

# 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.*

### **A & B No. 3 AUM Site**

#### **Navajo AUM Western Region**

**Prepared by:**

**Weston Solutions, Inc.**

**Contract: W91238-06-F-0083**

**12767.063.599.1111**

**January 2011**

**Part I Site Identification, Location and Status**

**Site Names and ID numbers as applicable**

**Mine ID:** 228

**Map ID:** W39

**CERCLIS:** NND983466731

**Navajo Abandoned Mine Land Reclamation Program:** NA-0106

**Local name / Aliases:** A & B #3

**Chapter and local area:** Cameron Chapter

**County:** Coconino **State:** Arizona

**Lat/Long:** 35.8759567587 N / -111.423812903 W

**Nearby road and highway:** Highway 89 **Local Post Office:** Cameron, AZ

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

<b>Tribal Trust Land</b>	<input checked="" type="checkbox"/>	<b>Public lands</b>	<input type="checkbox"/>
<b>Private</b>	<input type="checkbox"/>	<b>Tribal Fee Land</b>	<input type="checkbox"/>
<b>Bureau of Land Mgmt</b>	<input type="checkbox"/>	<b>Allotment</b>	<input type="checkbox"/>
<b>State</b>	<input type="checkbox"/>	<b>Fee land</b>	<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 Historical documents showed the operator of the mine as the A & B Mining Corporation from 1954 to 1955. 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:** 2,000 yd<sup>3</sup>

**Part II Summary of radiological readings**

**Highest gamma radiation measurement:**

638,013 counts per minute (cpm)

**Describe any other radiological measurements:**

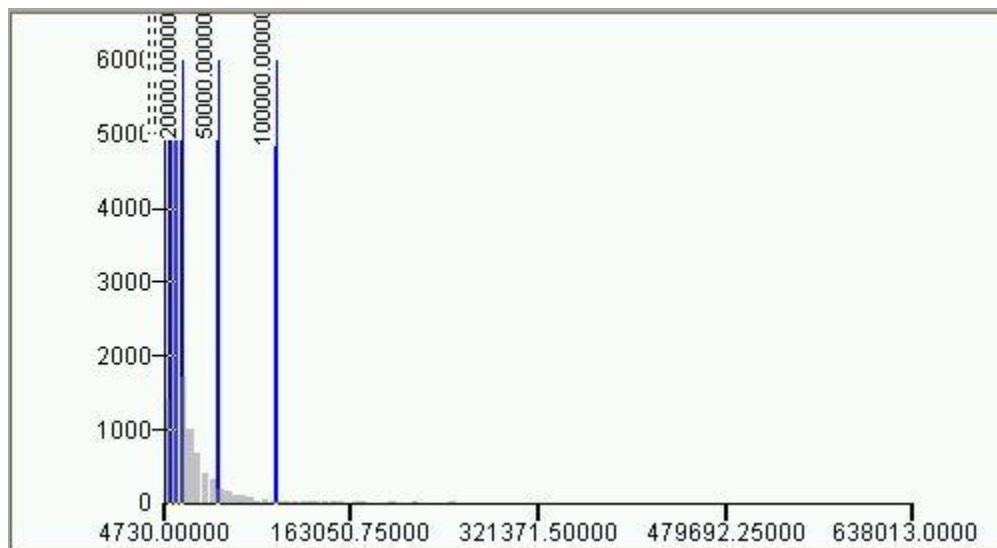
A total of 11,884 gamma radiation measurements were collected from the mine site, ranging from 4,730 cpm to 638,013 cpm. The measurements collected at the waste piles were found at maximum levels ranging from approximately 40,000 cpm to 640,000 cpm, and at background levels at the nearby homes and river basin. The measurements are represented in Figures 1 and 2.

**Background Readings:** 17,198 cpm

**Background Average:** 17,198 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:	11884
Minimum:	4730.00000
Maximum:	638013.00000
Sum:	341923273.00000
Mean:	28771.73283
Median:	16289.50000
Standard Deviation:	42092.25716

### **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 : No**

**NAMLRP Project Number: NA-0106**

**NAMLRP Mine features: 1 Rim Strip / Pit**

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**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**

Many small waste piles throughout site, larger piles sloping towards Little Colorado River

##### **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:**

**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):**

Background levels near all homes

**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:** Little Colorado River Basin adjacent to the N of the site

**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.**

Little Colorado River Basin adjacent to the N of the site, possible wetlands

**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.**

A & B No. 3 mine consists of an area of 91,824.89 m<sup>2</sup>. The mine was identified as being operational from 1954 to 1955. Historical documents showed the operator of the mine as the A & B Mining Corporation from 1954 to 1955. While operational, the mine had a total production volume of 586 tons. 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?**

