12 only if this form pertains to the site in general.**

11. Architectural Features(s). Please complete a Historic Architectural Component Form when appropriate.

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|

12.. Non-architectural features(s).

| Map Ref. | Description | Construction Material | Dimensions |
|---|---|---|---|
| F1 | Inclined shaft | Earth and rock | 28 by 16 ft. |
| F2 | Retaining wall | Milled lumber, wire rope | 3 by 12 1/2 ft. |

13. Discuss Archaeological potentential:

The site has no archaeological potential.

14. Recorder(s): Summer Moore-McMillan, Martha Bright

15. Date: 7/23/09

COLORADO CULTURAL RESOURCE SURVEY

## Historic Archaeological Component Form

### Continuation Page

Resource Number: 5MN9250
Temporary Resource Number: TNT 2

**10. Additional Information (Historical Background), Continued:**

In 1951, VCA appears to have taken control over the mine, as the company filed the AOL through 1967 (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 287, 368, and 474; Book 374, Page 415; Book 418, Page 59-60; Book 446, Page 242; Book 456, Page 328; Book 457, Page 490; Book 491, Pages 358-359; Book 503, Page 237; Book 522, Pages 117 and 419; Book 541, Pages 117-119, 412, 634, and 854). AEC production records show that VCA extracted 255.46 tons of ore from the TNT No. 2 in 1966 and 18.12 tons in 1967. In 1968, the AOL was filed by Foote Mineral Company (Montrose County Courthouse, County Clerk's Office, Book 562, Page 113). In 1969 and 1970, the AOL documents were filed by Climax Uranium Company (Montrose County Courthouse, County Clerk's Office, Book 562, Pages 362 and 729).

In 1972, ownership of the TNT No. 2 appears to have fallen to Union Carbide Corporation, who continued to file the AOL documents through 1983 (Montrose County Courthouse, County Clerk's Office, Book 588, Pages 340, 574, and 803; Book 620, Pages 47, 350, 623, and 924; Book 661, Pages 247 and 638; Book 692, Pages 319 and 689; Book 728, Page 53). In 1984, the AOL was filed by Umetco Minerals Corporation, an entity created when Dow Chemical purchased the Union Carbide Corporation (Montrose County Courthouse, County Clerk's Office, Book 728, Page 347). The AOL documents continued to be filed by Umetco until 1992, after which the TNT No. 2 claim appears to have been allowed to lapse (Montrose County Courthouse, County Clerk's Office, Book 728, Pages 560, 742, and 914; Book 777, Pages 124, 307, 430, 630, and 731). Recorded ore production for the TNT No. 2 claim prior to 1971, calculated in conjunction with the TNT No. 1, totaled 274 tons, including 1,059 lbs. of uranium and 3,555 lbs. of vanadium (Nelson-Moore, et al. 1978).

Reference Cited:

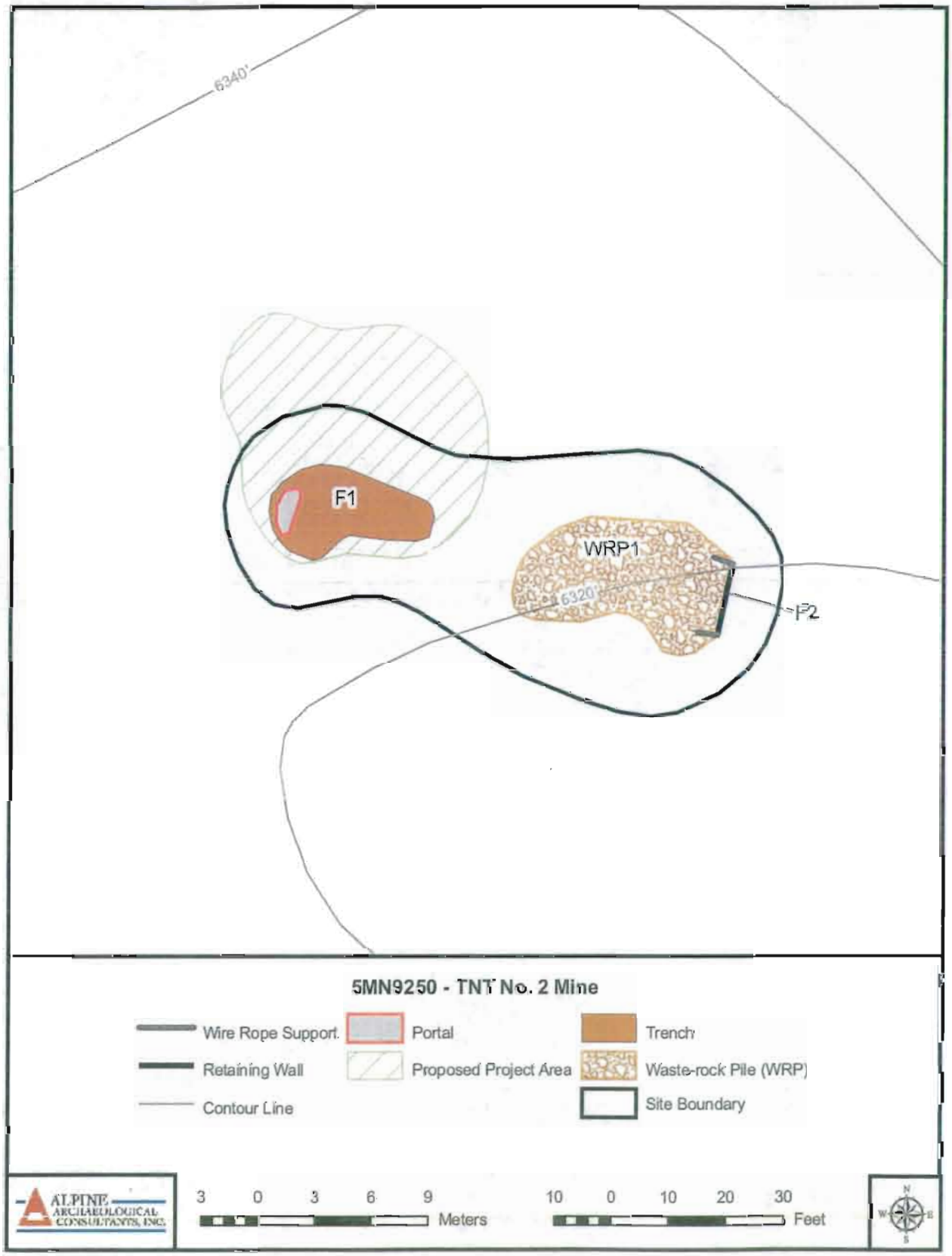
Nelson-Moore, James L, Donna Bishop Collins, and A. L. Hornbaker (1978). "Bulletin 40: Radioactive Mineral Occurrences of Colorado and Bibliography", Colorado Geological Survey, Department of Natural Resources, State of Colorado, Denver.

