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.

Upper Red Wash AUM Site

Navajo AUM Northern Region

Prepared by:

Weston Solutions, Inc.

Contract: W91238-06-F-0083

12767.063.496.1111

March 2010

Part I Site Identification, Location and Status

Site Names and ID numbers as applicable

Mine ID: 31, 32

Map ID: #31 - N189
#32 - N190

CERCLIS: NNN000908836

Navajo Abandoned Mine Land Reclamation Program: #31 – NA-0825
#32 – NA-0825

Local name / Aliases: Nakai Chee Begay

Chapter and local area: #31 – Red Valley
#32 – Red Valley

County: San Juan / Apache **State:** New Mexico / Arizona

Lat/Long: #31 - 36.6530986424 N / -109.049443681 W
#32 - 36.6504486727 N / -109.045414009 W

Nearby road and highway: Indian Route 63 **Local Post Office:** Beclabito, NM

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:
The mine site surface land status is classified as Tribal Trust Land. Historical documents showed the operator of the mine as Nakai Chee Begay from 1950 to 1951, and Pershing Mining Co. in 1953. No other historical ownership / lease information was identified in the EPA/AUM database.

Number of residential structures within 200 feet of mine: Unoccupied stone Hogan 150' southeast of site #31

Estimated volume of mine waste onsite: None

Part II Summary of radiological readings

Mine ID # 31

Highest gamma radiation measurement:

108,261 counts per minute (cpm)

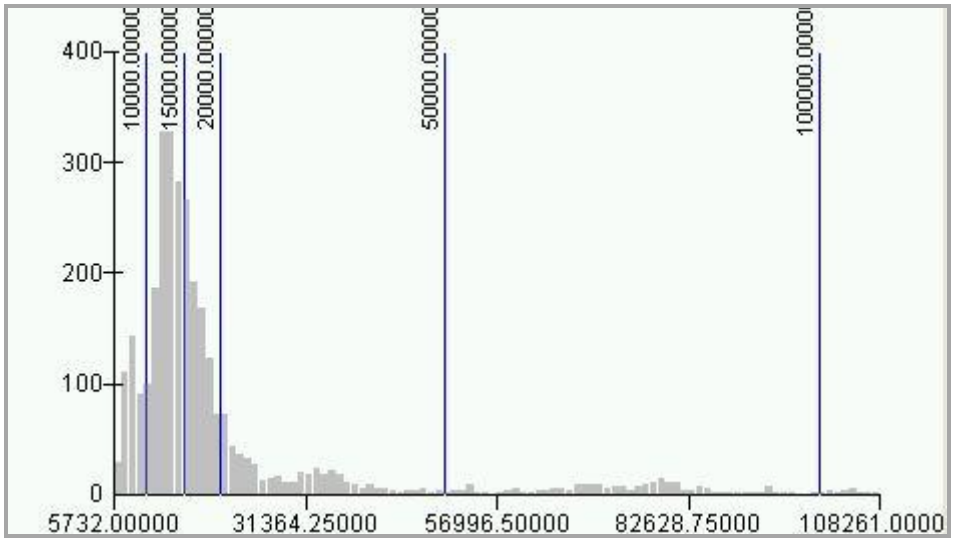
Describe any other radiological measurements:

A total of 3,131 gamma radiation measurements were collected from the mine site, ranging from 5,732 cpm to 108,261 cpm. Measurements collected near the hogan southeast of the site were found at levels of approximately 100,000 cpm. The measurements are represented in Figures 1 and 2.

Background Locations **Average background =** 10,395 cpm
#1 10,395 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:	3131
Minimum:	5732.00000
Maximum:	108261.00000
Sum:	64174906.00000
Mean:	20496.61642
Median:	14833.00000
Standard Deviation:	17719.67516

Mine ID # 32

Highest gamma radiation measurement:

205,366 counts per minute (cpm)

