

# **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.*

## **Ruby No. 3 AUM Site**

### **Navajo AUM Eastern Region**

**Prepared by:**

**Weston Solutions, Inc.**

**Contract: W91238-06-F-0083**

**12767.063.496.1111**

**May 2009**

**Part I Site Identification, Location and Status**

**Site Names and ID numbers as applicable**

**Mine ID:** 323

**Map ID:** E40

**CERCLIS:** NNN 000 908 737

**NAMLRP:** NOT ASSIGNED

**New Mexico Mining and Mineral Division ID:** NM0064

**New Mexico Bureau of Geology and Mineral Resources:** NMMK-0147, -0148, -0260

**Local name / Aliases:** Ruby No. 4, Ruby No. 3 and 4 decline, South-Pod, South-Pod "Ore" Body.

**Chapter and local area:** Smith Lake Chapter

**Lat/Long:** 35.5078555468 N / -108.162354984 W

**Nearby road and highway:** BIA 50, Route 371 **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:**

The mine site property is classified as Navajo Tribal Trust land.

## **Part II Site Observations**

**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

**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, period of operation, and type of mining operation.**

The Ruby No. 3 mine consists of an area of 55,507.03 square meters with approximately 228,761 square meters of underground workings. Western Nuclear Company operated one well in the vicinity of the site. Homestake Mining Company of California may have had some involvement with the mine. Any other 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 sites are currently unknown. The mine appears to have been covered with a soil cap. A few areas of the cap have eroded to expose waste rock beneath. Some uranium ore or waste rock was mixed in with the cover soil. No waste piles, adits, or other mine features were observed during the site visit.

### **Part IV      Summary of radiological readings**

#### **Background Locations**

#1 14,495 cpm

#2 14,901 cpm

#3 18,382 cpm

**Mine site:** Ruby No. 3

- See Figures 1 and 2

**Nearby Structure Perimeter** – None

#### **Describe any other radiological measurements:**

A total of 2,911 gamma radiation measurements were collected from mine sites, ranging from 9,146 cpm to 969,089 cpm. The measurements are represented in Figures 1 and 2. The highest radiation was emitted from exposed uranium found in the road at the central portion of the mine and was beyond the meters measuring capabilities of 999,999 cpm. Gamma radiation measurements collected from the Augustine Largo residence, located within ¼ mile from the mine, were approximately 12,000 cpm

**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):** Ruby No. 3                      **Chapter:** Smith 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?** Yes, a reclamation cap was present, no evidence of sealed adits was observed.

**Is the cap/seal functionally intact?** Erosion of the soil cap was observed at a few areas.

**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?**

**At what distance from the cap/seal is the nearest domestic drinking water source?** 1.3 miles

**Summary of emergency response factors**

None

**Summary hazard ranking system factors**

None

**Summary of reclamation factors**

No known reclamation

**Part VII      Photos**



Photo 1. Ruby No. 3 Mine site, towards the south



Photo 2. Ruby No. 3 Mine site, erosion of western edge of mine



Photo 3. Ruby No. 3 Mine site, erosion of southern portion of mine



Photo 4. Ruby No. 3 Mine site, very high gamma radiation emitting from black uranium ore



Photo 6. Ruby No. 3 Mine site, water tank and livestock watering trough located approximately 200 feet southeast of mine. Mine is in background

**Part VIII      Contacts Reports and Information**

Name

Title or official role (if any)

Telephone number:

Information provided:

---

Name: Alan Cox

Title or official role (if any) Project Manager for Homestake Mining Company of California

Telephone number: (505) 287-4456

Information provided: Indicated that Homestake Mine may have some involvement with the operation of Ruby mines

