

PHASE I ENVIRONMENTAL SITE ASSESSMENT

GUSTAVUS DRAY JUNE 2015



Prepared for:

Gustavus Dray Inc
PO Box 275
Gustavus, Alaska 99826

Prepared by:



Accounting Office

2400 College Road

Fairbanks, Alaska 99709

p. 907.452.5688

f. 907.452.5694

3105 Lakeshore Dr, Ste A106

Anchorage, Alaska 99517

p. 907.222.2445

f. 907.222.0915

Managing Office

5438 Shaune Dr, Ste B

Juneau, Alaska 99801

p. 907.586.6813

f. 907.586.6819

1623 Mill Bay Road, Ste 5

Kodiak, Alaska 99615

p. 907.942.7700

f. 907.452.5694

www.nortechengr.com



TABLE OF CONTENTS

EXECUTIVE SUMMARY	1
INTRODUCTION	3
Purpose	3
Methodology	3
Exceptions of Assessment and Limitations	4
SITE DESCRIPTION	5
Location and Legal Description, Site Owner and Current Occupant	5
General Site Setting and Description	5
Vicinity Characteristics and Hydrogeologic Characteristics	6
RECORDS REVIEW	7
State of Alaska	7
Environmental Database Searches	7
4.2.1 Contaminated Sites within 1.0 Miles of Site Boundaries:	8
4.2.2 Contaminated Sites within 5.0 Miles of Site Boundaries:	11
4.2.3 Contaminated Sites within 10.0 Miles of Site Boundaries:	12
4.2.4 Analysis of Nearby Contaminated Sites	15
Aerial Photographs	15
INTERVIEW AND SITE INSPECTION	16
ANALYSIS	18
Floor Drain	18
Petroleum Storage	18
Hazardous Substance Storage	19
On-site Water Systems	19
On-site Wastewater Systems	19
CONCLUSIONS AND RECOMMENDATIONS	19
Recognized Environmental Conditions	19
Other Recommendations	20
SIGNATURES OF ENVIRONMENTAL PROFESSIONALS	22



LIST OF APPENDICES

Appendix 1: Figures

- Figure 1: Project Site Location Map
- Figure 2: 1992 Aerial Photo
- Figure 3: 2004 Aerial Photo

Appendix 2: Site Photos

Appendix 3: SGS Laboratory Report



EXECUTIVE SUMMARY

NORTECH completed a Phase I Environmental Site Assessment (ESA) for the commercial property operated as the Gustavus Dray (herein Site) located at the intersection of State Dock Road and Gustavus Road in Gustavus, Alaska. The Site consists of one parcel totaling 4.76 acres in area. The Site is currently developed as a gas station and automotive repair shop. The main building on the property houses the business offices, a retail area (with historic petroleum related items, such as signs and pumps), and an automotive repair shop.

Directly south of the main building is a pole barn, with three open sides, and a small storage room. This building is used to store the four fuel delivery trucks and two service trucks owned by the Gustavus Dray. The facility has three aboveground storage tanks and one permanently parked tanker trailer that supply fuel for the three pumps located at the dispenser island. A small shed is located just east of the pole barn, and behind that shed is half of a large steel tank that has been re-purposed as a storage building. Surrounding properties are a mix of residential and small business.

This Phase I ESA was completed in general accordance with the American Society of Testing and Materials (ASTM) Standard Practice E 1527-13. This ESA has identified one ASTM-recognized environmental condition (REC) at the Site. Other potential concerns with site operations were also identified, but these do not meet the ASTM definition.

The ASTM REC at the Site is the condition of the petroleum storage and distribution system. During the site visit, **NORTECH** identified several drips and leaks in the fuel dispensing and storage systems at the facility. These have resulted in releases of petroleum to the ground surface at multiple locations across the property. At present, **NORTECH** ranks the potential for on-site contamination as **high risk** due to the conditions observed at the Site visit. The rationale for the REC listing and risk ranking is provided below and the risk categories are defined in Section 2.2. Based on our understanding of the operations at the Site, we feel that the REC and risk concerns can and should be assessed promptly so that any ongoing environmental concerns can be stopped and the cleanup costs associated with correcting these conditions can be properly factored into the operational costs of the facility, as well as any future sale of the property and business operations.

At the dispenser island located at the front of the store, we found petroleum staining on the concrete around the dispensers. Further investigation of the fuel dispensers showed leaking and weeping fittings, with pooled petroleum product under the easternmost dispenser. Gustavus Dray personnel used a sorbent pad to collect the pooled product. A small steel hatch located at the eastern end of the dispenser island accesses the union where the braided steel lines connect to the steel services lines from the tanks. We found these fittings to be weeping fuel, and the soil at the bottom of this hatch area was saturated with fuel. There are three separate lines, supplying the three dispensers with unleaded gasoline, diesel #2, and stove oil. The dispensers are numbered 1 (gasoline), 2 (diesel #2) and 3 (stove oil). We found all three lines leaking, and all three dispensers to have leaks of varying severity, with dispenser #2 visibly dripping fuel during our site visit, and pooled fuel under dispenser #3.

Petroleum storage at the facility includes two 2,800 gallon steel ASTs, a 3,000 gallon AST, and a 4,800 gallon tanker trailer used as a storage tank. The three ASTs are located within a fenced containment berm, while the tanker trailer is not. We found the fittings of all three ASTs to be leaking between the tanks and where the fuel lines go underground to the dispensers. There is



no Spill Prevention, Control, and Countermeasures (SPCC) plan for the facility as required to comply with 40 CFR 112. The fuel storage facility and tanks in their current configuration do not meet the regulatory requirements in 40 CFR 112. In order to meet the regulations, the tanker trailer would have to be removed or replaced and the tanks and containment would require upgrades.

NORTECH collected soil samples from the visibly stained soils beneath the leaking dispenser pumps/braided lines as well as from beneath the fuel filters located within the containment pit, where the black iron piping goes underground. Both samples were found to exceed ADEC allowable limits for petroleum products in soil. These results provide documentation that stained soil observed at these locations and other locations at the facility require remediation in accordance with 18 AAC 75 Oil and Other Hazardous Substances Pollution Control.

The main building is reportedly serviced by an onsite drinking water well and onsite wastewater disposal system. The well head is located within the east side of the building, and is surrounded by concrete. No well records were available. The onsite wastewater disposal system is reported to be a septic tank and drain field, located somewhere in the parking lot area between the main store building and the pole barn to the rear. No access or inspection hatch was visible for the tank itself or the drain field. No ADEC records exist for this wastewater disposal system, and no installation, or maintenance records, including periodic sludge removal were available.

