RIDOLFI

NATIVE AMERICAN LANDS ENVIRONMENTAL MITIGATION PROGRAM (NALEMP) 2008

OCEAN CAPE RADIO RELAY STATION ABOVEGROUND FUEL STORAGE TANK AND SEAPLANE RAMP REMOVAL ACTION COMPLETION REPORT FOR FIELD SEASON 2009

PREPARED FOR THE

YAKUTAT TLINGIT TRIBE

science + engineering

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NATIVE AMERICAN LANDS
ENVIRONMENTAL MITIGATION PROGRAM (NALEMP) 2008

OCEAN CAPE RADIO RELAY STATION

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AND

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REMOVAL ACTION COMPLETION REPORT

FOR

FIELD SEASON 2009

Prepared for the

Yakutat Tlingit Tribe

Prepared by

RIDOLFI Inc.

December 2009

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LIST OF ACRONYMS

ACM	asbestos-containing material
ADEC	Alaska Department of Environmental Conservation
AST	aboveground storage tank
BLM	U.S. Bureau of Land Management
CA	Cooperative Agreement
DoD	U.S. Department of Defense
DRO	diesel-range organics
EPA	U.S. Environmental Protection Agency
f/cc	fiber per cubic centimeter
FUDS	Formerly Used Defense Sites
FY	Fiscal Year
HAZWOPER	Hazardous Waste Operations and Emergency Response
HEPA	high-efficiency particulate air
LEL	lower explosive limit
$\mu g/m^3$	micrograms per cubic meter
NALEMP	Native American Lands Environmental Mitigation Program
OCRRS	Ocean Cape Radio Relay Station
OSHA	U.S. Department of Labor Occupational Safety and Health Administration
PCB	polychlorinated biphenyl
PEL	permissible exposure limit
PID	photoionization detector
PPE	personal protective equipment
ppm	parts per million
RAC	Removal Action Completion Report
RCA	Recording Company America Alaska Communications, Inc.
Ridolfi	RIDOLFI Inc.
SPIP	Strategic Project Implementation Plan
USFS	U.S. Forest Service
YTT	Yakutat Tlingit Tribe

1.0 INTRODUCTION

This Removal Action Completion Report (RAC) describes work that was conducted under Cooperative Agreement (CA) NALEMP-08-09 between the U.S. Department of Defense (DoD) and the Yakutat Tlingit Tribe (YTT). Funding for this CA is for Fiscal Year (FY) 2008 and is provided by the Native American Lands Environmental Mitigation Program (NALEMP). The work was conducted by Yakutat Tlingit Tribe NALEMP workers with assistance from RIDOLFI Inc. (Ridolfi). This site and the facilities identified are within Concern Group H as described in YTT's Strategic Project Implementation Plan (SPIP) (Ridolfi, 2007).

This RAC describes the removal of a 130,000-gallon aboveground storage tank (AST) and associated asbestos-wrapped piping at the Fuel Pumphouse Area within the Ocean Cape Radio Relay Station (OCRRS). Debris removal actions were also conducted at the Seaplane Ramp, part of the Minor Naval Air Facility identified as Concern Group G in the SPIP.

1.1 Purpose and Objectives

The objective of this removal action was to mitigate chemical and physical hazards remaining at the Fuel Pumphouse Area within the OCRRS site and physical hazards at the Seaplane Ramp. The purpose of the removal action is to reduce risks related to human health, safety, and the environment. This removal action is consistent with the YTT's Mitigation Project Objectives as outlined in the Strategic Project Implementation Plan (Ridolfi, 2007). The location of the OCRRS site and the Seaplane Ramp site at Yakutat are shown in Figure 1. Site features at the OCRRS are shown in Figure 2.

The following phases and subtasks were identified as necessary to complete the removal action at the OCRRS fuel pumphouse and AST area:

Phase 1 (completed in 2008 under FY 2007 CA):

a. Reconditioned the access road to allow for equipment mobilization and vehicle access to the site
b. Prepared the site for equipment operation and personnel access
c. Removed and disposed of the contents of the fuel tank

d. Cleaned and decontaminated the fuel tank
e. Prepared the steel fuel tank structure for disassembling
f. Conducted sampling to determine the extent of soil contamination

Phase 2 (completed in 2009 under FY 2008 CA):

a. Disassembled and removed the steel tank structure
b. Cleaned and removed fuel tank piping
c. Removed and disposed of pipe wrapped in asbestos-containing material (ACM)

Phase 3 (funded under FY 2009 CA):

a. Remove the Fuel Pumphouse building
b. Remove the Water Pumphouse building and gasoline storage tank
c. Conduct sampling to determine extent of polychlorinated biphenyl (PCB) contamination and sample concrete footing soils at former AST

Phase 4 (requested under FY 2010 CA):

a. Remove the water storage tank
b. Remove the garage building including ACM siding
c. Conduct sampling at dump area north of site
d. Cleanup piles of trees and brush from clearing activities

In addition to tasks outlined above, future activities are required to complete work at the OCRRS. Funding for FY 2011 will be requested to complete the following activities:

a. Remove concrete base for water tank, AST, and garage
b. Remediate PCB contamination
c. Remove and dispose of petroleum-contaminated soil and debris
d. Close concrete vaults and manholes
e. Conduct post-removal confirmation sampling
f. Landscape AST site, taking down berms and regrading

The purpose of this RAC is to summarize the work completed during the second phase of removal actions at the OCRRS.

1.2 Regulatory Authority

The State of Alaska is the primary regulatory authority for environmental cleanup work at the OCRRS site. Fieldwork was completed in compliance with applicable State and federal regulations. The Alaska Department of Environmental Conservation (ADEC) is the regulatory agency for remediation of contaminated soils, therefore, remediation was conducted in accordance with ADEC regulations and guidelines.

1.3 Background

1.3.1 Site Description

The community of Yakutat is located on the Gulf of Alaska at the mouth of Monti Bay, approximately 370 miles east-southeast of Anchorage in the northern part of the Alaska Panhandle (Figure 1). The northwest-trending St. Elias Mountains border the Yakutat area to the northeast. The Tongass National Forest, which is under jurisdiction of the U.S. Forest Service (USFS), is to the northeast and east of Yakutat; and the Wrangell-St. Elias National Park, which is under jurisdiction of the National Park Service, is to the northwest across Yakutat Bay. The city occupies the site of an earlier Eyak and Tlingit permanent village. In the Tlingit language, the name Yakutat (*Yaakwdáat*) means "the place where canoes rest." The OCRRS lies approximately five miles west of the city of Yakutat, at the end of Point Carrew Road on the Phipps Peninsula.