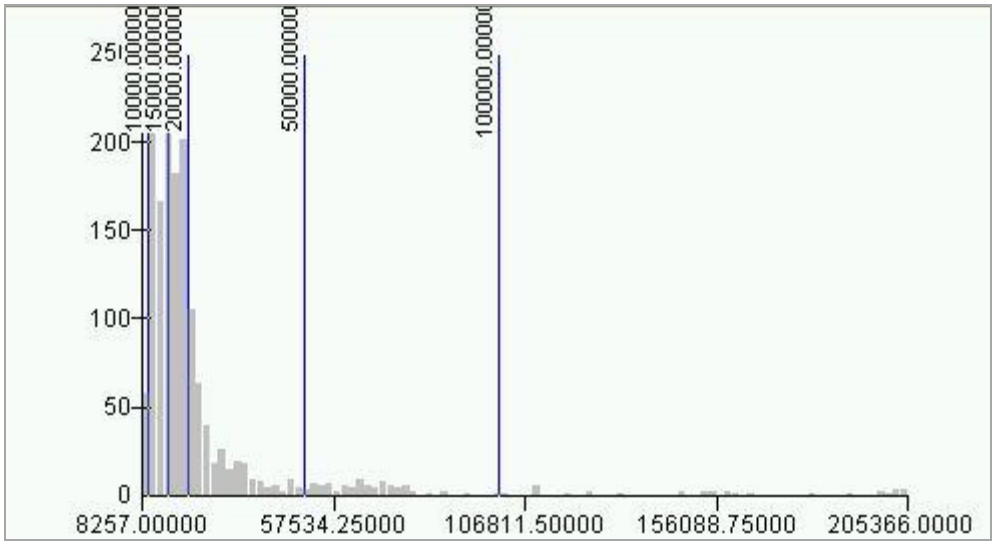
Describe any other radiological measurements:

A total of 1,487 gamma radiation measurements were collected from the mine site, ranging from 8,257 cpm to 205,366 cpm. The measurements are represented in Figures 1 and 2.

Background Locations **Average background =** 10,991 cpm
#1 10,991 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:	1487
Minimum:	8257.00000
Maximum:	205366.00000
Sum:	34958873.00000
Mean:	23509.66577
Median:	17092.00000
Standard Deviation:	24068.99374

Part III Status of Reclamation and Mine Waste

Mine ID #31

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 :** No

NAMLRP Project Number: NA-0825

NAMLRP Mine features: 1 Portal, 4 Rim Strip / Pits

The following information was obtained from field observations collected during the 2009 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
Some wood debris was found throughout the site

Mine ID #32

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 :** No

NAMLRP Project Number: NA-0825

NAMLRP Mine features: 1 Rim Strip / Pit

The following information was obtained from field observations collected during the 2009 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
None

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: Unoccupied stone hogan observed approximately 150' south of site #31

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): 100,000 cpm

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.

Upper Red Wash consists of 2 mine sites with a total area of 35,153.39 m^2 (#31 – 27,045.96 m^2, #32 – 8,107.43 m^2). The mine was identified as being operational from 1950 to 1953. Historical documents showed the operator of the mine as Nakai Chee Begay from 1950 to 1951, and Pershing Mining Co. in 1953. While operational, the mine had a total reported production volume of 760 tons. No other historical information or any additional ownership / lease information was identified in the EPA/AUM database.

Part V Response Action Summary

Site Name(s): Upper Red Wash **Chapter:** Red Valley

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? None

At what distances from the waste pile are there potential drinking water sources? None

Is there a reclamation cap or sealed adit in place at the site? None

Is the cap/seal functionally intact? None

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? None

At what distance from the cap/seal is the nearest domestic drinking water source? None