---

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

---

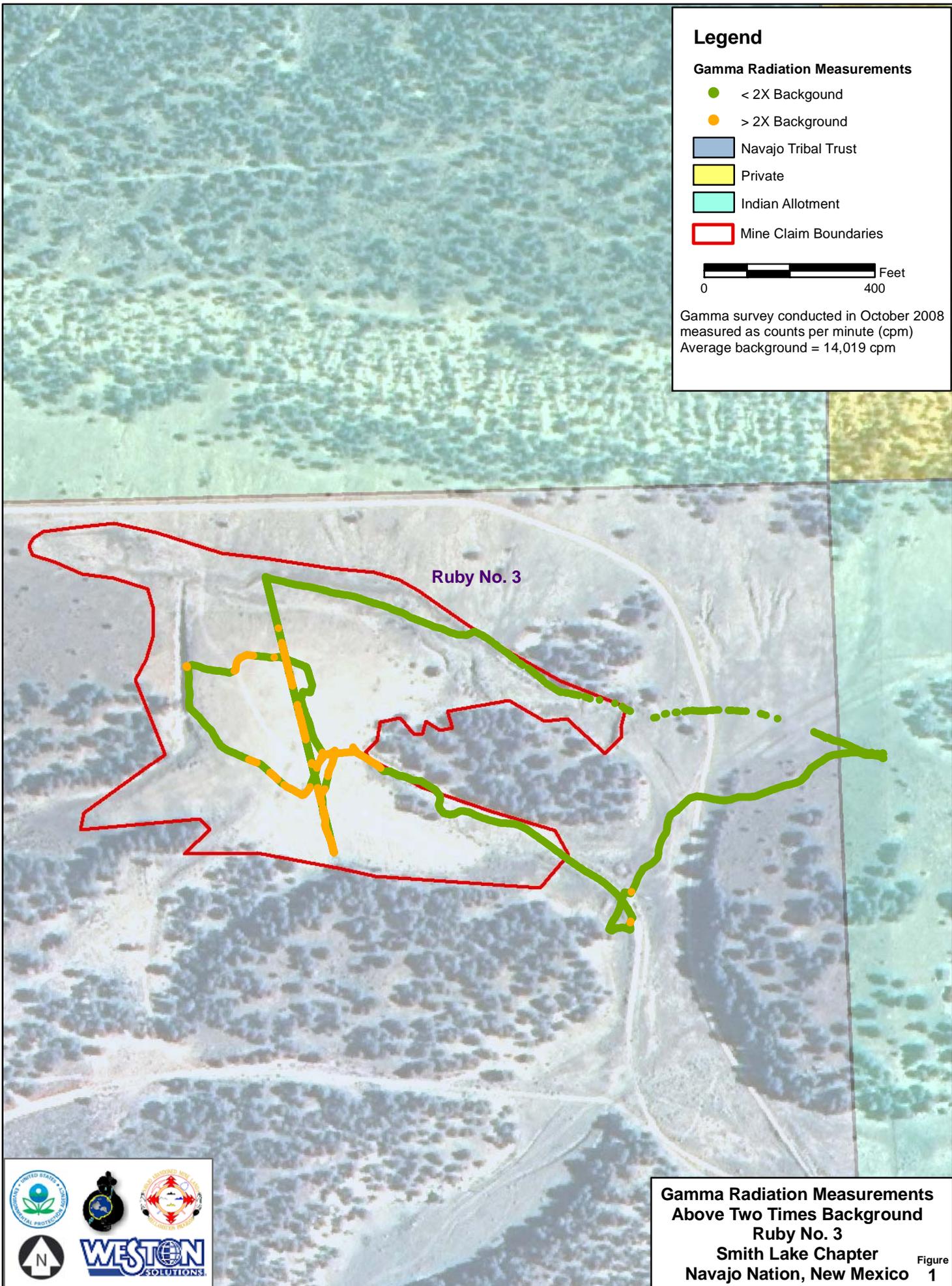
Name \_\_\_\_\_

Title or official role (if any) \_\_\_\_\_

Telephone number \_\_\_\_\_

Information provided \_\_\_\_\_

---



**Legend**

**Gamma Radiation Measurements**

- < 2X Background
- > 2X Background
- Navajo Tribal Trust
- Private
- Indian Allotment
- Mine Claim Boundaries

