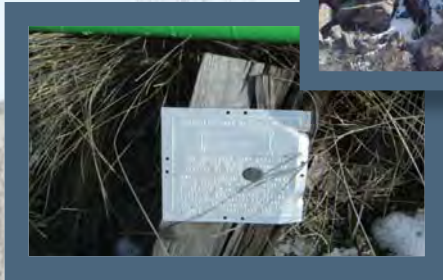


# Abandoned Uranium Mine Site Assessment for the Glory and Empire Site (NM0246)



**FINAL REPORT**

**Prepared For:**



New Mexico Energy, Minerals and  
Natural Resources Department  
Wendell Chino Building  
1220 South St. Francis Drive  
Santa Fe, New Mexico 87505

**Prepared By:**



**February 23, 2010**

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## 1.0 INTRODUCTION

INTERA Incorporated (INTERA) has prepared this Abandoned Uranium Mine (AUM) Site Assessment Report for the Mining and Minerals Division (MMD) of the New Mexico Energy, Minerals and Natural Resources Department (EMNRD) in compliance with the Professional Service Agreement dated November 2, 2009. INTERA visited the Glory and Empire Site (AUM Site), MMD ID: NM0246, on January 26, 2010.

### 1.1 PREVIOUSLY KNOWN INFORMATION ABOUT THE SITE

The AUM Site includes the Glory prospect and the Empire claims. These claims are located in the Cuchillo District, which is characterized by stratabound sedimentary copper deposits and skarns. Approximately 85 lbs of uranium were produced from this district from the Abo Formation (McLemore and Chenoweth, 1989) but very little uranium was produced from the AUM Site itself (Anderson, 1980).

Anderson (1980) surveyed the AUM Site and found two claim markers on the Empire portion. The report also contains photos of a claim marker associated with the Empire claim, an old prospecting road, an open cut, and a pit. According to Anderson, claim markers and workings are found primarily in the Northwest Quarter Section 13, Township 10 South, Range 8 West (Anderson, 1980).

One claim marker mentioned in the Anderson report was rediscovered during the present survey. In addition, prospecting roads noted in the report were also found. However, the open cuts and pit mentioned in the report were difficult to associate with features found during the present survey. Furthermore, mine features catalogued during this survey were located in Northeast Quarter Section 14, rather than Northwest Quarter Section 13.

### 1.2 SITE LOCATION AND DIRECTIONS

The given Glory and Empire location is on Bureau of Land Management (BLM) land in the Northeast Quarter Section 14 and Northwest Quarter Section 13, Township 10 South, Range 8 West. The AUM Site is located in Sierra County and is approximately 2.75 miles east of New Mexico 52 and 6.5 miles northeast of Winston, in the Sierra Cuchillo.

Access to the Site requires passing through the Double Arrow Ranch, which has locked gates. Contact Kerry Garrett of Double Arrow Ranch (575-644-1070) to obtain access. To reach the AUM Site from Albuquerque, drive south on Interstate 25 for approximately 136 miles. Take Exit 89 towards NM-181 South/Rock Canyon Road. Turn right at NM-181 South and go 3 miles. Turn right onto NM-52 North and go approximately 30 miles. Turn right in Winston, and continue north on NM-52 for another 4.5 miles<sup>1</sup>. Turn right on a dirt road, through a gate onto the Double Arrow Ranch, and continue straight for about 4 miles. The road will enter a narrow canyon. Continue through this canyon until it opens up and swings to the south. Park and

---

<sup>1</sup> If you pass the Double Arrow Ranch house on your left, you have gone too far; the turnoff is about 0.25 miles south.

proceed on foot south-southwest for about 0.5 miles to reach the AUM Site. You will cross a variety of old prospecting roads. The Site itself is a series of large open cuts on the northwest face of a hill. INTERA recommends using GPS navigation to find the Site as the region is hilly and has poor line of sight.

### **1.3 SITE GEOLOGY**

The AUM Site is situated within the Sierra Cuchillo fault system, a series of generally north-south trending faults through northwestern Sierra County which formed in response to early Tertiary continental uplift. Paleozoic strata in the region have been faulted into generally monoclinical blocks with steep fault scarps on the western front and gentle dip slopes to the east (Harley, 1934). Mining operations produced primarily from the Pennsylvanian Madera group, thinly-bedded gray, fossiliferous marine limestone with interbedded shale and siltstone (Kues, 2001).  $U_3O_8$  within the Madera limestone in the Sierra Cuchillo is typically present within stratabound sedimentary-copper deposits (McLemore and Chenoweth, 1989).

### **1.4 SITE HYDROGEOLOGY**

The surface runoff at the AUM Site discharges to Rouse Canyon and Edwards Draw. These drainages empty into the Poverty Creek and eventually into the Rio Grande. Rouse Canyon, Edwards Draw, and Poverty Creek are all intermittent streams, and no permanent water was seen during the site visit.

The AUM Site is located on the western edge of the Middle Rio Grande Basin and the southeastern edge of the Alamosa Creek groundwater basin. Poverty Creek and its shallow groundwater are hydraulically connected to the Rio Grande Basin, however insufficient data are available to determine if deeper groundwater is also connected to the Rio Grande Basin (DBSA, 2003).

### **1.5 REGIONAL TOPOGRAPHY AND TERRAIN**

The AUM Site may be found on the Jalarosa Mountain and Iron Mountain Quadrangle 7.5 minute United States Geological Survey topographic maps at an elevation of approximately 7800 feet above mean sea level (please see Figure 2). The AUM Site is located in the Sierra Cuchillo, a long, narrow mountain range northwest of Truth or Consequences. The elevation of the Sierra Cuchillo ranges from 5800 to 8300 feet. These mountains were formed during faulting in association with the Rio Grande Rift (Julyan, 2006). Figure 3 shows an aerial photograph of the terrain surrounding the AUM Site.

## **2.0 MINE FEATURES**

The mine features described below are based on the features provided to INTERA by MMD in the GIS Data Dictionary (MMD, 2009). INTERA marked the locations of the AUM Site features using a Trimble Global Positioning System (GPS), and entered details about the features into the GPS using the MMD data dictionary. Please see the Photo Log in Appendix A, Table 1 for a list of AUM Site features, and Figures 4a and 4b for the locations of the AUM Site features.

## 2.1 MINE SHAFTS, ADITS, AND DECLINES

One small adit (adit-1) was found at the AUM Site. The adit is 9 ft high, 8 ft wide, and 9 ft deep. It is found at the south end of an open cut (CutLn-1).

