

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: Mitten No. 1

Mine IDs: 255, 709

Navajo AUM North Central Region

Prepared by:

Weston Solutions, Inc.

Contract: W91238-06-F-0083

20074.063.039.0020

April 2012

Part I Site Identification, Location and Status

Site Names and ID numbers as applicable

Mine ID: 255

Map ID: NC20

CERCLIS: NNN000909274

Navajo Abandoned Mine Land Reclamation Program: NA-0212

Local name / Aliases: Mitten #1 'B'

Chapter and local area: Oljato

County: San Juan

State: UT

Lat/Long: 37.0192142021 N / -110.24397645 W

Nearby road and highway: Indian Route 6410 **Local Post Office:** Oljato, 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:

Historical documents identified the operator of the mine in 1952 as Cecil Parrish, Jr., from 1952 to 1956 as J.L. Foutz, in 1956 as Copper Canyon Mining Industries, Inc., in 1960 as Cecil Parrish, Jr. and Tom Holliday, and in 1961 as A & B Mining Company. No additional historical ownership / lease information was identified in the EPA / AUM database.

Number of residential structures within 200 feet of mine: None

Mine ID: 709

Map ID: NC21

CERCLIS: NNN000909274

Navajo Abandoned Mine Land Reclamation Program: NA-0212

Local name / Aliases: Mitten #1 'A'

Chapter and local area: Oljato

County: San Juan

State: UT

Lat/Long: 37.0193915116 N / -110.242917994 W

Nearby road and highway: Indian Route 6410 **Local Post Office:** Oljato, 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"/>

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Number of residential structures within 200 feet of mine: None

Part II Summary of Radiological Readings

Mine ID: 255

Highest gamma radiation measurement: 224,060 counts per minute (cpm)

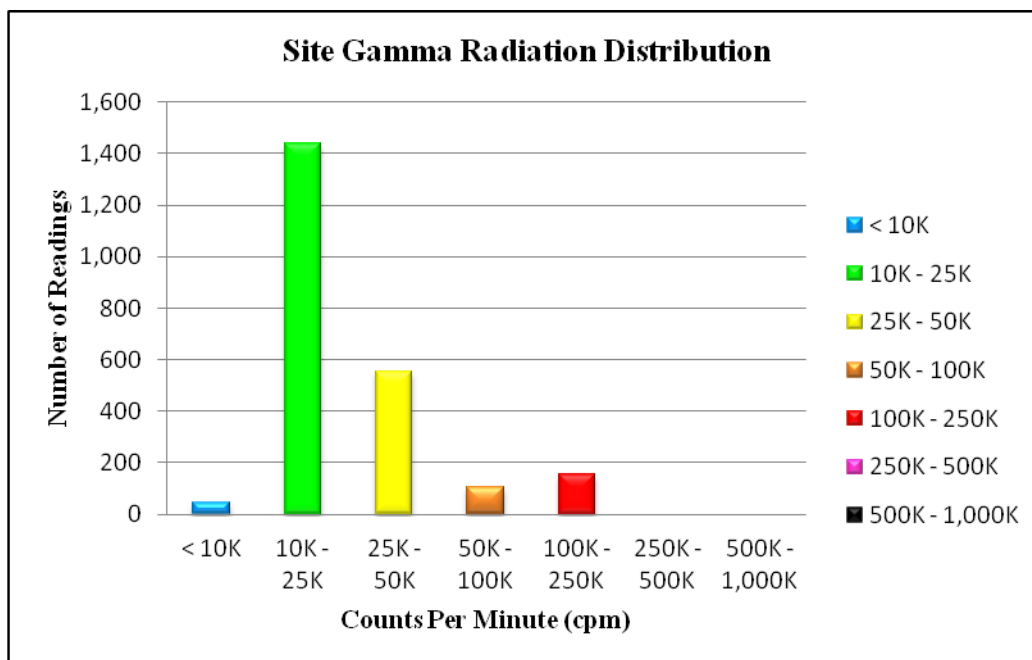
Background Average: 13,405 cpm **Two Times Background:** 26,810 cpm

Describe any other radiological measurements:

A total of 2,297 gamma radiation measurements were collected from the mine site, ranging from 8,227 cpm to 224,060 cpm. Maximum levels of approximately 225,000 cpm were found near the adit. The measurements are represented in Figures 1 and 2.