Repeated cycles of glacial advance and retreat deposited the moraine complex and outer border of outwash that now comprise the Yakutat foreland, a gently sloping glacial outwash plain between the St. Elias Mountains and the Gulf of Alaska (Wahrhaftig, 1965, as cited in Neal, 1998). Most of the area slopes gently toward the south, except near the coastline of Yakutat Bay, which consists of steep bluffs exposing glacial moraine deposits formed during the retreat of the Yakutat Bay Glacier about 500 years ago (Holmes and Dorava, 1995).

The area of interest is low-lying, mostly at elevations between 0 and 65 feet above mean sea level. It consists largely of estuarine marshy areas called "saltchucks," which constitute rich hunting, fishing, and gathering grounds. Three types of plant communities are found within the coastal area: true forest, grass-sedge meadows, and muskeg. The area is renowned for its wildlife, both terrestrial and aquatic, as well as its rich marine and aquatic fauna. The climate is characterized by mild temperatures and small temperature variations, high humidity, heavy precipitation, cloudy skies and fog (Hartman and Johnson, 1984, as cited in Neal, 1998).

Surface water is abundant in the Yakutat area. The Gulf of Alaska bounds the area on the south and west. The Situk River enters the area in the northeast and, along with the Ahrnklin River, drains most of the eastern part of the area. The Lost River and its two main tributaries, Tawah Creek and Ophir Creek, drain most of the western part of the area. Numerous small lakes occur on top of glacial moraine deposits near the shoreline of Monti Bay, and most of the interior land is classified as saturated or seasonally flooded (U.S. Fish and Wildlife Service, 1993, as cited in Holmes and Dorava, 1995).

Ground water recharge to the unconsolidated glacial deposits is primarily from infiltration of precipitation and streamflow as well as subsurface inflow. Most of the recharge from precipitation and streamflow is believed to occur along an area mapped as Holocene outwash or artificial fill deposits. These deposits have high permeability, which allows rapid infiltration of precipitation or streamflow. Recharge occurs during most of the year, but likely is greatest when precipitation and streamflow are at or near a maximum for the year. Ground water movement generally follows the topography and drains toward streams and lakes. A drainage divide about two miles northwest of the airport, or about halfway between the town and the airport, is believed to also serve as a ground water divide (Holmes and Dorava, 1995).

1.3.2 Historical Uses

In 1960, the U.S. Air Force acquired 78.6 acres of land from the USFS and 96.96 acres of tidelands from the State of Alaska Division of Lands to construct a radio link between Cape Yakataga and Hoonah. The OCRRS served as a tropospheric communications station as part of the Ballistic Missile Early Warning System under the White Alice Communication System.

An additional 69.27 acres were obtained from the U.S. Bureau of Land Management (BLM) in 1967 and 1968 for gravel removal. This land, located on the Phipps Peninsula at the end of Point Carrew Road approximately five miles west of the city of Yakutat, included eight industrial buildings; 17 miscellaneous support facilities, including water and fuel tanks; fuel and water lines; four 60-foot Tropo (tropospheric) antennas; an access road; a bridge; and utility lines. The facilities were leased to Recording Company America Alaska Communications, Inc. (RCA) between 1974 and 1976.

The OCRRS was declared excess by the U.S. Air Force in June 1976. The land was relinquished to the BLM in 1977, and conveyed to the YTT in 1983. Since then, it has remained the property of Yak-Tat Kwaan, Inc. (a village corporation). The OCRRS has been identified by DoD as FUDS No. F10AK0747. The U.S. Environmental Protection Agency (EPA) has assigned regulated handler code AK6570028690 (under the Resource Conservation and Recovery Act) to the OCRRS site.

The Minor Naval Air Facility and Seaplane Base was constructed between 1942 and 1943 to dock, house, and repair military floatplanes. Facilities accommodated 12 scout observation planes and four patrol bombers. Seven barracks and three officers' quarters with mess facilities in separate structures were built to house 104 people. The 283-foot-long seaplane ramp was built of standard concrete and specialized treated timber construction. The lower portion, or connecting section, consisted of a creosote-soaked timber raft 108 by 50 feet long anchored by concrete weights. Most of the infrastructure has been removed.

1.3.3 Previous Activities

Site investigation and removal activities were conducted at the OCRRS by YTT in 2007 and 2008. The 2007 Site Investigation Report (Ridolfi, 2008a) identified over 5,000 gallons of diesel fuel in the 130,000-gallon AST and asbestos wrap on the piping connecting the Fuel Pumphouse to the AST. The exterior paint on the AST was found to contain lead.

During the 2008 removal actions (Ridolfi, 2008b), the fuel in the AST was safely removed. A pumper truck was used to remove most of the fuel and water, which was filtered and given to the City of Yakutat for reuse. The remaining fuel and water was pumped and filtered through activated carbon and discharged under an ADEC general permit. After ventilating the AST, the tank was power washed in preparation for dismantling.

2.0 PROJECT ORGANIZATION AND RESPONSIBILITIES

The YTT conducted removal activities with technical support from professional engineers and environmental scientists. Alex James, NALEMP Project Manager for the YTT, was the field supervisor and technical contact for the YTT. Ridolfi provided engineering and technical support. The Ridolfi team assigned to this project included:

- Bruno Ridolfi, P.E. Principal Engineer
- Kathryn Foster, P.E. Project Engineer
- Steve Hannan, E.I.T. Civil Engineer
- Tom Bowden, L.G. Quality Assurance Coordinator

Project engineers and Alex James prepared work plans, assisted in preparing for fieldwork, coordinated field activities, conducted sampling and analysis, observed and recorded removal activities, and produced this Removal Action Completion Report.

Alex James coordinated and prepared for project activities and directed the field crew during site access preparation and removal actions. The field supervisor is responsible for the safety and health of the workers under his supervision. The following field technicians assisted the field supervisor and project engineers in preparing for and performing fieldwork:

- Albert Porter
- Shea Jackson
- Jack Kluskan
- Stephen Adams
- Derek James
- Rose Fraker

3.0 REMOVAL ACTIONS

Removal actions were conducted according to the Work Plan (Ridolfi 2009a) and the Health and Safety Plan (Ridolfi 2009b). Asbestos abatement work was conducted by abatement workers certified by the State of Alaska.