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**



Photo 1. A & B No. 3 mine site



Photo 2. A & B No. 3 mine site, waste rock



Photo 4. A & B No. 3 mine site, side wall





Photo 5. A & B No. 3 mine site, elevated gamma readings



Photo 7. A & B No. 3 mine site, alongside Little Colorado River Basin



Photo 8. A & B No. 3 mine site, wood cross

**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

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Name:

Title or official role (if any)

Telephone number

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Name:

Title or official role (if any)

Telephone number

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Name:

Title or official role (if any)

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Title or official role (if any)

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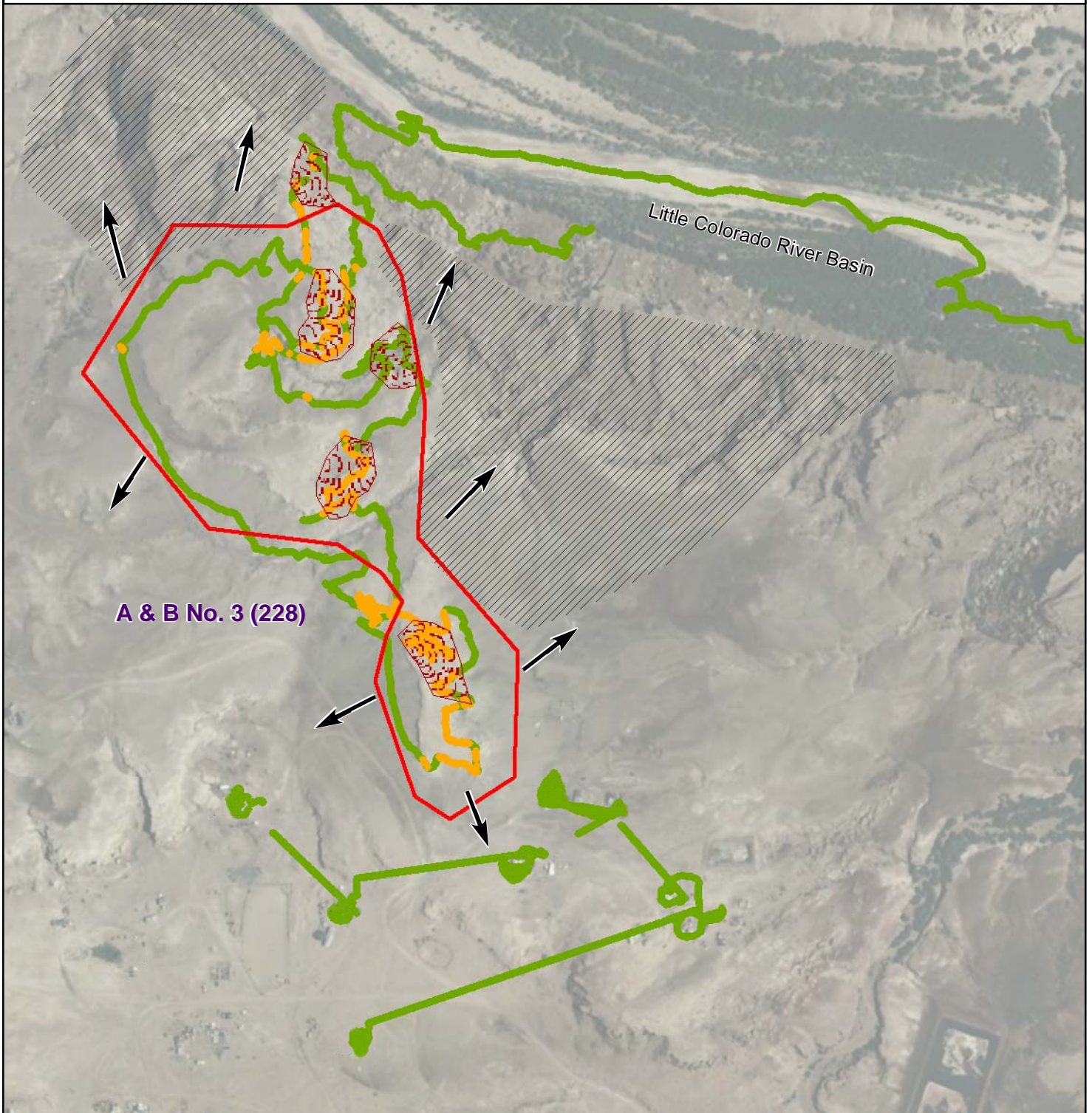
Name:

Title or official role (if any)

