



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

**Department of
Environmental Conservation**

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

610 University Avenue
Fairbanks, AK 99709-3643
Phone: 907-451-2143
Fax: 907-451-2155
www.dec.alaska.gov

File: 2569.38.028

August 30, 2017

Bill Heubner
National Park Service
240 West 5th Avenue
Anchorage, AK 99501

Re: Decision Document: NPS Katmai National Park Fure's Cabin
Cleanup Complete Determination – Institutional Controls

Dear Mr. Heubner:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has completed a review of the environmental records associated with the National Park Service (NPS) Katmai National Park Fure's Cabin site located within the Katmai National Park & Preserve. Based on the information provided to date, it has been determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment and no further remedial action will be required as long as the institutional controls are maintained and effective and no new information becomes available that indicates residual contamination poses an unacceptable risk.

This Cleanup Complete with Institutional Controls (ICs) determination is based on the administrative record for the NPS Katmai National Park Fure's Cabin site, which is located in the offices of the DEC in Fairbanks, Alaska. This decision letter summarizes the site history, cleanup actions, regulatory decisions, and specific conditions required to effectively manage remaining contamination at this site.

Site Name and Location:

NPS Katmai National Park Fure's Cabin
Katmai National Park and Preserve
King Salmon, AK 99613

Name and Mailing Address of Contact Party:

Bill Heubner
National Park Service
240 West 5th Avenue
Anchorage, AK 99501

DEC Site Identifiers:

File No: 2569.38.028
Hazard ID: 25755

Regulatory Authority for Determination:

18 AAC 75

Site Description and Background

Fure's Cabin is a one room house that is now a public use cabin located on the Bay of Islands on the North Arm of Naknek Lake in Katmai National Park & Preserve. The site consists of the cabin, a windmill structure, and a wood shed; all built in the 1940s. The windmill was used to charge batteries that provided on-site electrical power for the house until the 1950s. In 2011, NPS staff noticed two areas of dead grass and discovered discarded batteries, presumably from the use of the windmill in the 1940s and 1950s.

Contaminants of Concern and Cleanup Levels

Cleanup levels for this site are established in 18 AAC 75.341, Table B1, Method Two, under 40-inch zone. Samples at this site have been analyzed for metals. Lead, cadmium, barium, and mercury have been detected at this site.

Table 1 – Soil Cleanup Levels¹

| Contaminant of Concern | Human Health (mg/kg) | Migration to Groundwater (mg/kg) |
|------------------------|----------------------|----------------------------------|
| Cadmium | 92 | 9.1 |
| Lead | 400 | -- |
| Mercury | 3.1 | 0.36 |

¹ – Method Two - Soil Cleanup Levels, Table B1
mg/kg = milligrams per kilogram

Characterization and Cleanup Activities

In 2011, NPS staff noticed two areas where a number of old batteries were disposed of in two swale areas, the East and North swales, at the site. The batteries were corroding, impacting the surrounding soil and vegetation. Samples of the old batteries and impacted soil were collected and analyzed for metals. Samples of the old batteries and the impacted soil were collected by park staff and analyzed for Resource Conservation and Recovery Act metals. Results found cadmium, lead, and mercury above cleanup levels.

In 2012, the battery parts and contaminated soil were containerized in three 55-gallon drums and shipped off-site for disposal. Confirmation samples were collected from the excavation areas and analyzed for metals. The final excavation at the East swale was approximately 19 feet long and varied from 2 to 10 feet wide. The depth of the excavation was approximately 20 inches. Cadmium and mercury were detected above the cleanup levels in the confirmation samples from the East swale at 12 mg/kg and 7.1 mg/kg, respectively. The North excavation was approximately 12 feet long and up to 7 feet wide. The depth of the excavation was approximately 1 foot. Confirmation samples from the North excavation contained cadmium, lead, and mercury above the cleanup levels at 74 mg/kg, 560 mg/kg, and 9.5 mg/kg, respectively.

Additional removal actions were performed in 2014. At the East swale area, an additional 6 inches was removed from the bottom of the previous excavation. At the North swale area, additional battery fragments were found and removed, along with the associated soil in the area. In addition to the two swale areas, a small quantity of batteries were discovered along the footpath by the windmill. An area approximately 3 feet by 4 feet was excavated to a depth of 6 inches, removing all visible battery pieces and associated soil. Three 55-gallon drums of soil and battery parts (approximately 75% full) were transported off-site for disposal.

Confirmation samples were collected from all three excavation locations and analyzed for metals. Results from the footpath area did not detect metals in exceedance of cleanup levels. Results from the East and North excavation documented cadmium below cleanup levels at 7.1 mg/kg and 8.5 mg/kg, respectively.

Results from the East and North excavation documented mercury above the cleanup levels at 1.2 mg/kg and ranging 1.5–6.1 mg/kg, respectively. Other metals analyzed for did not exceed cleanup levels.

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

Based on a review of the environmental record, DEC has determined that residual contaminant concentrations meet the cumulative risk criteria for human health.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De Minimis Exposure, or Exposure Controlled. De Minimis Exposure means that in DEC's judgment receptors are unlikely to be affected by the minimal volume or concentration of remaining contamination. Exposure Controlled means there is an institutional control in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination. A summary of this pathway evaluation is included in the table below.

