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# Project Closeout Report

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Military Munitions Response Program (MMRP)  
Project # F10AK069604  
Gambell FUDS  
St. Lawrence Island, Alaska

June 2008

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**MMRP Project Closeout**  
**F10AK069604**  
**Gambell Formerly Used Defense Site**  
**St. Lawrence Island, Alaska**

**DECLARATION**

In accordance with the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS), the U.S. Army Corps of Engineers (USACE), Alaska District, has completed all military munitions response program (MMRP) activities for the selected remedy at the Gambell Formerly Used Defense Site (FUDS) on St. Lawrence Island (#F10AK069604). Based on the approved Action Memorandum (August 2003), institutional controls were implemented to manage ordnance-related hazards and residual risks for the Gambell site. The Action Memorandum identified two areas with the potential for risk based on the presence of small arms ammunition or scrap. The documented area with residual small arms ammunition has been cleared. No further actions are required to mitigate risk. The project reports referenced within this document support the conclusion that all munitions and explosives concerns have been addressed and no further MMRP actions are required for this project.

This project closure document has been prepared and approved by the undersigned in accordance with the FUDS Program Policy, ER 200-3-1, 10 May 2004. If new information becomes available that indicates additional FUDS program eligible impacts occur at the Gambell property, the site may be re-evaluated for MMRP project eligibility.


APPROVED:

 Date 25 Sep 8 2008  
KEVIN J. WILSON  
Colonel, Corps of Engineers  
District Commander

**MMRP Project Closeout  
F10AK069604  
Gambell Formerly Used Defense Site  
St. Lawrence Island, Alaska**

**REVIEW AND CONCURRENCE**

The State of Alaska, through the Department of Environmental Conservation concurs with this USACE project closure for the Gambell site. The decision may be reviewed and modified in the future if new information becomes available that indicates the presence of previously undiscovered military munitions or explosives that may cause unacceptable risk to human health or the environment.

 \_\_\_\_\_ Date 9/11/08  
JOHN HALVERSON  
Alaska Department of Environmental Conservation  
Department of Defense Environmental Program Manager

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## LIST OF ACRONYMS

ADEC	Alaska Department of Environmental Conservation
ASR	Archives Search Report
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
DERP	Defense Environmental Restoration Program
DOD	Department of Defense
EOD	Explosive Ordnance Disposal
EE/CA	Engineering Evaluation and Cost Assessment
FUDS	Formerly Used Defense Site
IRA	Indian Restoration Act
MEC	Munitions and explosives of concern
MMRP	Military Munitions Response Program
NALEMP	Native American Lands Environmental Mitigation Program
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NDAI	No Defense Action Indicated
OE	Ordnance and explosives
USACE	U.S. Army Corps of Engineers
USAESCH	U.S. Army Engineering and Support Center, Huntsville
UXO	Unexploded ordnance
VPSO	Village Public Safety Office

## **1.0 STATEMENT OF BASIS**

Authority for the Defense Environmental Restoration Program for Formerly Used Defense Sites (DERP-FUDS), Military Munitions Response Program (MMRP) projects is derived from the Defense Environmental Restoration Program, 10 USC 2701-2707. The Gambell FUDS property number is F10AK0696. The MMRP project number is F10AK069604.

The response was consistent with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), the National Oil and Hazardous Substances Pollution Contingency Policy (NCP) and the Defense Environmental Restoration Program (DERP). Under the DERP, the Military Munitions Response Program addresses other environmental damage that may create an imminent and substantial endangerment to the public health, welfare, or the environment.

The decision to closeout this MMRP project is based on the results of an Engineering Evaluation/Cost Analysis (EE/CA), implementation of institutional controls as selected in an Action Memorandum, and removal action activities conducted between 1994 and 2008.

## **2.0 SITE LOCATION AND DESCRIPTION**

The Native Village of Gambell is located on St. Lawrence Island, in the western portion of the Bering Sea, approximately 200 air miles southwest of Nome, Alaska (see Figure 1-1). Gambell is located at latitude 63° 46' 49" North and longitude 171° 43' 46" West. The village is situated on a gravel spit characterized by wave terraced beach areas with an elevation of approximately 30 feet above mean sea level (MSL). Troutman Lake is located south of the village. Sivuqaq Mountain borders the gravel spit and Troutman Lake on the east, rising to an elevation of 619 feet above MSL. St. Lawrence Island is currently owned jointly by Sivuqaq, Inc., in Gambell, Alaska, and Kukulget, Inc., in Savoonga, Alaska. Non-Native land on St. Lawrence Island is limited to state land used for airstrips and related facilities in Gambell and Savoonga.

