

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

Navajo AUM Eastern Region

Prepared by:

Weston Solutions, Inc.

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

AUM Atlas: Kermac No. 22 ID# 356

CERCLIS: N/A

NAMLRP: N/A

New Mexico Mining and Mineral Division ID: NMMK0206

Local name / Aliases: Section 22, Kerr McGee

Chapter and local area: Baca/Haystack Chapter **Lat/Long:** 35.4321 N / -107.8803 W
New Mexico MMD District: Ambrosia Lake

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:

The mine site property is classified as private land. New Mexico Mining and Minerals Division identifies the surface and mineral rights owner as Rio Algom. 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 potential 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 potential 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).

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

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.

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

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

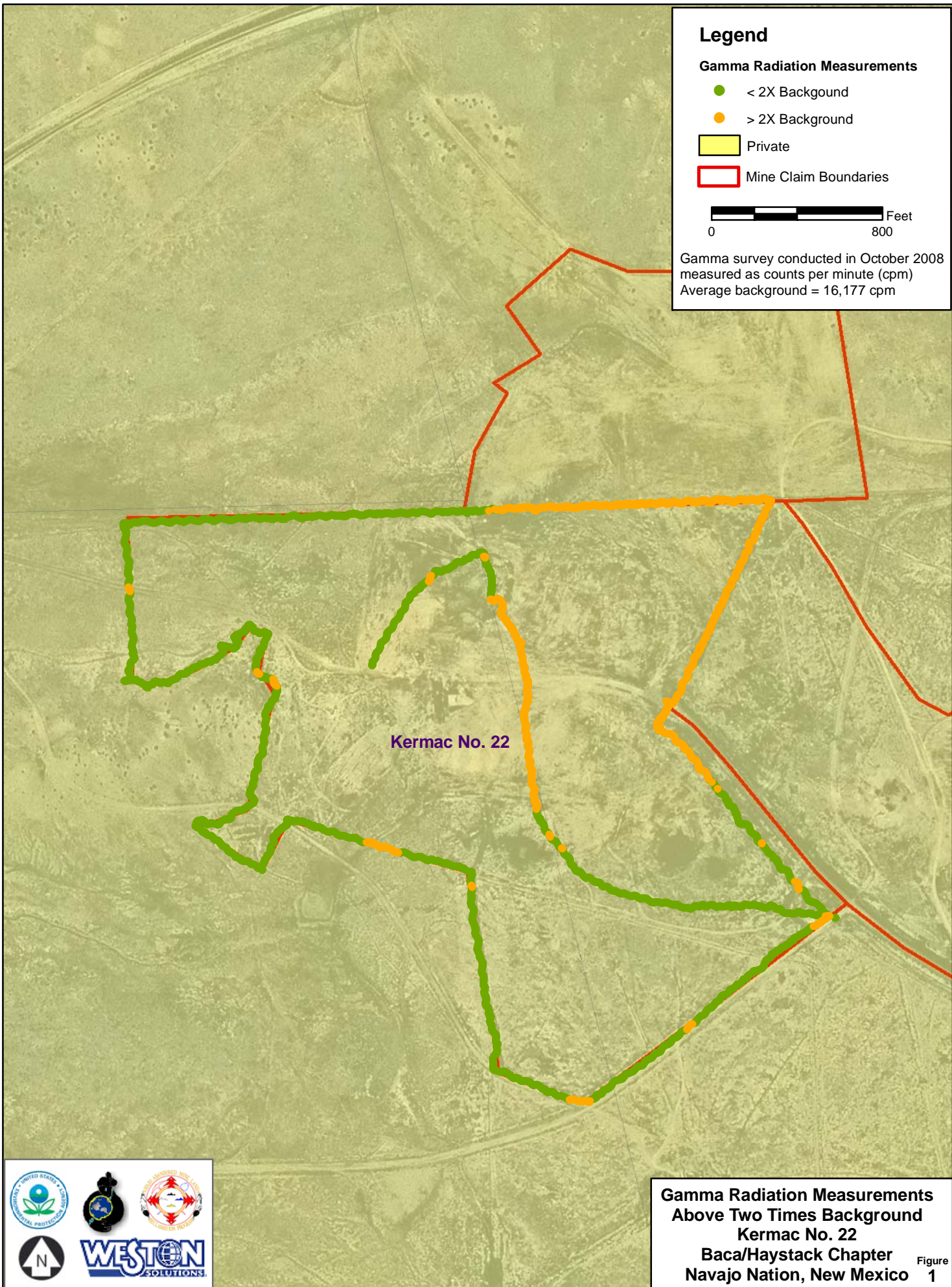
Information provided General Background Information