The main store building also has an automotive repair shop located within the western portion. This shop is clean and well kept. There is a floor drain in the shop that was reported to drain to the onsite wastewater disposal system. This discharge arrangement directly to the subsurface is classified as a Class V Injection Well. EPA groundwater protection rules prohibit automotive shop drains from discharging directly to Class V Injection Wells due to the potential for shop waste oil, fuel and other automotive fluids to contaminate the drain field and local groundwater that may be used as drinking water. This can be addressed in the same manner as the AST and dispenser system.

In addition to those specific concerns, The fuel delivery trucks are stored in a pole barn with an earthen floor. The trucks are not emptied daily, and several areas of visible petroleum stains are present within the pole barn. A 275-gallon AST supplies the main store building with heating oil. There is a spill bucket directly under this AST's fuel filter, and surface stained soils are present in this area. SPCC rules require that fuel delivery trucks and have secondary containment if they are parked with fuel and remediation of stained soil is necessary. This can all be addressed along with the AST and dispenser system.

There are a pile of lead-acid batteries present behind a large steel tank that has been cut and repurposed as a storage building. Several 55-gallon drums of used oil are located at the site, some on wooden pallets, some directly on the ground. Surface staining is visible near some of the drums, where they apparently have bubbled over due to heat expansion. The batteries should be stored in the tank "building" on a pallet until ready for disposal. SPCC regulations require all petroleum drums are required to be stored in containment or on containment pallets. In addition, materials that are no longer necessary should be removed from the Site. This can be addressed as part of the instigation and upgrades of the ASTs and dispenser system.

NORTECH recommends that the antique dispensers at the Gustavus Dray facility be replaced with modern dispenser pumps. Given that the visible, aboveground fuel service lines were



visibly leaking or weeping fuel, we suspect that underground fittings are most likely leaking too. The piping and surrounding soils should be assessed for leaks as soon as possible. The steel tanks, tanker trailer and containment area are substandard, and will require upgrades to be brought into compliance so that a Spill Prevention Controls and Countermeasures (SPCC) Plan can be prepared for the facility to meet 40 CFR 112. This historic pumps should be maintained on display as part of the collection of historic and antique petroleum items present at the site.

INTRODUCTION

Purpose

Edward Cahill, the current owner of the Gustavus Dray property contracted **NORTECH** to perform a standard Phase I ESA on the commercial property located at the "four corners" area of Gustavus, Alaska. This investigation provides a summary of prior and current property uses at the Site and adjacent properties to determine the likelihood of past or present contamination by hazardous substances or petroleum.

Methodology

The scope of the ESA is in general accordance with the ASTM Practice E 1527-13 and seeks to determine if a parcel of real property including any improvements affixed to the land has recognized environmental conditions. The resulting information is provided to assist Gustavus Dray in the completion of "all appropriate inquiry" and to meet the "due diligence" requirements of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or "Superfund") as amended by the Superfund Amendment and Re-authorization Act (SARA) in 1986. Any exceptions to, or deletions from, this practice are described in Section 2.3 of this report.

To accomplish the project objectives, the following services were provided:

1. Review of available documentation relevant to the Site, including aerial photographs.
2. Review of federal and state databases for known or suspected contaminated sites and leaking underground storage tanks within the approximate minimum search distance specified by the ASTM practice.
3. Visual and physical assessment of the property for indications of potential environmental issues and hazardous materials.
4. Interviews with individuals knowledgeable about the Site and its operation and history.

Upon completion of the research, **NORTECH** reports on the recognized environmental conditions that have been identified. Recognized environmental conditions are defined as the presence or likely presence of petroleum or hazardous substances in, on, or at a property due to a release to the environment, under conditions indicative of a release to the environment, or under conditions that pose a material threat for a future release to the environment. *De minimus* conditions are not considered recognized environmental conditions in the ASTM practice.

In addition to the ASTM standard, **NORTECH** also assesses the probability of the existence of contamination and rates the Site based on the perceived risk of contamination impacts. The four risk categories are defined below.



No Risk: No evidence was found to indicate contamination of the Site or that hazardous substances, including petroleum products, have been improperly handled on site.

NORTECH does not find cause for further investigation.

Low Risk: Investigations revealed the potential for on-site contamination, the possibility that hazardous substances have been mishandled, a material threat of their release exists, and/or off-site contamination has potential to impact the property. The report will include discussion and/or recommendations for further action, as warranted.

Medium Risk: Mishandled hazardous substances or soil and/or water contamination may have been identified at the Site. Identified concerns warrant a Phase II investigation.

High Risk: Mishandled hazardous substances were encountered or there is a high potential for significant on-site contamination. Phase II assessment will be recommended to determine the actual presence and/or levels of contamination and the need for remedial action.

Exceptions of Assessment and Limitations

This report summarizes our investigation, findings, analyses, and opinions regarding the environmental condition of the property based on a review of practically available and reasonably ascertainable records and site observations. The extent of our assessment, by definition, was not of a scope necessary to reveal all conditions with regard to environmental contamination or conformance with regulations, codes, and permits of all the agencies having jurisdiction. The work scope delineated by ASTM Practice E 1527-13 is considered adequate to identify significant indications of contamination and major concerns that would represent pivotal environmental issues important to a property owner. The purpose of the ESA is to identify recognized environmental conditions from current or historical operations; our findings should be considered representative only of the time at which the ESA was completed. It should be noted that snow cover (approximately two feet in non-plowed areas) prevented visual observation of ground conditions for solid waste or debris, stressed vegetation or oil staining.

Limitations exist with the assessment provided and all the environmental issues cannot be addressed in the scope of this effort. For example, ASTM E 1527-13 Section 13 *Non-Scope Considerations* such as asbestos containing materials, radon, lead in drinking water, lead-based paint, wetlands, regulatory compliance, cultural and historic resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, and high voltage power lines are only addressed if pertinent information is discovered during the assessment and/or is specifically authorized by the client. This Phase I ESA does not include evaluation of any *Non-Scope Considerations*.

This report is a summary of research records and observations of the subject property as described and was prepared for the exclusive use of the owners of the Gustavus Dray and their assigns with respect to the Site. If it is made available to others, it should be for information on factual data only and not as a warranty of surface or subsurface conditions, such as those interpreted from results presented or discussions herein. No other warranty or presentation, either expressed or implied, is included or intended.



SITE DESCRIPTION

Location and Legal Description, Site Owner and Current Occupant

This Site containing the Gustavus Dray is comprised of one parcel of land covering a total area of 4.76-acres. The parcel is owned by Gustavus Dray Company, Inc, which in turn is owned by Edward Cahill. Vicinity and site maps and aerial photos are provided in Figures 1-3 of Appendix 1. Legal descriptions are as follows:

The 4.76-acre parcel containing Gustavus Dray is described as Lot 1 in the Blue Heron Subdivision, a subdivision of the Northeast quarter of the Northeast quarter of Section 18 and a fraction of the Northwest quarter of the Northwest quarter of Section 17, Township 40 South, Range 59 East, Copper River Meridian.