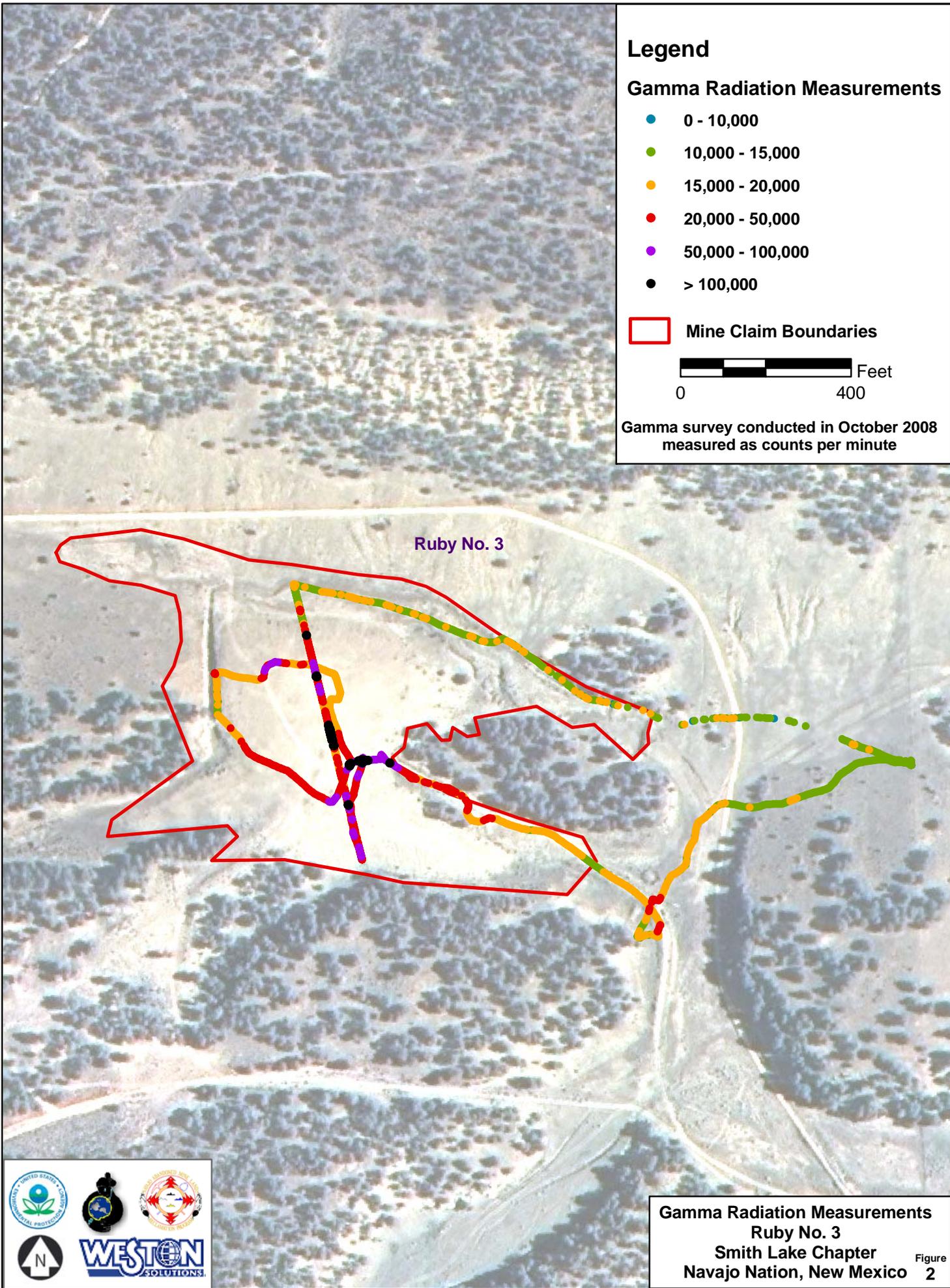
0  400 Feet

Gamma survey conducted in October 2008  
 measured as counts per minute (cpm)  
 Average background = 14,019 cpm

Ruby No. 3



**Gamma Radiation Measurements  
 Above Two Times Background  
 Ruby No. 3  
 Smith Lake Chapter  
 Navajo Nation, New Mexico** Figure 1



**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

□ Mine Claim Boundaries



Gamma survey conducted in October 2008  
measured as counts per minute

Ruby No. 3



**Gamma Radiation Measurements**  
**Ruby No. 3**  
**Smith Lake Chapter**  
**Navajo Nation, New Mexico** Figure 2