## 2.2 MINING AND EXPLORATION PITS AND OPEN CUTS

One open cut (CutLn-1) and one trench (Trench-1) were found at the AUM Site. This large open cut trends north to south along the western face of a hill and measures 46 ft by 126 ft. In the face of the open cut, a siltstone with green mineralization was found to have 90  $\mu\text{R/hr}$  (microroentgens per hour, rad-4, photo 21).

## 2.3 WASTE AND ORE PILES AND DISTURBANCES

Three disturbed areas, one pile ridge, and three piles were found at the AUM Site or in close proximity. The first disturbed area is offsite to the south (DistPly-1) on the west slope of the hill. It is a shallow, vegetated depression measuring 56 ft long, 36 ft wide, and 2 ft deep. Two other disturbances (DistPly-3 and DistPly-4) are located on the north side of the hill and measure 15 by 38 ft and 35 by 120 ft, respectively. Both of these are not significantly below grade. These disturbances on the north side of the hill may represent open cuts or road cuts. DistPly-4 has a rock face displaying green mineralization, similar to CutLn-1.

The pile ridge (pileridge-1) appears to be material from CutLn-1 that has been pushed back and formed into a small ridge 4-5 feet tall. The three piles (PilePt-1, PilePt-2, and PilePt-3) also appear to be material from CutLn-1. PilePt-3 contains rocks with vivid green mineralization (see Photo 26) and measured 130  $\mu\text{R/hr}$  at contact (Rad-8).

## 2.4 MINING RELATED BUILDINGS AND FOUNDATIONS

No mining related buildings and foundations were evident at the AUM Site.

## 2.5 OTHER MINE FEATURES

Two claim markers (Claim-1 and Claim-2) were discovered lying on the ground northeast of the AUM Site. They consisted of wooden posts with aluminum signs. Claim-2 corresponds with the claim marker photographed and mentioned in the Anderson report. Four mine/prospecting roads (Rd-1 through Rd-4) were also discovered onsite. They may correspond to the picture of a prospecting road in the Anderson report.

## 2.6 BOREHOLES

No boreholes were evident at the AUM Site.

## 2.7 RECLAMATION ACTIVITIES

No apparent reclamation activities have taken place at the AUM Site.

### **3.0 ARCHEOLOGICAL SITES**

No apparent archeological sites were identified at or near this AUM Site.

### **4.0 SITE GAMMA RADIATION READINGS**

Two background gamma radiation readings were performed at the AUM site. One reading 0.5 miles northeast of the AUM Site recorded 7  $\mu\text{R/hr}$  at ground level, and the other reading approximately 150 yards south of the AUM Site recorded 10  $\mu\text{R/hr}$ . Please see Table 2 for all of the gamma radiation readings taken at the AUM Site and Figures 4a and 4b for the locations of the radiation readings.

The maximum gamma radiation reading for the AUM Site was 130  $\mu\text{R/hr}$  at bedrock contact at point Rad-8 on PilePt-3. Another reading of 90  $\mu\text{R/hr}$  at bedrock contact was recorded on a mineralized siltstone bed inside of CutLn-1 (point Rad-4).

### **5.0 CURRENT LAND USES**

#### **5.1 HUMAN ACTIVITY AND RECREATIONAL SITE USE**

No evidence of recent human activity was found at the AUM Site. However, the Double Arrow Ranch maintains cattle in the area, and recent ranching-related structures were found 0.5 miles northeast of the AUM Site.

#### **5.2 NEARBY RESIDENTIAL, COMMERCIAL AND INDUSTRIAL STRUCTURES**

A corral and a shed associated with ranching are located 0.5 miles northeast of the AUM site.

#### **5.3 NEARBY DOMESTIC WELLS**

One domestic well, RG-21210, is located within a mile of the AUM Site and is owned by the Double Arrow Ranch. This well is 560 feet deep and was drilled in 1972. Depth to water is not available. The well was not sighted during this field work.

#### **5.4 EVIDENCE OF GRAZING OR AGRICULTURE**

Cows were encountered while driving to the site. No livestock were sighted on the site itself, but the presence of nearby ranching-related structures and livestock sightings imply that this area may be grazed.

#### **5.5 EVIDENCE OF WILDLIFE**

Coyote tracks were noted in snow at CutLn-1. Cottontail rabbit tracks were also seen. A red-tailed hawk, gray squirrel, and jackrabbit were seen on or near the AUM Site.

## 6.0 VEGETATION

The AUM site is located in a pinyon-juniper woodland which includes alligator juniper, snakeweed, and greasewood. This plant assemblage is between Montane Coniferous Forest and Coniferous and Mixed Woodland. Grass species observed from photographs and plant samples included blue grama, three-awn species, and muhly species. Forbs collected at the site included desert holly. No evidence of noxious weeds was observed on site.

## 7.0 POTENTIAL OFFSITE IMPACTS

### 7.1 EROSION

There are no notable erosional features at the given AUM Site location.

### 7.2 ENVIRONMENTAL IMPACTS

There is no evidence of soil staining from chemicals potentially brought to the AUM Site, or from constituents present in the ore or waste rock.

## 8.0 REFERENCES

- Anderson, Orin J., 1980. Abandoned or Inactive Uranium Mines in New Mexico. New Mexico Bureau of Mines and Mineral Resources Open File Report 148.
- Daniel B. Stephens & Associates, Inc (DBSA), 2003. Socorro-Sierra Regional Water Plan. Prepared for: Socorro Soil and Water Conservation District, Socorro, New Mexico.
- Harley, George T., 1934. The Geology and Ore Deposits of Sierra County, New Mexico. New Mexico Bureau of Mines and Mineral Resources Bulletin 10
- Julyan, Robert, 2006. The Mountains of New Mexico. University of New Mexico Press.
- McLemore, Virginia T. and William L. Chenoweth, 1989. Uranium Resources in New Mexico. New Mexico Bureau of Mines & Mineral Resources, Resource Map 18.
- Mining and Minerals Division (MMD), 2009. Mine Feature Data Dictionary.
- New Mexico Office of the State Engineer (NMOSE), 2008. Wells and Surface Diversions in New Mexico. WATERS\_PODS\_may08.shapfile. OSE Waters Database.

