



LETTER OF TRANSMITTAL

To: Christopher Cora
Remedial Project Manager
U.S. Environmental Protection Agency
1200 6th Ave, ECL-115
Seattle, WA 98107

Date: 12/12/12

From: Justin Peach
Remedial Project Manager
NAVFAC NW
1101 Tautog Circle, Suite 201
Silverdale, WA, 98315

Subject: Final OU B-2 Proposed Plan / NTCRA Powerpoint Presentation

Transmitting:

Included Under Separate Cover

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<input type="checkbox"/> Work Plan	<input type="checkbox"/> Shop Drawing
<input type="checkbox"/> Assessment	<input type="checkbox"/> Letter
<input type="checkbox"/> Decision Document	<input type="checkbox"/> Public Press Release
<input type="checkbox"/> Site Closure	<input type="checkbox"/> Comments/Response to Comments
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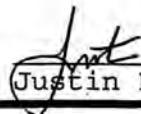
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Chris-
Attached for your use is the Final OU B-2 Proposed Plan / NTCRA Powerpoint Presentation.

Please let me know if you have any questions or comments concerning the document.


Justin Peach



LETTER OF TRANSMITTAL

To: Guy Warren
 Remedial Project Manager
 Alaska Department of
 Environmental Conservation
 555 Cordova Street
 Anchorage, Alaska 99501

Date: 12/12/12

From: Justin Peach
 Remedial Project Manager
 NAVFAC NW
 1101 Tautog Circle, Suite
 201
 Silverdale, WA, 98315

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 Justin Peach



Proposed Plan and Non-Time Critical Removal Action for Operable Unit B-2 Cleanup of Munitions and Explosives of Concern

Former Adak Naval Complex
Adak Island, Alaska

October 2012

Agenda



- **Introduction**
 - Presentation Logistics
 - Proposed Plan Purpose
 - General Background
- **Operable Unit (OU) B-2 Investigation**
 - OU B-2 Remedial Action Areas (RAAs)
 - OU B-2 Investigation Results
- **Remedial Alternatives**
 - Remedial Alternatives
 - Navy's Preferred Alternatives
 - Alternative Selection Rationale
- **Non-Time Critical Removal Action**
- **Cost**
- **Schedule**
- **Community Participation**
- **Questions or Comments**

General Background



- The Navy, the lead agency for OU B-2, issued this Proposed Plan
- Alaska Department of Environmental Conservation (ADEC) and Environmental Protection Agency (EPA) are the regulating agencies
- Cleanup to be conducted under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Cleanup alternatives, including the preferred alternatives, may be modified based on public comments
- Final cleanup alternatives will be presented in a Record of Decision (ROD)
 - Will include a public comment responsiveness summary

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READINESS – PERFORMANCE - SUSTAINABILITY

OU B-2 Remedial Investigation / Feasibility Study



- 39 areas identified in OU B-2
- 15 areas required no further action but are still subject to OU B-1 island-wide ICs
- 24 sites required further evaluation in the RI/FS



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READINESS – PERFORMANCE - SUSTAINABILITY

OU B-2 Remedial Action Areas



- Of the 24 sites, 11 sites warrant MEC removal activities
- These 11 sites were grouped into 5 Remedial Action Areas: RAA-01 (OB/OD-01); RAA-02 (C1-01); RAA-03 West (MI-01, MI-02, and MI-03) and RAA-03 East (HG-01 and RR-01); RAA-04 (SA93-01 and SA93-03); and RAA-05 (ALDA-01 and ALSW-01)