Table 2 – Exposure Pathway Evaluation

| Pathway | Result | Explanation |
|---|---------------------|---|
| Surface Soil Contact | Exposure Controlled | A small volume of soil with mercury above the human health cleanup level remains at this site. The NPS has identified the location of remaining contaminated soil in their GIS database and has an internal screening system used during the planning phase of all projects that directs the user to the GIS database to determine if a contaminated site is present within the project area. |
| Sub-Surface Soil Contact | Exposure Controlled | A small volume of soil with mercury above the human health cleanup level remains at this site. The NPS has identified the location of remaining contaminated soil in their GIS database and has an internal screening system used during the planning phase of all projects that directs the user to the GIS database to determine if a contaminated site is present within the project area. |
| Inhalation – Outdoor Air | De Minimis Exposure | A small volume of soil with mercury above the human health cleanup level remains at this site. The area has been backfilled and revegetated. |
| Inhalation – Indoor Air (vapor intrusion) | De Minimis Exposure | A small volume of soil with mercury above the human health cleanup level remains at this site. The area has been backfilled and revegetated |

| | | |
|----------------------------------|---------------------|---|
| Groundwater Ingestion | De Minimis Exposure | A small volume of soil with mercury above the human health cleanup level remains at this site. The area has been backfilled and revegetated. Remaining contaminants are not expected to migrate to groundwater. |
| Surface Water Ingestion | De Minimis Exposure | A small volume of soil with mercury above the human health cleanup level remains at this site. The area has been backfilled and revegetated. Remaining contaminants are not expected to migrate to surface water. |
| Wild and Farmed Foods Ingestion | De Minimis Exposure | A small volume of soil with mercury above the human health cleanup level remains at this site. The site has been backfilled and revegetated. |
| Exposure to Ecological Receptors | De Minimis Exposure | A small volume of soil with mercury above the human health cleanup level remains at this site. The site has been backfilled and revegetated. |

DEC Decision

A De Minimis volume of soil containing mercury above the human health cleanup level remains in place at this site. The area has been backfilled and revegetated, and the NPS has identified the location of remaining contaminated soil in their GIS database and has an internal screening system used during the planning phase of all projects that directs the user to the GIS database to determine if a contaminated site is present within the project area.

Institutional controls necessary to support this closure determination include:

1. Identification of the location of historical remaining contamination on the NPS GIS database and use of the internal NPS planning process for all projects that directs the user to the GIS database to determine if contamination is present within the project area.
2. A requirement that proper field screening and characterization be conducted during any soil excavation, digging, or trenching in the areas where residual soil contamination exists and that any contaminated soil encountered be managed in accordance with regulations applicable at that time.
3. A restriction on installing groundwater wells or using groundwater from the site without prior DEC approval.

Standard site closure conditions that apply to all sites include:

1. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 75.325(i). A “site” as defined by 18 AAC 75.990 (115) means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.
2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.
3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use.

Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

DEC has determined the cleanup is complete as long as the institutional controls are properly implemented and no new information becomes available that indicates residual contamination may pose an unacceptable risk.

The DEC Contaminated Sites Database will be updated to reflect the change in site status to “Cleanup Complete with Institutional Controls” and will include a description of the contamination remaining at the site.

The institutional controls will be removed in the future if documentation is provided that shows concentrations of all residual hazardous substances remaining at the site are below the levels that allow for unrestricted exposure to, and use of, the contaminated media and that the site does not pose a potential unacceptable risk to human health, safety or welfare, or to the environment. Standard conditions 1-3 above will remain in effect after ICs are removed.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if the institutional controls are determined to be ineffective or if new information indicates that contaminants at this site may pose an unacceptable risk to human health or the environment.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 555 Cordova Street, Anchorage, Alaska 99501-2617, within 15 days after receiving the department’s decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, P.O. Box 111800, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

If you have questions about this closure decision, please feel free to contact me at (907) 451-2370 or email at gretchen.caudill@alaska.gov.

