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.

Rocky Flats No. 1 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: 265, 266, 267, 268, 269

Map ID: #265 – N84
#266 – N85
#267 – N81
#268 – N82
#269 – N83

CERCLIS: NNN000908868

Navajo Abandoned Mine Land Reclamation Program:

#265 – NA-0413
#266 – NA-0413
#267 – NA-0416
#268 – NA-0415
#269 – NA-0414

Local name / Aliases: Rocky; Rocky No. 1; MP-30; Rocky Flats 1; Barton and Lee; H. Barton and T. Lee; Rocky Flat No. 2

Chapter and local area: #265 - Beclabito Chapter
#266 - Beclabito Chapter
#267 - Beclabito Chapter
#268 - Beclabito Chapter
#269 - Beclabito Chapter

County: San Juan **State:** New Mexico

Lat/Long: #265 - 36.7841286902 N / -109.037850025 W
#266 - 36.7831940000 N / -109.036152000 W
#267 - 36.7895173125 N / -109.037027203 W
#268 - 36.7881973232 N / -109.036466911 W
#269 - 36.7859568994 N / -109.035754609 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:

The mineral rights ownership was identified as Indian.

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 Barton and Lee from 1950 to 1952, and Barrett Smith Mining Co. from 1953 to 1955. 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:
#265 – None
#266 – None
#267 – None
#268 – None
#269 – 5 yd^3

Part II Summary of radiological readings

Mine ID # 265

Highest gamma radiation measurement:

17,123 counts per minute (cpm)

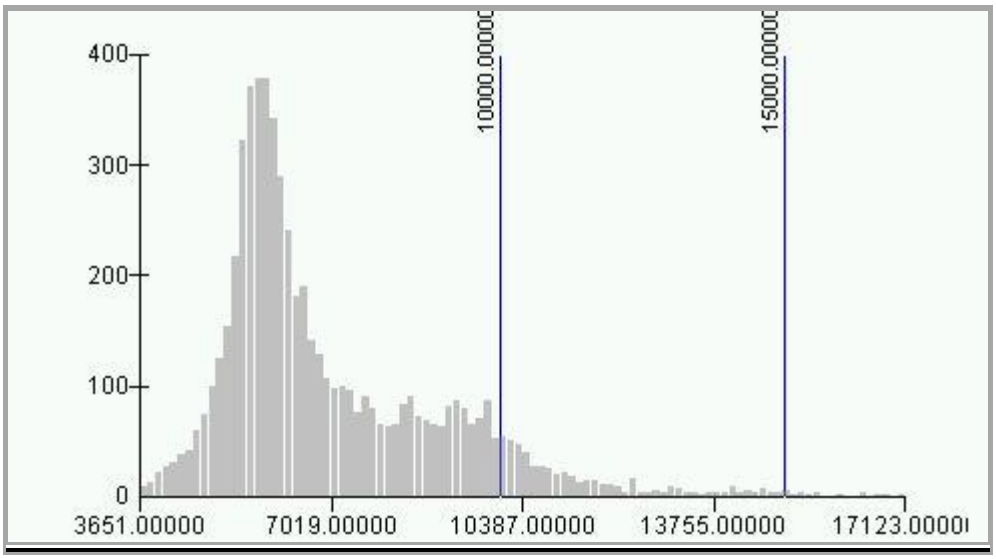
Describe any other radiological measurements:

A total of 6,207 gamma radiation measurements were collected from the mine site, ranging from 3,651 cpm to 17,123 cpm. The measurements are represented in Figures 2 and 3.

Background Locations **Average background** = 8,277 cpm
#1 8,277 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:	6207
Minimum:	3651.00000
Maximum:	17123.00000
Sum:	43464230.00000
Mean:	7002.45368
Median:	6268.00000
Standard Deviation:	1974.61118

Mine ID #266

Highest gamma radiation measurement:

34,133 counts per minute (cpm)

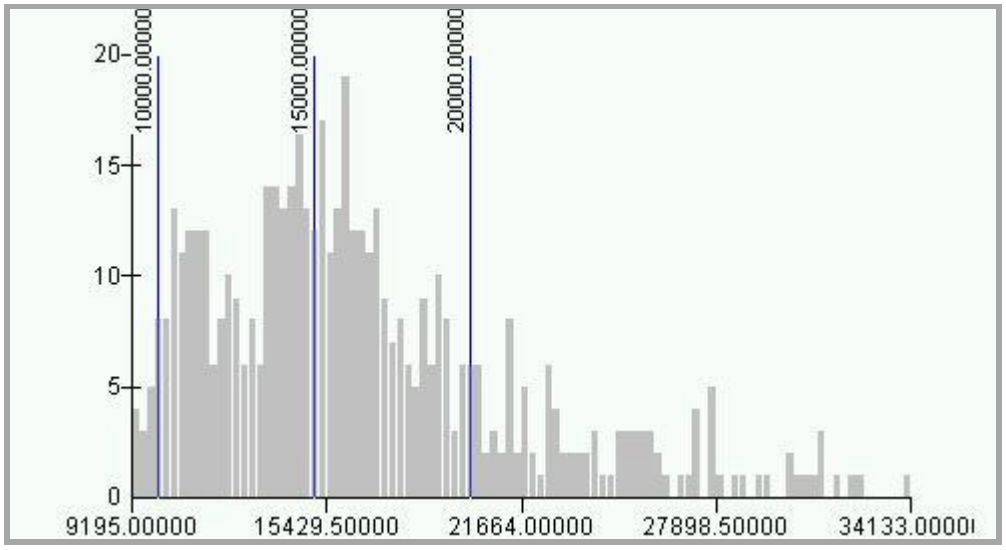
Describe any other radiological measurements:

A total of 530 gamma radiation measurements were collected from the mine site, ranging from 9,195 cpm to 34,133 cpm. Measurements collected at the reclamation cap were found at levels above 30,000 cpm. The measurements are represented in Figures 4 and 5.