3.1 OCRRS Site Preparation

Prior to the start of site work, site preparation activities were conducted to remove safety hazards and provide for a secure site. A Hitachi 120 excavator was used to remove a portion of the berm surrounding the above ground storage tank (AST) to allow work trucks and equipment safe access into the site. Warning signs were posted at all entry points (Photograph 1). The site was cleared of trees using chainsaws and the excavator where necessary for safe access to the pipe and tank for the removal action. The trees and shrubs were decked on site. Roots and other debris were removed to prevent trips and falls near the pipe and tank. An excavator was used to remove the majority of soil from over the pipe where it was buried inside the berm. Care was taken to prevent disturbance of the asbestos-containing-pipe wrap during site preparation activities.

The AST, which was emptied and cleaned in 2008, was used as a storage and staging area (Photograph 2). An entryway was cut into the tank and plywood installed to cover the entryway. Supplies and equipment, including the high-efficiency particulate air (HEPA) vacuum, water, personal protective equipment (PPE), tyvek suits, 6-mil plastic sheeting, respirator cartridges, 6-mil bags, and glovebags were staged inside the AST for easy access. The tank entryway was securely closed every night to prevent entrance by humans or animals.

3.1.1 Regulated Areas

Following completion of the site preparation work, the regulated area was established. The regulated area was clearly marked by red "asbestos warning" tape and multiple signs, and entry to the regulated area was limited to six workers at a time. The field supervisor supplied half-face respirators to all persons who entered the regulated area and informed others onsite of the nature of the work, regulated area requirements, and measures taken to protect employees. Smoking, chewing, eating, or applying make-up are prohibited in the regulated area. Health and safety meetings were conducted prior to entering the regulated zone to reinforce proper work habits. YTT workers were extremely cognizant and exercised proper health and safety protocol.

Daily safety meetings were conducted to review regulated area requirements, general site safety, asbestos abatement protocol, and safety reminders regarding equipment or tools to be used that day.

3.2 Asbestos Abatement and Pipe Removal

Approximately 120 linear feet of piping that connected the fuel tank with the fuel pumphouse was wrapped in asbestos-containing material (ACM). The pipe wrap contained 40 percent chrysotile asbestos. The original plan was to remove the wrap in a manner that minimized exposure to workers and controlled the spread of asbestos fibers. The work was classified as *Class II* asbestos work. Asbestos abatement was conducted in accordance with Occupational Safety and Health Administration (OSHA) *Asbestos Standard for the Construction Industry* (OSHA, 1995).

3.2.1 Notifications

Asbestos abatement notifications were submitted to both U.S. Environmental Protection Agency (EPA) Region 10 and the Alaska Department of Labor. The Notification of Demolition and Renovation form was completed by YTT and submitted to EPA no later than ten (10) days prior to the beginning of work.

The Alaska Department of Labor notification was submitted prior to starting the work and contained the following information:

- Project name and location
- Amount of asbestos to be removed
- Start and complete dates
- Names, certificate numbers, and expiration dates for all certified asbestos workers

3.2.2 Asbestos Air Monitoring

Air monitoring was conducted upon arriving onsite and conducted daily. Air monitoring could have been terminated if the concentration of airborne asbestos was below the permissible exposure limit (PEL) of 0.1 fibers per cubic centimeter (f/cc) as an 8-hour time-weighted average. Air monitoring continued during the entire week, because samples would not have been analyzed for fiber content in time to allow termination. See Table 1 for a summary of the air monitoring results. Laboratory analytical results are included in Appendix A.

3.2.3 Pipe Removal Procedure

Once the regulated area was established, additional clearing was conducted adjacent to the pipes (Photograph 3). The remaining soil covering the pipe was then removed using hand tools to expose the pipe without disturbing the asbestos wrap and fibers (Photograph 4). Once the pipe was exposed, the abatement work began.

Abatement of the pipe insulation was conducted using commercially available glovebags of 6-mil clear polyethylene (Photograph 5) appropriately sized for the project. The outer diameter of pipe insulation to be removed did not exceed one half the bag's working length or height above the attached glovebag in accordance with regulations. All necessary tools and materials were brought into the work area before the glovebag procedure began.

Glovebag procedures were conducted by a minimum of three certified asbestos workers trained in glovebag procedures and equipped with full PPE. Full PPE means the entire body is covered with disposable clothing including head, torso, arms, legs, and feet. Respirator protection was provided and consisted of a half-face air purifying respirator with a HEPA filter.

The asbestos wrap was saturated with water amended with surfactant before attaching the glovebags. The contents of a smoke tube and abatement tools were placed inside the glovebag prior to being sealed. The glovebags were installed in two continuous sections between two tree stumps that blocked a possible continuous installation (Photograph 5). The glovebags were attached securely around the insulation in a manner to prevent air transfer (Photograph 6). The integrity of the glovebag seal was smoke tested before disturbing the ACM. The bag was squeezed gently to check for leakage points, which were then taped airtight.

The pipe wrap was then removed using utility knifes, chisels, wire brushes and scrapers. The pipe wrap was covered with tar and each worker averaged removing one linear foot of wrap per hour. This rate of removal was determined to be inefficient, and Alex James and Kathryn Foster decided to clean 6-inch lengths of the pipe approximately every eight feet and cut the pipe into manageable sections, leaving the remaining asbestos wrap in place.

After the 6-inch sections of asbestos pipe wrap were removed, the clean section of pipe was sprayed with amended water and scrubbed with a brush to remove all visible ACM; then the pipe was rinsed again with amended water. The abated sections were then inspected to confirm that all visible asbestos had been removed.

Once abatement was complete, the tools were removed from the glovebags. After spraying the tools down with amended water, the tools were pulled through with one or both gloves inserts, thus turning the gloves inside out. The gloves were then twist sealed forming a new pouch, taped, and severed mid-seal separating the glove from the main bag.

The glovebag atmosphere was then misted and sufficient time was allowed for the mist to settle. A HEPA vacuum was used to evacuate and collapse the glovebag around the pipe. The glovebag

was then rolled around the pipe and duct taped. The glovebags were duct taped on both sides of the 6-inch cleaned section of pipe to prepare a cutting surface.

Residual fluids in the piping could not be accessed from either inside the tank or from the fuel pump house because the valves were rusted shut. Therefore, containment was set up under the pipe to catch any fuel in the pipe, and plastic was placed beneath that to provide further spill prevention and protection. The pipes were then cut into 8-foot sections. A worker began cutting the first section of pipe at the low-point in the line where the diesel would accumulate.