**5MN9250.** TNT No. 2 Mine overview, looking east.

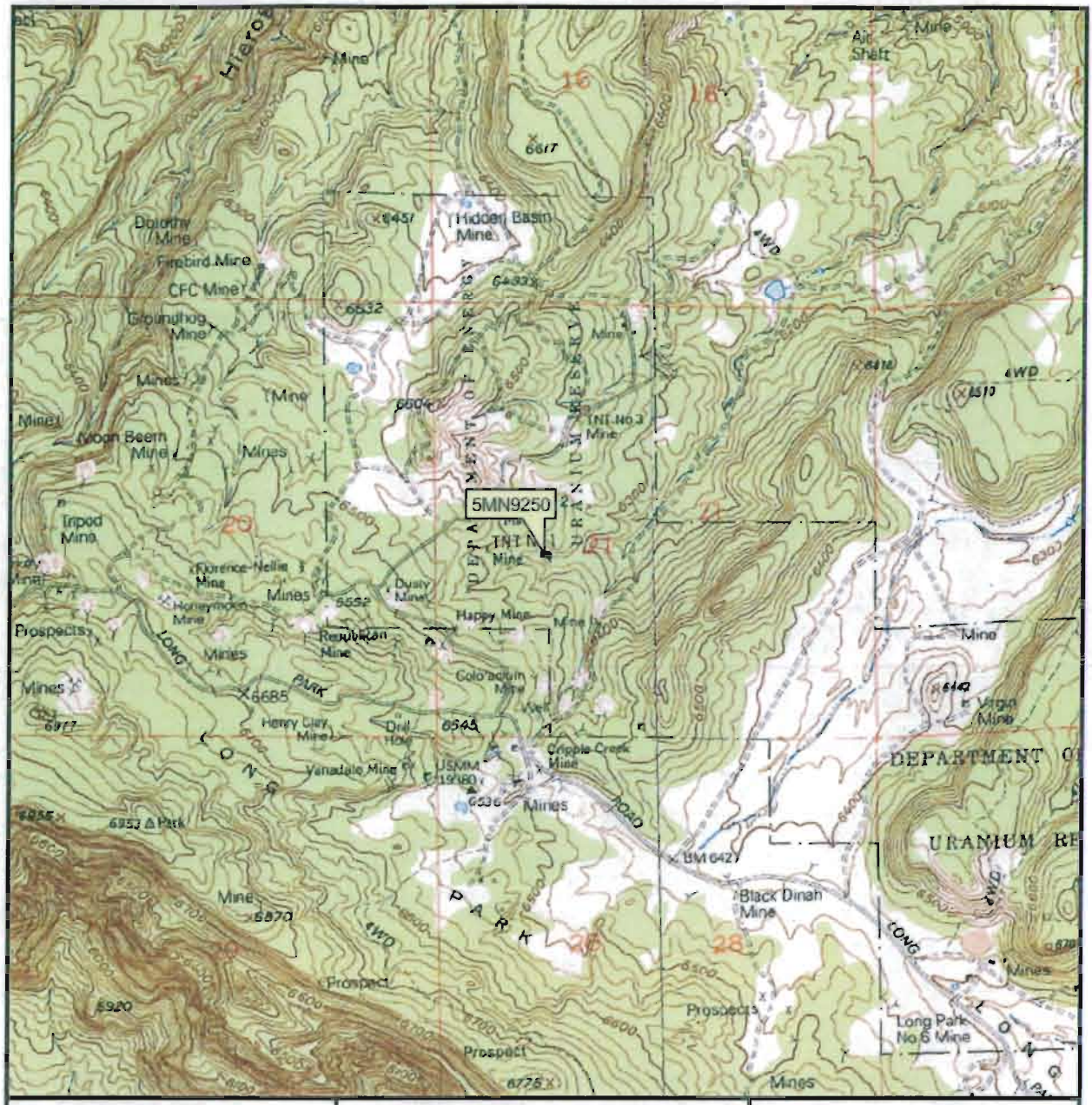
**5MN9250.** Feature 1, portal and trench, facing northwest.

**5MN9250.** Feature 2, retaining wall, facing southwest.

For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).



For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1408
Rev. 9/98

# Isolated Find Record

## I. IDENTIFICATION AND LOCATION

1. Resource Number: 5MN9259 2. Temporary Resource Number: IF-HB-V1
3. County: Montrose
4. Legal Location: PM NM Township 47N Range 17W
   Sec 17 SE 1/4 of NE 1/4 of SE 1/4 of SE 1/4
   if section is irregular, explain alignment method: SE corner, E edge
5. UTMs: Zone 12 , 695745 mE, 4243853 mN NAD: 83
6. USGS Quad Name: Davis Mesa, CO
   Date: 1994

## II. ARCHAEOLOGICAL DATA

7. Artifacts: The isolated find is an open vent shaft with a 10-in.-diameter galvanized steel stovepipe inserted into it. The vent pipe extends 10 in. above the ground. An AEC standpipe with "LP/101" inscribed on the cap was identified approximately 2 m south of the vent shaft. Associated artifacts include a 1-in.- wide piece of strap metal and the lid to an oil can marked "SAE/ 20 - 20W/ 11039c."

8. IF Dimensions: 5 X 5 m OR Single Artifact ☐
9. Inferred Function(s): vent shaft for a uranium mine
10. Cultural Affiliation/Time Period: Historic
11. Comments: The Hidden Basin Mine was originally located by W. C. Huntley on April 20, 1944. Huntley filed location certificates for Hidden Basin ... (please see Isolated Find Record Continuation Page.)

## III. ENVIRONMENTAL DATA

12. Elevation: Feet: 6405 Meters: 1,952
13. Soil: yellowish-brown sandy loam
14. Topography: northeast-facing slope along perimeter of Hidden Basin
15. Slope: Site: 0-10° Surrounding: 0-10°
16. Nearest Water: Name/Nature Unnamed drainage/ intermittent
    Elevation: 6,220 feet Distance: 445 m Direction: WNW
17. Vegetation: pinyon and juniper forest in association with rabbitbrush and sagebrush

## IV. REFERENCE DATA

18. Collection?: ☐ Describe:
19. Repository: N/A
20. Landowner: Bureau of Land Mgmt, Uncompahgre Field Office/Dept. of Energy
21. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado
22. Recorder(s): Summer Moore-McMillan, Martha Bright
23. Recorder Affiliation: Alpine Archaeological Consultants, Inc.
24. Date(s): 7/23/2009

