

# Abandoned Uranium Mine Site Assessment for the Napane Site (NM0137)

**FINAL REPORT**

**Prepared For:**



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**February 23, 2010**

NM0137

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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 Napane Mine Site (AUM Site), MMD ID: NM0137, on January 27, 2010.

### 1.1 PREVIOUSLY KNOWN INFORMATION ABOUT THE SITE

The AUM Site was registered as the Napane claim in 1955 and is located in the Fremont Mining District. A possible alias for this AUM Site is the “Occidental Mines.” This AUM Site produced a total of 35 pounds of  $U_3O_8$  ore at an average production grade of 0.19 percent according to McLemore and Chenoweth (1989); but Anderson (1980) reports that uranium production at this AUM Site was unlikely. The AUM Site is characterized as a skarn deposit in the Cretaceous U-Bar formation, with uranium deposited in fractures and faults in limestone (McLemore and Chenoweth, 1989, Anderson, 1980).

This AUM Site was included in the Anderson Report, which describes workings that may be up to 100 feet deep. These workings include shafts, inclined shafts, declines, adits, and waste piles. No radiation readings were taken during the Anderson survey due to the lack of a scintillometer. The report notes the occurrence of copper, lead, and zinc minerals, quartz, iron oxides, and manganese oxides. Gold, chalcopyrite, and galena exist along quartz veins in the area, and silicified zones in the host limestone bear uranium minerals (Anderson, 1980).

### 1.2 SITE LOCATION AND DIRECTIONS

The Napane Mine Site is located on Bureau of Land Management (BLM) land in the SE 1/4 Section 25, Township 29 South, Range 4 West, approximately 0.4 miles west of the Mexican border. This Site is located in Hidalgo County and is approximately 13 miles southeast of the town of Hachita in the Sierra Rica Range (please see Figure 1).

To reach the AUM Site from Albuquerque, drive approximately 180 miles south on Interstate 25. Take Exit 41 towards Hatch and get on NM-26. Take NM-26 towards the town of Deming, approximately 45 miles. At Deming, take Interstate 10 west for approximately 30 miles. Leave Interstate 10 at Exit 49 and follow NM-146 south towards Hachita. Drive approximately 19 miles south on NM-146. At the town of Hachita, turn east on NM-9 for about 400 feet, then take a right onto NM-81. Continue south on NM-81 for 11 miles.

Drive 11 miles on NM-81 and then turn left onto Hatchet Road, a well-maintained dirt road. Continue driving east-southeast. If NM-81 swings west and crosses a drainage, you have gone too far and missed the Hatchet Road turnoff.

After 0.6 miles, Hatchet Road makes a sharp turn to the south. Leave Hatchet Road and continue east-southeast onto a poorly maintained dirt road. Continue east-northeast for another 6.7 miles. After 6.7 miles, the road turns to the southeast. Continue a third of a mile to a fork in the road. Take the left fork and continue straight for approximately 2 miles. The AUM Site is located in the hills immediately to the south.

Note that the last 8 miles of this route can be treacherous in muddy or rainy conditions. It is also advisable to contact the United States Border Patrol before traveling to this AUM Site area.

### 1.3 SITE GEOLOGY

The AUM Site is located in the Sierra Rica in southeastern Hidalgo County. The rocks of this region are composed of the mid-Cretaceous U-bar Formation, a ~3,000ft-thick series of fossiliferous limestone, shale, siltstone, and sandstone deposits. Fossils commonly found within this formation include pecten, gastropods, and bivalves (Weise and Lemone, 1981). Minor  $U_3O_8$  ore deposits in these Cretaceous sediments formed as a result of chemical alteration by hydrothermal fluids, which derived from the tertiary igneous intrusion of the Apache Hills Batholith, just north of the AUM Site (McLemore and Chenoweth, 1989). Locally, uranium minerals such as carnotite and autunite have been found in ore bodies along Laramide thrust faults, as well as along ring fractures of the Apache Hills Caldera (McLemore, et al., 1996).

### 1.4 SITE HYDROGEOLOGY

The AUM Site is located on a ridge. Arroyos on the southeast side of the ridge drain into Mexico. Arroyos on the northwest side of the ridge drain into a larger arroyo with several water catchments and stock tanks along its length. The nearest of these is Doyle's Well, located about 2 miles northwest of the AUM Site. No perennial streams are present in the area surrounding the AUM Site.

The AUM Site is located in the Hachita-Moscas Basin, which extends into Mexico (DBSA, 2005). Groundwater in the basin occurs in the alluvium of the Gila Conglomerate which ranges from 200 to 400 feet thick (DBSA, 2005). The flow direction in the Gila Conglomerate is generally from the northwest to the southeast (DBSA, 2005). Very little development of groundwater has occurred in this basin, particularly around the AUM Site.

### 1.5 REGIONAL TOPOGRAPHY AND TERRAIN

The AUM Site can be found on the Victorio Ranch Quadrangle 7.5 minute United States Geological Survey topographic map at an elevation of approximately 5000 feet above mean sea level (please see Figure 2). The Site is in the Sierra Rica, a small mountain range straddling the border between the United States and Mexico. These mountains are a feature of the general basin and range topography of the New Mexico bootheel (Julyan, 2006). The broader region around the AUM Site consists of low desert mountain ranges separated by broad valleys. 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. The AUM Site consists of seven shafts, five piles, two load outs, one road, and miscellaneous debris such as railroad ties and 55 gallon drums. A collapsed

structure was found offsite. Please see the Photo Log in Appendix A for photos, Table 1 for a list of all AUM Site features, and Figures 4 for the locations of the AUM Site features.

## **2.1 MINE SHAFTS, ADITS, AND DECLINES**

Seven shafts were found on the AUM Site, ranging from 6 feet deep (Shaft-1 and Shaft-4) to over 40 feet deep (Shaft-5, ShaftPly-2). Every shaft found onsite was open at the ground surface.