Sincerely,

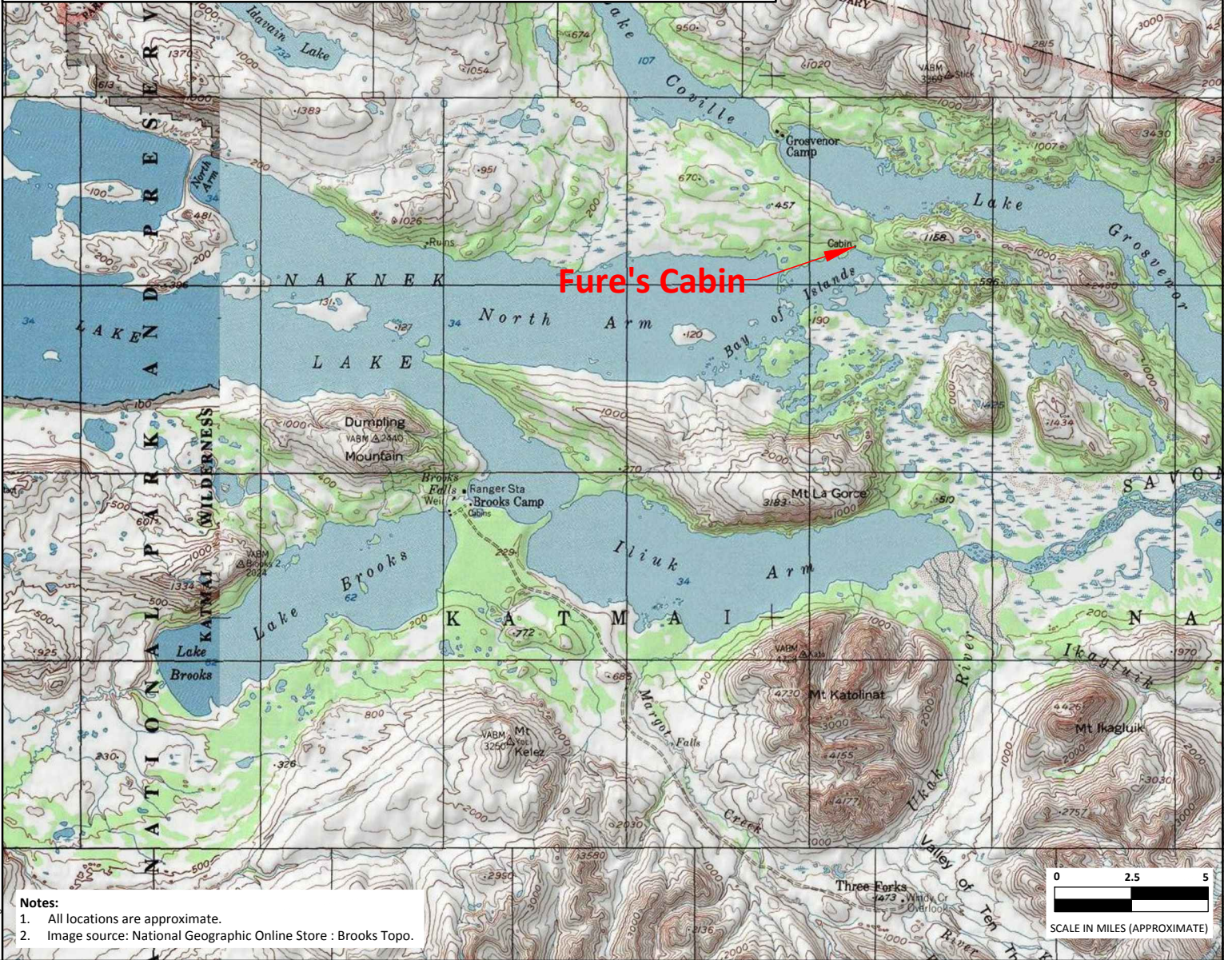
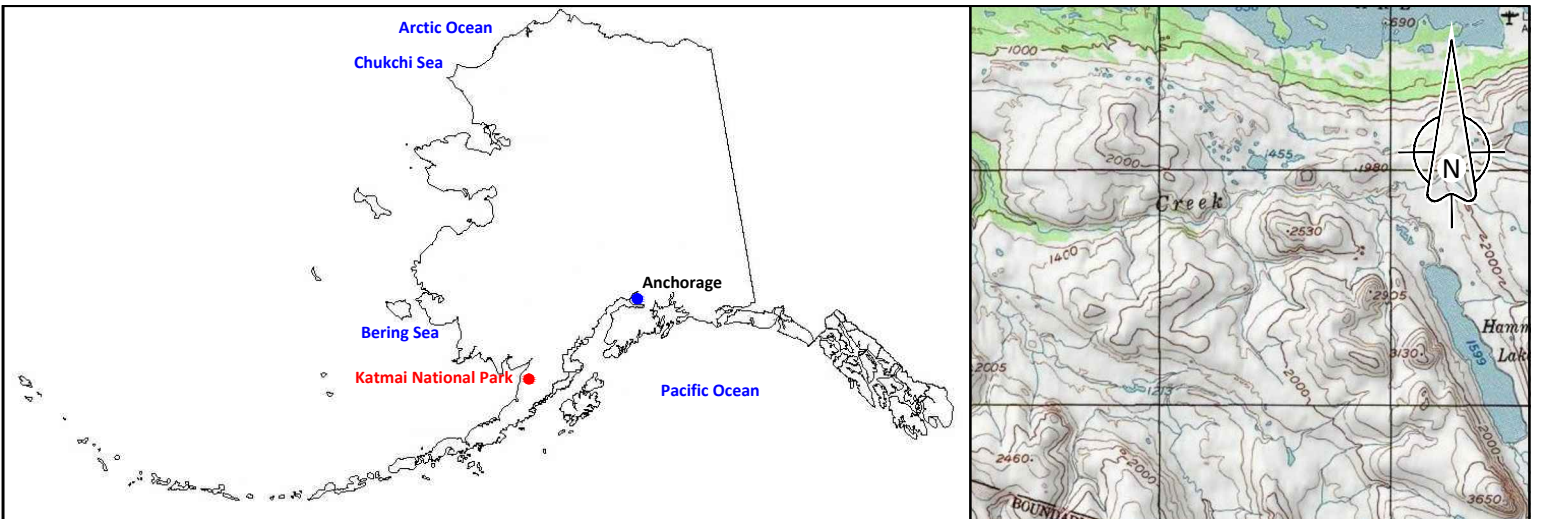
Gretchen Caudill
Project Manager

Note: This letter is being transmitted to you in electronic format only. If you require a paper copy, let us know and we will be happy to provide one to you. In the interest of reducing file space, the

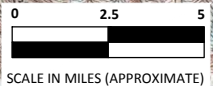
Division of SPAR/Contaminated Sites Program is transitioning to electronic transmission of project correspondence.

