

Port Lions Airport

Shotgun Range, Rifle Range, Former Sawmill Sites

Port Lions, Alaska



Phase I Environmental Site Assessment



A handwritten signature in black ink, appearing to read 'Arran Forbes'.

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EXECUTIVE SUMMARY

Restoration Science & Engineering, LLC (RSE) completed a Phase I Environmental Site Assessment (ESA) for the proposed areas of development associated with the March 2007 Port Lions Airport Master Plan (the subject property). The subject property is located within Section 33, Township 26 South, Range 22 West of the Seward Meridian and includes three distinct Study Areas near the Port Lions Airport:

1. Rifle Range
2. Shotgun Range
3. Former Sawmill

This ESA outlines RSE's professional opinions as to the presence of recognized environmental conditions (RECs) in conformance with the scope and limitations of ASTM Practice E 1527-13. This Phase I ESA was completed on behalf of the client, the Alaska Department of Transportation & Public Facilities (ADOT&PF), as part of a due diligence evaluation prior to developing the property.

This Phase I ESA includes:

- An analysis of historical aerial photos to identify historical conditions and uses of the subject property, as well as areas of potential concern;
- An examination of state and federal databases to determine if listed contaminated sites or storage tanks exist within the project vicinity;
- A review of records at municipal and state offices, as well as local utilities to determine ownership information, public utility services to the subject property, and incidents relating to spills or chemical releases;
- A radial search of relevant pollutant and hazardous substance databases;
- Interviews with knowledgeable persons; and,
- An on-site evaluation on July 19, 2018, to identify the condition of the subject property and potential environmental risks.

Based upon the research conducted on behalf of the client, RSE did not identify evidence or conditions of current or historic RECs on the subject property or Study Areas within.

RSE advises the user of this ESA to research all portions of this document and not rely upon this summary alone.

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ACRONYMS AND ABBREVIATIONS

| | |
|-------|---|
| ADEC | Alaska Department of Environmental Conservation |
| ADNR | Alaska Department of Natural Resources |
| ADOT | Alaska Department of Transportation |
| ANC | Afognak Native Corporation |
| AST | Aboveground Storage Tank |
| ASTM | American Society of Testing and Materials |
| bgs | Below Ground Surface |
| EPA | Environmental Protection Agency |
| ESA | Environmental Site Assessment |
| FAA | Federal Aviation Administration |
| FEMA | Federal Emergency Management Agency |
| FIRM | Flood Insurance Rate Map |
| HREC | Historical Recognized Environmental Condition |
| LUST | Leaking Underground Storage Tank |
| NWI | National Wetlands Inventory |
| PCBs | Polychlorinated Biphenyls |
| RCRA | Resource Conservation and Recovery Act |
| REC | Recognized Environmental Condition |
| RSE | Restoration Science & Engineering, LLC |
| USACE | United States Army Corps of Engineers |
| USGS | United States Geological Survey |
| UST | Underground Storage Tank |
| WELTS | Well Log Tracking System |

1.0 INTRODUCTION

1.1 Purpose

The objective of this Phase I ESA is to evaluate the subject property for the presence of recognized environmental conditions (RECs) and, specifically, to ascertain the extent to which there may be significant hazardous substance or petroleum hydrocarbon contamination affecting the subject property. This ESA was compiled in general accordance with the American Society of Testing and Materials (ASTM) Standard E 1527-13, *Standard Practice for Environmental Site Assessment: Phase I Environmental Site Assessment Process* to identify recognized environmental conditions. RSE relies on elements of ASTM E 1527-13 as guidelines for our Phase I ESA services, modified by generally recognized and accepted practices used by environmental professionals active in Alaska.

RECs are defined as, “the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to any release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.” The term REC is not intended to include *de minimis* conditions that generally do not present a threat to human health or the environment and that generally would not be the subject of enforcement action if brought to the attention of appropriate governmental agencies. The term Historical REC is “a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.”

RSE personnel conducted site visits, interviewed knowledgeable on- and off-site personnel, evaluated historical uses of the subject property, reviewed aerial photographs, reviewed state and federal environmental records for the subject and surrounding properties and documented local surface water and groundwater conditions. RSE used the services of Environmental Data Resources Inc. (EDR) to provide a comprehensive radial search of relevant pollution and hazardous substance databases.

Documentation supporting RSE’s investigative efforts is found in this report and in the attached exhibits. Appendix A is a compilation of select site photographs of the subject property and the surrounding areas taken during RSE’s site reconnaissance performed on July 19, 2018. Appendix B contains historic aerial photographs showing property uses in the area. Appendix C provides database research pertaining to the subject property, including the National Wetlands Inventory (NWI) map of the subject property and surrounding area, the Federal Emergency Management

Agency (FEMA) Flood Insurance Rate Map (FIRM) search results, as well as those accessed from the Alaska Department of Environmental Conservation (ADEC), and Alaska Department of Natural Resources (ADNR). Appendix D provides previous environmental reports referenced for this Phase I. Appendix E provides the comprehensive database research report compiled by EDR. Appendix F contains resumes for those persons responsible for the preparation of this document.

1.2 Special Terms and Conditions

RSE performed this Phase I ESA in accordance with RSE's agreement with the Alaska Department of Transportation & Public Facilities (ADOT&PF). This ESA, and all field data and notes, were gathered and prepared by RSE in accordance with the generally accepted local engineering and scientific practices in effect at the time of RSE's assessment of the site. The statements, conclusions and opinions contained in this report are intended to give approximations of the environmental conditions of the site, limited to the particular environmental issues and property targeted by RSE's investigation.

1.3 Limitations and Exceptions

As with any due diligence evaluation, there is a certain degree of dependence upon oral information provided by facility or site representatives, which is not readily verifiable through visual inspection or supported by any available written documentation. RSE will not be held responsible for conditions or consequences arising from relevant facts that were concealed, withheld, or not fully disclosed by facility or site representatives at the time this investigation was performed. The site visits and interviews with persons pertinent to this assessment were conducted in July and August 2018.

This assessment and all supporting field data and notes (collectively referred to hereinafter as "information") were collected and prepared by RSE for our client. Our client may release the information to third parties, who may use and rely upon the information at their discretion. However, any use or reliance upon the information by any other party shall be solely at the risk of such third party and without legal recourse against RSE, its owner, or its employees.

The following elements of the Phase I ESA constitute deviations, exceptions, and/or data gaps, with respect to the standard requirements of ASTM E 1527-13. It is RSE's opinion that none of these considerations impact our ability to identify RECs at the subject property:

- The ADEC List of Contaminated Sites is assumed to be equivalent to a hazardous waste sites list and includes voluntary cleanup sites;
- Historic aerial photographs were identified to 1965;
- Tribal lists of environmental concerns were not reviewed. The tribal lists are identified as “standard environmental sources” in ASTM Section 8.2.1. To our knowledge, no such databases exist for the State of Alaska;
- Standard Historical Sources listed in ASTM Section 8.3.4 were not all researched for this ESA because they were not reasonably ascertainable and likely to be useful. For example, fire insurance maps, building department records, and property tax files were not researched.

1.4 Limiting Site Conditions and Methodology Used

RSE performed a site inspection on July 19, 2018, relying upon visual observations, personal interviews, and a magnetic locator for potential buried ferrous debris. RSE did not conduct lead paint, lead in water, radon, or an asbestos survey as part of this scope of service. The collection of surface and subsurface soil or water samples is beyond the scope of the Phase I portion of this ESA.

RSE personnel additionally did not enter confined spaces, including crawl spaces, basements, or attics.

The subject property was heavily overgrown during the time of the inspection. Though RSE personnel made every effort to thoroughly inspect the entirety of the subject property, dense vegetation precluded complete visual observations or magnetic locator inspections of the ground at the site.

1.5 Site Ownership

The Former Sawmill site and Rifle Range are owned by the Afognak Native Corporation (ANC); the Shotgun Range is situated on land owned by the ADNR with the northern portion extending into ANC ownership. ANC does not record incumbrances they may have on the land they own, and no public records were identified for the Rifle Range or the Shotgun Range. However, in the general location of the Rifle Range, an agreement was found dated 1983, between Afognak and the ADOT&PF, for a borrow pit to upgrade the airport. The entire airport area (including the three Study Areas) was once owned by ADNR from 1963 until 1977 when the State’s Temporary Authorization was rescinded and the land was made available for conveyance to ANC. While the Kodiak Island Borough shows this land as State-owned, ADNR records indicate

it was actually conveyed to ANC, subject to the prior leases.

The area identified as Old Sawmill is on a parcel of land that at one time was under ADNR authorization ADL 36998. When the land was conveyed to ANC, it was made subject to this lease. This area was classified Utility during the time the State owned the property.

Three leases were identified in Section 27, which are believed to be the Sawmill, borrow pit, and a 1970 timber sale; however, these specific records were not obtained from the ADNR.

To the immediate east of the Study Area, at the end of the runway, ANC maintains several leases that are shown on the Kodiak Island Borough map. These are owned by members of the Nelson family. Additional information on this area is included in the Interviews section of this report.

1.6 Environmental Liens

A review of the ADNR Recorder's Office online database did not identify environmental liens associated with the subject property.

2.0 SUBJECT PROPERTY

Site ownership and information for the subject property was obtained from the ADOT&PF, Kodiak Island Borough, and ADNR. The Former Sawmill site and Rifle Range are owned by the ANC; the Shotgun Range is situated on land owned by the ADNR with the northern portion extending into ANC ownership. Koniag, Inc. owns the subsurface rights to the ANC-owned surface properties. An expanded discussion of site ownership is in Section 1.5, above.

2.1 Site Description

The subject property is located on the western shore of Settler Cove, near the mouth of Spruce Island's Kizhuyak Bay, near the north coast of Kodiak Island (approximately 57° 52'N, 152° 53W, Section 33, Township 26 South, Range 22 West of the Seward Meridian). The gravel airstrip is 2,200 feet long and 75 feet wide, and is located approximately 2 miles north of the community of Port Lions. A vicinity map indicating the project location is included as Appendix B, Figure 1. The three (3) Study Areas are shown on Figure 2.

The town of Port Lions was founded in 1964 by the displaced inhabitants of the Village of Afognak to the north, which was partially destroyed by a tsunami after the 1964 Good Friday Earthquake. On May 14, 1964, while on a reconnaissance survey, village residents Oscar Ellison and George Naumoff chose the site where Port Lions is currently situated. The community was named in honor of the Lions Club, for their support in rebuilding and relocating the village. The City government was incorporated in 1966. For many years, Port Lions was the site of the large

Wakefield Cannery, on Peregrebni Point. The cannery burned down in March 1975. Soon thereafter, the village corporation purchased a 149-foot floating processor, the Smokwa. Although sold in 1978, the Smokwa processed crab in the area intermittently between 1975 and 1980. Several sawmills operated out of the Port Lions area, including in the Study Area, until the 1970s and 1980s.

The subject property is generally situated to the north of the current Port Lions runway. The runway has an approximate northeast-southwest alignment, roughly parallel to the shore. The Rifle Range and the Shotgun Range are positioned on the northwest side of the runway, and the Former Sawmill to the northeast, beyond the terminus of the runway. The subject properties are heavily vegetated, dominated by alders and willows, with forested freshwater wetlands running parallel to the north side of the runway through the Shotgun Range. Several small streams were identified near the Study Areas.

2.2 Physical Setting

The subject property is located on the north coast of the Island of Kodiak. The Port Lions community is 19 miles west-northwest of the City of Kodiak, and 247 air miles southwest of Anchorage. Road access to the Port Lions townsite is via the southwest end of the airport.

2.2.1 Climate

The climate of the Kodiak Islands is dominated by a strong marine influence. Moderately heavy precipitation, cool temperatures, high clouds, and frequent fog, with little or no freezing weather, characterize the area. The humidity is generally high and the temperature variation is small (20°F to 60°F). Relatively cool summers and warm winters are common. There are approximately 60 inches of precipitation per year. Average annual snowfall is 90 inches, generally commencing in November or December of each year. (HDR 2007).

2.2.2 Geology

Kodiak Island is separated from mainland Alaska by Shelikof Straight and is comprised of moderately rugged mountains averaging 2,000 to 4,000 feet in elevation. The Island has rocky headlands with glacially sculpted valleys. Kodiak Island's geologic activity is characterized by areas of intense activity along the boundaries where tectonic plates collide, and are separated or slide past each other. Earthquakes and volcanoes occur frequently at these plate junctures. Kodiak is located near a subduction plate boundary approximately 93 miles to the southeast. (ADNR 2017).

The geology of the northwestern portion of Kodiak Island consists primarily of a series of interbedded marine sediments that have been metamorphosed to slates, argillites and

graywackes. These alternating layers vary from an inch or two to several feet in thickness and have a prevailing northeast strike with a dip to the northwest. (Miller 2004).

The present rolling topography in the Port Lions area is the result of regional Pleistocene glaciation that extended over most of Kodiak Island. In addition to intermittent deposits of glacial till and colluvium, the bedrock is commonly mantled by several inches to a foot or two of volcanic ash resulting from the Katmai eruption of 1912. Wave cut bluffs are common on headlands and streams tend to be incised into bedrock with little deposition except as small fans and deltas along the beach. Local beach deposits and associated dunes have accumulated in coves and other protected areas. (Miller 2004).

Peat is found in poorly drained areas around the subject property. The top layer of soil consists of a vegetative mat generally ranging in depth from 3 inches to 3 feet and covers a layer of volcanic ash which is about 70 years old. Based on geotechnical test pits installed throughout the Study Area in 2004, the Shotgun Range and Rifle Range are understood to be rock cored hills with varying thicknesses of organic material, ash, silty till and colluvium over bedrock. The Former Sawmill, below the ridge to the east of the airport, is underlain by bedrock with varying thicknesses of organic material, ash and till. (Miller 2004).

2.2.3 Topography and Surface Water Characteristics

The major watersheds in the Port Lions vicinity include the Port Lions River, Branchwater Creek, and Bourbon Creek. The water system utilizes a reservoir located on Branchwater Creek as the supply source. The minimum flow of Branchwater Creek has been estimated at 150 gallons per minute and the minimum flow of the Port Lions River has been estimated to be 550 gallons per minute. (HDR 2007). Several small streams traverse the subject property, with a major drainage due west of the Rifle Range. The NWI mapper identifies the following types of wetlands in the vicinity of the Port Lions Airport:

- Palustrine, scrub-shrub, broad-leaved deciduous, seasonally flooded
- Estuarine, intertidal, irregularly flooded
- Palustrine, scrub-shrub, needle-leaved evergreen, saturated
- Palustrine, forested

According to a 2004 ESA prepared for the Port Lions Airport, the airport runway was a uniform low-lying wetland prior to development, during which time gravel fill was placed to support construction. The filling of this wetland appears to have significantly affected hydrology in the area, with flooding concentrated on the north and south sides of the runway. A wetland delineation is being prepared concurrent with this Phase I ESA.