Site Owner: Gustavus Dray Company, Inc., Edward Cahill

Site Occupant: Gustavus Dray Company, Inc.

Physical Address: 1 State Dock Road, Gustavus, AK 99826

General Site Setting and Description

The community of Gustavus lies on the glacial out-wash plain located at the entrance of Glacier Bay National Park. Until 1923, the area around Gustavus was known as Strawberry Point. Access to Gustavus is by plane or boat as there are no roads that access the community. Gustavus is located 41 air miles Northwest of the city of Juneau, AK.

The property is located at Gustavus' main intersection of State Dock Road and Gustavus Road, less than 0.5 miles from the Salmon River and 1.3 miles from the Gustavus Airport.

Climate: Historically, average temperatures in Gustavus range from a low of 18.5 °F in January to a high of 63.7 °F in July, average yearly precipitation is 54.76 inches and average yearly snowfall is 71.6 inches. The wettest months are September through November, with average monthly precipitation of 6.98, 8.55, and 6.27 inches respectively (Western Regional Climate Center).

Site Structures: The 4.76-acre site includes the Main building which houses the store/museum/office and shop, an open bay garage, a building constructed of an old steel tank, and some minor sheds and storage containers. The date of construction for the Gustavus Dray Buildings is 1992. The aboveground fuel storage tanks are located just east of the main building.

On-site Water Treatment: There is no public water supply in Gustavus, most homes and businesses operate their own wells, or water catchment systems.

A review of the ADEC Public Water System database does not show the Gustavus Dray listed as a registered Public Water Supply (PWS). Well records were not available for the well and water system located at the Gustavus Dray property. It is not regulated as a PWS and is not included in the ADEC water system databases. Given the nature of the property's current use, it



does not qualify as a PWS. The well and associated equipment are located within the main store building, in a small room on the east side of the building.

Site Utilities: Electricity and phone services are provided by Alaska Power and Telephone (AP&T). The main electrical power source is the 800Kw Falls Creek power plant, located within Glacier Bay National Park.

On-site Wastewater Treatment: Wastewater from Site buildings is reportedly treated and disposed by a septic system. While site personnel indicated that the septic tank and drain field are located beneath parking area between the main store building and the truck barn, we were unable to locate inspection ports, cleanouts, manholes or any other access ports to the septic tank or the drain field. Septic tank and drain field size, manufacture and disposition are unknown. No installation, maintenance or pumping records were available.

Solid Waste Management: Solid waste is collected 45 gallon trash cans, with recyclables sorted out. All solid waste is disposed of at the Gustavus landfill.

Vicinity Characteristics and Hydrogeologic Characteristics

Topography and Slope: The Site is 46 feet above sea level and flat. The surface of the land around Gustavus dips to the South and Southeast away from the former face of the glacier. Two major rivers from the margin of the glacier's face form the majority of the surface features of Gustavus. Moraines, terraces, channels, and ridges are the pre-dominate features while evidence of dunes and pre-glacial forests are found in selective areas.

Local Geology: Quaternary glacial events shaped the geology of the site. Surface sediments grade from glacial silt at the beach, through sand across most of Gustavus, to sandy gravel at the Glacier Bay National Park boundary. Wells and other construction projects indicate that a riverine sequence is evident. Surface gravels and sands give way to silt, then mud and shell remnants. This would be typical of river delta deposits over tidal mudflats. The groundwater table is high in this area as a result of the flatness of the land and shallow silt layer.

Depth to Groundwater and Groundwater Flow Direction: Groundwater well information suggests that groundwater can be found in a shallow "perched" layer at about six to 12 feet below the ground surface, and another rechargeable layer at depths ranging from 20 to 65 feet. Regional groundwater flow direction is mostly south towards Icy Straits.

Surface Water and Surface Water Drainage: The Site surface is relatively flat with drainage ditches along the north and west sides of the property. While these ditches were dry during the time of the field site inspection, they contain water during normal conditions. The area directly to the east of the subject property is below the grade of the filled area and becomes swampy during wet conditions. The tank containment pit drains to this area. There are several low-lying areas that collect water during periods of rapid snowmelt or heavy rainfall.

Nearest Surface Water Body: Salmon River is located 0.3 miles Northwest of the property boundary. The drainage ditches at the north and west edges of the property flow seasonally.

On-Site Wells: **NORTECH** observed one aboveground well casing during the Site inspection. The well is located within the main store building and the steel well casing is cemented in place here. There is a well pump located in the grassy area in front of the store. This well pump is not



connected to a well, and is an ornamental display piece, in keeping with the "museum" aspect of the property.

A search for well logs using the ADNR on-line Well Log Tracking System (WELTS) database was made by **NORTECH** staff, but drilling records for the well could not be located.

RECORDS REVIEW

Limited development of the Site and surrounding area reduces the potential for nearby contamination on the Site and adjacent properties. Records provided by CATC and contained in online state and federal databases were searched and reviewed to gather some site information. The following sections summarize findings from these reviews.

State of Alaska

The Site: The Site is located within the community of Gustavus, located in the Hoonah-Angoon Census Area. The ADNR Recorder's Office maintains a database of deeds and other official records. The Site consists of one land parcel that encompass 4.76-acres. Legal descriptions are provided in Section 3.1. A land patent provided by the ADNR Recorder's Office indicates that Gustavus Dray Company, Inc. acquired the patent from Blue Heron Trust on October 30, 1992. Site development and improvements are described in Section 3.2.

Adjacent Properties: The property adjacent to the site's Western edge is undeveloped land, owned by Edward Cahill, owner of Gustavus Dray Company Inc. A small grocery store is located directly South of the site, and residential houses are located across State Dock Street to the East of the site. The Gustavus Airport runway is located 0.3 miles Northeast of the site boundary. The majority of the community of Gustavus is located to the Northwest of the site, with the nearest residence located across State Dock Road, less than 0.1 miles from the Eastern site boundary.

Environmental Database Searches

Federal and state database records were researched by **NORTECH** staff in June 2015 for pertinent information regarding the environmental condition of the Site and parcels located in the general vicinity of the site. Below is a summary of findings from the reviews.

Federal Records Sources: The National Priorities List (NPL), compiled by the Environmental Protection Agency (EPA) contains properties with the highest priority for cleanup. NPL sites were not identified within the 1.0-mile minimum search distance from Site boundaries.

The Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), maintained by the EPA, lists sites that the EPA has investigated or is currently investigating for potential hazardous substance contamination for possible inclusion on the NPL. No CERCLIS-listed sites were identified within the 0.5-mile search distance from Site boundaries.