Enclosures: Figure 1 – State & Site Vicinity Maps (Ahtna, 2014)
Figure 2 – Site Plan with Soil Sample Locations (Ahtna, 2014)
Figure 3–6 – Institutional Control NPS GIS database (NPS, 2017)

cc: Eric Breitenberger, DEC, via email
Spill Prevention and Response, DEC, Cost Recovery Unit, via email



Notes:
 1. All locations are approximate.
 2. Image source: National Geographic Online Store : Brooks Topo.



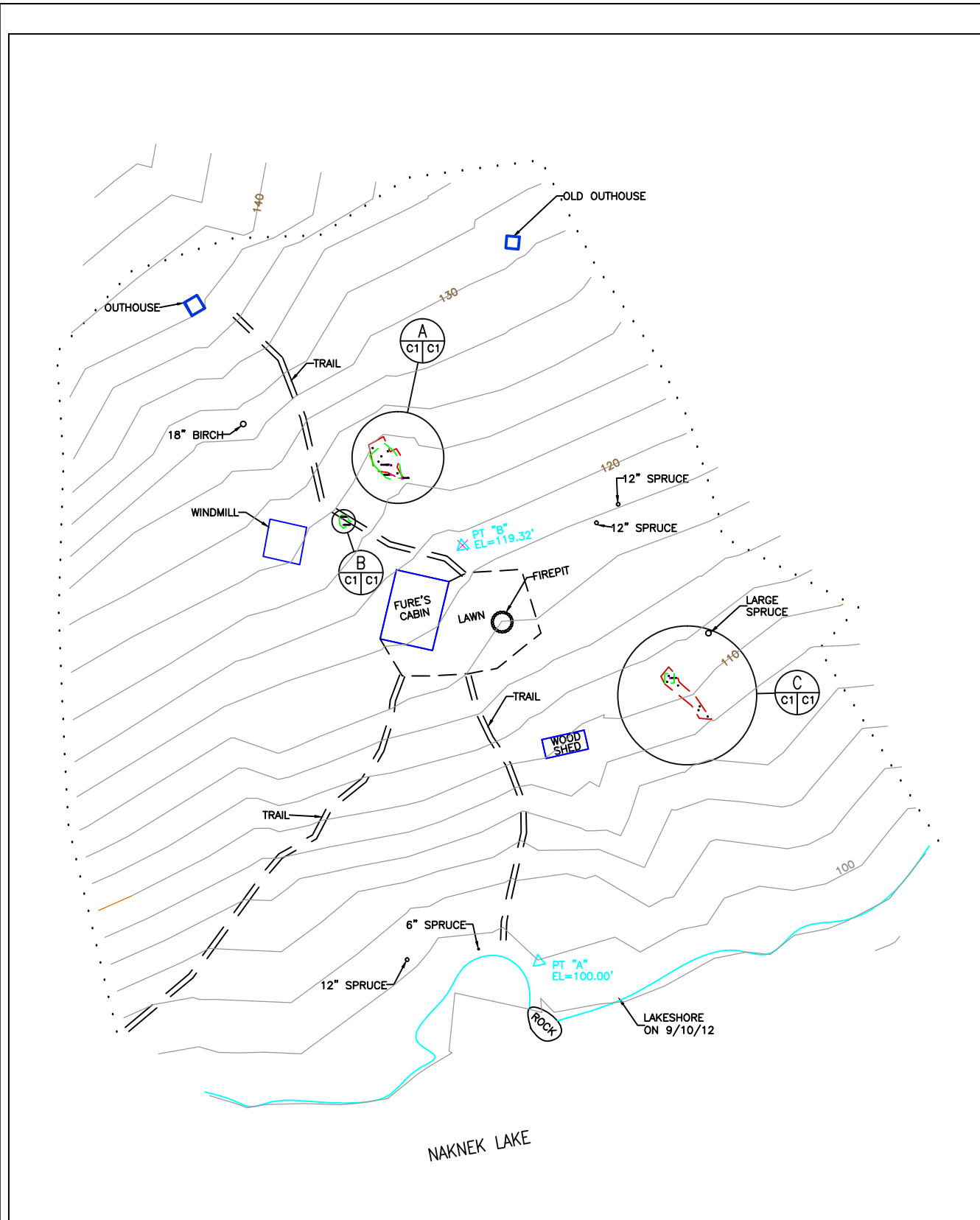
Fure's Cabin - Soil Removal and Assessment 2014
 Katmai National Park, Alaska