FEMA has not completed flood mapping of the area at the time of publication of this ESA.

2.2.4 Groundwater Characteristics

Groundwater in the Port Lions area generally flows through the unconsolidated sediments away from the mountains toward the coast. Groundwater also occurs in secondary openings such as fractures and joints in the underlying volcanic bedrock. Shallow groundwater was generally not encountered during the 2004 geotechnical investigation, with one (1) seep documented at 7 feet below ground surface (bgs) of the ten (10) test pits installed to terminal depths around 8.5 feet bgs. (Miller 2004).

The WELTS database does not identify any groundwater supply wells in the Port Lions area. The ADEC similarly did not note any sites within the Port Lions area that may have groundwater monitoring wells. No monitoring or supply wells were identified on the subject property during records review or the site inspection.

2.3 Current Uses of the Subject Property

The Study Areas are located within the Port Lions Airport area but are largely undeveloped and heavily vegetated. The Former Sawmill site was reportedly operated until the mid-1980s. Per personal interviews and the site walkthrough, the Shotgun Range and Rifle Range experience occasional use, but are not heavily trafficked. A small home on a residential property is located immediately to the east of the Former Sawmill site, but is outside of the project area and Study Areas.

Proposed airport improvements under review would result in compliance with the Federal Aviation Administration (FAA) standards and DOT&PF's community class recommendations. The airport design for Port Lions is based upon Airport Reference Code A-II design criteria. The existing apron and runway embankment would be utilized for construction of the realigned runway. A new 1.1-mile long gravel airport bypass access road would be constructed on the north side of the airport to connect the existing airport access road to a trail east of the runway.

A gravel borrow pit is located north of the west end of the runway adjacent to (and overlapping with) the Rifle Range. Access is via gravel road from the Airport Access Road.

2.4 Site Improvements

The City of Port Lions was founded in 1964 for the displaced residents of Afognak Village to the north, which was partially destroyed by a tsunami during the Good Friday earthquake. Interviews with Port Lions residents indicate that the current airport site was chosen during the relocation.

No historical documents were located suggesting the project area was developed or utilized prior to airport construction.

The most significant improvement to the Study Areas include the placement of fill on the Port Lions airport runway, which altered the hydrology of the area and appears to have created flooding conditions on the north side of the runway. A review of aerial photography shows occasional clearing of the firing ranges and Sawmill area, with access via gravel roads or informal trails.

Aerial photography shows a wooden structure was once present at the Former Sawmill site, first appearing in the 1980s and demolished by 2002. These photos are corroborated by personal interviews per Section 6 of this ESA. A clay pigeon shed was identified at the Shotgun Range during the July 19, 2018 site walkthrough, and by aerial photography appears to have been constructed sometime in the 1980s. The Rifle Range has been occasionally used for small aircraft parking. Various clearings, trails, and roads have been developed throughout the Study Areas since 1964 as indicated by aerial photography, interviews, and ADNR lease files, but no additional permanent construction or development was identified.

2.4.1 Utilities

The three Study Areas within the subject property are absent of utilities. The Port Lions Airport is powered via overhead power lines in a utility easement adjacent to the Airport Access Road. Kodiak Electric Association generates power using diesel generators. The Branchwater Creek Reservoir provides water, and is treated and stored in a 1,250,000 gallon tank near the townsite.

2.4.2 Storm Water Drainage

The majority of storm and surface water is expected to infiltrate into the permeable, vegetated surface of the subject property, with potential flooding at the north side of the runway where the gravel pad serves as a hydrologic barrier. The subject property slopes overall from west to east toward Settlers Cove. No storm drains were identified in the vicinity of the Study Areas during the site inspection.

2.4.3 Groundwater Monitoring or Supply Wells

The WELTS database does not identify any groundwater supply wells in the Port Lions area. The ADEC similarly did not note any sites within the Port Lions area that may have groundwater monitoring wells. No monitoring or supply wells were identified on the subject property during records review or the site inspection.

2.4.4 Stains or Corrosion

During the site visit on July 19, 2018, a single stain was observed near the Former Sawmill site where a resident had spilled a small quantity of motor vehicle fluid. This stain is considered de minimis in nature, and interviews did not identify a pattern of substance dumping at the subject property or within the Study Areas.

In 2004, a lube oil leak was observed on the Port Lions runway under a C-119 aircraft. Per former ADEC project manager, Mr. Bob Carlson, stained soil was excavated and hauled to the City of Kodiak landfill in drums. No evidence of this release was identified during the site visit.

RSE personnel paid close attention to the ground surface surrounding historic equipment or debris, but no additional stains were noted beyond the small spill described above. RSE notes that the vegetation is extremely thick in this area, which may have precluded a full visual assessment of the ground condition. However, the health of the vegetation indicates that distress from potential impacts is unlikely.

Additional information on potential releases is included in Section 2.5.3, below.

2.4.5 Floor Drains or Sumps

The subject property is undeveloped and no floor drains or sumps were identified.

2.4.6 Fuel Source for Heating, Ventilation, and/or Air Conditioning

The subject property is undeveloped and there are no fuel sources for utilities.

2.5 Hazardous Substances or Materials

The subject property is undeveloped; RSE did not identify records or testimony of the subject property used for the storage or staging of hazardous substances or materials.

2.5.1 Containers and Materials

No containers or materials were identified on the subject property in historic aerial photos, interviews with knowledgeable persons, or the July 19, 2018 site inspection. Additional information regarding tanks is provided in Section 2.5.2, below.

2.5.2 Storage Tanks

A review of the ADEC Underground Storage Tank (UST) database did not yield any results at the subject property address.

An aboveground storage tank (AST) was identified at the Former Sawmill site during the July 19, 2018 site walkthrough. The AST was heavily corroded and empty; it is situated atop a tripod-like structure formerly common to water storage. Interviews with knowledgeable persons did not

provide additional information about a potential historic use for the AST. There was no evidence of stained or distressed vegetation observed in the vicinity of the AST, and it is not believed to pose an environmental concern. Photos are provided in Appendix A to this ESA.

Additionally, two (2) empty 55-gallon steel drums were identified at the Former Sawmill. These drums were overturned with advanced corrosion signifying potential decades of abandonment. No evidence of stained or distressed vegetation was identified in the area of either drum. RSE notes that, due to the thickness of the vegetation in the Study Areas, additional drums may be present that were not detectable by visual observation or the magnetic locator. Though not presumed to be a REC based upon the information available, the ADOT&PF and its contractors are advised to be prepared to separate and dispose of such debris during earthmoving work.

The nearest registered UST is identified as $\frac{3}{4}$ miles from the project site, and is located across Settlers Cove on Peregrebni Point.

2.5.3 Spills or Releases

In 2004, a lube oil leak was observed on the Port Lions runway under a C-119 aircraft. Per former ADEC project manager, Bob Carlson, stained soil was excavated and hauled to the City of Kodiak landfill in drums. No analytical sampling was conducted of the area; however, Mr. Carlson indicated in an interview for the 2004 ESA that he believes the site was appropriately and adequately remediated and does not pose a material threat.

Section 2.4.4 of this ESA provides information on a *de minimis* spill observed during the July 19, 2018 site visit.

Spent ammunition used at the two (2) firing ranges may have contributed to a lead accumulation in the area; however, it is unlikely that the area has been significantly impacted from this accumulation, given the limited time of use. During the site visit, RSE conducted a methodical walkthrough of the ranges, with particular attention paid at the distance intervals at which targets are typically placed, but identified only a few (less than 10) ammunition fragments. Locals report that spent shells are often picked up by users of the firing ranges. Heavy metals may be encountered during earthwork in this area, but it is unlikely to be a source of contamination exceeding State or Federal thresholds and is more likely to be present in quantities typical of litter.

Similarly, at the Former Sawmill, small leaks and drips associated with the operation and temporary storage of vehicles and equipment may have affected the subsurface. However, no

evidence of significant releases were identified, and the area appears to have robustly rebounded from historic use in the Study Area.

A review of aerial photography indicates that the Rifle Range has occasionally been used for small aircraft parking; however, RSE did not identify evidence of leaks or spills from this activity during the July 19, 2018 site visit.

The subject property is not recorded as a contaminated site by the ADEC.

No reportable incidents of spills or releases were identified during interviews.

2.5.4 Sources of Air Emissions, Hazardous Waste, or Wastewater

There are no known current sources of air emissions or hazardous waste on or near the subject property.

2.5.5 Solid Waste Disposal

The subject property is undeveloped and no solid waste is currently generated.

2.5.6 Polychlorinated Biphenyls (PCBs)

The July 19, 2018 site inspection did not identify potential sources of PCBs on the subject property.

3.0 ADJACENT PROPERTY USES

The subject property is in a generally remote area, with few developed neighboring properties.

3.1 Northern Adjoining Properties

The property located to the north is a heavily wooded area owned by ANC with increasing elevation away from the coast. No development was identified in this area, and no environmental concerns were reported.

3.2 Southern Adjoining Properties

The Port Lions Airport and runway are situated immediately to the south of the shooting ranges and Former Sawmill; the Airport has been considered in tandem with the Study Areas, as environmental issues are considered coincident between the sites. No environmental issues were identified with the airport such that are presumed to have affected the Study Areas.

Settler's Cove is located to the south of the airport. This waterbody is not included on the ADEC list of Impaired Waterbodies for the State of Alaska, and no environmental issues were identified.

3.3 Western Adjoining Properties

The property located to the west is a heavily wooded area owned by ANC with increasing elevation away from the coast. No development was identified in this area, and no environmental concerns were reported.

3.4 Eastern Adjoining Properties

ANC owns land to the east of the Study Area, and maintains leases to members of the Nelson family. An interview with Marilyn Nelson, a long-time resident of the property, did not identify environmental concerns with this area.

4.0 HISTORICAL USE INFORMATION

Historical use information for the subject property is limited, as no evidence was identified that it had been developed or used for purposes beyond airport support and light recreation as described throughout this document.

4.1 City Directory Results

RSE inquired with the Kodiak Public Library regarding historic city directories; none were identified for the area.

4.2 Historic Aerial Photos

Historic aerial photos were reviewed at Quantum Spatial in Anchorage, Alaska on August 14, 2018. Aerial imagery was requested at five-year intervals, but only select years were available for this property, as described below. Photos from 1972, 1982, and 2018 are included in Appendix B to this ESA.

1965: The photo shows a gravel-surfaced runway with approximately the same footprint as the current-day runway, some paths leading away from the runway, two small roads leading southwest (Airport Access Road to Port Lions) and east from the ends of the runway, some evidence of heavy equipment operation, and one vehicle on the runway.

1971: Both the Airport Access Road and east roads are identified, and appear widened and better maintained than in 1965. Two large cleared plots sit north of the runway, but it is unclear what their purpose is from the photos. One vehicle is visible in the parking lot adjacent to the runway.

A clearing is visible in the trees east of the edge of the runway.

1972: This photo shows a significant increase in the development of infrastructure. The presumed Former Sawmill site and a large building footprint are visible east of the edge of the runway, set in the clearing visible in the 1971 photograph. The road at the east end of the runway leads to the Sawmill. About halfway down the runway, a small road or trail leads south from the runway to Settler's Cove. A track leads north from the runway up the mountain. There is a large clearing east of the runway showing signs of presumed heavy equipment tracking.

1982: This photo shows increased activity around the presumed Sawmill site. Equipment is visible in the clearing around the structure. The road has been expanded beyond the sawmill. The large clearings north and east of the runway show evidence of revegetating. However, one of the north clearings (approximate location of the Shotgun Range) has a visible structure, most likely the clay pigeon shed observed during the July 19, 2018 site walkthrough. At the approximate location of the Rifle Range, a large clearing with two small roads leading to it are visible. The parking lot adjacent to the runway is larger than in past photos, and two planes are observed in this area.

1988: This photo shows a decrease in activity at the Sawmill site. The trees and surrounding vegetation are encroaching on the structure and associated equipment. The clearing east of the runway is mostly revegetated in this photo, as well as one of the clearings to the north. The Shotgun Range remains roughly the same size as observed in 1982. The Airport Access Road to Port Lions and the road east of the runway appear to be wider and more used than in past photos. A plane is observed parked at the Rifle Range. One structure is located on the west end of the parking lot.

1991: The Sawmill operation is further diminished as indicated by the advancing vegetation. The clearing to the east of the runway is nearly disappeared due to revegetation, however there seems to be new clearing of space north of the runway in addition to the Shotgun Range. Two planes are observed in the clearing north of the west end of the runway (approximate location of the Rifle Range). A large plane (presumed to be a C-119 based on personal interviews) sits in the east end of the parking lot. A few vehicles line the south edge of the parking lot as well.

1996: Largely unchanged from 1991. The presumed C-119 still sits on the east end of the parking lot. A small road now leads north up the mountain from the Rifle Range.

2002: There is no visible sign of the Sawmill operation or equipment in that area. The Shotgun and Rifle ranges appear unchanged in footprint, but the Rifle Range shows some new equipment tracks. The road previously leading north from the Rifle Range appears diminished to a small

trail. There are now two structures on the west end of the parking lot, and the plane (presumed C-119) still sits on the east end. The C-119 was reportedly removed sometime later in 2002. A plane is observed parked on the peninsula south of the Sawmill Site; this peninsula is only exposed at low tide.

2008: This photo shows no sign of the Sawmill, no C-119 in the parking lot, and a slight widening of the Airport Access Road to Port Lions. A large vehicle or small structure sits in the south part of the Rifle Range. There is a bit more cleared area in the Rifle Range observed than in 2002.

2018: This photo shows no sign of the Sawmill, the area is completely overgrown. The Rifle Range shows either a large vehicle or small structure along the south edge of the Study Area. This feature was not present during RSE's July 19th, 2018 field visit to the site. This photograph shows two small airplanes, one vehicle, and a few structures in the runway parking lot. The clay pigeon structure is identifiable in this photo. The road to the east, past the old Sawmill site, appears better developed and maintained than in previous photos. There are a few vehicles parked along it at various locations.

5.0 REGULATORY RECORDS INFORMATION

Regulatory agency databases provide information about sites within specific search distances from the subject property, and is provided in the EDR Radius Map report (Appendix E). The EDR report provides detailed information about these sites and maps that show the location of the sites in relation to the subject property.

The databases searched, as well as the corresponding search distance, and number of sites found within the search distance for each database, are summarized in the EDR report, and provided as Appendix E. RSE advises review of the radial search and to not rely upon this summary alone.

