

Special Project Adak Update

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United States Navy
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The History of Potential Minefield Defense Sites on Adak

One of the unique aspects of the Navy's current work on Adak is the interplay between the island's WWII history and Adak's later use as a military base.

"A detailed look at and analysis of all aspects of Adak's history has been a significant part of the work done by the Operable Unit B Project Team over the past year," said Mark Murphy, the Navy's Project Manager for Adak.

In response to stakeholder comments about the Navy's plans for minefields during the summer field season, the Operable Unit B Project Team decided to explain work that has been done to investigate proposed historic minefield defense sites in the context of Adak's history, Murphy said.

"The Project Team's work so far has been to understand the nature and extent of any ordnance that could pose a potential haz-

ard, to develop a workable plan to investigate those hazards, and to reduce potential danger associated with ordnance," said Tess Carr, the Alaska Department of Environmental Conservation's Project Manager for Adak.

"We take that responsibility very seriously," Carr said.

"For Adak, the investigation work included gaining a thorough understanding of where these potential minefields were located and whether or not they were ever installed," said Murphy.

Potential minefields: developing a context

"When it came to looking for potential WWII minefields," said Ordnance and Explosives expert Doug Murray, "the Navy, the Navy's contractors for ordnance investigation, and the Project Team looked through thousands of historic materials includ-



Technicians used state-of-the-art equipment to look for mines in potential historic minefield locations.

ing WWII records, field orders, and orientation lectures. We reviewed anecdotal information contained in unofficial records maintained by military personnel formerly stationed on Adak, and looked at field data from actual intrusive investigations of sites."

According to Carr, the Project Team's challenge was to develop a scientific approach that could be used within the context of federal and state laws that govern hazardous-site cleanup.

"An integral part of science is asking the right questions," Carr said. "You focus your investigation by taking a look at the historic and logical context of a given problem."

Steps in the OU B cleanup approach have been developed by the entire Project Team after

many hours of consultation and discussion, she said.

"An important part of those discussions is the historical and logical context of the potential ordnance sites, including potential minefields."

Evidence must be reliable

According to Murray, having the Project Team reach agreements on how to evaluate the data reviewed by the team was the first part, or Level 1, of the Operable Unit B screening process.

"We decided that evidence 'reliability' was of singular importance," Murray said.

"In order to agree on a Level 1 Screening Process we had to have agreement on possible exposure pathways and had to agree on how to evaluate multiple

Upcoming Meetings

Restoration Advisory Board

The next Restoration Advisory Board meeting is scheduled for 6:30 p.m. June 28 on Adak. Anchorage residents can participate (the meeting starts at 7:30 p.m. Anchorage time) via teleconference from the Holiday Inn in Anchorage. For more information, please call 1-800-360-1561.

Check out the Web site for up-to-date information

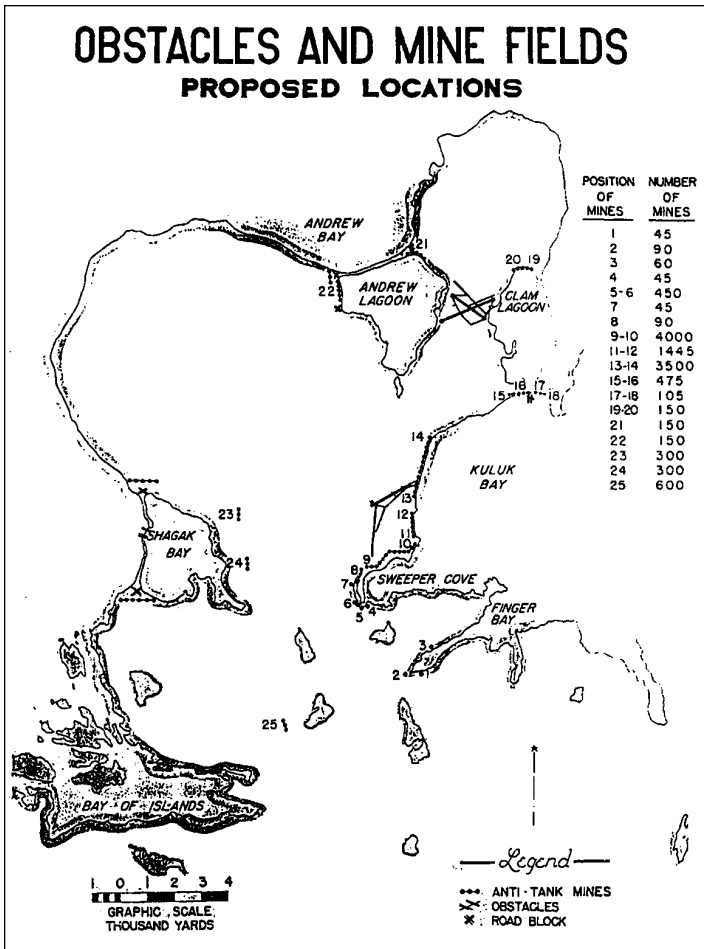
Don't forget to visit www.adakupdate.com for up-to-date information on meetings, newly released documents or important events related to Adak cleanup and closure.