Immediately after cutting the pipe, diesel fuel started to flow into the containment. Cutting the pipe was stopped to control the flow rate into the containment. A total of 55 gallons of fuel was pumped into three 30-gallon drums. The drums were not filled more than three-quarters full for safe handling. Diesel vapors were monitored with the FirstCheck+1000 multigas photoionization detector (PID). The atmosphere's combustibility was monitored with the goal of maintaining a vapor level less than 10 percent of the Lower Explosive Limit (LEL). The generally accepted LEL for diesel fuel is 0.6 percent or 6,000 parts per million (ppm); therefore, a vapor level of less than 600 ppm is required to mitigate potential combustibility. Readings were taken throughout the site, and Table 2 summarizes the monitoring results.

Once all of the diesel was removed from the pipe, the pipe cutting continued. As the crew cut sections of pipe, they captured residual diesel fuel by placing the containment system under the pipe area to be cut and under the exposed end. The system included a bucket at each pipe end and 6-mil plastic sheeting placed on the ground as a secondary protective barrier (Photograph 7). Once a section of pipe was cut, it was removed to the waste handling area. The piping was cut into a total of 14 sections.

3.3 Waste Handing

The waste handling area was setup along the south edge of the regulated area. The ground was covered with an impermeable drop cloth that covered the designated area. In the waste handling area, the pipe sections were wrapped in 6-mil plastic sheeting. The plastic sheets were cut one foot wider than the pipes on both sides and the excess was folded inward to ensure the pipes

were fully sealed. The pipes were placed on plastic in the regulated zone and were rolled out of the regulated area. An asbestos warning label, with the project name and location, was placed inside the outermost layer of plastic within each package.

Used glovebags, disposable PPE, plastic sheeting and other materials used for asbestos abatement were bagged in 6-mil impermeable bags and labeled. Once a bag was full, the top was twisted closed and taped shut with duct tape.

Next, the outside sealed bags were wiped down with a wet cloth, and each bag and cloth was placed in a second bag which was again twisted closed and duct taped shut. Each sealed bag was labeled with the name of the generator and location. Sealed and labeled bags were then placed into three 30-gallon plastic drums, which were also labeled.

After the ACM was confirmed by field supervisors to be sealed and containerized, workers removed PPE. The final PPE to be removed was respirators and goggles, which were then washed thoroughly. Cartridges were disposed of as ACM.

3.4 Tank Disassembling

Once the asbestos abatement and pipe dismantling activities were complete, the AST was dismantled (Photographs 9 and 10). The AST atmosphere was monitored to ensure that combustible vapors were not present within the explosive range prior to flame cutting.

Lead in the tank paint was slightly above the threshold for lead-based paint. OSHA requires that workers be protected from exposure above the PEL of 50 micrograms per cubic meter ($\mu g/m^3$). While wearing respiratory protection, an initial exposure assessment was conducted to determine the level of exposure. The results of the air monitoring concluded that the exposure level was below the PEL for lead. Laboratory analytical results are included in Appendix A.

To dismantle the AST, the top portion was cut and removed using a Thermal Dynamics Plasma cutter. The tank sides were then cut into panels for safe handling and efficient transport. As the panels were cut, each was lowered, by gravity, into the interior of the tank (Photograph 11). Once dismantling was complete the panels were removed from the site (Photograph 12).

3.5 Seaplane Ramp Removals

The protruding and exposed rebar throughout the area was removed. Work took place over a week and was conducted during low tides to allow the best access to the entire seaplane ramp. Metal debris, dislocated steel rail, and other protruding debris were cut with a Thermal Dynamic Plasma cutter, flush to the concrete to eliminate these hazards on and near the seaplane ramp at the Seaplane Base. The 2,000 pounds of metal debris was disposed of in the Yakutat Landfill.

4.0 WASTE MANAGEMENT

Waste types and methods of disposal are discussed in this section. All activities related to the handling of waste materials were performed by asbestos or HAZWOPER-certified workers. Wastes that were generated at the site included the following:

- ACM, PPE and disposable equipment and supplies.
- Contents of the piping (diesel and water mix)
- Steel from the tank and Seaplane ramp
- Non-contaminated solid waste

All waste materials generated during this removal action were removed from the project site for proper disposal based on level of contamination.

4.1 Asbestos Waste

All asbestos waste was transferred to the Anchorage Regional Landfill for disposal. All asbestos containing waste containers were clearly marked with asbestos labels that included the site name, generator, contents, and date. All impermeable waste bags or ACM wrapped in plastic sheeting were disposed of as asbestos containing waste materials.

A Waste Shipment Record completed by Alex James accompanied the shipment to the landfill. The Anchorage Landfill Waste Shipment Record is included in Appendix B. .

4.2 Diesel Fuel

The piping associated with the tank contained approximately 55 gallons of diesel fuel. Based on visual inspection, the diesel fuel appeared reusable and was donated to the City of Yakutat for reuse.

4.3 Metal Waste

The metal panels from dismantling the tank were reused by Yakutat citizens. Approximately half of the metal was donated to the City of Yakutat and the remaining panels were given to community members.

4.4 Other Wastes

All non-contaminated solid waste and other waste generated during removal activities were bagged in plastic garbage bags and disposed of at the Yakutat landfill.

5.0 CONCLUSIONS

The 130,000-gallon AST and associated asbestos-wrapped pipe were successfully removed from the OCRRS and disposed of offsite. The asbestos abatement and pipe removal work took one week to complete. This included site preparation, clearing, setting up the regulated area, cleaning off sections of asbestos wrap, cutting the pipes, and packaging all asbestos contaminated waste. Approximately 700 pounds of asbestos wrapped pipe were disposed of in the Anchorage Landfill.

The AST removal took three weeks. The steel was given to the Yakutat community for reuse. The AST concrete foundation is a circular concrete footing filled with sand that was stained with a distinct petroleum odor. The material should be sampled prior to removal.

Approximately 2,000 pounds of metal debris was removed from the Seaplane Ramp. Most of the material was from the rails.