The EDR report did not identify any known contaminated, superfund, or hazardous waste sites within 1-mile of the subject property. The Port Lions landfill is mapped approximately 0.212 miles to the west-southwest of the subject property. This is an active Class III landfill, with no known environmental conditions reported. The landfill is not anticipated to have environmental effects on the subject property.

5.1 ADEC Contaminated Sites Search Results

No contaminated sites were identified within 1-mile of the subject property.

6.0 INTERVIEWS

Personal interviews were conducted during the development of the Phase I ESA; information from the interviews is provided throughout this Phase I, and below.

6.1 Marilyn Nelson, Neighbor

Mrs. Marilyn Nelson, a long-time resident of the property just east of the Former Sawmill site, was interviewed in person on July 19, 2018. Nelson confirmed that the Former Sawmill was active until the 1980s under the supervision of Reed Oswalt. She did not recall anything that would have been a potential concern for contamination. Nelson was unsure of the groundwater conditions in the area. She also recalled that the Shotgun and Rifle Ranges were used in the past, but noted that people were generally good about cleaning up their spent shells.

6.2 Katy Adkins, Former City Employee

Ms. Katy Adkins, former Deputy Clerk of Port Lions, was previously interviewed by HDR during the 2004 Phase I ESA. She was not interested in being interviewed again; however, her 2004 interview was referenced in developing this ESA and is included in Appendix D of this report.

6.3 Dana Patterson, City Employee

Ms. Dana Patterson is the current City Clerk of Port Lions (replacing Katy Adkins). She was interviewed by phone on August 7, 2018. She is relatively new to Port Lions, and said she did not have much personal knowledge of the area around the airport except that she is not aware of any concerns.

6.4 Melvin Squartsoff, Mayor

Mr. Melvin Squartsoff is a long-time resident of Port Lions and is currently Mayor of the City. Aside from the Former Sawmill and current borrow pit, he is not aware of any other construction or development in the area to the north of the runway. He stated he is not aware of dumping or disposing of materials by residents or visitors around the airport. He does not have any environmental concerns regarding the Study Area.

6.5 Abner Nelson, Neighbor

Mr. Abner Nelson is the husband of Marilyn Nelson, whose interview is reported in Section 6.1. He was not personally interviewed by RSE, but spoke with Ms. Dana Patterson on August 1, 2018, on request of RSE. He does not have any environmental concerns for the Study Area.

6.6 Phil Smith, Port Lions Airport Manager

Mr. Phil Smith, the Port Lions Airport Manager, was interviewed on August 30, 2018. He took over as manager from Bruce McNeil in December of 2017. He was familiar with the Port Lions

Airport, and had no knowledge of any potential environmental concerns in the area. He noted that he worked with a crew to do some tree clearing to the west of the runway. He believed it was in order to make space for the new runway, but wasn't sure. No discoveries of spills or abandoned equipment were reported during this clearing activity.

6.7 Howard Valley, ANC Administrator

Mr. Howard Valley was contacted multiple times during the week of August 6th, 2018 via email and phone. He did not respond to requests for interview.

6.8 Yvonne Mullan, Port Lions Tribe Administrator

Ms. Yvonne Mullan was contacted multiple times during the week of August 6th, 2018 via email and phone. She did not respond to requests for interview.

6.9 Reed Oswalt, Former Sawmill Manager

Mr. Reed Oswalt was identified by Marilyn Nelson as the former manager for the Sawmill. He was contacted multiple times during the month of August 2018 via email and phone. He did not respond to requests for interview.

7.0 FINDINGS AND CONCLUSIONS

RSE completed a Phase I ESA for the proposed areas of development associated with the March 2007 Port Lions Airport Master Plan (the subject property). The subject property is located within Section 33, Township 26 South, Range 22 West of the Seward Meridian and includes three distinct Study Areas:

1. Rifle Range
2. Shotgun Range
3. Former Sawmill

Based upon the research conducted on behalf of the client, RSE did not identify evidence or conditions of current or historic RECs at the subject property.

RSE advises the user of this ESA to research all portions of this document and not rely upon this summary alone.

SIGNATURE

We declare that, to the best of our professional knowledge and beliefs, we meet the definition of environmental professional as defined in § 312.10 of 40 CFR 312 and as required by ASTM E1527-13, section 7.5. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We

have developed and performed all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312 and per the ASTM E1527-13.



Arran Forbes, Environmental Scientist



Lucus Gamble, Environmental Sciences Manager

REFERENCES

Aerial Photos Observed:

Quantum Spatial Aerial Photographs 1965, 1971, 1972, 1982, 1988, 1991, 1996, 2002, 2008

Google Imagery Aerial Photograph 2014

Bing Aerial Imagery 2018

Persons Contacted:

Emily Haynes, ADOT&PF

John Barnett, ADOT&PF

Marylin Nelson

Katy Adkins

Dana Patterson

Melvin Squartsoff

Abner Nelson

Phil Smith

Reports and Documents Reviewed:

Alaska Department of Environmental Conservation (ADEC). 2018. Contaminated Sites and Leaking Underground Storage Tank Database.

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National Wetlands Inventory (NWI), United States Fish and Wildlife Service Wetlands Mapper.
<http://fws.gov/wetlands/data/mapper/html>.

Appendix A: Select Site Photographs





Port Lions Runway; looking east



Road from runway to rifle range; looking northeast



Rifle range; looking northeast



Wasted shotgun shell; southeast corner of rifle range



Boulders along east end of rifle range; looking north northeast



Typical ground material in rifle range; looking northeast



Tire tracks in rifle range; looking southwest towards road to runway



Rusted metal debris in rifle range; looking north



Wide view of rifle range; looking south



Northwest edge of rifle range; looking west



Close-up of orange debris from pervious photo; northwest edge of rifle range



Shooting table on west end of rifle range; looking southwest



Close-up of shooting table on west end; looking southwest



View from shooting table on west end; looking northeast



Rusty chain just east of shooting table on west end; looking west



West edge of rifle range; looking north



Close-up of debris on rifle range; looking southeast



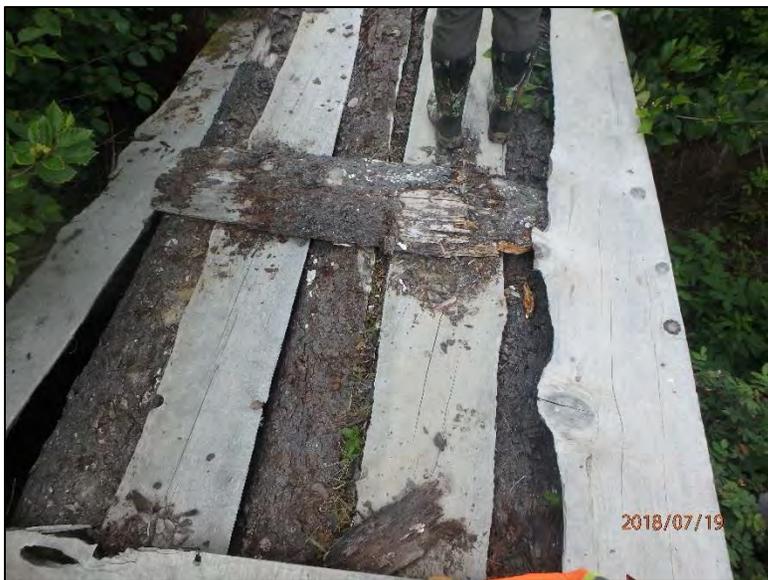
Rusted debris on west end of rifle range; looking north



ATV trail headed north from west end of rifle range (ATV trail); looking southeast



ATV trail; looking northwest



Bridge on ATV trail; approximately 500 feet past rifle range; looking west



Wide cleared area on ATV trail; looking southwest



Second bridge on ATV trail; approximately 1000 feet past rifle range; looking north



Dense part of ATV trail just past second bridge; looking north



Ash deposit on ATV trail



Spruce grove about 1000 feet north of rifle range; looking west



Typical vegetation north of runway; along ATV trail; looking southwest



Small clearing northwest of rifle range; looking east



Small clearing northwest of rifle range; looking north



Road from runway to cove; looking south



Typical vegetation between the runway and the cove; looking east



Road from runway to cove; looking north



Port Lions Runway; looking west



Ground on east end of runway; looking west



Ground in middle of runway; looking northwest



Wide view of runway; looking northeast



West end of runway parking lot; looking southwest



Structures along west end of runway parking lot; looking northwest



Vehicles along west end of runway parking lot; looking northeast



De minimis staining along west end of runway parking lot; north of vehicles; looking west



Small aircraft along west end of runway parking lot; looking northwest



Stick-up pipe in east end of runway parking lot; looking north



Road from runway to sawmill site; looking north



Rusting equipment in trees along sawmill road; looking southeast



Rusting tank in old sawmill site; looking north



Underside of rusting tank in old sawmill site; looking northwest



Rusting truck in old sawmill site; looking east



Rusting tank in old sawmill site; looking south



Scattered rusting debris in old sawmill site; looking southwest



Rusting truck in old sawmill site; looking northeast



Rusting trucks in old sawmill site; looking west



Rusting chain in old sawmill site; looking east



Rusting debris in old sawmill site along saw mill road; looking north



Rusting equipment in old sawmill site; looking northeast



Rusting equipment in old sawmill site; looking northwest



Rusting debris in old sawmill site; looking northwest



Rusting drum with nails in old sawmill site; looking east



Debris in old sawmill site; looking east



Dilapidated motorcycle in old sawmill site; looking east



Dilapidated motorcycle in old sawmill site; looking south



Old sawmill equipment; northwest end; looking west



Rusting drum; west end of sawmill site; looking west; location



Label from rusting drum in previous photo



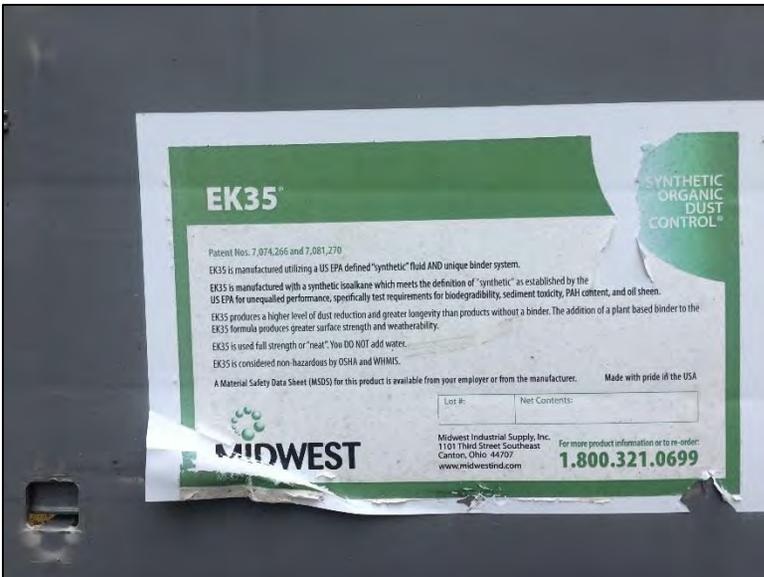
Road north of rusting debris in old sawmill site; looking west



Boat along north side of old sawmill road; looking northwest



Contained fluids in the back of truck north of rusting debris; looking west



Label from contained fluids in the previous photo



Road from the sawmill road with de minimis straining; looking east



Staining at the end of trail on sawmill road; looking south



Battery southeast of previous photo; looking south



Survey marker post along old sawmill road; looking north



R&M survey marker along old sawmill road; next to post shown in previous photo



Vegetation near clay pigeon structure; shotgun range



Vegetation in shotgun range; looking northwest



Survey marker post in south end of shotgun range; shown in previous photo; looking north



Survey marker in shotgun range; location indicated by survey marker post from previous photo



