

AGENDA

ADAK RESTORATION ADVISORY BOARD

Monday, 30 September 2019
5:00 pm Adak: Community Room
and via Teleconference

Toll free dial-in number (U.S. and Canada): 1-844-712-3247
Access Code – 598 626 016
Meeting Password (if needed): upz3JC39

Adak Time	Agenda Topic	Speaker\Lead
5:00 pm	Welcome and Introductions	Carrie Plant, Community Co-Chair Justin Peach, Navy Co-Chair
	Review Minutes From 23 April 2019 RAB Meeting, including a review of action items	RAB Members
	Munitions Program Update	Justin Peach, Navy Doug Schicho, APTIM
	Fourth Five-Year Review Action Items A. VI Sampling B. Lake Andrew Shoreline Evaluation C. PFAS Sampling of Soil, Groundwater, Surface Water D. East Canal	Justin Peach, Navy
	Petroleum Update A. SWMU 60: Remedy Optimization Study B. OU A / OU B-1 / SAERA Closure Evaluation C. Free Product Recovery Program	Judo Lata, Navy
	Long-Term Monitoring Update (LTM) and Institutional Controls (IC) A. Dig Permits B. Marine Monitoring C. CMP Update D. IC Materials E. IC Repairs and Inspections F. Ground Water / Surface Water / Soil Sampling	Justin Peach, Navy Judo Lata, Navy
	Information Repository Update	Judo Lata, Navy

	Community Report/New RAB Member Discussion/Comments	Carrie Plant, Community Co-Chair
	Review New Action Items	Carrie Plant, Community Co-Chair Justin Peach, Navy Co-Chair
	Preliminary Agenda for Next Meeting; Set Date for Next RAB	Carrie Plant, Community Co-Chair Justin Peach, Navy Co-Chair



ADAK Restoration Advisory Board (RAB) Meeting Materials

Monday, 30 September 2019

**5:00 PM Adak, Reeve's High School Conference Room
and via Teleconference**

1. WELCOME AND INTRODUCTIONS

Introductions

Attendance

Establish Quorum (See Attachment A)

Review Agenda

2. APPROVAL OF PRIOR MEETING MINUTES / REVIEW OF PRIOR ACTION ITEMS

Review and Approval of Prior Meeting Minutes

Draft minutes from the April 23, 2019 RAB Meeting were circulated to RAB members and interested parties on May 16, 2019 (electronic) and again on September 4, 2019 (electronic and hard copy).

Any additional comments?

Request motion to approve.

Review of Actions Items

Review the action items from the April 23, 2019 RAB meeting.

Outstanding Action Item from the October 2018 RAB Meeting:

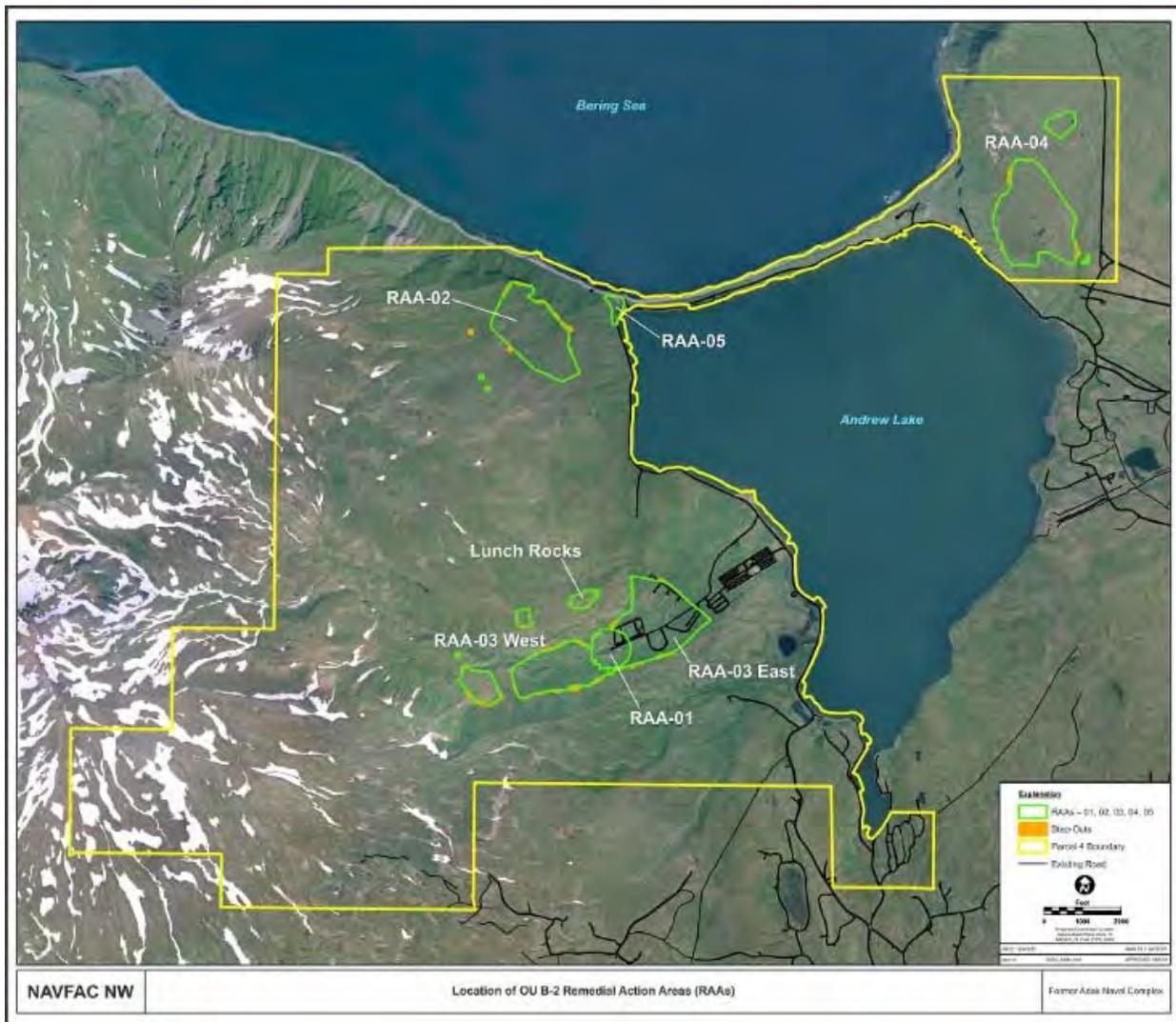
Action Item 1: Mr. Peach has added the fish plant to the IC education program. Mr. Peach said he will visit the fish plant tomorrow (April 24) and provide posters and a box of hiking maps. He will also take the informational DVD to them to watch (at Ms. Bennett's request).

