



THE STATE
of **ALASKA**
GOVERNOR BILL WALKER

Department of Environmental
Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File: 1507.38.013

May 4, 2016

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

Re: Decision Document: NPS Glacier Bay – Bartlett Cove Firing Range
Cleanup Complete Determination

Dear Mr. Heubner:

The Alaska Department of Environmental Conservation (DEC) has reviewed the environmental records for the National Park Service (NPS) Bartlett Cove Firing Range site located in Glacier Bay National Park & Preserve. This decision letter memorializes the site history, cleanup actions, and standard conditions for long-term site management. No further remedial action is required.

Site Name and Location

NPS Glacier Bay – Bartlett Cove Firing Range
Glacier Bay National Park & Preserve
10 miles northwest of Gustavus, Alaska
Section 28, Township 39 South, Range 58 East, Copper River Meridian

DEC Site Identifiers

File Number: 1507.38.013
Hazard ID: 25875

Regulatory Authority for Determination

18 AAC 75

Site Description and Background

The firing range is located about 1 mile east of the dock facilities at Bartlett Cove, at the NPS Depot site. The area is currently used to support NPS maintenance activities including solid waste recycling and processing, in addition to being used as a firing range. The firing range consists of a soil berm approximately 12 feet high by 50 feet wide. Firing is completed at 9, 21, 45, 75, and 150 feet from the face of the target near the berm. The firing range has been used since 1996 for firearms training and certification. In 2009, the NPS converted to leadless green ammunition for training, however service ammunition is still used for certification. The firing range is still in use, and the NPS has

implemented best management practices to mitigate future impacts from lead and other metals, including the installation of a bullet trap.

This area was used as a landfill from 1979 to 2002. The current solid waste recycling and treatment facility is permitted by the DEC Solid Waste section (permit SW3A074-20). The waste streams are separated and wood/paper refuse is incinerated on-site. The incinerator ash is transported to the Gustavus Disposal and Recycling Center for disposal.

In 1993, four monitoring wells (AP-1 through AP-4) were installed at the site to monitor the landfill. Groundwater is present at 23 to 30 feet below ground surface, and groundwater flow is generally to the west. Three of these wells are still present, and AP-2 has been used to supply non-potable water, but is not used for drinking water. Drinking water is obtained from a surface water source approximately 0.75 miles northwest of the site.

Contaminants of Concern and Cleanup Levels

Contaminants of concern at this site are metals associated with ammunition. Antimony, arsenic, copper, and lead were detected above the cleanup levels established in 18 AAC 75.341, Table B1, Method Two Soil Cleanup Levels, Over 40 inch Zone.

Contaminant of Concern	Cleanup Level
Antimony	3.6 mg/kg
Arsenic	3.7 mg/kg
Copper	460 mg/kg
Lead	400 mg/kg

Characterization and Cleanup Activities

In June 2012, the berm and floor of the firing range was sampled for metals. Antimony, arsenic, copper, and lead were detected above the cleanup levels. Toxic characteristic leaching procedure analysis for lead had results above the Resource Conservation and Recovery Act screening level, therefore any soil removed would need to be handled and disposed of as hazardous waste. The impacted area appeared to be less than 1 foot in depth, with an estimated volume of 30 cubic yards of impacted soil.

In September 2015, approximately 32 cubic yards of impacted soil was excavated and shipped off-site for disposal at Chemical Waste Management in Arlington, Oregon. The excavation was guided by field screening using an x-ray fluorescence spectrometer. Confirmation samples were collected from the excavation limits using incremental sampling methods and analyzed for metals. Results show antimony, copper, and lead are below the cleanup levels. Arsenic was detected at a maximum result of 4.7 mg/kg, which is above the cleanup level, but within background concentrations for this site.

To determine the naturally occurring levels of arsenic in this area, 12 background samples were collected from the woods and other berm areas away from the actual firing range. Background sample results for arsenic ranged from 3.8 mg/kg to 16 mg/kg.

A groundwater sample was collected from monitoring well AP-2 and analyzed for antimony, arsenic, copper, and lead. All results were non-detect.

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, ADEC has determined that residual contaminant concentrations do not pose a cumulative human health risk.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining residual contaminants was evaluated using ADEC'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 Pathway Incomplete. A summary of this pathway evaluation is presented below.

Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	De Minimis	Metals contaminated soil was removed from the site. Confirmation sample results for antimony, copper, and lead are below cleanup levels. Arsenic results are above cleanup levels but within naturally occurring background concentrations.
Sub-Surface Soil Contact	Pathway Incomplete	Metals contamination was limited to the top 1 foot. Contaminated soil has been removed and disposed.
Inhalation – Outdoor Air	Pathway Incomplete	Contaminants of concern at this site are metals.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Contaminants of concern at this site are metals.
Groundwater Ingestion	Pathway Incomplete	Groundwater was not impacted by metals contamination, which was confirmed by groundwater sample results collected from monitoring well AP-2 which were non-detect for antimony, arsenic, copper, and lead.
Surface Water Ingestion	Pathway Incomplete	There are no surface water bodies within ¼ mile of this site.
Wild and Farmed Foods Ingestion	Pathway Incomplete	This site is an active firing range controlled by the NPS. No hunting, fishing, or harvesting is done in the immediate area.
Exposure to Ecological Receptors	Pathway Incomplete	This site is an active firing range controlled by the NPS.

Notes: “De-Minimis Exposure” means that in ADEC's judgment receptors are unlikely to be affected by the minimal volume or concentration of remaining contamination. “Pathway Incomplete” means that in ADEC's judgment contamination has no potential to contact receptors.

DEC Decision

Metals contaminated soil was removed from this site. With the exception of arsenic, which is detected within naturally occurring background concentrations, remaining contamination in soil is below approved cleanup levels. The firing range is still in use, and the NPS has implemented best management practices to minimize future impacts. This site will receive a “Cleanup Complete” designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

1. Any proposal to transport soil or groundwater off-site requires ADEC approval in accordance with 18 AAC 75.325. 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.

This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that 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, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, 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, 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.