## TABLES

**Table 1  
Site Features**

**Glory and Empire-NM0246  
Abandoned Uranium Mine Assessments**

Feature Name	Material/Type	Associated Photo	Height	Width	On Site?	Open	Collapsed	Closure Type	Associated Feature	Notes
Access-1	Access	--	--	--	No	--	--	--	--	road to site area
Adit-1	--	19	5	8	Yes	Yes	No	None	None	--
Claim-1	--	46	3	0.5	No	--	--	--	--	wrb no. 43 6/7/1979
Claim-2	--	47,48	0	0.5	No	--	--	--	--	sign on ground
CutLn-1	--	16	--	46	Yes	--	--	--	--	--
DistPly-1	--	2,3,4,5	2	36	No	--	--	--	--	--
DistPly-2	--	6,7	0	0	Yes	--	--	--	--	site extent
DistPly-3	--	39	0	15	Yes	--	--	--	--	--
DistPly-4	--	42,43,44	0	35	Yes	--	--	--	--	--
Photo-16	--	16	--	--	Yes	--	--	--	--	cutply-1
Photo-19	--	19	--	--	Yes	--	--	--	--	--
Photo-20	--	20	--	--	Yes	--	--	--	--	--
Photo-21	--	21	--	--	Yes	--	--	--	--	rad-3
Photo-24	--	24	--	--	Yes	--	--	--	--	--
Photo-25	--	25	--	--	Yes	--	--	--	--	--
Photo-26	--	26	--	--	Yes	--	--	--	--	--
Photo-27	--	27	--	--	Yes	--	--	--	--	along pileridge-1
Photo-28	--	28	--	--	Yes	--	--	--	--	adit-1 far view
Photo-29	--	29	--	--	Yes	--	--	--	--	at rock face
Photo-30	--	30	--	--	Yes	--	--	--	--	--
Photo-31	--	31	--	--	Yes	--	--	--	--	trench-1 south end
Photo-32	--	32	--	--	Yes	--	--	--	--	trench-1
Photo-33	--	33	--	--	Yes	--	--	--	--	trench-1
Photo-34	--	34	--	--	Yes	--	--	--	--	--



**Table 1  
Site Features**

**Glory and Empire-NM0246  
Abandoned Uranium Mine Assessments**

Feature Name	Material/Type	Associated Photo	Height	Width	On Site?	Open	Collapsed	Closure Type	Associated Feature	Notes
Photo-35	--	35	--	--	Yes	--	--	--	--	--
photo-39	--	39	--	--	Yes	--	--	--	--	disturbply3
photo-42	--	42	--	--	Yes	--	--	--	--	of rad-14
photo-43	--	43	--	--	Yes	--	--	--	--	--
photo-44	--	44	--	--	Yes	--	--	--	--	--
photo-46	--	49	--	--	No	--	--	--	--	claim--1
photo-47	--	47	--	--	Yes	--	--	--	--	claim sign for claim-2
photo-48	--	48	--	--	No	--	--	--	--	replicating Anderson photo a
photo-49	--	49	--	--	No	--	--	--	--	--
photo-50	--	50	--	--	No	--	--	--	--	--
photo-51	--	51	--	--	No	--	--	--	--	--
Photo-6	--	6	--	--	Yes	--	--	--	--	site photo
Photo-7	--	7	--	--	Yes	--	--	--	--	site photo
PilePt-1	Waste	23	3	6	Yes	--	--	--	--	--
PilePt-2	Waste	25	2.5	10	Yes	--	--	--	--	--
PilePt-3	Ore	26	1	5	Yes	--	--	--	--	siltstone w green minerals
pileridge-1	--	27,28	4	--	Yes	--	--	--	--	--
Rd-1	Dirt	1	--	--	No	--	--	--	--	--
Rd-2	Access	24	--	--	Yes	--	--	--	--	--
Rd-3	Access	--	--	--	Yes	--	--	--	--	--
Rd-4	Dirt	--	--	--	No	--	--	--	--	--
Trench-1	--	31,32,33	--	--	Yes	--	--	--	--	--

**Notes:**

-- designates no information



**Table 2  
Gamma Radiation Survey Results**

**Glory and Empire-NM0246  
Abandoned Uranium Mine Assessments**

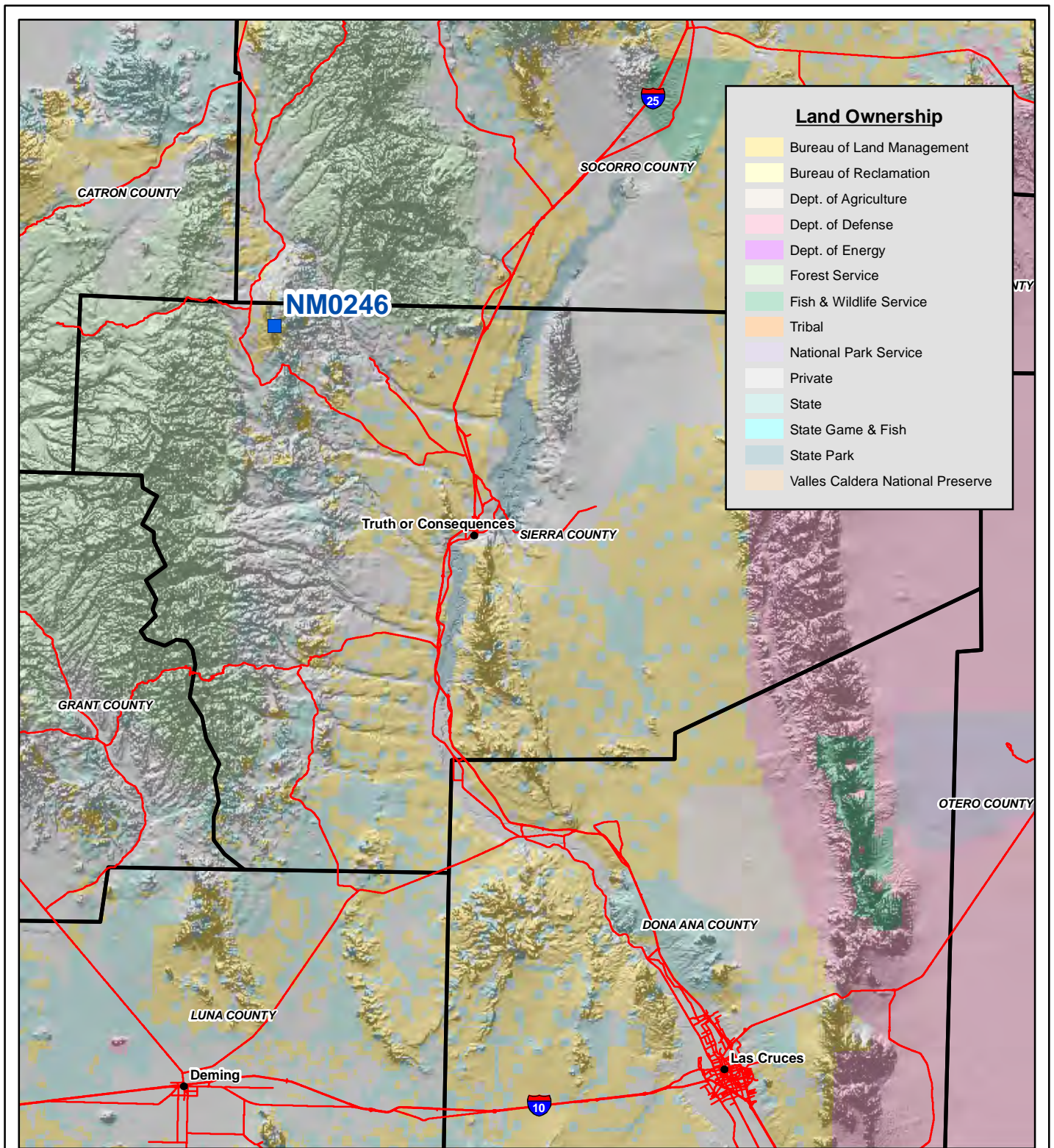
Reading ID	Contact ( $\mu\text{R/hr}$ )	4 ft ( $\mu\text{R/hr}$ )	Associated Feature
RadBack-1	7	7	
RadBack-2	10	10	
Rad-1	28	20	DistPly-1
Rad-2	15	14	
Rad-3	20	20	adit-1
Rad-4	90	50	
Rad-5	14	14	PilePt-1
Rad-6	14	14	Rd-2
Rad-7	44	16	PilePt-2
Rad-8	130	60	PilePt-3
Rad-9	22	22	pileridge-1
Rad-10	15	14	
Rad-11	13	13	trench-1
Rad-12	12	12	trench-1
Rad-13	11	11	
Rad-14	13	12	DistPly-4

