

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.

Saytah Canyon AUM Site

Navajo AUM Northern 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

Mine ID: 186 (Plot 16), 619 (Plot 15), 620 (Plot 14)

Map ID: #186 – N91, #619 – N92, #620 – N88

CERCLIS: #186 - NNN000909025
#619 - NNN000909024
#620 - NNN000908986

Navajo Abandoned Mine Land Reclamation Program: #186 – N A-0505, #619 & 620- None

Local name / Aliases: Eurida Mesa; VCA Plot 14, 15, 16; VCA West Reservation Plot 14, 15, 16

Chapter and local area: Sweetwater Chapter

County: Apache **State:** Arizona

Lat/Long: #186 - 36.793375049 N / -109.282212534 W
#619 - 36.794045417 N / -109.274931988 W
#620 - 36.798815427 N / -109.276028276 W

Nearby road and highway: Highway 160 **Local Post Office:** Teec Nos Pos

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 Cyprus Foote Mineral Co. (VCA) from 1944 to 1956. No other historical 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: #186 – 5 yd³, #619 – 440 yd³, #620 – 2780 yd³

Part II Summary of radiological readings

Site: Plot 16

Mine ID: 186

Highest gamma radiation measurement:

640,128 counts per minute (cpm)

Describe any other radiological measurements:

A total of 4,232 gamma radiation measurements were collected from the mine site, ranging from 4,263 cpm to 640,128 cpm. Measurements collected in the vicinity of the waste debris were found at levels up to approximately 600,000 cpm. The measurements are represented in Figures 1 and 2.

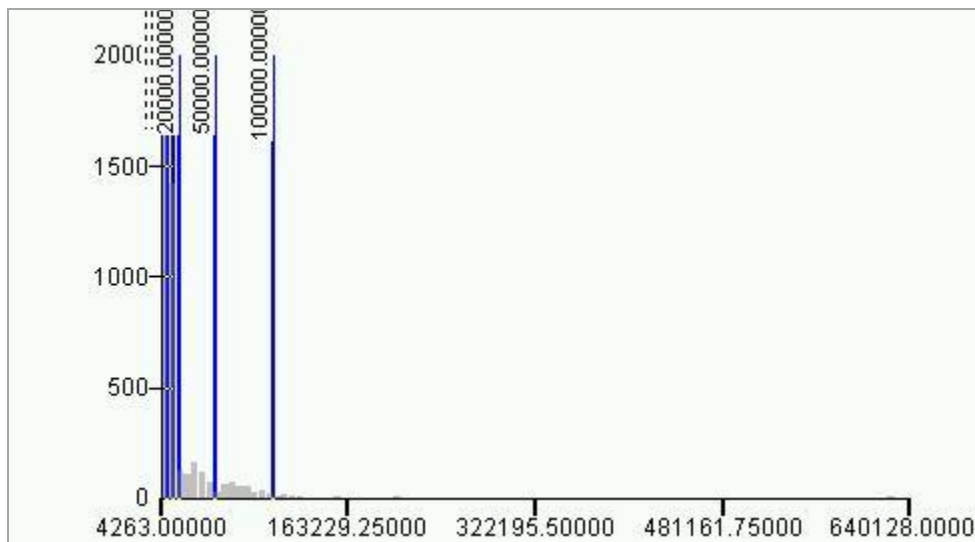
Background Locations

Average background = 9,121 cpm

#1 9,121 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:	4232
Minimum:	4263.00000
Maximum:	640128.00000
Sum:	103952303.00000
Mean:	24563.39863
Median:	11425.50000
Standard Deviation:	52542.91004

Site: Plot 15

Mine ID: 619

Highest gamma radiation measurement:

77,442 counts per minute (cpm)

Describe any other radiological measurements:

A total of 3,587 gamma radiation measurements were collected from the mine site, ranging from 5,899 cpm to 77,442 cpm. Measurements collected in the vicinity of the waste debris were found at levels up to approximately 70,000 cpm. The measurements are represented in Figures 1 and 2.