Telephone number

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**Figure 2 - Gamma Radiation Measurements, Above Two Times Background  
A & B No. 3 (228)  
Cameron Chapter, Navajo Nation**



**Legend**

**Gamma Radiation Measurements**

- < 2X Background
- > 2X Background


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

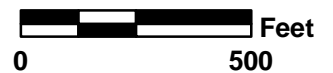
Average background 17,198 cpm

→ General Slope Direction

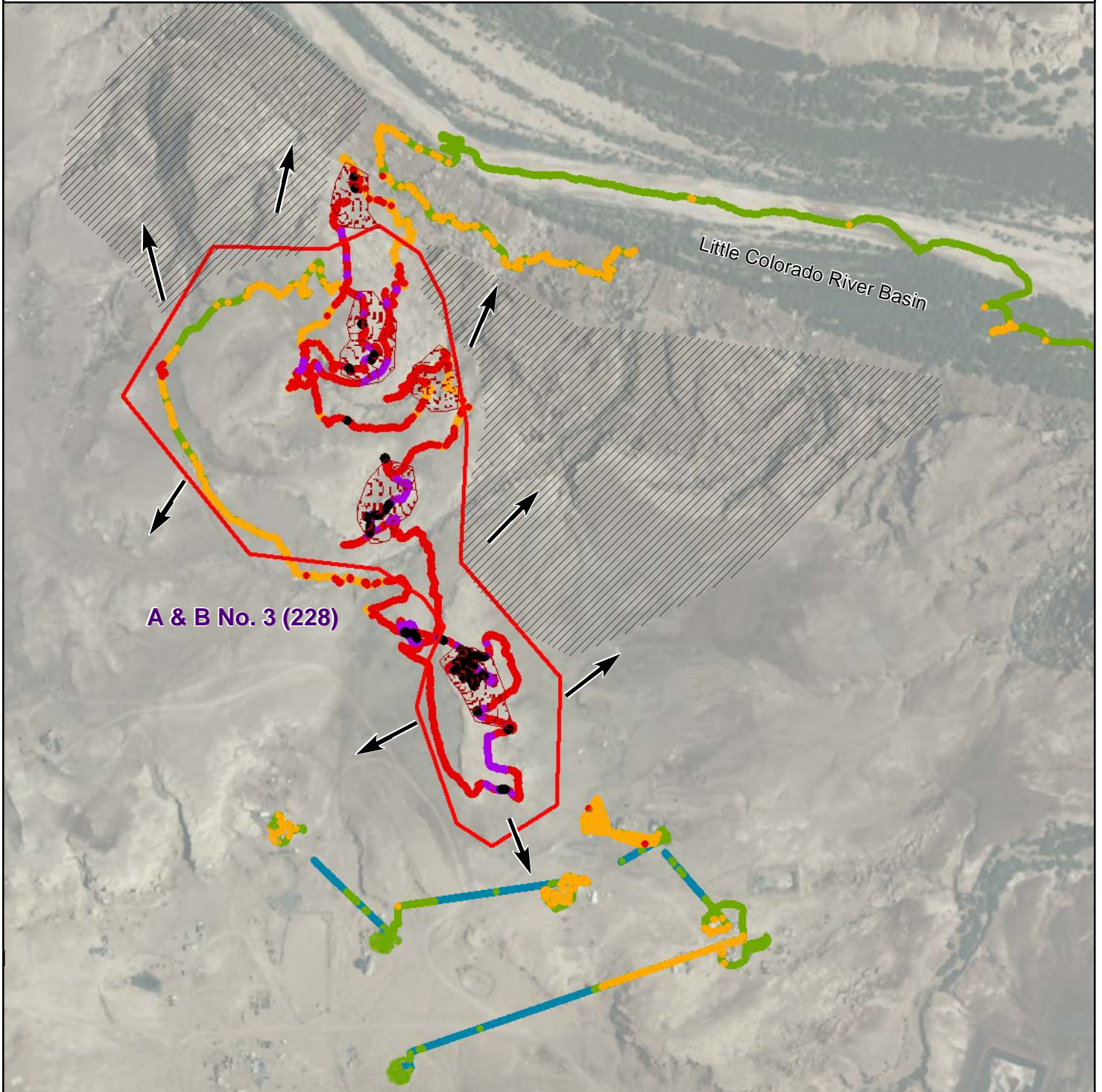
 Observed Waste Pile

 Steep Grade

 Mine Site Boundary



**Figure 2 - Gamma Radiation Measurements  
A & B No. 3 (228)  
Cameron 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

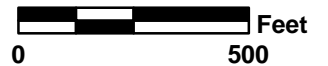
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