The FUDS program has assigned the Gambell site property number # F10AK0696. The MMRP project number for Gambell is #F10AK069604. The State of Alaska, Department of Environmental Conservation (ADEC) tracks the entire site with rekey # 198532X917919, and also lists individual areas of concern by separate rekeys. Area B is not tracked as a separate site. Area D Beach Burial Site is tracked in the database as Site 8 West Beach rekey # 198532X917926. The United States Environmental Protection Agency (EPA) identification number for Gambell is AKD981765894.

Gambell is inhabited primarily by Native St. Lawrence Island Yupik people, who lead a subsistence-based lifestyle. The population of Gambell has been slowly increasing (2 percent per year growth) since 1990; this trend is expected to continue. U.S. Census data from 2000 reports the total population at 649 residents. Residential development is planned to expand to the east of the Village of Gambell; supporting infrastructure for the village may expand to the south

of Troutman Lake. Land use at the Gambell site is residential, recreational, and open space or undeveloped. The recreational and open space lands are primarily used for subsistence hunting, gathering, and eco-tourism.

The Gambell area supports habitat for a variety of seabirds, waterfowl, and mammals that either breed in or visit the area. The area surrounding the top of Sevuokuk Mountain, above the Village of Gambell, supports a large bird rookery. The birds and bird eggs serve as a subsistence food source for local inhabitants. The ocean surrounding the Gambell area is used extensively for subsistence hunting of whales, walrus, seals, sea birds, and fish.

The Gambell site was used by the military from 1948 until the late 1950's. Various facilities were constructed near the village of Gambell to provide housing and operations, aircraft radar, communications, and other functions. The military leased approximately 2,543 acres in Gambell, of which the U.S. Air Force leased 1,807 acres and the U.S. Army leased the remaining acreage. An Engineering Evaluation / Cost Analysis (EE/CA) addressed 634 acres in or near the Village of Gambell, Troutman Lake, and on Sivuqaq Mountain. The project site was divided into 6 areas, Area A, B, C, D, F, and G based on past known military usage and reported ordnance disposal areas.

### **3.0 DESCRIPTION OF THE SELECTED REMEDY AND IMPLEMENTATION**

This project closure report covers impacts identified as MMRP. Of the 6 areas identified in Gambell, only Areas B and D were impacted by munitions or explosives of concern (MEC). The sites (see Figure 1-2) discussed in this document include:

- Area A – Air Force Burial Site
- Area B – Radar Installation
- Area C – Troutman Lake northern portion
- Area D – Beach Burial Site
- Area F – School Area
- Area G – Troutman Lake southern portion

The Engineering Evaluation / Cost Analysis (USACE, 2002) documented the processes by which appropriate ordnance and explosives (OE) responses were identified for the Gambell site. These processes included (1) geophysical surveys to detect and map subsurface anomaly sources and investigating these anomaly sources to identify any OE present; (2) determining the type and estimated quantity of OE present; (3) interaction with the local community and stakeholders to communicate the progress and findings of the investigation; (4) performance of an Institutional Analysis to identify the institutional framework necessary to support the development of institutional controls as an effective OE response action; and (5) providing the public and local agencies the opportunity to review and provide comments on the findings and recommendations of the EE/CA field investigation.

During the EE/CA field investigation, intact ordnance was only found at Area D Beach Burial Site, comprised of small arms (.30 caliber) ammunition and two hand grenades. Spent cartridge casings from small arms ammunition (e.g., ordnance scrap) were found at Area B Radar Site. While small arms rounds do not constitute an explosive hazard, if exposed to intense heat these munitions can burn and pop. The expanding gases in an unconfined (not chambered in a rifle) cartridge may cause the casing to burst allowing the remaining propellant to ignite. Small arms ammunition therefore presents a fire hazard that poses an endangerment to public safety, welfare, and the environment that is addressed by the selected remedy.

The selected remedy for the Gambell site was documented in an Action Memorandum (USACE, 2003) and supported by the Administrative Record for the site. This record is available at the Information Repository within the Sivuqaq Lodge in Gambell, Alaska.