Distribution Chart and Statistics:

Site Gamma Radiation Statistics	
Number of Readings	2,297
Minimum (cpm)	8,227
Maximum (cpm)	224,060
Mean (cpm)	31,646
Median (cpm)	19,065
Standard Deviation	34,644



Mine ID: 709

Highest gamma radiation measurement: 191,241 counts per minute (cpm)

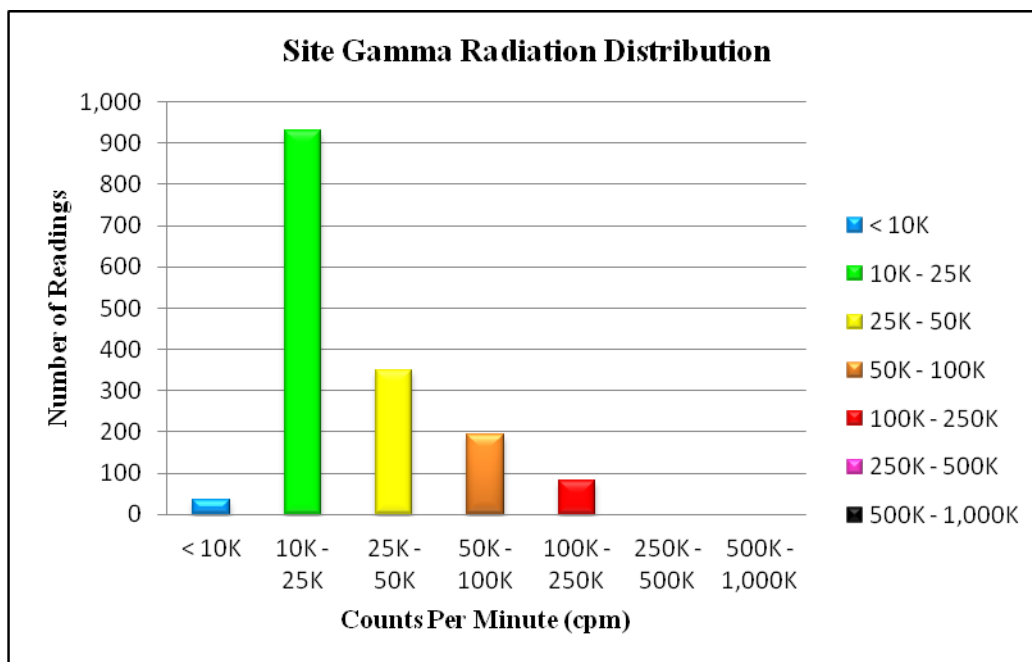
Background Average: 16,292 cpm **Two Times Background:** 32,584 cpm

Describe any other radiological measurements:

A total of 1,589 gamma radiation measurements were collected from the mine site, ranging from 7,322 cpm to 191,241 cpm. Maximum levels of approximately 200,000 cpm were found in the vicinity of the waste rock and 100,000 cpm were found along the road. The measurements are represented in Figures 1 and 2.

Distribution Chart and Statistics:

Site Gamma Radiation Statistics	
Number of Readings	1,589
Minimum (cpm)	7,322
Maximum (cpm)	191,241
Mean (cpm)	32,840
Median (cpm)	21,752
Standard Deviation	29,377



Part III Status of Reclamation and Mine Waste

Mine ID: 255

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-0212

NAMLRP Mine features: 1 Portal

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:

1 potentially blocked adit just west of the site boundary, adjacent to the temporary shelter

Waste Piles:

Waste rock is unmanaged, in the downslope drainage

Pits:

None Observed

Shafts:

None Observed

Other Debris and Mine Features:

Road has been blocked off; site boundary for 255 & 709 appear to be shifted east

Mine ID: 709

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

NAMLRP Project Number: NA-0212

NAMLRP Mine features: 1 Portal

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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:

Waste rock down drainage

Pits:

None Observed

Shafts:

None Observed

Other Debris and Mine Features:

Mine waste throughout site, including disturbed rock, cans, drums, etc; elevated readings alongside the road; evidence of occupation (i.e. concrete walls)

Part IV Site Observations and Environs

Mine ID: 255

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

0 to 200 feet: 50 ft W - Temporary shelter

200 feet to 0.25 mile: None Observed

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: None observed

200 feet to 0.25 mile: None observed

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: 2 mi SE - Well Filling Station (Gouldings); 2.5 mi SE - Reservoir (Gouldings); 2.5 mi W - Water Tank (224); 4 mi NW - Water Tank (225)

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):

None observed

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 Mitten No. 1 (#255) mine claim consists of an area of 7,174 m². The mine was identified as being operational from 1951 to 1961. While operational, the mine had a total reported production volume of 6,420 tons. No additional historical ownership / lease information was identified in the EPA / AUM database.