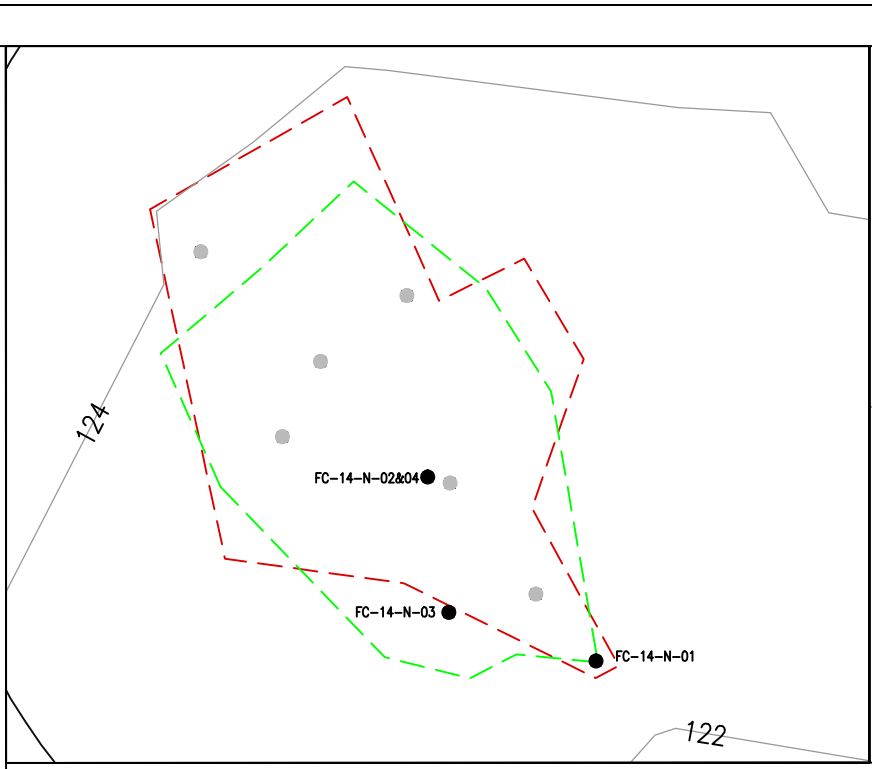
State & Site Vicinity Maps

| | |
|------------------------------|----------------------------|
| Project Number: 20125.018 | Figure Number: 1 |
| Date: 04.17.2014 | |
| Drawn By: G.R. | |

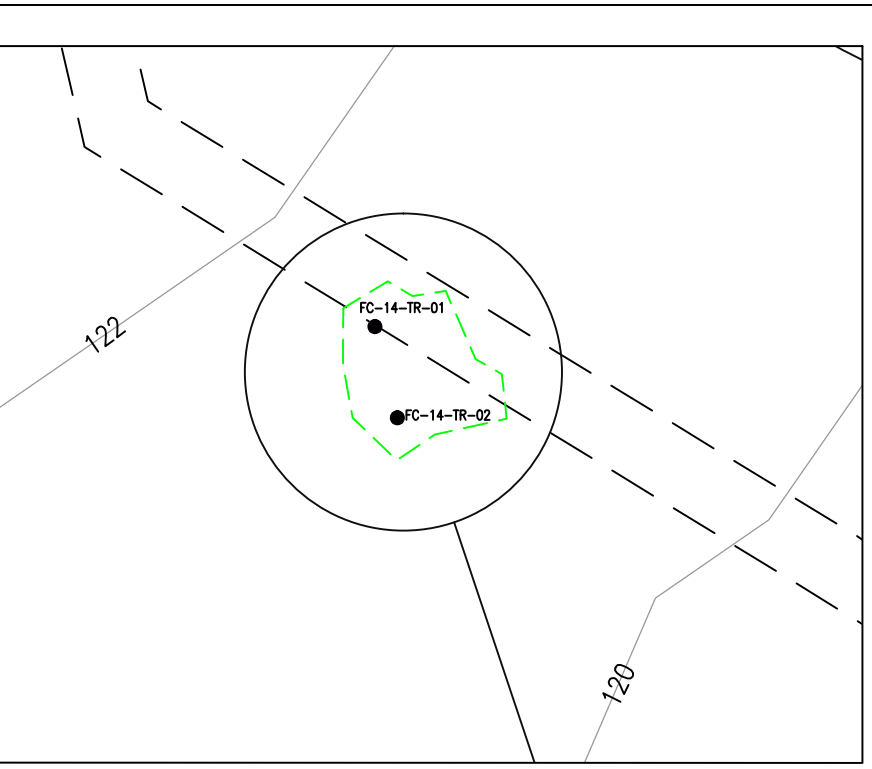
L:\Katmai\2013\4_4545_Fure's Cabin\CAD\Figure 1.dwg