Clay pigeon shooter in shotgun range; looking northwest



Vegetation in shotgun range; looking northwest



Survey marker in northeast corner of shotgun range



Vegetation in shotgun range; looking northeast



Clay pigeon shooter in shotgun range; looking south



Clay pigeon shooter in shotgun range; looking southwest



Wide view of runway; looking east



Wide view of parking lot for runway; looking southeast



Vegetation west of runway; looking southwest



East end of parking lot for runway; looking southeast



Surface water on east end of parking lot for runway; looking southwest



West end of parking lot for runway; looking southwest



North edge of runway parking lot; west end of runway; looking northwest



Wide view of runway; looking west



Vegetation north of runway; looking northwest



Vegetation northeast of runway; looking northeast

Appendix B: Historic Aerial Photographs





RESTORATION SCIENCE & ENGINEERING, LLC

IMAGE SOURCE: ALL TOPO MAPS, KODIAK D3 63K



**PORT LIONS PHASE I ESA
USS 5509 TR 5, PORT LIONS AIRPORT**

VICINITY MAP

PORT LIONS, ALASKA

RESTORATION
Science & Engineering, LLC

911 West 8th Avenue, Suite 100
Anchorage, Alaska 99501
PH (907) 278-1023 FAX (907) 277-5718

JOB NO: 18.1865
DATE: 9.4.2018

DRAWN: MSB
CHECKED: AF

FIGURE 1

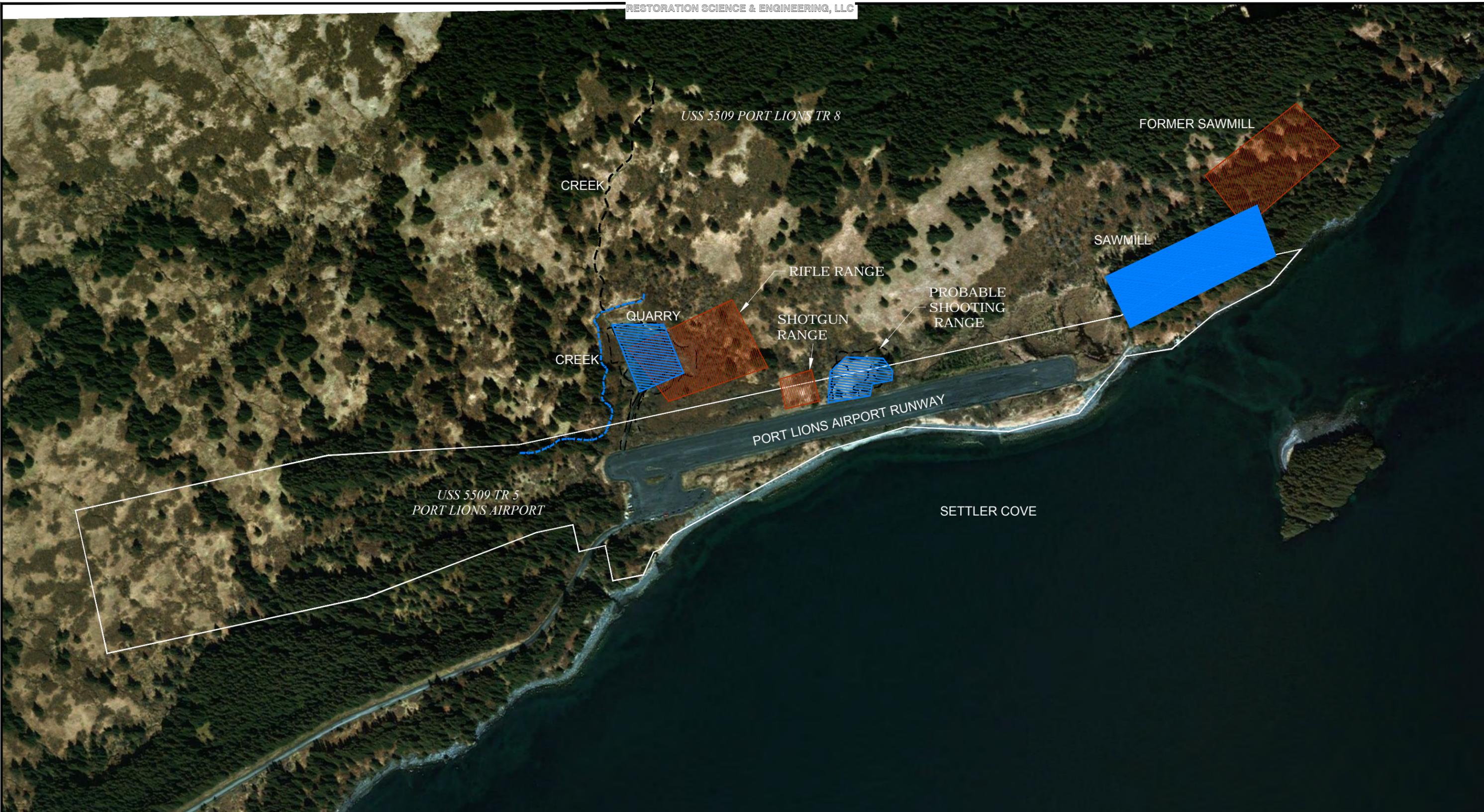
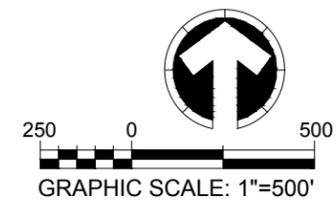


IMAGE SOURCE: ARCGIS, 2015 AERIAL

LEGEND

-  PORT LIONS AIRPORT IMPROVEMENTS PHASE I HAZMAT STUDY AREAS (PER ADOT HAZMAT STUDY)
-  PARCEL LINES
-  RSE IDENTIFIED STUDY AREAS PER JULY 19TH, 2018 SITE VISIT



PORT LIONS PHASE I ESA
USS 5509 TR 5, PORT LIONS AIRPORT

2015 SITE MAP

PORT LIONS, ALASKA

JOB NO: 18.1865
DATE: 9.5.2018

DRAWN: MSB
CHECKED: AF

RESTORATION
Science & Engineering, LLC
911 West 8th Avenue, Suite 100
Anchorage, Alaska 99501
PH (907) 278-1023 FAX (907) 277-5718

FIGURE 2

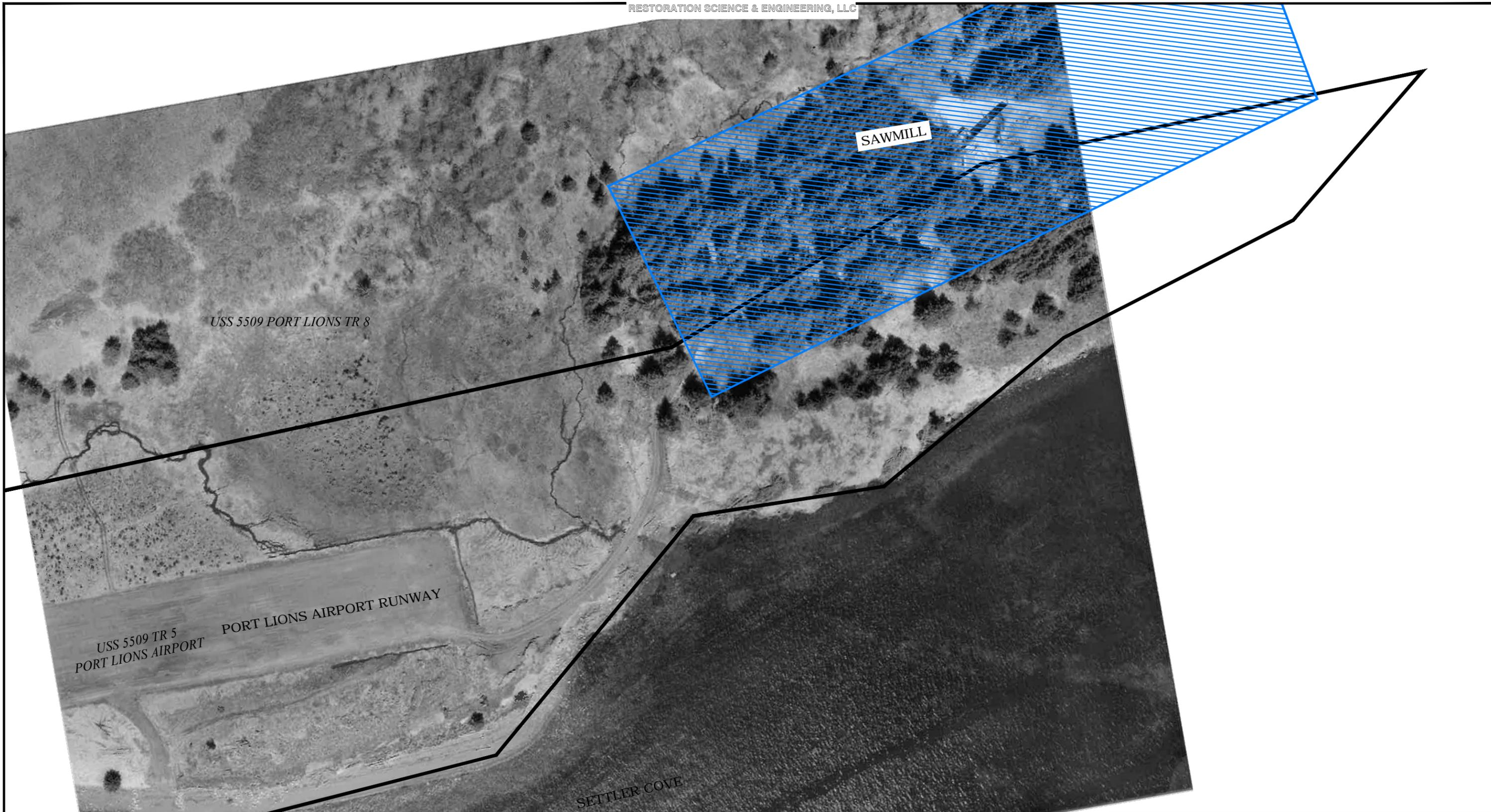
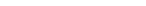
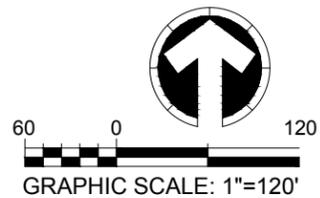


IMAGE SOURCE: QUANTUM SPATIAL, AERIAL IMAGERY. JUNE 8TH 1972
* IMAGERY UNAVAILABLE IN BLANK AREAS

LEGEND

-  PARCEL LINES
-  RSE IDENTIFIED STUDY AREAS PER JULY 19TH, 2018 SITE VISIT



NOTE: AERIAL PHOTOGRAPHY NOT AVAILABLE TO EAST AND WEST OF THIS IMAGE FOR STUDY YEAR

PORT LIONS PHASE I ESA
USS 5509 TR 5, PORT LIONS AIRPORT

EASTERN RUNWAY SECTION
1972 AERIAL

PORT LIONS, ALASKA

JOB NO: 18.1865
DATE: 9.5.2018

DRAWN: MSB
CHECKED: AF



FIGURE 3



IMAGE SOURCE: QUANTUM SPATIAL, AERIAL IMAGERY. JUNE 3RD 1982
 * IMAGERY UNAVAILABLE IN BLANK AREAS

NOTE: AERIAL PHOTOGRAPHY NOT AVAILABLE WHERE IMAGE GAPS ARE PRESENT.

LEGEND

-  PARCEL LINES
-  PRESUMED ACTIVITY BOUNDARY
-  PORT LIONS AIRPORT IMPROVEMENTS PHASE I HAZMAT STUDY AREAS (PER ADOT HAZMAT STUDY)
-  RSE IDENTIFIED STUDY AREAS PER JULY 19TH, 2018 SITE VISIT




GRAPHIC SCALE: 1"=300'

| | |
|---|-------------|
| PORT LIONS PHASE I ESA USS 5509 TR 5, PORT LIONS AIRPORT | |
| 1982 AERIAL | |
| PORT LIONS, ALASKA | |
| JOB NO: 18.1865 | DRAWN: MSB |
| DATE: 9.5.2018 | CHECKED: AF |
| FIGURE 4 | |

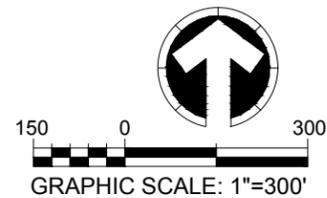


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IMAGE SOURCE: QUANTUM SPATIAL, AERIAL IMAGERY, JUNE 8TH 1972
 * BLANK AREAS REFLECT AREAS WITH NO AVAILABLE IMAGERY

| LEGEND | |
|--------|--|
| | PARCEL LINES |
| | PRESUMED ACTIVITY BOUNDARY |
| | PORT LIONS AIRPORT IMPROVEMENTS PHASE I HAZMAT STUDY AREAS (PER ADOT HAZMAT STUDY) |
| | RSE IDENTIFIED STUDY AREAS PER JULY 19TH, 2018 SITE VISIT |

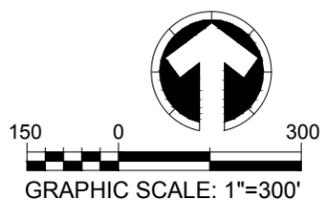


**PORT LIONS PHASE I ESA
 USS 5509 TR 5, PORT LIONS AIRPORT**

| | | |
|---------------------------|-------------|--|
| 2006 AERIAL | | RESTORATION Science & Engineering, LLC 911 West 8th Avenue, Suite 100 Anchorage, Alaska 99501 PH (907) 278-1023 FAX (907) 277-5718 |
| PORT LIONS, ALASKA | | |
| JOB NO: 18.1865 | DRAWN: MSB | FIGURE 5 |
| DATE: 9.5.2018 | CHECKED: AF | |



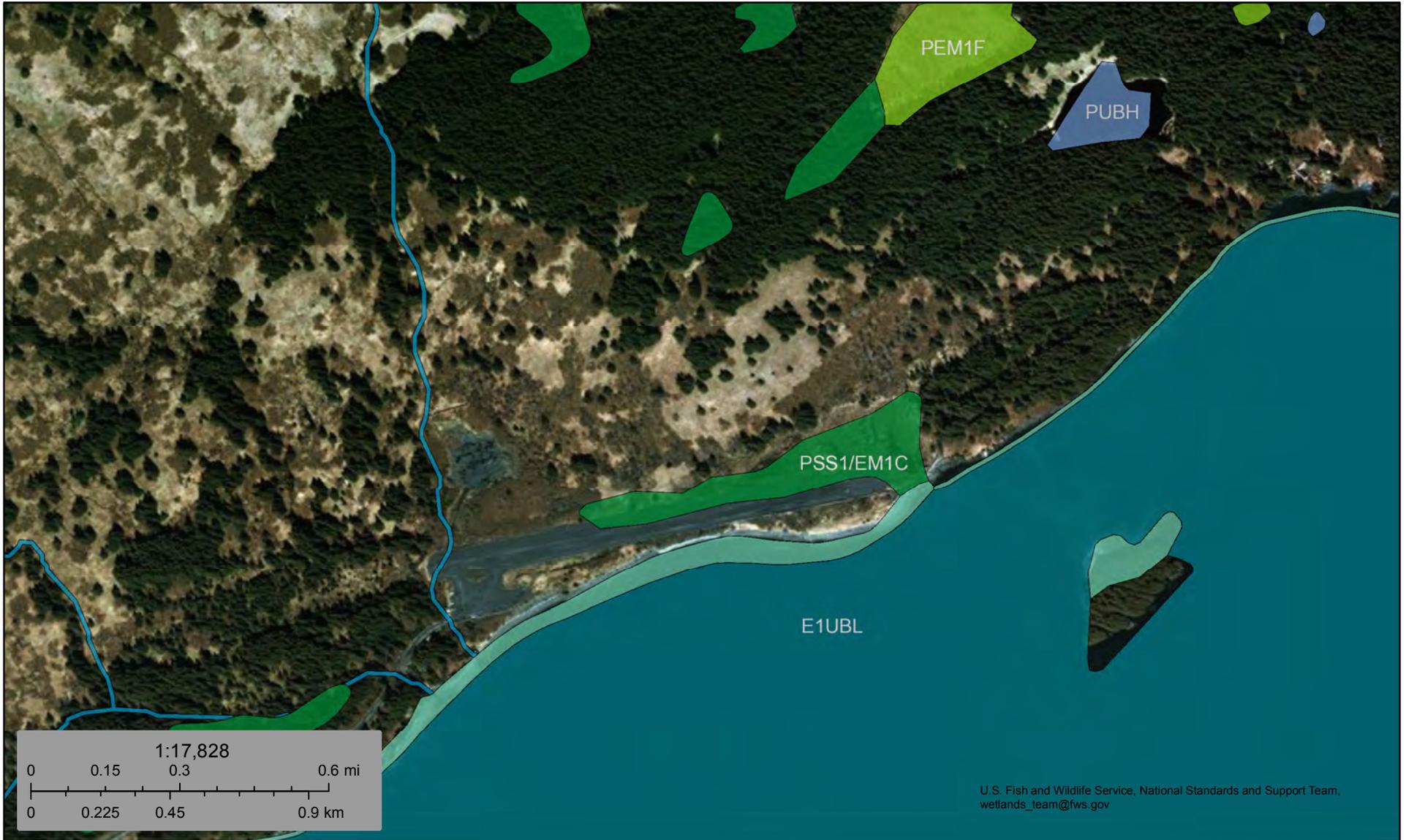
IMAGE SOURCE: ESRI ARCGIS 2015 WORLD IMAGERY



| LEGEND | |
|--------|--|
| | PARCEL LINES |
| | PRESUMED ACTIVITY BOUNDARY |
| | PORT LIONS AIRPORT IMPROVEMENTS PHASE I HAZMAT STUDY AREAS (PER ADOT HAZMAT STUDY) |
| | RSE IDENTIFIED STUDY AREAS PER JULY 19TH, 2018 SITE VISIT |

| | |
|---|-------------|
| PORT LIONS PHASE I ESA USS 5509 TR 5, PORT LIONS AIRPORT | |
| 2015 AERIAL | |
| PORT LIONS, ALASKA | |
| JOB NO: 18.1865 | DRAWN: MSB |
| DATE: 9.5.2018 | CHECKED: AF |
| RESTORATION Science & Engineering, LLC 911 West 8th Avenue, Suite 100 Anchorage, Alaska 99501 PH (907) 278-1023 FAX (907) 277-5718 | |
| FIGURE 6 | |

Appendix C: Databases Referenced



U.S. Fish and Wildlife Service, National Standards and Support Team,
wetlands_team@fws.gov

August 16, 2018

Wetlands

- | | | | | | |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland |  | Lake |
|  | Estuarine and Marine Wetland |  | Freshwater Forested/Shrub Wetland |  | Other |
| | |  | Freshwater Pond |  | Riverine |

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

Alaska DEC Contaminated Sites



Contaminated Site Locations with Cleanup Chronology Reports from Alaska DEC

0.6mi

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FEMA Flood Map Service Center: Search By Address

Navigation

Search

Languages

MSC Home (/portal/)

MSC Search by Address (/portal/search)

MSC Search All Products (/portal/advanceSearch)

MSC Products and Tools (/portal/resources/productsandtools)

Hazus (/portal/resources/hazus)

LOMC Batch Files (/portal/resources/lomc)

Product Availability (/portal/productAvailability)

MSC Frequently Asked Questions (FAQs) (/portal/resources/faq)

MSC Email Subscriptions (/portal/subscriptionHome)

Contact MSC Help (/portal/resources/contact)

Enter an address, place, or coordinates: ?

port lions alaska Search

Whether you are in a high risk zone or not, you may need flood insurance... Learn more about steps you can take to reduce the risk flood damage.