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factors," he said.

This Level 1 process was used as a tool to prioritize those sites that require additional investi-

- Do we need more information about that site?"
- "When it came to one type of ordnance – mines – and potential historic mine-



This 1945 document, a part of Field Order #1, outlined general locations of proposed defense sites on Adak. It was found as part of the historic archives search.

gation and/or cleanup, while screening out those sites that are not really of concern.

It took the team several months to develop even preliminary criteria for evaluating the potential for and hazards associated with ordnance in areas of potential concern for Adak.

"We needed to answer four important questions about every type of ordnance," said Murphy.

- What is the likelihood of ordnance being found at a site?
- What is the potential density of ordnance at a site?
- How potentially dangerous is that type of ordnance?

fields," he said, "we had a very important puzzle to solve."

Do we need any more information?

In trying to figure out the potential minefield puzzle, the OU B Project Team members – who represent a wide range of various types of expertise – reviewed the historic archive data and tried to match that data to what was known about military defensive actions.

An archival document labeled "Training Memorandum #12 – Orientation Lecture" dated Oct. 17, 1944, was discovered during the archive search.

This document contained a graphic showing the general location of proposed defensive works on Adak, including potential minefields.

"Field Order #1" dated May 28, 1945, described a defensive plan for Adak and contained a sketch of proposed defensive minefield locations (See graphic).

The Field Order included a number of statements that were relevant to the placement of minefields. Those orders stated:

- "Sector Commanders will prepare plans for the location of mine fields as part of their defense plans and be prepared to lay these fields on order of the Post Commander when an enemy attack is imminent;
- Unless otherwise directed by the Post Commander, hasty mine field patterns will be used for mine fields;
- All mine fields laid will be clearly marked and accurately recorded by the unit laying them and the location immediately reported to this headquarters;
- When a mine field is no longer needed, or when directed by the Post Commander, all mines will be defuzed and picked up by the same agency who laid them."

These documents are the only historical records found referring to installation of mines as part of the military's plans for defense of Adak Island from an enemy invasion.

"The Project Team, in its review of the historical archive materials, noted that the dates of both the Training Memorandum and Field Order are well after the U.S. Military retook the Aleutian Islands of Attu and Kiska in the spring and summer of 1943, and after the threat of enemy invasion of Adak was virtually eliminated," said Murphy.

"Since the mines were only to be laid in case of

enemy attack, it was not surprising to the Project Team that no documentation exists regarding the installation, location and removal of minefields for defensive purposes on Adak," he said.

How do you know?

The Project Team's analysis needed to be tested.

"Despite the strong evidence that the minefields were never installed because there was never a threat of enemy invasion of Adak during WWII, it was decided that additional investigation was needed to verify that minefields were not placed at these locations," said Murphy.

During the summer and fall of 1998, 22 proposed minefield sites were investigated. A site at Lake Bonnie Rose near Husky Pass that had some of the terrain and other features of a potential minefield, was also investigated that year, bringing the total number of sites investigated in 1998 to 23.

Nine of the sites on the historic map of proposed minefields were within the downtown area of Adak. Although these sites had not been identified as potential minefields at the time they were investigated, the areas had already been looked at for evidence of ordnance contamination – including mines – in 1997 and 1998.

According to Murphy, the approach used to investigate the potential minefield sites that had not already been investigated included careful review of historic documents along with current maps of the island, in order to accurately locate the areas identified in the documents.

"Once these locations were established, an investigation was conducted using very sensitive metal detectors to see if mines or mine-related debris were

present," said Murphy.

"All the plans for conducting these investigations were thoroughly reviewed and approved by the Navy's Ordnance Safety and Security Activity," said Murphy.

According to explosives expert Doug Murray, "The state-of-the-art mine detectors used to locate mines or mine-related debris can find items to a depth of one foot below the surface of the ground."

Murray said that, "Investigations for mines and related debris use a hand-held detection device that is carried by a technician. The technician swings it in a left-to-right pattern in front of him or her while walking along the longest diagonal in a survey lane through a suspected minefield. Using the device in this manner surveys about a 10-foot-wide arc."

"The survey lanes selected were based upon minefield detection and clearance doctrine developed by the U. S. Military, and the mine density specified for hasty and deliberate minefields in the Army Field Manual 5-31, dated 1940," said Murray.

Murray explained that the technicians walked through the areas on the diagonal survey lane because of the high probability that the 10-foot arc created by the mine detection equipment would encounter any mines laid according to known patterns.