## **2.2 MINING AND EXPLORATION PITS AND OPEN CUTS**

No open cuts or mining pits were identified at the AUM Site. However, a possible subsidence pit (Subsidply-1) was discovered immediately to the southeast of Shaft-2.

## **2.3 WASTE AND ORE PILES AND DISTURBANCES**

Five waste piles were found onsite. The larger waste piles (PilePly2 and PilePly3) were in association with shafts. Waste rock from these piles spills down the southwest side of the ridge on which the AUM Site is located. One disturbance (DistPly-2) may have been a building pad or staging area. The disturbance was flattened and was unvegetated. A pile of trash and railroad ties was present near this disturbed area (Equip-1).

## **2.4 MINING RELATED BUILDINGS AND FOUNDATIONS**

No mining related buildings and foundations were evident at the AUM Site. A collapsed structure found offsite (StrucPly-1) may be the trailer house referred to in Photo (a) of the Anderson report.

## **2.5 OTHER MINE FEATURES**

An access road runs along the northern extent of the AUM Site. Two load out features consisting of a ramp (Loadply-1) and a series of terraces (Loadply-2) were found northeast of a large shaft (Shaftply-2).

Two 55 gallon drums (Equip-2 and Equip-3) were found on site. A pile of trash and railroad ties (Equip-1) was found near a disturbance (DistPly-2). A possible vent hole (LU-1) was also found in DistPly-2, but the hole was only 3 ft deep.

## **2.6 BOREHOLES**

A PVC pipe sticking up in the middle of a disturbed area may have been a vent hole, but the borehole is only 3 ft deep (LU-1).

## **2.7 RECLAMATION ACTIVITIES**

A possible vent hole (LU-1) is the only evidence of reclamation found onsite.

### **3.0 ARCHEOLOGICAL SITES**

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

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

The background gamma radiation readings at the AUM Site were measured approximately 100 feet from the western end of the site. The background gamma readings were measured at 9 microroentgens per hour ( $\mu\text{R/hr}$ ) at the ground surface and 9  $\mu\text{R/hr}$  at 4 feet above the ground surface. Please see Table 2 for all of the gamma radiation readings taken at the AUM Site.

The gamma radiation readings at the AUM Site did not vary significantly above background levels. Please see Table 2 for details.

### **5.0 CURRENT LAND USES**

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

No evidence of recent human activity was found on the AUM Site, but abundant past and present evidence of ranching exists in the surrounding area. This evidence includes cow tracks, fences, water tanks, and structures. Heavy equipment was noted less than a mile from the AUM Site along the access road, likely used for road work. Extensive evidence of past mining activity is evident in the immediate vicinity of the AUM Site and along the Sierra Rica ridge, including waste piles and possible adits and shafts.

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

There are no residential or commercial structures within a 1-mile radius of the AUM Site except for a small collapsed trailer (StrucPly-1) referenced in the Anderson report (Anderson, 1980).

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

There are no domestic wells within a 1-mile radius of the AUM Site.

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

Fences, corrals, and water catchments in the area attest to active and past ranching activity. Cattle were seen along the access roads to the AUM Site.

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

There was no observed evidence of wildlife in the area.

## 6.0 VEGETATION

The Napane site is located in the Desert Grassland Ecotone. The site appears to be dominated by creosote with ocotillo, agave, and many different species of cacti making up a substantial component of plant diversity at this AUM Site. Grass species at the AUM Site include black grama and three-awn species. No evidence of noxious weeds was observed onsite.

## 7.0 POTENTIAL OFFSITE IMPACTS

### 7.1 EROSION

Some gullying and downward movement of waste rock was observed on the southeastern portion of the site.

### 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. Gamma radiation levels at the AUM Site are not significantly above background level.

## 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), 2005. Southwest New Mexico Regional Water Plan. Prepared for: Southwest New Mexico Regional Water Plan Steering Committee, City of Deming, New Mexico.
- Julyan, Robert, 2006. The Mountains of New Mexico. University of New Mexico Press.
- McLemore, V.T., Sutphin, D.M., Hack, D.R., and Tim C. Pease, 1996, Mining History and Mineral Resources of the Mimbres Resource Area, Doña Ana, Luna, Hidalgo, and Grant Counties, New Mexico: New Mexico Bureau of Mines and Mineral Resources, Open-file Report 424, pp. 112-113.
- McLemore, Virginia T. and William L. Chenoweth, 1989. Uranium Resources in New Mexico. New Mexico Bureau of Mines & Mineral Resources, Resource Map 18.
- Weise, James R., and David V. Lemone, 1981. Carbonate Stratigraphy of U-Bar Formation (Aptian-Albian) of Southeastern Big Hatchet Mountains, Hidalgo County, New Mexico. AAPG Bulletin 65.