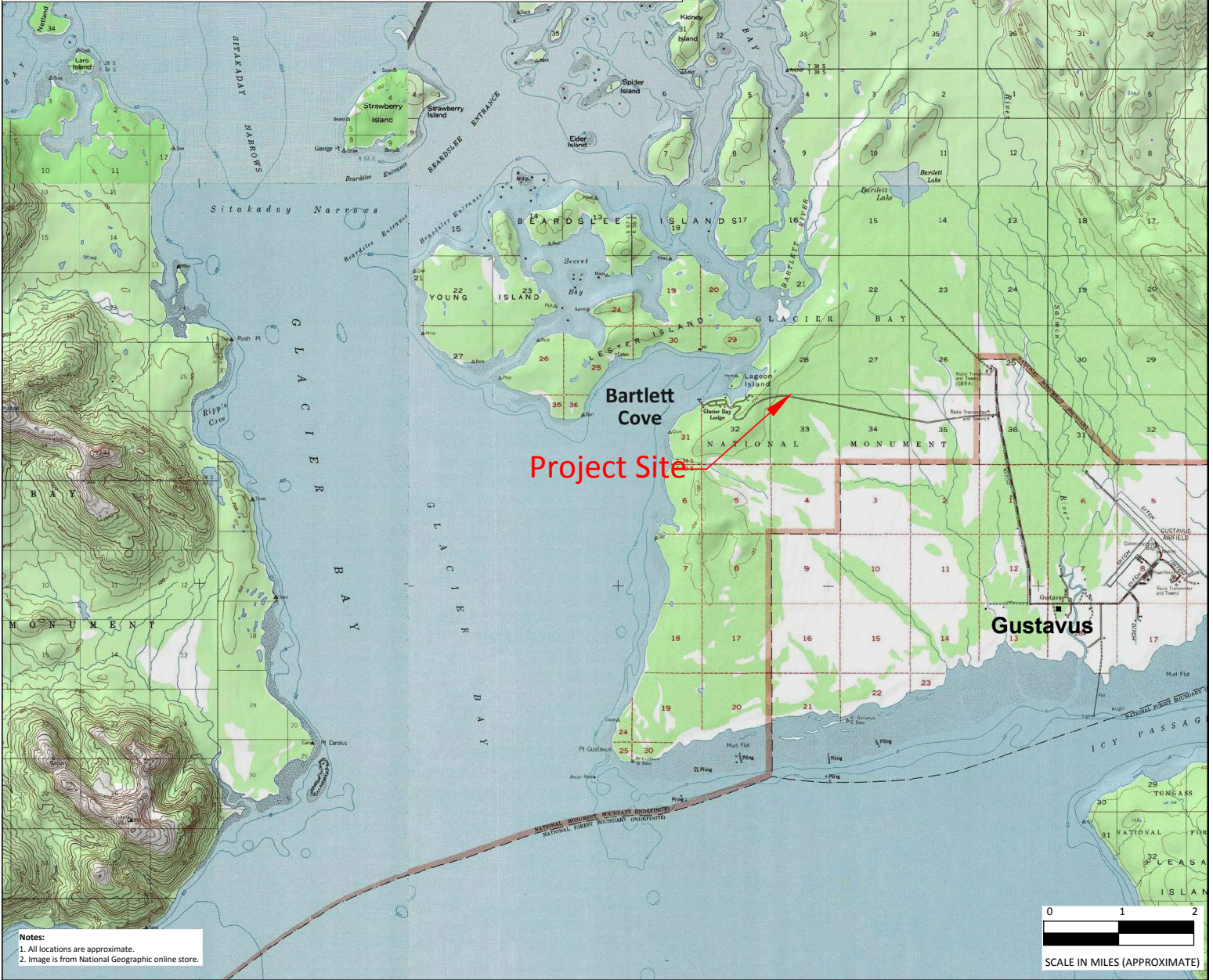
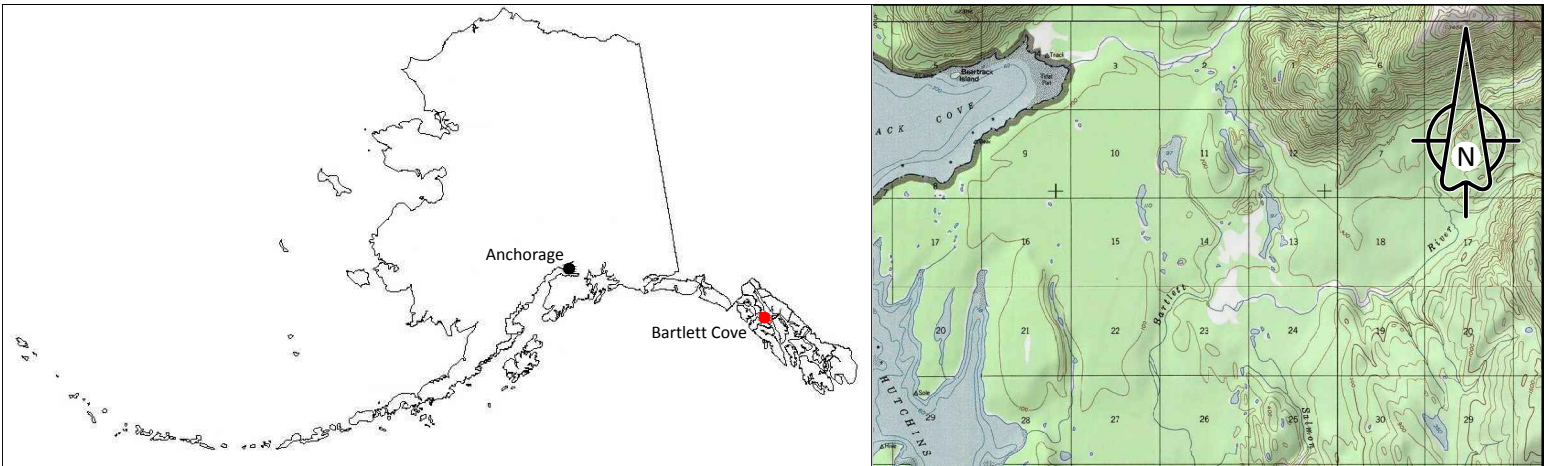
If you have questions about this closure decision, please feel free to contact me at melody.debenham@alaska.gov or (907) 451-5175.

Sincerely,

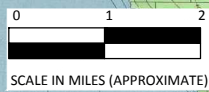


Melody Debenham
Environmental Program Specialist

Enclosures: Figure 1, State and Site Vicinity Maps (Ahtna, 2014)
Figure 2, Firing Range Area Site Plan and 2012 Sampling Grids (Ahtna, 2014)



Notes:
 1. All locations are approximate.
 2. Image is from National Geographic online store.