### **3.1 NO DOD ACTION INDICATED (NDAI)**

No further Department Defense action indicated was selected as the response for Areas A (including A1 and A2), C, F, and G because there was no evidence of any military munitions or explosives of concern and consequently, no munitions hazard at these sites.

### **3.2 INSTITUTIONAL CONTROLS**

Institutional Controls were selected and implemented at Area B (Radar Site) and Area D (Beach Burial Site). The activities conducted included distribution of informational pamphlets to local residents and businesses, periodic community awareness meetings, and education of workers and residents about ordnance safety awareness.

In addition to the selected remedy of institutional controls for Area D Beach Burial Site, the State of Alaska Department of Environmental Conservation (ADEC) requested that the small arms rounds be removed because they pose a potential risk to children who might pick up the shells and throw them into a fire. Therefore, to eliminate the potential risks to small children, the remaining rounds at Site D were addressed through a separate project under the Native American Lands Environmental Mitigation Program (NALEMP).

Institutional Controls were appropriate for Area B Radar Site because only munitions scrap (burst cartridge casings) was found at the former radar site. The topsoil was stripped from the area during previous efforts to clear the debris resulting from the fire at the radar site. An OE clearance of the existing ground surface was performed during the EE/CA field investigation. Any OE remaining at Area B would be present deep in the crevices between the boulders and barren rock that cover the site. Additional subsurface clearance of the site was rejected because it would not significantly reduce any residual risk and the effort required to access the subsurface would present a greater danger to human safety and the environment.



Area D Beach Burial Site is located on private property, about two miles away from the Village of Gambell, and there are effective physical (e.g., the distance to the site) and administrative controls available to ensure public safety. Sivuqaq, Inc., the Village of Gambell IRA Council, and the City of Gambell have been diligent in providing information regarding OE in Gambell to the general population through discussions and community meetings. As a consequence, the population of Gambell is aware of the presence of small arms ammunition. The public safety awareness actions conducted between 2003 and 2007 have increased the public's knowledge and understanding of the risks posed by small arms ammunition. By providing residents of Gambell with information regarding the risks associated with small arms ammunition and the procedures to follow if munitions or explosives are discovered, the institutional controls have been an effective response action.

Institutional Controls focused on community awareness and education. Educational pamphlets were distributed to all residents of Gambell with a Post Office box. Posters are displayed at the Post Office, health clinic, school, and other public buildings. Additional copies of the educational pamphlets are available to residents and visitors at the Information Repository. The educational pamphlets and posters provide the following information:

- the type of small arms ammunition discovered at the Gambell site
- the hazards associated with the small arms ammunition
- what to do (and what not to do) if ordnance and explosives are encountered
- who to contact if ordnance and explosives are discovered at the Gambell site

### **3.3 AREAS WITH NO EVIDENCE OF MUNITIONS OR EXPLOSIVES OF CONCERN**

Small arms ammunition was reportedly buried or disposed at four of the areas investigated (Areas A, C, D, and G). There was a voiced concern, on the part of the Gambell residents, that other munitions could also have been present at these sites. Additionally, the residents expressed a concern that scrap discovered at Area F School Site could be related to military munitions or explosives.

According to the Archives Search Report (ASR), hand grenades and small arms ammunition (.30- and .50-caliber) may have been used at the Gambell site. No previous OE investigations or removal actions had been conducted at the Gambell site prior to the EE/CA investigation. In July 1994, the only evidence of OE observed by the ASR Site Investigation Team was small arms ammunition casings at Area B and unexpended small arms ammunition at Area D. As part of the EE/CA process, a two-phased site investigation was performed in Gambell during 2000 and 2001. Phase I included the geophysical and ordnance investigations of Troutman Lake (Areas C and G). During Phase II, geophysical and ordnance investigations were conducted at Areas A (including at Areas A1 and A2), B, D, and F.

No evidence was found during the EE/CA field investigations to indicate the presence of munitions or explosives of concern in Area A - Air Force Burial Site (or A1 and A2), Area F - School Site, or Area C and Area G (northern and southern portions of Troutman Lake, respectively). Accordingly, there is no known munitions hazard associated with these sites.