**Notes:**

All gamma readings at this site taken by Ludlum 19  $\mu\text{R/Ratemeter}$   
 $\mu\text{R/hr}$ =microroetgens per hour



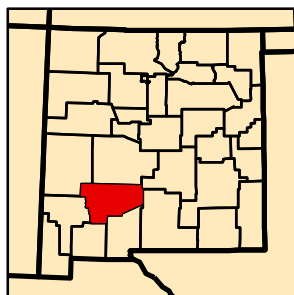
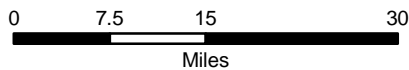
## FIGURES



**Land Ownership**

- Bureau of Land Management
- Bureau of Reclamation
- Dept. of Agriculture
- Dept. of Defense
- Dept. of Energy
- Forest Service
- Fish & Wildlife Service
- Tribal
- National Park Service
- Private
- State
- State Game & Fish
- State Park
- Valles Caldera National Preserve

Map Source(s):  
Ownership - BLM, 2007

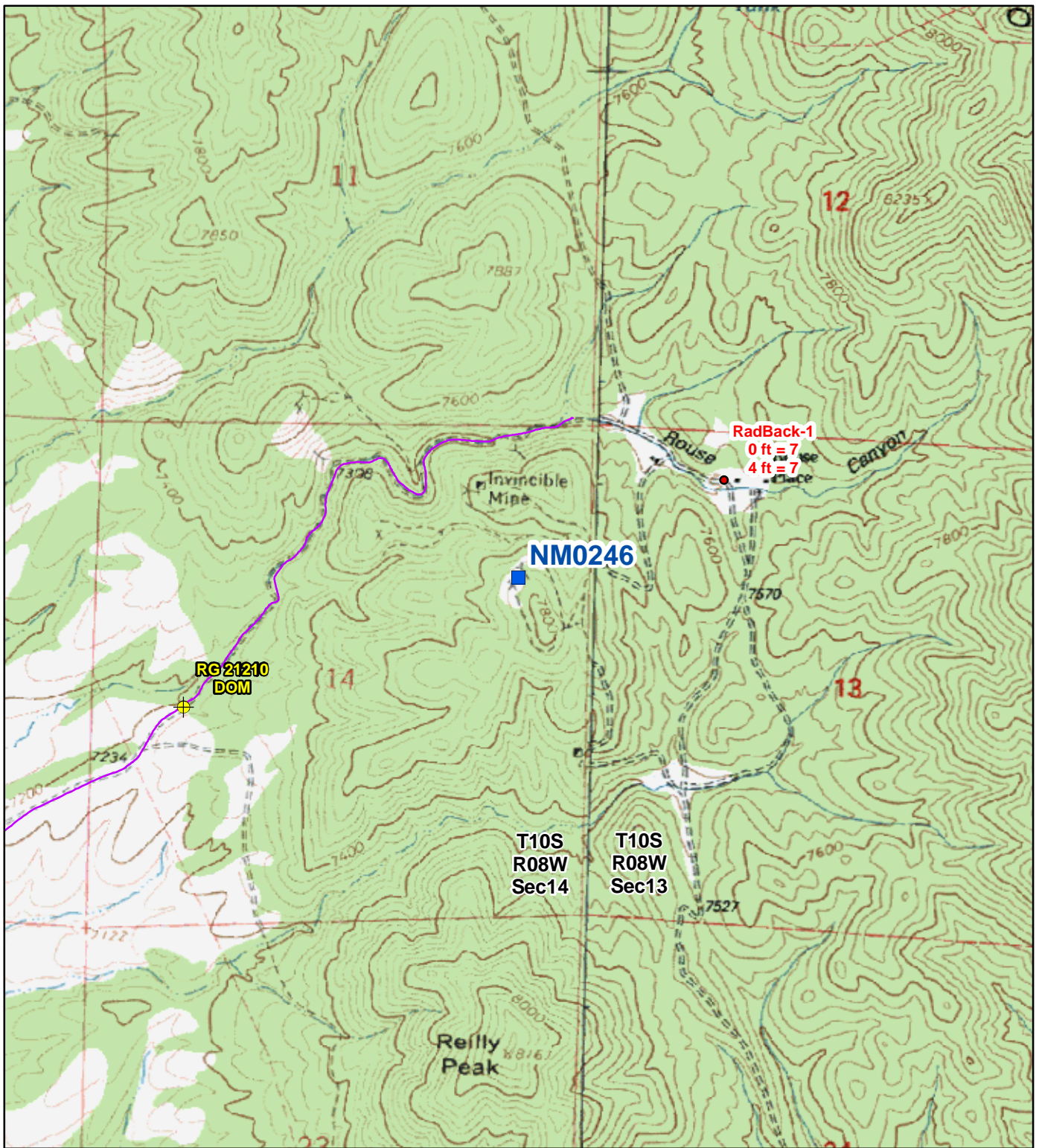


**Legend**

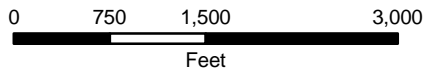
- AUM Location
- Road
- County Boundary

**Figure 1**  
**Site Location Map**  
**NM0246-Glory & Empire**  
Abandoned Uranium  
