

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.

Mine Name: Martin Johnson No. 4
Mine ID: 540

Navajo AUM Western Region

Prepared by:

Weston Solutions, Inc.

Contract: W91238-06-F-0083

20074.063.017.0020

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Part I Site Identification, Location and Status

Site Names and ID numbers as applicable

Mine ID: 540

Map ID: W5

CERCLIS: NNN000909241

Navajo Abandoned Mine Land Reclamation Program: None

Local name / Aliases: Martin Johnson #4; M. Johnson #4

Chapter and local area: Bodaway / Gap

County: Coconino **State:** Arizona

Lat/Long: 36.1851008954 N / -111.397808661 W

Nearby road and highway: US-89 **Local Post Office:** Tuba City, 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 surface land status is classified as Tribal Trust Land. Historical documents identified the operator of the mine as Martin Johnson in 1956. No additional historical ownership / lease information was identified in the EPA / AUM database.

Number of residential structures within 200 feet of mine: None

Part II Summary of Radiological Readings

Mine ID: 540

Highest gamma radiation measurement: 80,663 counts per minute (cpm)

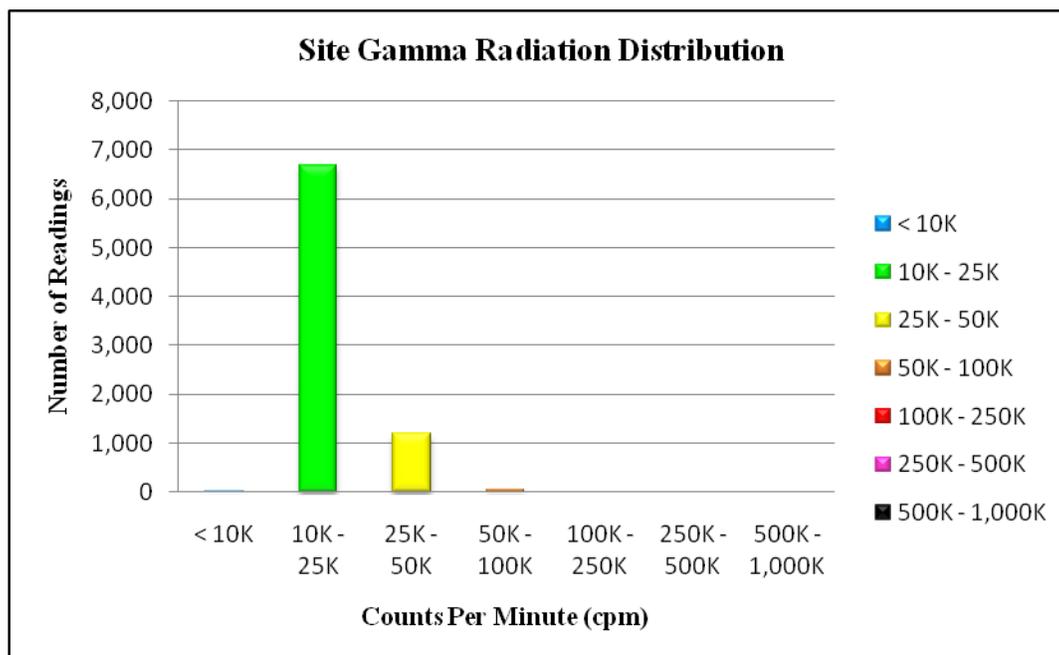
Background Average: 14,864 cpm **Two Times Background:** 29,728 cpm

Describe any other radiological measurements:

A total of 7,915 gamma radiation measurements were collected from the mine site, ranging from 9,986 cpm to 80,663 cpm. Measurements collected in the vicinity of the scattered loose rock were found at a maximum level of approximately 80,000 cpm. The measurements are represented in Figures 1 and 2.

