

# 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.*

## **Kermac No. 22 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:** 356

**Map ID:** E62

**CERCLIS:** NNN 000 908 724

**NAMLRP:** NOT ASSIGNED

**New Mexico Mining and Mineral Division ID:** NM0013

**New Mexico Bureau of Geology and Mineral Resources:** NMMK0206

**Local name / Aliases:** Section 22, Kerr McGee

**Chapter and local area:** Baca/Haystack Chapter

**Lat/Long:** 35.4321033622 N / -107.880254665 W

**Nearby road and highway:** NM-509, Interstate 40 **Local Post Office:** Milan, 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 Private and State of New Mexico land. Historical aliases indicate that the site was likely owned or operated by the Kerr McGee Corporation.

## **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:** 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

**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 Kermac No. 22 mine consists of a surface area of 495,164.71 square meters with approximately 357,602.83 square meters of underground workings. The western portion of the mine, totaling approximately 264,194.12 square meters, falls within the Baca/Haystack chapter of the Navajo Nation, and the remaining eastern 230,251.59 square meters falls within the Ambrosia Lake District of the New Mexico Mining and Minerals Division. Any historical information pertaining to mining operations and historical ownership of the mine site appeared to be unclear. The New Mexico Mining and Minerals Division identified the operator in 1957 as Patten & Calassini and Centennial Development Co., who sunk the initial shaft; in 1958-1964 as Kermac Nuclear; in 1967 as Centennial Development Company; in 1964-1984 as Kerr-McGee; and from 1984-2002 as Quivira Mining Co. (1979-2002 mine water recovery).

**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 covered area was observed in the center of the site (Photo 3). According to the New Mexico Mining and Mineral division the mine was reclaimed in 1994.

**Part IV      Summary of radiological readings****Background Locations**

#1 17,575 counts per minute (cpm)

#2 14,779 cpm

**Mine site:** Kermac No. 22

- See Figures 1 and 2

**Nearby Structure Perimeter** – None

**Describe any other radiological measurements:**

A total of 4,842 gamma radiation measurements were collected from the mine site, ranging from 11,268 cpm to 227,145 cpm. An area of depression within the site was measured at approximately 20,000 cpm. 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):** Kermac No. 22

**Chapter:** Baca/Haystack

**New Mexico MMD District:** Ambrosia 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, covered area in center of site

**Is the cap/seal functionally intact?** Yes

**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**

None

**Summary of reclamation factors**

Reclamation status of the mine site is currently unknown. A covered area was observed in the center of the site (Photo 3). According to the New Mexico Mining and Mineral division the mine was reclaimed in 1994.

**Part VII      Photos**



Photo 1. Kermac 22 mine site, towards west/southwest from road at northeast corner of site



Photo 2. Kermac 22 mine site, towards west/southwest from road at northeast corner of site



Photo 3. Covered area at the center of the site



Photo 4. Large depression south of road





Photo 5. Large depression south of road

**Part VIII      Contacts Reports and Information**

Name Terry Fletcher

Title or official role (if any) President – Rio Algom Mining LLC

Telephone number 505-287-8851, fax 505-285-5550 Terry.Fletcher@bhpbilliton.com

Information provided Granted access to site

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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 Susan A. Lucas Kamat

Title or official role (if any) AUM Data Manager – New Mexico Mining & Mineral Division

Telephone number (505) 476-3408 fx: (505) 476-3408

Information provided Background information and findings from 2008 New Mexico MMD  
Survey of mining sites.