No Resource Conservation and Recovery Act (RCRA) treatment, storage, or disposal (TSD) facilities or RCRA handlers were identified within a 1.0-mile search distance from Site boundaries.



The Emergency Response Notification System (ERNS) lists reported hazardous substance releases in quantities greater than the reportable quantity. The Site is not on the ERNS list.

No EPA Brownfield Assessment, Cleanup, and Revolving Loan Fund Grantees were identified in Gustavus, Alaska.

State Records Sources: Alaska Department of Environmental Conservation (ADEC) listings of Underground Storage Tanks (USTs), Leaking Underground Storage Tanks (LUSTs), and Contaminated Sites (CS) were reviewed in June 2015. The CS database is assumed to be equivalent to a State Hazardous Waste Sites (SHWS) list, as required by ASTM E 1527-13. According to available ADEC records and the review completed by Environmental Data Resources (EDR), the following contaminated sites were identified to be located within a 1.0-mile search distance from Site boundaries:

4.2.1 Contaminated Sites within 1.0 Miles of Site Boundaries:

Site Name:	Gustavus Buried Drum Site
Address:	Gustavus, Gustavus, AK 99826
File Number:	1507.38.002
Hazard ID:	407
Status:	Cleanup Complete
Staff:	,
Latitude:	58.413330
Longitude:	-135.736890
Horizontal Datum:	

Potentially Responsible Parties: U.S. Army Corps of Engineers Alaska

Problems: Drums of buried tar waste and resins, and past use of herbicides reported. Known PNAs and heavy metals. Potential contaminants (unknown quantities) include PCBs, asbestos, petroleum-oil-lubricant waste, solvents, antifreeze, and herbicides. Known PNAs and heavy metals. No contamination found in local drinking water wells. School on adjacent land. Several community and private wells in area: 1) Forest Service well - 15 feet deep, 2) Cannery well - 17 feet deep, 3) airline terminal - not for drinking, 4) wash water for aircraft - has oil sheen. Last staff assigned was Kent. CERCLIS ID AKN001002301, FUDS # F10AK0116. 7/29/1996 Site Closure Approved. Final report reviewed, cleanup levels of 200ppm TPH in soils and ND in groundwater have been achieved. Excavate areas were backfilled with soils remediated through soil washing. Approximately 18,000 cubic yards soil "washed". Untreated materials and asphalt were shipped out. Some material was disposed of out of state, the rest was treated or disposed of at the Channel Landfill.



Phase I Environmental Site Assessment
Gustavus Dray Property
June 2015

Site Name:	Gustavus/DOT Airport Lease Lot
Address:	Gustavus, Gustavus, AK 99826
File Number:	1507.38.007
Hazard ID:	1754
Status:	Cleanup Complete
Staff:	,
Latitude:	58.412988
Longitude:	-135.738764
Horizontal Datum:	NAD83

Potentially Responsible Parties: ADOT&PF – Sitka; ADOT&PF - Juneau

Problems: 70 cubic yards of oily soil with between 30 and 40 gallons of oil in it. Cleanup to occur spring of 1994. Landspreading at an ADEC approved site. This contamination is not related to the site being cleaned up by the COE on nearby property. Last staff assigned was Palmieri. Site closed 11/17/1997 by Anne Marie Palmieri.

Site Name:	FAA Gustavus
Address:	Gustavus Air Strip, Gustavus, AK 99826
File Number:	1507.38.009
Hazard ID:	1451
Status:	Active
Staff:	Melody Debenham, 9074515175 melody.debenham@alaska.gov
Latitude:	58.420421
Longitude:	-135.706689
Horizontal Datum:	NAD83

Potentially Responsible Parties: U.S.D.O.T. FAA – Anchorage

Problems: This report encompasses the entire FAA facility in the vicinity of the airstrip. CERCLA wastes at this site include PCB, waste oil, abandoned paint, resins, herbicides and asbestos. There is also petroleum contaminated soil at several fuel tank locations, extent unknown. Draft Environmental Compliance Investigation Report submitted by E&E February 1992. Report constitutes a combined PA and draft Site Investigation.

Site Name:	FAA - Gustavus
Address:	Gustavus Air Field, Gustavus, AK 99826
File Number:	none
Hazard ID:	24933
Status:	Cleanup Complete
Staff:	,
Latitude:	58.420421
Longitude:	-135.706689
Horizontal Datum:	NAD83

Potentially Responsible Parties: Federal Aviation Administration



Problems: Farnell use to be staff assigned. No scoresheet. This was a LUST site. Issued NFA 5/1/98. Contamination measured by EnSys. No SA in file. Closure Notice 6/24/96. Missing: EventID, Reckey, FacID (2562), LedgerCode. 7/15/1996: Site closure Approved.

Site Name	Gustavus Airport
Address:	No Data, Gustavus, AK 99826
File Number:	1507.26.002
Hazard ID:	23194
Status:	Cleanup Complete
Staff:	,
Latitude:	58.421950
Longitude:	-135.706695
Horizontal Datum:	NAD83

Potentially Responsible Parties: State of Alaska - ADOTPF Maintenance & Operations

Problems: Two tanks removed in June, 1997; Avgas and diesel. Minimal diesel contamination found in soil, removed with confirmation samples. No GW contamination found. 3/21/200 Site closure approved.

Site Name:	ADOTPF- Gustavus
Address:	Gustavus Airport, Gustavus, AK 99826
File Number:	1507.26.003
Hazard ID:	24887
Status:	Cleanup Complete
Staff:	IC Unit, 9074655229 dec.icunit@alaska.gov
Latitude:	58.422070
Longitude:	-135.712620
Horizontal Datum:	NAD83

Potentially Responsible Parties: State of Alaska - ADOTPF Maintenance & Operations

Problems: Leaking underground storage tank. 7/16/2007 site closure approved.

Site Name:	ADOT&PF Gustavus Airport Crash Fire and Rescue Station
Address:	Gustavus Airport, Gustavus, AK 99826
File Number:	1507.38.014
Hazard ID:	26294
Status:	Active
Staff:	Danielle Duncan, 9074655207 danielle.duncan@alaska.gov
Latitude:	58.422201
Longitude:	-135.711221
Horizontal Datum:	WGS84

Potentially Responsible Parties: ADOT&PF – Juneau



Problems: In August 2014 a 500-gallon underground heating oil tank was removed from the Alaska Department of Transportation and Public Facilities Crash Fire and Rescue Station at the Gustavus Airport. It was determined that an unknown volume of heating fuel had been released from the underground storage tank. Confirmation samples from the excavation indicate that diesel range organics remain in subsurface soil above ADEC cleanup levels and contamination appears to have impacted groundwater. During initial remediation activities, 6.5 cubic yards of soil were excavated and are being stored on-site. The extent of remaining contamination has not been determined. 5/20/2015 Approved **NORTECH's** work plan to install three groundwater monitoring wells and land spreading of contaminated soil. Danielle Duncan also requested that the drinking water inside the building where the UST was located be sampled for DRO and BTEX unless documentation of recent water testing can be provided.