Resource No.: 5MN9259

Temp. Resource Number: IF-HB-V1

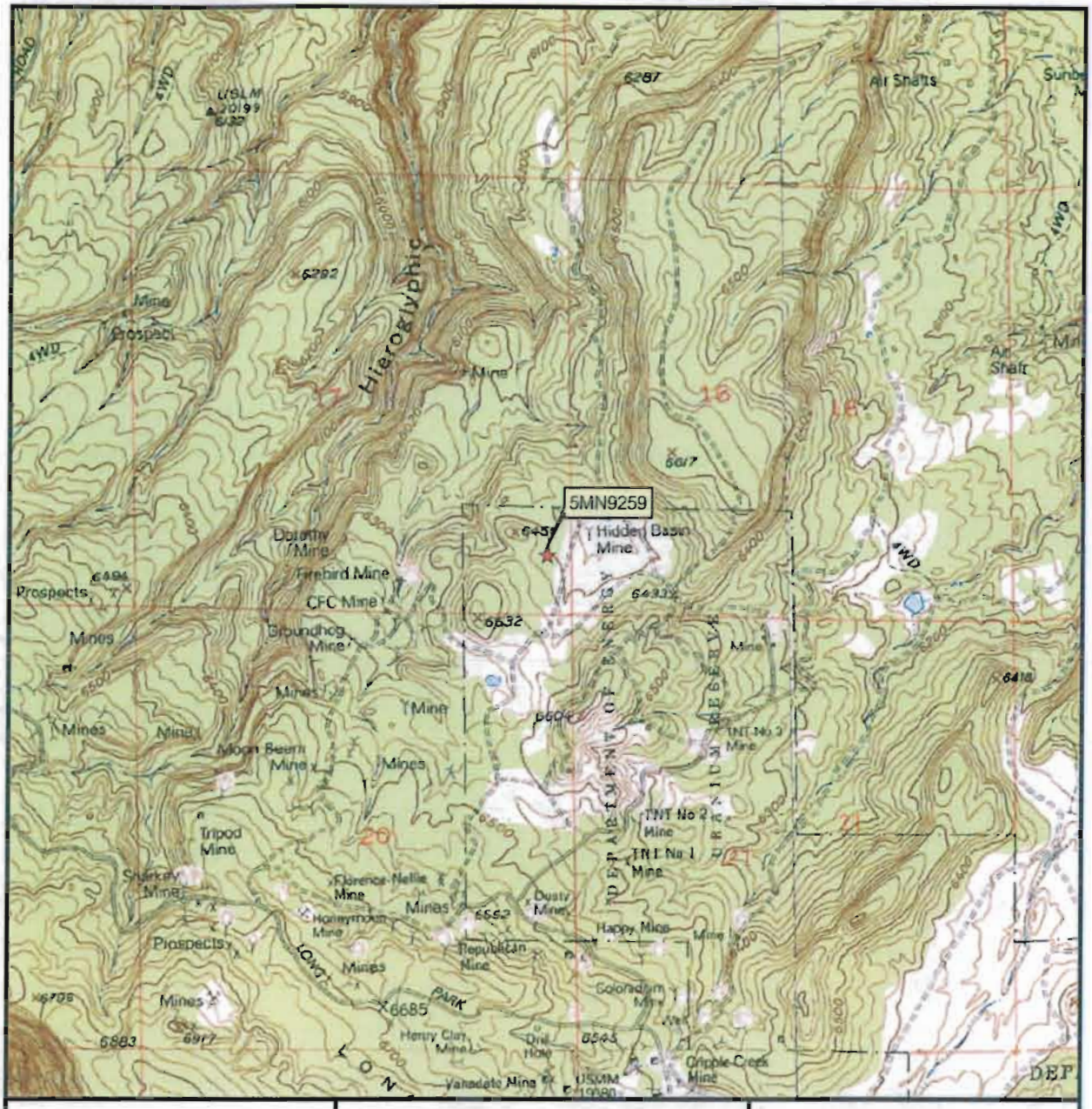
11. Comments, Continued:
... claims Nos. 1 through 4 on the same day (Montrose County Courthouse, County Clerk's Office, Book 296, Pages 308, 309, 310, and 311). The first AOL was filed by Huntley in 1944 (Montrose County Courthouse, County Clerk's Office, Book 243, Page 21). Between 1945 and 1950, the mine appears to have been controlled by a consortium consisting of Henry Brammeier, T. C. Brammeier, and, possibly, W. H. Pitts (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 39, 75, 106, 136, and 155; Book 338, Page 52; Book 345, Page 20).

In 1951, VCA filed the AOL (Montrose County Courthouse, County Clerk's Office, Book 243, Page 284), as they would continue to do through 1967, save 1955, when the AOL was filed by Union Carbide and Carbon Corporation (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 357 and 471; Book 374, Pages 116 and 408; Book 418, Page 90; Book 446, Page 277; Book 456, Page 325; Book 457, Page 488; Book 491, Page 356; Book 503, Page 234; Book 522, Page 421; Book 541, Pages 116, 409, 631, and 850). In 1968, Foote Mineral Company filed the AOL (Montrose County Courthouse, Book 562, Page 110), and, in 1969 and 1970, it was filed by Climax Uranium Corporation (Montrose County Courthouse, County Clerk's Office, Book 562, Pages 110, 367, and 727).

Union Carbide Corporation filed the AOL documents between 1971 and 1983 (Montrose County Courthouse, County Clerk's Office, Book 588, Pages 80, 367, 534, and 761; Book 600, Page 49; Book 620, Pages 354, 621, and 926; Book 661, Pages 248 and 597; Book 692, Page 682; Book 728; Book 67). In 1984, the AOL was filed by Umetco Minerals Corporation, an entity created when Dow Chemical purchased the Union Carbide Corporation (Montrose County Courthouse, County Clerk's Office, Book 728, Page 379). The AOL documents continued to be filed by Umetco until 1992, after which the Hidden Basin claim appears to have been allowed to lapse (Montrose County Courthouse, County Clerk's Office, Book 728, Pages 379, 544, 757, and 895; Book 777, Pages 92, 255, 250, 595, and 747).

**5MN9259.** Overview of Hidden Basin Vent Shaft No. 1, facing west.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1408
Rev. 9/98

# Isolated Find Record

## I. IDENTIFICATION AND LOCATION

1. Resource Number: 5MN9260 2. Temporary Resource Number: IF-HB-V5
3. County: Montrose
4. Legal Location: PM NM Township 47N Range 17W
   Sec 16 SW 1/4 of SW 1/4 of SW 1/4 of SW 1/4
   if section is irregular, explain alignment method: SW corner, S edge
5. UTMs: Zone 12 , 695914 mE, 4243659 mN NAD: 83
6. USGS Quad Name: Davis Mesa, CO
   Date: 1994

## II. ARCHAEOLOGICAL DATA

7. Artifacts: The isolated find is an open vent shaft with a 10-in.-diameter galvanized steel stovepipe inserted into it. The 10-in.-diameter stovepipe, which does not extend above the ground, surrounds a length of 8-in.-diameter galvanized steel stovepipe. The 8-in.-diameter vent pipe extends 11 in. above the ground, where it is attached at a 45-degree angle to a stovepipe of the same size, angled to the southwest. The 8-in.-diameter stovepipe has been placed within a 10-in. -diameter steel pipe flush with the ground. Immediately associated artifacts include two oil cans and two Sanitary cans.