Search Results—Products for PORT LIONS,CTY / KODIAK DIVISION

Show ALL Products » (https://msc.fema.gov/portal/availabilitySearch?addcommunity=02150C&communityName=POR)

FEMA has not completed a study to determine flood hazard for the selected location; therefore, a flood map has not been published at this time. You can contact your community or the FEMA FMIX for more information about flood risk and flood insurance in your community.

You can choose a new flood map or move the location pin by selecting a different location on the locator map below or by entering a new location in the search field above. It may take a minute or more during peak hours to generate a dynamic FIRMette.



Share This Page.

- Facebook, Twitter, LinkedIn, and Google+ share links for the search results page.



Alaska Department of Environmental Conservation
 SPILL PREVENTION AND RESPONSE

CONTAMINATED SITES PREVENTION PREPAREDNESS & RESPONSE

RESPONSE FUND ADMIN REPORT A SPILL

UNDERGROUND STORAGE TANK DATABASE FACILITY SEARCH

Search Options

Facility Name or Location Owner Name or Location

Facility Name:

Facility ID:

Facility Type:

Address:

City:

Zip Code:

Borough:

Reset

Search Records

Use this tool to find tank storage information that is of interest to you.

The **Facility Search** provides the site name and address of facilities with underground storage tanks.

The **Owner Search** provides postal contact information for facility owners

[Download all Owner/Facility and Tank Information](#)

Search Results: 1 record(s) Expand any result for additional information

Refresh

| SITE NAME | LOCATION | OWNER | FACILITY TYPE |
|-----------------------------|-------------------------------------|--------------------|---------------|
| SITE NAME | LOCATION | OWNER | FACILITY TYPE |
| Wakefield Seafoods Day Tank | Industrial Tract C peregrebni Point | City Of Port Lions | Unknown |

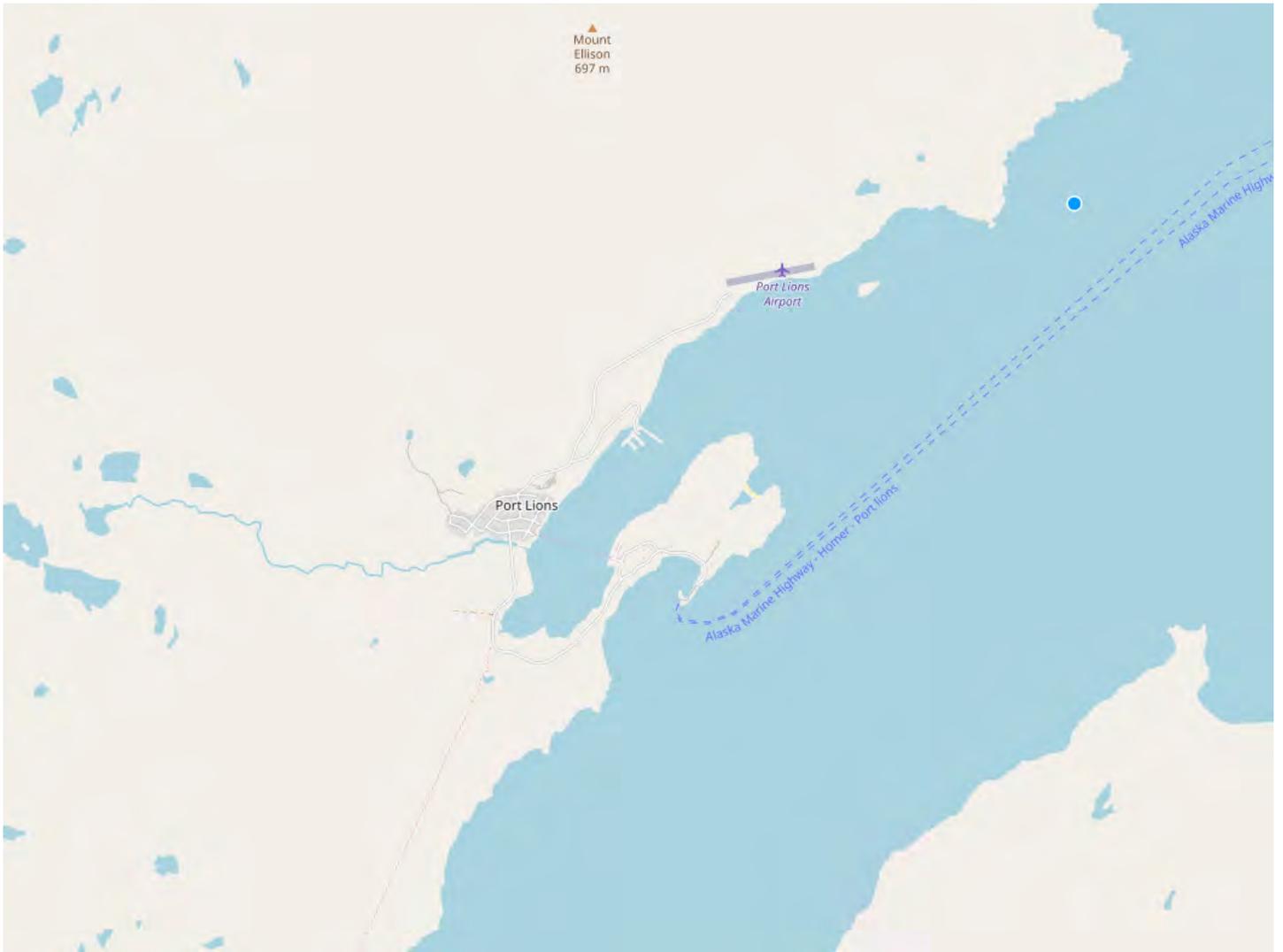
Public Notices • Regulations • Statutes
 Press Releases • Contact • Sitemap



State of Alaska Department of Environmental Conservation

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 P.O. Box 1111800
 Juneau, AK 99811
 Phone: 907-465-5066
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 TDD: 800-770-8973

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- **You are here:** [EPA Home](#)
- [Envirofacts](#)
- Search Results

Search Results

- Home
- Multisystem Search
- Topic Searches
- System Data Searches
- About the Data
- Data Downloads
- Widgets
- Services
- Mobile
- Other Datasets

Envirofacts Links

[<< Return](#)

Search Parameters: Name: Beginning With: port lions

API Link for Report Data: *(Copy and paste the link below to view the data from this report)*

<http://iaspub.epa.gov/enviro/efservice/multisystem/minLatitude/57.78974/ma>

-  [Info](#)
-  [AIR](#)
-  [TOXICS](#)
-  [WASTE](#)
-  [RADIATION](#)
-  [WATER](#)

*Zoom or pan map to change location.



LIST OF EPA-REGULATED FACILITIES IN ENVIROFACTS

| FACILITY INFORMATION | ICIS-Air | ACRES | BR | SEMS | GHG | ICIS-NPDES | RAD Info | RCRA Info | TRI | TSCA |
|----------------------|----------|-------|----|------|-----|------------|----------|-----------|-----|------|
|----------------------|----------|-------|----|------|-----|------------|----------|-----------|-----|------|

Showing 1 to 3 of Display facilities in the table

Search:

[First](#) [Previous](#) [Next](#) [Last](#)

| FACILITY INFORMATION | ICIS-Air | ACRES | BR | SEMS | GHG | ICIS-NPDES | RAD Info | RCRA Info | TRI | TSCA |
|---|----------|-------|----|------|-----|------------|----------|-----------|-----|------|
| PORT LIONS GENERATING STATION Alternative Names for this Site: PORT LIONS 207 SPRUCE DR PORT LIONS, AK 99550 Latitude: 57.866751 Longitude: -152.883822 View Report Summary Report Facility Report Compliance Report | | | | | | | | | | |

| FACILITY INFORMATION | ICIS-Air | ACRES | BR | SEMS | GHG | ICIS-NPDES | RAD Info | RCRA Info | TRI | TSCA |
|---|-----------------------------|-------|----|------|-----|-----------------------------|----------|-----------------------------|-----|------|
| PORT LIONS WWTF Alternative Names for this Site: PORT LIONS, CITY OF HILLSIDE DR PORT LIONS, AK 99550 Latitude: 57.866133 Longitude: -152.88695 Summary Report Facility Report Compliance Report | | | | | | View Report | | | | |
| TAGURA GENERATING STATION Alternative Names for this Site: PORT LIONS GENERATING STATION 515 E MARINE WAY KODIAK, AK 99615 Latitude: 57.78975 Longitude: -152.396832 Summary Report Facility Report Compliance Report | View Report | | | | | | | View Report | | |

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Appendix D: Previous Environmental Reports



Port Lions Airport Master Plan

Project No. 54746

Prepared for:

Federal Aviation Administration



222 W. 7th Ave #14
Anchorage, AK 99513

Prepared on behalf of the Sponsor:

Alaska Department of Transportation
and Public Facilities



Central Region
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March 2007

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EXECUTIVE SUMMARY

Port Lions is a community consisting of approximately 220 people living on an island roughly 19 miles northwest of the City of Kodiak in the Kodiak archipelago. The 1996 Alaska Aviation System Plan Update indicates Port Lions should be served with a community class airport. The existing Port Lions Airport is a sub-standard community class airport. It is sub-standard in runway length; 2,200 feet versus the standard 3,300 feet. The existing safety areas are also sub-standard at approximately 200 feet beyond each threshold versus the standard 300 feet beyond each threshold. The safety area width of 150 feet does meet the standards.

This master plan puts forth one build alternative and a no build alternative. The build alternative proposes a new 3,300-foot long community class airport. The alignment would be rotated approximately 13° counter-clockwise. The existing apron would form the westerly runway safety area and the new runway would have a 5/23 magnetic heading. A standard 90,000 square foot apron and single taxiway would be constructed north of the new runway near the westerly end. The new runway and taxiway would have medium intensity runway lights.

This new alignment will allow an Area Navigation instrument approach at such time that the Federal Aviation Administration (FAA) develops an Instrument Flight Rules (IFR) airway system around Kodiak Island. However, terrain may force the missed approach point to be established northeast of the airport over the waters of Kizhuyak Bay. The final approach course to either runway threshold may also have to be angled away from the extended runway centerline in accordance with FAA procedures.

This safety related project designed to bring the airport up to the DOT&PF desired community airport standards should score quite well in the Airport Project Evaluation Board scoring system that ranks all DOT&PF projects on a statewide basis. The total cost estimate for the project is estimated to be \$13,380,000.

1.0 GENERAL

Port Lions is located in Settler Cove, on the north coast of Kodiak Island, 19 miles west-northwest of the City of Kodiak, 247 air miles southwest of Anchorage (Figure 1-1). It lays at approximately 57° 52' North Latitude and 152° 53' West Longitude. (Sec. 05, T027S, R022W, Seward Meridian). Port Lions is located in the Kodiak Recording District. The area encompasses 6.3 sq. miles of land and 3.7 sq. miles of water. The climate of the Kodiak Islands is dominated by a strong marine influence. There is little or no freezing weather, moderate precipitation, and frequent cloud cover and fog. Severe storms are common from December through February. Annual precipitation is 54 inches, with 75 inches of snowfall.

1.1 Background

The town of Port Lions was founded in 1964 by the displaced inhabitants of the Village of Afognak to the north, which was partially destroyed by a tsunami after the 1964 Good Friday Earthquake. On May 14, 1964, while on a reconnaissance survey, village residents Oscar Ellison and George Naumoff chose the site where Port Lions is currently situated. The community was named in honor of the Lions Club, for their support in rebuilding and relocating the village. The City government was incorporated in 1966. For many years, Port Lions was the site of the large Wakefield Cannery, on Peregrebni Point. The cannery burned down in March 1975. Soon thereafter, the village corporation purchased a 149-foot floating processor, the Smokwa. Although sold in 1978, the Smokwa processed crab in the area intermittently between 1975 and 1980. A small sawmill, located south of town, operated until 1976.

1.2 Existing Conditions Summary

The Port Lions airport has a 2,200-foot by 75-foot long gravel surfaced runway with total runway safety area length of 2,600 feet (approximately 200 feet off of each end) by 150 feet wide (Figure 1-2). The detached apron is approximately 100 feet by 200 feet and is accessed from the runway by two taxiways. The runway has medium intensity runway lights and a rotating beacon, but no other navigation aids. The runway is not monitored, which means there are no airport services such as fuel or aircraft maintenance offered. Pilots are requested to visually inspect the airport before landing or taking off.

The DOT&PF stations a grader in Port Lions for snow removal. This grader does not have a permanent shelter and one should be provided with this project. There are no leases on the airport for air carrier use. Air carriers shuttle passengers to the airport in vehicles, the vehicles substituting for a terminal shelter. There is no public bathroom or public telephone on the ramp.