4.2.2 Contaminated Sites within 5.0 Miles of Site Boundaries:

Site Name:	Gustavus Tank Farm
Address:	100 Dock Road, Gustavus, AK 99826
File Number:	1507.38.011
Hazard ID:	4368
Status:	Active
Staff:	Bruce Wanstall, 9074655210 bruce.wanstall@alaska.gov
Latitude:	58.393515
Longitude:	-135.728391
Horizontal Datum:	WGS84

Potentially Responsible Parties: ADOT&PF - Juneau; U.S.D.O.T. FAA - Anchorage; Alaska Department of Transportation & Public Facilities

Problems: With information currently available, DEC has determined that in 1943 the Department of Interior authorized the War Department to construct the airfield as well as the tank farm, pipeline, and dock in Gustavus. In 1945, the War Department transferred operations over to the Civil Aeronautics Administration; the agency later transitioned into the FAA. The Omnibus Act in 1965 facilitated the transfer of these facilities to the State of Alaska and the Department of Transportation and Public Facilities (ADOT&PF) took over operations. In 1980, private operation of the bulk fuel tank farm began. Soon after, the piping system used to occasionally distribute oil under the tanks to slow down corrosion was replaced with an oil resistant liner. The liner was covered with soil to limit damage to it from sunlight. This was the soil observed by the FAA in 1992; it was later removed and remediated at an off-site treatment facility. The only confirmed petroleum release event was the purposeful spreading of oil through the subsurface piping under the tanks during the operational history by FAA and DOT between 1945 and 1980. As a result, the responsibility for the cleanup process is shared between the State and Federal governments. In 2011, a new bulk fuel storage facility was constructed just east of the former Tank Farm. In early spring 2012, the old Tank Farm was decommissioned by operator Gustavus Dray. Based on the analytical results for groundwater samples collected during the 2013 and 2014 field activities, contaminant concentrations in four of ten monitoring wells are greater than the groundwater cleanup levels. The calculated TAH and TAqH for the samples collected from in the contaminant plume approximately 350 feet from the nearest surface water body, exceeded the surface water quality criteria in 2014. Results of 2013-14 monitored natural attenuation parameters ferrous iron, nitrate, sulfate and oxidation/reduction



potential are generally comparable to previous MNA data collected in 2010, 2011, and 2012, with the conditions appearing generally more conducive to aerobic biodegradation with time.

4.2.3 Contaminated Sites within 10.0 Miles of Site Boundaries:

Site Name:	NPS Glacier Bay - Glacier Bay Lodge
Address:	Glacier Bay National Park, Bartlett Cove, Gustavus, AK 99826
File Number:	1507.38.006
Hazard ID:	2971
Status:	Cleanup Complete
Staff:	,
Latitude:	58.453306
Longitude:	-135.884306
Horizontal Datum:	

Potentially Responsible Parties: U.S.D.I. Natl Park S. – Anchorage

Problems: In 1999 four underground heating oil storage tanks were decommissioned at the Glacier Bay Lodge. Two 3,000-gallon tanks were removed and the remaining tanks, one 3,000-gallon and one 7,500-gallon, were closed in place. Confirmation sample results from the excavations are below Method Two, Tables B1 and B2, migration to groundwater cleanup levels for diesel range organics and benzene, toluene, ethylbenzene, and xylenes. Approximately 300 cubic yards of petroleum contaminated soil was generated during these decommissioning activities. In 2006 a 1,000-gallon heating oil AST and associated piping servicing the boilers in the staff quarters at the Glacier Bay Lodge administrative area was removed and replaced with a new AST. Contamination was encountered during removal of the fuel lines and approximately 3 cubic yards of impacted soil was removed and stockpiled on site. 8/11/2010 Cleanup Complete, Determination Issued. The cleanup actions to date have served to excavate and adequately remove contaminated soil associated with the decommissioning of 4 USTs at the Glacier Bay Lodge area in 1999 and the removal of one heating oil AST at the administrative area in 2006. Based on the information available, no further assessment or cleanup action is required.

Site Name:	NPS Glacier Bay - Bartlett Cove (GBQ-9 Residence)
Address:	Off Glacier Bay Park Road, ~6 Miles WNW Gustavus, Gustavus, AK 99826
File Number:	1507.38.004
Hazard ID:	2538
Status:	Cleanup Complete
Staff:	,
Latitude:	58.450000
Longitude:	-135.883333
Horizontal Datum:	

Potentially Responsible Parties: U.S.D.I. Natl Park S. - Anchorage



Problems: Diesel contamination from 1,000 gallon underground heating oil tank removed in 1998. Last staff assigned at closure was Janes. 3/1/2004 Site closure Approved.

Site Name:	NPS Glacier Bay - Bartlett Cove (GBA-12 Admin)
Address:	Off Glacier Bay Park Road, ~6 Miles WNW Gustavus, Gustavus, AK 99826
File Number:	1507.38.001
Hazard ID:	2978
Status:	Cleanup Complete
Staff:	,
Latitude:	58.450000
Longitude:	-135.883333
Horizontal Datum:	

Potentially Responsible Parties: U.S.D.I. Natl Park S. – Anchorage

Problems: Diesel contamination from HOTs removed in 1998. Last staff assigned at closure was Janes. 3/1/2004 Site closure approved.

Site Name:	NPS Glacier Bay - Bartlett Cove (GBQ-5 Residence)
Address:	Off Glacier Bay Park Road, ~6 Miles WNW Gustavus, Gustavus, AK 99826
File Number:	1507.38.008
Hazard ID:	2979
Status:	Cleanup Complete
Staff:	,
Latitude:	58.450000
Longitude:	-135.883333
Horizontal Datum:	

Potentially Responsible Parties: U.S.D.I. Natl Park S. – Anchorage

Problems: Diesel contamination from 1,000 gallon underground heating oil tank removed in 1998. Last staff assigned at closure was Janes. 3/1/2004 Site closure approved.