Background Locations

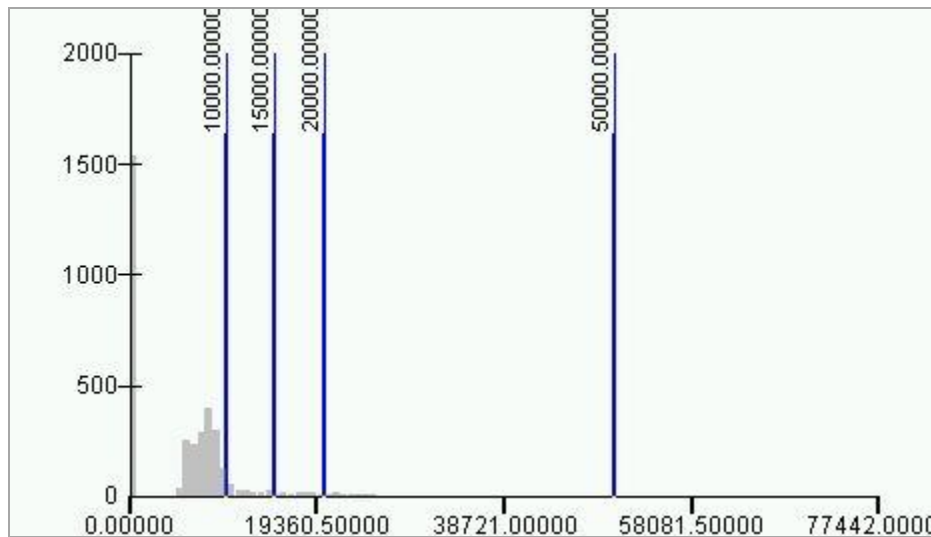
Average background = 9,896 cpm

#1 9,121 cpm

#2 10,669 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:	3587
Minimum:	0.00000
Maximum:	77442.00000
Sum:	21275209.00000
Mean:	5931.19849
Median:	6129.00000
Standard Deviation:	8422.86712

Site: Plot 14

Mine ID: 620

Highest gamma radiation measurement:

999,960 counts per minute (cpm)

Describe any other radiological measurements:

A total of 2,639 gamma radiation measurements were collected from the mine site, ranging from 5,201 cpm to 999,960 cpm. Measurements collected in the vicinity of the waste debris near the adit were found at levels up to approximately 1,000,000 cpm (the maximum gamma radiation level the equipment can detect). The measurements are represented in Figures 1 and 2.