### **3.3.1 Area A – Air Force Burial Site**

Area A - Air Force Burial Site is approximately 0.46 acre in size and was identified by the ASR as a burial site of small arms ammunition. The site is on the gravel spit northeast of the village. Two additional areas, Areas A1 and A2, each approximately 225 square feet in size, were added based upon information provided by residents of Gambell, who stated that they were present when the ammunition cases were reportedly buried. According to the ASR, upon deactivation of the intelligence and surveillance-gathering missions, all buildings and equipment were demilitarized and then buried. The ammunition used for the site defense was buried separately from all other materials. It was reported that approximately 120 cases of .30-caliber (cal) and .50-cal ammunition were buried at 6 to 8 feet below ground surface (bgs). Area A was surveyed in July 2000. A surface sweep was conducted to clear the site of any metallic surface debris. Transient electromagnetic (EM61) metal detectors were then used to detect and map the location of subsurface geophysical anomaly sources. Two additional areas (A1 and A2) were surveyed in September 2000. These areas were identified by local Gambell residents and added to the field investigation because no evidence of ammunition boxes or a burial trench were found during the initial survey. All of the anomaly sources in Areas A, A1 and A2 were identified as non-ordnance related, i.e., rebar, wire, trash, or nails.

### **3.3.2 Area C - Lake Burial Site**

Area C comprises the northern fifth of Troutman Lake (approximately 148 acres). Reportedly, this site was used as a disposal area for small arms ammunition. The exact location of this burial site was not certain, but community residents indicated that it was in the northern portion of the lake. According to local residents, children swimming in the lake in the 1970's found rounds on the bottom of the lake, approximately four feet beneath the surface of the water. The northern portion of Troutman Lake, Area C, was surveyed in May 2000 using magnetic and transient electromagnetic survey methods while the lake was still frozen. Subsurface anomalies in Area C were initially investigated in May 2000 using an ice auger, a depth sounding lead, a pole, and an underwater video camera. No evidence of any munitions was found. In August 2001, anomalies identified in deeper water were investigated over open water using anchor and drift boat traverses and the underwater video camera. No evidence of any munitions was found in Troutman Lake. Metallic scrap, such as 55-gallon drums and pipes, accounted for many of the anomaly sources. Other broader anomalies were ascribed to geologic features.

### **3.3.3 Area F - School Area**

Sivuqaq, Incorporated (Inc.) reported that during the construction of the school, small arms ammunition and grenade pins and spoons were found. Based on the interviews with local agencies and landowners conducted during the EE/CA site visit and the land use for the approximately 2-acre site (i.e., the area surrounding the school), Area F was included in the EE/CA field investigation. A surface sweep was conducted to clear the site of any metallic surface debris. Transient electromagnetic (EM61) metal detectors were then used to detect and map the location of subsurface geophysical anomaly sources. Each target anomaly location was excavated and searched for the source of the geophysical anomaly. All anomalies were classified as non ordnance scrap such as rebar, wire, trash, or nails. No evidence of any munitions was found at the School site.

### **3.3.4 Area G - Remaining Lake Area**

The ammunition that was reportedly dumped in Area C Lake Burial Site was not detected during the initial investigation of Troutman Lake in May 2000. The remaining 483-acre area of Troutman Lake was mapped as a continuation of the Phase I field investigation in May 2001 while the lake was frozen. Area G was surveyed using the same methods as the previous lake survey, to verify the presence or absence of piles or mounds of dumped ammunition in the lake. A total of 55 anomalies were identified in Troutman Lake. Seventeen were classified as geologic. Twenty nine anomaly sources were identified as non-ordnance scrap (i.e., 55-gallon drums, pipes, or other trash). No ordnance related items were found during the anomaly investigation.

## **3.4 AREAS WITH EVIDENCE OF MUNITIONS OR EXPLOSIVES OF CONCERN**

During the EE/CA field investigation, two areas had munitions debris. Several munitions scrap items were recovered from Area B Radar Site, including brass links and casings. Intact .30-caliber cartridges and expended cartridges were recovered from Area D Beach Burial Site.

### **3.4.1 Area B – Radar Installation**

Area B Radar Installation is a 0.06-acre site on top of Sivucaq Mountain and was the site of the radar and listening antennae. Just prior to the closing of the site, a fire destroyed all buildings at the radar site. Small arms ammunition for site security was consumed in the fire. The topsoil has been stripped from Area B during previous efforts to clear the area of debris resulting from the fire at the Radar Site. In 1994, the ASR Site Investigation Team located residue of the fire and small arms ammunition casings. Area B was surveyed as part of the EE/CA field investigation in July 2000. A surface sweep was conducted to clear the site of any metallic surface debris. Transient electromagnetic (EM61) metal detectors were then used to detect and

map the location of subsurface geophysical anomaly sources. Five anomaly sources were identified as ordnance-related scrap (i.e., brass links or casings). No complete rounds of ammunition were found.