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Name Dana Bahar

Title or official role (if any) Manager, Superfund Oversight Section

Ground Water Quality Bureau, New Mexico Environment Department

Telephone number (505) 827-2908

Information provided General Background Information

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Name Mary Ann Menetrey

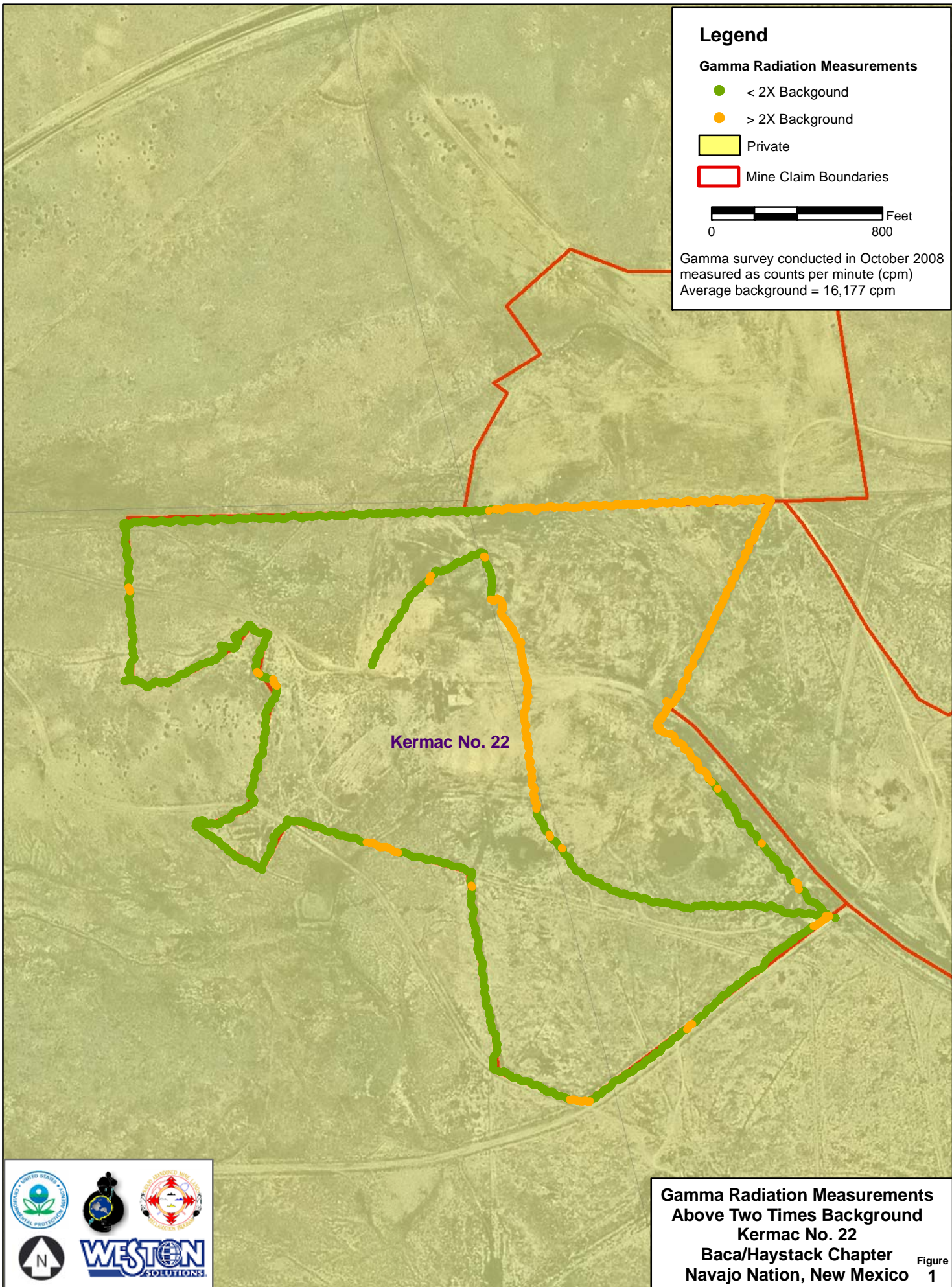
Title or official role (if any) Manager, Mining Environmental Compliance Section