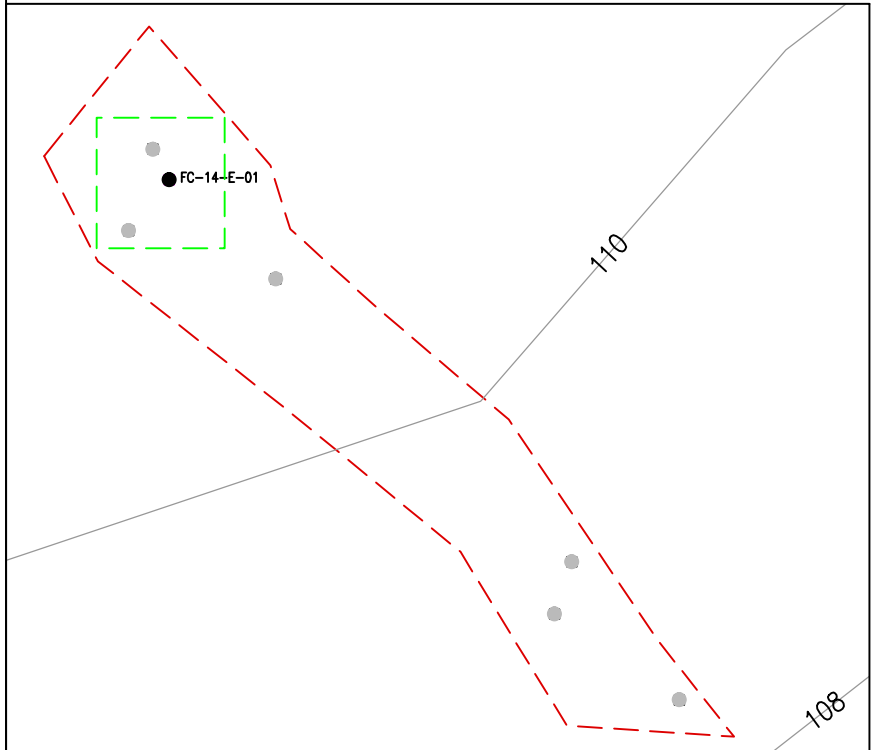
FURE'S CABIN SITE PLAN
SCALE A



A NORTH EXCAVATION DETAIL
SCALE B



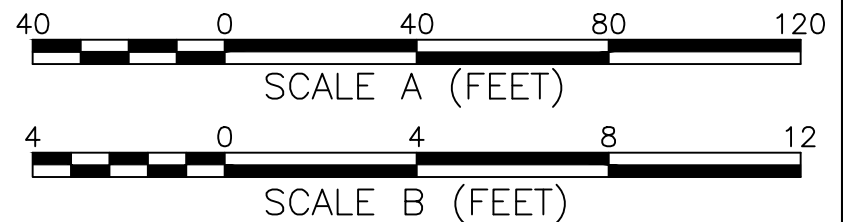
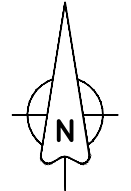
B TRAIL EXCAVATION DETAIL
SCALE B



C EAST EXCAVATION DETAIL
SCALE B

• THE BASE MAP FOR THIS DRAWING IS BASED ON A TOPOGRAPHIC SURVEY CONDUCTED IN 9/10- 9/11/12.
 • 2014 DATA SHOWN IS THE RESULT OF A SURVEY CONDUCTED ON 8/19/14.
 • THE AUTOCAD DRAWING IS GEOREFERENCED, BASED ON COORDINATES RECORDED FOR SURVEY POINT "B" AND THE SOUTHEAST CORNER OF THE OLD OUTHOUSE AT THE SITE, COLLECTED USING A TRIMBLE GEO-XH UNIT. POINT "A" WAS NOT FOUND DURING THE 2014 SURVEY.
 • THE DATUM FOR THIS DRAWING IS ARBITRARY AND IS BASED ON AN ASSUMED DATUM. THE ELEVATION OF POINT "A", A PIECE OF 3/8" REBAR WAS ASSIGNED AN ELEVATION OF 100.00' AND THE ELEVATION OF POINT "B" WAS MEASURED TO BE 119.32', BASED ON THIS DATUM.

- Key:**
- Existing Structure
 - Soil Sample Location (2014)
 - Soil Sample Location (2012)
 - Excavation Limits 2014
 - Excavation Limits 2012
 - Elevation Contour Line
 - Treeline



Notes:
 1. All locations are approximate.
 2. Figures derived from NPS Bill Huebner's dwg.