Larger proposed minefield areas, or those having an irregular shape, were swept using two or three 10-foot-wide survey paths in order to provide greater coverage.

"Any metallic items detected during the investigation were carefully dug – intrusively investigated – to see if they were mines or debris related to mines," said Murphy.

In addition, technicians

also visually inspected areas for signs indicating activity.

"Some of the potential sites were in areas that had considerable construction in them," said Murphy. "Due to the excavation associated with construction activities, any mines in those areas should have been accidentally encountered – but none were. So, heavy public use areas where roads and buildings were already constructed were scored lower in our screening tool for likelihood



Photos like this one of Adak's first airfield, published in "The Forgotten War," are used by archivists to help them understand Adak's history.

of contamination," he said.

The Project Team reviewed detailed survey data as part of the process of assigning numbers to evaluation criteria for each possible site looked at in the Level 1 Screening Process.

A detailed "Level 1 Candidate Area Hazard Screening Worksheet" was filled out for each possible minefield site as part of this process.

The Level 1 process included determining the likelihood and density of contamination, assigning a hazard severity category and evaluating the strength of the available evidence in

order to fully evaluate each site and bring it to a proposed outcome.

The outcome of the Level 1 Screening of each area could have led to a decision to gain additional data by further field walks or further geophysical sampling. The outcome could also have led to a decision that no further action was needed at a site.

"I think it's important to note," said Murphy, "that the investigations conducted by minefield technicians discovered no mines or

ject Manager Kevin Oates, "A lot of thought and energy and effort has gone into looking into these potential minefield locations. So far – other than at Clam Lagoon – nothing has been found."

What about the minefield at Clam Lagoon?

The discovery in February 1957 of a minefield at the northeast corner of Clam Lagoon, also known as Solid Waste Management Unit # 2 (SWMU #2) was unique," said Doug Murray, explosives expert.

According to Murray, the entire area was surveyed and cleared of all metallic debris and ordnance-related items to a depth of one-foot below the ground.

"While mines were found during a 1997 clearance, the majority – 120 out of 123 mines – were training mines that did not contain high explosives." "It should also be noted that none of the mines found at the site were the anti-tank mines specified in the historic documents for placement of defensive minefields on Adak," he said.

In addition to the training mines found, a number of small arms and small-arms shell casings, Bangalore torpedoes – sometimes used in minefield clearance operations – and other ordnance and ordnance-related scraps were found during cleanup of this site.

"While no documentation has been discovered to explain the purpose of the minefield site north of Clam Lagoon, the ordnance items discovered at the site, including the training mines – indicate the site was never developed as a historic minefield to prevent enemy invasion," said Murphy.

This area may have been used for training purposes and its associated documentation, probably

According to EPA Pro-

separate from the documentation found for the other 27 potential minefields, was not saved and/or hasn't been located.

Setting priorities and gaining more input on land use

Another task of the Project Team has been to set priorities for further investigation of potentially hazardous areas. Based on preliminary screening, the Project Team set plans and priorities for field work to be conducted during the summer 2000 field season. These priorities and plans are set out in a document called the "Draft Work Plan: Operable Unit B Remedial Investigation/ Feasibility Study: Unexploded Ordnance Investigation."

"In addition to discussing important questions like potential minefield sites, it is critical that there be public feedback on proposed future

land uses on Adak," said DEC's Tess Carr. "We need public input on possible land-use scenarios for the future and on current land-use patterns, in order to complete a hazard assessment of sites."

According to Carr, the work done so far by the Project Team categorizes sites, and the Work Plan outlines how to address sites that need further investigation.

The data from investigation efforts will later be put into a hazard methodology that is currently being developed by the Project Team. The hazard methodology will consider available investigative data regarding ordnance location, depth, type and density. It will also consider public exposure factors, including likelihood of people visiting the sites and the potential of various types of human activities to bring people in contact with

ordnance, said Carr.

"Hazard methodology and assessment takes place after the remedial investigation. That's when land-use patterns come into play. Based on hazard assessment results, the CERCLA procedures will be followed to consider the long- and short-term protectiveness of remedial alternatives," she said.

Carr said the most important community and stakeholder input the Project Team can receive now is related to land-use issues.

"We aren't finished with the process," said Murphy, "but we have come a long way toward understanding ordnance issues on Adak."

"As for the potential minefield puzzle and its history, we have a much clearer picture that will help the agencies make decisions on cleanup actions needed for Adak's future," he said.

To provide comments to the Project Team, or for more information, please see the project Web site: www.adakupdate.com

Where to Get More Information INFOLINE: 1-800-360-1561

University of Alaska Anchorage,
Library Reserve Room,
3211 Providence Dr.
907-786-1871 - M-F, 8 am to 5 pm,
Contact: Librarian

NAF Adak, Adak Island, Alaska,
Bob Reeve High School Library
M-F, 8 am to 5 pm, 907-592-8170
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