8. IF Dimensions: 5 X 5 m OR Single Artifact ☐
9. Inferred Function(s): vent shaft for a uranium mine
10. Cultural Affiliation/Time Period: Historic
11. Comments: The Hidden Basin Mine was originally located by W. C. Huntley on April 20, 1944. Huntley filed location certificates for Hidden Basin ... (please see Isolated Find Record Continuation Page.)

## III. ENVIRONMENTAL DATA

12. Elevation: Feet: 6420 Meters: 1,957
13. Soil: yellowish-brown sandy loam
14. Topography: northwest-facing slope along perimeter of Hidden Basin
15. Slope: Site: 0-10° Surrounding: 0-10°
16. Nearest Water: Name/Nature Unnamed drainage/ intermittent

    Elevation: 6,480 feet Distance: 440 m Direction: SSE
17. Vegetation: pinyon and juniper forest in association with rabbitbrush and sagebrush

## IV. REFERENCE DATA

18. Collection?: ☐ Describe:
19. Repository: N/A
20. Landowner: Bureau of Land Mgmt, Uncompahgre Field Office/Dept. of Energy
21. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado
22. Recorder(s): Summer Moore-McMillan, Martha Bright
23. Recorder Affiliation: Alpine Archaeological Consultants, Inc.
24. Date(s): 7/23/2009

Resource No.: 5MN9260

Temp. Resource Number: IF-HB-V5

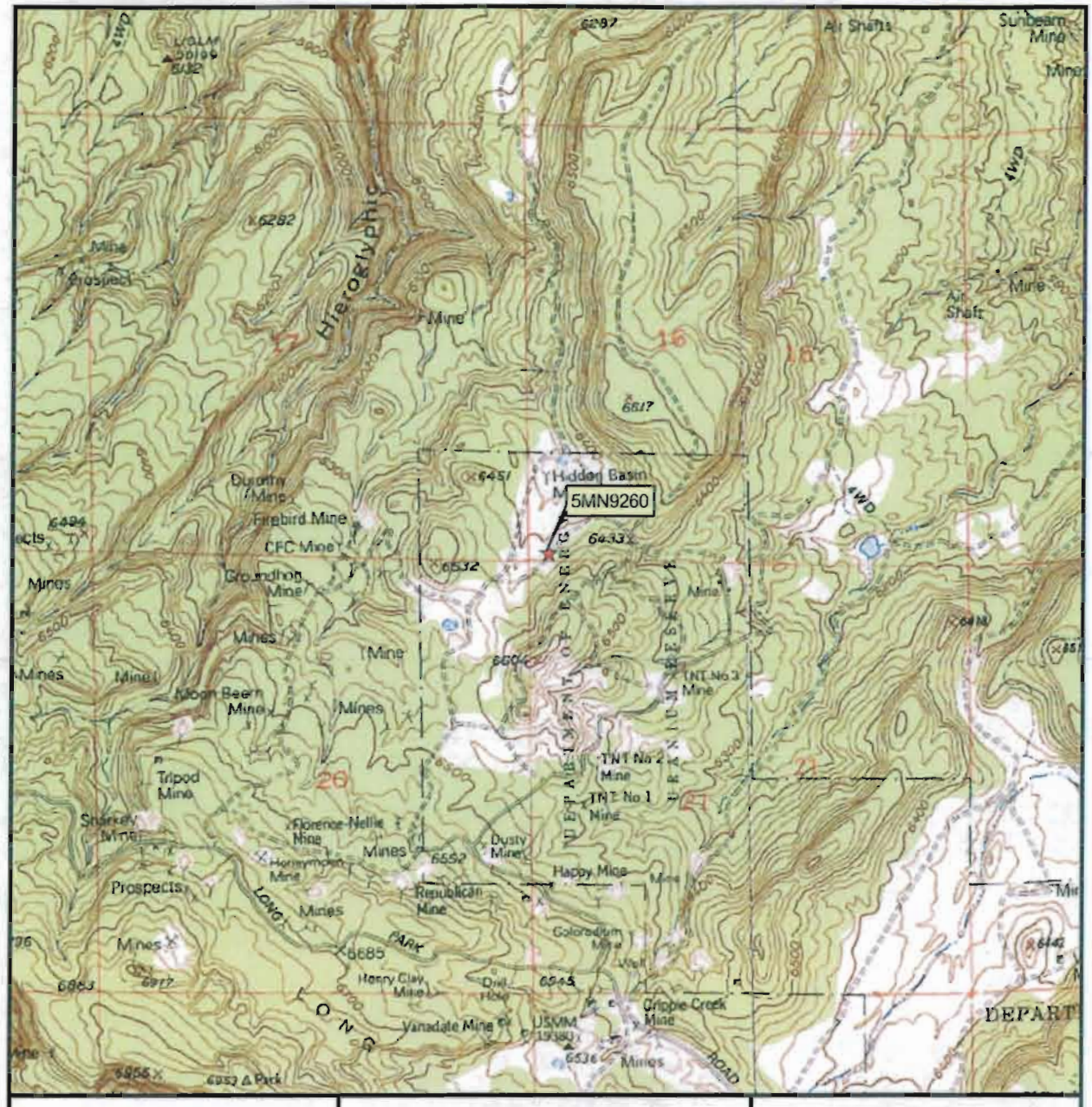
11. Comments, Continued:
... claims Nos. 1 through 4 on the same day (Montrose County Courthouse, County Clerk's Office, Book 296, Pages 308, 309, 310, and 311). The first AOL was filed by Huntley in 1944 (Montrose County Courthouse, County Clerk's Office, Book 243, Page 21). Between 1945 and 1950, the mine appears to have been controlled by a consortium consisting of Henry Brammeier, T. C. Brammeier, and, possibly, W. H. Pitts (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 39, 75, 106, 136, and 155; Book 338, Page 52; Book 345, Page 20).

In 1951, VCA filed the AOL (Montrose County Courthouse, County Clerk's Office, Book 243, Page 284), as they would continue to do through 1967, save 1955, when the AOL was filed by Union Carbide and Carbon Corporation (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 357 and 471; Book 374, Pages 116 and 408; Book 418, Page 90; Book 446, Page 277; Book 456, Page 325; Book 457, Page 488; Book 491, Page 356; Book 503, Page 234; Book 522, Page 421; Book 541, Pages 116, 409, 631, and 850). In 1968, Foote Mineral Company filed the AOL (Montrose County Courthouse, Book 562, Page 110), and, in 1969 and 1970, it was filed by Climax Uranium Corporation (Montrose County Courthouse, County Clerk's Office, Book 562, Pages 110, 367, and 727).