Status: Proposed for closure. Completed on April 24, the day after the RAB. Mr. Steve Skeeihan made a follow-up visit on July 2 with additional materials provided.

Request motion to approve.

3. MUNITIONS UPDATE

The Non-Time Critical Removal Action (NTCRA) in Operable Unit B-2 (OU B-2) – Parcel 4 - began in 2013. Five Remedial Action Areas (RAAs) were established and have been completed.



2019 / 2020

Aptim is midway through their current contract to continue work on the NTCRA through 2020. Work areas shown on the graphic below.



2019/2020 – Task Order 4977

Summary presented by Mr. Doug Schicho, APTIM Project Manager. See Attachment B.

Munitions recoveries through the 2019 field season (to date) are summarized in the table below.

	2013	2014	2015	2016	2017	2018	2019 ²	Total
MPPEH/MEC¹ (items)	2,656	514	2,214	984	2,435	8,040	1,732	18,575
Munitions Debris (lbs)	22,084	22,250	10,495	7,733	23,387	18,356	26,086	130,391
Metal Debris (lbs)	80,316	22,850	24,633	62,998	45,401	25,040	43,032	304,270

Note 1: MPPEH is material potentially presenting an explosive hazard, MEC is munition and explosive of concern and could include DMM, discarded military munitions, and UXO, unexploded ordnance

Note 2: 2019 data is through August 31

Seawall Sweeps

Results of Monthly Seawall Sweeps - 2013 through 2019

2013 Total		33
2014 Total		10
2015 Total		29
2016 Total		13
2017 Total		4
2018 Total		7
2019 Total		
April 18 (ALSW)	Projectile, 20mm, HE, Model Unknown (In one cluster)	7
April 22 (ALDA-02)	Mortar, 81mm, HE, Model Unknown	1
	Rocket, Warhead, 5-Inch, Model Unknown	1
	Flare, Model Unknown	1
May 6	Projectile, 40mm, APT, Model Unknown	1
	Projectile, 20mm, HE, Model Unknown (In one cluster)	4
June 27	Mortar, 60mm, HE, Model Unknown	1
July 27	Mortar, 81mm, HE, M43A1	1
August 24	No Recoveries	0
2018 Total		17
Overall Total		113

Notes:

APT = Armor piercing tracer

HE = High explosive

EOD Mobile Unit 11

EOD MU 11 Det from Whidbey Island NAS visited Adak in May and August 2019. Their scope included checking the Finger Bay shoreline for cartridge activated devices (CADs), a seawall sweep, and opening the spillway.

Other options are being considered for spring 2020.

4. FOURTH FIVE-YEAR REVIEW

NAVFAC NW to discuss the status and progress of several actions items from the Fourth Five-year Review (finalized in 12/2016) for Adak.

A. Collect vapor intrusion (VI) data to evaluate potential risks in the housing area

Completed. Closure summarized during April 2019 RAB.

B. Impacts of water level increases in Andrew Lake

Completed. Closure summarized during April 2019 RAB.

C. Per- and polyfluoroalkyl substances [PFAS]) sampling surface soil and groundwater

Sampling for the PFAS compounds in the soil and groundwater at Solid Waste Management Units (SWMUs) 16, 32, and 33 (the former Fire Fighting Training Areas) was conducted in August 2018. One or more PFAS compounds were detected over action levels in 7 of 7 groundwater samples and 2 of 4 soil samples.

A site investigation is being developed for the summer of 2020. The work will include:

- Define extent of impact
- Additional soil and groundwater sample collection
- Well point installation in case additional samples are required in the future

D. East Canal

Completed aspects as required by the Five Year Review.

