

Navajo Abandoned Uranium Mine

Site Screen Report

This form is for use at the site of abandoned uranium mines (AUM) located on Navajo Nation lands. Applicable sites include all mine and mine features that have or have not undergone reclamation by the Navajo Abandoned Mine Lands Reclamation Program, including features, adits, pits and waste piles. Applicable sites also include all AUM sites listed in the USEPA CERCLIS database, all sites listed in the 2008 AUM GIS Report issued by USACOE and USEPA, all AUM sites on allotment lands associated with the Navajo Nation, and any and all AUM sites not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands that may be impacting Navajo lands will need to be coordinated with the authorities appropriate to those lands.

The purpose of the form is to ascertain the status and location of the identified AUM site, and record all immediate site information associated with the mine site. Decisions and recommendations on what additional steps are needed will be provided on a separate document.

Boyd Tisi No. 2 AUM Site

Navajo AUM Western Region

Prepared by:

Weston Solutions, Inc.

Contract: W91238-06-F-0083

12767.063.599.1111

January 2011

Part I Site Identification, Location and Status

Site Names and ID numbers as applicable

Mine ID: 135

Map ID: W51

CERCLIS: NNN000909066

Navajo Abandoned Mine Land Reclamation Program: NA-0138

Local name / Aliases: Boyd Tisi #2

Chapter and local area: Coalmine Mesa Chapter

County: Coconino **State:** Arizona

Lat/Long: 35.8631000761 N / -111.369059902 W

Nearby road and highway: Indian Route 6730 **Local Post Office:** Cameron, AZ

Surface Land Status: check one or more and provide ownership and contact information below

Tribal Trust Land	<input checked="" type="checkbox"/>	Public lands	<input type="checkbox"/>
Private	<input type="checkbox"/>	Tribal Fee Land	<input type="checkbox"/>
Bureau of Land Mgmt	<input type="checkbox"/>	Allotment	<input type="checkbox"/>
State	<input type="checkbox"/>	Fee land	<input type="checkbox"/>

Subsurface Mineral Rights:

No information on subsurface mineral rights ownership was found in the EPA/AUM Database.

Claim and operator information:

The mine site surface land status is classified as Tribal Trust Land. Historical documents showed the operator of the mine as Klaner and Associates from 1957 to 1958. No additional ownership / lease information was identified in the EPA/AUM database.

Number of residential structures within 200 feet of mine: None

Estimated volume of mine waste onsite: 23 yd³

Part II Summary of radiological readings

Highest gamma radiation measurement:

212,624 counts per minute (cpm)

Describe any other radiological measurements:

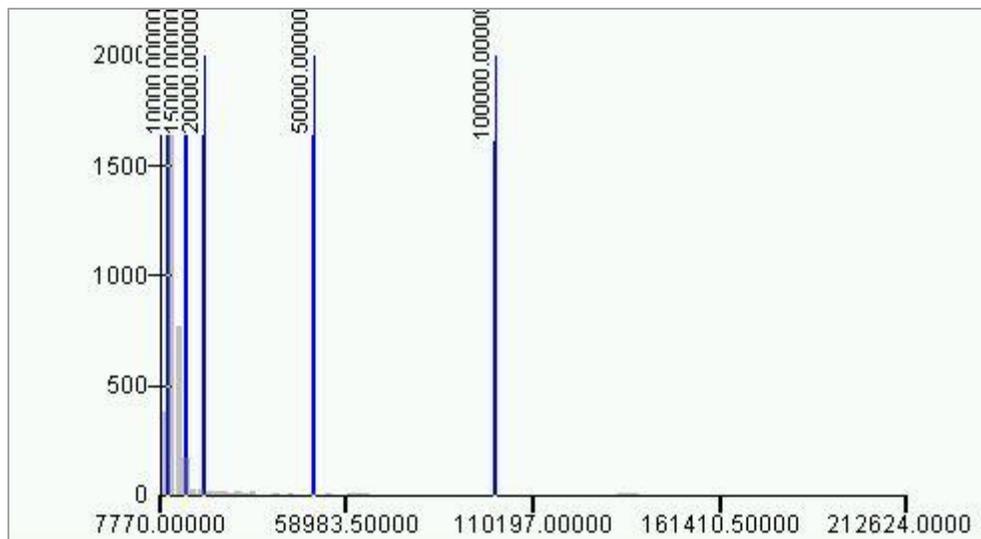
A total of 3,359 gamma radiation measurements were collected from the mine site, ranging from 7,770 cpm to 212,624 cpm. The measurements collected at the waste pile were found at a maximum level of approximately 130,000 cpm, and a petrified log near the structures 0.15 mi west of the site was found at over 200,000 cpm. The measurements are represented in Figures 1 and 2.