Union Carbide Corporation filed the AOL documents between 1971 and 1983 (Montrose County Courthouse, County Clerk's Office, Book 588, Pages 80, 367, 534, and 761; Book 600, Page 49; Book 620, Pages 354, 621, and 926; Book 661, Pages 248 and 597; Book 692, Page 682; Book 728; Book 67). In 1984, the AOL was filed by Umetco Minerals Corporation, an entity created when Dow Chemical purchased the Union Carbide Corporation (Montrose County Courthouse, County Clerk's Office, Book 728, Page 379). The AOL documents continued to be filed by Umetco until 1992, after which the Hidden Basin claim appears to have been allowed to lapse (Montrose County Courthouse, County Clerk's Office, Book 728, Pages 379, 544, 757, and 895; Book 777, Pages 92, 255, 250, 595, and 747).

**5MN9260.** Overview of Hidden Basin Vent Shaft No. 5, facing north-northeast.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

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1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1408
Rev. 9/98

# Isolated Find Record

## I. IDENTIFICATION AND LOCATION

1. Resource Number: 5MN9261 2. Temporary Resource Number: IF-HB-V8
3. County: Montrose
4. Legal Location: PM NM Township 47N Range 17W
   Sec 16 NE 1/4 of SW 1/4 of SW 1/4 of SW 1/4
   if section is irregular, explain alignment method: SW corner, W edge
5. UTMs: Zone 12 , 695956 mE, 4243827 mN NAD: 83
6. USGS Quad Name: Davis Mesa, CO
   Date: 1994

## II. ARCHAEOLOGICAL DATA

7. Artifacts: The isolated find is an open vent shaft with an 8-in.-diameter metal pipe. The vent pipe extends 1 ft. 8 in. above the ground. Two hexagonal drill steels have been welded to the sides of the pipe, possibly to place a fan on the top. A 13 1/2-in.-diameter metal barrel with a length of galvanized steel stovepipe inserted into it lies partially buried directly to the north, and a length of 1 1/4-in.-diameter metal pipe has been placed vertically within the barrel, possibly to make it visible from a distance. Associated artifacts include a length of 1/4-in.-diameter wire rope, several deteriorated fragments of milled lumber, and the pry-off lid to a lubricant oil barrel.

8. IF Dimensions: 5 X 5 m OR Single Artifact ☐
9. Inferred Function(s): vent shaft for a uranium mine
10. Cultural Affiliation/Time Period: Historic
11. Comments: The Hidden Basin Mine was originally located by W. C. Huntley on April 20, 1944. Huntley filed location certificates for Hidden Basin ... (please see Isolated Find Record Continuation Page.)

## III. ENVIRONMENTAL DATA

12. Elevation: Feet: 6380 Meters: 1,945
13. Soil: yellowish-brown sandy loam
14. Topography: central portion and base of Hidden Basin
15. Slope: Site: 0-10° Surrounding: 0-10°
16. Nearest Water: Name/Nature Unnamed drainage/ intermittent

    Elevation: 6,440 feet Distance: 582 m Direction: SSE
17. Vegetation: pinyon and juniper forest in association with rabbitbrush and sagebrush

## IV. REFERENCE DATA

18. Collection?: ☐ Describe:
19. Repository: N/A
20. Landowner: Bureau of Land Mgmt, Uncompahgre Field Office/Dept. of Energy
21. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado
22. Recorder(s): Summer Moore-McMillan, Martha Bright
23. Recorder Affiliation: Alpine Archaeological Consultants, Inc.
24. Date(s): 7/23/2009

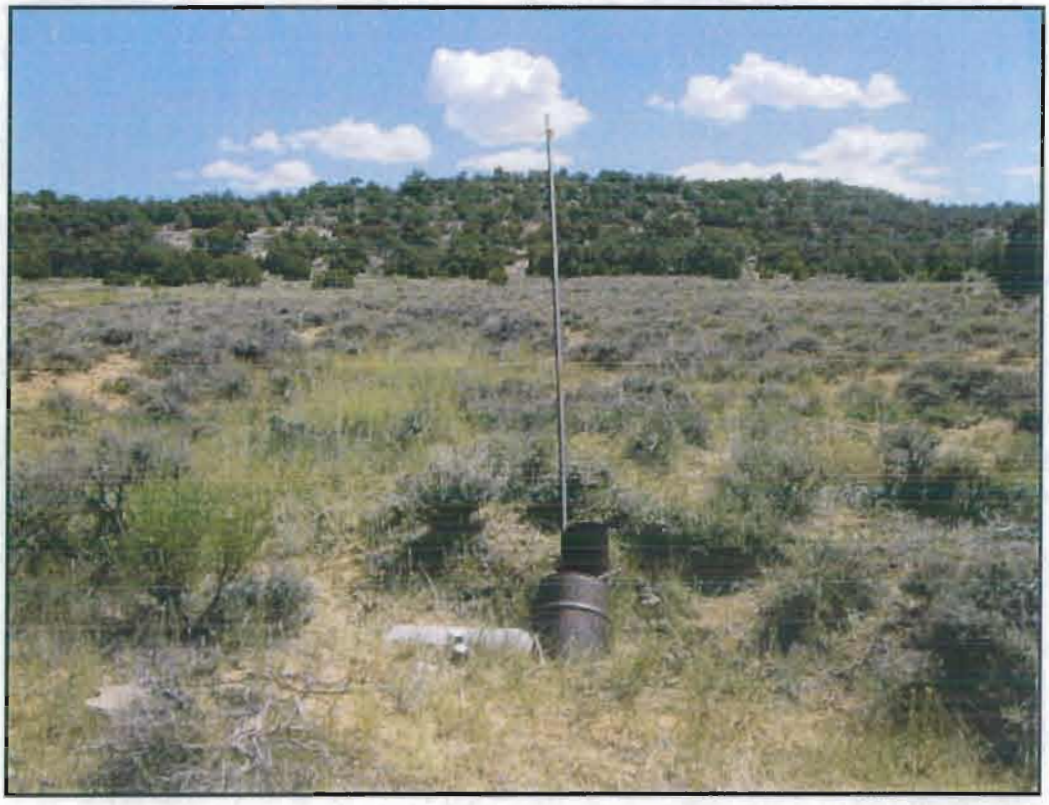
Resource No.: 5MN9261

Temp. Resource Number: IF-HB-V8

11. Comments, Continued:
... claims Nos. 1 through 4 on the same day (Montrose County Courthouse, County Clerk's Office, Book 296, Pages 308, 309, 310, and 311). The first AOL was filed by Huntley in 1944 (Montrose County Courthouse, County Clerk's Office, Book 243, Page 21). Between 1945 and 1950, the mine appears to have been controlled by a consortium consisting of Henry Brammeier, T. C. Brammeier, and, possibly, W. H. Pitts (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 39, 75, 106, 136, and 155; Book 338, Page 52; Book 345, Page 20).