6.0 REFERENCES

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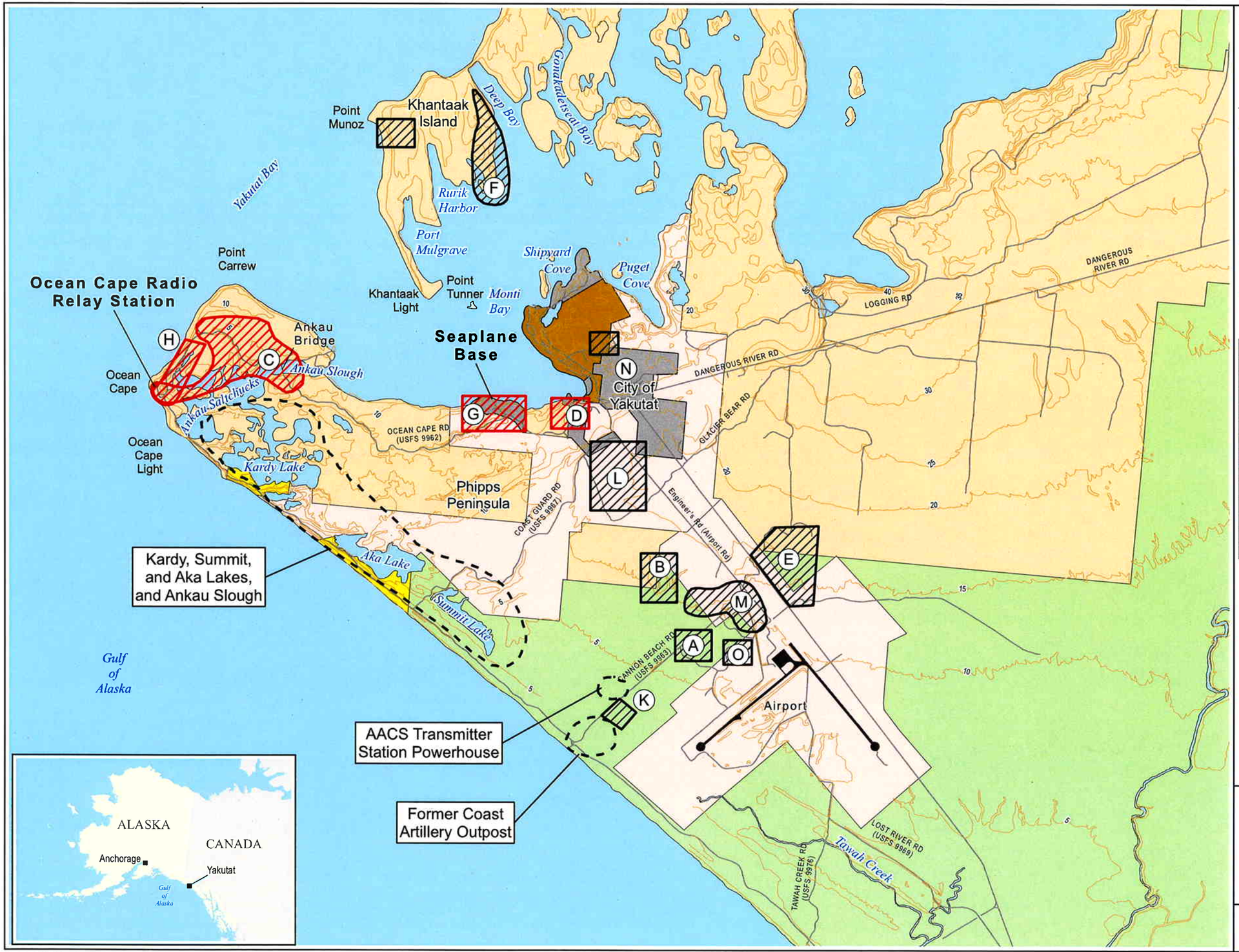
FIGURES



Legend

- Concern Group Focus
- Concern Group Extent
- Additional Activities
- Road
- Contour

Ownership/Landstatus

- USFS
- City Government
- State of Alaska
- Regional Native Corporation Land Selections
- Regional Native Corporation Land (Patented or Interim Conveyed)
- Village Native Corporation Land Selections

Concern Group	
A	Air Corps Increase Group No. 2
B	Air Warning Filter Center
C	Point Carrew Garrison
D	Army Dock Area
E	Northwest Drum Dump / Quartermaster Loop
F	Khantaak Island
G	**Seaplane Base (Minor Naval Air Facility)**
H	**Ocean Cape Radio Relay Station**
K	Solid Waste Disposal Dump No. 4 Area
L	Air Corps Operational Reserve Tank Farm
M	Post Powerhouse / 25,000 Gal. Tactical UST
N	Air Warning Station
O	Air Corps Warehouse Group No. 2

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Figure 1
General Location and
DoD Sites Location Map

Ocean Cape Radio Relay Station AST
Removal Action Completion Report

December 2009

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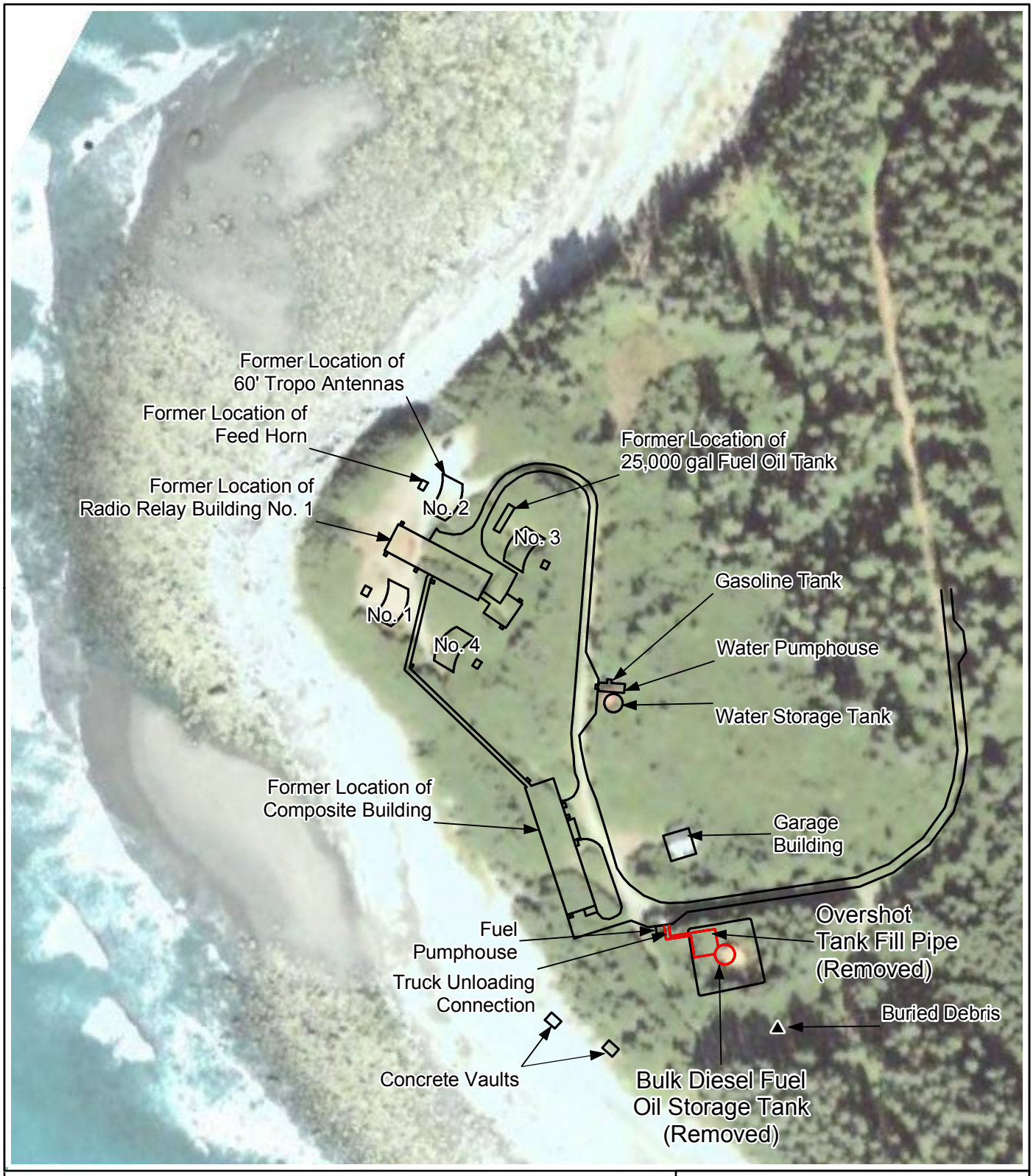

