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.

Mine Name: Skyline
Mine ID: 254

Navajo AUM North Central Region

Prepared by:

Weston Solutions, Inc.

Contract: W91238-06-F-0083

20074.063.039.0020

April 2012
Part I Site Identification, Location and Status

Site Names and ID numbers as applicable

Mine ID: 254
Map ID: NC23
CERCLIS: NNN000909273

Navajo Abandoned Mine Land Reclamation Program: NA-0212

Local name / Aliases: Utah No. 1 Lease; Skyline Mine - East; West; and North; Skyline Mine

Chapter and local area: Oljato

County: San Juan State: UT
Lat/Long: 37.0205870637 N / -110.232474615 W

Nearby road and highway: Indian Route 6420 Local Post Office: Oljato, AZ

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

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

Subsurface Mineral Rights:

No information on subsurface mineral rights ownership was found in the EPA/AUM Database.

Claim and operator information:

Historical documents identified the operator of the mine in 1944 as Carroll and Shumway, from 1949 to 1950 as Morgan Neilson, in 1950 as Barney Cockburn, from 1951 to 1955 as Archie Garwood and R.C. Gerlach (Garwood and Gerlach Mining Company), in 1956 as Jimmie Goodman, and from 1960 to 1963 as A & B Mining Company. No additional historical ownership / lease information was identified in the EPA / AUM database.

Number of residential structures within 200 feet of mine: None
Part II Summary of Radiological Readings

Mine ID: 254

Highest gamma radiation measurement: 999,960 counts per minute (cpm)

Background Average: 10,327 cpm Two Times Background: 20,654 cpm

Describe any other radiological measurements:

A total of 6,031 gamma radiation measurements were collected from the mine site, ranging from 5,897 cpm to 999,960 cpm. Maximum levels of approximately 1,000,000 cpm were found near the adits. The measurements are represented in Figures 1 and 2.

Distribution Chart and Statistics:

<table>
<thead>
<tr>
<th>Site Gamma Radiation Statistics</th>
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<tbody>
<tr>
<td>Number of Readings</td>
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<tr>
<td>Minimum (cpm)</td>
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<td>Maximum (cpm)</td>
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<tr>
<td>Mean (cpm)</td>
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<td>Median (cpm)</td>
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<td>Standard Deviation</td>
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</table>

Site Gamma Radiation Distribution

Counts Per Minute (cpm)

Number of Readings

< 10K 10K - 25K 25K - 50K 50K - 100K 100K - 250K 250K - 500K 500K - 1,000K

Skyline; Mine ID# 254

April 2012
Part III Status of Reclamation and Mine Waste

Mine ID: 254

The following information was obtained from the Navajo Abandoned Mine Land Reclamation Program (NAMLRP) Point Features Database:

NAMLRP Status of the mine site: Reclaimed: Yes Waste Pile onsite: Yes

NAMLRP Project Number: NA-0212

NAMLRP Mine features: 2 Portals

The following information was obtained from field observations collected during the 2011 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:
2 adits, concrete cinderblock sealed

Waste Piles:
Waste rock down cliffside, below adits

Pits:
None Observed

Shafts:
None Observed

Other Debris and Mine Features:
Waste rock partially removed to repository, built by US EPA in 2011, immediately south of the site
Part IV Site Observations and Environs

Observed Residential Structures (number and human habitation status of structures at the following distances from the mine site):

0 to 200 feet: None Observed

200 feet to 0.25 mile:

Observed Public or Commercial Structures (schools, clinics, Chapter Houses, places of business and any other structures used by members of the community at the following distances from the mine site):

0 to 200 feet: None observed

200 feet to 0.25 mile: None observed

Levels measured around the perimeter(s) of the identified structure(s):

Background Levels

Observed Water Sources (number and type of wells and surface water sources that are potentially used for human consumption at the following distances from the mine site):

0 to 0.25 miles: None Observed

0.25 miles to 4 miles: 1.5 mi SE - Well Filling Station (Gouldings); 2 mi SE - Reservoir (Gouldings); 3 mi W - Water Tank (224)

Sensitive Environments (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 (information from interviews with Chapter officials and residents and database review, includes: mine ownership, type of mining operation, period of operation, known amount of production, and any other information provided):

The Skyline mine claim consists of an area of 58,569 m². The mine was identified as being operational from 1944 to 1962. While operational, the mine had a total reported production volume of 5,090 tons. No additional historical 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?  
Yes

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?  
Yes

Reclamation:

Was the mine reported to be previously reclaimed, or did the mine appear to be reclaimed?  
Yes
Part VI Photos

<table>
<thead>
<tr>
<th>Photo 1</th>
<th>Mine Site #254</th>
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<tr>
<th>Photo 2</th>
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Photo 3  Mine Site #254

Photo 4  Mine Site #254 – EPA repository in distance
Photo 5 | Mine Site #254 – Bermed area

Photo 6 | Mine Site #254
Photo 8 | Mine Site #254
Photo 9  
Mine Site #254 – Downslope waste

Photo 10  
Mine Site #254 - Adits
Photo 11

Mine Site #254 - Adits

Photo 12

Mine Site #254 – Capped benches
Photo 13 | Mine Site #254 - Stainins

Photo 14 | Mine Site #254 - Slope
Photo 15  
Mine Site #254 - Slope

Photo 16  
Mine Site #254 – EPA repository area
Photo 17  |  Mine Site #254 – Vault at corner of repository

Photo 18  |  Mine Site #254
## Part VII  Contact Reports and Information

<table>
<thead>
<tr>
<th>Name:</th>
<th>Eugene Esplain</th>
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<tbody>
<tr>
<td>Title or official role (if any):</td>
<td>Navajo EPA Superfund Program</td>
</tr>
<tr>
<td>Telephone number:</td>
<td>(928) 871-7331</td>
</tr>
<tr>
<td>Address:</td>
<td>PO Box 2946, Window Rock, AZ 86515</td>
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<tr>
<td>Information provided:</td>
<td>Lead Regulatory Agency</td>
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Figure 1 - Gamma Radiation Measurements, Above Two Times Background
Skyline (254)
Oljato Chapter, Navajo Nation

Gamma Radiation Measurements
- Green circles: < 2X Background
- Orange circles: > 2X Background

Measured as counts per minute (cpm)
- Average background: 10,327 cpm

Legend:
- Red: Mine Site Boundary
- General Slope Direction
- Blue: Observed Reclamation Feature
- Red dots: Observed Waste Rock
- Observed Adit
Figure 2 - Gamma Radiation Measurements
Skyline (254)
Oljato Chapter, Navajo Nation

Gamma Radiation Measurements
- 0 - 10,000 cpm
- 10,000 - 25,000 cpm
- 25,000 - 50,000 cpm
- 50,000 - 100,000 cpm
- 100,000 - 250,000 cpm
- 250,000 - 500,000 cpm
- 500,000 - 1,000,000 cpm

Average background 10,327 cpm  Measured as counts per minute (cpm)