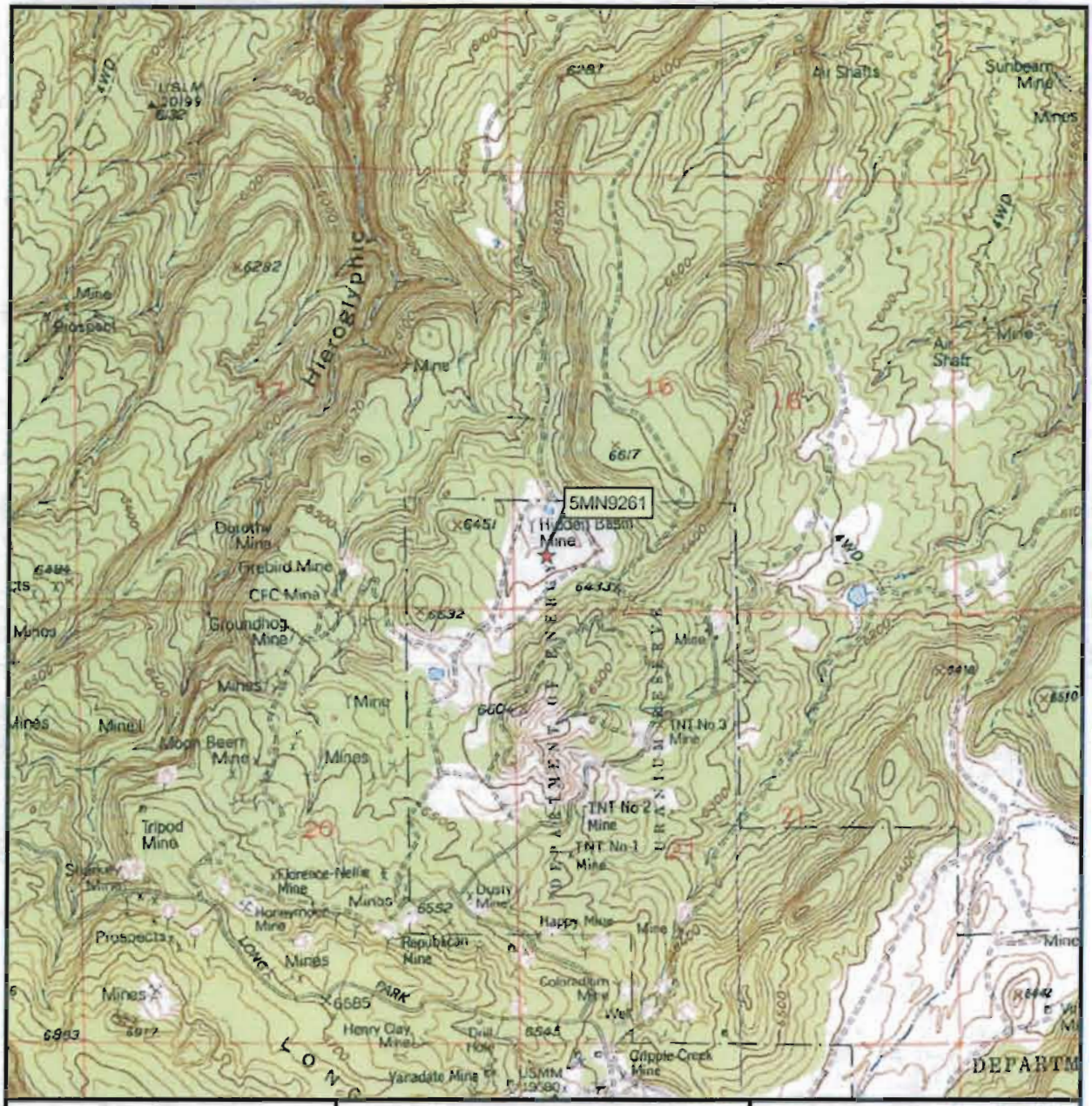
In 1951, VCA filed the AOL (Montrose County Courthouse, County Clerk's Office, Book 243, Page 284), as they would continue to do through 1967, save 1955, when the AOL was filed by Union Carbide and Carbon Corporation (Montrose County Courthouse, County Clerk's Office, Book 243, Pages 357 and 471; Book 374, Pages 116 and 408; Book 418, Page 90; Book 446, Page 277; Book 456, Page 325; Book 457, Page 488; Book 491, Page 356; Book 503, Page 234; Book 522, Page 421; Book 541, Pages 116, 409, 631, and 850). In 1968, Foote Mineral Company filed the AOL (Montrose County Courthouse, Book 562, Page 110), and, in 1969 and 1970, it was filed by Climax Uranium Corporation (Montrose County Courthouse, County Clerk's Office, Book 562, Pages 110, 367, and 727).

Union Carbide Corporation filed the AOL documents between 1971 and 1983 (Montrose County Courthouse, County Clerk's Office, Book 588, Pages 80, 367, 534, and 761; Book 600, Page 49; Book 620, Pages 354, 621, and 926; Book 661, Pages 248 and 597; Book 692, Page 682; Book 728; Book 67). In 1984, the AOL was filed by Umetco Minerals Corporation, an entity created when Dow Chemical purchased the Union Carbide Corporation (Montrose County Courthouse, County Clerk's Office, Book 728, Page 379). The AOL documents continued to be filed by Umetco until 1992, after which the Hidden Basin claim appears to have been allowed to lapse (Montrose County Courthouse, County Clerk's Office, Book 728, Pages 379, 544, 757, and 895; Book 777, Pages 92, 255, 250, 595, and 747).



**5MN9261.** Overview of Hidden Basin Vent Shaft No. 8, facing south.

For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

COLORADO CULTURAL RESOURCE SURVEY

OAHP1408
Rev. 9/98

# Isolated Find Record

## I. IDENTIFICATION AND LOCATION

1. Resource Number: 5MN9262 2. Temporary Resource Number: IF-TNT1
3. County: Montrose
4. Legal Location: PM NM Township 47N Range 17W
   Sec 21 SE 1/4 of NW 1/4 of NW 1/4 of SW 1/4
   if section is irregular, explain alignment method: SW corner, W edge
5. UTMs: Zone 12 , 696058 mE, 4242744 mN NAD: 83
6. USGS Quad Name: Davis Mesa, CO
   Date: 1994

## II. ARCHAEOLOGICAL DATA

7. Artifacts: The isolated find is the reclaimed TNT No. 1 Mine. No evidence of the original workings of the mine is now present. A subsidence has developed within the reclaimed area, which is 8 ft. in diameter. As the bottom of the subsidence cannot be seen, the depth is unknown. No artifacts were observed in association.