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Figure 2
OCRRS Site Features

Ocean Cape Radio Relay Station AST
Removal Action Completion Report

December 2009

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TABLES

Table 2. Diesel Vapor Monitoring Results

Date	Time	Area	Location and Activity	Results[1] (ppm)
7/13/2009	1:30 PM	AST Interior	Worker safety prior to tank entry	1.7
7/13/2009	1:45 PM	Truck Fill Pipe	Pipe outlet for LEL prior to cutting pipes	37.7
7/14/2009	10:30 AM	AST Interior	Worker safety prior to tank entry	0.1
7/14/2009	10:40 AM	AST Interior	Inside fuel outlet pipe for LEL prior to cutting pipes	0.5
7/14/2009	10:45 AM	Fuel Pumphouse	Inside building for LEL prior to cutting pipes	1.3
7/15/2009	9:30 AM	AST Interior	Worker safety prior to tank entry	1.1
7/15/2009	4:00 PM	AST Piping	Worker breathing zone during pipe cutting	1.9
7/16/2009	4:10 PM	AST Piping	Worker breathing zone during pipe cutting	1.4
7/16/2009	4:20 PM	AST Piping	Worker breathing zone during pipe cutting	1.1
7/16/2009	4:30 PM	AST Piping	Worker breathing zone during fuel transfer	1.6

Notes:

AST - aboveground storage tank
ppm - parts per million
[1] Permissible Exposure Limit (PEL) is 15 ppm; Lower Explosive Limit (LEL) is 60 ppm

Table 1. Air Monitoring Results

Date	Pump Number	Asbestos Sample Type	Sample Number	Flow (L/min)	Pump Time On	Pump Time Off	Total Time (min)	Volume (L)	Results[1] (f/cc)
7/13/2009	11854	Background	09071301	1.5	1:10 PM	4:10 PM	180	270	<0.010
7/14/2009	na	Field Blank	09071401	na	na	na	na	na	0.000
7/15/2009	1095720	Worker Safety	09071501	2	10:07 AM	12:06 PM	119	238	<0.011
7/15/2009	1095721	Worker Safety	09071502	2	10:10 AM	12:06 PM	116	232	<0.012
7/15/2009	1095720	Worker Safety	09071503	2	3:16 PM	4:20 PM	64	128	0.046
7/15/2009	1095721	Worker Safety	09071504	2	3:14 PM	4:20 PM	66	132	<0.020
7/16/2009	1095720	Worker Safety	09071703	2	9:40 AM	11:10 AM	90	180	0.054
7/16/2009	1095721	Worker Safety	09071604	2	9:42 AM	12:46 PM	184	368	<0.007
7/16/2009	1095720	Worker Safety	09071605	2	12:46 PM	4:45 PM	239	478	0.014
7/16/2009	1095721	Perimeter	09071606	2	12:46 PM	5:20 PM	274	548	0.009
7/17/2009	1095720	Perimeter	09071701	2	9:20 AM	2:00 PM	280	560	0.007
7/17/2009	1095721	Worker Safety	09071702	2	9:20 AM	12:05 PM	165	330	0.013
Date	Pump Number	Lead Sample Type	Sample Number	Flow (L/min)	Pump Time On	Pump Time Off	Total Time (min)	Volume (L)	Results[2] (µg/m3)
7/13/2009	1095720	Worker Safety	09071302	3	3:45 PM	4:20 PM	35	105	<48

na - not applicable
L/min - liters per minute
L - liters
f/cc - fibers per cubic centimeters
[1]Permissible Exposure Limit for asbestos is 0.1 f/cc
µg/m3 - micrograms per cubic meter
[2]Permissible Exposure Limit for lead is 50 µg/m3

PHOTOGRAPHS

Photograph 1. Warning Sign: Fuel Tank Removal and Asbestos Work

Photograph 2. 130,000-Gallon Fuel Tank with Access Door

Photograph 3. Site clearing in preparation for abatement.

Photograph 4. Uncovering the pipe from beneath the berm using hand tools.

Photograph 5. Wrapping the pipe with the glovebag.

Photograph 6. Sealing the top of the glovebag.

Photograph 7. Cutting pipe into sections with plastic containment below the pipe.

Photograph 8. Fourteen (14) sections of wrapped pipes ready for disposal.

Photograph 9. Starting the task of dismantling the 130,000-gallon AST.

Photograph 10. Dismantling the 130,000-gallon AST.

Photograph 11. Dismantling the lower section of the AST.

Photograph 12. Site after completion of AST removal.

Photograph 13. Example of metal removed at the Seaplane Ramp.

Photograph 14. Rails remaining at the Seaplane Ramp.