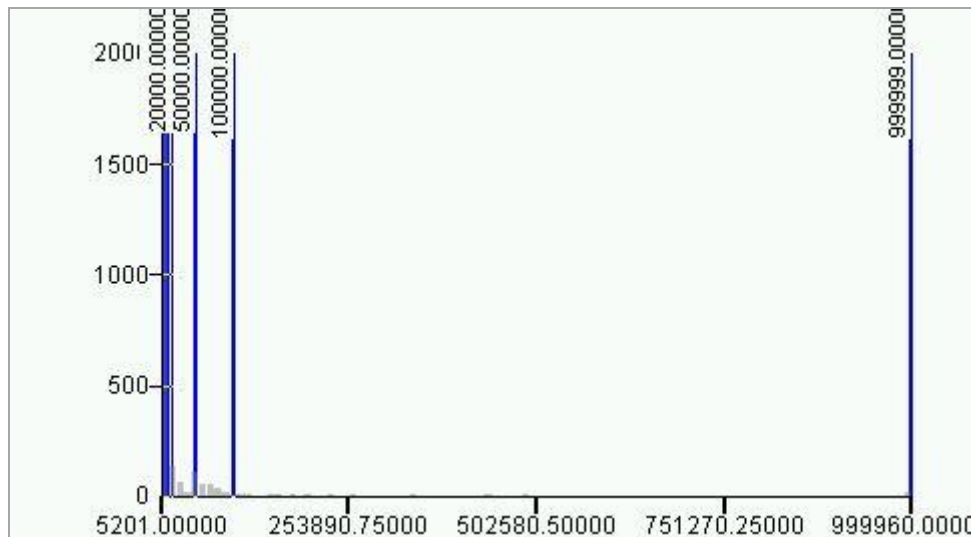
Background Locations

#1 9,121 cpm

Average background = 9,121 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:	2639
Minimum:	5201.00000
Maximum:	999960.00000
Sum:	100615481.00000
Mean:	38126.36643
Median:	9423.00000
Standard Deviation:	113452.34130

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 : Yes Waste Pile onsite : Yes

NAMLRP Project Number: #186 – NA-0505, #619 – None, #620 – None

NAMLRP Mine features: 1Portal, 3 Rim Strip / Pits, 1 Prospect

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

#186 - 1 sealed adit; 1 collapsed adit

#620 - 2 adits on hillside, one open

Waste Piles

#186 - Scattered waste rock in bench area

#619 - 1 circular waste pile approximately 400 yd³; smaller pile near pit approx 40 yd³

#620 - Waste rock below adits 150'x100'x5'

Pits

#619 - Small excavation pit within waste pile

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: 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, type of mining operation, period of operation, known amount of production, and any other information as provided.

Mine claim consists of 3 sites, Plot 16 #186, with an area of 16,534.98 m², Plot 15 #619, with an area of 7,134.43 m², and Plot 14 #620 with an area of 14,746.39 m². The mine was identified as being operational from 1944 to 1956. Historical documents showed the operator of the mine as Cyprus Foote Mineral Co. (VCA) from 1944 to 1956. While operational, the mine had a total reported production volume of 886 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): Plot 14, Plot 15, Plot 16 **Chapter:** Sweetwater