Background Readings: 11,523 cpm

Background Average: 11,523 cpm

Distribution Chart and Statistics:

The following chart and statistics were generated by ESRI ArcGIS 9.3.1, and show the general distribution of the site gamma radiation measurements. The horizontal X axis represents the gamma radiation reading levels in cpm (lowest levels to the left). The vertical Y axis represents the frequency of each gamma radiation level.



Count:	3359
Minimum:	7770.00000
Maximum:	212624.00000
Sum:	52590614.00000
Mean:	15656.62816
Median:	11275.00000
Standard Deviation:	19871.92767

Part III Status of Reclamation and Mine Waste

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed: Yes Waste Pile onsite: No

NAMLRP Project Number: NA-0138

NAMLRP Mine features: 1 Rim Strip / Pit

The following information was obtained from field observations collected during the 2010 site screening:

Provide description and status of all mine sites and features at site. Include all waste piles, adits, pits and other features, and indicate whether they are open, closed, covered, capped, buried or unreclaimed. Indicate approximate size, shape and extent, including description of any reclamation caps. Note condition of all caps.

Observed reclamation work and status:

Adits

None

Waste Piles

1 round waste pile, 25' diameter x 1' h

Pits

None

Shafts

None

Other Debris and Mine Features

None

Part IV

Site observations and Environs

Observed Structures: list number of and describe human habitation status of structures at the following distances from mine:

0 to 200 feet: None

200 feet to 0.25 mile:

Observed Public or commercial structure: list and describe all schools, clinics, Chapter Houses, places of business and any other structure used by members of the community at the following distances:

0 to 200 feet: None

200 feet to 0.25 mile: None

Levels measured around the perimeter(s) of the identified structure(s):

Background levels around structures, with exception of petrified log at 200,000 cpm

Observed water sources: list the number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine:

0 to 0.25 miles: None

0.25 miles to 4 miles: Windmill Well approximately 2 mi S of the site; Little Colorado River Basin approximately 0.5 mi W of the site

Sensitive environments: note and describe all sensitive environments located within visible range of the mine site, including: wetlands, endangered species, habitats and approximate locations of sites that may be under protection of the government of the Navajo Nation.

None observed

Known Site History: include information from interviews with Chapter officials and residents. Note information on mine ownership, type of mining operation, period of operation, known amount of production, and any other information as provided.

Boyd Tisi No. 2 mine consists of an area of 28,890.81 m². The mine was identified as being operational from 1957 to 1958. Historical documents showed the operator of the mine as Klaner and Associates from 1957 to 1958. While operational, the mine had a total reported production volume of 794 tons. No other historical information or any additional ownership / lease information was identified in the EPA/AUM database.

Part V Response Action Summary

Summary of Evaluation Factors:

Accessibility:

Was the mine easily accessible to potential human activity?

Yes

Radiological Measurements:

Were any gamma radiation measurements collected at the mine greater than two times the site-specific background levels?

Yes

Waste Piles:

Were any unreclaimed waste piles observed at the mine with gamma radiation measurements greater than two times the site-specific background levels?

Yes

Structures:

Were any structures observed within 200 feet of the mine?

No

Potential Drinking Water Sources:

Were any potential drinking water sources observed within 4 miles of the mine?

Yes

Reclamation:

Was the mine reported to be previously reclaimed, or did the mine appear to be reclaimed?

Yes

Part VI Photos



Photo 1. Boyd Tisi No. 2 mine site



Photo 2. Boyd Tisi No. 2 mine site, northwestern drainage



Photo 3. Boyd Tisi No. 2 mine site, waste pile area

Part VII Contacts Reports and Information

Name: Stanley Edison (928) 871-6861

Eugene Esplain (928) 871-7331

Title or official role (if any): Navajo EPA Superfund Program

Address: PO Box 2946, Window Rock, AZ 86515

Information provided: Lead Regulatory Agency

Name: _____

Title or official role (if any): _____

Address: _____

Telephone number: _____

Information provided: _____

Name: _____

Title or official role (if any): _____

Telephone number: _____

Information provided:

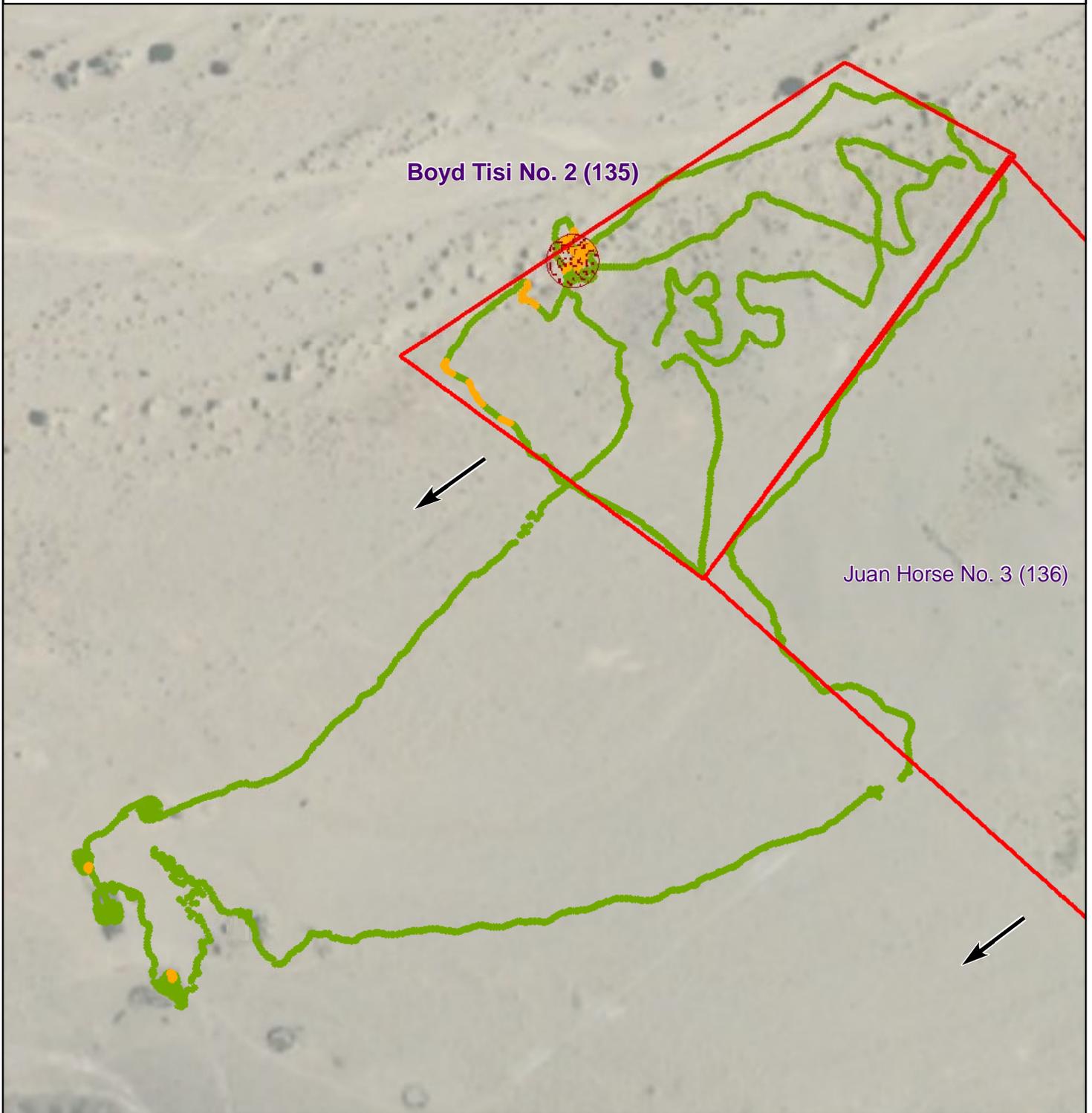
Name: _____

Title or official role (if any): _____

Telephone number: _____

Information provided: _____

**Figure 2 - Gamma Radiation Measurements, Above Two Times Background
Boyd Tisi No. 2 (135)
Coalmine Mesa Chapter, Navajo Nation**