1. Removal action at East Canal, SWMU 62
2. Removal action at East Canal, T-1451
 - Excavation completed in 2016
 - Soil off-site in 2017
 - Closure Report completed by Aptim in April 2018

5.0 PETROLEUM UPDATE**A. SWMU 60: Remedy Design**

SWMU 60 is located at the bend in Sweeper Creek as it moves east towards Sweeper Cove. At present, the remedy that is in place as stated in the OU A Record of Decision is monitored natural attenuation (MNA) of petroleum in the groundwater at the site and institutional controls (ICs). In addition, booms are being used to control the sheen that is visible in surface water. The groundwater is monitored for free product six times a year as part of the Navy Free Product Recovery Program.

In April 2018 an Engineering Evaluation/Cost Analysis (EE/CA) was finalized, and identified a preferred remedy enhancement alternative applying an oleophilic bio barrier (OBB) along the shoreline to mitigate sheen to surface water, wind-assisted

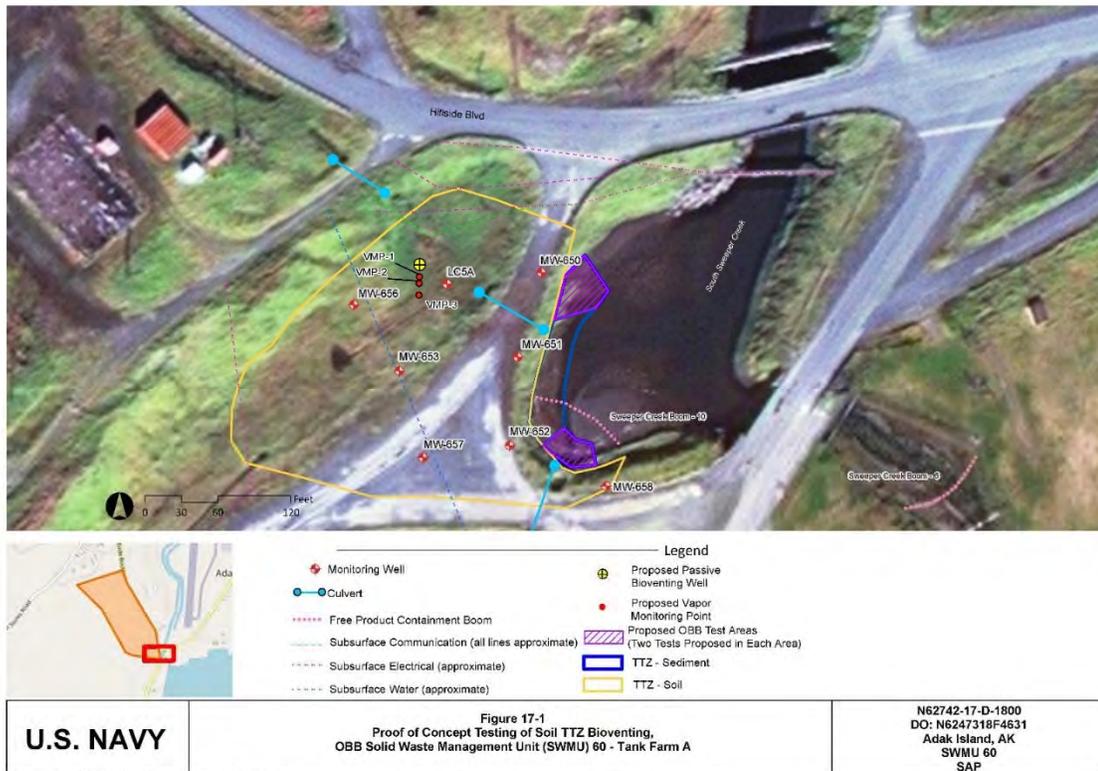
bioventing adjacent to the roadway to stimulate biodegradation of petroleum products, and continued monitoring of natural attenuation.

- Proof-of-concept testing was conducted at SWMU 60 for the OBB and bioventing technologies July and August 2019. Following the testing period (30-60 days), the collected data will be evaluated to determine if wind-assisted passive bioventing and oleophilic bio-barrier are viable technologies and full-scale remedy design can proceed.

The work included:

- Installation of one wind-assisted bioventing well and three vadose zone monitoring points at a location with the highest known concentrations of contaminants in soil upgradient from South Sweeper Creek.
- Installation four 3-square-foot OBB test areas at locations with the highest known concentrations of contaminants in sediments at South Sweeper Creek.
- See the following graphic below

Attachment C presents a detailed summary of the work performed.



B. OU A / OU B-1 / SAERA Closure Evaluation

Some work associated with East Canal Petroleum was performed with the Five Year Review. However, there is more work remaining to be done. Surface water and soil impact and liquid phase hydrocarbon (free-product) remain.

The Navy completed a Conceptual Site Model for Light Non-Aqueous Phase Liquid and Dissolved Petroleum Constituents Report with the goal of creating a top down view of all of the impact in the area, irrespective of traditional site boundaries. The report was finalized in May 2019.

