SEMS-RM DOCID # 1231647

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.

A & B No. 3 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: 228

Map ID: W39

CERCLIS: NND983466731

Navajo Abandoned Mine Land Reclamation Program: NA-0106

Local name / Aliases: A & B #3

Chapter and local area: Cameron Chapter

County: Coconino **State:** Arizona

Lat/Long: 35.8759567587 N / -111.423812903 W

Nearby road and highway: Highway 89 **Local Post Office:** Cameron, AZ

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

Tribal Trust Land	☒	**Public lands**	☐
Private	☐	**Tribal Fee Land**	☐
Bureau of Land Mgmt	☐	**Allotment**	☐
State	☐	**Fee land**	☐

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 Historical documents showed the operator of the mine as the A & B Mining Corporation from 1954 to 1955. 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: 2,000 yd^3

Part II Summary of radiological readings

Highest gamma radiation measurement:

638,013 counts per minute (cpm)

Describe any other radiological measurements:

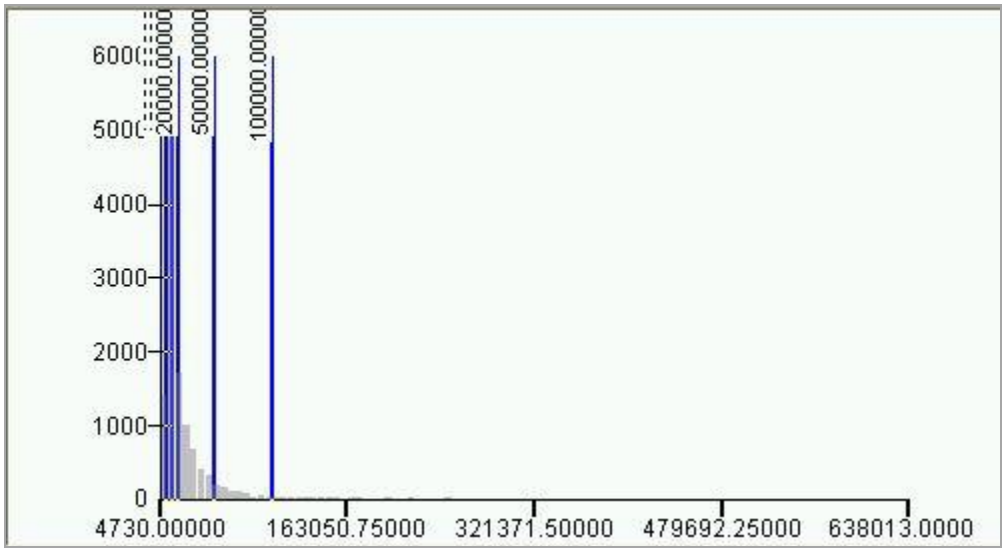
A total of 11,884 gamma radiation measurements were collected from the mine site, ranging from 4,730 cpm to 638,013 cpm. The measurements collected at the waste piles were found at maximum levels ranging from approximately 40,000 cpm to 640,000 cpm, and at background levels at the nearby homes and river basin. The measurements are represented in Figures 1 and 2.

Background Readings: 17,198 cpm

Background Average: 17,198 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:	11884
Minimum:	4730.00000
Maximum:	638013.00000
Sum:	341923273.00000
Mean:	28771.73283
Median:	16289.50000
Standard Deviation:	42092.25716

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-0106

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
Many small waste piles throughout site, larger piles sloping towards Little Colorado River

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: 6 Residential Homes within 0.25 mi S of site

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 near all homes

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: Little Colorado River Basin adjacent to the N of the site

0.25 miles to 4 miles: None

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.

Little Colorado River Basin adjacent to the N of the site, possible wetlands

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.

A & B No. 3 mine consists of an area of 91,824.89 m^2. The mine was identified as being operational from 1954 to 1955. Historical documents showed the operator of the mine as the A & B Mining Corporation from 1954 to 1955. While operational, the mine had a total production volume of 586 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. A & B No. 3 mine site