Legend

Gamma Radiation Measurements

- < 2X Background
- > 2X Background

**Gamma survey conducted 11/2010
Measured as counts per minute (cpm)**

Average background 11,523 cpm

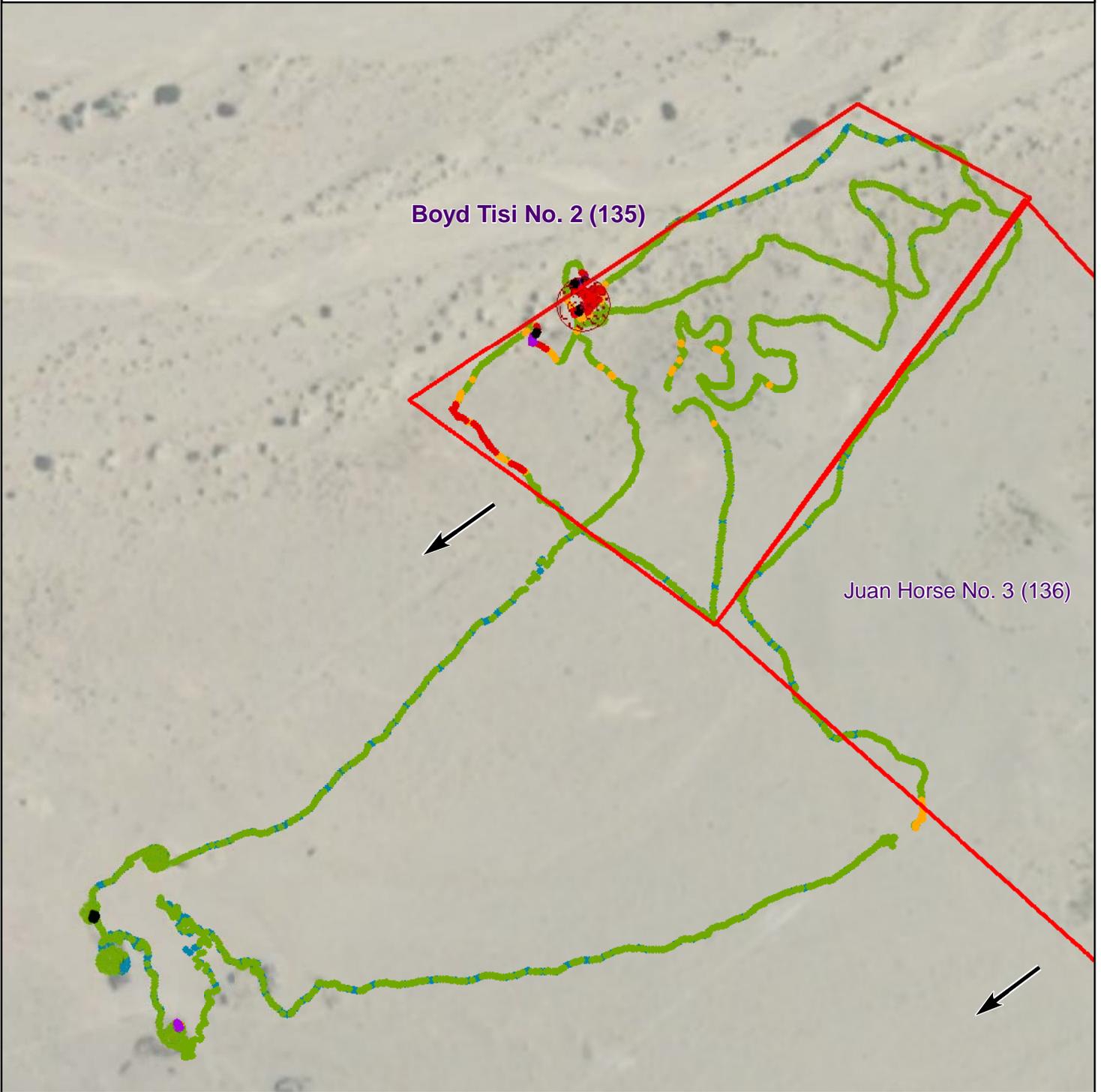
General Slope Direction

Observed Waste Pile

Mine Site Boundary



**Figure 2 - Gamma Radiation Measurements
Boyd Tisi No. 2 (135)
Coalmine Mesa Chapter, Navajo Nation**



Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 15,000
- 15,000 - 20,000
- 20,000 - 50,000
- 50,000 - 100,000
- > 100,000

→ General Slope Direction

 Observed Waste Pile

 Mine Site Boundary



**Gamma survey conducted 11/2010
Measured as counts per minute (cpm)**

Average background 11,523 cpm