## TABLES

**Table 1  
Site Features**

**Napane – NM0137  
Abandoned Uranium Mine Assessments**

Feature Name	On Site?	Type	Material	Depth or Height (ft)	Width or Diameter (ft)	Length (ft)	Open?	Closure Type	PhotoID	Associated Feature	Notes
Access-1	Yes	Access	Dirt Nonmaintained	--	-	--	--	--	--	--	--
DistPly-1	Yes	Site Extent	--	0	0	0	--	--	--	--	site extent
DistPly-2	Yes	Other	--	0	21	23	--	--	8	--	--
Equip-1	Yes	wood, rr	--	--	--	--	--	--	10	--	--
Equip-2	Yes	55 gallon	--	--	--	--	--	--	26	--	--
Equip-3	Yes	55 gallon	--	--	--	--	--	--	27	--	--
Loadply-1	Yes	ramp	--	5	5	25	--	--	28,29,30	shaft-2	--
Loadply-2	Yes	terraces	Waste	10	17	28	--	--	32,33	shaft-2	--
LU-1	No	Other	Waste	--	--	--	--	--	9	--	pvc pipe
Photo-1	No	--	--	--	--	--	--	--	1	--	site overview
Photo-9	Yes	--	--	--	--	--	--	--	9	--	of pvc pipe [lu-1]
Photo-10	Yes	--	--	--	--	--	--	--	10	--	--
Photo-16	Yes	--	--	--	--	--	--	--	16	--	shaft-1
Photo-17	Yes	--	--	--	--	--	--	--	17	--	shaft-1
Photo-18	Yes	--	--	--	--	--	--	--	18	--	pileply-1
Photo-19	Yes	--	--	--	--	--	--	--	--	--	subsidply-1
Photo-20	Yes	--	--	--	--	--	--	--	20	--	--
Photo-36	Yes	--	--	--	--	--	--	--	--	--	down pileply-2
Photo-37	Yes	--	--	--	--	--	--	--	37	--	--
Photo-47	Yes	--	--	--	--	--	--	--	47	--	site photo
PilePly-1	Yes	Waste	Rock	2	10	16	--	--	18	--	--
PilePly-2	Yes	Waste	Rock	40	70	60	--	--	--	--	spilling down hill
PilePly-3	Yes	Waste	Rock	40	20	40	--	--	--	--	--
PilePly-4	Yes	Waste	Rock	2	7	9	--	--	45	--	--
PilePt-1	Yes	Waste	Rock	1	4	5	--	--	46	--	--
Shaft-1	Yes	Vertical	--	6	7	--	Yes	Collapse	16	None	--



**Table 1  
Site Features**

**Napane – NM0137  
Abandoned Uranium Mine Assessments**

Feature Name	On Site?	Type	Material	Depth or Height (ft)	Width or Diameter (ft)	Length (ft)	Open?	Closure Type	PhotoID	Associated Feature	Notes
Shaft-3	Yes	Vertical	--	15	5	--	Yes	Open	24,25	None	--
Shaft-4	Yes	Vertical	--	6	4	--	Yes	Mounde	34	None	4x6 ft hole
Shaft-5	Yes	Vertical	--	50	6	--	Yes	Open	38,39	Timber	--
Shaft-6	Yes	Vertical	--	3	5	--	Yes	Collapse	44	Timber	5x7 ft wide
ShaftPly-1	Yes	Vertical	--	0	10	--	Yes	Open	40,41,42,43	Timber	15x10
Shaftply-2	Yes	Vertical	--	40	10	--	Yes	Open	20,21,22	None	10x40 ft opening 40 ft deep
StrucPly-1	No	Building	Wood	0	7	20	--	--	48	--	collapsed
Subsidply-1	Yes	--	--	6	10	15	--	--	19	--	--

**Notes:**

-- = No information available



**Table 2  
Gamma Radiation Survey Results**

**Napane– NM0137  
Abandoned Uranium Mine Assessments**

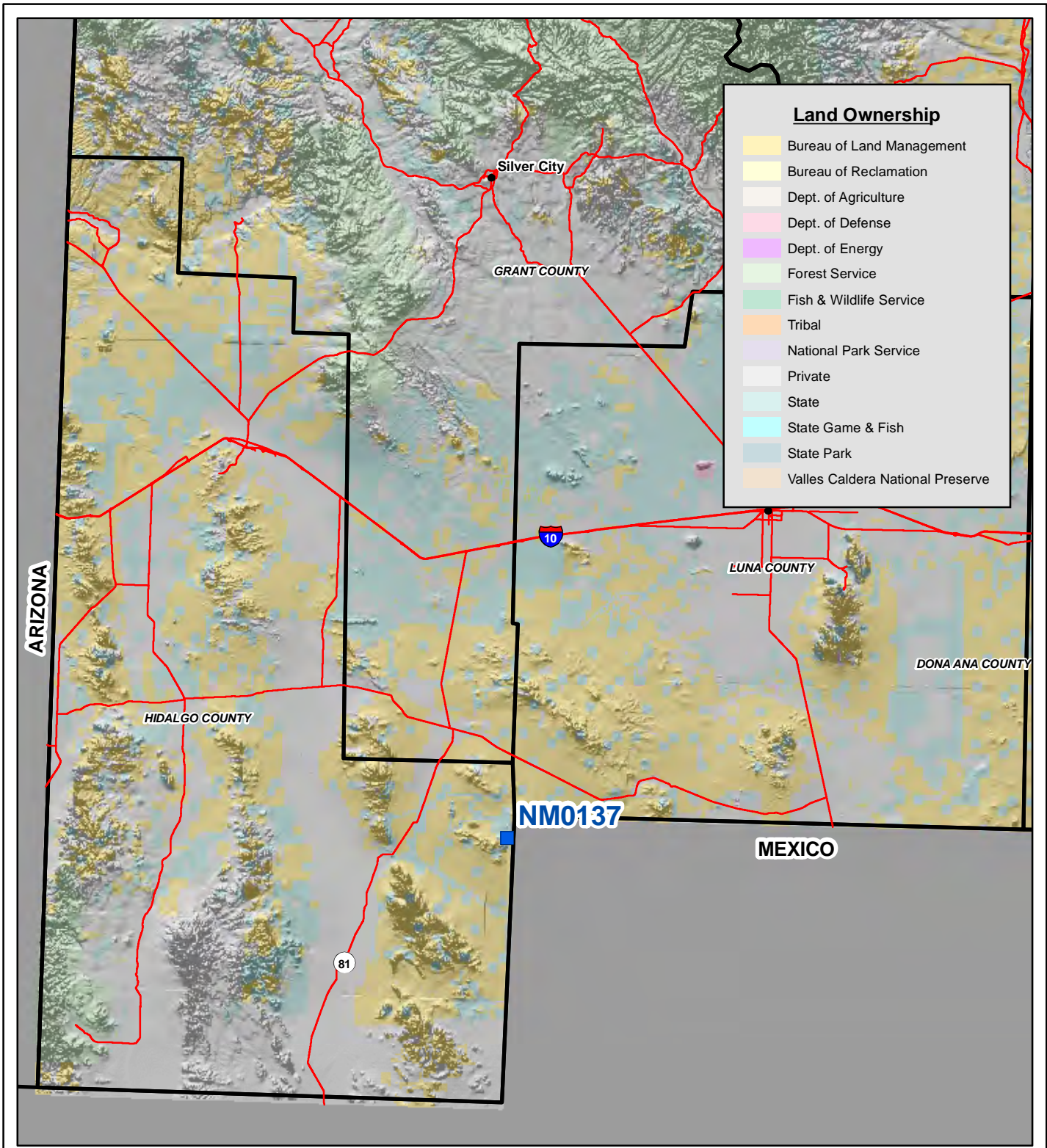
Reading ID	Associated Features	Reading at 0ft Above Ground ( $\mu\text{R/hr}$ )	Reading at 4ft Above Ground ( $\mu\text{R/hr}$ )
Rad-1		9	9
Rad-10	shaft-5	12	10
Rad-11		10	8
Rad-12	shaft-6	6	9
Rad-13		9	9
Rad-2	shaft-1	10	8
Rad-3		8	8
Rad-4		8	8
Rad-5	shaft-3	7	7
Rad-6	load-1	10	9
Rad-7	loadply-2	6	6
Rad-8	shaft-4	8	8
Rad-9		8	8
RadBack-1		9	9