Fure's Cabin - Soil Removal and Assessment 2014
 Katmai National Park, Alaska

Site Plan with Soil Sample Locations

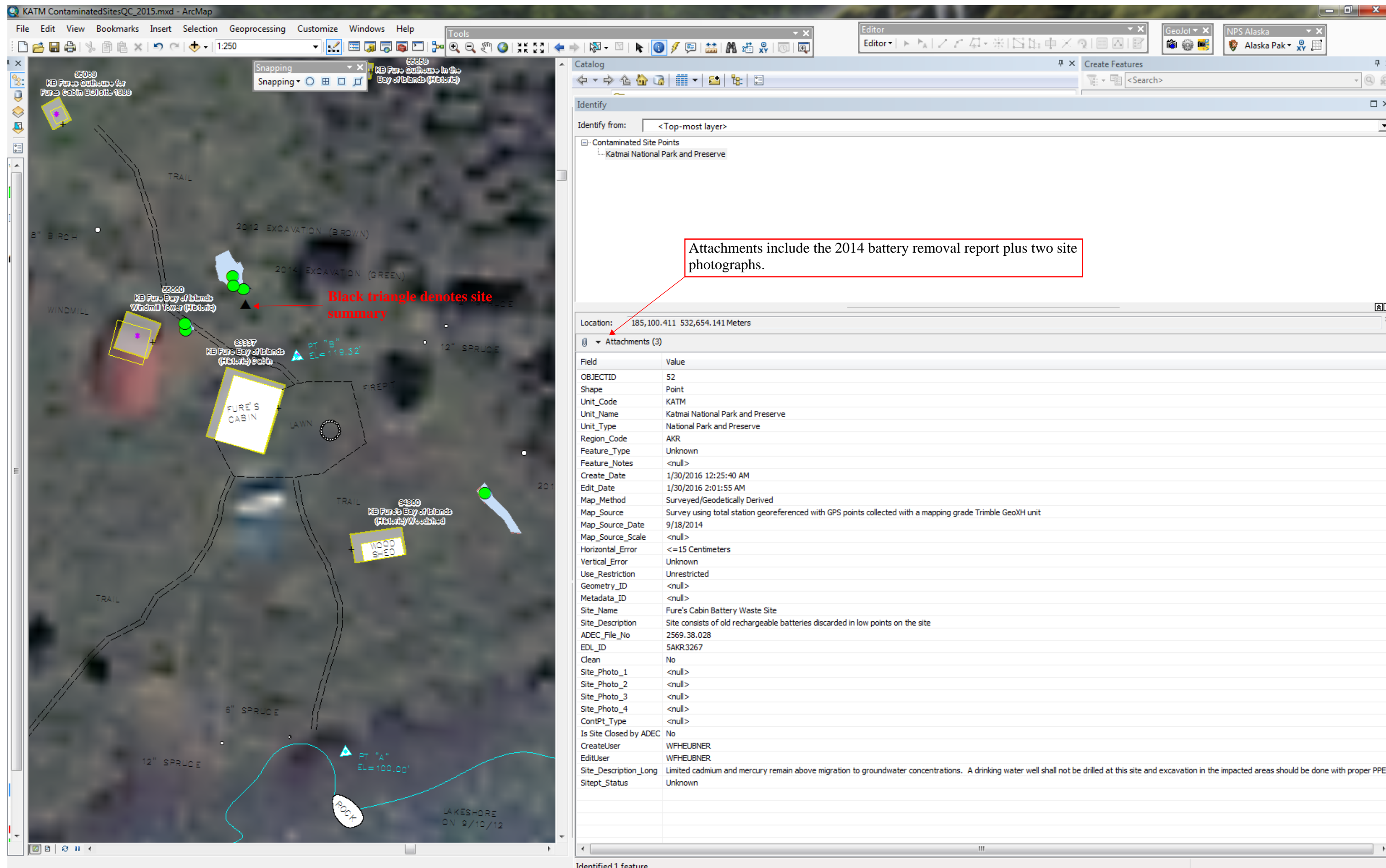
Ahtna Engineering

Project Number: 20125.4645
 Date: 10.17.2014
 Drawn By: G.R.

Figure Number: **2**

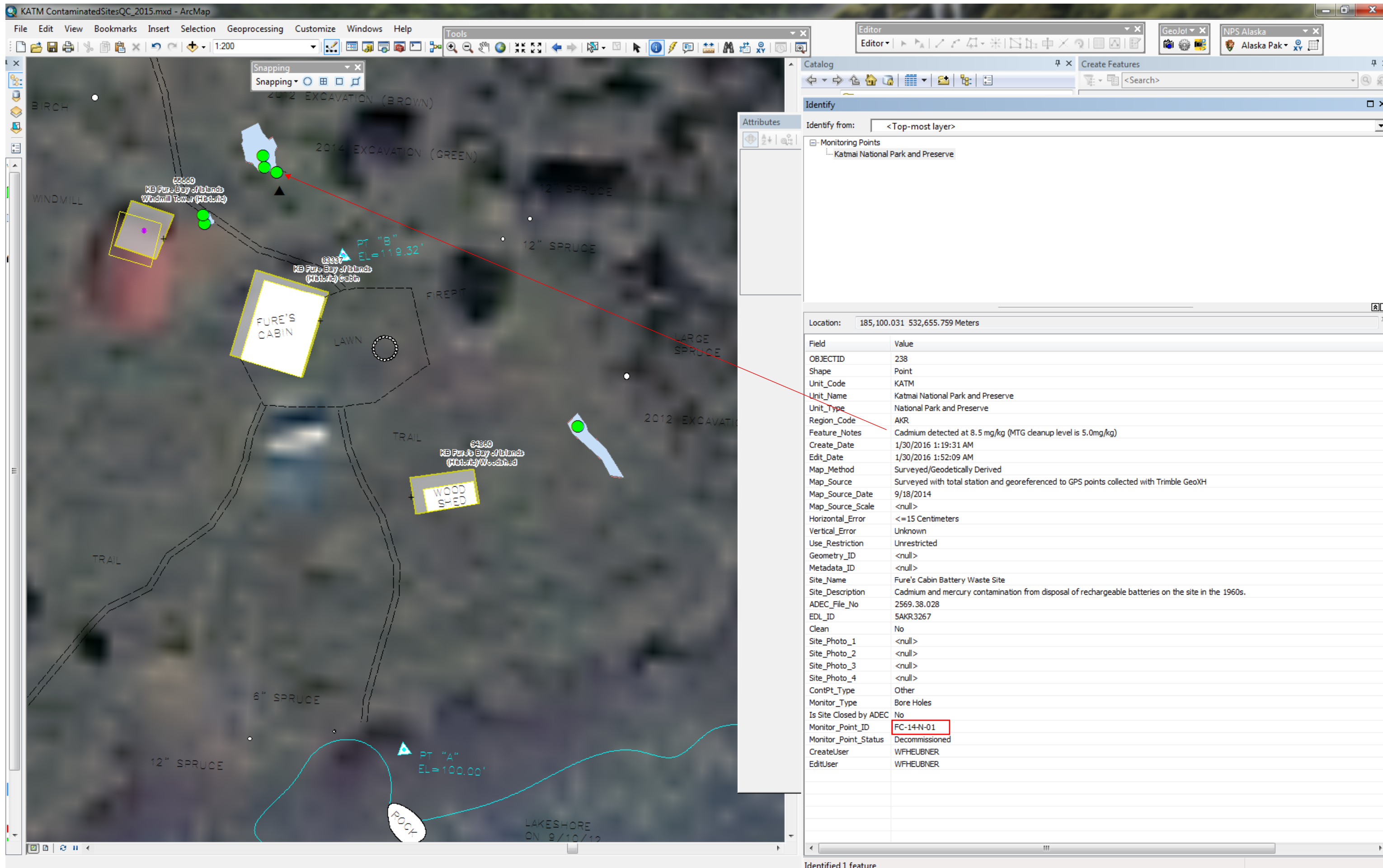
L:\Katmai\2014_4645_Fure's_Cabin\CAD\FC_RPT_2014_F2_DRAFT.dwg