### **3.4.2 Area D - Beach Burial Site**

Area D Beach Burial site comprised 0.5-acres on the gravel beach, south of Troutman Lake. The site was used as an ammunition burial site and is approximately 2.5 miles south of the Village of Gambell. During a 1994 site visit, the ASR Site Investigation Team found physical evidence of .30-caliber ammunition and residue from a disposal operation in three shallow pits approximately 4 feet in diameter and 2 feet deep.

Area D was surveyed as part of the EE/CA field investigation in July 2000. A surface sweep was conducted to clear the site of any metallic surface debris. One intact .30-caliber round and three expended .30-caliber rounds were recovered. Transient electromagnetic (EM61) metal detectors were then used to detect and map the location of subsurface geophysical anomaly sources. Five anomaly sources were investigated. Ordnance (e.g., .30-caliber cartridges), ordnance scrap (e.g., expended cartridges), and non-ordnance items were recovered. Small arms ammunition was found and removed from one 10-foot by 10-foot exploratory excavation at depths ranging from 2 to 5 feet bgs. The field team unexploded ordnance (UXO) technicians manually retrieved nearly 900 unexpended .30-caliber rounds from the pit. The small arms rounds removed from the gravel were shipped to a disposal facility in Colfax, Louisiana, where they were destroyed. Additional rounds that could not be readily segregated from the terrace gravels were later removed in August/September 2006.

Further site remediation activities at Area D Beach Burial Site were initiated in August 2006 by the Native Village of Gambell through a Cooperative Agreement with the Department of Defense under the Native American Lands Environmental Mitigation Program (NALEMP). Objectives for environmental remediation at Area D (also known as Site 8D) included removal of the remaining small arms ammunition debris which posed a threat to Gambell residents who travel along the shoreline ridge. On August 9<sup>th</sup> during site remediation activities, the crew discovered two unexploded hand grenades several feet below ground surface and ceased excavation. USACE and the U.S. Army Explosive Ordnance Disposal (EOD) Unit based out of Fort Richardson were notified. The Native Village of Gambell had excavated approximately 500 rounds of 0.30 caliber ammunition and stored them in a connex prior to the discovery of the hand grenades. The site was cordoned off with 'Danger' tape until the EOD team arrived.

On August 23, 2006, an ordnance safety specialist from the USACE Huntsville office and the USACE Alaska District project manager visited the Gambell site to observe the conditions at Area D Beach Burial Site. The ordnance specialist confirmed the crew had recovered two empty MK II hand grenade bodies and two grenade fuses. One grenade fuse was complete and the other grenade fuse had been expended. The ordnance specialist separated the live fuse from the

other items and used a Schonstedt (GA-52CX) metal detector to check the area around the pit. No large anomalies were located. USACE recommended all work on the small arms burial pit be stopped until an unexploded ordnance person was on site for stand-by support.

The EOD team from Fort Richardson arrived in Gambell on September 29, 2006, completed the site investigation and detonated the grenades and intact 0.30 caliber cartridges. After the EOD team declared the site safe, the Native Village of Gambell completed site remediation to ensure that no debris remained and backfilled the site. The ammunition excavated by the Native Village of Gambell work crew was temporarily stored in a connex at the site. In June 2007, the stored ammunition bullets were pulled apart (using a bullet puller) and disassembled. The lead bullets were disposed via Emerald Alaska, Inc of Anchorage. The gunpowder was burned under the supervision of the Gambell Police Department. All that remained was the brass casings. This debris was problematic to ship off-island, so in June 2008, the casings were burned so that any remaining primers popped. These casings are now solid waste debris. All known munitions and explosives of concern have been removed from Area D.

#### **4.0 HIGHLIGHTS OF COMMUNITY PARTICIPATION**

The USACE, Alaska District coordinated all community relations activities and ensured that the local community was informed about project-related activities and status by conducting periodic public meetings. A Restoration Advisory Board (RAB) comprised of concerned citizens of Gambell, Savoonga, Nome, and Anchorage was formed in 2000 and continues to meet approximately 3 times per year.