**Notes:**

All gamma readings at this Site were taken using a Ludlum 19  $\mu\text{R/Ratemeter}$ .

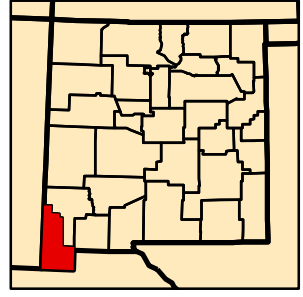
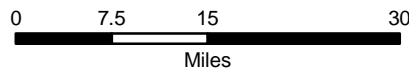
$\mu\text{R/hr}$  = microroentgens per hour

## 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

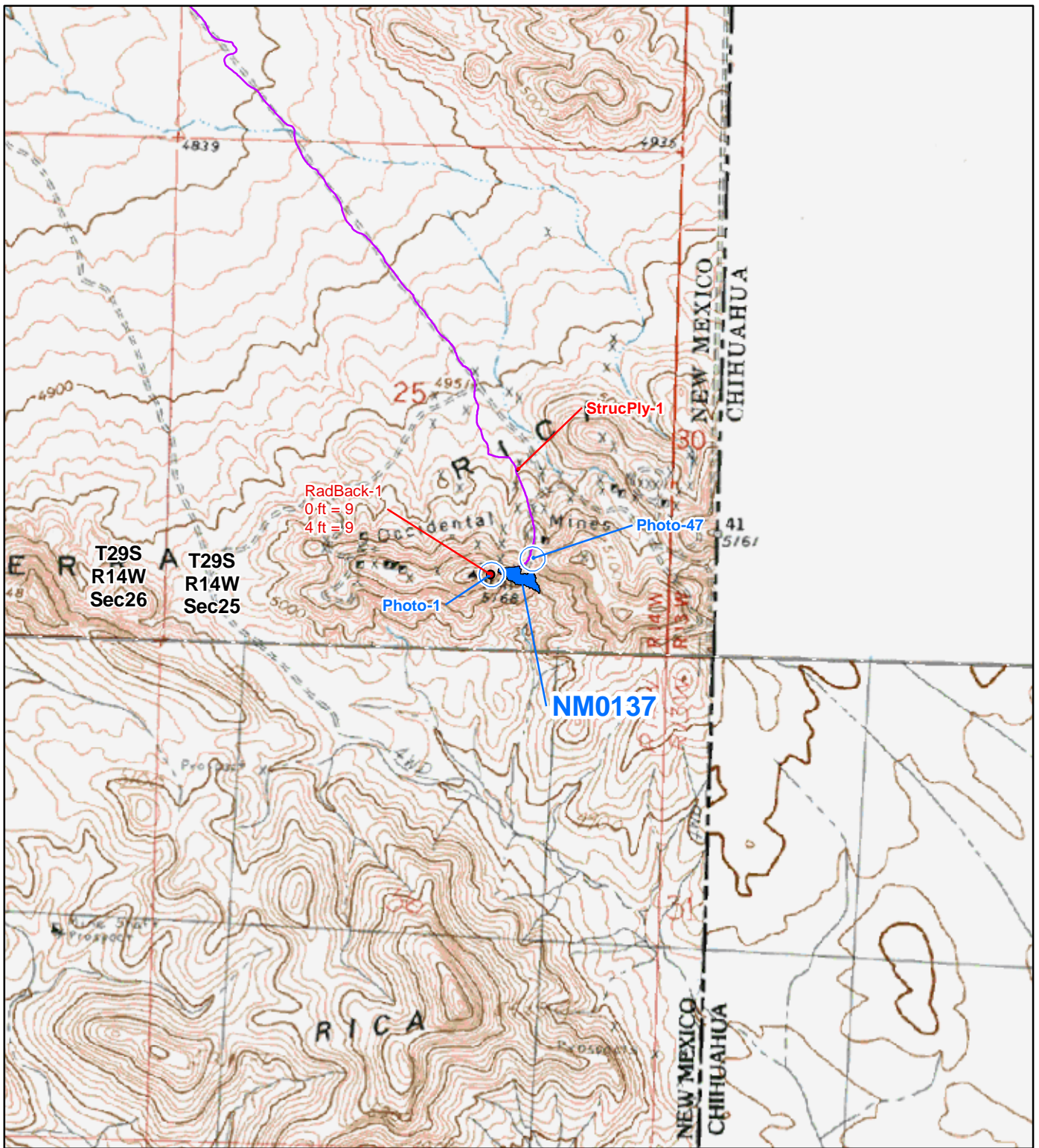
Map Source(s):  
Ownership - BLM, 2007



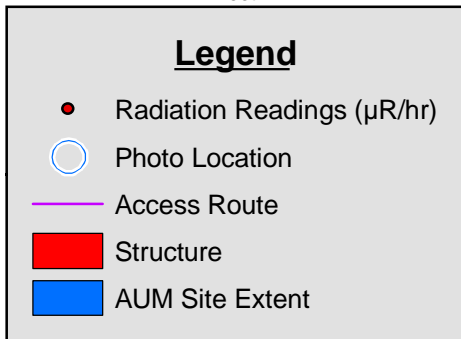
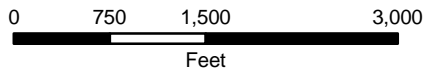
- Legend**
- AUM Location
  - Road
  - County Boundary

