

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.

Hosteen Nez AUM Site

Navajo AUM Western Region

Prepared by:

Weston Solutions, Inc.

Contract: W91238-06-F-0083

12767.063.599.1111

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Part I Site Identification, Location and Status

Site Names and ID numbers as applicable

Mine ID: 1043

Map ID: W125

CERCLIS: NNN000909129

Navajo Abandoned Mine Land Reclamation Program: None

Local name / Aliases: Ward Terrace

Chapter and local area: Coalmine Mesa Chapter

County: Coconino **State:** Arizona

Lat/Long: 35.7614785192 N / -111.074119957 W

Nearby road and highway: Indian Route 6720 **Local Post Office:** Tuba City, AZ

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

Tribal Trust Land	<input checked="" type="checkbox"/>	Public lands	<input type="checkbox"/>
Private	<input type="checkbox"/>	Tribal Fee Land	<input type="checkbox"/>
Bureau of Land Mgmt	<input type="checkbox"/>	Allotment	<input type="checkbox"/>
State	<input type="checkbox"/>	Fee land	<input type="checkbox"/>

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 Tribal Trust Land. Historical documents showed the operator of the mine as Hosteen Nez Mining from 1951 to 1952, and United Exploration in 1956. No additional 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:

216,614 counts per minute (cpm)

Describe any other radiological measurements:

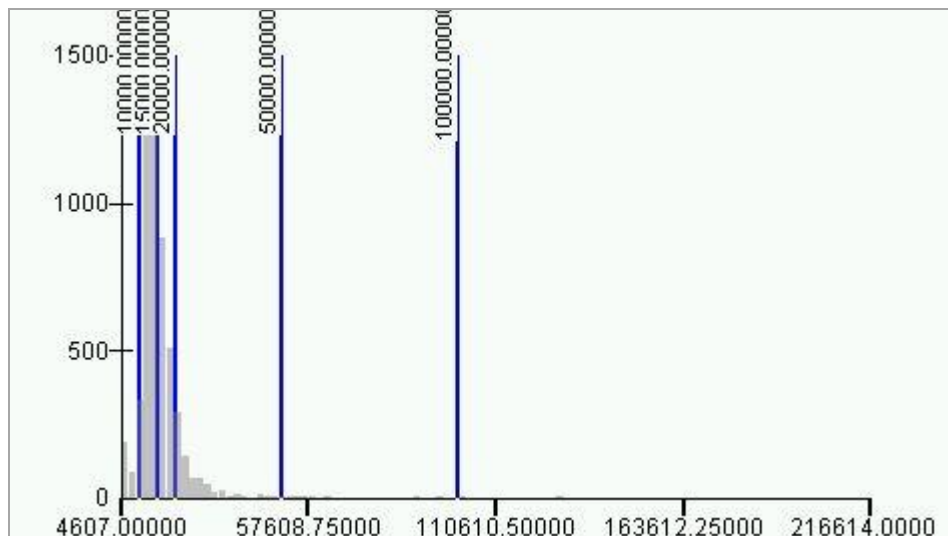
A total of 5,548 gamma radiation measurements were collected from the mine site, ranging from 4,607 cpm to 216,614 cpm. The measurements collected within the mine site boundaries were all near background levels. Measurements were also collected from the area approximately 0.75 miles to the northwest, identified by Kenneth Nez as the mine location. Measurements collected in the northwest area reclamation cap were found at a maximum level of approximately 215,000 cpm, at a petrified wood pile at a maximum level of approximately 40,000 cpm, and in the drainage below the cap leading towards the cliffs at a level of approximately 20,000 cpm. The measurements are represented in Figures 1 and 2.