Background Locations **Average background** = 8,277 cpm
#1 8,277 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:	530
Minimum:	9195.00000
Maximum:	34133.00000
Sum:	8762651.00000
Mean:	16533.30377
Median:	15612.50000
Standard Deviation:	4904.45764

Mine ID # 267

Highest gamma radiation measurement:

15,469 counts per minute (cpm)

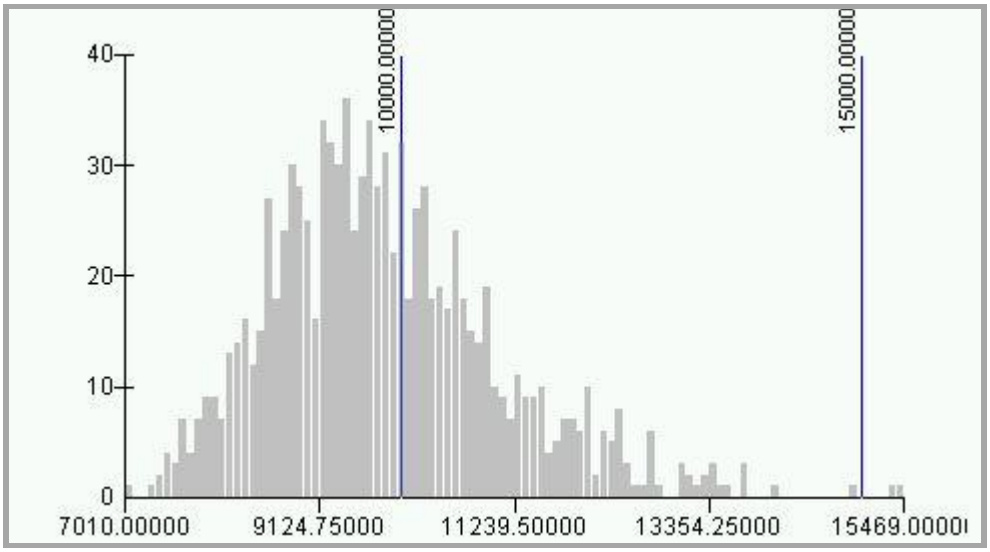
Describe any other radiological measurements:

A total of 997 gamma radiation measurements were collected from the mine site, ranging from 7,010 cpm to 15,469 cpm. The measurements are represented in Figures 6 and 7.

Background Locations **Average background** = 8,277 cpm
#1 8,277 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:	997
Minimum:	7010.00000
Maximum:	15469.00000
Sum:	9810896.00000
Mean:	9840.41725
Median:	9692.00000
Standard Deviation:	1247.25914

Mine ID # 268

Highest gamma radiation measurement:

79,866 counts per minute (cpm)

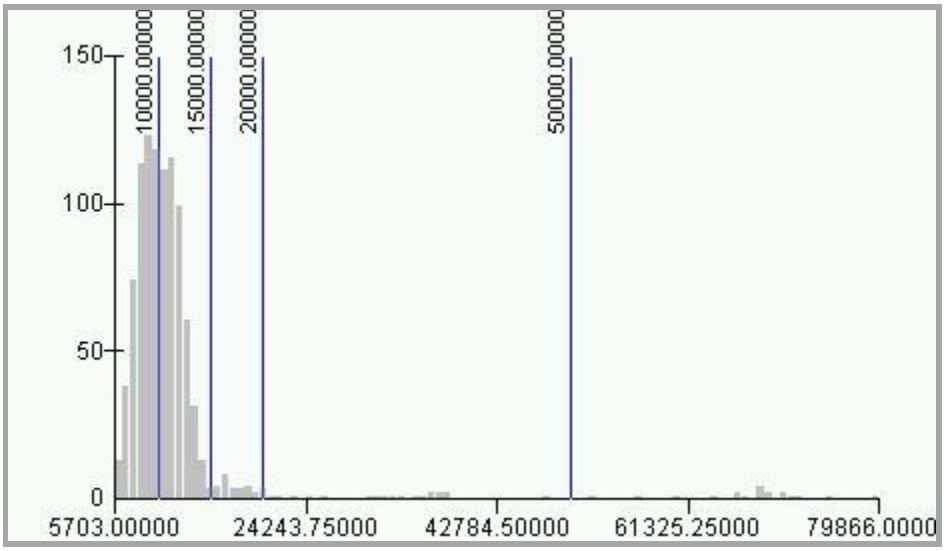
Describe any other radiological measurements:

A total of 1,002 gamma radiation measurements were collected from the mine site, ranging from 5,703 cpm to 79,866 cpm. The measurements are represented in Figures 8 and 9.

Background Locations **Average background** = 8,277 cpm
#1 8,277 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:	1002
Minimum:	5703.00000
Maximum:	79866.00000
Sum:	11789585.00000
Mean:	11766.05289
Median:	10132.50000
Standard Deviation:	8690.54103

Mine ID # 269

Highest gamma radiation measurement:

107,513 counts per minute (cpm)

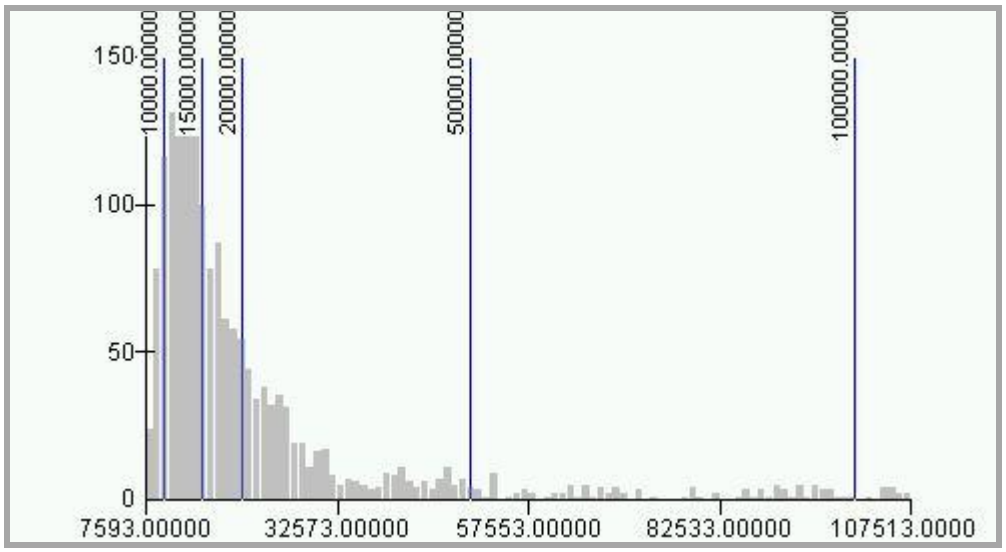
Describe any other radiological measurements:

A total of 1,723 gamma radiation measurements were collected from the mine site, ranging from 7,593 cpm to 107,513 cpm. Measurements collected at the adit and waste pile were found at levels above 100,000 cpm. The measurements are represented in Figures 10 and 11.

