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 and pits. 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 lands not listed in any database located on Navajo lands. Reconnaissance of any sites located on lands adjacent to Navajo lands but that are or 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, to record all immediate site information associated with the mine site and to document the recommendation and/or decision on what additional steps, if any, are needed at the site.

Mac No. 1 AUM Site

Navajo AUM Eastern Region

Prepared by:

Weston Solutions, Inc.

Contract: W91238-06-F-0083

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Part I Site Identification, Location and Status

Site Names and ID numbers as applicable

Mine ID: 318

Map ID: E31

CERCLIS: NNN 000 908 727

NAMLRP: NOT ASSIGNED

New Mexico Mining and Mineral Division ID: NM0034

New Mexico Bureau of Geology and Mineral Resources: NMMK0097

Local name / Aliases: Mac #1, Kerr McGee

Chapter and local area: Mariano Lake Chapter

Lat/Long: 35.5434718114 N / -108.267718918 W

Nearby road and highway: NM-371, Interstate 40 **Local Post Office:** Thoreau, NM

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

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

Ownership and contact information:

No ownership was identified. The mine site property is classified as Indian Allotment land.

Part II Site Observations

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

0 to 200 feet: Two grey structures at eastern end (appear to be abandoned). Two concrete pads on the south side of the buildings, and one on the north side. One white trailer (appears to be abandoned) S-SW of the grey buildings. Propane tank and an electrical box near the trailer

200 feet to 0.25 mile: Unknown number of residences to the west of the site, could not access.

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: Water tank at the south corner of the site. Water troughs directly adjacent to tank. Old fenced-in well behind grey buildings on the north side. Downed windmill behind well.

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.

Vegetation changed approaching the grey buildings (Photo 10).

Known Site History: include information from interviews with Chapter officials and residents.
Note information on mine ownership, period of operation, and type of mining operation.

The Mac No. 1 mine consists of a surface area of 132,340.87 square meters with approximately 33,583.74 square meters of underground workings. Any historical information pertaining to mining operations and historical ownership of the mine site appeared to be unclear.

Part III Type, number and reclamation status of mine features

Provide description and reclamation 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 reclamation caps.

Reclamation status of the mine site is currently unknown. A small hole was observed near the concrete pad on the south side of the grey building (Photo 7). No waste piles or other features were observed during the site visit.

Part IV Summary of radiological readings

Background Locations

#1 8,847 counts per minute (cpm)

Mine site: Mac No. 1

- See Figures 1 and 2

Nearby Structure Perimeter – None

Describe any other radiological measurements:

A total of 1,349 gamma radiation measurements were collected from the mine site, ranging from 10,636 cpm to 54,684 cpm. Readings were high surrounding the grey buildings (50,000 to 120,000 cpm). Readings around the water tank were approximately 7,500 cpm. Picture 10shows a difference in vegetation, with readings ranging from 25,000 to 35,000 cpm. The readings gradually increased east towards the grey buildings. The measurements are represented in Figures 1 and 2.

Part V Site sketch of all mine features and readings, including locations of all structures, sources of drinking water and any other important features and radiological readings.

Presented in Figures 1 and 2

Part VI Response Action Summary

Site Name(s): Mac No. 1 **Chapter:** Mariano Lake

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? N/A

At what distances from the waste pile are there potential drinking water sources? N/A

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

Is the cap/seal functionally intact? N/A

Is the cap/seal sufficiently degraded to create a concern about releases? N/A

At what distance from the cap/seal is the nearest domestic structure located? N/A

At what distance from the cap/seal is the nearest domestic drinking water source? N/A

Summary of emergency response factors

None

Summary hazard ranking system factors

Residences within 0.25 miles of site, with nearby gamma radiation measurements found greater than 2 times background levels. Unable to access the residences.

Summary of reclamation factors

Reclamation status of the mine site is currently unknown. A small hole was observed near the concrete pad on the south side of the grey building (Photo 7). No waste piles or other features were observed during the site visit.

