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.

Chavez AUM Site

Navajo AUM Eastern Region

Prepared by:

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Contract: W91238-06-F-0083

12767.063.496.1111

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Part I Site Identification, Location and Status

Site Names and ID numbers as applicable

Mine ID: Site not found in EPA/AUM Database

Map ID: Site not found in EPA/AUM Database

CERCLIS: NOT ASSIGNED

Navajo Abandoned Mine Land Reclamation Program: None

Local name / Aliases: None

Chapter and local area: None

County: Cibola **State:** New Mexico

Lat/Long: 35.077469000 N / -107.140528000 W

Nearby road and highway: Canoncito School Road **Local Post Office:** Canoncito, NM

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 Indian Allotment Land. Historical documents showed the operator of the mine as Calmuet and Hecla in 1955. No other historical 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:

None

Part II Summary of radiological readings

Highest gamma radiation measurement:

128,427 counts per minute (cpm)

Describe any other radiological measurements:

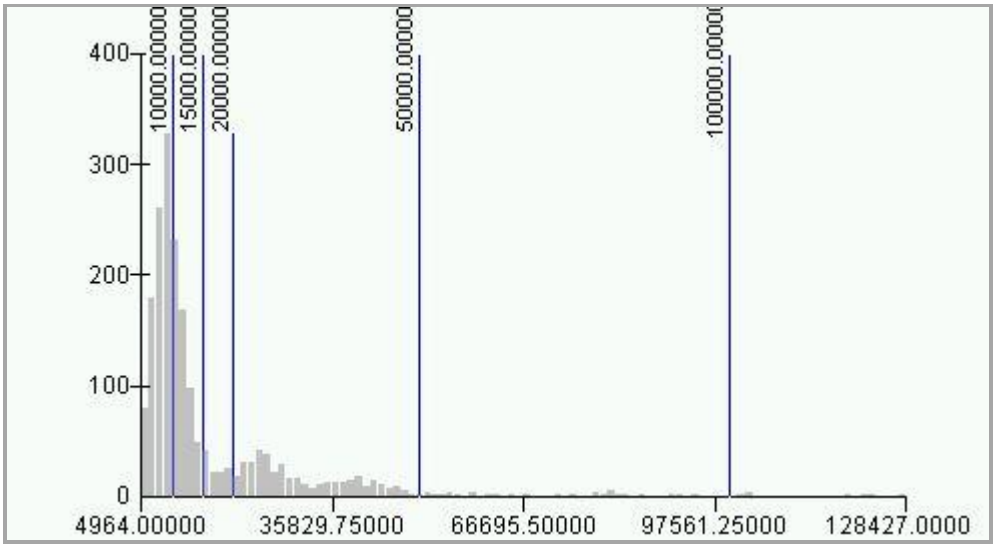
A total of 1,978 gamma radiation measurements were collected from the mine site, ranging from 4,964 cpm to 128,427 cpm. Measurements in the vicinity of the adit were found at levels in up to 120,000 cpm, and near the stone structure at levels of approximately 9,000 cpm. The measurements are represented in Figures 1 and 2.

Background Locations **Average background =** 10,105 cpm

#1 10,088 cpm
#2 10,121 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:	1978
Minimum:	4964.00000
Maximum:	128427.00000
Sum:	31311916.00000
Mean:	15830.08898
Median:	10485.50000
Standard Deviation:	13893.77731

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:

Not found in NAMLRP Database

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
1 open adit, 7' wide, with two pathways inside

Waste Piles
None

Pits
None

Shafts
None

Other Debris and Mine Features
Small stone pile/structure approximately 500’ southwest of site

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: None

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):

None

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: 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.

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.

Chavez mine consists of an area of 25,006 m^2. The mine was identified as being operational in 1955. Historical documents showed the operator of the mine as Calmuet and Hecla in 1955. While operational, the mine had a total reported production volume of 192 tons. No other historical information or any additional ownership / lease information was identified in the EPA/AUM database.