Background Locations **Average background** = 8,277 cpm
#1 8,277 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:	1723
Minimum:	7593.00000
Maximum:	107513.00000
Sum:	37545105.00000
Mean:	21790.54266
Median:	15609.00000
Standard Deviation:	17656.28549

Part III Status of Reclamation and Mine Waste

Mine ID #265

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-0413

NAMLRP Mine features: 1Rim 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
A 150’ x 150’ reclamation cap at center of the site

Mine ID #266

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-0413

NAMLRP Mine features: 1 Portal

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

Mine ID #267

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-0416

NAMLRP Mine features: 1 Portals

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

Mine ID #268

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-0415

NAMLRP Mine features: 1 Portal

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

Mine ID #269

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-0414

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
1 possible collapsed adit

Waste Piles
A small waste debris pile at entrance to the adit

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: 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.

Rocky Flats No. 1 consists of 5 mine sites with a total area of 15,960.13 m^2 (#265 – 2,627.69 m^2, #266 – 2,627.69 m^2, #267 – 2,627.70 m^2, #268 – 2,627.69 m^2, #269 – 5,449.36m^2). The mine was identified as being operational from 1950 to 1955. Historical documents showed the operator of the mine as Barton and Lee from 1950 to 1952, and Barrett Smith Mining Co. from 1953 to 1955. While operational, the mine had a total reported production volume of 509 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): Rocky Flats No. 1 **Chapter:** Beclabito.

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

Waste pile and possible collapsed adit found at site #269; reclamation cap found at site #266

Part VI Photos

Photo 1. Mine site #265

Photo 2. Mine site #266 reclamation cap area

Photo 3. Mine site #266

Photo 4. Mine site #267

Photo 5. Mine site #268

Photo 6. Mine site #269 collapsed adit and waste pile

Photo 7. Mine site #269

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_____

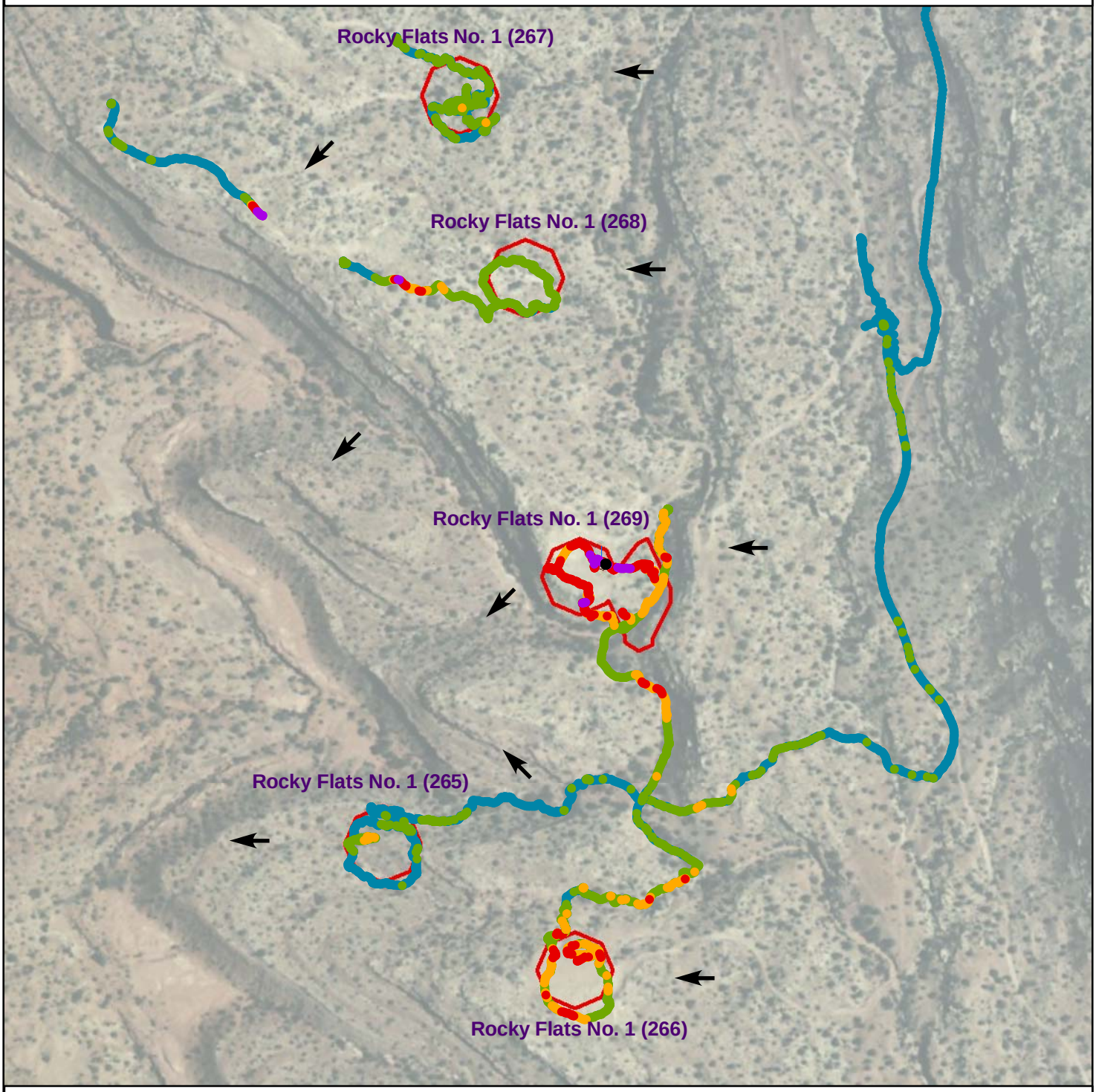
Name_____

Title or official role (if any) _____

Telephone number_____

Information provided_____

Figure 1 - Gamma Radiation Measurements
Rocky Flats No.1 Mines (265, 266, 267, 268, 269)
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

General Direction Down-Slope

Mine Claim Boundaries

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

N

0 500 Feet

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Figure 2 - Gamma Radiation Measurements, Above Two Times Background
Rocky Flats No. 1 (265)
Beclabito 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 = 8,277 cpm