CSM FOR LNAPL AND DISSOLVED PETROLEUM CONSTITUENTS
EAST CANAL, FORMER ADAK NAVAL COMPLEX
Naval Facilities Engineering Command Northwest

Revision No. 0
Date: December 2018



Figure 1-3. Key Features of the East Canal and Associated Petroleum Sites

112
113

The Navy is developing an overview of the sites included in the CERCLA Records of Decision (RODs) for Operable Unit (OU) A and OU B-1, as well as the State Adak Environmental Restoration Agreement (SAERA). Closure goals for every site will be evaluated to determine where adjustments may be recommended, and confirm reasonable timelines to closure. Areas will be prioritized for investigation and remediation with the idea of accelerating closure in the East Canal area.

An additional outcome of this evaluation will be to inform the input for the Fifth Five Year review, which will be finalized in 2021. The Fifth Five Year Review is expected to have action items with timelines based on this 2020 evaluation.

C. Free Product Recovery Program

Sealaska Environmental Services is the Navy contractor working on the Free Product Recovery Program. They are on-island once a month to maintain booms on East Canal and South Sweeper Creek and to monitor wells six times a year to recover free product. A total of **12.66** gallons have been recovered from the period between October 2018 and August 2019.

Recovery volumes from previous 12-month periods and the current period to date:

Past 12-Month Recovery Periods	Total Product Recovered (gallons)
October 2014 to September 2015	66.5
October 2015 to September 2016	37.7
October 2016 to September 2017	11
October 2017 to September 2018	8.2
October 2018 to August 2019	12.7

6. LONG-TERM MONITORING UPDATE (LTM) AND INSTITUTIONAL CONTROLS (ICs)

A. Dig Permits

The Navy has processed three dig permits since the last RAB Meeting. The permits were forwarded to Mr. Lockett per Action Item 1 from the October 2016 RAB Meeting. As always, the Navy would like to thank the groups that have submitted the dig permits.

Date	Party	Purpose
April 5, 2019	City of Adak	Excavation of a Water Line
May 28, 2019	Adak Eagle Enterprises	Construction of a new building
June 14, 2019	AECOM	SWMU 60 Investigation and Testing

B. Marine Monitoring

The next Marine Monitoring event is scheduled for 2020.

C. Comprehensive Monitoring Plan Update

CMP Revision 8 update in progress

D. Institutional Control (IC) Materials

The following IC materials have been distributed:

Material Type	April & June 2019	April & July 2019	April 2019	April & August 2019	April & August 2019	August 2019	August 2019
	City Hall	Fish Plant	Great Sitkin	Airport	Aleutian Outfitters	School	Aleut Real Estate
Hiking Trail Maps	1 box	2 boxes	2 boxes	6 boxes	2 boxes		
Coloring Books					30	32	20
Large Magnets					30		
Posters - Laminated Map		2					
DVDs - Airport Message	12	4			20		
DVDs – Young People		4			20		
Laminated Fish Consumption Advisories		1					

We are looking at ordering more materials in the coming year. People are not requesting bookmarks, small magnets, or general posters. I suggest re-upping with the items listed above, but request RAB input.

E. Institutional Control Repairs and Inspections

APTIM has been contracted to complete the following IC Repairs:
 2019 – Roadway and sinkhole at Palisades Landfill, roadway and sinkhole repair at Finger Bay Landfill, swale repair at White Alice Landfill. Planning for Davis Road Landfill and Metals Landfill.

2020 – Removal of fencing at Parcel 4, and currently pending, Davis Road Landfill repairs and Metals Landfill repairs.

The Navy expects to add swale repairs to the 2020 scope once the degree of erosion from the coming winter is established.

Sealaska Environmental will perform an evaluation of the effectiveness of ICs with a finalized report due to the Navy May 2020.

Their scope will include:

- Inspection of the Downtown Area for evidence of domestic well use or installation;
- Review of IC excavation notifications on file with the Navy and the City of Adak that were processed between October 2018 and September 2019;
- Inspection of the operation of the UXO Awareness videos at the school and airport; and
- Interview of on-island personnel regarding the Institutional Control Educational Awareness Program.

F. Ground Water / Surface Water / Soil Sampling

During the 2019 ongoing monitoring event, groundwater, surface water, and sediment samples were collected from 47 monitoring locations from 4 sites. Product thickness and depth to water measurements were performed at 49 locations. The summary report for 2019 will be finalized in June 2020 and recommendations will be made to alter the sampling program based on the results of laboratory analyses. It is anticipated that sampling continue as prescribed for 2020.

7. INFORMATION REPOSITORY UPDATE

In December 2018, the following documents were added to the Adak Information Repository at City Hall.

- A. 2017 Annual Ground Water and Landfill Annual Monitoring Report
- B. 2017 Annual Free Product Recovery Summary Report
- C. 2018 SWMU 60 Engineering Evaluation Cost Analysis (EECA)
- D. 2018 Explanation of Significant Differences (ESD)
- E. 2018 Explanation of Significant Differences (ESD) Fact Sheet
- F. 2018 Comprehensive Monitoring Plan (CMP) Rev 7
- G. 2018 Institutional Controls Effectiveness Technical Memorandum
- H. 2018 Lake Andrew Inundation Model Technical Memorandum

In May 2019, the following documents will be added:

- A. 2018 Free Product Recovery Summary Report
- B. 2018 OU B-2 NTCRA Completion Report

- C. 2018 OU B-2 NTCRA Quality Assurance Surveillance Report (QSR)
- D. 2018 Long Term Monitoring (LTM) / Institutional Controls (ICs) Report
- E. 2019 Vapor Intrusion (VI) Tech Memo

The next repository update is scheduled for December 2019. There is currently one document in the queue: May 2019 Conceptual Site Model for Light Non-Aqueous Phase Liquid and Dissolved Petroleum Constituents Report.