Decision Criteria

Is there an unreclaimed waste pile at the site? Yes

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? Yes

Is the cap/seal functionally intact? Yes

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

2 sealed adits; open adit; unreclaimed waste piles; reclamation evidence

Part VI Photos



Photo 1. Plot 16 site #186



Photo 2. Plot 16 site #186



Photo 3. Plot 16 site #186



Photo 4. Plot 16 site #186



Photo 5. Plot 16 site #186, adit



Photo 6. Plot 16 site #186, adit entrance



Photo 5. Plot 16 site #186, adit internal



Photo 6. Plot 15 site #619



Photo 7. Plot 15 site #619



Photo 8. Plot 15 site #619



Photo 9. Plot 14 site #620



Photo 10. Plot 14 site #620, adit



Photo 11. Plot 14 site #620, adit



Photo 12. Plot 14 site #620, adit



Photo 13. Plot 14 site #620, adit

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 _____

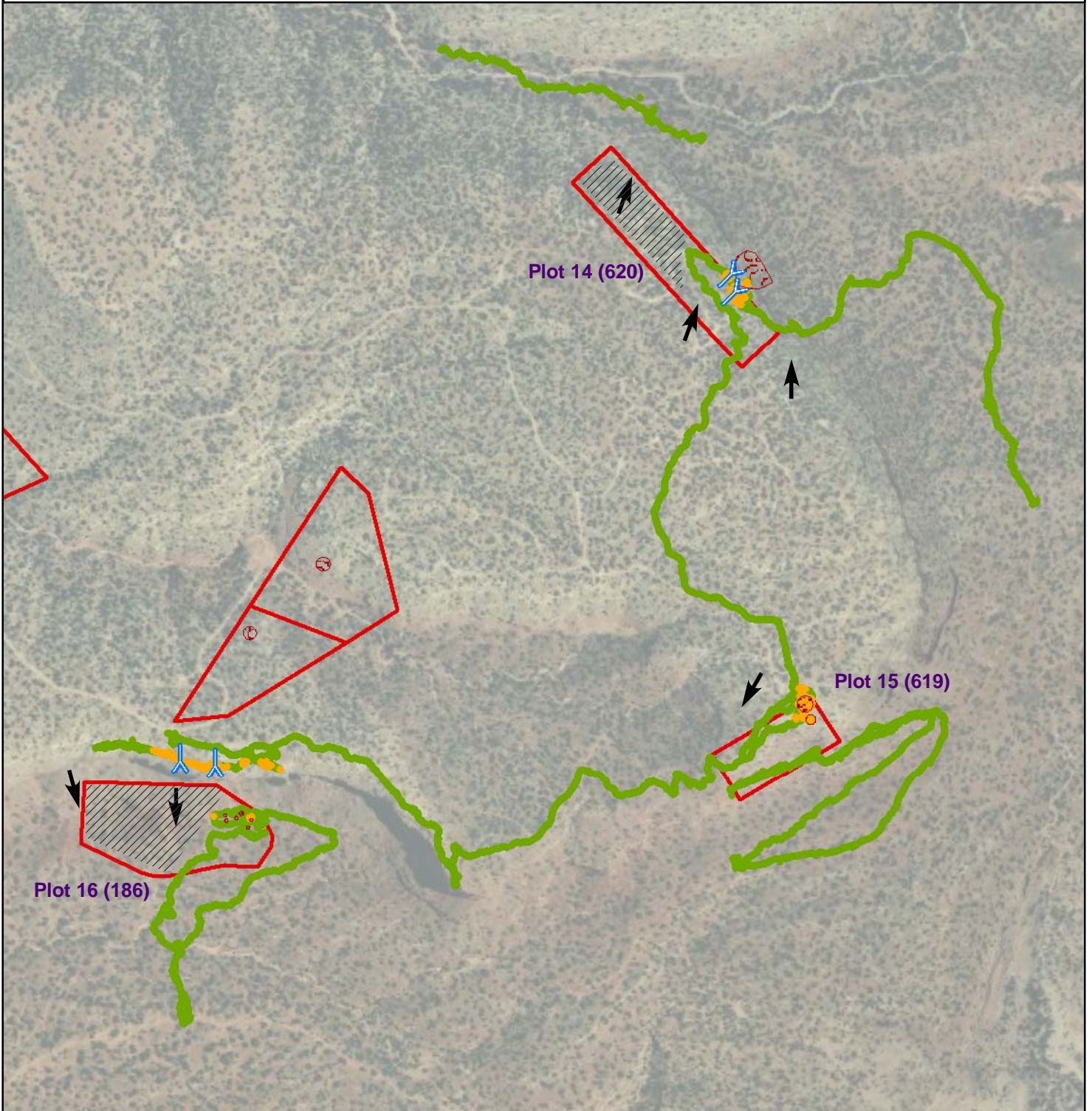
Name _____

Title or official role (if any) _____

Telephone number _____

Information provided _____

**Figure 1 - Gamma Radiation Measurements, Above Two Times Background
 Plot 16 (186), Plot 15 (619), Plot 14 (620)
 Sweetwater Chapter, Navajo Nation**