RAAs-01 and 03 – Moffett Valley



RAAs-02 and 05, from RAA-04

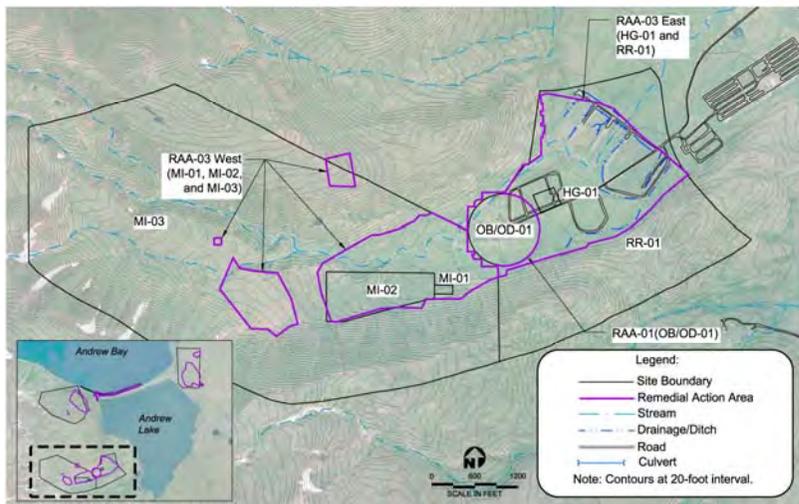


RAA-04

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READINESS – PERFORMANCE - SUSTAINABILITY

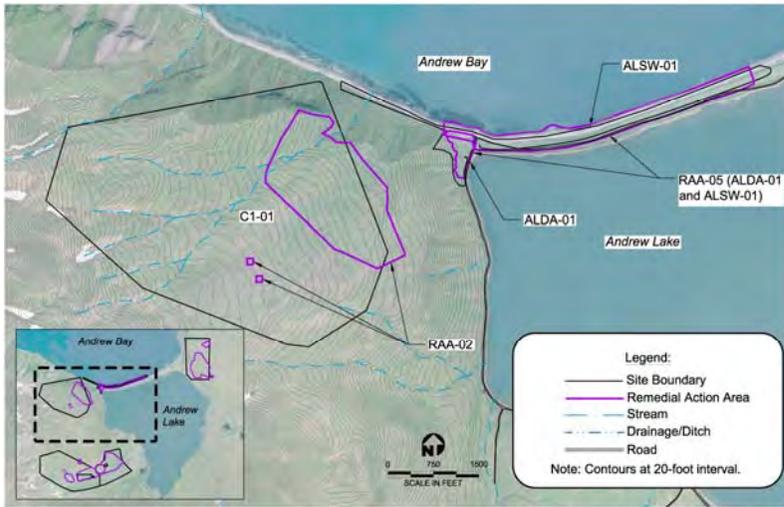
Locations of RAA-01 and RAA-03 (West and East)



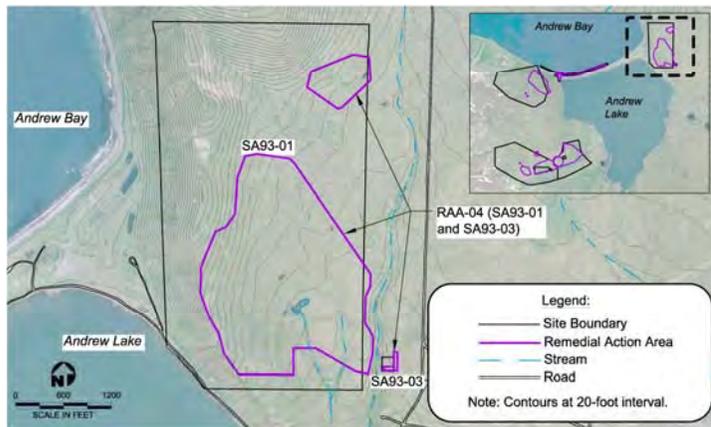
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READINESS – PERFORMANCE - SUSTAINABILITY

Locations of RAA-02 and RAA-05



Location of RAA-04



OU B-2 Investigation Results



- Numerous investigations performed between 1986 and 2010
- Munitions constituents sampling found concentrations below levels of concern
- MEC found included mortars, rockets, projectiles, bombs, grenades, small arms, and other miscellaneous explosive devices
- Surface and subsurface distribution of MEC provided in table below for all sites, except ALSW-01:

MEC Distribution by Depth

Distribution of MEC by Depth (Percentage)	Remedial Action Area					
	RAA-01 (OB/OD-01)	RAA-02 (C1-01)	RAA-03 West (MI-01, MI-02, and MI-03)	RAA-03 East (HG-01 and RR-01)	RAA-04 (SA93-01 and SA93-03)	RAA-05 (ALDA-01 only)
Surface	25%	56%	2%	14%	15%	93%
Near Surface (0 to 0.5 ft bgs)	67%	22%	66%	79%	45%	0%
Subsurface (0.5 to 2 ft bgs)	8%	22%	32%	7%	36%	7%
Subsurface (2 to 4 ft bgs)	0%	0%	0%	0%	4%	0%
Total Quantity	12	9	87	29	67	15