During the EE/CA field investigation, the USACE Alaska District and U.S. Army Engineering and Support Center, Huntsville held several public meetings to brief the local community and agencies on the progress of the ordnance investigation. Additionally, Earth Tech representatives met with and participated in local community presentations, including *ad hoc* meetings with Sivuqaq, Inc., the Native Village of Gambell Indian Restoration Act (IRA) Council, and City of Gambell officials. Meetings were held with the stakeholders at the conclusion of each phase of the EE/CA field investigations (May and July, 2000; May 2001; and August 2002) to brief and receive comments from the public and local agencies concerning the results of the field efforts. A RAB meeting was held on August 5, 2003 which included discussion of the Action Memorandum for the ordnance response decision. Subsequent RAB meetings<sup>1</sup> were held to update the community on ordnance awareness, hazardous and toxic waste remediation activities in Gambell and Northeast Cape, building debris and demolition work, and the NALEMP project.

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<sup>1</sup> RAB meetings were held January 15, 2004 (Savoonga); March 31, 2004 (Gambell); September 9, 2004 (Savoonga); February 1, 2005 (Gambell); June 1, 2005 (Savoonga); September 15, 2005 (Gambell); January 25, 2006 (Savoonga); July 18, 2006 (Gambell); and January 25, 2007 (Gambell).

## **5.0 RECURRING REVIEWS**

The DERP-FUDS program has performed an initial review of the Gambell site and the implemented remedies to assess their effectiveness and reliability. This review concluded that institutional controls and additional recurring reviews are not necessary to address ordnance concerns. The state regulatory agency, the Alaska Department of Environmental Conservation concurs that all necessary actions to address military munitions or explosives concerns have been completed at the Gambell site.

The current land use at the Gambell sites remains a mix of residential, recreational, and subsistence gathering areas. Additional homes have been constructed within the central part of the village. The potential for development south of Troutman Lake is possible as the community is researching expansion of the public water supply. There have been no significant changes in land use since the Action Memorandum was approved.

Since the institutional controls were implemented in 2003, only one incident involving military munitions has been documented. During the summer of 2006, the NALEMP field crew conducting remedial actions at Area D encountered two buried hand grenades. In accordance with the institutional controls in place, the appropriate authorities were promptly notified, and excavation work ceased until an EOD team arrived from Fort Richardson, Alaska. The EOD team completed an investigation of the site, detonated the grenades and small arms ammunition, and declared the site safe. All known munitions and explosives of concern have been removed from the site.

The public remains aware of the potential for ordnance concerns based on attendance at RAB meetings. Posters are still posted around town and additional copies of the ordnance safety brochures are available at the Information Repository at the Sivuqaq Lodge. Community leaders and representatives of the City of Gambell, Sivuqaq Incorporated, and the Native Village of Gambell IRA Tribal Council have not expressed any dissatisfaction with the public education activities conducted. Several community members still believe there is the potential for encountering small arms ammunition debris on top of Sevuokuk Mountain, in the vicinity of Area B – Radar Station. The ongoing NALEMP project being jointly administered by the local tribe and the Department of Defense is well suited to address these remaining concerns.

USACE has conducted site visits during each field season since the institutional controls were implemented. During the summer of 2004, tri-fold brochures and 11x14” color posters were distributed in Gambell and posted at various local buildings including the Sivuqaq Lodge, post office, Gambell Native Store, City of Gambell office, and Native Village of Gambell office. Brochures were also mailed to every Post Office box holder in Gambell.

In August 2005, USACE representatives visited Gambell for a public meeting regarding the hazardous and toxic waste decision document for other proposed FUDS actions in Gambell.

During this visit USACE also conducted oversight of the NALEMP project. Area D South Beach was discussed and the community was informed that further cleanup of the small arms ammunition initially proposed under FUDS was not approved. However, the NALEMP program was expected to conduct additional remedial measures at this site that would include cleanup of the small arms ammunition.