Legend

Gamma Radiation Measurements

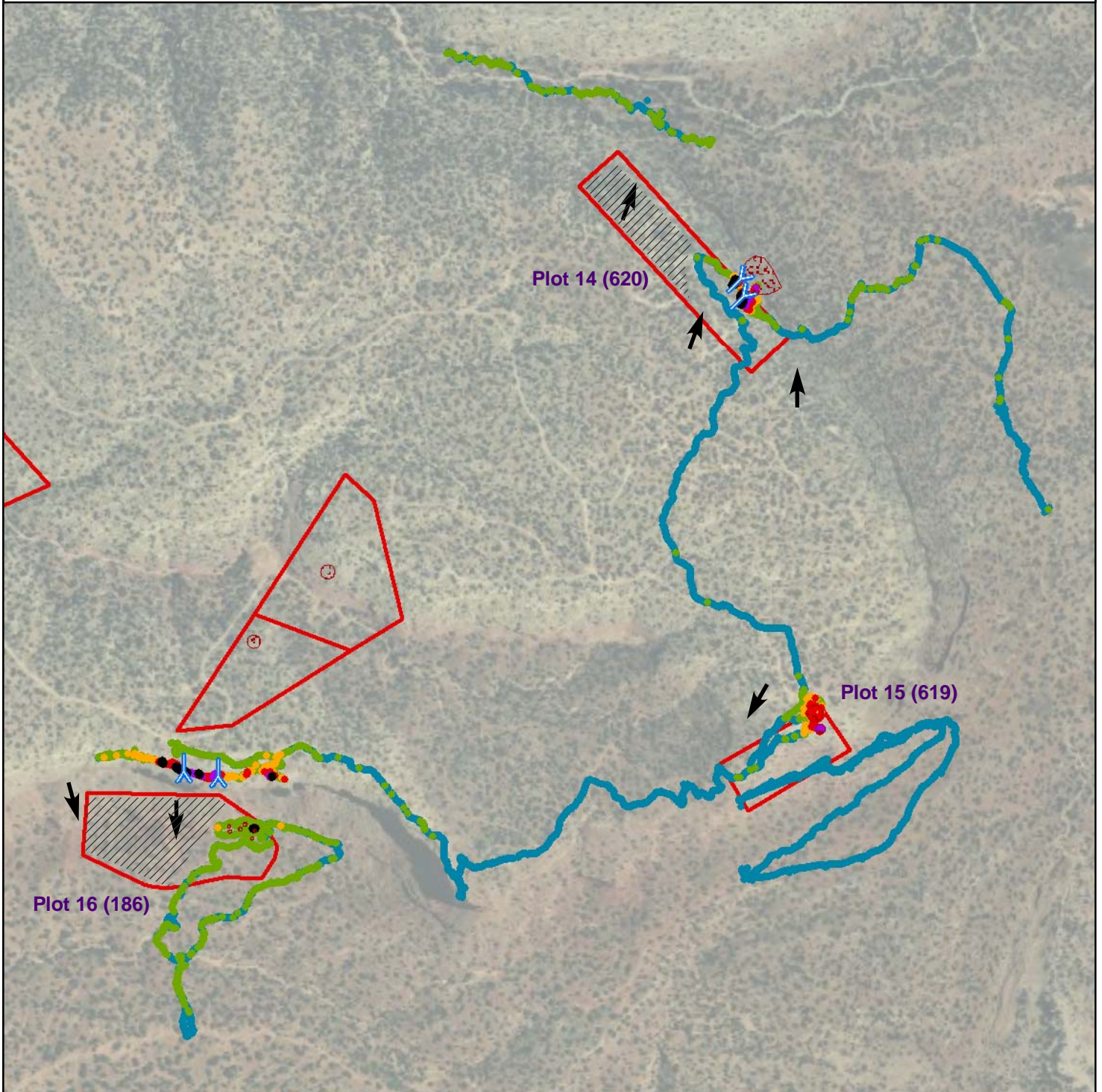
- < 2X Background
- > 2X Background

Gamma survey conducted 06/2010
 Measured as counts per minute (cpm)

Average background = 9,121 cpm

- General Direction Down-Slope
- Mine Claim Boundaries
- Inaccessible due to steep grades
- Observed Waste Pile
- Observed Adit

**Figure 2 - Gamma Radiation Measurements
Plot 16 (186), Plot 15 (619), Plot 14 (620)
Sweetwater 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 Direction Down-Slope
- ▭ Mine Claim Boundaries
- ▨ Inaccessible due to steep grades
- ▨ Observed Waste Pile
- ➔ Observed Adit

Gamma survey conducted 06/2010
Measured as counts per minute (cpm)

Average background 9,121 cpm

0 700 Feet

WESTON SOLUTIONS