Background Readings: 12,446 cpm

Background Average: 12,446 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:	5548
Minimum:	4607.00000
Maximum:	216614.00000
Sum:	94432498.00000
Mean:	17020.99820
Median:	14169.50000
Standard Deviation:	14787.16848

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:

NAMLRP Status of the mine site: Reclaimed : No Waste Pile onsite : No

NAMLRP Project Number: None

NAMLRP Mine features: None

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

None

Waste Piles

None

Pits

None

Shafts

None

Other Debris and Mine Features

Mound in center of mining area northwest of 1043 site boundary, appeared to be a reclamation cap; some scattered petrified wood around cap

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.

Hosteen Nez mine consists of an area of 24,232.14 m². The mine was identified as being operational from 1951 to 1956. Historical documents showed the operator of the mine as Hosteen Nez Mining from 1951 to 1952, and United Exploration in 1956. While operational, the mine had a total production volume of 61 tons. Kenneth Nez, the Grandson of Hosteen Nez, identified an area approximately 0.75 miles northwest of the AUM boundary as the actual mine site. No other historical information or any additional ownership / lease information was identified in the EPA/AUM database.

Part V Response Action Summary

Summary of Evaluation Factors:

Accessibility:

Was the mine easily accessible to potential human activity?

Yes

Radiological Measurements:

Were any gamma radiation measurements collected at the mine greater than two times the site-specific background levels?

Yes

Waste Piles:

Were any unreclaimed waste piles observed at the mine with gamma radiation measurements greater than two times the site-specific background levels?

No

Structures:

Were any structures observed within 200 feet of the mine?

No

Potential Drinking Water Sources:

Were any potential drinking water sources observed within 4 miles of the mine?

No

Reclamation:

Was the mine reported to be previously reclaimed, or did the mine appear to be reclaimed?

Yes (reclamation cap in area northwest of AUM boundary)

Part VI Photos



Photo 1. Hosteen Nez mine site



Photo 2. Hosteen Nez mine site, cliff edge



Photo 3. Hosteen Nez mine site, cliff edge



Photo 4. Hosteen Nez mine site, cliff edge



Photo 5. Hosteen Nez (northwest area)



Photo 6. Hosteen Nez (northwest area)



Photo 7. Hosteen Nez (northwest area)



Photo 8. Hosteen Nez (northwest area)



Photo 9. Hosteen Nez (northwest area), reclamation cap area



Photo 10. Hosteen Nez (northwest area), reclamation cap area



Photo 11. Hosteen Nez (northwest area), petrified wood with elevated gamma readings



Photo 12. Hosteen Nez (northwest area), canyons leading offsite

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: Kenneth Nez

Title or official role (if any) President – Coalmine Mesa Chapter

Telephone number (928) 283-3383

Address PO Box 1464, Tuba City, AZ 86045

Information provided Mr. Nez is the Chapter President of the Coalmine Mesa Chapter, and is the Grandson of Hosteen Nez (the namesake of the mine). Mr. Nez grew up near the mine site, and provided some historical information about the mining activities and history.