Mine Assessment





Map Source(s):  
 U.S. Geological Survey 7.5-Minute  
 Topographic Map  
 -Jaralosa Mountain, 1995  
 -Iron Mountain, 1965



**Legend**

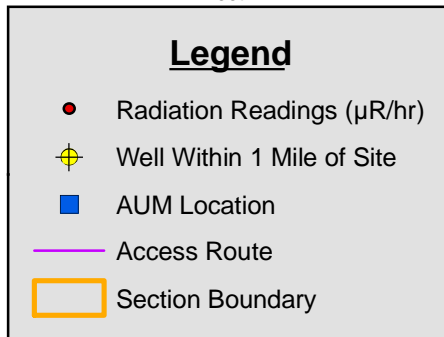
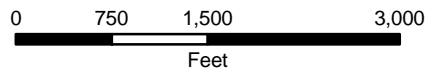
- Radiation Readings ( $\mu\text{R/hr}$ )
- ⊕ Well Within 1 Mile of Site
- AUM Location
- Access Route

**Figure 2**  
**Topographic Map**  
**NM0246-Glory and Empire**  
 Abandoned Uranium  
 Mine Assessment



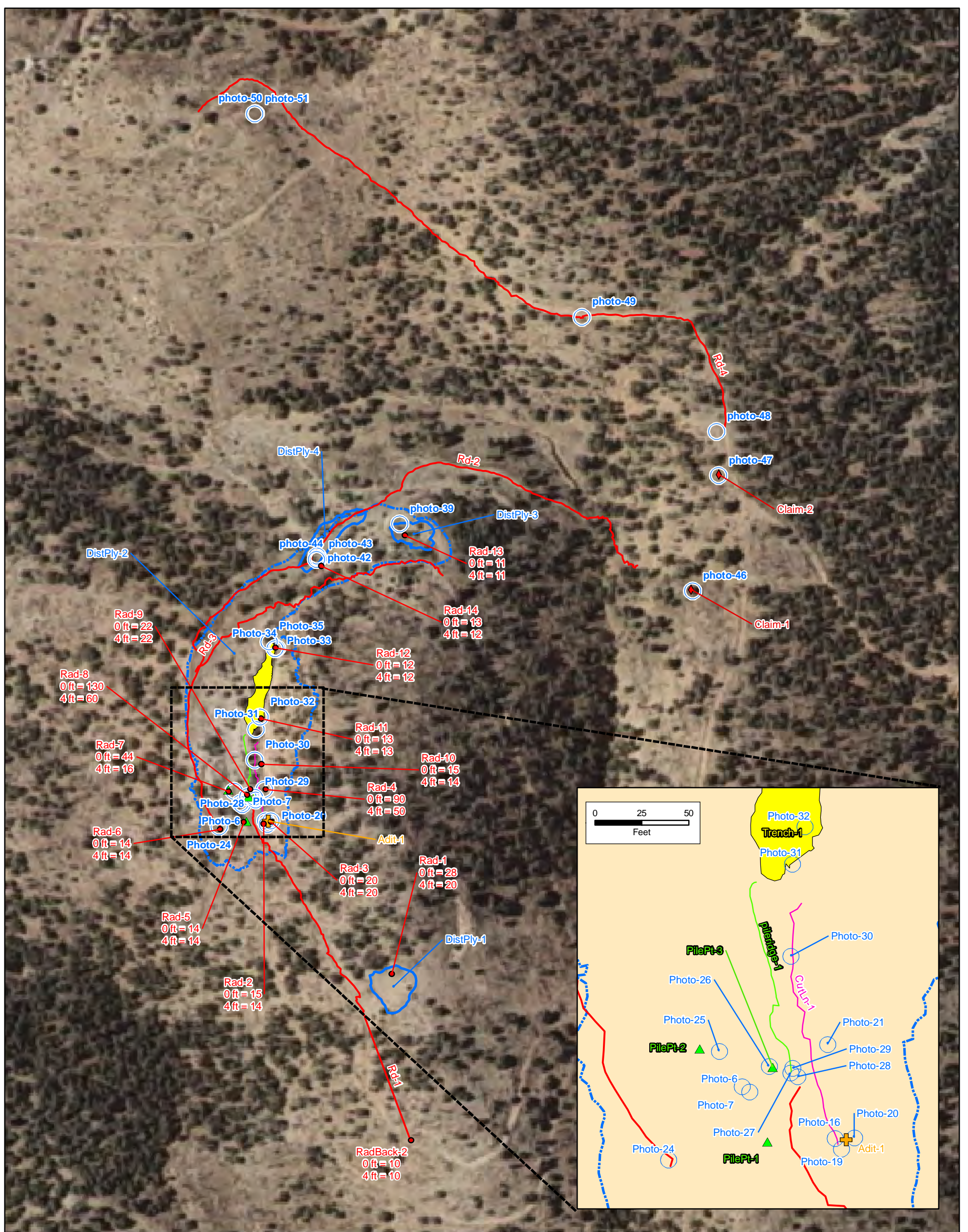


Map Source(s):  
 U.S. Geological Survey 7.5-Minute  
 DOQQ County Mosaic  
 -Sierra County, 2009



**Figure 3**  
**Aerial Photo**  
**NM0246-Glory and Empire**  
 Abandoned Uranium  
 Mine Assessment





Map Source(s):  
 U.S. Geological Survey 7.5-Minute  
 DOQQ County Mosaic  
 -Sierra County, 2009