APPENDIX A

Laboratory Analytical Results

RGA ENVIRONMENTAL
1730 Minor Avenue, Suite 900 Seattle, WA 98101
OFFICE: (206) 281-8858 FAX: (206) 281-8922 e-mail: laboratory@rgaenv.com

Airborne Asbestos Dust Analysis

(NIOSH 7400 Method)

Ridolfi Inc.
1011 Western Avenue. Suite 1006
Seattle, WA 98104-

Project Location: OCRRS
Yukutat, AK

RGA Batch Number: 09-1497
Client Job Number: 255D
Number of Samples: 12
Blank Average: 2
Field Area: 0.00785

Lab Sample ID 09014449 Client Sample ID: 09071301 7/13/2009

	Time:		Rate:
Start:	13:10		1.5
End:	16:10		1.5
Minutes:	180	Avg.	1.5
Liters:	270		

Pump ID: 11854

Protection:
Decon:
Environment:
Worker: Background
SSN:
Comments:

LOD	LOQ Min.	LOQ Max.	Fibers/Flds	Fibers/m*m		Fibers/cc
0.010	0.143	1.854	5.5 / 100	4.5	<	0.010

Lab Sample ID 09014450 Client Sample ID: 09071401 7/13/2009

	Time:		Rate:
Start:			0
End:			0
Minutes:	0	Avg.	0
Liters:	0		

Pump ID: N/A

Field Blank
AST piping

Protection:
Decon:
Environment:
Worker:
SSN:
Comments:

LOD	LOQ Min.	LOQ Max.	Fibers/Flds	Fibers/m*m	Fibers/cc
0.000	0.000	0.000	2 / 100	.0	0.000

Lab Sample ID 09014451 Client Sample ID: 09071501 7/15/2009

	Time:		Rate:
Start:	10:07		2
End:	12:06		2
Minutes:	119	Avg.	2
Liters:	238		

Pump ID: 1095729

TWA
AST piping

Protection: Half Face APR
Decon:
Environment:
Worker: Shea, Jaackson
SSN:
Comments: Glove bags, wet methods

LOD	LOQ Min.	LOQ Max.	Fibers/Flds	Fibers/m*m		Fibers/cc
0.011	0.162	2.103	6 / 100	5.1	<	0.011

Sampled By: Kathryn Foster
Received By: Russell Browne 8/3/2009
Reviewed By: Aruna Turaga 8/6/2009

Analyzed By: Russell Browne 8/6/2009

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Airborne Asbestos Dust Analysis

(NIOSH 7400 Method)

Ridolfi Inc.
1011 Western Avenue. Suite 1006
Seattle, WA 98104-

Project Location: OCRRS
Yukutat, AK

RGA Batch Number: 09-1497
Client Job Number: 255D
Number of Samples: 12
Blank Average: 2
Field Area: 0.00785

Lab Sample ID 09014452 Client Sample ID: 09071502

	Time:		Rate:
Start:	10:10		2
End:	12:06		2
Minutes:	116	Avg.	2
Liters:	232		

Pump ID: 1095721

TWA
AST piping

Protection: Half Face APR
Decon:
Environment:
Worker: Jack Klushkam
SSN:
Comments: Glove bags, wet methods

LOD	LOQ Min.	LOQ Max.	Fibers/Flds	Fibers/m*m		Fibers/cc
0.012	0.166	2.157	5.5 / 100	4.5	<	0.012

Lab Sample ID 09014453 Client Sample ID: 09071503 7/15/2009

	Time:		Rate:
Start:	15:16		2
End:	16:20		2
Minutes:	64	Avg.	2
Liters:	128		

Pump ID: 1095720

TWA
AST piping

Protection: Half Face APR
Decon:
Environment:
Worker: Jackson, Shea
SSN:
Comments: Glove bags, wet methods

LOD	LOQ Min.	LOQ Max.	Fibers/Flds	Fibers/m*m	Fibers/cc
0.021	0.301	3.910	14 / 100	15.3	0.046

Lab Sample ID 09014454 Client Sample ID: 09071504 7/15/2009

	Time:		Rate:
Start:	15:14		2
End:	16:20		2
Minutes:	66	Avg.	2
Liters:	132		

Pump ID: 1095721

TWA
AST piping

Protection: Half Face APR
Decon:
Environment:
Worker: Jack Klushkan
SSN:
Comments: Glove bag, wet methods

LOD	LOQ Min.	LOQ Max.	Fibers/Flds	Fibers/m*m		Fibers/cc
0.020	0.292	3.792	3 / 100	1.3	<	0.020

Sampled By: Kathryn Foster
Received By: Russell Browne 8/3/2009
Reviewed By: Aruna Turaga 8/6/2009

Analyzed By: Russell Browne 8/6/2009

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Airborne Asbestos Dust Analysis

(NIOSH 7400 Method)

Ridolfi Inc.
1011 Western Avenue. Suite 1006
Seattle, WA 98104-

Project Location: OCRRS
Yukutat, AK

RGA Batch Number: 09-1497
Client Job Number: 255D
Number of Samples: 12
Blank Average: 2
Field Area: 0.00785

Lab Sample ID 09014455 Client Sample ID: 09071603

	Time:		Rate:
Start:	9:40		2
End:	11:10		2
Minutes:	90	Avg.	2
Liters:	180		

Pump ID: 1095720

TWA
AST piping
Protection: Half Face APR
Decon:
Environment:
Worker: Shea, Jackson
SSN:
Comments: Wet methods, glove bags

LOD	LOQ Min.	LOQ Max.	Fibers/Flds	Fibers/m*m	Fibers/cc
0.015	0.214	2.781	22 / 100	25.5	0.054

Lab Sample ID 09014456 Client Sample ID: 09071604

	Time:		Rate:
Start:	9:42		2
End:	12:46		2
Minutes:	184	Avg.	2
Liters:	368		

Pump ID: 1095721

TWA
AST piping
Protection: Half Face APR
Decon:
Environment:
Worker: Klushkan, Jack
SSN:
Comments: Wet methods, glove bags

LOD	LOQ Min.	LOQ Max.	Fibers/Flds	Fibers/m*m		Fibers/cc
0.007	0.105	1.360	6 / 100	5.1	<	0.007

Lab Sample ID 09014457 Client Sample ID: 09071605

	Time:		Rate:
Start:	12:46		2
End:	16:45		2
Minutes:	239	Avg.	2
Liters:	478		

Pump ID: 1095720

TWA
AST piping
Protection: Half Face APR
Decon:
Environment:
Worker: Shea, Jackson
SSN:
Comments: Glove bags