NPS Figure 3. Fure's Cabin Site Summary GIS Screenshot, Katmai National Park and Preserve



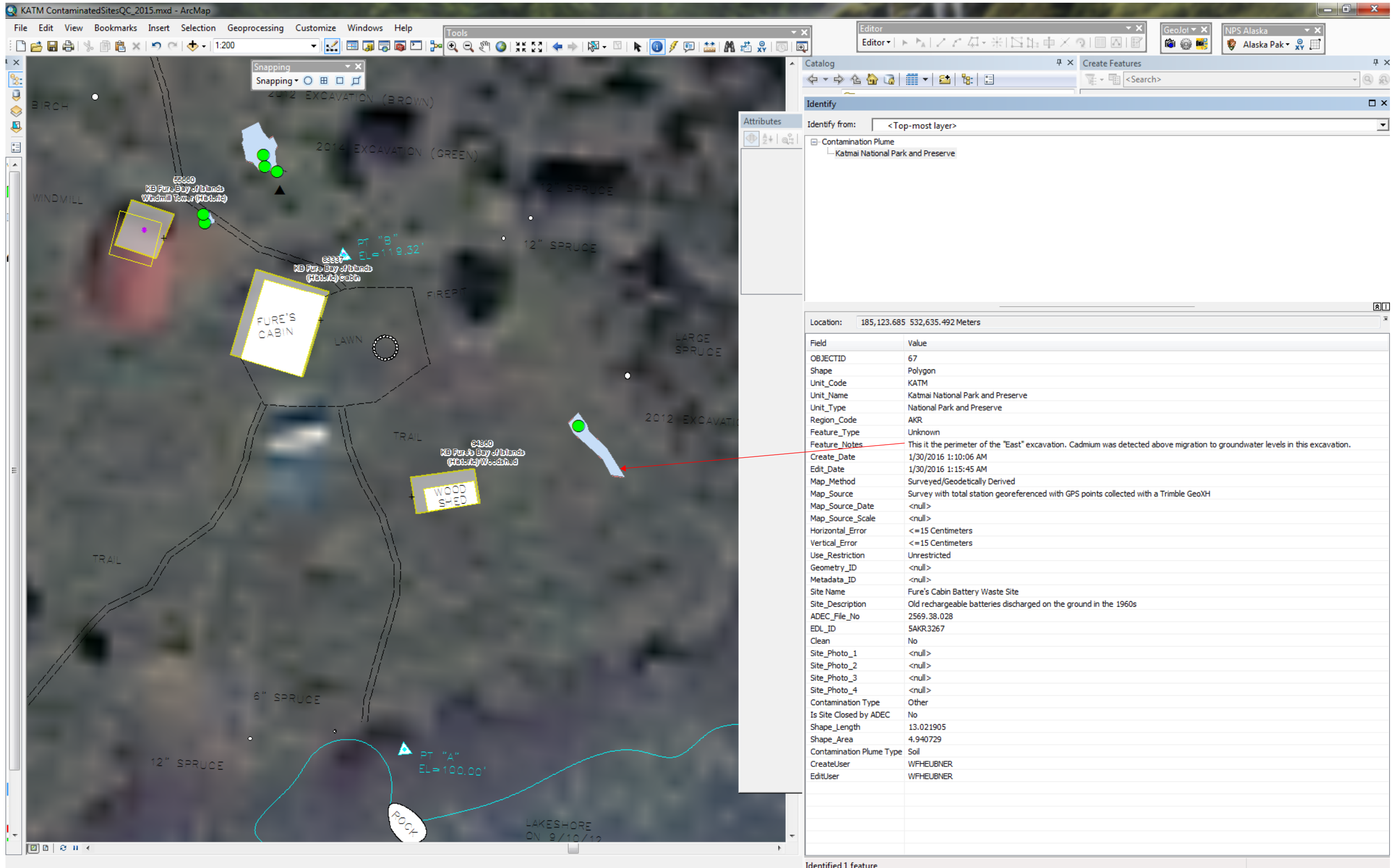
Attachments include the 2014 battery removal report plus two site photographs.

NPS Figure 4. Fure's Cabin Site Summary GIS Screenshot, Katmai National Park and Preserve



Identified 1 feature

NPS Figure 5. Fure's Cabin Site Summary GIS Screenshot, Katmai National Park and Preserve



Identified 1 feature