Name _____

Title or official role (if any) _____

Telephone number _____

Information provided _____

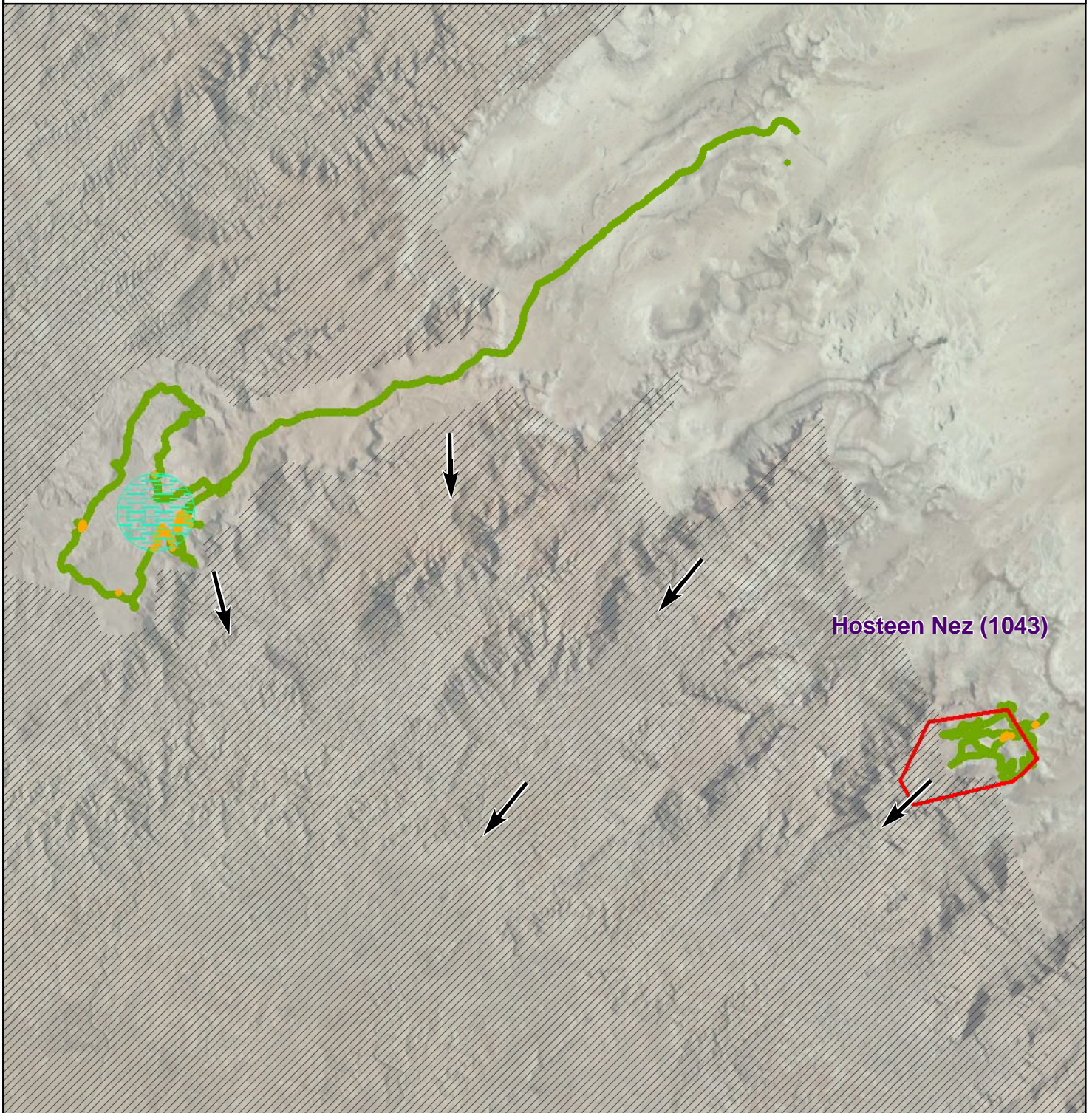
Name _____

Title or official role (if any) _____

Telephone number _____

Information provided _____

**Figure 1 - Gamma Radiation Measurements, Above Two Times Background
Hosteen Nez (1043)
Coalmine Mesa Chapter, Navajo Nation**



Hosteen Nez (1043)

Legend

Gamma Radiation Measurements

- < 2X Background
- > 2X Background

Gamma survey conducted 11/2010
Measured as counts per minute (cpm)