Summary of emergency response factors

None

Summary hazard ranking system factors

None

Summary of reclamation factors

None

Part VI Photos

Photo 1. Site #31

Photo 2. Unoccupied hogan southeast of site #31

Photo 3. Unoccupied hogan southeast of site #31

Photo 4. Unoccupied hogan southeast of site #31

Photo 5. Site #31 wood debris

Photo 6. Site #31

Photo 7. Site #31

Photo 8. Site #31

Photo 9. Site #31 wood debris

Photo 10. Site #32

Photo 11. Site #32

Photo 12. Site #32

Photo 13 Site #32

Photo 14. Site #32

Photo 15. Site #32 USGS marker

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_____

Title or official role (if any) _____

Address_____

Telephone number_____

Information provided_____

Name_____

Title or official role (if any) _____

Telephone number_____

Information provided_____

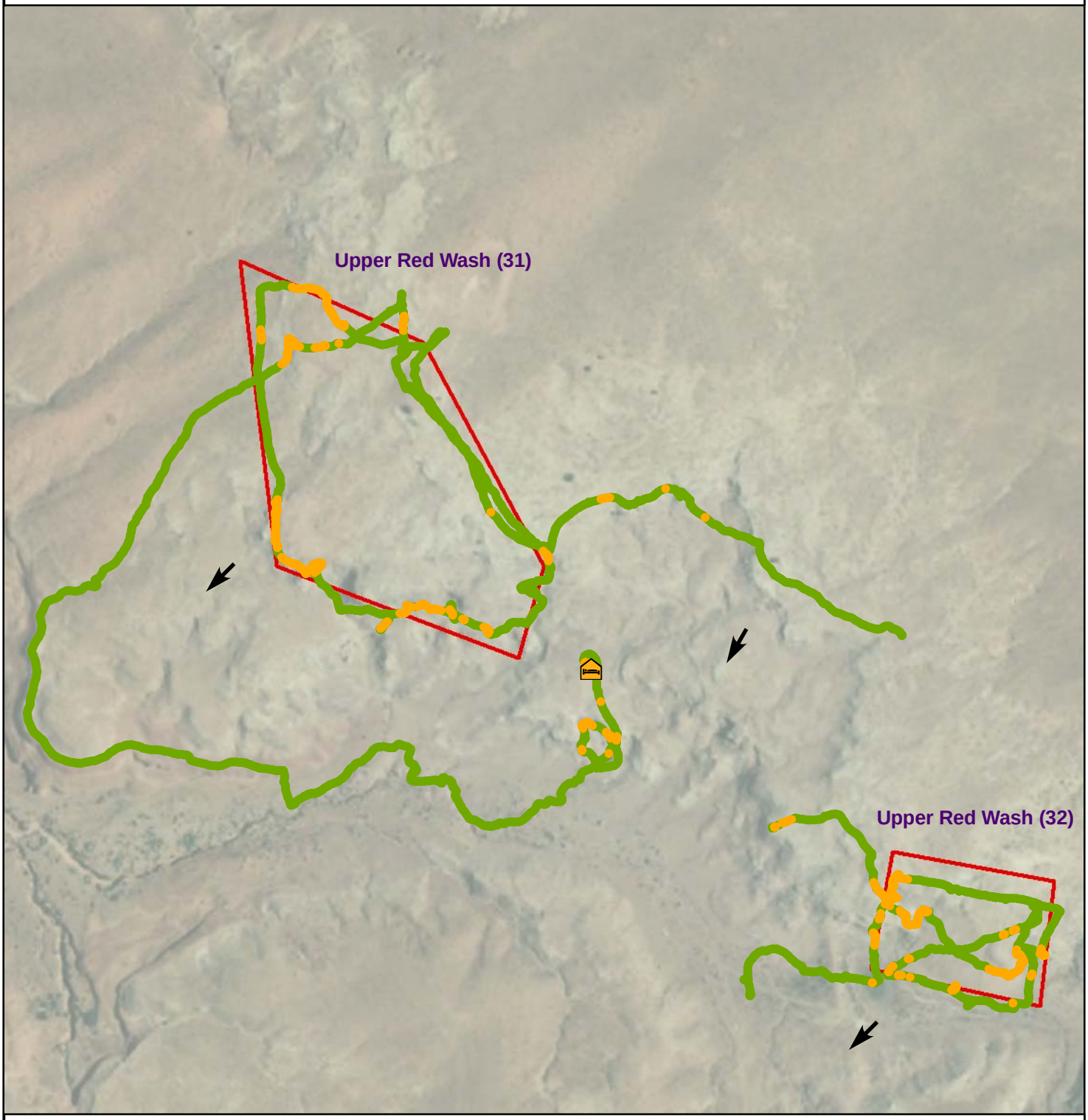
Name_____

Title or official role (if any) _____

Telephone number_____

Information provided_____

Figure 1 - Gamma Radiation Measurements, Above Two Times Background
Upper Red Wash (31, 32)
Red Valley Chapter, Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- < 2X Backgound
- > 2X Background