Ground Water Quality Bureau, New Mexico Environment Department

Telephone number (505) 827-2944

Information provided General Background Information

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**Legend**

**Gamma Radiation Measurements**

- <math>< 2X \text{ Background}</math>
- > 2X Background

Private

Mine Claim Boundaries

0  800 Feet

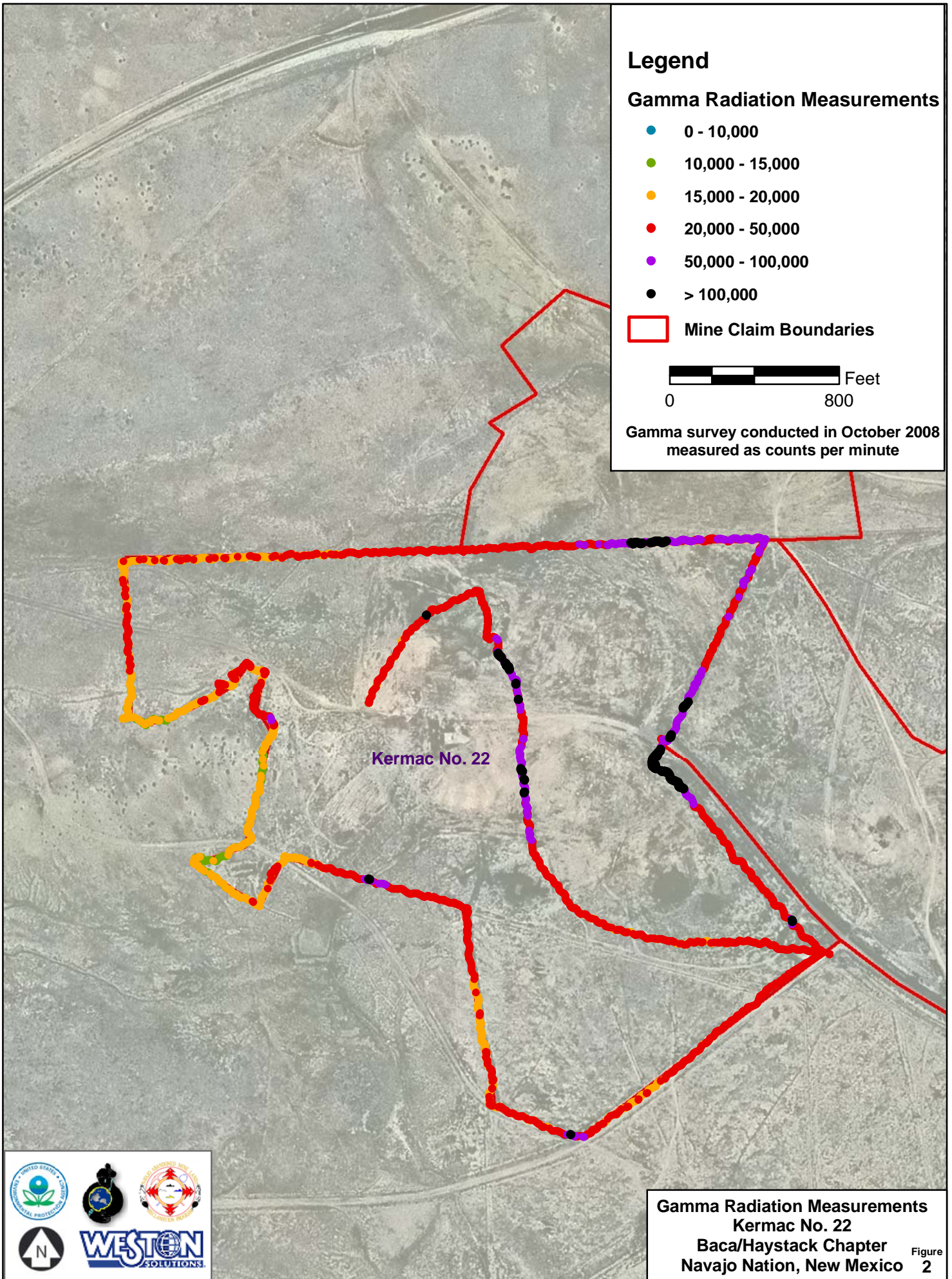
Gamma survey conducted in October 2008  
 measured as counts per minute (cpm)  
 Average background = 16,177 cpm

Kermac No. 22

**Gamma Radiation Measurements  
 Above Two Times Background  
 Kermac No. 22  
 Baca/Haystack Chapter  
 Navajo Nation, New Mexico** Figure 1



**WESTON SOLUTIONS**



**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

0 800 Feet

Gamma survey conducted in October 2008  
measured as counts per minute

Kermac No. 22

**Gamma Radiation Measurements**  
**Kermac No. 22**  
**Baca/Haystack Chapter**  
**Navajo Nation, New Mexico**

Figure 2