8. COMMUNITY REPORT

9. REVIEW OF NEW ACTION ITEMS

10. NEXT RAB MEETING

Proposed for between April 6 through 22, 2020.
Date and time to be established by the RAB.

11. ADJOURN

Attachment A

Current RAB Membership
October 2019

Name	Affiliation	Location	Voting Member
Carrie Plant	RAB member (Community Co-Chair)	Adak, AK	1
April Smiloff	RAB member	Adak, AK	2
Elaine Smiloff	RAB member	Adak, AK	3
Esther Bennett	RAB member	Adak, AK	4
Jack Stewart	RAB member	Adak, AK	5
Kim Turnbull (Mik)	RAB member	Adak, AK	6
Layton Lockett	RAB member	Adak, AK	7
Melvin Smith	RAB member	Anchorage, AK	8
Tom Spitler	RAB member	Adak, AK	9
Chris Cora	RAB member (EPA)*	Seattle, WA	
Darren Mulkey	RAB member (ADEC)*	Anchorage, AK	
Justin Peach	RAB member (Navy Co-Chair)*	Silverdale, WA	

* Non-voting member

A quorum to take action will consist of 1/3 of the RAB members.

Action items will be reviewed and approved by a 2/3 vote of RAB members participating in the meeting.

Additional members may be added to the RAB by a quorum present and a 2/3-majority vote of present RAB member.

**Attachment B
Munitions**

**Attachment C
SWMU 60**

ADAK MMRP PROJECT UPDATE

CTO-4977 – 2019 Results and 2020 Path Forward

Presentation to the Adak Restoration Advisory Board – September 30, 2019



PRESENTATION OBJECTIVE

- ▶ Brief all stakeholders on MMRP work status
 - > Summarize what has been completed in 2019
 - > Discuss work scope for next season
 - > Discuss the 2020 staffing level and schedule