General Direction Down-Slope

Mine Claim Boundaries

N

0 100 **Feet**

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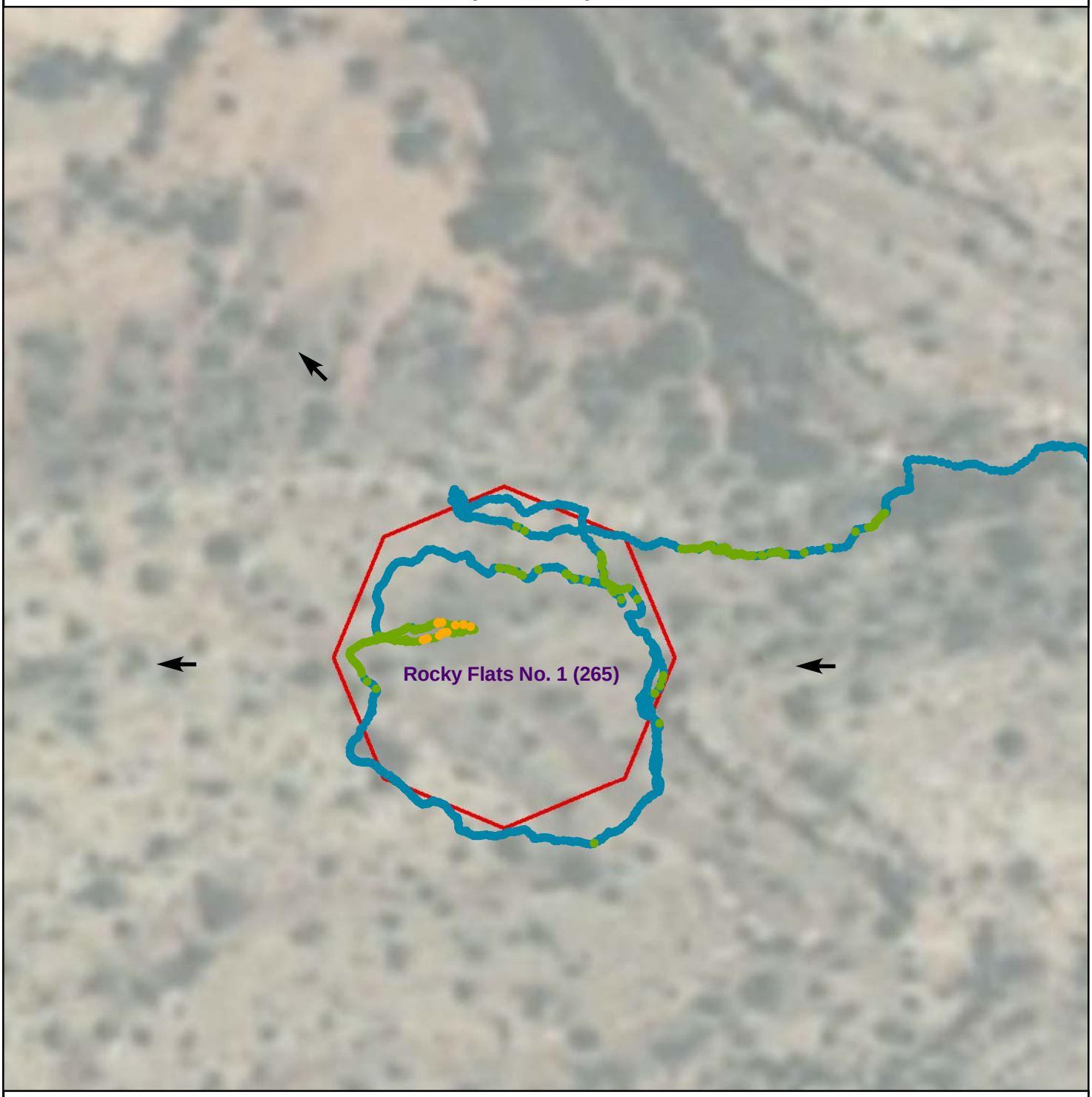
Figure 3 - Gamma Radiation Measurements
Rocky Flats No. 1 (265)
Beclabito Chapter, Navajo Nation, Arizona



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

General Direction Down-Slope

Mine Claim Boundaries

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

Average background 8,277 cpm

N

Feet

0 100

Figure 4 - Gamma Radiation Measurements, Above Two Times Background
Rocky Flats No. 1 (266)
Beclabito 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 = 8,277 cpm