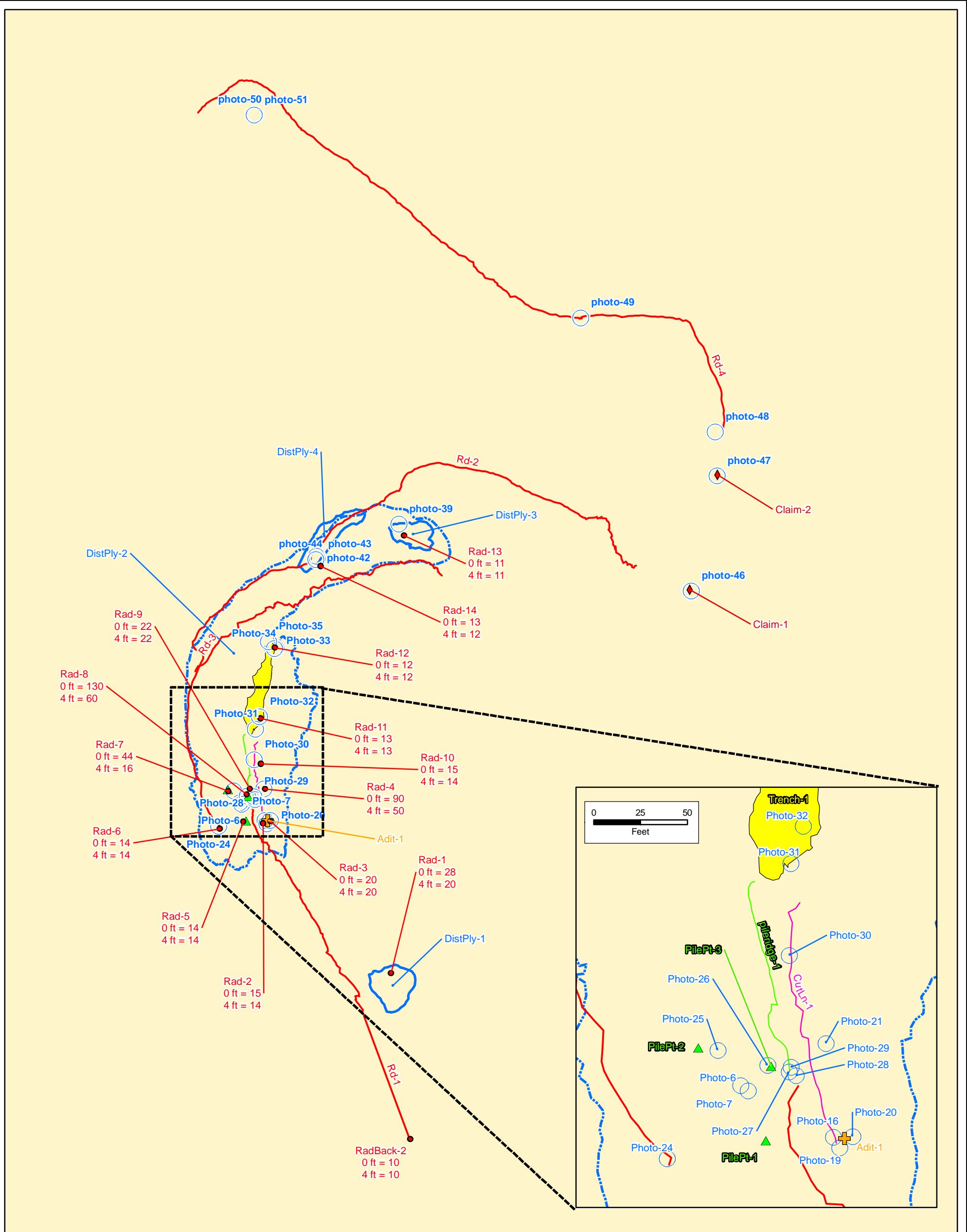
0 75 150 300  
 Feet

**NORTH**

Legend	
●	Radiation Readings ( $\mu\text{R/hr}$ )
◆	Claim Marker
▲	Pile
+	Adit
○	Photo Location
—	Mine Road
—	Open Cut
—	Pile Ridge
■	Trench
□	Other Disturbance Area
□	Site Extent Disturbance Area

**Figure 4a**  
**Site Map on Aerial Photo**  
**NM0246-Glory and Empire**  
 Abandoned Uranium  
 Mine Assessment





Map Source(s):  
Ownership - BLM, 2007



Legend		
●	Radiation Readings ( $\mu\text{R/hr}$ )	Mine Road
◆	Claim Marker	Open Cut
▲	Pile	Pile Ridge
+	Adit	Trench
○	Photo Location	Other Disturbance Area
		Site Extent Disturbance Area
		<b>Surface Ownership</b>
		Bureau of Land Management

**Figure 4b**  
**Site Map with**  
**Surface Ownership**  
**NM0246-Glory and Empire**  
Abandoned Uranium  
Mine Assessment



## **APPENDIX A**

### **PHOTO LOG**

Note: Gaps in the numbering sequence of the photos is the result of removing photos not suitable for the report. A full set of photos are provided in the electronic deliverable.



Photo 1 – Road north of AUM Site (Rd-1).



Photo 4 – View of DistPly-1, looking west.



Photo 6 – View of CutLn-1, looking south.



Photo 8 – AUM Site vegetation.



Photo 11 – Vegetation.



Photo 16 – Looking north along CutLn-1.



Photo 18 – Paw print from wildlife (possibly coyote).



Photo 19 – Adit-1, looking east into slope wall.



Photo 20 – Adit-1, looking northeast.



Photo 21 – Taking a radiation measurement at mineralization in CutLn-1 (Rad-4).



Photo 22 – Vegetation above CutLn-1.



Photo 23 – PilePt-1, looking north.



Photo 24 – Looking northwest along Rd-2.



Photo 25 – PilePt-2, looking west.



Photo 26 – PilePt-3 and Rad-8 (measured 130  $\mu$ R/hour at contact).



Photo 27 – Looking north along pileridge-1.



Photo 28 – Looking south along pileridge-1 towards Adit-1, in CutLn-1.



Photo 30 – Looking east at Rad-10.



Photo 31 – Looking north along trench-1.



Photo 32 – Looking south along trench-1.



Photo 34 –Looking north from the north end of trench-1.



Photo 35 – Looking west from trench-1 at terraced slopes below.



Photo 37 –Vegetation along north side of AUM Site.



Photo 39 – Looking east at DistPly-3.



Photo 42 –Rock face in DistPly-4, looking southeast.



Photo 43 – Looking west/southwest from DistPly-4 along road.