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

Average background = 10,693 cpm

Observed Housing Structure

General Direction Down-Slope

Mine Claim Boundaries

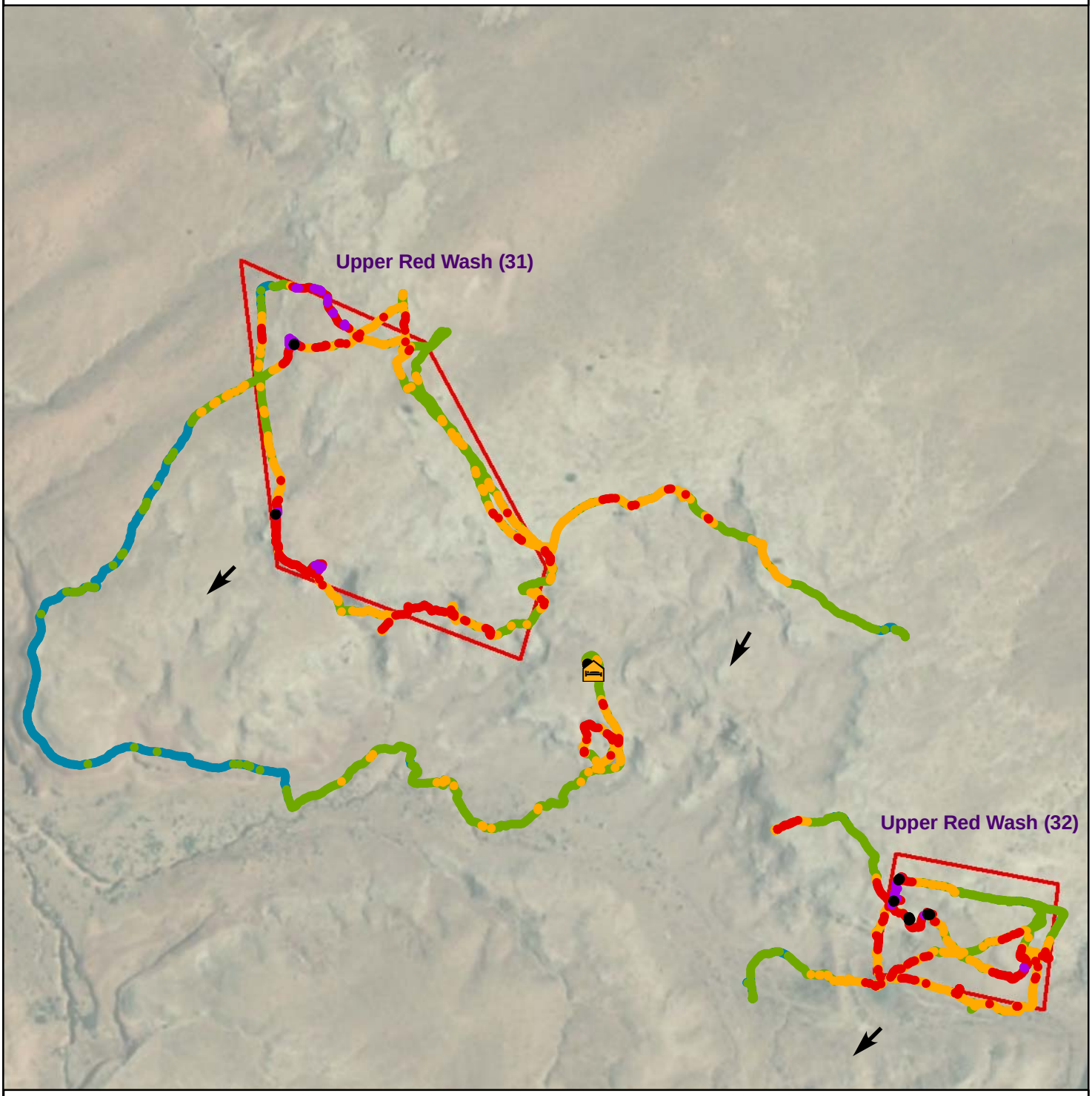
N

Feet

0 350

WESTON SOLUTIONS

Figure 2 - Gamma Radiation Measurements
Upper Red Wash (31, 32)
Red Valley Chapter, Navajo Nation, Arizona



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

Observed Housing Structure

General Direction Down-Slope

Mine Claim Boundaries

Gamma survey conducted 10/2009
Measured as counts per minute (cpm)

Average background 10,693 cpm

N

Feet
0 350

WESTON SOLUTIONS