^a – MEC beach sweep results for RAA-05, ALSW-01, is provided separately in table on the following slide.
ft bgs – feet below ground surface

OU B-2 Investigation Results



- MEC found at ALSW-01 during beach sweeps provided in table below:

Summary of MEC Beach Sweep Results for RAA-05 (ALSW-01)

Time Frame ^a	60-mm Mortar	81-mm Mortar	Bomb	Fuzes	Grenades	Projectiles
1962-1967	68	363	47	23	14	95
1971-1975	0	3	6	7	0	1
1979-1992	8	24	25	9	5	40
2004-2009	0	45	0	19	0	4
Totals	76	435	78	58	19	140

^a - All items found at surface, no intrusive investigation conducted.
mm – millimeter



Remedial Alternatives for RAA-01, RAA-02, RAA-03 (West and East), and RAA-04



- Alternative 1: No Action
- Alternative 2: Surface MEC Removal to 0.5 Foot Below Top of Mineral Soil (BTMS) and Land Use Controls (LUCs)
- Alternative 3: Surface and Subsurface MEC Removal to 2 Feet BTMS and LUCs
- Alternative 4: Surface and Subsurface MEC Removal to 4 Feet BTMS and LUCs
- Alternative 5: Surface and Subsurface MEC Removal to Depth of Detection and LUCs



Note: BTMS - below top of mineral soil

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READINESS – PERFORMANCE - SUSTAINABILITY

Remedial Alternatives for RAA-05



- Alternative 1: No Action
- Alternative 6A: Beach Sweeps, MEC Removal to 2 Feet BTMS at ALDA-01 and RAA-specific LUCs
- Alternative 6B: Beach Sweeps, MEC Removal to 4 Feet BTMS at ALDA-01 and RAA-specific LUCs
- Alternative 7A: Dredging, Beach Sweeps, MEC Removal to 2 Feet BTMS at ALDA-01 and RAA-specific LUCs
- Alternative 7B: Dredging, Beach Sweeps, MEC Removal to Depth of Detection at ALDA-01 and RAA-specific LUCs



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READINESS – PERFORMANCE - SUSTAINABILITY



- **RAA-01, RAA-02, RAA-03 West, and RAA-03 East**
 - **Alternative 3: Surface and Subsurface MEC Removal Beyond Depth of Historical Finds (to 2 Feet BTMS) and LUCs**
- **RAA-04**
 - **Alternative 4: Surface and Subsurface MEC Removal Beyond Depth of Historical Finds (to 4 Feet BTMS) and LUCs**
- **RAA-05**
 - **Alternative 6A: Beach Sweeps, MEC Removal Beyond Depth of Historical Finds (to 2 Feet BTMS) at ALDA-01 and RAA-specific LUCs**

Alternative Selection Rationale



- **Remedial Action Objective (RAO) for OU B-2**
 - Provide protection to human health and the environment by reducing and/or mitigating the risk associated with MEC exposure during future use of the area for wildlife management, subsistence, and recreational activities
- **How the Remedial Action Objective is met**
 - Removes surface and subsurface MEC to the depths found at each RAA
 - Removal of MEC combined with LUCs will provide protection of human health and the environment for the expected future land use as a wildlife refuge
 - Maintains flexibility to investigate and clear deeper anomalies
 - Periodic reviews will be conducted to demonstrate that the cleanup action remains protective
 - Consistent with regulatory requirements
 - Employs proven and reliable technologies
 - The current island-wide OU B-1 MEC educational awareness program addresses potential risks from residual MEC