Photo 2. A & B No. 3 mine site, waste rock

Photo 3. A & B No. 3 mine site, Cameron, AZ in the distance

Photo 4. A & B No. 3 mine site, side wall

Photo 5. A & B No. 3 mine site, elevated gamma readings

Photo 6. A & B No. 3 mine site, nearby homes and structures

Photo 7. A & B No. 3 mine site, alongside Little Colorado River Basin

Photo 8. A & B No. 3 mine site, wood cross

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: Byron Huskie

Title or official role (if any) Nearby resident

Telephone number___(928) 679-2048

Name: Billy Huskie

Title or official role (if any) Nearby resident

Telephone number___(928) 606-9964

Name: Randall Beard

Title or official role (if any) Nearby resident, house #50A

Name: Evelyn Curley

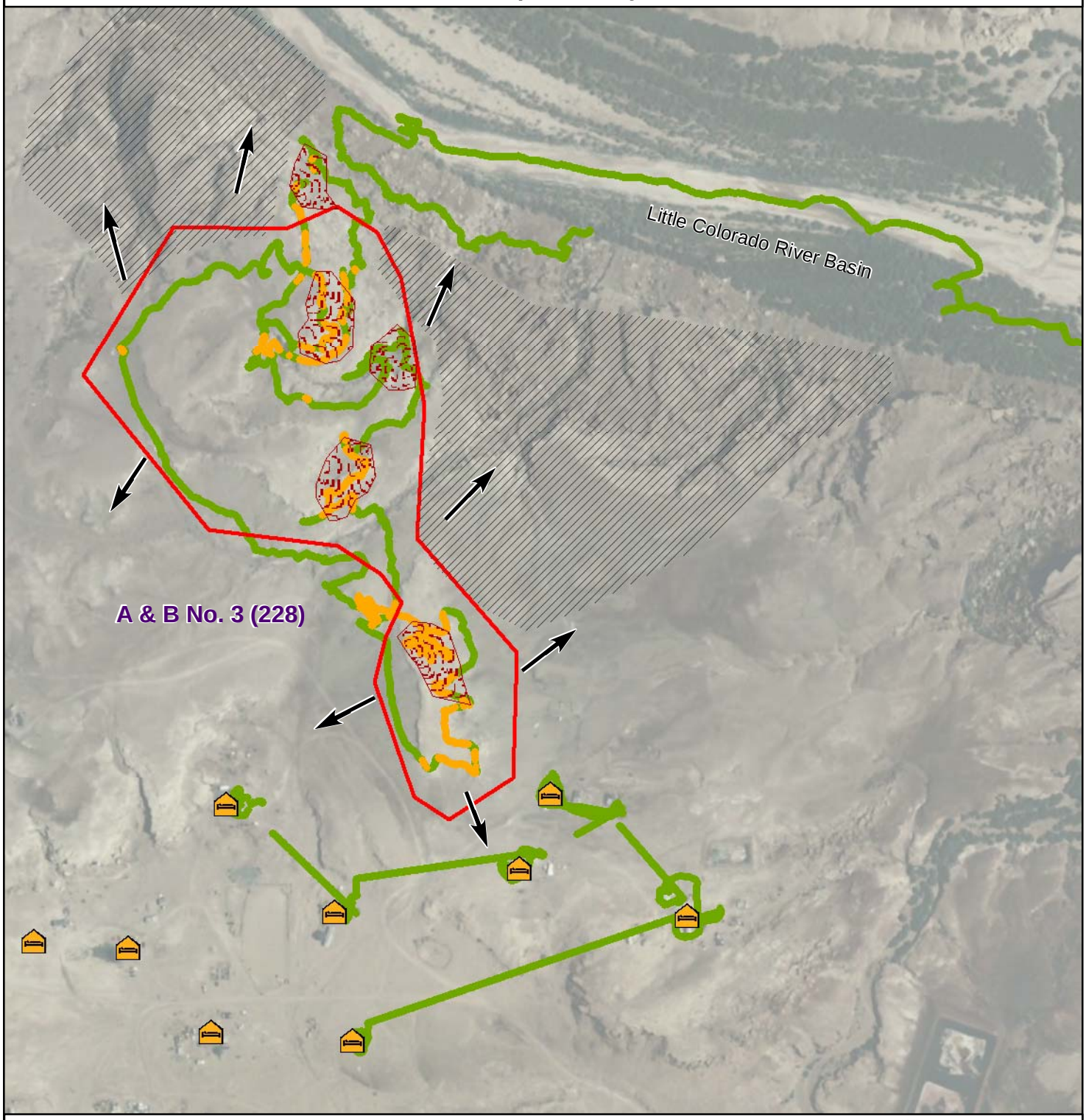
Title or official role (if any) Nearby resident, green house

Name: Eliot Suetopka

Title or official role (if any) Nearby resident

Telephone number___(928) 679-2224

Figure 2 - Gamma Radiation Measurements, Above Two Times Background
A & B No. 3 (228)
Cameron Chapter, Navajo Nation