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



Legend

Gamma Radiation Measurements

- <math>< 2X</math> Background
- > 2X Background

Private

Mine Claim Boundaries

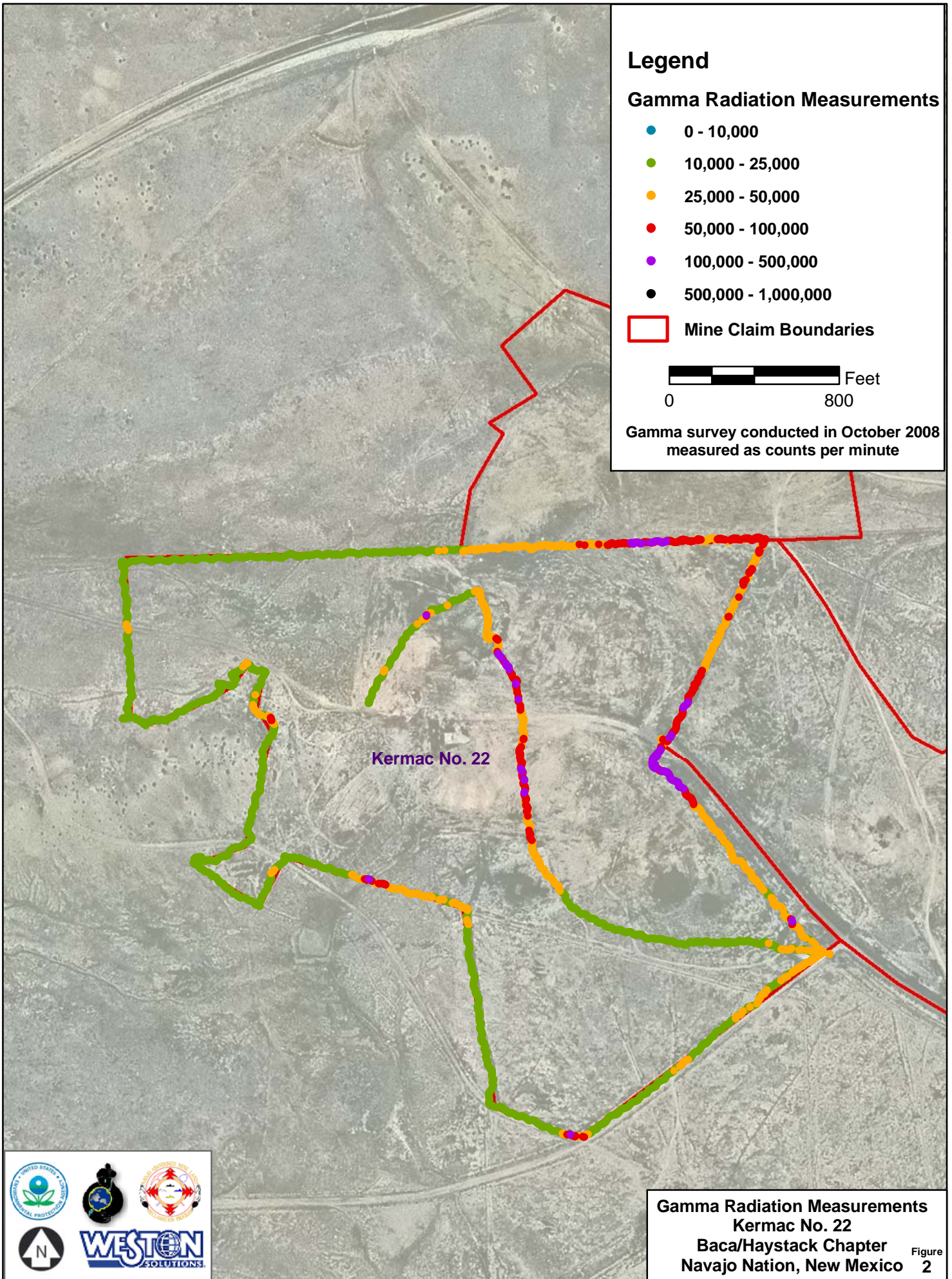
0 800 Feet

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





Legend

Gamma Radiation Measurements

- 0 - 10,000
- 10,000 - 25,000
- 25,000 - 50,000
- 50,000 - 100,000
- 100,000 - 500,000
- 500,000 - 1,000,000

□ 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