Part VII Photos

Photo 1. Mac No. 1 mine site, looking east towards grey buildings

Photo 2. Mac No. 1 mine site, looking south/southeast towards trailer

Photo 3. Grey buildings, north side

Photo 4. Grey buildings, south side

Photo 5. Water tank at south end, towards the south

Photo 6. Residences towards the west

Photo 7. Hole on south side of grey building, at the end of concrete pad

Photo 8. Concrete pads on south side of grey buildings

Photo 9. Old well with downed windmill behind it, towards the northeast on south side of grey buildings

Photo 10. Difference in vegetation from road to grey buildings, towards the east

Part VIII Contacts Reports and Information

Name_Stanley Edison_____

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

Address___PO Box 2946, Window Rock, AZ 86515

Information provided__General Background and Contact/Access Information

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Name_Ms George Padilla_____

Title or official role (if any) Regional Environmental Scientist, BIA, Navajo Nation

Telephone number__(505) 863-8434_____

Address PO Box 1060, Gallup, NM 87305

Name_____

Title or official role (if any) _____

Telephone number_____

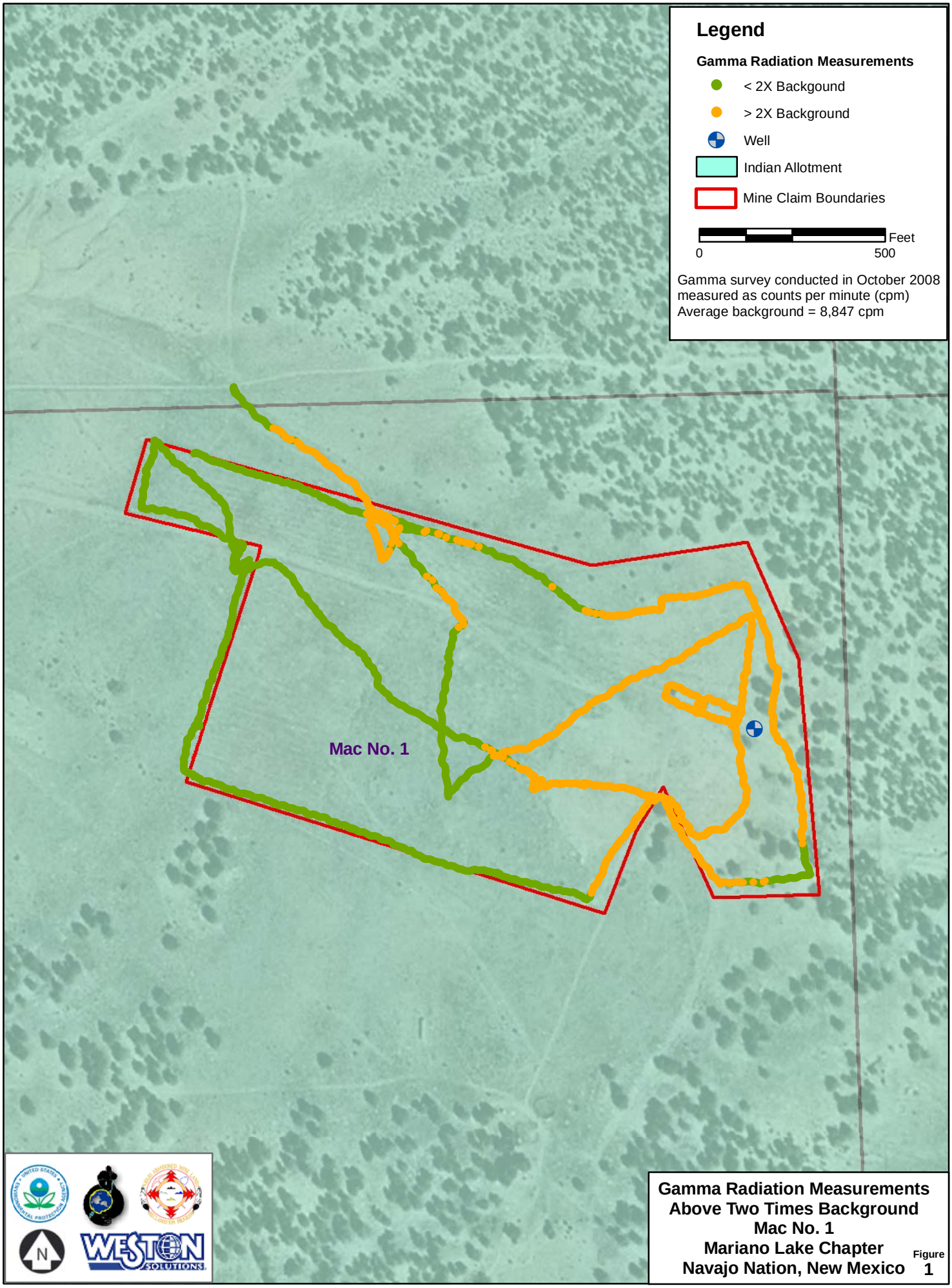
Information provided_____

Name_____

Title or official role (if any) _____

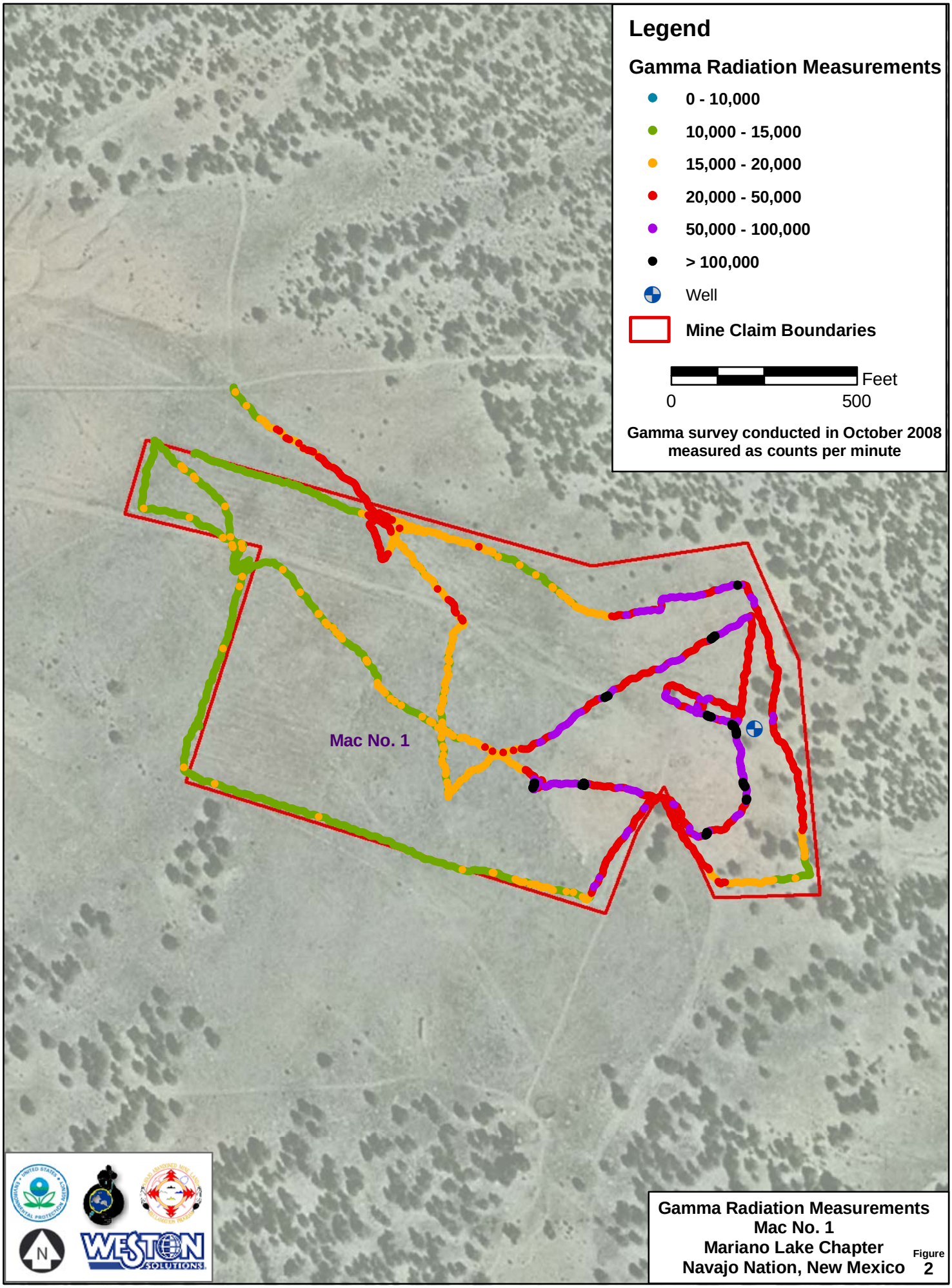
Telephone number_____

Information provided_____



Gamma Radiation Measurements Above Two Times Background
Mac No. 1
Mariano Lake Chapter
Navajo Nation, New Mexico

Figure 1



Gamma Radiation Measurements
Mac No. 1
Mariano Lake Chapter
Navajo Nation, New Mexico

Figure 2