Another site visit to Gambell was conducted from September 15-17, 2005. USACE representatives attended a RAB meeting on September 15<sup>th</sup>. Community residents were still concerned that previous work failed to locate some reported buried debris and ammunition boxes near the base of Sevuokuk Mountain at a former Air Force Camp (Area A). On September 16<sup>th</sup>, USACE representatives were accompanied by a local resident, Mr. Winnie James, Sr. to further investigate this area. Using a local backhoe, test pits were dug at areas designated by Mr. James. These test pits coincided with the previous geophysical investigation areas completed in 2000. A total of 5 separate pits were dug in an area of approximately 1000 square feet. One pit contained some green canvas and wood debris; no debris was encountered in the other pits. Each pit was excavated to about 4 feet and the gravel quickly sloughed back into the areas. No evidence of buried ammunition boxes was found.

On August 23, 2006, USACE representatives visited the Gambell site to observe the conditions at Area D Beach Burial Site, where two hand grenades and small arms ammunition had been encountered earlier in August. An EOD team from Fort Richardson responded to the site on September 29, 2006 and detonated the materials.

During various site visits, USACE representatives have observed the beach areas and other work sites in the vicinity, including the airstrip and a disposal area south of Troutman Lake. The main areas with significant erosion potential are the beaches. The entire Gambell site is situated on well graded gravel and is subject to frost heaving and severe winter storms. Since completion of the removal action activities at the beach site in the summer of 2006, all munitions items have been recovered in this area. No other areas with potential munitions or explosives of concern have been documented.

The USACE has coordinated all site activities with the ADEC and the local community. The ADEC project manager regularly attends RAB meetings and reviews workplans and reports. Removal of the small arms ammunition at Area D (Site 8D) adequately addressed the state's remaining concerns about the safety of children potentially exposed to the small arms ammunition.

In the future, if the public discovers any potentially explosive munitions (which does not include small arms ammunition) at the Gambell site, existing agencies are capable of responding. The Village Public Safety Officer (VPSO) or Chief of Police should be immediately contacted. The local law-enforcement authorities will contact the Alaska State Troopers who will respond to secure the suspect item(s). The U.S. Army Explosive Ordnance Disposal (EOD) Units, located throughout the United States, are responsible for responding to incidents involving military munitions on public and private property and will respond to identify and dispose of items, if

necessary. If new information becomes available regarding the presence of military munitions or explosives of concern, the ADEC or USACE should be contacted to determine if further action is warranted.

The munitions and explosives of concern response actions implemented were effective and provided protection against potential munitions risks. Since no areas remain with known munitions or explosives of concern, institutional controls and recurring reviews are no longer necessary.

## **6.0 CONCLUSION**

During the investigation process, no evidence of munitions or explosives of concern was documented at Area A (including A1 and A2), Area C, Area F, or Area G. Therefore, no further DoD actions were necessary at these sites. Area B consisted of a former radar station located at the top of Sevuokuk Mountain. The radar building was destroyed by a fire and there is no evidence of any munitions remaining at the site. Area D is located southwest of the airstrip and Troutman Lake along the beach, also known as Site 8D. Ordnance items (0.30 caliber small arms) and grenades were uncovered during site remediation activities. The grenades and small arms ammunition discovered in 2006 were handled by a U.S. Army Explosive Ordnance Disposal (EOD) unit from Fort Richardson and the site was declared safe. There is no evidence that any additional munitions or explosive items may exist at Area B or Area D. Institutional controls are no longer necessary. Therefore, additional reviews are not necessary and the Gambell MMRP project is recommended for closure. All known munitions and explosives of concern have been removed.

## **7.0 REFERENCES**

- Native Village of Gambell. 2008. Gambell NALEMP Cleanup Summary Report. Gambell, St. Lawrence Island, Alaska. In association with Travis/Peterson Environmental Consulting, Inc. February.
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- USACE. 2002. Final Engineering Evaluation / Cost Analysis. Gambell Site, St. Lawrence Island, Alaska. Prepared by Earth Tech for the U.S. Army Engineering and Support Center, Huntsville, AL. November.
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## 8.0 FIGURES