Observed Reclamation Cap

General Direction Down-Slope

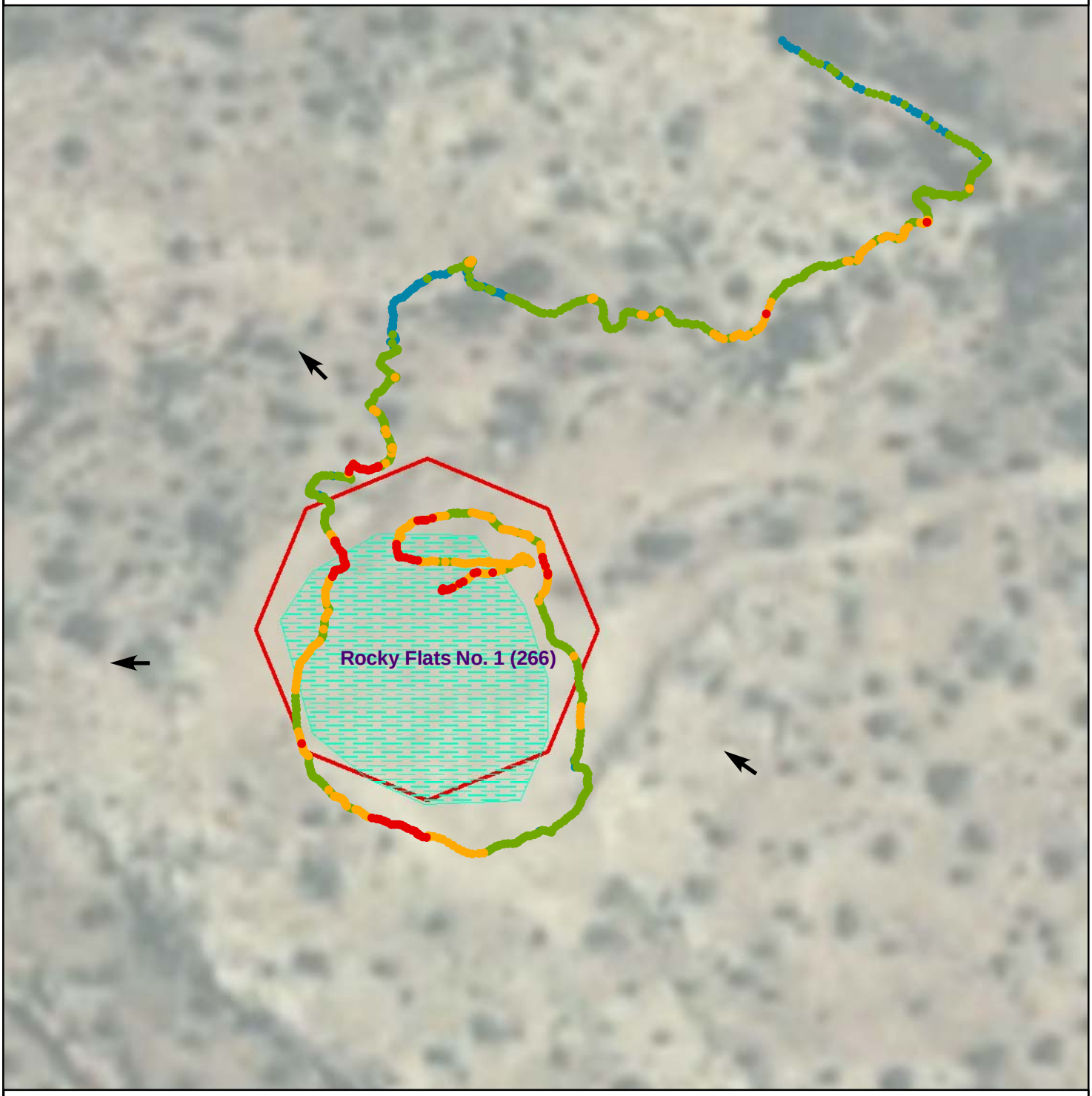
Mine Claim Boundaries

N

Feet

0 100

Figure 5 - Gamma Radiation Measurements
Rocky Flats No. 1 (266)
Beclabito 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 Reclamation Cap

General Direction Down-Slope

Mine Claim Boundaries

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

Average background 8,277 cpm

N

Feet

0 100

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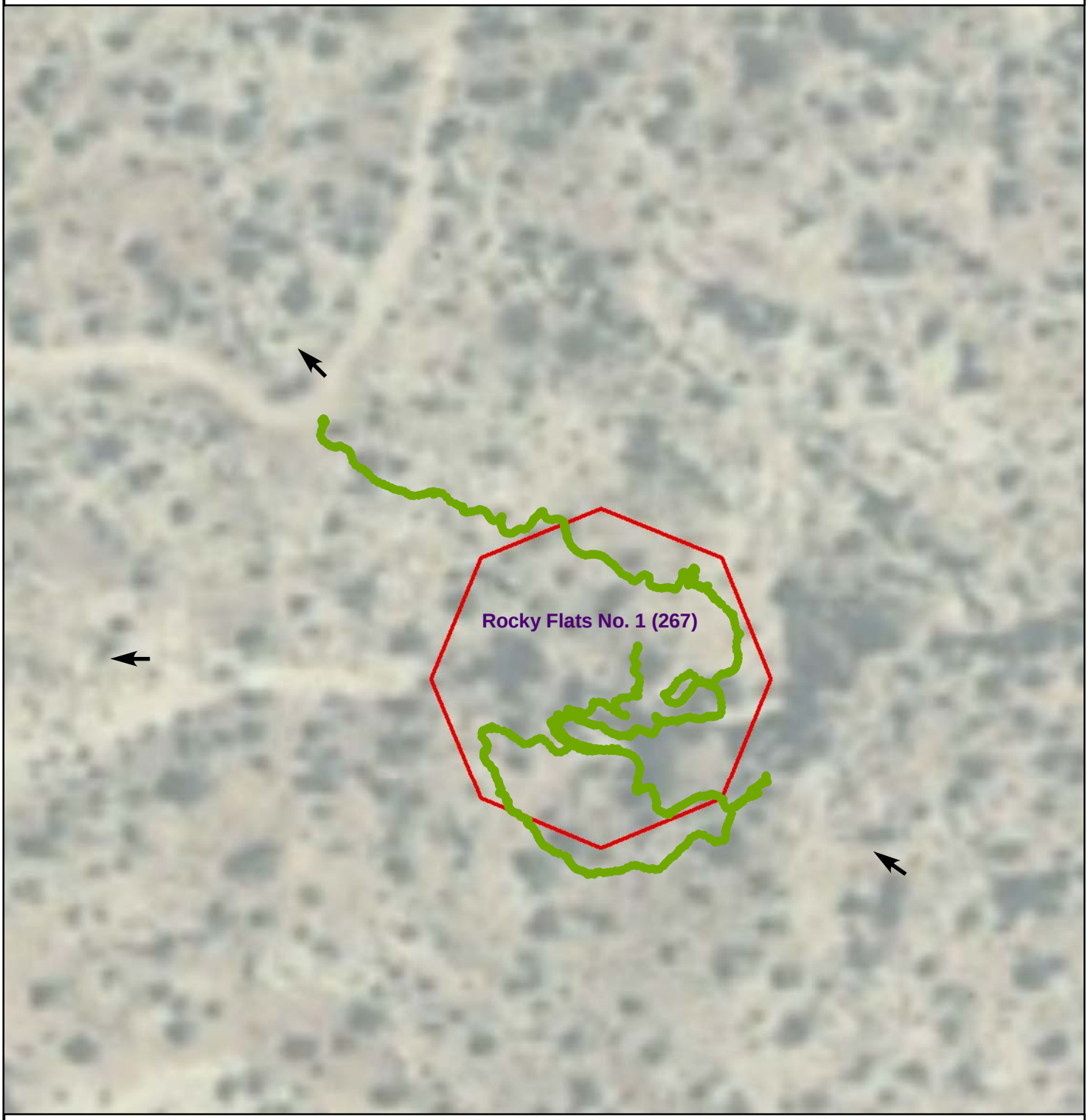
Figure 6 - Gamma Radiation Measurements, Above Two Times Background
Rocky Flats No. 1 (267)
Beclabito Chapter, Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- < 2X Backgound
- > 2X Background