The Port Lions Airport is a safe and efficient facility in moderate condition, but several deficiencies were identified by the airport sponsor at the beginning of the master plan process.

1. Brush surrounding the wind cone and some of the runway edge markers are overgrown.
2. Several of the runway lights do not function properly.
3. Pilots report that the existing alignment is satisfactory, but local topography and trees beyond the approach ends penetrate the surrounding airspace and compromise the safety of operations.

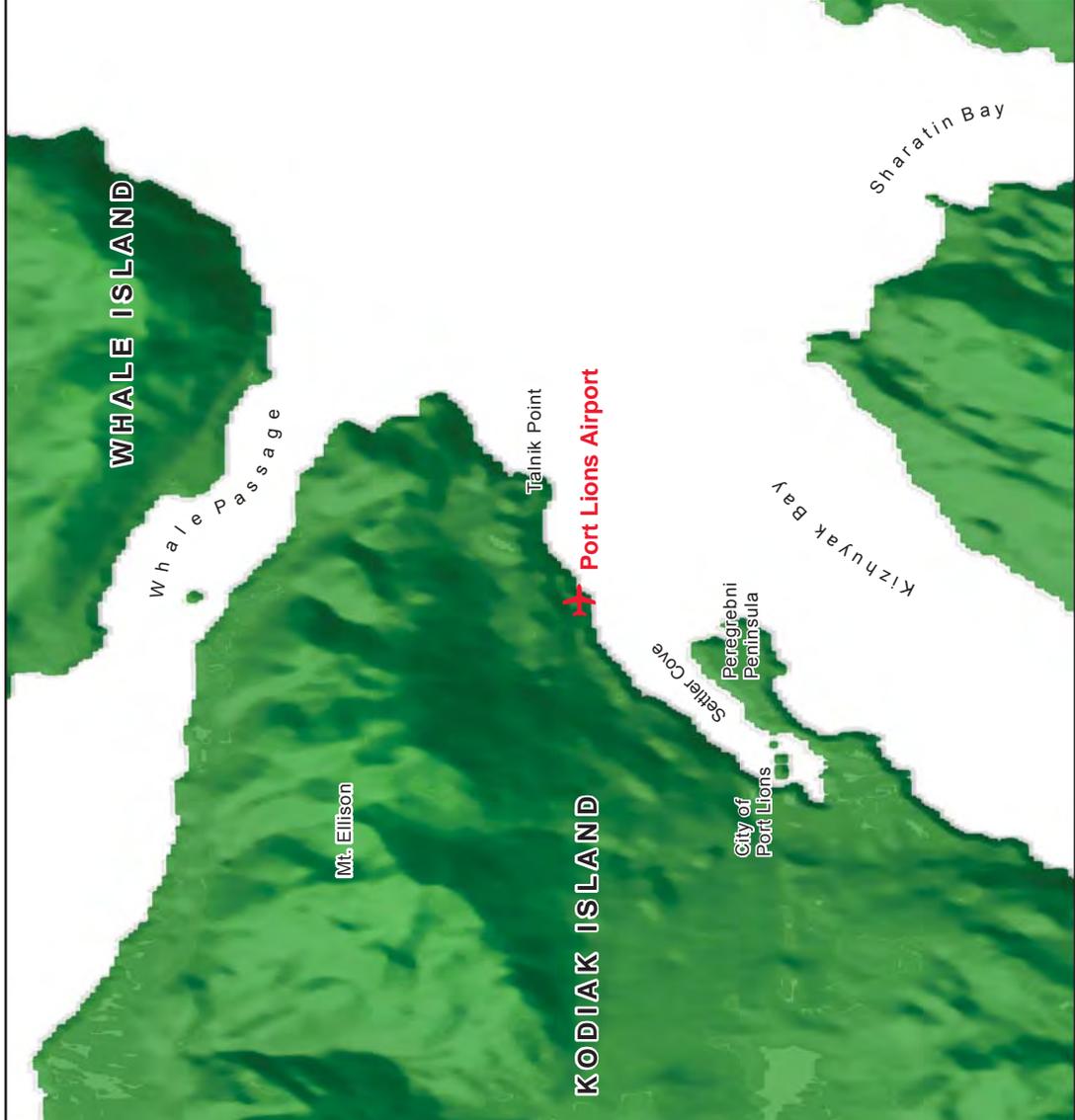
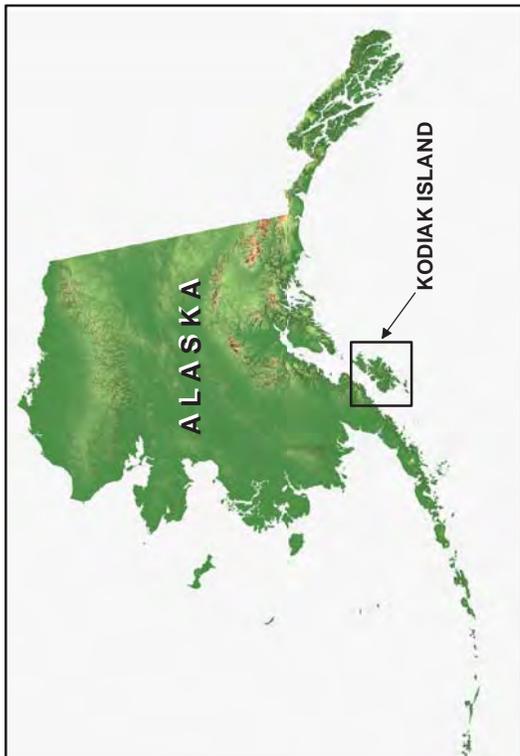


Figure 1-1



Port Lions Airport Master Plan

Location and Vicinity Map



AKSAS Project No. 54746
 State of Alaska
 Department of Transportation
 and Public Facilities



Port Lions Airport Master Plan

Existing Airport and Community Facilities

AKSAS Project No. 54746
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 Department of Transportation
 and Public Facilities



**Figure
 1-2**

4. The apron can become congested during the summer with aircraft and automobiles.
5. There is no place to tie-down aircraft during high winds.
6. The local landfill is located approximately 3,800 feet from the existing runway. According to FAA separation standards, a landfill should be at least 5,000 feet from the runway end for airports serving piston-type aircraft.
7. The 2,200-foot runway is below the state standard for a community class airport and the runway has insufficient Runway Safety Area beyond each approach end.
8. The airport is subject to vandalism.
9. The airport is used to access private property beyond the approach end of Runway 24.

A public involvement process (Appendix 1) was also conducted that identified several more issues. They are:

10. Turbulence generated during a southwesterly wind makes approaches on Runway 24 difficult.
11. Approaches to Runway 6 are limited due to topographical constraints.
12. A fish stream is located off of the approach end of Runway 6 and may create environmental issues if an extension of the runway in this direction occurs.
13. Larger apron space and tie-down area is needed for increased summer and hunting activity and potential helicopter medevac operations.
14. The existing runway lighting requires significant maintenance and needs to be replaced.
15. Security fencing is needed to prevent residents from using the runway to access land east of Runway 24 and to discourage deer and other wildlife from standing on the runway. Security fence may pose new problems with snow removal and maintenance.
16. If security fencing is placed, a perimeter road needs to be considered to access private property and native allotments east of Runway 24.
17. Concerns were raised over having only one air carrier provide service and controlling ticket prices.

1.3 Inventory of City Infrastructure

The community water and sewer system was built by the Bureau of Indian Affairs (BIA) and Indian Health Service (HIS) in 1965. Over 100 residences are connected to the City's piped water and sewer systems and 95% of these have complete plumbing. The Branchwater Creek Reservoir provides water, which is treated and stored in a 125,000-gallon tank. The existing dam is weakening; funding has been provided to make repairs. A local priority is to construct a new 500,000-gallon dam on the Creek. A new landfill site has been identified (Figure 1-2).

Port Lions is accessible by air and water. Along with the State owned gravel airstrip, the City owns a dock which may be used by seaplanes. Regular and charter flights are available from Kodiak. The boat harbor with breakwater and dock provide 82 boat slips. The State Ferry operates bi-monthly from Kodiak between May and October. Barge service is available from Seattle.

Power is generated by the Kodiak Electric Association using diesel generators. They have a fuel storage capacity of 1,100 gallons to power the generators.

Bulk fuel is sold by Kizhuyak Oil Sales/Village Council. They have a storage capacity of 90,600 gallons.

1.4 Local Government Structure

Port Lions was incorporated in 1966. It is a second-class city with a mayor-council government. Council members' terms are three years, and the mayor is elected from the council. Services provided by the City include fire protection, street maintenance, water supply, sewage collection, and garbage collection. The City also owns several parks, a cemetery, a solid waste disposal site, a library and a health clinic (ESE 1982). A public dock and a small boat harbor are owned by the City. The major sources of revenue come from user service fees and state and federal grants (ESE 1982). For many years the City of Port Lions maintained the state road, the airstrip, and provided a shore hand to tie up the state ferry when it docked in the boat harbor under contract with the State of Alaska; however, a private individual underbid the city for the 2006-2007 contract.

Port Lions has a well-equipped elementary and high school, which is operated by the Kodiak Island Borough and employs eight residents (DCED 2002). The school's gym is available after hours for community recreation. In addition, the school regularly offers workshops on special topics such as art, music, photography, and writing. A library is maintained for both elementary and high school use.

The public library in Port Lions includes periodicals, reference and technical books, records, children's books, and novels for all ages. Community volunteers staff the library. Port Lions' two-story Community Hall includes a large meeting room, kitchen facilities, and administrative offices. This building is the primary location for city council meetings, social and governmental community functions, and administrative functions for the City of Port Lions (ESE 1982).

Port Lions falls within EMS Region 2G in the Kodiak Region and it is classified as an isolated village. Emergency Services have marine and air access. Emergency service is provided by 911 Telephone Service, volunteers and a health aide. The local health clinic is owned and maintained by the City of Port Lions. It is set up to handle outpatient care, but also includes a two-bed infirmary. The staff consists of residents from the community (ESE 1982). Emergency medical evacuation is generally done by small Kodiak based aircraft since the runway is too short for twin engine aircraft to fly to Port Lions direct from Anchorage. With the existing runway lights, technically the airport is open at night but there are no records of night medical evacuation flights. The US Coast Guard (USCG) has made night medical evacuation flights to Port Lions. The USCG helicopters are able to utilize advanced navigation equipment and night vision goggles to avoid the terrain at night and still fly to the community.

Port Lions maintains a volunteer fire department with a pumper/tanker fire truck. Fire hydrants are connected with the city water system and an emergency phone system is installed at key locations. An 8-acre cemetery is owned and maintained by the City. A 5-acre site is maintained for solid waste disposal, and once-a-week garbage collection is provided by the city.

The Kodiak Island Borough is a second-class borough incorporated under the statutes of the State of Alaska. Its governing body comprises an elected seven-member assembly, a mayor, and

a vice-mayor. Planning and zoning for Port Lions is provided and conducted through the Kodiak Island Borough Planning Department.

The Port Lions Traditional Council, a federally recognized tribe, is located within the community. Other native associations include the Native Village of Afognak and the Kodiak Island Inter-Tribal Council (DCED 2002). The Afognak Native Corporation was established in 1977 through the merger of two village corporations formed under the Alaska Native Claims Settlement Act. The shareholders of these two merged village corporations, Port Lions Native Corporation and Natives of Afognak, Inc., were all descendants of the old Afognak Village on Afognak Island. The Corporations' primary activities are timber, development of corporation lands, providing management services to Afognak Joint Venture, development of tourism-based industries, and support and preservation of the Alutiiq Culture of its shareholders (Afognak Native Corporation 2002). The Koniag Regional Corporation is a private, native-owned company. Koniag holds title to the mineral subsurface rights to all of the land that is owned by the Afognak Native Corporation (ESE 1982).

1.5 Socio Economic Data

This section presents an overview of the socio economic conditions in Port Lions and the surrounding Kodiak Island Borough.

1.5.1 Population

The majority of the population in Port Lions is Alutiiq. The 2000 census found 63.7% of the residents had an Alaska Native heritage. The 2000 census found the Per Capita income for Port Lions was \$17,492, the Median Household income was \$39,107, and the Median Family income was \$42,656. In 2000, approximately 12.1% of the population of Port Lions was living below the poverty level.

Port Lions has been experiencing a slow but steady rate of growth over the past 20 years. Based on the population projections presented in Table 1-1 below, this trend is expected to continue through the next 20 years. Most growth has occurred within the older group of citizens, which raised the median age of the community from 25.6 years in 1980 to 33.5 years in 2000. This indicates there will be a need to shift the focus of development towards the elderly and provide them with the goods and services that are of benefit to them. Meanwhile, the youth population is dropping, so the need for new or improved facilities for children and students may not be as great a priority because there is less demand for those services.

Table 1-1
Population, 1970 –2005

| <u>Year</u> | <u>Port Lions</u> |
|-------------|-------------------|
| 1970 | 227 |
| 1980 | 215 |
| 1990 | 222 |
| 2000 | 256 |
| 2001 | 246 |
| 2002 | 227 |
| 2003 | 236 |
| 2004 | 239 |
| 2005 | 220 |

Source: Alaska Dept. of Labor, Research & Analysis Section, and 2000 Census Data.

Meanwhile, the Kodiak Island Borough has seen steady growth in all of its age groups, except for the 20-34 year age group. Many of the residents in this age group attend post-secondary educational institutions outside of the borough, or they relocate for employment opportunities. The borough and the state had a fairly high unemployment rate throughout the 1990s, compared to the nation as a whole. This may have been part of the influencing factors for Port Lions residents to relocate. Again, in the borough, the group with the largest gain is the 45 to 54 years old age group, which increased the median age of residents' borough wide. Future needs for the borough may focus on services for the elderly as well.

1.5.2 Employment and Per Capita Income

The economy of Port Lions is based primarily on commercial fishing, fish processing and tourism. Twenty-four residents hold commercial fishing permits. All of the residents depend to some extent on subsistence food sources such as salmon, crab, halibut, shrimp, clams, duck, seal, deer and rabbit. Most residents lead a fishing and subsistence lifestyle, or supplement employment with subsistence activities. Employment opportunities are related to the school, US Post Office, City administration, City services (water, sewer, solid waste), and the native corporations.

A discussion of employment, unemployment, and per capita income is included in the Forecast section of this document.

1.5.3 Industry

Overall, employment in the Kodiak Island Borough is predominantly in the manufacturing and government sectors, followed by services and trade (Table 1-2). The agriculture/forestry/fishing sector is an important economic factor for the area, especially for Port Lions. Interestingly, this sector employs the least people of any sector represented in the borough. However, this sector has grown substantially since 1990, when only 30 people worked in this sector. The sector peaked in 1995, employing 99 people borough-wide, and has since fallen slightly to a current

workforce of 86 people. Overall, the workforce in the Kodiak Island Borough swelled in the mid-1990s, but has since decreased and fallen below the workforce population of 1990.