**Figure 1**  
**Site Location Map**  
**NM0137-Napane**  
Abandoned Uranium  
Mine Assessment



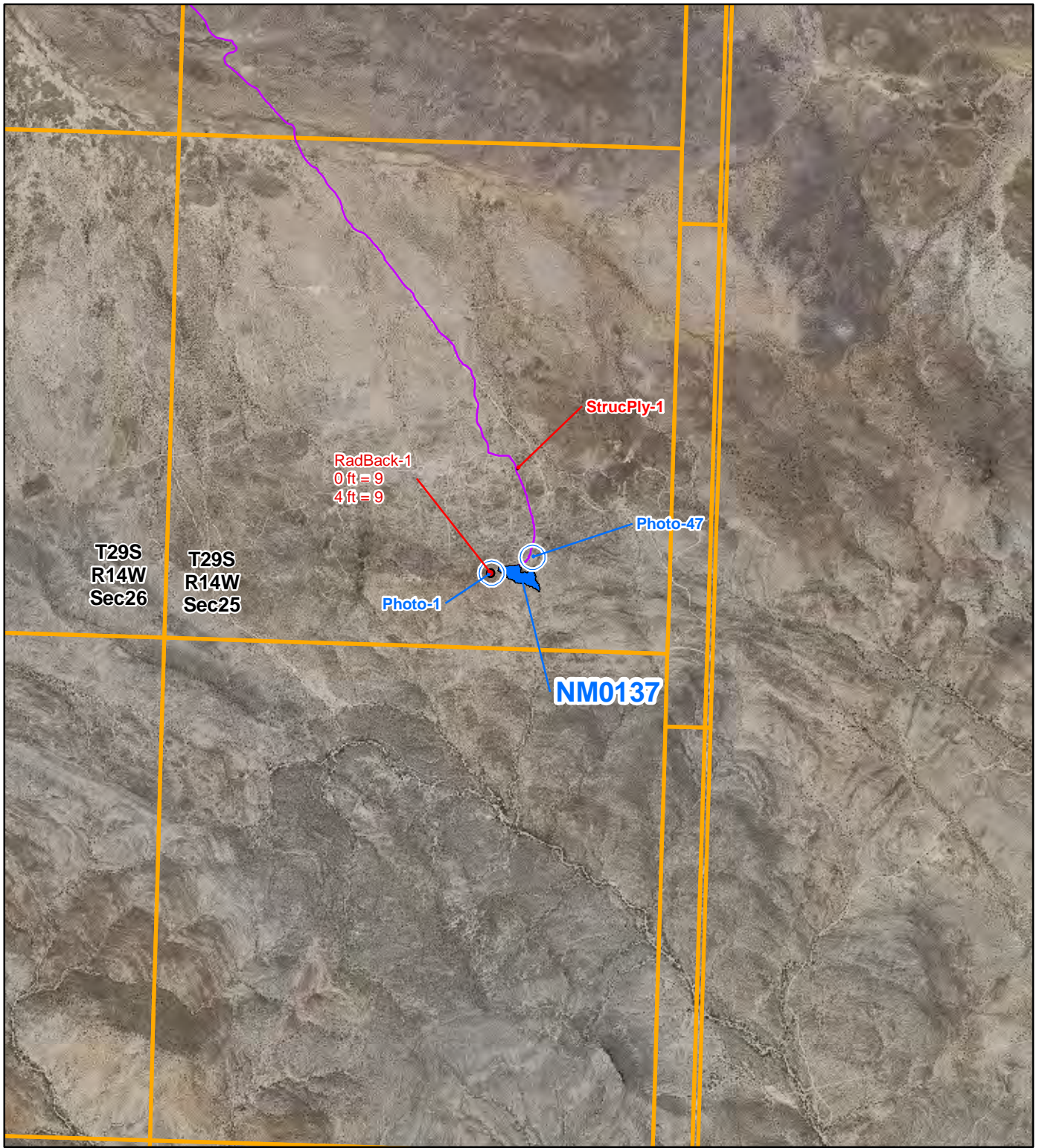


Map Source(s):  
 U.S. Geological Survey 7.5-Minute  
 Topographic Map  
 -Double Wells, 1983  
 -Victorio Ranch, 1965-1976