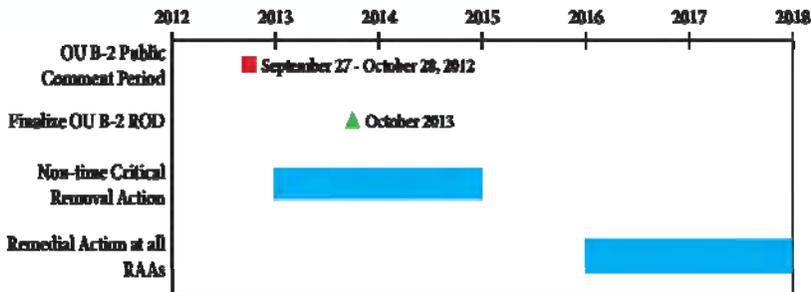


- Remediation goals the same as in the Proposed Plan
- Accelerated schedule for these RAAs
 - Funding became available
 - Allows more even spread of work between 2013 and 2018
 - Allows 60% of RAAs to be cleaned up ahead of the ROD and accelerates risk reduction at Adak
- Removal actions planned for 2013 and 2014

Cost



RAA	Range of Costs	Selected Remedy
1	\$0 to \$2M	\$2M
2	\$0 to \$5M	\$5M
3 – East	\$0 to \$6.7M	\$6.4M
3 – West	\$0 to \$7.7M	\$7.5M
4	\$0 to \$7.3M	\$7.3M
5	\$0 to \$169M	\$5M



Clean-up is anticipated to be complete in 2018, with a Remedial Action Completion Report and Finding of Suitability to Transfer planned for late 2018.

Community Participation

- Verbal comments will be accepted during this public meeting
- Written comments will be accepted through the close of business on October 28, 2012 by submitting them to:
 - Justin Peach, PG, PE
Naval Facilities Engineering Command Northwest
1101 Tautog Circle, Suite 203, Silverdale, WA 98315
Fax: (360) 396-0857 / justin.peach@navy.mil
- Media inquiries and requests for general information should be submitted to:
 - Leslie Yuenger
Public Affairs Officer
Naval Facilities Engineering Command Northwest
1101 Tautog Circle, Suite 203, Silverdale, WA 98315
Phone: (360) 396-6387 / leslie.yuenger@navy.mil
- More information is available at:
 - Bob Reeve High School
Mechanic Road
Adak, AK 99546
 - Adak Update Website: www.adakupdate.com





Adak Island History



- Military present from 1942 to 1997
- Southern half of island is managed by United States Fish and Wildlife Service (USFWS) as a wildlife refuge
- The Aleut Corporation (TAC) received 47,000 acres in 2004
- Parcel 4 (5,600 acres) remains Navy with transfer planned following clean-up
- Federal Facilities Agreement (FFA) signed in 1993
- OU A and OU B created in 1998, OU B-1 and OU B-2 created in 2001
- OU A ROD signed in 2000, active clean-up completed in 2006
- OU B-1 ROD signed in 2001, active clean-up completed in 2010
- OU B-2 ROD planned for 2013, active clean-up completion planned for 2018



Existing Institutional and Engineering Controls



- **Institutional Controls (ICs)**
 - ICs required by the OU B-1 ROD
 - ICs include an island-wide munitions and explosives of concern (MEC) educational awareness program
 - These island-wide ICs are applicable to the OU B-2 sites
- **Engineering Controls (ECs)**
 - ECs include fences, locked gates, and posted signs
 - Access to the Parcel 4 area is currently restricted
 - ECs to be maintained until MEC removal activities are complete at the OU B-2 sites



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READINESS – PERFORMANCE - SUSTAINABILITY

OU B-2 Investigation



- **Numerous investigations performed between 1986 and 2010**
- **MEC Investigation**
 - Site reconnaissance to assess accessibility and potential for MEC transport by erosion or slope failure
 - Instrument-aided surveys to assess the presence of MEC on the ground surface
 - Geophysical investigations to assess the presence of anomalies (potential MEC) in the subsurface
 - Intrusive investigation to assess the presence of MEC in the subsurface at locations where anomalies were identified
- **Munitions Constituents Investigation**
 - Soil, groundwater, and sediment samples collected and analyzed for munitions constituents (i.e., chemicals originating from MEC)



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READINESS – PERFORMANCE - SUSTAINABILITY