As a remote community without any land-based access to the mainland, residents of the Kodiak Island Borough rely on air transportation for the import and export of cargo as well as for passenger service. Historically, as industry grows so does the population base and, as a result, so does air traffic activity.

Table 1-2
Industry Employment 1990 - 2001
Kodiak Island Borough

| Industry | 1990 | 1991 | 1992 | 1993 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 |
|-----------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Construction | 158 | 161 | 164 | 142 | 154 | 186 | 158 | 139 | 127 | 138 | 167 |
| Manufacturing | 2,062 | 2,091 | 1,810 | 1,885 | 2,260 | 2,350 | 2,584 | 2,509 | 1,871 | 1,774 | 2,102 |
| Trans/Comm/ Utilities | 319 | 320 | 339 | 323 | 301 | 343 | 303 | 299 | 279 | 279 | 288 |
| Trade | 921 | 931 | 851 | 828 | 841 | 960 | 883 | 842 | 998 | 928 | 934 |
| Finance/Insur./ Real Estate | 111 | 112 | 136 | 135 | 148 | 141 | 145 | 155 | 162 | 179 | 169 |
| Services/Misc. | 1,021 | 958 | 845 | 828 | 894 | 934 | 999 | 1,028 | 1,161 | 1,185 | 1,142 |
| Ag., Forestry, & Fishing | 30 | 21 | 52 | 62 | 99 | 85 | 95 | 70 | 80 | 86 | 60 |
| Government | 1,120 | 1,116 | 1,120 | 1,115 | 1,117 | 1,092 | 1,140 | 1,150 | 1,120 | 1,145 | 1,229 |
| TOTAL | 5,742 | 5,710 | 5,317 | 5,318 | 5,814 | 6,091 | 6,307 | 6,192 | 5,798 | 5,714 | 6,091 |

Source: Department of Labor and Workforce Development, Research and Analysis Section

In 2002 the Alaska Department of Labor and Workforce Development reclassified the industry groups into standard North American Industry Classification System (NAICS) codes. Table 1-3 reflects the new breakout categories for 2002 through 2005.

Table 1-3
Industry Employment
Kodiak Island Borough

| Industry | 2002 | 2003 | 2004 | 2005 |
|--------------------------------------|--------------|--------------|--------------|--------------|
| Government | 1,258 | 1,302 | 1,330 | 1,139 |
| Natural Resources and Mining | 94 | 90 | 122 | 118 |
| Construction | 184 | 183 | 192 | 166 |
| Manufacturing | 1,536 | 1,153 | 1,383 | 1,375 |
| Trade, Transportation, and Utilities | 852 | 824 | 825 | 815 |
| Information | 68 | 70 | 72 | 67 |
| Financial Activities | 189 | 186 | 187 | 192 |
| Professional and Business | 308 | 177 | 157 | 134 |
| Education and Health Services | 352 | 373 | 539 | 463 |
| Leisure and Hospitality | 504 | 486 | 465 | 469 |
| Other | 272 | 380 | 230 | 243 |
| | | | | |
| Total | 5,617 | 5,224 | 5,502 | 5,181 |

Source: Department of Labor and Workforce Development, Research and Analysis Section

1.6 Environmental Overview

This summary of the known environmental conditions in the project area was collected through a review of existing documentation, including the 1975 and 1982 Port Lions Comprehensive Development Plans (ESE 1982; G&S 1975), the U.S. Fish and Wildlife Service National Wetlands Inventory, the Alaska Department of Community and Economic Development's Community Profiles, and an on-site visit to the project area August 21, 2002.

1.6.1 Climate

The climate of the Kodiak Islands is dominated by a strong marine influence. Moderately heavy precipitation, cool temperatures, high clouds, and frequent fog, with little or no freezing weather, characterize the area. The humidity is generally high and the temperature variation is small (20° F to 60° F). Relatively cool summers and warm winters are common. There are approximately 60 inches of precipitation per year (Kodiak Island Community Profiles 1981). Average annual precipitation is 55.51 inches (G&S 1975). The average annual snowfall is 90 inches, and there is generally abundant snowfall present by November (DOT&PF 1983).

Sky cover/visibility and icing are two other climatic features of importance to the Kodiak area. Fog is the principal cause of reduced visibility and can be expected about 10% of the time, daily. Foggy conditions are most common from June to September (Kodiak Island Community Profiles 1981).

1.6.2 Wetlands

Numerous small wetlands are found near the shoreline in the upper cove area within Port Lions. Figure 1-3 displays the identified wetlands in the project area. The following wetlands have been identified in the project area from current National Wetlands Inventory (NWI) mapping:

PSS1/EM1C:

[P] Palustrine, [SS] Scrub-Shrub, [1] Broad-Leaved Deciduous / [EM] Emergent, [1] Persistent, [C] Seasonally Flooded

E2USP:

[E] Estuarine, [2] Intertidal, [US] Unconsolidated Shore, [P] Irregularly Flooded

PSS4/1B:

[P] Palustrine, [SS] Scrub-Shrub, [4] Needle-Leaved Evergreen / [SS] Scrub-Shrub, [1] Broad-Leaved Deciduous, [B] Saturated

PF04B:

[P] Palustrine, [FO] Forested, [4] Needle-Leaved Evergreen, [B] Saturated

1.6.3 Soils and Geology

Peat is found in poorly drained areas around Port Lions. The top layer of soil consists of a vegetative mat generally ranging in depth from 3 inches to 3 feet and covers a layer of volcanic ash which is about 60 years old. One deeper area of peat was found in the project area. The soil



Legend

- Wetlands
- Waterbodies
- Ponds
- Anadromous Fish Stream
- Small Streams and Drainages
- Approximate High Tide Line
- Approximate Low Tide Line
- Proposed Runway and Taxiway
- Proposed Apron
- Proposed Access Road and Trail
- Proposed Runway Safety Area
- Proposed Runway Protection Zone
- Proposed Airport Property Boundary
- Wasting Site Location



**Port Lions Airport Master Plan
Environmental Assessment
Wetlands and Waterbodies**



AKSAS Project No. 54746
State of Alaska
Department of Transportation
and Public Facilities

beneath the ash layer is a silty loam that contains a substantial percentage of greywacke rock fragments. Rounded granite rocks are also common in this layer.

The bedrock geology of the area consists of marine sediments dating from the Cretaceous and Jurassic periods of the Mesozoic era. These are in the form of greywacke and slate, and lie at varying depths, including surface exposures. This rock is fractured and tightly folded (G&S 1975).

A full geotechnical report is attached in Appendix 2.

1.6.4 Hydraulics and Hydrology

The major watersheds in the Port Lions vicinity include the Port Lions River, Branchwater Creek, and Bourbon Creek. The water system utilizes a reservoir located on Branchwater Creek as the supply source. The minimum flow of Branchwater Creek has been estimated at 150 gallons per minute and the minimum flow of the Port Lions River has been estimated to be 550 gallons per minute.

1.6.5 Wind

Two types of winds are found in the Kodiak Island area. The first type consists of wind produced by a strong pressure gradient. Air tries to move from an area of high barometric pressure to an area of low barometric pressure along the isobaric pressure lines. This type of wind generally comes over the mountains down long, narrow valleys, and then extends over the water where it disperses. The second type is storm winds generally associated with low pressure systems. These are generated in the Gulf of Alaska and often sustain wind speeds of 50 to 75 knots. The most severe storms occur from December through February (Kodiak Island Community Profiles 1981). The prevailing winds in this area are northeasterly, with a maximum speed of 99 knots.

Wind data has not been collected at the Port Lions Airport. Anecdotal information from local pilots indicates that wind coverage for the existing runway alignment is satisfactory albeit with storm-related turbulence. Southern winds travel up and over the small hill beyond the approach end of Runway 24 and cause turbulent air perpendicular to the runway approach.

The nearest wind data for Port Lions is the wind data for the new Ouzinkie runway located 14.4 miles away on a bearing of N 73° 14.4' E. The coverage for a realigned runway 5/23 with a heading of N 65° 45' 22" E using the Ouzinkie data computes a 10.5 knot coverage of 99.41% and a 13-knot coverage of 99.75%. Any local wind channeling by terrain will probably be similar at Ouzinkie and Port Lions as the topographic features are generally oriented in the same direction.

1.6.6 Fish and Wildlife

Fish and wildlife are abundant in the Port Lions area. The area is known for large stocks of salmon and Alaska brown bear. Coho and pink salmon spawn in the Port Lions River. Rainbow trout are also found in the Port Lions River and in several other local streams. All four species of salmon utilize the Kizhuyak Bay tributaries as spawning sites. Area waters also have runs of Dolly Varden. Marine bottom fish in the area include pollock, cod, sablefish, ocean perch,

halibut, turbot, flathead sole, rock sole, and Atka mackerel. Wildlife common to the area include deer, bear, ptarmigan, and a variety of waterfowl. Marine mammals include seven species of whale, two species of porpoise, sea otters, Steller sea lions, and harbor seals. Rare birds include eagles and the peregrine falcon.

Figure 1-3 depicts the anadromous streams near the airport. Three additional unnamed creeks and anadromous fish streams flow through the project area.

1.6.7 Vegetation

The northeasterly boundary of the city limits of Port Lions approximately coincides with the extent of the forested area. Most of the trees that occupied the village center have been removed. The coastal edge is dominated by Sitka spruce. Deciduous species, particularly Sitka alder, dwarf birch, and low-growing willows are found in recovery areas along stream ways. The lack of soil depth and exposure conditions result in numerous shrub species, including Labrador tea, blueberry, and low bush cranberry. The land above the head of Settler Cove consists of a mixture of spruce and shrub.

1.7 Historical Aviation Activity, Certification, and Ownership

Port Lions is operated as a non-towered airport. As such no air traffic activity is collected or maintained. As a non-towered airport pilots self separate and operate at the pilot's discretion. The airport is also not operated or maintained as a 14 CFR Part 139 certificated airport. Certificated airports in Alaska need to be served by aircraft with more than thirty passenger seats to require certification. In the Lower 48 this requirement is for service with ten or more seats. The Port Lions airport is owned and maintained by the State of Alaska, Department of Transportation and Public Facilities (DOT&PF), Central Region. The airport manager of record is the airport manager in Kodiak.

1.8 Financial Data

The DOT&PF maintains revenue and expense data for all airports. Revenue is primarily from leases, fuel flow, and concessions. Port Lions does not have any of these, so its revenue generation is \$0. The DOT&PF bids the local maintenance contract each year. The bid for the 2006-2007 season to plow snow and maintain the lights and windsock is \$20,000. The expenses for administration are shared with the rest of the rural airports in Central Region and are not accounted for separately.

2.0 FORECASTS

2.1 Introduction

This report presents a comprehensive 20-year air traffic forecast for Port Lions Airport. By estimating the future air traffic at Port Lions Airport, the adequacy of existing airport facilities and the need for additional facilities and the degree to which existing facilities should be improved can be identified. The forecast also serves to identify the relative timing for implementation of new or expanded airport facility developments at the airport.

The proposed methodology for the Port Lions Airport air traffic forecast is based on the process recommended in FAA AC 150/5070-6B, *Airport Master Plans* and updated in *Forecasting Aviation Activity by Airport* (FAA July 2001). These documents provide national guidance for the preparation of airport master plans and are recommended for use in preparing individual airport master plan forecasts. The advisory circular has been the primary guidance in the preparation of master plans since enactment of the Airport and Airways Development Act of 1970 and has been recently updated with a seven-step process for the development of aviation forecasts. The recommended steps are:

- Step 1. Identify aviation activity measures
- Step 2. Review previous airport forecasts
- Step 3. Gather data
- Step 4. Select forecast methods
- Step 5. Apply forecast methods and evaluate results
- Step 6. Compare forecast results with FAA's Terminal Area Forecasts
- Step 7. Obtain approval of the forecasts

2.2 Step 1. Identify Aviation Activity Parameters and Measures to Forecast

The level and type of aviation activity anticipated at an airport as well as the nature of the planning to be done determines the parameters to be forecasted. Generally, the most important activity forecast for airfield planning is the level and type of aviation demand generated at the airport. It is this demand that defines the runway and taxiway requirements and drives the location of aprons and ultimately landside development.

As indicated in *Forecasting Aviation Activity by Airport*, practical considerations dictate the level of detail and effort that should go into an airport planning forecast. Air traffic activity at Port Lions is comprised of single and twin-engine GA aircraft. Commercial Aircraft operations that generate passenger and cargo enplanements have historically comprised a significant percentage of the annual activity. The forecast for Port Lions airport will focus on the following parameters:

- Passenger Enplanements – *Commuter*
- Aircraft Operations – *Commuter, General Aviation, Military (Itinerant and Local)*
- Based Aircraft – *Single and Multi Engine, Helicopter, Ultra Light, and others*

2.3 Step 2. Collect and Review Previous Airport Forecasts

This step recommends acquiring existing FAA and other related forecasts for the area and airport served. The relevant forecasts for Port Lions airport include the FAA Terminal Area Forecast (TAF), the Alaska Aviation System Plan and the Southwest Transportation Plan.

2.3.1 Federal Aviation Administration, Terminal Area Forecast

The FAA Terminal Area Forecast (TAF) (Table 2-1) for Port Lions Airport contains FAA's forecast for fiscal years 2005-2025. The TAF reports passenger enplanements, aircraft operations, and based aircraft for four categories: air carriers, air taxi and commuters, general

aviation (GA), and the military. A further division is made between local and itinerant aircraft operations.

Table 2-1
Federal Aviation Administration, Terminal Area Forecast (2005-2025)
Port Lions Airport

| Year | Passenger Enplanements | | Air Carrier | Commuter/Air Taxi | GA | Military | Total Operations |
|------|------------------------|-------|-------------|-------------------|-----|----------|------------------|
| | Commuter | Total | 0% | 72% | 28% | 0% | 100% |
| | | | | | | | |
| 2005 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2006 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2007 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2008 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2009 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2010 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2011 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2012 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2013 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2014 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2015 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2016 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2017 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2018 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2019 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2020 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2021 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2022 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2023 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2024 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |
| 2025 | 2,665 | 2,665 | 0 | 9,662 | 500 | 0 | 10,162 |

Source: Federal Aviation Administration

As a non-towered airport with no local FSS, data reported in the FAA TAF for the Port Lions Airport are extrapolated from estimates recorded on FAA’s form 5010 Airport Master Record during routine airport inspections. The last inspection of Port Lions airport was performed on May 18, 2004. Aircraft operations data reported in the FAA TAF appears to be an estimate rather than actual activity reported by operators.