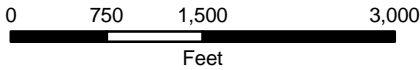


**Figure 2**  
**Topographic Map**  
**NM0137-Napane**  
 Abandoned Uranium  
 Mine Assessment





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

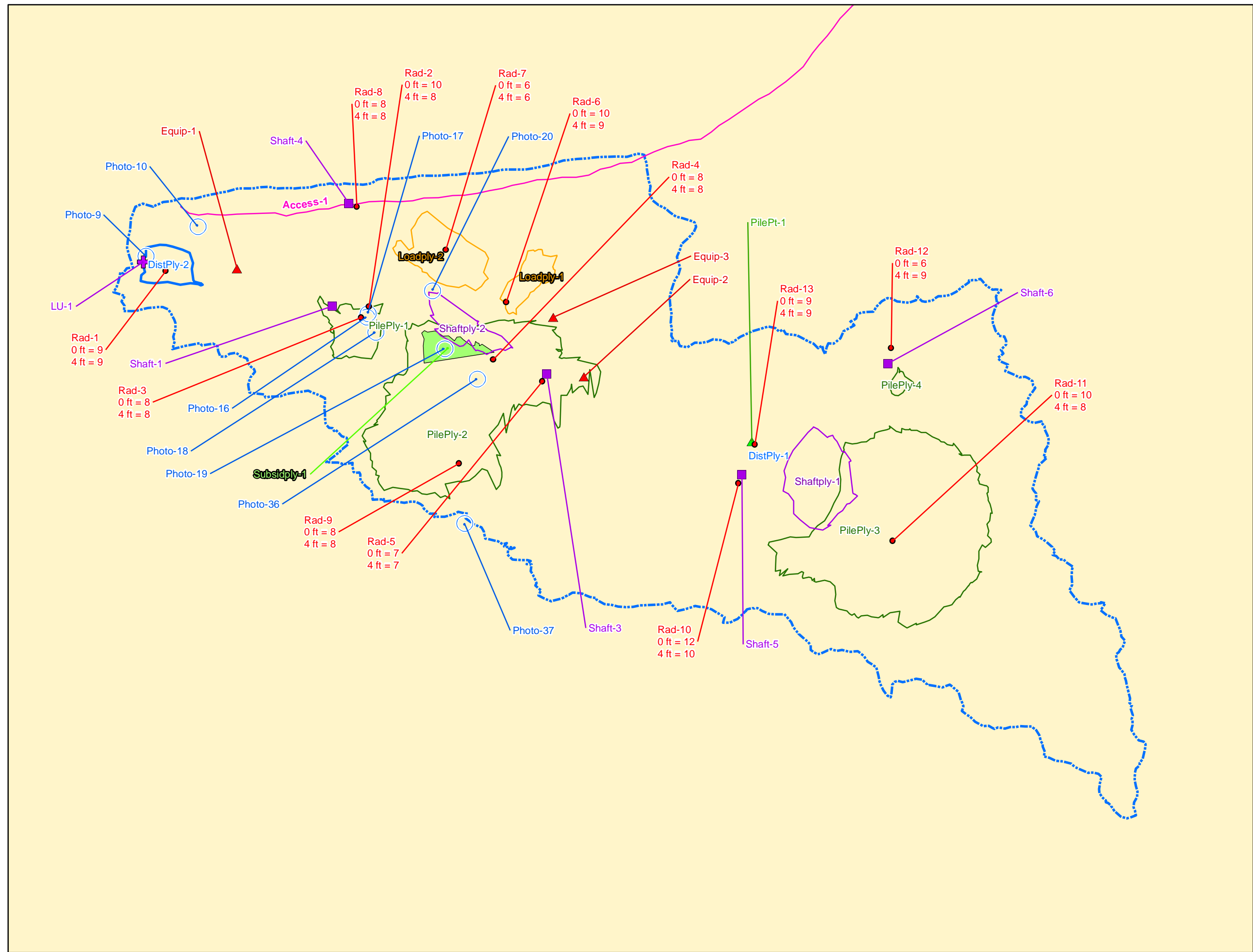


**Legend**

●	Radiation Readings ( $\mu\text{R/hr}$ )	■	Structure
○	Photo Location	■	AUM Site Extent
—	Access Route	□	Section Boundary

**Figure 3**  
**Aerial Photo**  
**NM0137-Napane**  
 Abandoned Uranium  
 Mine Assessment





### Legend

- Radiation Readings (µR/hr)
- Photo Location
- Shaft Location
- ▲ Pile Location
- ▲ Equipment
- ⊕ Land Use
- Access Route
- ▭ Other Disturbance Area
- ▭ Site Extent Disturbance Area
- ▭ Load Out
- ▭ Pile Boundary
- ▭ Shaft Boundary
- ▭ Subsidence Boundary

### Surface Ownership

- ▭ Bureau of Land Management



Map Source(s):  
Ownership - BLM, 2007

**Figure 4**  
**Site Map with**  
**Surface Ownership**  
**NM0137-Napane**  
 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 – Looking east at the AUM Site from a hill to the west.



Photo 3 – AUM Site vegetation.



Photo 8 – View of DistPly-2. Note possible vent pipe (LU-1) in the upper center of the picture.



Photo 9 – Closeup of vent pipe in Photo 8 (LU-1).



Photo 10 – Trash and railroad ties (Equip-1).

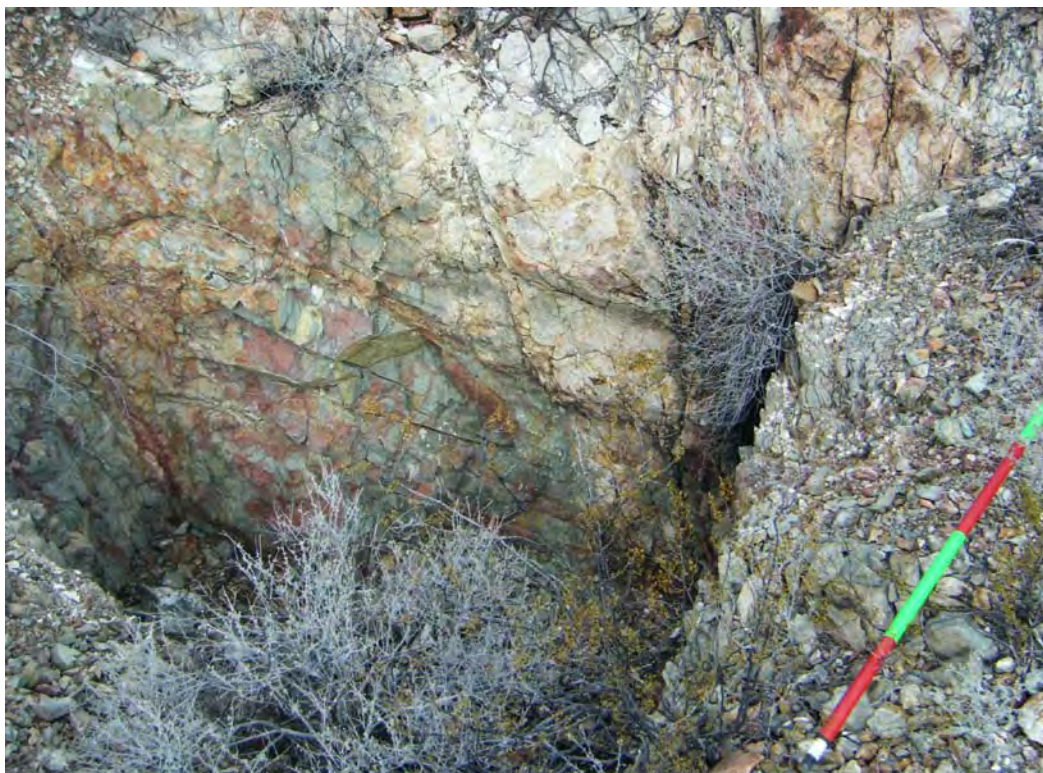


Photo 16 – Shaft-1, looking northwest.