OUB-2 Risk Calculation Tools and Conclusions



- Two tools used to estimate risks from MEC:
 - Adak-Specific Explosive Safety Hazard Assessment (ESHA)
 - MEC Hazard Assessment (MEC HA)
- Risks from munitions constituents were estimated using standard EPA procedures
 - Risks posed by munitions constituents were found to be acceptable
- The following 13 sites were sufficiently investigated and/or cleaned up and do not pose unacceptable hazards:
 - ALDA-02, BC-03, JM-01, LJ-02A, MAG-01, MM-10D, RG-01, RR-02, RR-03, RR-04, SA-01, SA93-02, SA93-04
- The following 11 sites potentially pose unacceptable hazards and warrant MEC removal activities:
 - ALDA-01, ALSW-01, C1-01, HG-01, MI-01, MI-02, MI-03, OB/OD-01, RR-01, SA93-01, SA93-03
- The 11 sites were consolidated into 5 RAAs based on similarities in site characteristics, proximity, and distribution of MEC

Evaluation of Remedial Alternatives



- **Threshold Criteria**
 - Overall Protection of Human Health and the Environment
 - Compliance with applicable, relevant, and appropriate requirements (ARARs)
- **Balancing Criteria**
 - Long-Term Effectiveness and Permanence
 - Reduction of Toxicity, Mobility, and Volume through Treatment
 - Short-Term Effectiveness
 - Implementability
 - Cost
- **Modifying Criteria**
 - State Acceptance
 - Community Acceptance

RAA-01, RAA-02, RAA-03 West, and RAA-03 East

		Rating of Alternatives				
EPA Criteria		1	2	3	4	5
Overall protection of human health and the environment		☐	☐	●	●	●
Compliance with ARARs		●	●	●	●	●
Long-term effectiveness and permanence		--	--	●	●	●
Reduction of toxicity, mobility, or volume through treatment		--	--	●	●	●
Short-term effectiveness		--	--	●	●	●
Implementability		--	--	●	●	●
Cost (\$ millions)	Remedial Action Area					
	RAA-01	--	--	5.0	7.0	7.0
	RAA-02	--	--	5.0	5.0	5.0
	RAA-03 West	--	--	7.5	7.7	7.7
	RAA-03 East	--	--	8.4	8.7	8.7

- Highest/Meets Criterion
- High
- Medium
- Low
- Lowest/Does Not Meet Criterion
- Not Evaluated Further
- Navy's Preferred Alternative

RAA-04 (SA93-01 and SA93-03)

		Rating of Alternatives				
EPA Criteria		1	2	3	4	5
Overall protection of human health and the environment		☐	☐	☐	●	●
Compliance with ARARs		●	●	●	●	●
Long-term effectiveness and permanence		--	--	--	●	●
Reduction of toxicity, mobility, or volume through treatment		--	--	--	●	●
Short-term effectiveness		--	--	--	●	●
Implementability		--	--	--	●	●
Cost (\$ millions)		--	--	--	7.3	7.3

RAA-05 (ALDA-01 and ALSW-01)

		Rating of Alternatives				
EPA Criteria		1	6A	6B	7A	7B
Overall protection of human health and the environment		☐	●	●	●	●
Compliance with ARARs		●	●	●	●	●
Long-term effectiveness and permanence		--	●	●	●	●
Reduction of toxicity, mobility, or volume through treatment		--	●	●	●	●
Short-term effectiveness		--	●	●	●	●
Implementability		--	●	●	●	●
Cost (\$ millions)		--	5.0	5.2	100	100

Remedial Action Objective and Cleanup Goals



- **Remedial Action Objective (RAO) for OU B-2**
 - Provide protection to human health and the environment by reducing and/or mitigating the risk associated with MEC exposure during future use of the area for wildlife management, subsistence, and recreational activities

- **Cleanup goals established to assist in achieving the above RAO**
 - Achieve an ESHA score of “B” or better (or a MEC HA score of “3” or better) to achieve acceptable (low) risk for future land use as a wildlife refuge
 - Restrict access to the site(s) until MEC removal activities are completed as defined in the ROD
 - Educate island residents and visitors/workers about the potential presence of MEC and the appropriate response and notification procedures
 - Minimize the need for Land Use Controls (LUCs) after MEC removal activities are complete