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

Average background = 8,277 cpm

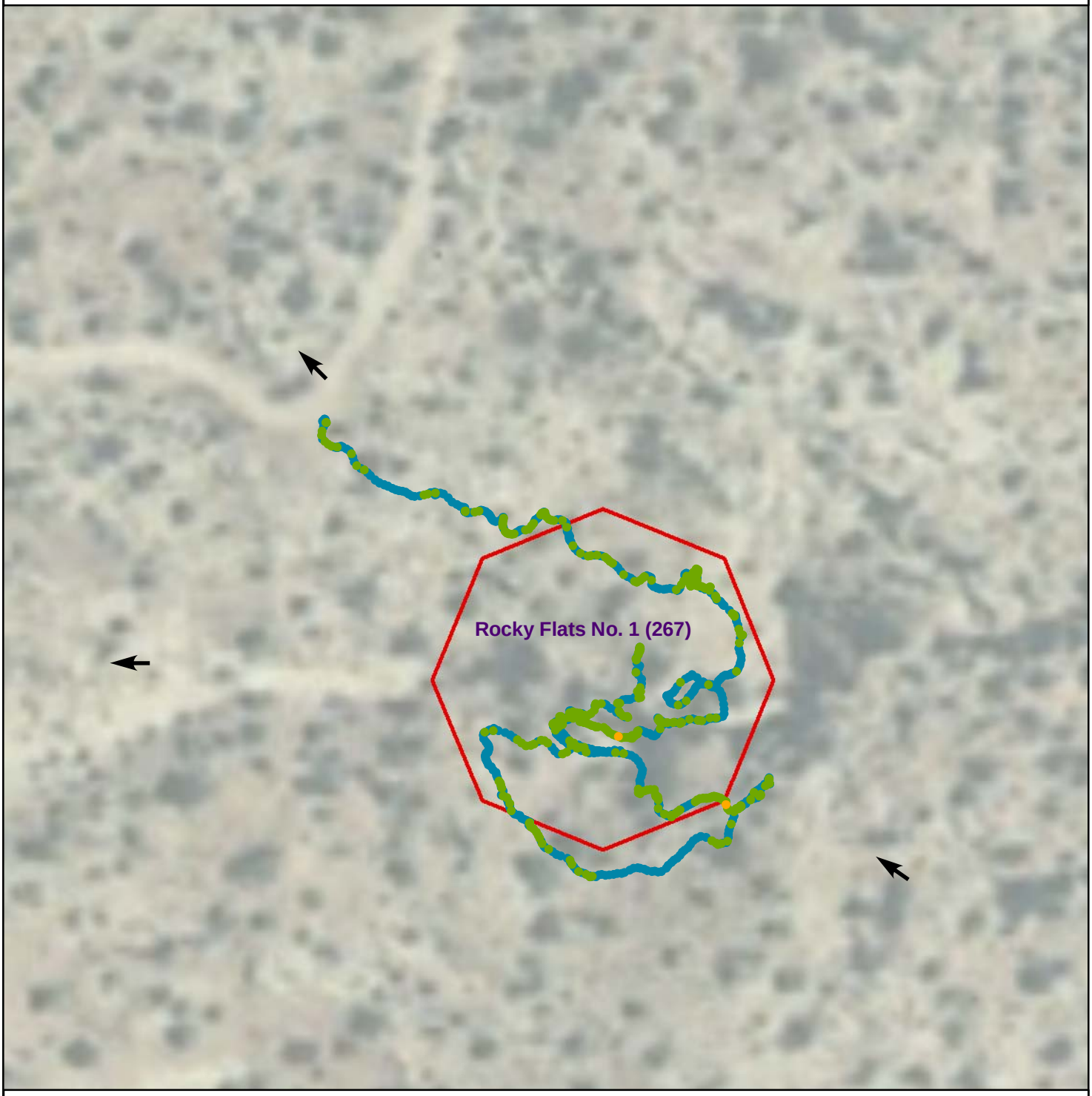
General Direction Down-Slope

Mine Claim Boundaries

N

0 100 **Feet**

Figure 7 - Gamma Radiation Measurements
Rocky Flats No. 1 (267)
Beclabito 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

General Direction Down-Slope

Mine Claim Boundaries

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

Average background 8,277 cpm

N

0 100 Feet

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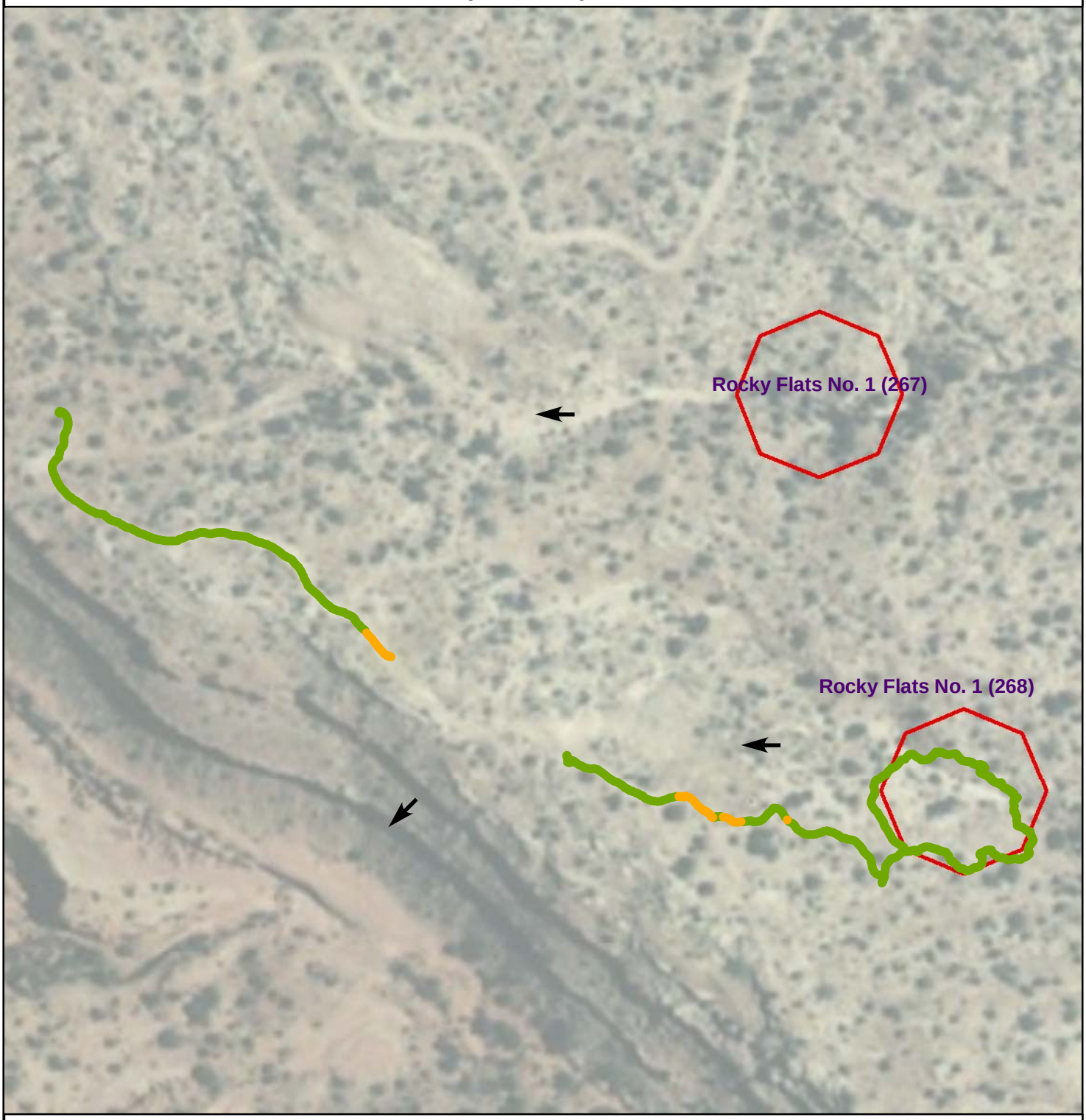
Figure 8 - Gamma Radiation Measurements, Above Two Times Background
Rocky Flats No. 1 (268)
Beclabito Chapter, Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- < 2X Backgound
- > 2X Background