LOD	LOQ Min.	LOQ Max.	Fibers/Flds	Fibers/m*m	Fibers/cc
0.006	0.081	1.047	15.5 / 100	17.2	0.014

Sampled By: Kathryn Foster
Received By: Russell Browne 8/3/2009
Reviewed By: Aruna Turaga 8/6/2009

Analyzed By: Russell Browne 8/6/2009

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Airborne Asbestos Dust Analysis

(NIOSH 7400 Method)

Ridolfi Inc.
1011 Western Avenue. Suite 1006
Seattle, WA 98104-

Project Location: OCRRS
Yukutat, AK

RGA Batch Number: 09-1497
Client Job Number: 255D
Number of Samples: 12
Blank Average: 2
Field Area: 0.00785

Lab Sample ID 09014458 Client Sample ID: 09071606

	Time:		Rate:
Start:	12:46		2
End:	17:20		2
Minutes:	274	Avg.	2
Liters:	548		

Pump ID: 1095721

AST piping
Protection:
Decon:
Environment:
Worker: Perimeter
SSN:
Comments:

LOD	LOQ Min.	LOQ Max.	Fibers/Flds	Fibers/m*m	Fibers/cc
0.005	0.070	0.913	12.5 / 100	13.4	0.009

Lab Sample ID 09014459 Client Sample ID: 09071701

	Time:		Rate:
Start:	9:20		2
End:	14:00		2
Minutes:	280	Avg.	2
Liters:	560		

Pump ID: 1095720

AST piping
Protection:
Decon:
Environment:
Worker: Decon perimeter
SSN:
Comments:

LOD	LOQ Min.	LOQ Max.	Fibers/Flds	Fibers/m*m	Fibers/cc
0.005	0.069	0.894	10 / 100	10.2	0.007

Lab Sample ID 09014460 Client Sample ID: 09071702

	Time:		Rate:
Start:	9:20		2
End:	12:05		2
Minutes:	165	Avg.	2
Liters:	330		

Pump ID: 1095721

AST piping
Protection: Half Face APR
Decon:
Environment:
Worker: Stephen Adams
SSN:
Comments: Glove bags, wet methods.

LOD	LOQ Min.	LOQ Max.	Fibers/Flds	Fibers/m*m	Fibers/cc
0.008	0.117	1.517	11 / 100	11.5	0.013

Sampled By: Kathryn Foster
Received By: Russell Browne 8/3/2009
Reviewed By: Aruna Turaga 8/6/2009

Analyzed By: Russell Browne 8/6/2009

RGA
ENVIRONMENTAL

July 15, 2009

RGA Batch # 09-1368

Client:	Kathryn Foster
Company:	Ridolfi, Inc. 1011 Western Ave, Suite 1006 Seattle, WA, 98104

Project:	OCRRS, Yakutat, AK	Project #:	N/A
Matrix:	Air Filter - Pb	P.O. #:	N/A
Date Sampled:	7/13/2009	Sampled By:	Client
Date Received:	7/15/2009	Method:	NIOSH Method 7082
Date Analyzed:	7/15/2009	Analyst:	***Aruna Turaga***

LEAD AIR SAMPLE RESULTS

RGA Lab ID	Client ID	Air Volume (liters)	RL (ug/m3)	Sample Conc. (ug/filter)	Sample Conc. (ug/m3)
09013313	09071302	105	48.0	< 5	< 48.0

QA/QC Results		RL - reporting limit
Batch QC BS	102% Recovery	ug - micrograms
Method Blank	< 5 ug/filter	m3 - cubic meter
		< - less than

Reviewed by:

Dr. Aruna Turaga, Laboratory Director

APPENDIX B

Waste Disposal Records

MUNICIPALITY OF ANCHORAGE, SOLID WASTE SERVICES
ASBESTOS WASTE SHIPMENT RECORD

GENERATOR

1. Work Site Name & Mailing Address:	Owner's Name	Owner's Phone
Yakutat Tlingit Tribe **Ocean Cape Radio Relay Station** **P.O. Box 418 Yakutat, AK 99689**	**Yak-Tat-Kwan Inc.**	**(907) 784-3335**

2. Operator's Name & Address:	Operator's Phone
Yakutat Tlingit Tribe **P.O. Box 418 Yakutat, AK 99689**	**(907) 784-3238 ex231**

3. Waste Disposal Site:	SWS Authorization	SWS Contact Phone
ANCHORAGE REGIONAL LANDFILL, 15500 EAST EAGLE RIVER LOOP ROAD, EAGLE RIVER, ALASKA TELE 907-428-0864 FAX 907-428-1697	**AS09170** **EXPIRES 09/03/09**	**907-343-6274**

4. Name & Address of Responsible Agency:

ASBESTOS PROGRAM, USEPA, 222 West 7th Ave., Anchorage, AK, 99513 1-907-271-5083

5. Description of Materials:	6. Containers No.	6. Containers Type	7. Total Quantity (Cubic Yards)
asbestos and tar wrapped piping sections	14	BA	2
asbestos abatement waste	3	DM	0.5
		255D	

8. Special Handling Instructions & Additional Information:

9. Operator's Certification:

I HEREBY DECLARE THAT THE CONTENTS OF THIS CONSIGNMENT ARE FULLY AND ACCURATELY DESCRIBED ABOVE BY PROPER SHIPPING NAME & ARE CLASSIFIED, PACKED, MARKED, AND LABELED AND ARE IN ALL RESPECTS IN PROPER CONDITION FOR TRANSPORT BY HIGHWAY ACCORDING TO APPLICABLE INTERNATIONAL & GOVERNMENTAL REGULATIONS.

Printed/Typed Name & Title	Signature	Date
Alex James, Operator		8-19-09

TRANSPORTER

10. **Transporter 1** (Acknowledgment of Receipt of Materials)

Printed/Typed Name & Title	Signature	Date
Alex James, Operator		8-19-09

Address & Telephone
P.O. Box 418 Yakutat, AK 99689 (907) 784-3238 ex231

11. **Transporter 2** (Acknowledgment of Receipt of Materials)

Printed/Typed Name & Title	Signature	Date

Address & Telephone

DISPOSAL SITE

12. Discrepancies Noted:

13. Waste Disposal Site Owner or Operator:

I certify that I have received the asbestos materials noted in Section 5 except as noted in Section 12, Discrepancies.

Arrival Time: 2:10 Departure Time: 2:20 Total Time: 10

Printed/Typed Names & Title	Signature	Date	SWS Weight Invoice #
Matt Stahr		5-20-09	766860