Photo 44 –Looking north from DistPly-4.



Photo 45 – Looking south/southwest at a rock face in DistPly-4.



Photo 46 –Claim-1 found lying on the ground.



Photo 47 – Claim-2, also lying on the ground. This claim is mentioned and photographed in the Anderson report.



Photo 48 –Looking south at Claim-2, replicating photo (a) in Anderson report.



Photo 49 – Looking southwest at the north slope of the AUM Site. DistPly-4 is visible in the middle left of the photo.



Photo 51 –Looking south at the north and northwest face of the AUM Site hillslope. CutPly-1 is visible in the upper center of the picture.

**APPENDIX B**  
**FIELD NOTES**

23 1/26/10 ALT Abandoned Uranium Mines

Site Name: NMO246, Glory and Empire

Objective: Site Assessment

Personnel: Amelia Tinklenberg - INTERA  
Danny Bowman - INTERA

Equipment: Rental truck; Trimble GeoXM (SN: 4948447271, PN: 70970-00, IC: 1756A-614, 2008 series); Ludlum (SN: 234149, Model 192); Fujifilm digital camera (No. 80839493); backup Garmin GPS; cell phone amplifier; field laptop

7am Left Albuquerque for NMO246

10 am Arrived at gate below, north, of the site. Prepared to hike to site.

10:44 Background gamma at site  
0ft - 10MR/hr 4ft - 10MR/hr

Photo 1 - Access Road north of site - Rd-1

Dist Ply-1 - offsite disturbance north of site

Photo 2 - Looking north at Dist Ply-1 from access road

Photo 3 - Looking north at Dist Ply-1

Photo 4 - Looking west at Dist Ply-1

Photo 5 - Looking southeast at Dist Ply-1

1/26/10 ALT Abandoned Uranium Mines 24  
Rad-1 - at Dist Ply-1 → 0ft - 28MR/hr, 4ft - 20MR/hr

Dist Ply-1 - 36ft x 56ft on west slope of hill

1150 At site

Photo 6-7 - site number with site in background, looking east

Photos 8-15 - Vegetation, collected a few samples

Cut In-1 - cut along west slope of hill 46' x 126' long  
Photo 16 - Looking north along cut 1  
Rad 2 - at Photo 16 - 0ft - 15MR/hr, 4ft - 14MR/hr

Photos 17+18 - Wildlife - paw prints

Photo 19 - Adit 1, looking east into slope wall

Adit 1 - 5ft tall, 9ft deep, 3ft wide; at south end of Cut In 1

Rad 3 - Adit 1; 0ft - 20MR/hr 4ft - 20MR/hr

Photo 20 - Looking northeast into Adit 1

Rad 4 - On vein of siltstone with greenish coloring  
0ft - 90MR/hr, 4ft - 50MR/hr

Photo 21 - of Rad 4 and vein

Photo 22 - Vegetation above site

Rad 5 - at Pile Pt-1 - 0ft - 14MR/hr 4ft - 14MR/hr

Photo 23 - Pile Pt-1, looking North

## 1/26/10 ALT Abandoned Uranium Mines

Pile Pt 1 - west of cut 1; ~3ft tall, 12' long, 6' wide

Access - ALT  
Rad 6 - Pt 2 - 0ft - 14 MR/hr, 4ft - 14 MR/hr

Photo 24 - looking northwest along Access Rd 2

Pile Pt 2 - south west of cut 1; ~2.5' tall, 16' long, 10' wide

Photo 25 - looking west at Pile Pt 2

Rad 7 - Pile Pt 2 - 0ft - 44 MR/hr, 4ft - 16 MR/hr

Pile Pt 3 - waste pile of rock found in vein (ore rock)  
1ft tall, 5ft wide, 6ft long

Photo 26 - of LuU on pile Pt 3, oriented west

Rad 8 - Pile Pt 3 - 0ft - 130 MR/hr, 4ft - 60 MR/hr

Pile Ridge 1 - linear pile of waste rock ~5-4ft tall  
10-15ft wide

Rad 9 - south part of pile ridge 1 - 0ft - 22 MR/hr, 4ft - 22 MR/hr

Photo 27 - looking north along Pile ridge 1

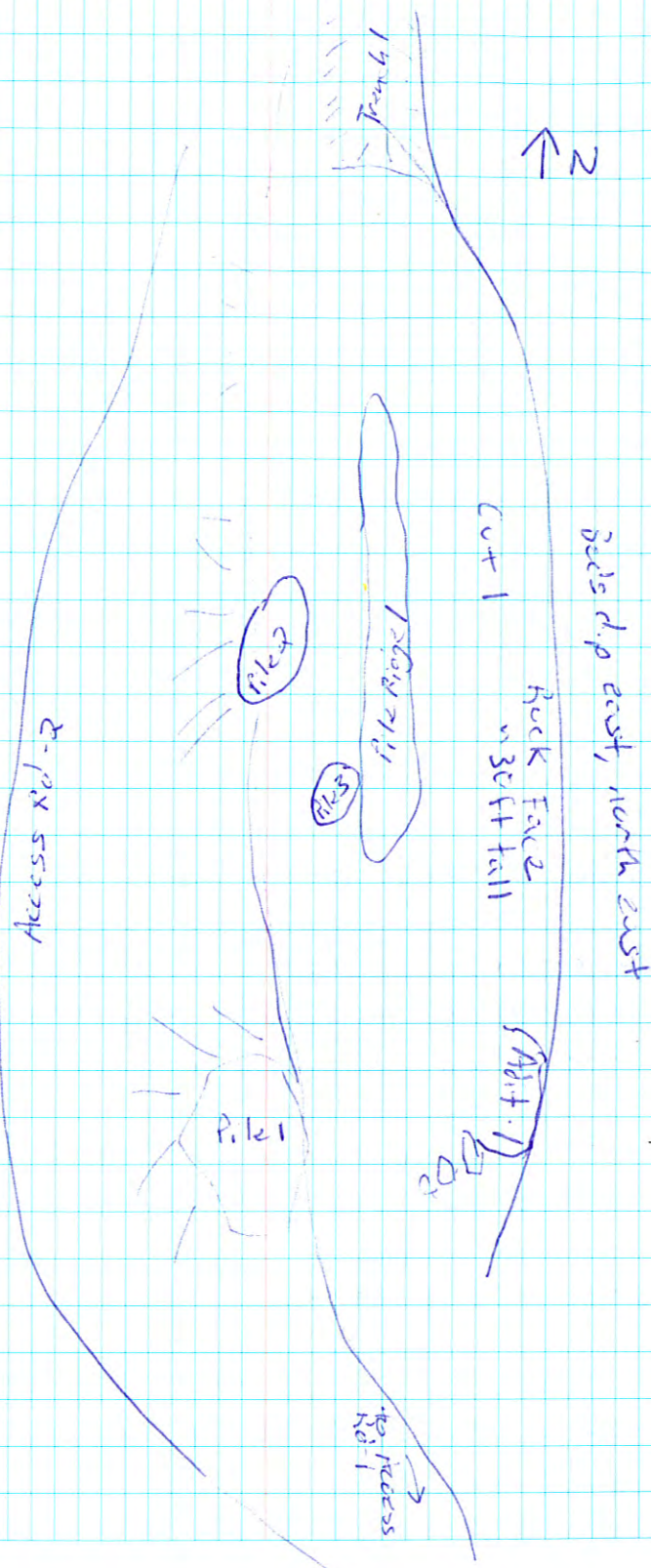
Photo 28 - looking south from Pile ridge 1 back at Adit 1