2019 AND 2020 WORK SITES



LEGEND

-- Road

RAA-05

Work Areas for 2019/2020

Disposal Area

Primary Excavation Area

Seawall Sweep Area

Surface Clearance Area

Transition Area



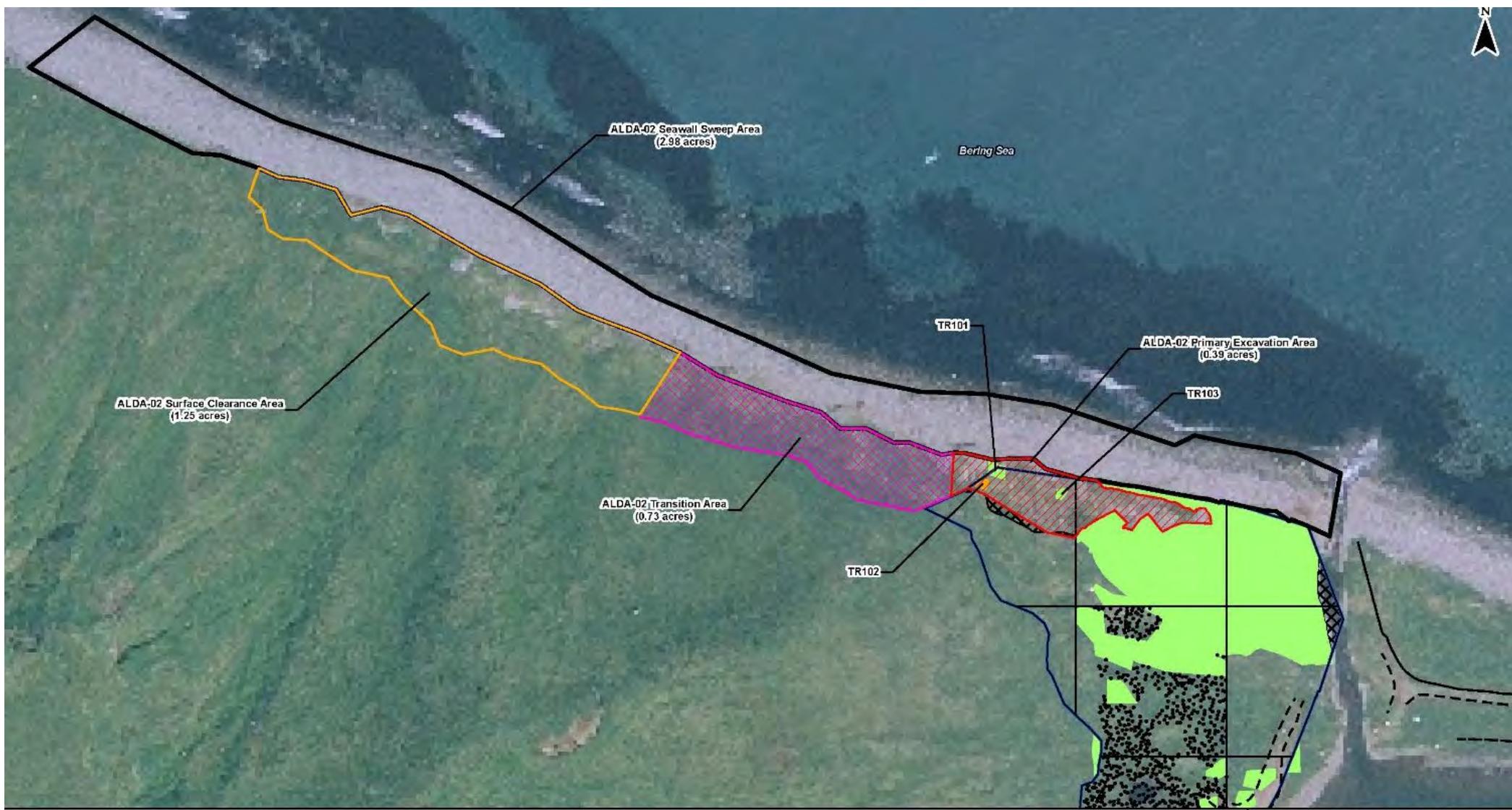
MILITARY MUNITIONS RESPONSE PROGRAM

FIGURE NUMBER
H-3

RAA-05
ANDREW LAKE SEAWALL AND
ANDREW LAKE DISPOSAL AREA ;
MEC CLEARANCE AREAS FOR 2019/2020
ADAK NAVAL AIR STATION



RAA-05 ALDA-02 WORK AREAS



LEGEND

- DGM Target Anomaly Completed
- Area Previously Cleared
- RAA-05/ALDA-02 Work Areas for 2019/2020
- Seawall Sweep Area
- - Road
- Area Incomplete
- Primary Excavation Area
- Surface Clearance Area
- Inaccessible Area
- RAA-05 ALDA Grid Completed
- Transition Area
- Shoreline Dump Area

NAVFAC
Naval Facilities Engineering Command

MILITARY MUNITIONS RESPONSE PROGRAM

FIGURE NUMBER	RAA-05 ANDREW LAKE DISPOSAL AREA 2 MCC CLEARANCE AREAS FOR 2019/2020 ADAK NAVAL AIR STATION
H-4	

0 125 250 Feet
Projection : NAD_1983_StatePlane_Alaska_10_FIPS_5010_Feet



RAA-05 ALSW WORK AREAS



LEGEND

- - Road
- ▭ Potential Step Out - East
- ▭ Area Previously Cleared

**RAA-05/ALSW
Work Areas for 2019/2020**

- ▨ Disposal Area
- ▭ Seawall Sweep Area
- ▭ Surface Clearance Area



NAVFAC
Naval Facilities Engineering Command

MILITARY MUNITIONS RESPONSE PROGRAM

FIGURE NUMBER: **H-5**

RAA-05
ANDREW LAKE SEAWALL
MEC CLEARANCE AREAS FOR 2019/2020
ADAK NAVAL AIR STATION



2019 WORK COMPLETED

Acreage Completed

Site	Planned Excavation Area (acres)	Completed Percentage*	Planned Transition Area (acres)	Completed Acres and Percentage*	Planned Surface Clearance Area (acres)	Completed Acres and Percentage*
RAA-05 ALDA-02	0.39	69%	0.73	0%	1.26	16%
RAA-05 ALSW	1.00	84%	0	0%	20.94	81%

* - Completion Percentages Reported through August 31, 2019

Munitions and Metallic Scrap Removed

	Total Completed	MPPEH (each)	MEC (each)	MDAS (lbs.)	Other Debris (lbs.)
2019 Totals		412	1,320	26,086	43,032



CTO-4977 ALDA-02 FINDINGS

- ▶ Deep burial trenches with a significant number of MEC items
- ▶ 500 lb., general purpose bomb, AN-M64
- ▶ Largest live munition encountered on Adak to date



ENCOUNTER OF 500 POUND BOMB – PROJECT IMPACT

- ▶ This item is larger than any MEC item anticipated in our explosive safety submission.
 - > The explosive safety submission had to be amended and resubmitted so work could continue
- ▶ This item is larger than can be safely mechanically excavated with an armored excavator in the manner APTIM has been excavating since 2016
- ▶ APTIM will plan the work to use robotic excavators so the excavations in ALDA-02 can be safely completed in 2020



CTO-4977 ALSW FINDINGS

- ▶ Shallower burial trenches with fewer MEC items



- ▶ Surface Clearance difficult due to thick vegetation



CTO-4977 SEAWALL SWEEP FINDINGS

- ▶ Five Monthly Seawall sweeps performed
- ▶ At least one item found in each month except August
- ▶ Total of 17 items



CTO-4977 SEAWALL SWEEP FINDINGS (CONTINUED)