Part V Response Action Summary

Site Name(s): Chavez **Chapter:** None

Decision Criteria

Is there an unreclaimed waste pile at the site? No

At what distance from the waste pile is the nearest residential structure located? None

At what distances from the waste pile are there potential drinking water sources? None

Is there a reclamation cap or sealed adit in place at the site? No

Is the cap/seal functionally intact? None

Is the cap/seal sufficiently degraded to create a concern about releases? No

At what distance from the cap/seal is the nearest domestic structure located? None

At what distance from the cap/seal is the nearest domestic drinking water source? None

Summary of emergency response factors

None

Summary hazard ranking system factors

None

Summary of reclamation factors

Open adit with elevated readings

Part VI Photos

Photo 1. Open adit

Photo 2. Open adit

Photo 3. Open adit

Photo 4. Mine site

Photo 5. Stone structure southwest of site

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_____

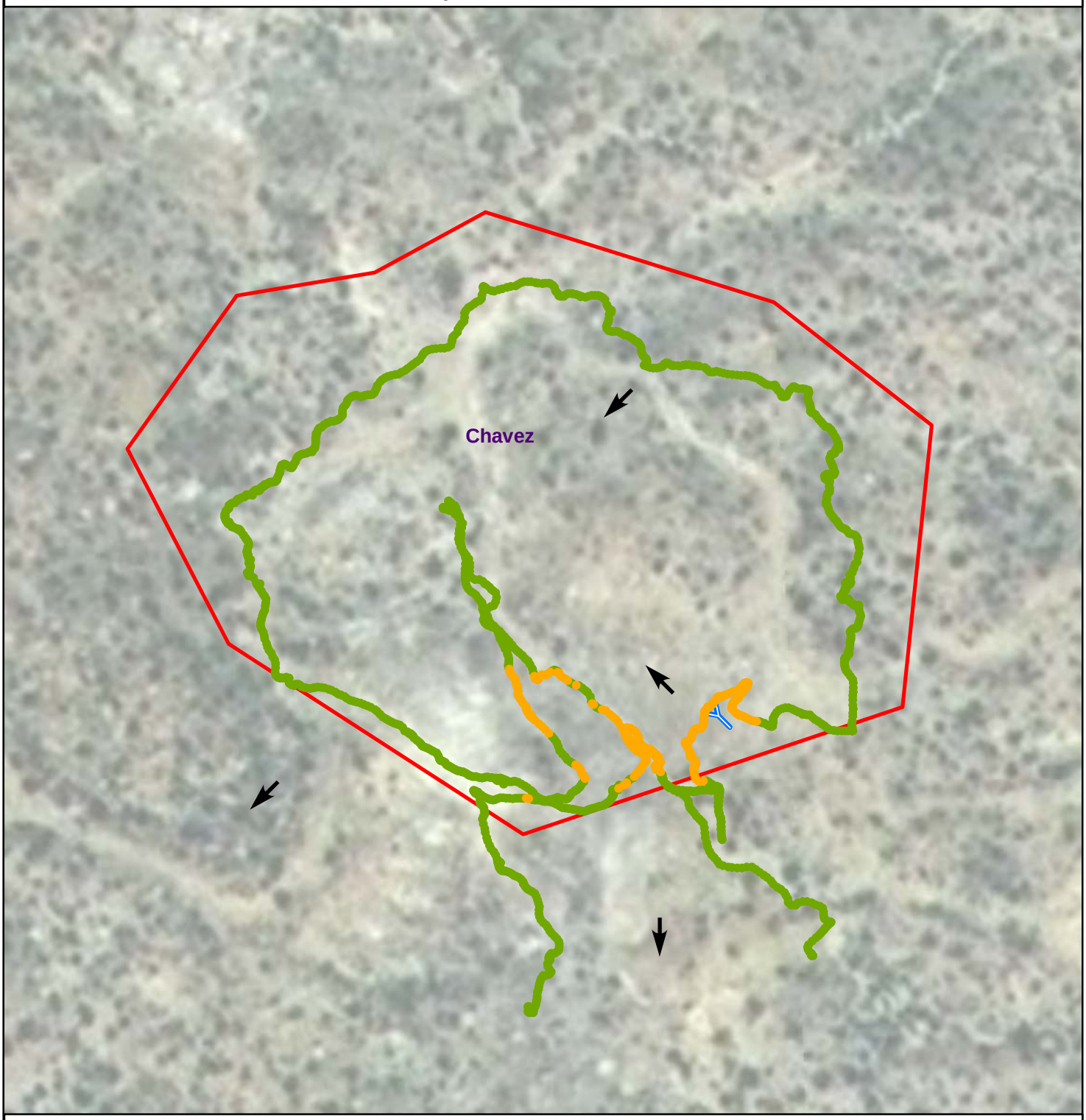
Name_____

Title or official role (if any) _____

Telephone number_____

Information provided_____

Figure 1 - Gamma Radiation Measurements, Above Two Times Background
Chavez
Navajo Nation, New Mexico