8. IF Dimensions: 5 X 5 m OR Single Artifact ☐
9. Inferred Function(s): reclaimed uranium mine
10. Cultural Affiliation/Time Period: Historic
11. Comments: Although no historic research for the TNT No. 1 Mine was attempted, it is likely that the history of this mine is similar to that of the ... (please see Isolated Find Record Continuation Page.)

## III. ENVIRONMENTAL DATA

12. Elevation: Feet: 6400 Meters: 1,951
13. Soil: yellowish-brown sandy loam
14. Topography: hilly area north of Long Park
15. Slope: Site: 0-10° Surrounding: 0-10°
16. Nearest Water: Name/Nature Unnamed drainage/ intermittent
    Elevation: 6,340 feet Distance: 460 m Direction: ESE
17. Vegetation: pinyon and juniper forest in association with Mormon tea

## IV. REFERENCE DATA

18. Collection?: ☐ Describe:
19. Repository: N/A
20. Landowner: Bureau of Land Mgmt, Uncompahgre Field Office/Dept. of Energy
21. Report Title: Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan/Long Park Area, Montrose County, Colorado
22. Recorder(s): Summer Moore-McMillan, Martha Bright
23. Recorder Affiliation: Alpine Archaeological Consultants, Inc.
24. Date(s): 7/23/2009

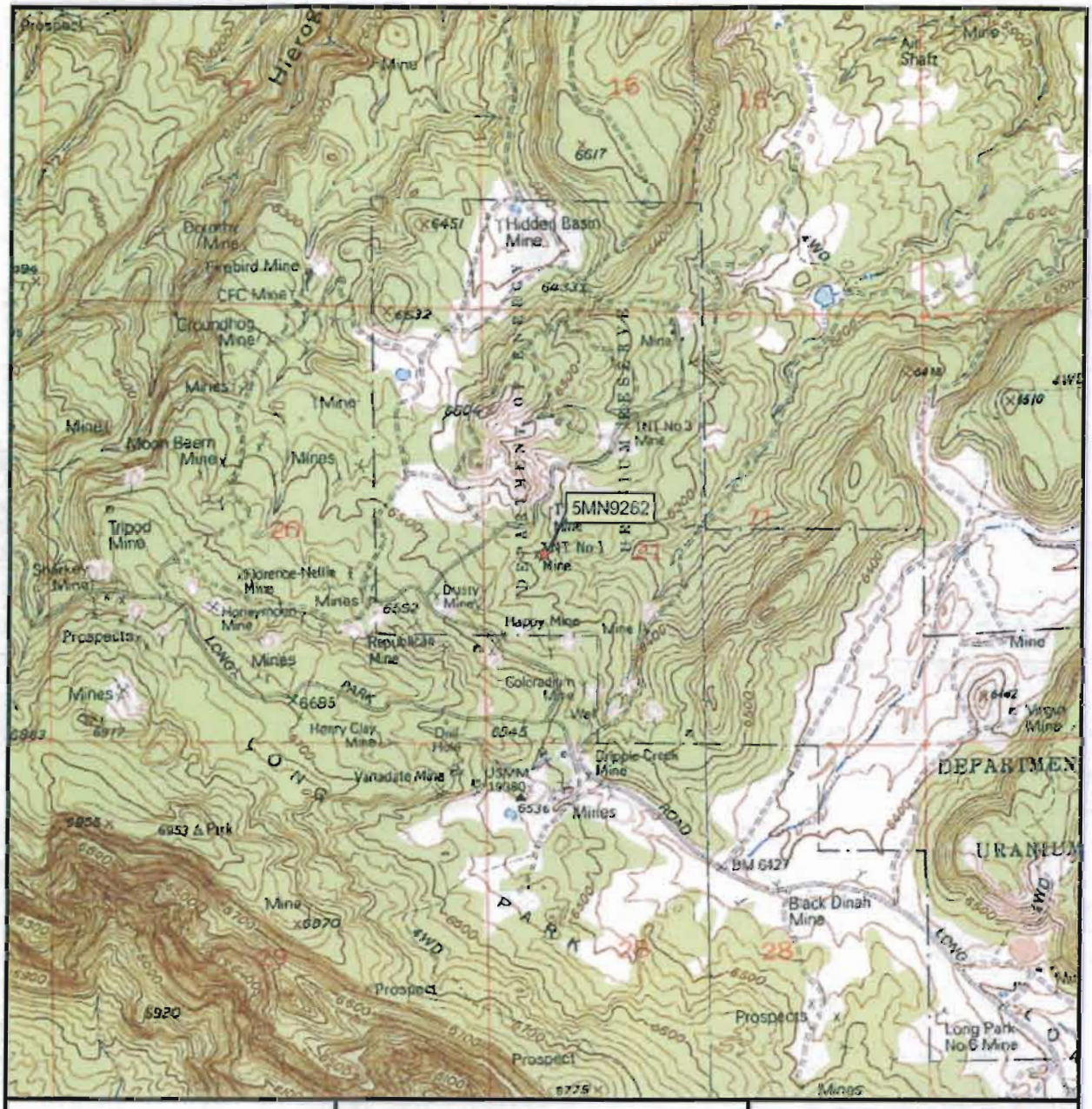
Resource No.: 5MN9262

Temp. Resource Number: IF-TNT1

11. Comments, Continued:
... TNT No. 2 Mine. A historical background for this mine operation is given in the report for this project (Moore-McMillan 2009).

**5MN9262.** Overview of TNT No. 1, facing north.

**For Official Use Only: Disclosure of site locations prohibited (43 CFR 7.18).**




Davis Mesa, CO
1947 (1994)
NM PM T47N R17W
Montrose County

Documentation of Historic Mine Features on U.S. Department of Energy Uranium Lease Tracts in Western Colorado: Phase 2, Uravan-Long Park Area, Montrose, Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

N W E S

1:24,000

1 0.5 0 1 Kilometers

1,000 500 0 1,000 2,000 3,000 4,000 5,000 6,000 7,000 Feet

Colorado

**Department of Energy**
**Office of Legacy Management**

June 15, 2009

OLM-SRS-2009-066

Mr. Rich Ziegler, Vice President
Golden Eagle Uranium, LLC
6767 South Spruce Street, Suite 100
Centennial, CO 80112

Subject: Annual Royalties for Mining Lease Numbers AT(05–1)–ML–60.8–C–JD5A, C–SR–10, C–SR–11A, C–SR–15A, C–SR–16, C–WM–17, C–LP–22, and C–LP–22A

Dear Mr. Ziegler:

In accordance with the Lease Agreements for U.S. Department of Energy (DOE) Lease Tracts C–JD5A, C–SR–10, C–SR–11A, C–SR–15A, C–SR–16, C–WM–17, C–LP–22, and C–LP–22A, annual royalties in the aggregate amount of $55,000 are due and payable to DOE on June 27, 2009. With reference to recent discussions, DOE has identified specific work scope (hazard mitigation and reclamation activities) that can be performed on various DOE lease tracts in lieu of these annual royalty payments. The DOE has determined the value of this work scope is equitable to the royalties owed. A copy of the specific work scope is enclosed for your review.