Photo 17 – Shaft-1, looking west.



Photo 18 – PilePly1.



Photo 19 – A possible subsidence pit (Subsidply-1).



Photo 20 – Looking east-southeast at ShaftPly-2 (lower left) and Subsidply-1 (middle right).



Photo 21 – Shaftply-2, looking west. The shaft is an estimated 40 ft deep.



Photo 23 – Shaftply-2. Note ladder in the shaft.



Photo 24 – Shaft-3. The shaft is about 15 ft deep.



Photo 25 – Another view of Shaft-3.



Photo 26 – A 55 gallon drum (Equip-2).



Photo 27 – Another 55 gallon drum (Equip-3) with a load out ramp in the background (Loadply-1).



Photo 29 – Side view of load out ramp, looking southeast (Loadply-1).



Photo 30 – Looking up load out ramp to the south (Loadply-1).



Photo 32 – Load out terraces, side view to the northwest (Loadply-2).



Photo 33– Looking up at terraces to the south (Loadply-2).



Photo 34 –Looking north at Shaft-4.



Photo 36 – Looking south down at PilePly-2.



Photo 37 –Looking north up at PilePly-2.



Photo 38– Looking northwest at Shaft-5. Photo (h) in the Anderson report was taken from the opposite side of the shaft.



Photo 39 –Looking southeast at Shaft-5, replicating photo (h) in the Anderson report.



Photo 40 – ShaftPly-1 in the foreground, Shaft-5 in the background, looking west.



Photo 41 –Looking west into ShaftPly-1.



Photo 44 – Shaft-6.



Photo 45 –PilePly-4, associated with Shaft-6.

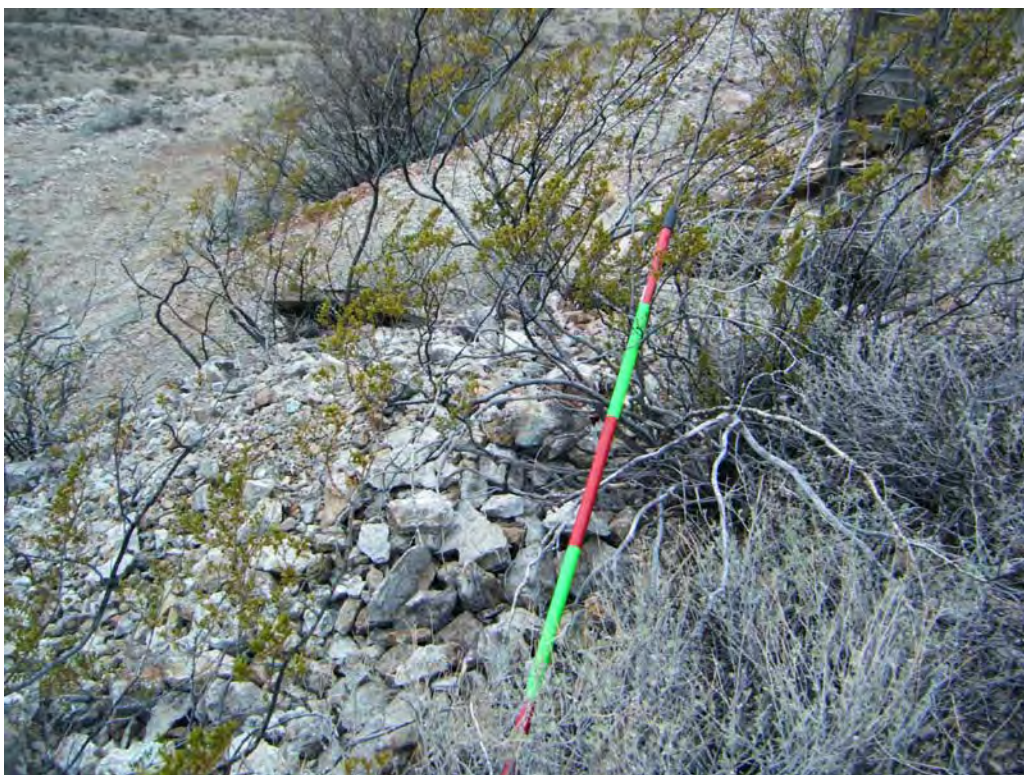


Photo 46 – PilePt-1.



Photo 47 –AUM Site photo, looking west.



Photo 48 – This collapsed structure (StrucPly-1) may be the trailer house mentioned in the Anderson Report.