REMAINING CTO-4977 PROJECT SCOPE

- ▶ Excavation and clearance of ALDA-02 Primary Excavation Area and completion of ALSW Disposal Area
- ▶ Completion of remaining surface clearance
- ▶ Clearance of transition area by either excavation or surface clearance (dependent on investigatory findings)
- ▶ Monthly seawall sweeps
- ▶ Potential for step outs
- ▶ Option for culvert and road removal to reduce access to RAAs
- ▶ Reporting



CTO-4977 PROJECT STATUS

- ▶ Plan to demobilize in late September 2019
- ▶ Remobilize in March 2020
 - > Duration of season in 2020 will be dependent on findings and amount of MEC found in transition area
 - Maximum staffing will be approximately 24
- ▶ Completion of reports in fall of 2020



QUESTIONS

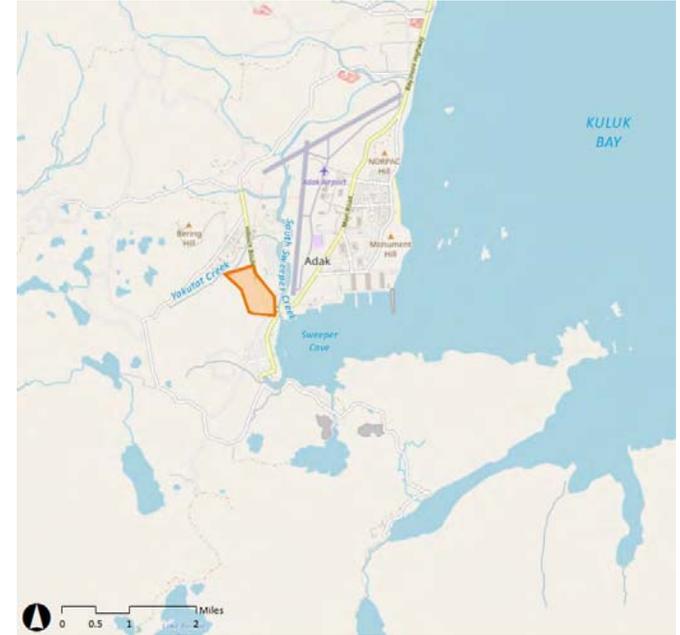
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Expect the Extraordinary.



Tank Farm A SWMU 60 Proof of Concept Testing

Adak Island Alaska

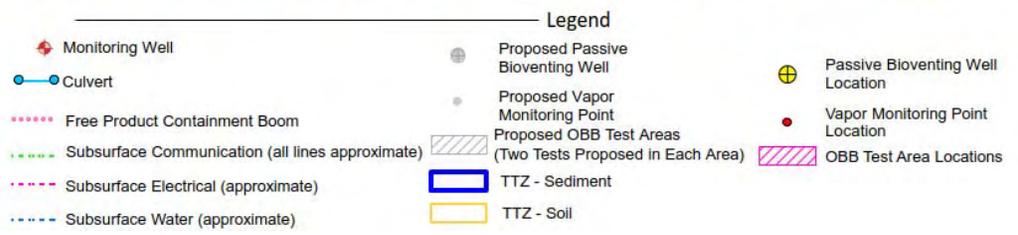
Proof of Concept Testing for:

Wind-Driven Passive Bioventing:

- Intent is to reduce petroleum hydrocarbons in soil and prevent migration to nearby South Sweeper Creek
- Wind blows air into the subsurface through a wind vane on top of the biovent well
- This pushes oxygen-rich air into the subsurface
- Oxygen stimulates and establishes petroleum consuming microorganisms
- Test well and vapor monitoring probes Installed within target treatment zone (TTZ) at location where groundwater was at least 5 ft deep and sheen was observed

Oliophyllic Bio-Barrier:

- Intent to the prevent migration of petroleum hydrocarbons on groundwater surface to nearby South Sweeper Creek
- 3' by 3' Square material to catch petroleum
- Microorganisms grow on it and consume the petroleum
- Placed where impacted sediment was identified