On the basis of your review, if Golden Eagle Uranium, LLC (GEU) agrees to perform the work scope specified, please formalize your acceptance by signing in the space provided on the enclosure and returning that document to me. If accepted, please recognize that no payment for annual royalties will be due to DOE for the 2009–2010 lease year. Project personnel will coordinate a schedule with you that will ensure the completion of these activities in 2009. Upon completion of all activities, GEU will be credited with the appropriate annual royalty payments.

If you choose to decline this option at this time, the entire annual royalty amount ($55,000) is due and payable on June 27, 2009.

If you have questions concerning this matter, please contact me at (720) 377–9683.

Sincerely,

Steven R. Schiesswohl
2009.06.16 14:51:55
-06'00'

Steven R. Schiesswohl
Realty Officer

Enclosure

cc: Project File ULSCF 2.0 (E. Cotter)

**Acknowledgment and Acceptance**

Golden Eagle Uranium, LLC hereby acknowledges the work scope, and its determined value ($55,000), as referenced in the letter dated June 15, 2009. Golden Eagle Uranium, LLC hereby agrees to perform the defined work scope in lieu of the annual royalty payments due for Lease Tracts C–JD5A, C–SR–10, C–SR–11A, C–SR–15A, C–SR–16, C–WM–17, C–LP–22, and C–LP–22A for the 2009–2010 lease year (aggregate sum of $55,000). Golden Eagle Uranium, LLC further acknowledges that the performance of this work scope completely satisfies the annual royalties owed.

_____

Signature/Title

_____

Date

## Summary of Estimated Costs for Reclamation Field Activities -- Golden Eagle Uranium in-lieu-of Royalties

| | | | C-SR-10 | | | | C-SR-11A | | | C-SR-16 | | | | C-LP-22 | | | | C-LP-22A | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Date (Sept - Oct) | Unit Cost | Mob | | | | | | | | | | | | | | | | | DM | Total |
| Equip. Operators | 2,000 | | 2 | 2 | 2 | 2 | | 1 | | 2 | 2 | 2 | | 2 | 2 | 2 | 2 | 1 | | 24 |
| Laborers | 1,400 | | | | | 1 | | 1 | | | | 1 | | 1 | 1 | | 1 | 1 | | 7 |
| Trackhoe (320) | 4,560 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 18 |
| Trackhoe (307) | 3,600 | | | | | | | | | | | | | | | | | | | 0 |
| Mini-Excavator | 1,400 | | | | | | | | | | | | | | | | | | | 0 |
| Dozer (D-8) | 6,800 | | | | | | | | | | | | | | | | | | | 0 |
| Dozer (D-6) | 5,520 | 1 | | | | | | | | | | | | 1 | 1 | 1 | 1 | | 1 | 6 |
| Dozer (D-4) | 2,540 | | | | | | | | | | | | | | | | | | | 0 |
| FE Loader (966) | 3,120 | 1 | 1 | 1 | 1 | 1 | | | | 1 | 1 | 1 | 1 | | | | | | 1 | 10 |
| Backhoe (580) | 2,640 | | | | | | | | | | | | | | | | | | | 0 |
| Skidster Loader | 1,680 | 1 | | | | 1 | | | | | | | | | | | | | | 2 |
| Grader/Maintainer | 3,120 | | | | | | | | | | | | | | | | | | | 0 |
| Dump Truck (tdm) | 2,880 | | | | | | | | | | | | | | | | | | | 0 |
| Dump Truck (rock) | | | | | | | | | | | | | | | | | | | | 0 |
| Water Truck | 2,880 | | | | | | | | | | | | | 1 | | | | 1 | | 2 |
| Flatbed Trailer | 700 | | | | | | | | | | | | | | | | | | | 0 |
| Pickup (4X4) | 1,920 | | | | | | | | | | | | | | | | | | | 0 |
| Portable Welder | 540 | | | | | | | | | | | | | | | | | | | 0 |
| Oxy/Acet Torch Kit | 540 | | | | | | | | | | | | | | | | | | | 0 |
| Bat Gate Inst. (LS) | | | | | | | | | | | | | | | | | | | | 0 |
| Seed Mix (LS) | 300 | | | | | 1 | | 0.3 | | | | 0.5 | | | | | 2.5 | | | 4.3 |
| PUF (LS) | 200 | | | | | | | | | | | | | | 2 | | | | | 2 |
| | | | | | | | | | | | | | | | | | | | | 0 |
| SUB (Initials) | | | | | | | | | | | | | | | | | | | | |
| GJO (Initials) | | | | | | | | | | | | | | | | | | | | |

# GEU Reclamation in-lieu-of Royalties - Estimated Costs

| Description | Days on Job | 4-day Weeks | Cost per Week | Total Cost |
|---|---|---|---|---|
| Equip. Operators | 24 | 6 | 2,000 | 12000 |
| Laborers | 7 | 1.75 | 1,400 | 2450 |
| Trackhoe (320) | 18 | 4.5 | 4,560 | 20520 |
| Trackhoe (307) | 0 | 0 | 3,600 | 0 |
| Mini-Excavator | 0 | 0 | 1,400 | 0 |
| Dozer (D-8) | 0 | 0 | 6,800 | 0 |
| Dozer (D-6) | 6 | 1.5 | 5,520 | 8280 |
| Dozer (D-4) | 0 | 0 | 2,540 | 0 |
| FE Loader (966) | 10 | 2.5 | 3,120 | 7800 |
| Backhoe (580) | 0 | 0 | 2,640 | 0 |
| Skidster Loader | 2 | 0.5 | 1,680 | 840 |
| Grader/Maintainer | 0 | 0 | 3,120 | 0 |
| Dump Truck (tdm) | 0 | 0 | 2,880 | 0 |
| Dump Truck (rock) | 0 | 0 | 0 | 0 |
| Water Truck | 2 | 0.5 | 2,880 | 1440 |
| Flatbed Trailer | 0 | 0 | 700 | 0 |
| Pickup (4X4) | 0 | 0 | 1,920 | 0 |
| Portable Welder | 0 | 0 | 540 | 0 |
| Oxy/Acet Torch Kit | 0 | 0 | 540 | 0 |
| Bat Gate Inst. (LS) | 0 | 0 | | 0 |
| Seed Mix (LS) | 4.3 | 4.3 | 300 | 1290 |
| PUF (LS) | 2 | 2 | 200 | 400 |
| | 0 | 0 | 0 | 0 |
| | | | Total Cost | 55020 |