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

31 1/27/10 ALT Abandoned Uranium Mines

Site Name: NMO137, Napone

Objective: Site Assessment

Personnel: Annelia Tinklenberg, INTERA  
Danny Bowman, INTERA

Equipment: Rental Truck, Trimble GeoXM  
(SN: 4948447271, PN: 70970-60, IC: 1756A-614,  
2008 series); Ludlum (SN: 234149, Model 192);  
Fujifilm digital camera (No. 80839493);  
backup Garmin GPS; cell phone amplifier;  
field laptop

700 Leave Deming for site southeast of Hachita

940 Arrive near site, pack up to hike in.

1000 On site, shapefile location given.  
Site disturbance boundary walked DistPly 1

Photo 1 - Looking east from above site

Background gama - 0ft - 9 mR/hr, 4ft - 9 mR/hr

Photos 2-7 - Vegetation

DistPly 2 - pad area, looks like reclamation work  
started, or pad to drill hole for vent shaft,  
PVC pipe 21' wide, 23' long

1/27/10 ALT Abandoned Uranium Mines

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Photo 8 - DistPly 2 - drill pad  
Note: vent hole (PVC pipe) ~ 3' deep

Photo 9 - Vent hole  
3' deep

Rad 1 - DistPly 2 (pad) - 0ft - 9 mR/hr, 4ft - 9 mR/hr

Photo 10 - Looking south at miscellaneous trash/  
railroad ties

Equip 1 - trash and supplies

Photos 11-15 - Vegetation - Barrel Cactus

Shaft 1 - 6' wide, 8' long, 6' deep

Photo 16 - Shaft 1, looking north into shaft

Photo 17 - Shaft 1, looking west into shaft

Rad 2 - near Shaft 1 - 0ft - 10 mR/hr, 4ft - 8 mR/hr

Pile <sup>Poly ALT</sup> 1 - 16' long x 10' wide, waste from Shaft 1

Rad 3 - Pile Poly 1 - 0ft - 8 mR/hr; 4ft - 8 mR/hr

Photo 18 - Pile Poly 1

SubsidPly 1 - southeast of Shaft 2; 16' x 10' ~ 6ft deep

Photo 19 - SubsidPly 1, looking southwest

Photo 20 - Looking east, southeast at shaft Ply 2 and  
subsidPly 1

33 1/27/10 ALT Abandoned Uranium Mines

Photos 21-23 - Shaft 1

Shaft Ply 2 - 40' deep, 40' long, 10' wide

Rad 4 - near Shaft Ply 1 - 0ft - 8 mR/hr, 4ft - 8 mR/hr

<sup>ALT</sup>  
Shaft ~~Ply 2~~ 3 - 15' deep, 5' x 5'

Photos 24-25 - Shaft Ply 3

Rad 5 - shaft Ply 3 0ft - 7 mR/hr, 4ft - 7 mR/hr

Equip 2 - 55 gallon metal drum, holes, empty

Photo 26 - 55 gall. drum

Equip 3 - 55 gallon metal drum

Photo 27 - 55 gall drum, Equip 3 with loadout ramp in the background

Load Ply 1 - 5ft wide x 25' long, 0-5ft tall

Photo 29 - looking southeast at load Ply 1

Load Ply 1 - loadout ramp, leading northeast from Shaft Ply 2

Photo 30 - looking south at load Ply 1

Photo 31 - looking northeast at load Ply 1

Rad 6 - Load Ply 1 - 0ft - 10 mR/hr, 4ft - 9 mR/hr

Load Ply 2 - 2 terraced levels

10ft high total, 28' long, 17' wide (both terraces)

Photo 32-33, looking north west and the south

Rad 7 - Load Ply 2 - 0ft - <sup>6</sup> mR/hr, 4ft - 6 mR/hr

Shaft 4 - 4' x 6' x 6' deep

Photo 34 - looking north at shaft 4

1/27/10. ALT Abandoned Uranium Mines

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Photo 35 - vegetation - grass

Rad 8 - Shaft 4 - 0ft - 8 mR/hr, 4ft - 8 mR/hr

Pile Ply 2 - 70ft wide, 40ft tall, 60ft long 30° angle associated with shaft Ply 2 and shaft 3

Photo 36 - looking south, down at pile Ply 2

Rad 9 - on Pile Ply 2 - 0ft - 8 mR/hr, 4ft - 8 mR/hr

Photo 37 - looking north at (up at) Pile Ply 2

Shaft 5 - 6ft x 6ft, estimated 50ft deep, could be deeper

Photos 38-39 - Shaft 5, looking nw and se

Rad 10 - near shaft 5 - 0ft - 12 mR/hr; 4ft - 10 mR/hr

Shaft 6 - 15ft x 10ft diameter, too deep to estimate timber supports across the top

Photo 40 - Shaft 6 with shaft 5 behind, looking west

Photo 41 - Shaft 6 looking west

Photo 42 - Shaft 6 looking north

Photo 43 - Shaft 6 looking east

Pile Ply 3 - 40ft wide x 20ft long, 40ft tall, 50° angle slopes.

Rad 11 - near shaft 6, on Pile Ply 3 - 0ft - 10 mR/hr; 4ft - 8 mR/hr

1200

Shaft 6 - 5ft x 7ft, 3ft deep; lumber at bottom

Photo 44 - Shaft 6

Pile Ply 4 - associated with shaft 6; 7ft x 9ft,  
2 - 4ft deep/tall

Photo 45 - Pile Ply 4

Rad 12 - Pile Ply 4 - 0ft - 6 MR/hr; 4ft - 9 MR/hr

Pile Pt 1 - 4ft x 5ft; ~4ft - 1ft high

Rad 13 - Pile Pt 1 - 0ft - 9 MR/hr; 4ft - 9 MR/hr

Photo 46 - Pile Pt 1

Access 1 - Road to site

Photo 47 - Site Number and site

1240 Packing up to leave site, storm coming -  
roads are badStruc Ply 1 - flattened wood structure, mentioned  
in Anderson report - 7ft wide, 20ft long

Photo 48 - struc Ply 1

Soils: Rocky, thin, tan sandy

Rocks: Most rock was tan or gray limestone with  
veins of granite intrusions. The intrusions  
included quartz and various copper and  
lead minerals (red, green and blue mineralization  
was found)Human Activities: Evidence of grazing existed  
surrounding the site. Fences, cows, cow prints,  
water tanks, etc were seen in the area.At the site and along the east-west trending  
hills (Sierra Rica) extensive evidence of  
mining was encountered. Shafts, adits, waste  
piles, and old roads could be seen along the  
hills. Along the access road heavy equipment  
was passed (dump truck and