Site Name:	NPS Glacier Bay - Bartlett Cove (GBQ-3 Residence)
Address:	Off Glacier Bay Park Road, ~6 Miles WNW Gustavus, Gustavus, AK 99826
File Number:	1507.38.005
Hazard ID:	2980
Status:	Cleanup Complete
Staff:	,
Latitude:	58.450000
Longitude:	-135.883333
Horizontal Datum:	



Potentially Responsible Parties: U.S.D.I. Natl Park S. – Anchorage

Problems: A 1,000 gallon underground heating oil tank removal occurred in 1998. An additional removal action in 2000 excavated 112 cubic yards to a depth of 25 feet below ground surface. Diesel range organics remained at excavation limits at concentrations up to 2,080 mg/kg. Groundwater monitoring wells identified groundwater contamination well above cleanup levels. ADEC issued a No Further Remedial Action Planned determination on March 1, 2004, citing limited risk of contaminant migration, source area removal, and a measured capacity for natural attenuation at this site. The site remained open pending demonstration that groundwater DRO concentrations were below cleanup levels. Groundwater sampling in June 2010 and June 2011 indicated that groundwater contamination at this site had attenuated to concentrations below ADEC cleanup levels. A January 13, 2012 ADEC decision document reclassified this site status from "Cleanup Complete - Institutional Controls" to "Cleanup Complete".

Site Name:	NPS Glacier Bay - Bartlett Cove (GBA-10 Shop)
Address:	Off Glacier Bay Park Road, ~6 Miles WNW Gustavus, Gustavus, AK 99826
File Number:	1507.38.003
Hazard ID:	2981
Status:	Cleanup Complete
Staff:	,
Latitude:	58.450000
Longitude:	-135.883333
Horizontal Datum:	

Potentially Responsible Parties: U.S.D.I. Natl Park S. – Anchorage

Problems: Diesel contamination from a 3,000 gallon underground heating oil tank removed in 1998. May 1999 Shannon and Wilson report delineated the plume. Last staff assigned at site closure was Janes. 3/1/2004 Site Closure Approved.

Site Name:	NPS Glacier Bay - Bartlett Cove
Address:	0.5 mi SW of Park Headquarters, 1000 ft SW of Lodge, 8mi to Gustavus, SW of Lodge, 8mi to Gustavus, Gustavus, AK 99826
File Number:	1507.26.001
Hazard ID:	24510
Status:	Active
Staff:	Melody Debenham, 9074515175 melody.debenham@alaska.gov
Latitude:	58.453805
Longitude:	-135.886019
Horizontal Datum:	WGS84

Potentially Responsible Parties: Department of the Interior, National Park Service



Problems: Air injection/ soil vapor extraction system has been installed to remediate residual soil contamination at the former underground storage tank farm and operating power plant sites. Monitoring of the soil treatment systems and groundwater is on-going. 6/16/2015 Approved final work plan describing groundwater monitoring at utility building and former tank farm sites.

Site Name:	NPS Glacier Bay - Bartlett Cove Firing Range
Address:	Bartlett Cove, ~10 miles NW of Gustavus; ~1 mile W of Dock Facilities., Gustavus, AK 99826
File Number:	1507.38.013
Hazard ID:	25875
Status:	Active
Staff:	Melody Debenham, 9074515175 melody.debenham@alaska.gov
Latitude:	58.453522
Longitude:	-135.854271
Horizontal Datum:	WGS84

Potentially Responsible Parties: Department of the Interior, National Park Service

Problems: The Bartlett Cove Firing Range is located at the National Park Service Depot site, about 1 mile from the dock facilities at Bartlett Cove. It has been used for firearms training and certification since 1996, and will continue to be used as a firing range for the foreseeable future. In 2009 the Park converted to green ammunition for training, but still uses service ammunition for certifications. The firing range consists of a soil berm that is approximately 8 feet high by 50 feet wide. Firing is completed at distances of 9, 21, 45, 75, and 150 feet from the face of the target near the berm. In 2012 the NPS contractor performed a lead assessment at the site. Sample results indicate that areas with elevated lead, arsenic, antimony, and copper are present. 12/07/2014 Approved final Glacier Bay Firing Range Lead Cleanup and Additional Site Assessment 2014 report documenting the removal and proper disposal of 32 cubic yards of lead, antimony, copper, and arsenic contaminated soil. Confirmation samples show the only contaminant remaining above cleanup levels is arsenic, however arsenic concentrations are within the sampled background concentrations at the site. One groundwater sample was collected and analyzed for metals. No metals were detected in the groundwater.

4.2.4 Analysis of Nearby Contaminated Sites

NORTECH has reviewed the database listings for each of the contaminated locations listed above. Most have been closed and almost all of these are closed with a cleanup complete status. The few that remain active have been delineated by the Responsible Party and are documented to not be impacting the Site. Based on the available documentation, none of the nearby sites are expected to have had any effect on the subject property.

Aerial Photographs

Aerial photographs prior to 1992 were not available for the facility, but the general vicinity focused mainly on the Gustavus Airport or the Glacier Lodge located within Glacier Bay National Park. In general, the aerial photos show slow but steady development of the Gustavus area.



1993 Aerial Photo (Figure 2): The Site area development is in its early stages, the main store building is visible, however the pole barn has not yet been constructed, and much of the lot is still wooded. Neighboring properties are lightly developed.

2004 Aerial Photo (Figure 3): The Site area development is the same as its present configuration.

INTERVIEW AND SITE INSPECTION

Jason Ginter of **NORTECH** completed inspections of the Site on May 21, 2015. Mr. Ginter met with the Gustavus Dray Maintenance and Deliveries Manager, Marty Rogers, and the Gustavus Dray Office Manager, Jen Williams. They answered questions about the facility and provided information about the Gustavus Dray Facility. Mr. Rogers also provided a tour of the property as well as a description of systems currently in use and the general history of the property. He has operated the facility for the past three years and has participated in the operation, maintenance, and repair of many of the current systems since his hire. Ms. Williams was able to provide rough annual fuel throughput figures for the facility, showing that in 2014 about 355,000 gallons of fuel were sold by the Gustavus Dray, with 216,000 gallons of that total sold through fuel delivery services and 139,000 gallons sold at the dispenser pumps.

Site reconnaissance began with inspection of the dispenser pumps in front of the main wood framed store building. The dispenser pumps are antique models in keeping with the museum nature of the Gustavus Dray property. The dispenser pumps are numbered 1-3, with pump #1 dispensing unleaded gasoline, pump #2 dispenses diesel #2, and pump #3 is stove (heating) oil. An obvious petroleum stain is present on the concrete dispenser island, most pronounced around pumps #2 and #3. Mr. Rogers removed the maintenance panels from all three dispenser pumps, and we noticed weeping fittings in all three, with a slow drip at the union in dispenser #2, and a puddle of product under pump #3. Mr. Rogers tightened the dripping fitting, and we used a sorbent pad to collect pooled product under pump #3. There are no catch basins or drip pans under the dispenser pumps, and it appears that all leaked fuel from dripping and weeping fittings has gone directly to the subsurface soils, which were visibly damp during the inspection.