Legend

Gamma Radiation Measurements

- < 2X Backgound
- > 2X Background

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

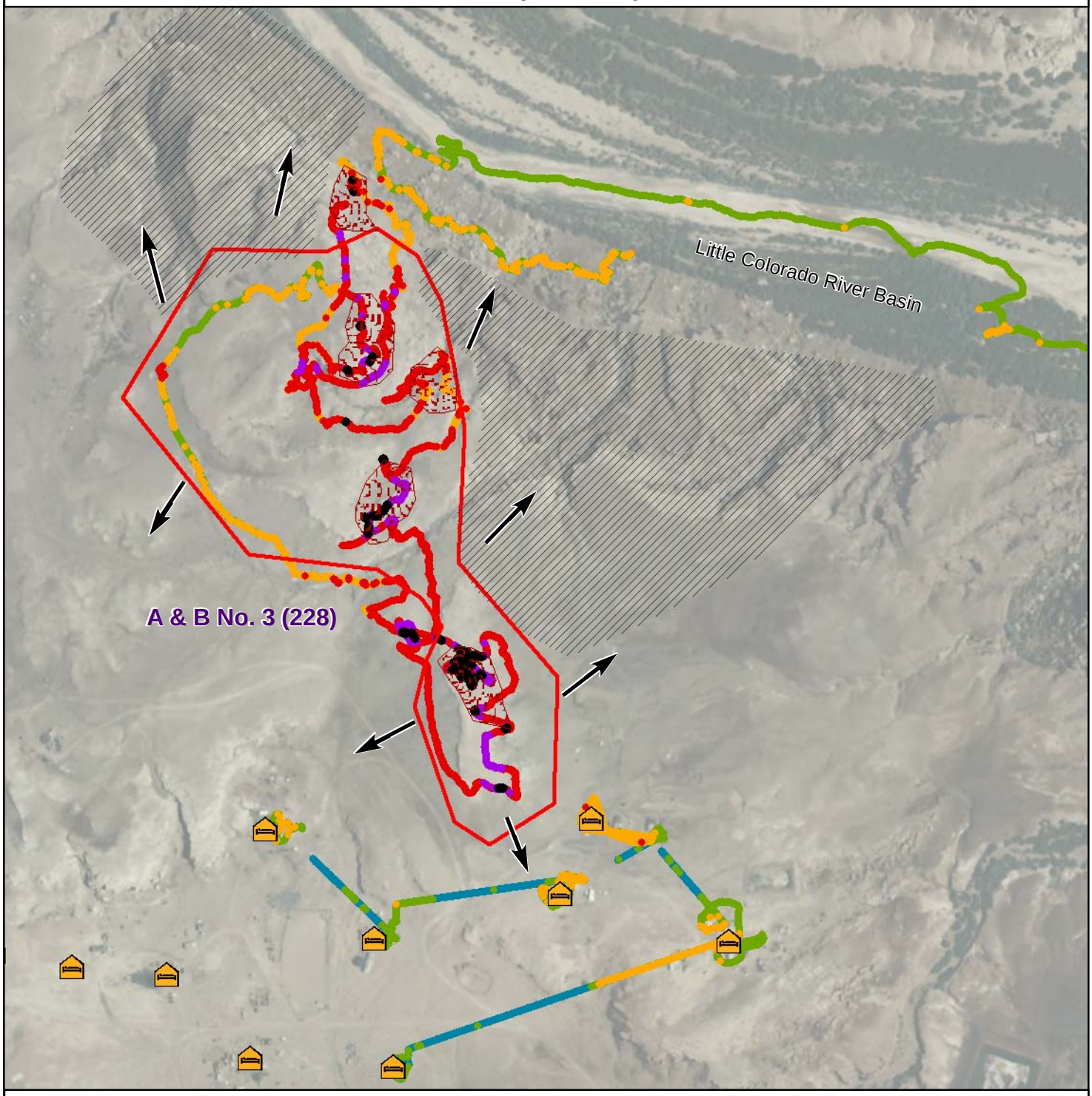
Average background 17,198 cpm

- General Slope Direction
- Observed Waste Pile
- Steep Grade
- Observed Structure
- Mine Site Boundary

N

Feet
0 **500**

Figure 2 - Gamma Radiation Measurements
A & B No. 3 (228)
Cameron 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

Average background 17,198 cpm

General Slope Direction

Observed Waste Pile

Steep Grade

Observed Structure

Mine Site Boundary

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

N

Feet
0 **500**