Mine ID: 709

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: 300 ft W - Temporary shelter

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: None observed

200 feet to 0.25 mile: None observed

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: 2 mi SE - Well Filling Station (Gouldings); 2.5 mi SE - Reservoir (Gouldings); 2.5 mi W - Water Tank (224); 4 mi NW - Water Tank (225)

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):

None observed

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 Mitten No. 1 (#709) mine claim consists of an area of 2,628 m². The mine was identified as being operational from 1951 to 1961. While operational, the mine had a total reported production volume of 6,420 tons. No additional historical ownership / lease information was identified in the EPA / AUM database.

Part V Response Action Summary

Mine ID: 255

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

Mine ID: 709

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

Mine Site #255



Photo 2

Mine Site #255



Photo 3

Mine Site #255 – Waste rock



Photo 4

Mine Site #255



Photo 5

Mine Site #255



Photo 6

Mine Site #255 - Shelter



Photo 7	Mine Site #255
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Photo 8	Mine Site #255 – Vehicle waste
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Photo 9

Mine Site #709 – concrete pad / wall



Photo 10

Mine Site #709

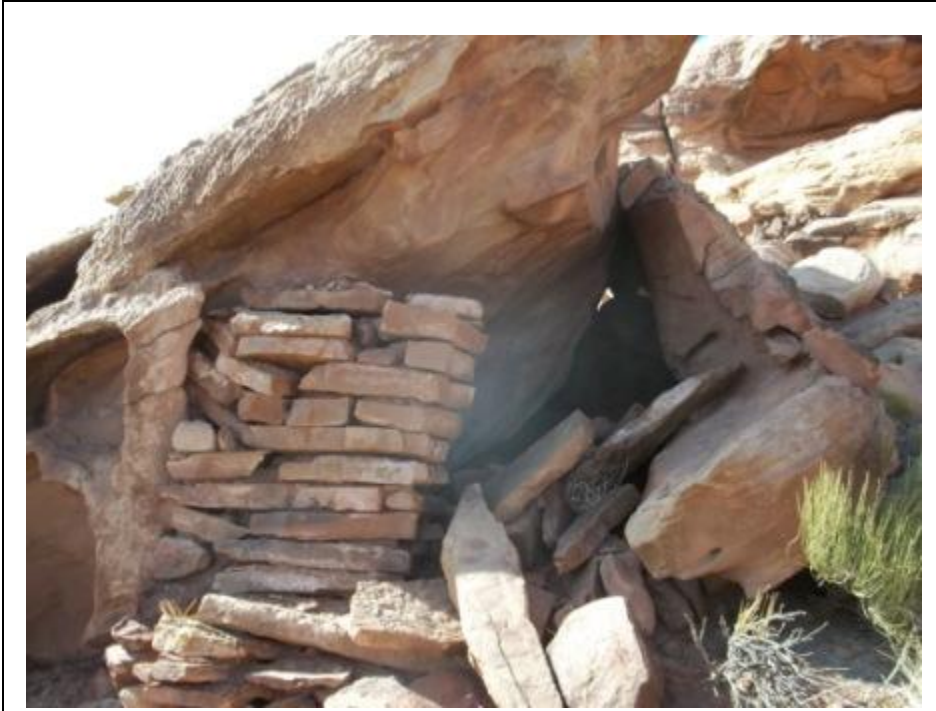


Photo 11

Mine Site #709 – Rock pile



Photo 12

Mine Site #709 – Rock pile



Photo 13

Mine Site #709 – Mining debris



Photo 14

Mine Site #709



Photo 15

Mine Site #709

Part VII Contact 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: _____

Title or official role (if any): _____

Telephone number: _____

Address: _____

Information provided: _____

Name: _____

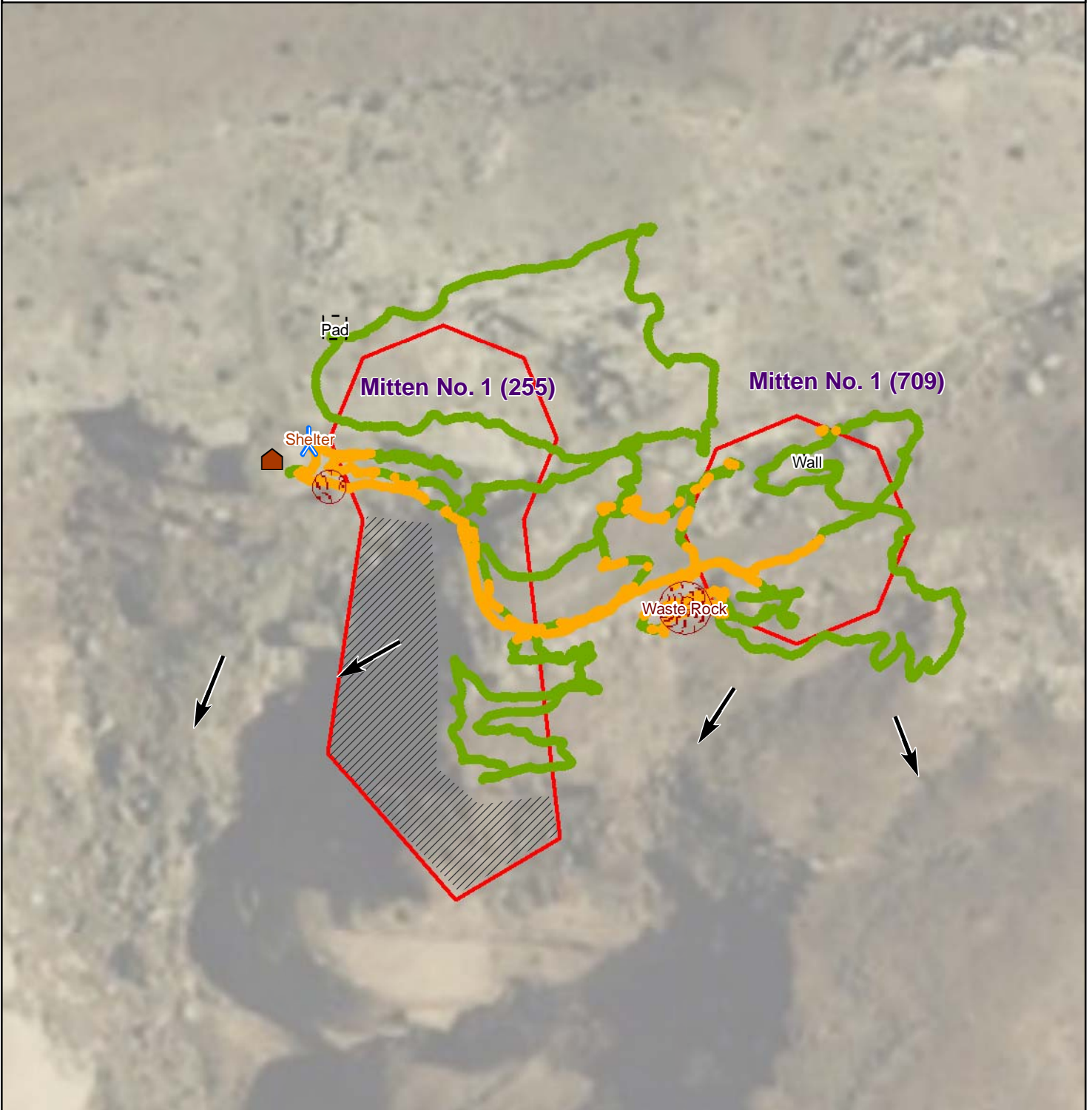
Title or official role (if any): _____

Telephone number: _____

Address: _____

Information provided: _____

**Figure 1 - Gamma Radiation Measurements, Above Two Times Background
Mitten No. 1 (255, 709)
Oljato Chapter, Navajo Nation**









Gamma Radiation Measurements

- < 2X Background
- > 2X Background

Measured as counts per minute (cpm)