EXPLANATION

Regional Map

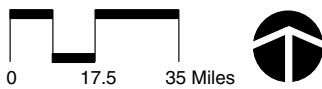
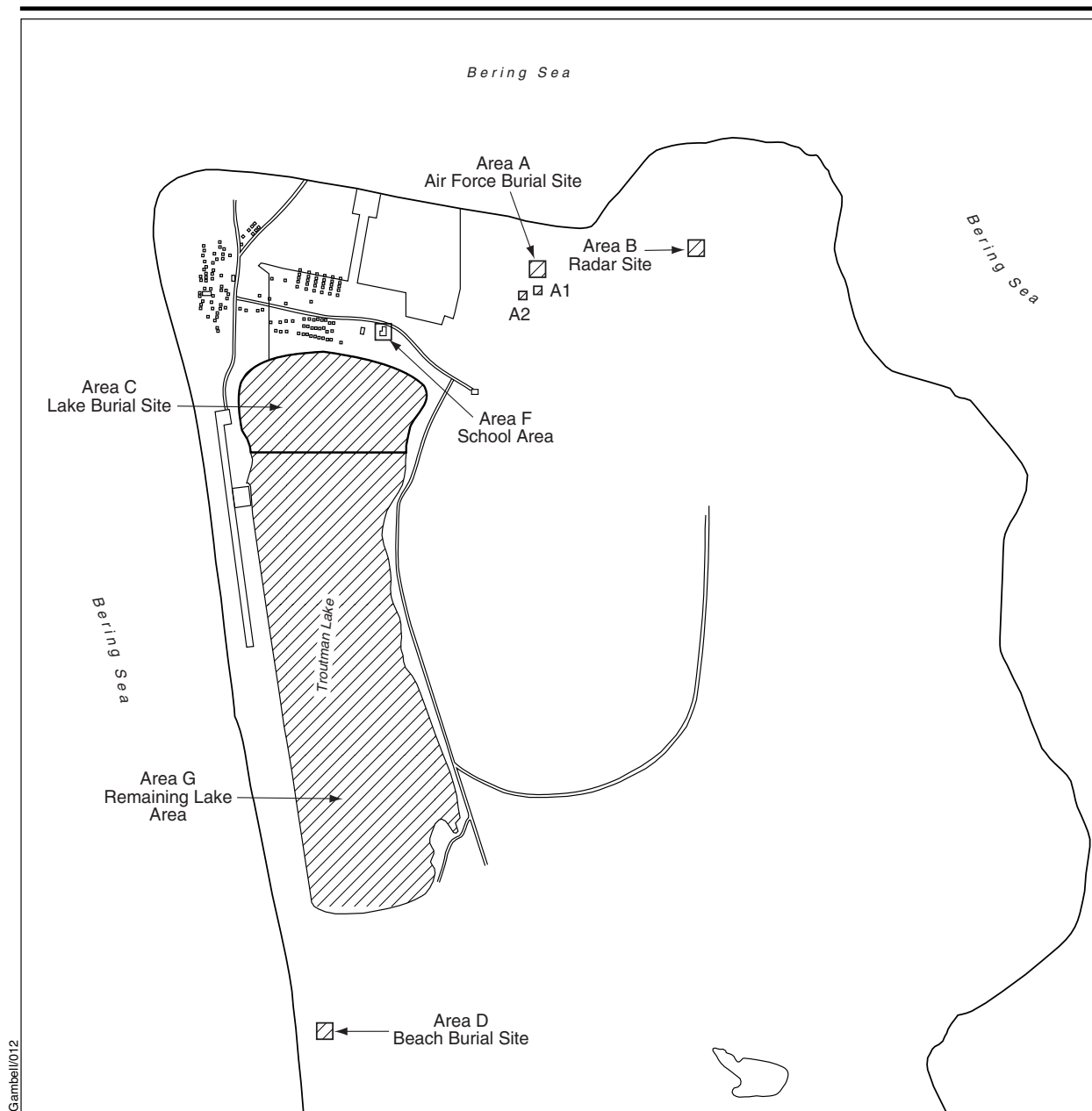


Figure 1-1



#### EXPLANATION



Investigation Areas

Area A (Air Force Burial Site) 0.46 acre

Area A1 (Potential Air Force Burial Site 1) 0.01 acre

Area A2 (Potential Air Force Burial Site 2) 0.01 acre

Area B (Radar Site) 0.06 acre

Area D (Beach Burial Site) 0.50 acre

Area F (School Area) 2 acres



Not to Scale

#### Troutman Lake

Area C (Lake Burial Site) 143 acres

Area G (Remaining Lake Area) 483 acres

### Gambell Site Investigation Areas

Figure 1-2

## Alaska District Corps of Engineers Staff / Action Sheet

Please initial concur or non & date

S: 29 Sep 08

[illegible]

Div/Branch Chief's Signature

POC: Carey Cossaboom x2689

for Release: clare L. Jaeger

Phone #: x 2855