Distribution Chart and Statistics:

Site Gamma Radiation Statistics	
Number of Readings	7,915
Minimum (cpm)	9,986
Maximum (cpm)	80,663
Mean (cpm)	18,787
Median (cpm)	16,197
Standard Deviation	7,243



Part III Status of Reclamation and Mine Waste

Mine ID: 540

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

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

NAMLRP Project Number: None

NAMLRP Mine features: None

The following information was obtained from field observations collected during the 2011 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 observed

Waste Piles:

None observed

Pits:

None observed

Shafts:

None observed

Other Debris and Mine Features:

None observed

Part IV Site Observations and Environs

Observed Residential Structures (number and human habitation status of structures at the following distances from the mine site):

0 to 200 feet: None observed

200 feet to 0.25 mile:

Observed Public or Commercial Structures (schools, clinics, Chapter Houses, places of business and any other structures used by members of the community at the following distances from the mine site):

0 to 200 feet: Unoccupied vendor stand 150 ft E of site, Hidden Springs Bible Church 300 ft N of site

200 feet to 0.25 mile: Hidden Springs Bible Church 300 ft N of site

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

Background levels

Observed Water Sources (number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine site):

0 to 0.25 miles: None observed

0.25 miles to 4 miles: None observed

Sensitive Environments (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):

The site is located within a wash area which may contain seasonal tributaries to the Little Colorado River

Known Site History (information from interviews with Chapter officials and residents and database review, includes: mine ownership, type of mining operation, period of operation, known amount of production, and any other information provided):

The Martin Johnson No. 4 mine claim consists of an area of 192,360.85 m². The mine was identified as being operational in 1956. While operational, the mine had a total reported production volume of 38 tons. The mine surface land status is classified as Tribal Trust Land. Historical documents identified the operator of the mine as Martin Johnson in 1956. No additional historical 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?

No

Structures:

Were any structures observed within 200 feet of the mine?

Potential Drinking Water Sources:

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

No

Reclamation:

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

Unknown

Part VI Photos



Photo 1: Mine Site #540



Photo 2: Mine Site #540; Site and Hwy 89



Photo 3: Mine Site #540; Stone foundation onsite



Photo 4: Mine Site #540; Church and water tank north of site



Photo 5: Mine Site #540; Onsite drainage



Photo 6: Mine Site #540; Onsite rocks



Photo 7: Mine Site #540; Petrified wood pile



Photo 8: Mine Site #540; Berm



Photo 9: Mine Site #540; Arizona Hwy Dept marker



Photo 10: Mine Site #540; Marker



Photo 11: Mine Site #540; Culvert below Hwy 89

Part VII Contacts Reports and Information

Name: Eugene Esplain

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

Telephone number: (928) 871-7331

Address: PO Box 2946, Window Rock, AZ 86515

Information provided: Lead Regulatory Agency

Name: Alvin Gon

Title or official role (if any): Minister of Hidden Springs Bible Church

Address: PO Box 3354, Tuba City, AZ 86045

Information provided: Information about local structures

Name: _____

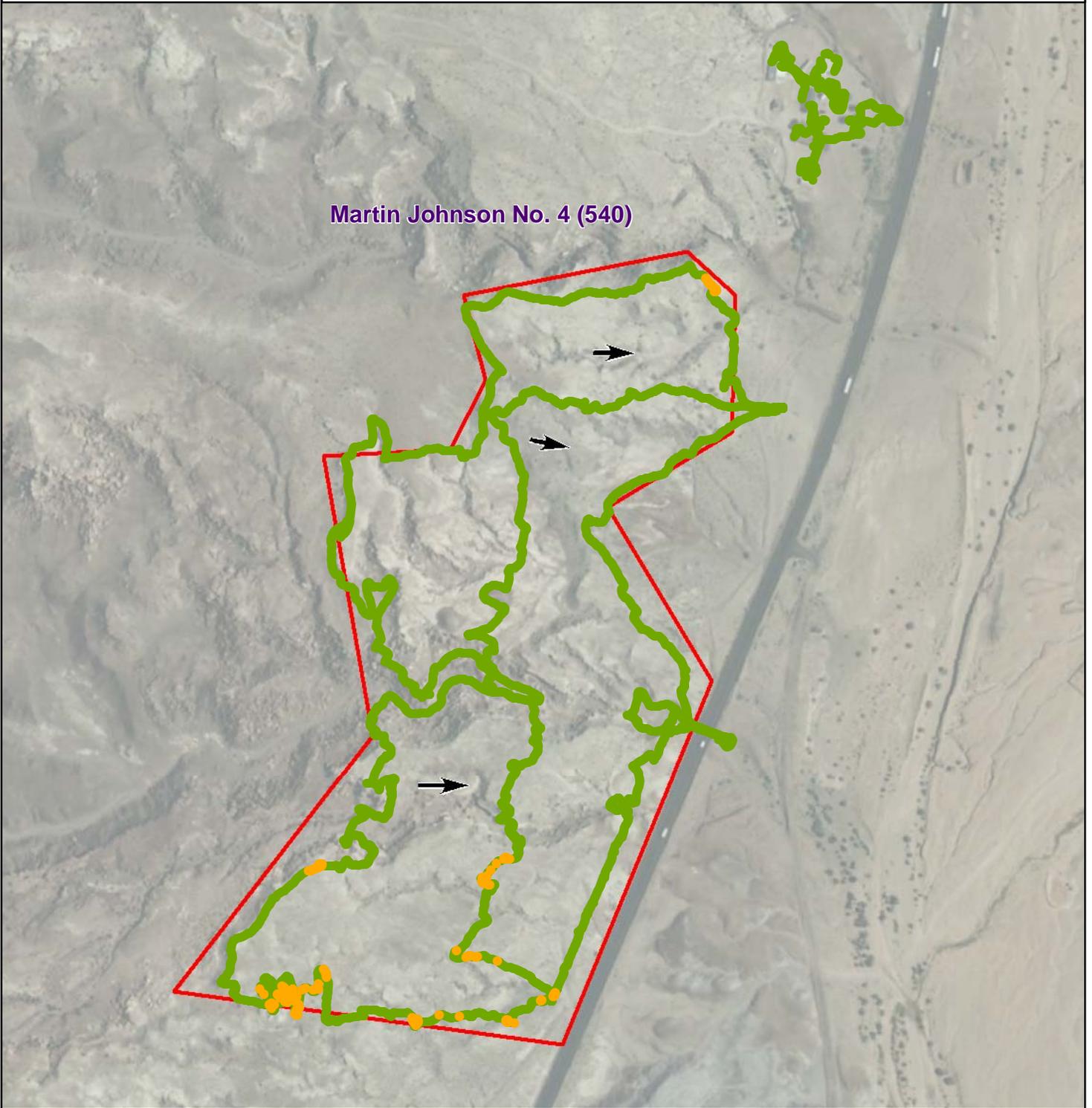
Title or official role (if any): _____

Telephone number: _____

Address: _____

Information provided: _____

**Figure 1 - Gamma Radiation Measurements, Above Two Times Background
 Martin Johnson No. 4 (540)
 Bodaway / Gap Chapter, Navajo Nation**



Legend

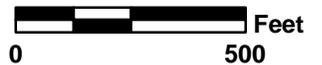
Gamma Radiation Measurements

- < 2X Background
- > 2X Background

Measured as counts per minute (cpm)

Average background 14,864 cpm

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



**Figure 2 - Gamma Radiation Measurements
 Martin Johnson No. 4 (540)
 Bodaway / Gap Chapter, Navajo Nation**



Gamma Radiation Measurements

- 0 - 10,000 cpm
- 10,000 - 25,000 cpm
- 25,000 - 50,000 cpm
- 50,000 - 100,000 cpm
- 100,000 - 250,000 cpm
- 250,000 - 500,000 cpm
- 500,000 - 1,000,000 cpm

- ▭ Mine Site Boundary
- ➔ General Slope Direction
- ▨ Observed Reclamation Feature
- ▨ Observed Waste Pile
- ▨ Steep Grade



Measured as counts per minute (cpm) Average background 14,864 cpm