A small access hatch is located at the east end of the dispenser island. This access hatch opens to a small concrete sided pit where the steel piping from the aboveground storage tanks connect to the flex steel lines connected to the dispensers. We found all three lines to be leaking at the unions, and collected one soil sample (CZ01) and a field duplicate (CZ03) from six inches below the surface of the sandy soil at the bottom of this pit. SGS laboratories analyzed the samples for gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO) and BTEX compounds (benzene, toluene, ethylbenzene and xylenes). The full SGS laboratory report is attached. Laboratory analysis confirmed the presence of diesel and gasoline contamination, results are listed in Table 1 below.

The tank farm that is used to store the fuel for the Gustavus Dray facility is located on the east side of the property. There are three single walled steel aboveground storage tanks (ASTs) located within a lined, bermed containment pit. The tanks are numbered to correspond with the dispensers served, with tank #1 containing gasoline, tank #2 holding diesel #2, and tank #3 stove (heating) oil. Tanks #1 and #2 have a 2,800 gallon capacity, and tank #3 can hold 3,000 gallons. Just outside the containment pit is a permanently parked 4,800 gallon tanker trailer that is used to hold additional gasoline. A rubber hose from the tanker is connected to a steel pipe from Tank #1. A trailer with spill response "hard" boom is located adjacent the tanker trailer.



We noticed that the valves and filter fittings leading from the ASTs to the dispenser island were weeping, and that soils directly below this area were damp and stained, with a petroleum odor. This area was within the fence surrounding the containment pit, but not within the lined portion. One sample (CZ02) was collected from this area for laboratory analysis, the soils here show diesel contamination. Results are shown in Table 1 below.

Table 1 – Soil Sample Laboratory Results in mg/Kg

Sample ID	GRO	DRO	RRO	Benzene	Toluene	Ethyl-benzene	Total Xylenes
CZ01*	433	9,030	2,420	1.49	16.6	2.8	88.4
CZ02	33.5	11,000	1,550	ND	0.131	ND	0.98
CZ03*	419	9,030	2,410	1.2	19.7	4.54	94.9
ADEC Cleanup Level	260	230	8,300	0.025	6.5	6.9	63

- *denotes field duplicate pair
- Results in boldface exceed applicable ADEC cleanup levels as listed in Table B1 and Table B2 of 18 AAC 75.
- All quality control indicators are within range and all results are deemed valid for purposes of soil contaminant characterization.

NORTECH collected soil samples for laboratory analysis at this site to verify that visible damp and stained soils noted were petroleum contaminated. Sample results contained in this report appear to indicate that reportable quantities of petroleum and/or hazardous materials have been released to the environment. The owner or operator of a facility is responsible for notifying the appropriate government agencies, such as the Alaska Department of Environmental Conservation (ADEC). **NORTECH** will provide recommendations for reporting these results and can assist in government notifications; however **NORTECH** will not report these results directly to a regulatory agency without written authorization from the owner or operator.

There is a 275 gallon single walled AST that supplies the main store building with heating oil (diesel). A five gallon bucket is partially buried beneath the fuel filter on this tank, presumably to collect and contain drips from the tank and filter. The west side of the main building is used as an automotive maintenance shop, with an overhead garage door and one vehicle lift. Normal vehicle maintenance fluids, such as lubricating oils and antifreeze, are stored in this garage. None of this material is stored in containers greater than five gallons, and in general the garage area was clean. A floor drain is present within the garage, with plumbing reported to a drain to the building's septic tank.

Neither water nor sewer utilities are available to the Gustavus Dray buildings. Water is supplied by a well, which is located inside the building on the east side. The septic tank and associated drain field are reported to exist below the compacted gravel parking area located south of the main building. No inspection ports or cleanouts are visible to determine the location of the tank or drain field, and no records were available for either the well or septic system. No records of either could be found on file with ADEC.

A pole barn is located behind (south) the main building. This building is used to store general maintenance equipment for the Gustavus Dray, with a small enclosed room at the southwest



corner. The building is wood framed with a compacted gravel floor. Four fuel tanker trucks are stored in the building along with two service vehicles used by the Gustavus Dray. The tanker trucks appear to be in good condition, although some minor petroleum staining is visible throughout the dirt floor of the pole barn. The trucks are not stored empty, but contain the last fuel used. There are two 55-gallon drums located on a wooden pallet behind the pole barn containing used motor oil.

Immediately adjacent the pole barn is a small red shed. This shed is used to store cases of quart, gallon, and five gallon sized lubricating oils, propane cylinders of various sizes, and spill response equipment. Located about 50 feet south of this shed is an old, large steel tank that has been cut in half and repurposed as a storage building. A stack of roughly ten lead-acid batteries are located on the ground on the south side of this storage building.

Two piles of solid waste and debris are located on the east side of the property, south of the tank area.

ANALYSIS

NORTECH completed a Phase I ESA for the commercial property known and operated as the Gustavus Dray in general accordance with ASTM Standard Practice E 1527-135. This section summarizes **NORTECH's** findings and opinions related to the site history and/or environmental concerns identified through the records review or site reconnaissance.

Floor Drain

One floor drain was observed in the vehicle maintenance shop in the main building. This floor drain is reported to discharge to the onsite wastewater disposal system. Accidental releases of vehicle maintenance fluids and products could be released to the environment through the onsite septic system. This type of discharge directly to the subsurface is classified as a Class V injection well, EPA groundwater protection rules specifically prohibit automotive shop drains from discharging to a Class V Injection Well.

Petroleum Storage

Four bulk petroleum storage ASTs were observed onsite; three ASTs within the containment pit, and one tanker trailer. The total capacity of these tanks (and trailer) is 13,400 gallons. The four mobile tanker trucks located in the pole barn have a total capacity of 7,900 gallons. The facility's total capacity, including the 275 gallon heating oil tank, totals over 21,000 gallons, which is well above the 1,320 gallon aggregate storage capacity threshold for EPA's Spill Prevention, Control and Countermeasures (SPCC) rules requiring a written pollution prevention plan per 40 CFR 112. The observations that the dispenser pumps and associated fuel lines were found to be actively leaking or weeping fuel at several fittings demonstrates that the potential of the facility to release oil to the environment has been realized.

A review of aerial photographs indicate that the nearest potential surface water feature, the Salmon River, is approximately 0.3 miles down-gradient of the Gustavus Dray location. Although dry during the time of our site assessment, the drainage ditches north and west of the site could easily transport a fuel release to surface waters, and a release from the containment pit could lead directly to the marshy area immediately adjacent the property to the east.