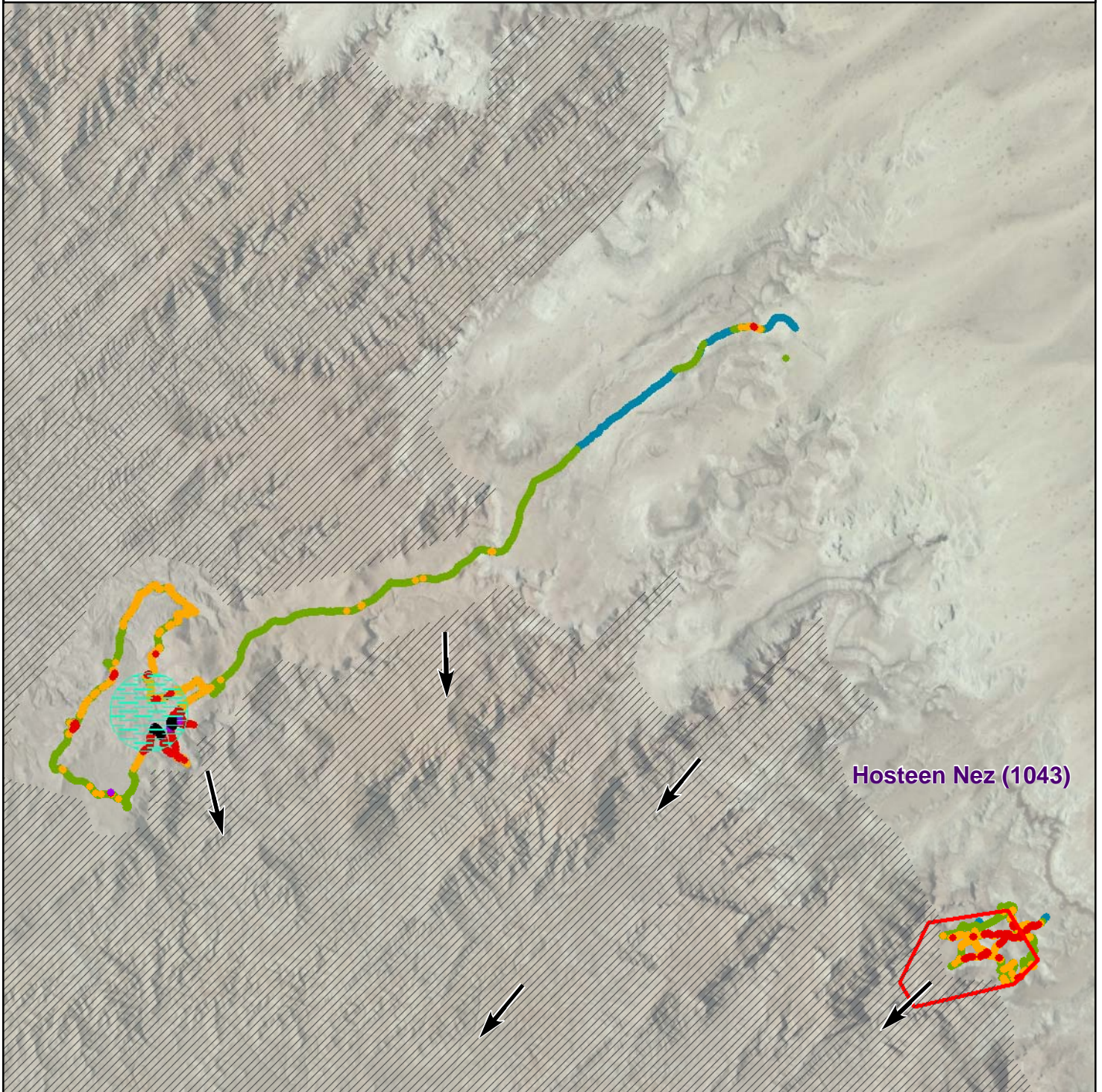
Average background 12,446 cpm

- General Slope Direction
- ▨ Observed Reclamation Area
- ▨ Steep Grade
- ▭ Mine Site Boundary

0 1,000 Feet

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**Figure 2 - Gamma Radiation Measurements
Hosteen Nez (1043)
Coalmine Mesa Chapter, Navajo Nation**



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

- General Slope Direction
- ▨ Observed Reclamation Area
- ▨ Steep Grade
- ▭ Mine Site Boundary

**Gamma survey conducted 11/2010
Measured as counts per minute (cpm)**

Average background 12,446 cpm