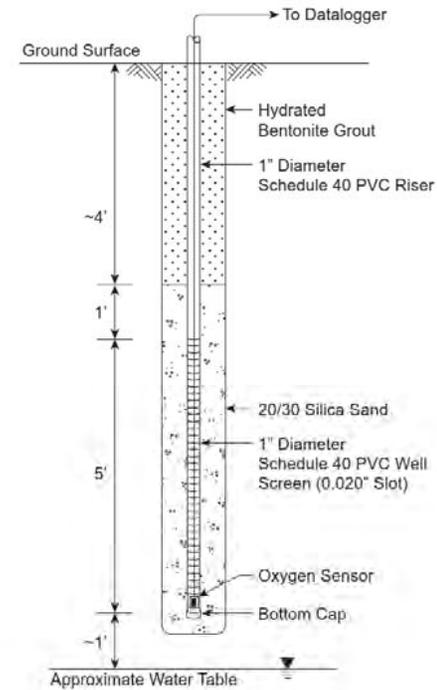
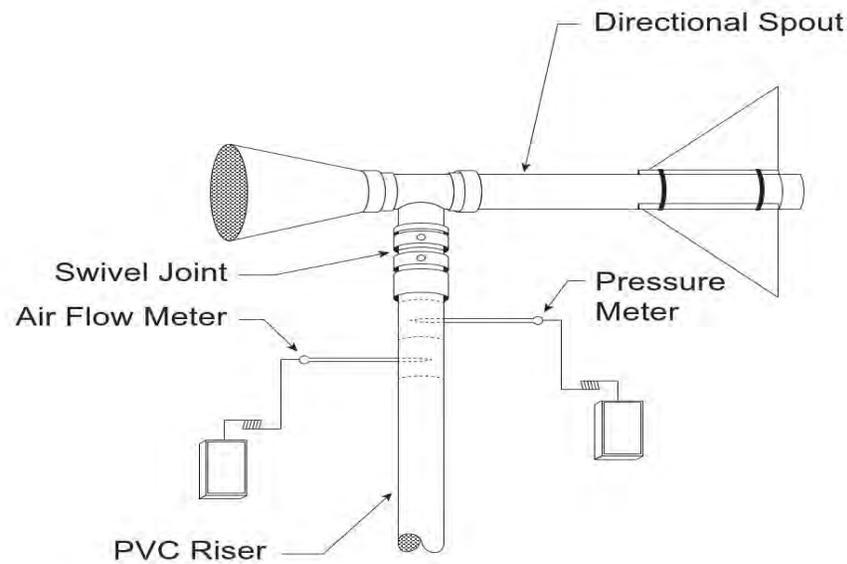


Aerial View of Proof of Concept Testing SWMU60

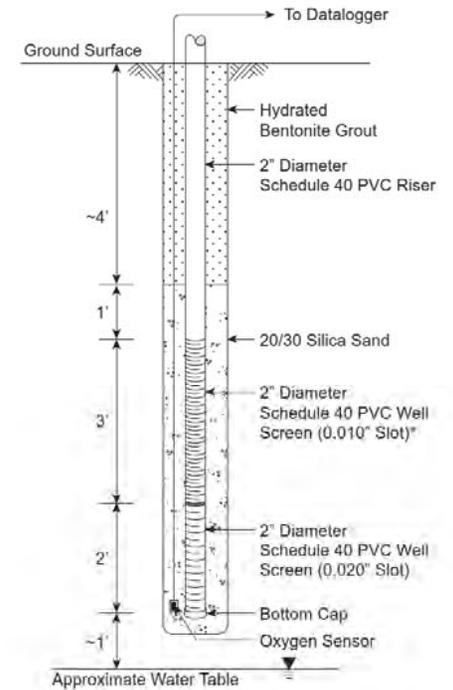


BV Well and VMP Schematics

- Directional spout directs air into the subsurface
- Air enters subsurface through well screen
- Low air flow rates provide enough oxygen to sustain microbial activity



Vapor Monitoring Point Schematic



Bioventing Well Schematic

Biovent Well and Vapor Monitoring Points

Installed Biovent Well and Vapor Monitoring Points

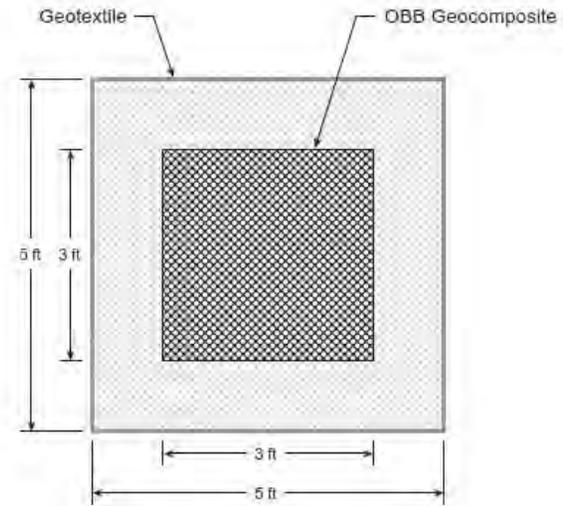


Installed Vapor Monitoring Point

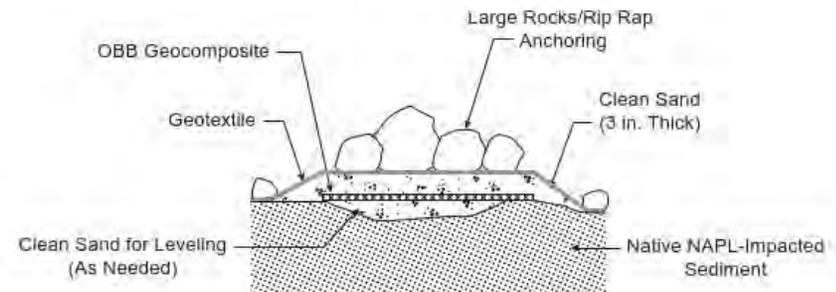


OBB Schematic

- Sand leveling layer placed to minimize surface irregularities
- Clean sand layer covers OBB and this is wrapped in geotextile
- Larger rocks (rip rap) used as anchoring so OBB layer stays in place
- LNAPL absorbs onto fabric as tides change
- Surface water provides oxygen
- Captured product is consumed by microorganisms



Plan View



Cross Section

OBB Site Photos

OBB prior to geotextile and anchor rock placement



Installed OBB