SPCC Plans for a facility of this type area required under 40 CFR 112, and additionally are useful to provide a detailed record of tank information, locations and use of spill response materials, emergency contacts, a site spill coordinator, and other items that would be useful in the event of a spill, fire, or other emergency at the facility. Existing tanks and procedures appear to require significant upgrades to meet the SPCC regulations.

Hazardous Substance Storage

In general, hazardous substance storage is generally in small quantity containers, with capacities of 5-gallons or less. The only substance stored in 55-gallon drums are used motor and lubricating oils. Several flammable cabinets were observed throughout the property for storage of small pressurized cans or other flammable substances. An inventory of chemicals was not taken, but cursory visual observations indicate that these chemicals are being stored properly in most locations. The only areas of concern are the drums stored outdoors on wooden pallets, and the stack of lead-acid batteries behind the tank building. Some flammable substances appeared to be stored on racks, outside of the flammable cabinets. Review of use and storage of these items should be done periodically, with an emphasis on making sure that employees follow established protocols.

On-site Water Systems

There is a drinking water well on-site. No records were available for this system. Due to the nature of the Gustavus Dray's business, the facility is not considered a public water supply.

On-site Wastewater Systems

Wastewater from Site buildings is treated and disposed by a septic system. No records of this system is available either on-site or on file with ADEC. The location of the septic system and associated drain field was not positively identified or assessed during the site visit. No inspection hatches, ports or cleanouts were visible.

CONCLUSIONS AND RECOMMENDATIONS

NORTECH conducted a Phase I ESA of commercial property on which the Gustavus Dray is located in conformance with the scope and limitations of ASTM Standard Practice 1527-13. Any exceptions to, or deletions from, this practice are described in Section 2.3 of this report.

Recognized Environmental Conditions

This assessment has revealed evidence of recognized environmental conditions in connection with the property.

We found several areas where the fuel services lines were actively leaking or weeping fuel, including internally at the dispenser pumps, the unions where the underground lines met the braided steel dispenser lines, and the fuel filter lines inside the containment pit. Given these findings, we suspect that underground piping junctions between the tank containment pit and the dispenser island may be leaking too. Soil contamination was noted and confirmed by laboratory analysis beneath the dispensers, and beneath the filter area. Soil contamination limits were not found during this investigation. Additional soils contamination is suspected around the heating oil AST supplying the main store building, and the floor material in the pole barn.

NORTECH recommends that Site Assessment and Characterization Plan be prepared for submittal to ADEC.



The floor drain located within the maintenance garage reportedly drains to the septic system, with the potential to release automotive fluids to the subsurface. This discharge directly to the subsurface is classified as a Class V Injection Well. EPA groundwater protection rules prohibit automotive shop drains from discharging directly to Class V Injection Wells. We recommend that the floor drain be filled with cement to prevent further discharge to the subsurface.

Other Recommendations

The total capacity of petroleum stored on the site is above the EPA threshold for requiring a written SPCC Plan. An SPCC Plan should be prepared and implemented at the facility. An assessment of the buried fuel piping should be performed. In the meantime, **NORTECH** recommends the following actions to improve pollution prevention and life safety:

- Daily inspection of the fittings in the dispenser pumps.
- Stage spill response materials near the fuel dispensers.
- Identify a spill coordinator for the site and ensure they understand state and federal spill reporting requirements.
- Post an emergency contact number for the spill coordinator and an ADEC Spill Response Notification placard at the tank location.
- Conduct annual pollution prevention and response training for all site personnel.
- **NORTECH** highly recommends preparing a Site Assessment And Characterization Plan for submittal to ADEC as part of the release notification process, so that all work to mitigate the fuel release is documented and approved.

Water & Wastewater Systems

While not an ASTM concern, both the water and wastewater systems require engineering review and approval by ADEC and can require a considerable amount of effort and expense to ensure and maintain regulatory compliance. **NORTECH** recommends conducting a file review to determine whether the on-site waste water treatment system have received ADEC engineer review and approval to operate. This review may also identify engineering documents for the groundwater wells that were not located in online well records maintained by the State of Alaska.

Based on the information available, the existing water systems appear to be functional as designed and appropriate for the facility. No major deficiencies, major upgrades, or other specific concerns were reported or noted in the available documentation.

8.0 Limitations

Sample results contained in this report may indicate that reportable quantities of petroleum and/or hazardous materials have been released to the environment. The owner or operator of a facility is responsible for notifying the appropriate government agencies, such as the Alaska Department of Environmental Conservation (ADEC). **NORTECH** can provide recommendations for reporting these results and can assist in government notifications; however, **NORTECH** will not report these results directly to a regulatory agency without written authorization from the owner or operator.



This report summarizes **NORTECH's** investigation, findings, analyses, and opinions regarding the environmental condition of the property based on site observations. The work scope is considered adequate to identify significant indications of contamination and major concerns that would represent pivotal environmental issues important to a property owner or lessee. The purpose of this limited ESA was to identify existing environmental conditions; our findings should be considered representative only of the time and location at which the ESA was completed. The extent of our assessment, by definition, was not of a scope necessary to reveal all conditions with regard to environmental contamination or conformance with regulations, codes, permits of all the agencies having jurisdiction.

This report is a record of research and observations of the subject property as described, and was prepared for the exclusive use of Gustavus Dray, Edward Cahill and their assigns with respect to the Site. If it is made available to others, it should be for information on factual data only and not as a warranty of surface or subsurface conditions, such as those interpreted from results presented or discussions herein. No other warranty or presentation, either expressed or implied, is included or intended.



9.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

NORTECH is a Fairbanks-based, professional consulting firm, established in 1981, offering environmental engineering, civil engineering, and industrial hygiene consulting services. The firm has offices in Fairbanks, Anchorage, Juneau and Kodiak and has completed numerous Phase I ESAs and other property and/or building inspections across Alaska.

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the site. We have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Jason Ginter, PMP, Environmental Projects Manager for **NORTECH**, has a BS degree in Chemistry. He has extensive field experience as an environmental consultant working on all aspects of environmental investigations, including over 18 years of investigation, assessment and remediation work in the State of Alaska.

A handwritten signature in black ink, appearing to read "Jason Ginter". The signature is fluid and cursive, with a long, sweeping underline.

Jason Ginter, PMP
Project Manager
Principal

Peter Beardsley, PE, Environmental Engineer for **NORTECH**, has a B.S. degree in Environmental Engineering. He has extensive field experience as a consulting environmental engineer. He has worked on all aspects of environmental investigations and is well versed in applicable regulatory requirements.

A handwritten signature in black ink, appearing to read "Peter Beardsley". The signature is cursive and somewhat stylized, with a long, sweeping underline.

Peter Beardsley, PE
Environmental Engineer
Principal