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

Average background = 8,277 cpm

General Direction Down-Slope

Mine Claim Boundaries

N

Feet

0 **200**

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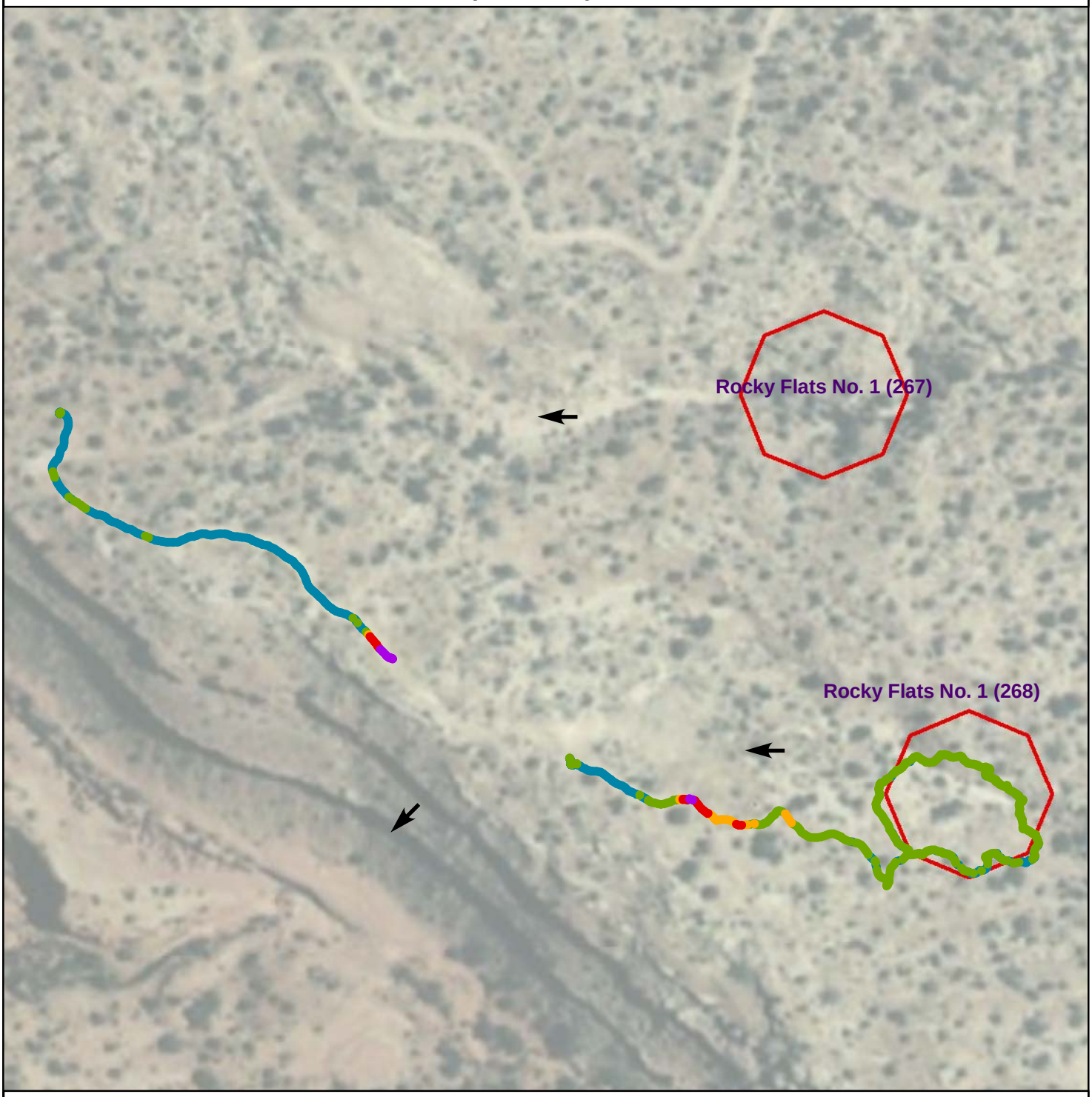
Figure 9 - Gamma Radiation Measurements
Rocky Flats No. 1 (268)
Beclabito Chapter, Navajo Nation, Arizona