Photo 29 - looking east at cut 1 rock face from Pile ridge 1

Rad 10 - along vein north of main site  
0ft - 15 MR/hr, 4ft - 14 MR/hr

Photo 30 - of vein and Rad 10 location

## 1/26/10 ALT Abandoned Uranium Mines



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1300 Moving north of cut 1

Trench 1 - ~10ft deep north of cut 1

Photo 31 - looking north along trench 1

Photo 32 - looking south along trench 1

Rad 11 - inside Trench 1 - 0ft - 13MR/hr, 4ft - 13MR/hr

Photo 33 - looking south from north end of trench 1

Photo 34 - looking north from north end of trench 1

Rad 12 - north end of trench 1 - 0ft - 12MR/hr, 4ft - 12MR/hr

Photo 35 - looking west from end of trench 1 at terraced slopes below

Photos 36-38 - vegetation

Dist Ply 3 - on northeast side of Dist Ply 2 (site boundary) 15ft wide, 50ft long, 10ft deep

Rad 13 - Dist Ply 3 0ft - 11MR/hr, 4ft - 11MR/hr

Photo 39 - looking east at Dist Ply 3  
Dist Ply 3 - on north slope of hill

Photos 40-41 - Vegetation

Rad 14 - Dist Ply 4 0ft - 13MR/hr, 4ft - 12MR/hr

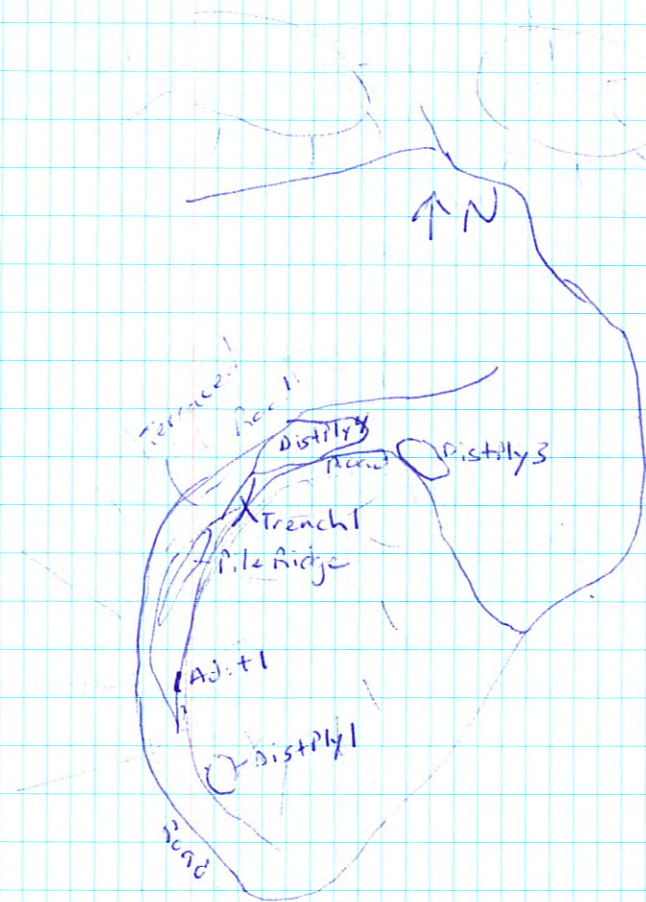
Photo 42 - rock face in Dist Ply 4, look south east at north west face

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Photo 43 - looking west, southwest from Dist Ply 4 along access road

Photo 44 - looking <sup>north</sup> east from Dist Ply 4

Dist Ply 4 - north ~~front~~ <sup>ALT</sup> end of site, along road  
35ft wide, 120ft long  
Rock Face ~ 10-30ft high  
Rock with green mineralization found here also

Photo 45 - looking south, southwest at face in Dist Ply 4



29 <sup>ALT</sup> 1/26/10 ALT Abandoned Uranium Mines

1400 Claim 1 found - WRB #43 6/7/79

Photo 46 - claim 1

No nearby workings noted.

Photo 47 - Claim 2 - WRB #44, mentioned in Anderson report <sup>ALT</sup> northeast of site

No nearby workings

Claim 2 - not on post - WRB #44

Photo 48 - Looking south at WRB #44, Claim 2, replicating Photo A in Anderson Report

Photo 49 - Looking southwest at north slope of hill with site. Dist #4 visible

Photos 50-51 - Looking south at the north and northwest face of the hill with site

1500 Back at truck, left site for Deming

Soils: rocky, thin, tan-brown; locally pinkish silt-clay

Rocks: red beds (Abe?) overlaying shale/siltstone layer. Shale gray, flakey. Siltstone light tan-pinky with green mineralization

Human Activities: Evidence of present grazing; cow prints, cow pies, fences, Ranch road and building.

Evidence of mining, both at the site and nearby. A large (20ft diameter) hole/pit was seen on the hill north of NMO 246. Marked on topo map as "Invincible Mine"

<sup>ALT</sup> Mining 1/26/10 ALT Abandoned Uranium Mines 30

Mining roads and disturbances were noted all around the site. Some old cans, wire, bottles, and building materials were seen around the area

Vegetation: Pinon-juniper landscape. Alligator juniper, blue grama,

Wildlife: Tracks from coyote (o-fax) were seen. Jackrabbit, red-tail hawk, gray squirrel, cottontail tracks