Legend

Gamma Radiation Measurements

- < 2X Backgound
- > 2X Background

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

Average background = 10,105 cpm

Observed Adit

General Direction Down-Slope

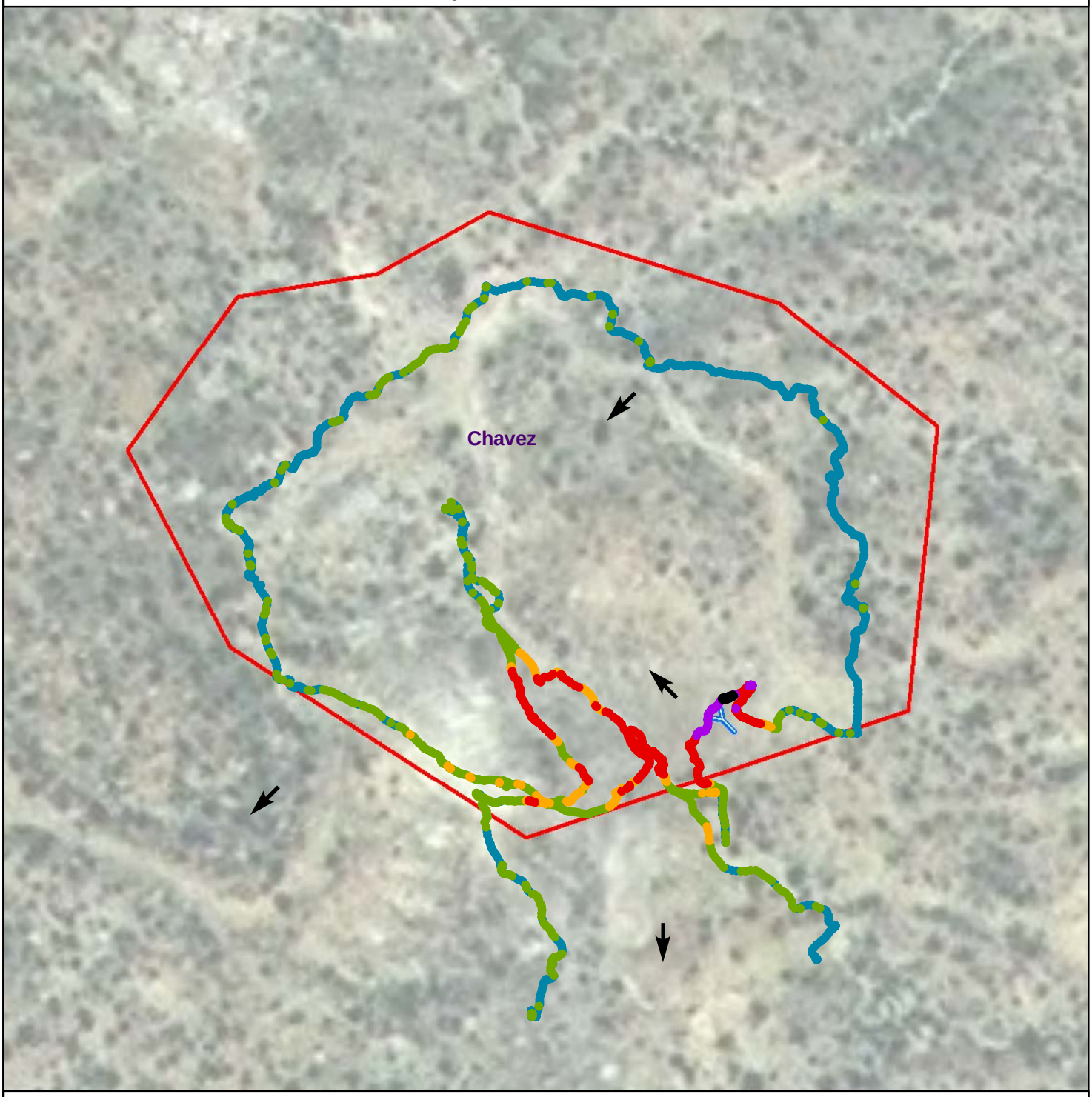
Mine Claim Boundaries

N

Feet

0 **150**

Figure 2 - Gamma Radiation Measurements
Chavez
Navajo Nation, New Mexico



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

Observed Adit

General Direction Down-Slope

Mine Claim Boundaries

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

Average background 10,105 cpm

N

Feet
0 **150**