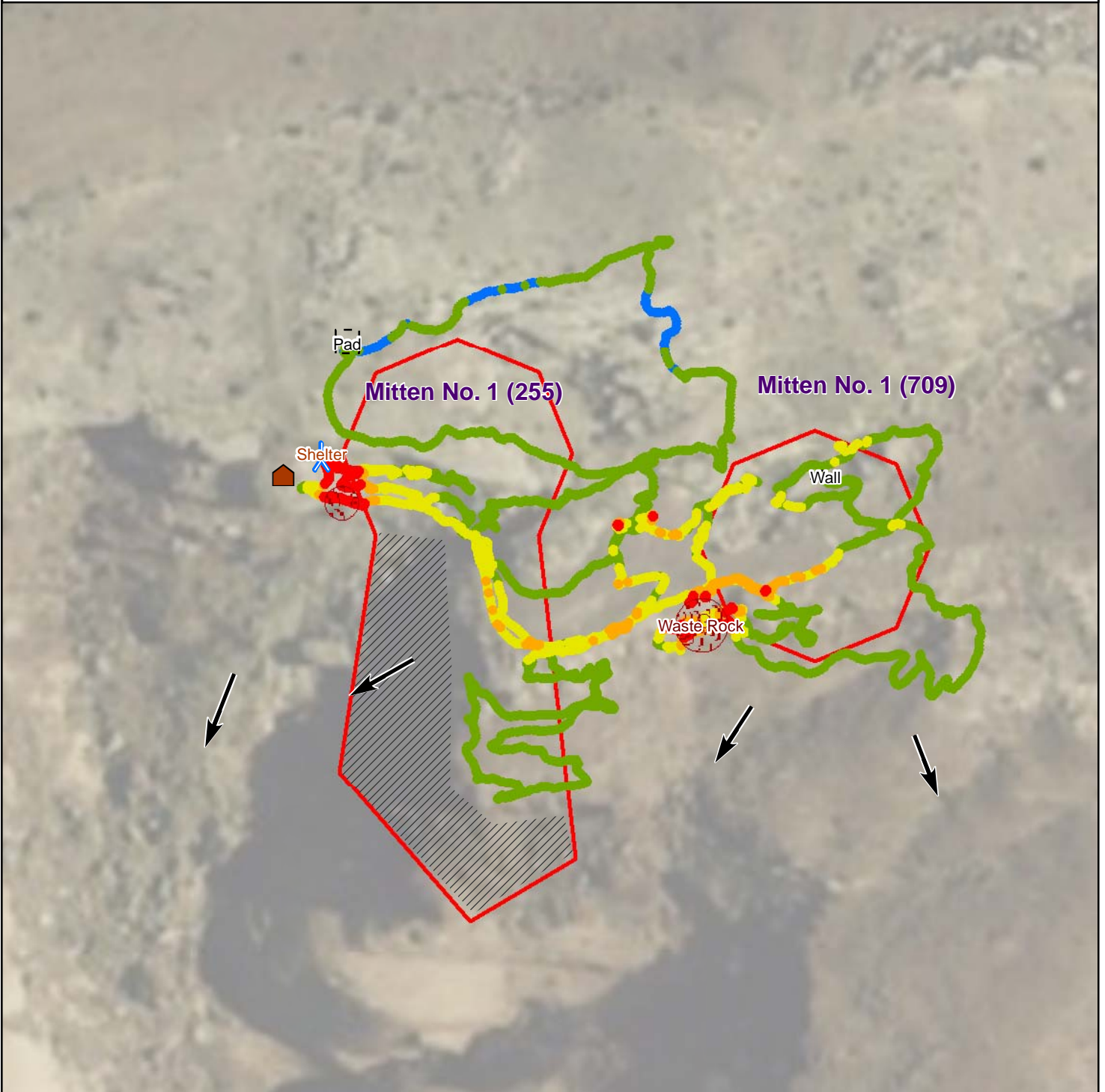
Average background 14,849 cpm

-  Mine Site Boundary
-  General Slope Direction
-  Observed Reclamation Feature
-  Observed Waste Rock
-  Observed Structure
-  Observed Adit





**Figure 2 - Gamma Radiation Measurements
Mitten No. 1 (255, 709)
Oljato 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 Rock
- 🏠 Observed Structure
- ➡ Observed Adit

Average background 14,849 cpm Measured as counts per minute (cpm)