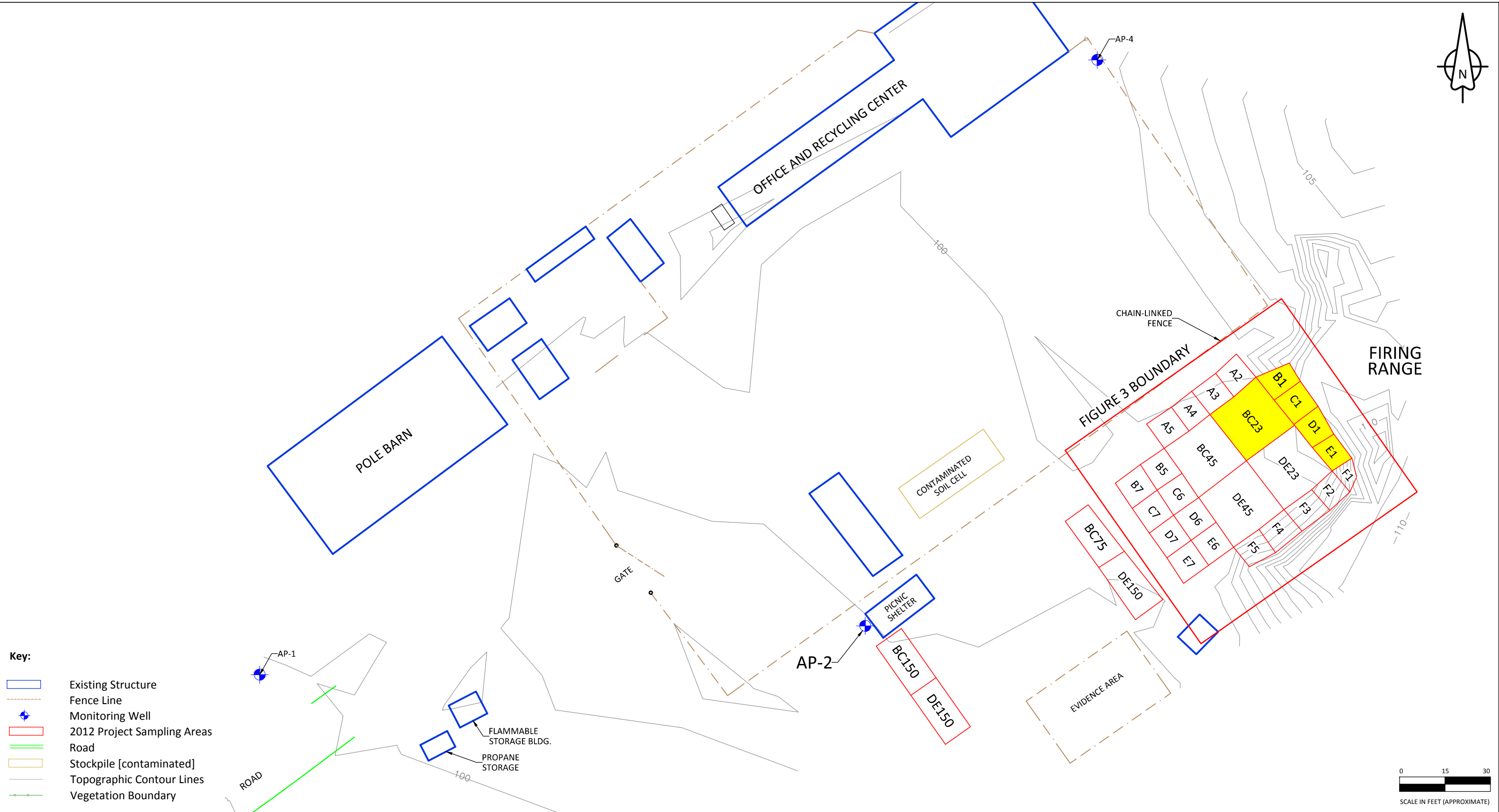
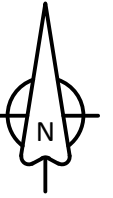


Depot Firing Range Lead Removal and Assessment Work Plan
 Glacier Bay National Park, Alaska

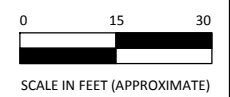


State and Site Vicinity Maps

Project Number: 20194.4810	Figure Number:
Date: 06.18.2014	1
Drawn By: G.R.	



- Key:**
- Existing Structure
 - Fence Line
 - + Monitoring Well
 - 2012 Project Sampling Areas
 - Road
 - Stockpile [contaminated]
 - Topographic Contour Lines
 - Vegetation Boundary



- Notes:**
1. All locations are approximate.
 2. Survey data provided by B. Huebner (6/12/2012).
 3. **Highlighted** cells indicate grids with lead over ADEC Cleanup Level.

Depot Firing Range Lead Removal and Assessment Work Plan
Glacier Bay National Park, Alaska

Firing Range Area Site Plan and 2012 Sampling Grids



Project Number: 20194.4810	Figure Number:
Date: 06.18.2014	2
Drawn By: G.R.	