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

General Direction Down-Slope

Mine Claim Boundaries

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

Average background 8,277 cpm

N

0 — 200 Feet

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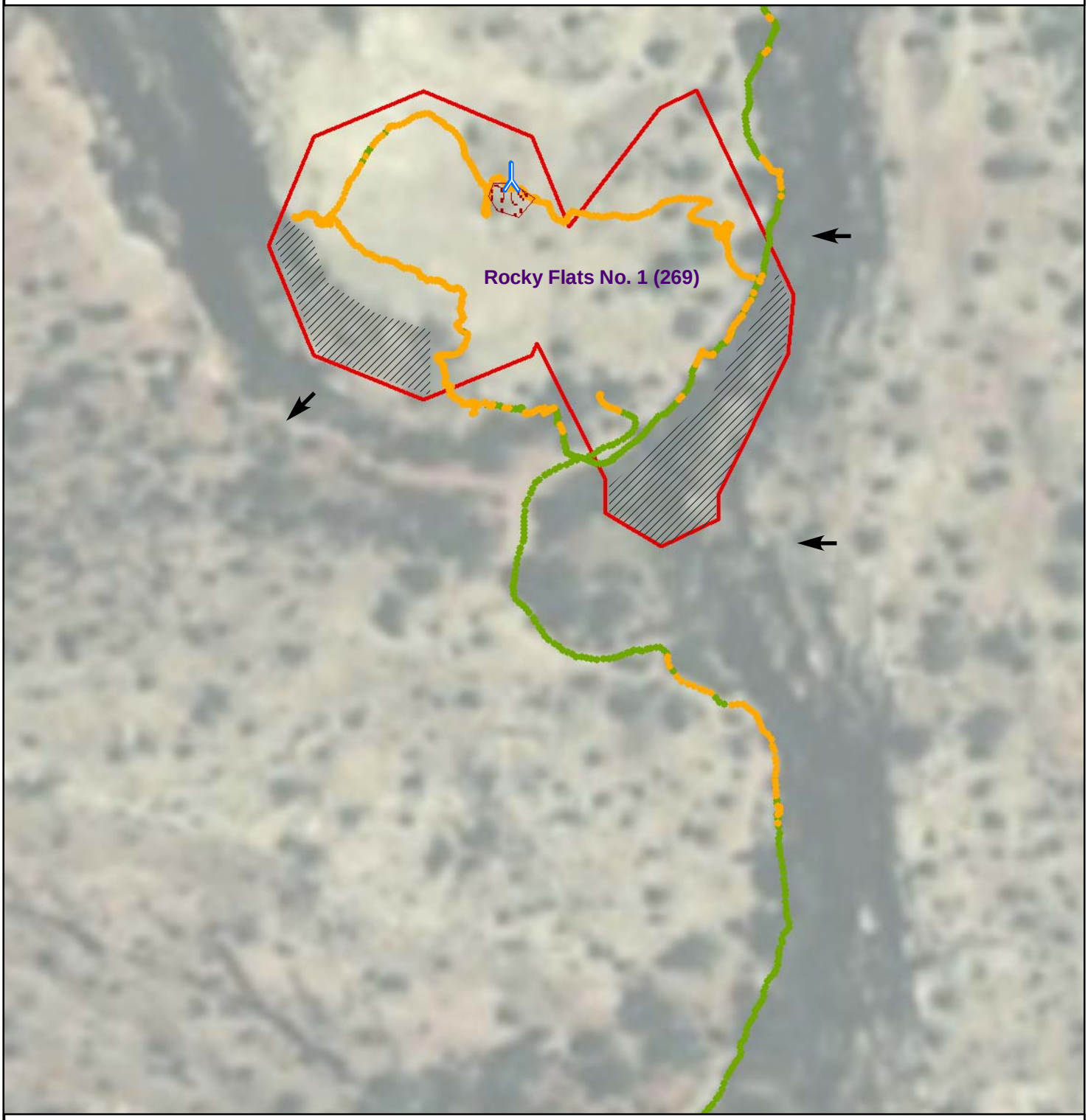
Figure 10 - Gamma Radiation Measurements, Above Two Times Background
Rocky Flats No. 1 (269)
Beclabito Chapter, Navajo Nation, Arizona



Legend

Gamma Radiation Measurements

- < 2X Backgound
- > 2X Background

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

Average background = 8,277 cpm

Observed Adit

Observed Waste Pile

Inaccessible due to steep grades

General Direction Down-Slope

Mine Claim Boundaries

N

Feet

0 100

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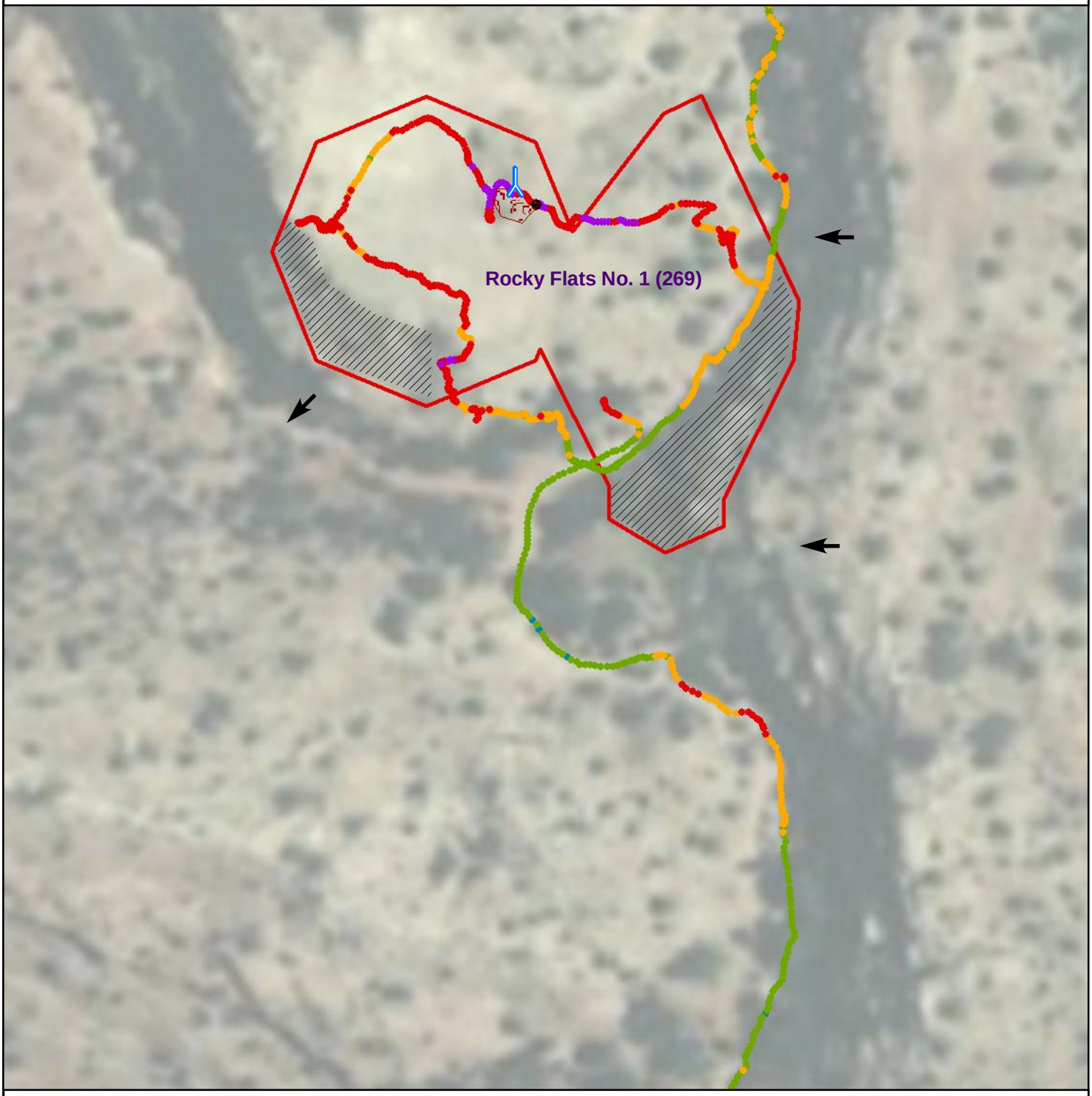
Figure 11 - Gamma Radiation Measurements
Rocky Flats No. 1 (269)
Beclabito Chapter, Navajo Nation, Arizona



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 Adit

Observed Waste Pile

Inaccessible due to steep grades

General Direction Down-Slope

Mine Claim Boundaries

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

Average background 8,277 cpm

N

Feet

0 100

WESTON SOLUTIONS