2.4 Step 3. Gather Data

2.4.1 Data Requirements

As a non-towered airport with no local FSS, records of air traffic at the Port Lions Airport are not maintained onsite. Historical air traffic data for the Port Lions Airport was acquired from FAA’s Airport Master Record Form 5010, the FAA TAF for Port Lions Airport, and actual records of operations and passenger enplanements reported to FAA. In addition, HDR staff performed informal interviews with operators providing service to Port Lions to supplement and

validate aircraft operations, annual passenger enplanements, and annual freight tonnage estimates.

2.4.2 Historical Aviation Data

2.4.2.1 Aircraft Operations

Table 2-2 presents the historical aircraft operations for Port Lions airport from 1985 to 2005. The FAA contracts for periodic 5010 inspection of the Port Lions airport. Information from those 5010 inspections are updated and fed into the TAF database. An estimated number of operations are calculated by FAA personnel at the time of the inspection.

Table 2-2
Reported Aircraft Operations (1985 – 2005)
Port Lions Airport

| <u>Year</u> | <u>Commuter</u> | <u>GA</u> | <u>Military</u> | <u>Total</u> |
|-------------|-----------------|-----------|-----------------|--------------|
| 1985 | 0 | 0 | 0 | 0 |
| 1986 | 0 | 0 | 0 | 0 |
| 1987 | 0 | 0 | 0 | 0 |
| 1988 | 0 | 0 | 0 | 0 |
| 1989 | 0 | 0 | 0 | 0 |
| 1990 | 0 | 0 | 0 | 0 |
| 1991 | 0 | 0 | 0 | 0 |
| 1992 | 0 | 0 | 0 | 0 |
| 1993 | 0 | 0 | 0 | 0 |
| 1994 | 0 | 0 | 0 | 0 |
| 1995 | 0 | 0 | 0 | 0 |
| 1996 | 1,276 | 500 | 0 | 1,776 |
| 1997 | 4,800 | 500 | 0 | 5,300 |
| 1998 | 4,800 | 500 | 0 | 5,300 |
| 1999 | 4,800 | 500 | 0 | 5,300 |
| 2000 | 4,800 | 500 | 0 | 5,300 |
| 2001 | 4,800 | 500 | 0 | 5,300 |
| 2002 | 4,800 | 500 | 0 | 5,300 |
| 2003 | 4,800 | 500 | 0 | 5,300 |
| 2004 | 4,800 | 500 | 0 | 5,300 |
| 2005 | 9,662 | 500 | 0 | 10,162 |

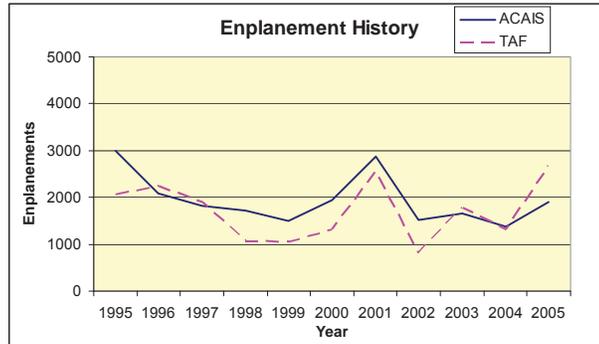
Source: FAA Terminal Area Forecast

2.4.2.2 Passenger Enplanements

Passenger enplanements at the Port Lions airport have remained relatively consistent since 1995. As a community with no land based access to Kodiak, residents rely on air transportation for passenger and freight service and therefore passenger enplanements remain fairly regular from year to year. Table 2-3 compares reported enplanements from the TAF and the Air Carrier Activity Information System (ACAIS) database.

Table 2-3
 Reported Passenger Enplanements (1995 – 2005)
 Port Lions Airport

| <u>Year</u> | <u>TAF</u> | <u>ACAIS</u> |
|-------------|------------|--------------|
| 1995 | 2,057 | 3,002 |
| 1996 | 2,237 | 2,088 |
| 1997 | 1,901 | 1,822 |
| 1998 | 1,077 | 1,715 |
| 1999 | 1,045 | 1,499 |
| 2000 | 1,311 | 1,947 |
| 2001 | 2,552 | 2,868 |
| 2002 | 800 | 1,522 |
| 2003 | 1,789 | 1,662 |
| 2004 | 1,324 | 1,383 |
| 2005 | 2,665 | 1,907 |



Source: FAA Terminal Area Forecast, ACAIS printouts at DOT&PF

It should be noted that the U.S. Department of Transportation relies on a voluntary reporting of enplanement data for non-scheduled flights while scheduled flights are required to report their enplanements. Scheduled flights are defined in 14 CFR 298.2 as transport service operated over routes pursuant to published flight schedules or pursuant to mail contracts with the U.S. Postal Service. Fluctuations in enplanement activity, therefore, may be the result of inaccurate record keeping, irregular reporting from non-scheduled air carriers, or changes in demand for air travel due to changes in demographics or disposable income. Construction projects in a community can also cause spikes in the reported enplanements. Thus, the ACAIS database may not reflect actual activity. With the inherent potential inaccuracies of the ACAIS data, one would expect ACAIS to be below the TAF. However, the opposite is shown in the chart above. For a majority of the last ten years, the ACAIS is above the TAF. An analysis of the ACAIS reports in the files at the Alaska DOT&PF offices shows regular yearly reporting by the scheduled air carriers and no reporting by the Kodiak Island based non-scheduled air carriers.

2.4.2.3 Cargo Activity

Air cargo service provides residents with a means of importing and exporting goods to and from the community. Table 2-4, presents data acquired from the U.S. DOT, Bureau of Transportation Statistics, Office of Airline Information, and reflects reported freight and mail enplaned at the Port Lions Airport from 1991 to 2005.

Air cargo service provides residents with a means of importing and exporting goods to and from the community. Aircraft in Alaska serve the same role for moving freight and mail that trucks provide in the Lower 48 states.

The US Postal Service provides priority and other classes of mail service to rural Alaska, and in locations where the community is not on the highway system, the mail moves by air. A 1985

special provision in Federal law permits and subsidizes the delivery of fourth class mail at rates that are significantly lower than freight rates. Stores or businesses that ship large quantities of goods such as groceries and other consumer goods palletize their loads and deliver them directly to an air cargo shipper, bypassing the Post Office. Thus the term “bypass mail” is used for these shipments. A postal official at the air carrier facility accepts the pallet on behalf of the Post Office, and bills for the fourth class postage. The air carrier is responsible for delivery of the goods to the recipient in the destination community. Individuals can also ship goods by fourth class mail, but those packages must be taken to a post office. Approximately 75% of the fourth class mail to rural Alaska is transported as bypass mail. Hazardous materials and construction materials are not accepted by the Post Office as fourth class mail, and must be shipped by air freight. Delivery of mail by air at these favorable rates has facilitated a better flow of goods to rural Alaska.

The Rural Air Service Improvement Act (RSIA) (Public Law 107-206, Sec. 3002, 2002) changed the freight, mail, and passenger service in rural Alaska including freight and mail reporting requirements for air carriers. Essentially, beginning in 2002, air carriers were required to report all freight and mail on form T-100 to the Federal DOT, Bureau of Transportation Statistics (BTS). The BTS implemented a system to facilitate all air carriers to submit their data on a web based system. Prior to this 2002 change in the law, only the largest air carriers reported their data. This change in the method of reporting has created an interesting spike in the reported numbers.

As shown in the table below, reported freight and mail activity is dramatically higher in the last three years. (The new system was being implemented in the later half of 2002.) For the period reported, freight peaked at 101,739 lbs. in 2005. Mail peaked at 95,596 lbs. also in 2005. This data suggest a relatively stable level of cargo activity considering the reports were relatively stable under the old reporting system from 1999 into 2002 and also relatively stable under the new T100 reporting system.

Table 2-4
 Historical Cargo (Freight and Mail) Activity (lbs.) (1991 – 2005)
 Port Lions Airport

| Year | Freight | Mail | Total |
|------|---------|--------|---------|
| 1991 | 444 | 7,924 | 8,368 |
| 1992 | 72 | 9,032 | 9,104 |
| 1993 | 507 | 10,402 | 10,909 |
| 1994 | 513 | 13,886 | 14,399 |
| 1995 | 344 | 15,607 | 15,951 |
| 1996 | NA | 16,235 | 16,235 |
| 1997 | 334 | 24,581 | 24,915 |
| 1998 | NA | 23,054 | 23,054 |
| 1999 | 206 | 17,025 | 17,231 |
| 2000 | 1,619 | 14,891 | 16,510 |
| 2001 | 2,421 | 13,035 | 15,456 |
| 2002 | 11,398 | 27,662 | 39,060* |
| 2003 | 75,467 | 67,292 | 142,759 |
| 2004 | 61,282 | 87,850 | 149,132 |
| 2005 | 101,739 | 95,596 | 197,335 |

* = Missing all Kodiak to Port Lions data and some Port Lions to Kodiak data.
 Source: U.S. DOT, Bureau of Transportation Statistics, Office of Airline Information.

2.4.2.4 Based Aircraft and Fleet Mix

The TAF reports one aircraft based at the Port Lions airport starting in 1996. A public database (www.landings.com) indicates there are 3 aircraft registered in Port Lions; a Piper PA-12, a PA18A, and a PA-28.

With the exception of a Fairchild C-119 Flying Boxcar that has been “parked” at the Port Lions airport since 1989, there were no based aircraft present at the airport during a site visit in July 2001 performed by HDR personnel. The Flying Boxcar had been traveling from Kodiak to Anchorage in 1989 when it lost power and made an emergency landing at the Port Lions airport. During the 2001 site visit, the airport manager indicated that the aircraft is not airworthy though the owners have made attempts to repair it. DOT&PF reported the C-119 was removed in 2003.

The airport manager indicated that a couple of aircraft may base at the airport during the summer but none are based at the airport during the winter. The airport manager also indicated that several transient aircraft will tie down at the airport for a few days to as long a week during the summer. These aircraft belong to hunters and anglers visiting the area. There have been summers when the apron can be congested with aircraft and vehicles. The airport has no aircraft hangers and only rudimentary tie-down facilities.

2.4.2.5 Airport Master Record, Form 5010

Table 2-5 presents aircraft operations data as reported on the FAA’s form 5010 airport master record for Port Lions airport. Form 5010 reports basic airport identifying information plus manager and owner name, address, and phone number in addition to runway and taxiway information and air traffic activity estimates. It is important to note that the operations data reported for Port Lions airport made during an airport inspection on May 18, 2004 did not change the data already reported on previous 5010 reports. It is not clear whether the inspector neglected to change the data or whether the inspector considered the data accurate at the time of the inspection. Conditions may have changed slightly since the last inspection.

Table 2-5
Federal Aviation Administration, Airport Master Record (form 5010)
Port Lions Airport

| | |
|----------------------------------|----------------------------------|
| Air Carrier | 0 annual aircraft operations |
| Commuter and Air Taxi | 4,800 annual aircraft operations |
| Itinerant General Aviation | 500 annual aircraft operations |
| Total Annual Aircraft operations | 5,300 annual aircraft operations |
| Aircraft Based on Field | 1 |

Source: FAA 5010 Airport Master Record.

Using the 5010 data, HDR calculates an average of approximately 102 operations per week that results in a total of 5,304 annual aircraft operations for the Port Lions airport. Of these annual aircraft operations 91% were attributed to commuter/air taxi operators, and 9% were attributed to itinerant GA operators. Commercial air carrier service is not expected or reported for this facility.

2.4.2.6 Air Traffic Data collected by HDR Alaska, Inc.

In an effort to supplement and validate aircraft operation and passenger and cargo enplanements data reported in the TAF and FAA 5010, commercial air operators and the airport manager were informally interviewed. Currently only two commercial operators, Island Air Service and Servant Air provide scheduled service. Other air taxi operators based in Kodiak provide on demand service to Port Lions. Island Air Service provides scheduled service fifteen times per week in the summer (June 1 through mid September), twelve times per week during the rest of the year, and on-demand charter service with Piper Saratoga single engine and Britten Norman Islander twin-engine aircraft. Servant Air’s schedule is twice per day each weekday with Piper Saratoga and Cessna 207 single engine and Piper Navajo, Piper Aztec, and Britten Norman Islander twin engine aircraft. This computes to approximately 1,185 scheduled flights per year, or 2,370 scheduled operations per year. National Weather Service climate records for Kodiak Island indicate that on an average approximately 5 days per month, or 60 days per year the ceilings and visibility are too bad to fly. This results in approximately 1,990 completed scheduled operations. Factoring in non-scheduled passenger and freight flights, and assuming an average of one general aviation (14 CFR 91) flight per day, plus 5 annual medical evacuation flights by the US Coast Guard, HDR computes approximately 3,170 annual operations for Port Lions.

The airport manager confirmed aircraft activity at the airport peaks in the summer and is associated with fishing, hunting, and other recreational activities.

2.4.3 Air Traffic Base-Year Summary

Table 2-6 presents the air traffic data collected and summarized and compared for a base year estimate (year 2006). The FAA 5010 for Port Lions has not been updated with a 2006 inspection. Activity data shown is, therefore, for year 2004 (the year of the last inspection).

Table 2-6
Base Year Air Traffic Data
Port Lions Airport

| | Aircraft Operations | | | |
|---------------|-----------------------|-------|----------|-------|
| | Commuter/ Air Taxi | GA | Military | Total |
| | FAA TAF | 9,662 | 500 | 0 |
| FAA form 5010 | 4,800 | 500 | 0 | 5,300 |
| HDR Estimate | 2,440 | 720 | 10 | 3,170 |

Source: Compiled by HDR Alaska, Inc., September 2006

2.5 Socioeconomic Analysis

2.5.1 Population

Population estimates for Alaska are produced by the U.S. Census Bureau, the Alaska Department of Labor and some municipalities. These different sources may be very similar or they may differ. There are several reasons for the differences and the user should weigh all of the following factors in using estimates.

Definitions of Residency - The U.S. Census and the Alaska Department of Labor both estimate permanent full-time residents for Alaska. The number of persons temporarily in the state can vary by as much as 20% and some communities may be much more seasonal because of the tourism, fishing, timber and construction industries. If an individual's usual place of residence is in another state but works or lives part of the year in Alaska, that person is not counted as an Alaska resident in these estimates. However some local communities may count such persons in their estimates.

Port Lions has been experiencing a near steady population over the past 20 years. Based on population projections presented in Table 2-7 below, this trend is expected to continue through the next 20 years. The most growth has occurred within the older class of citizens, which has risen the median age of the community from 25.6 in 1980 to 33.5 in the year 2000. This indicates there will be a need to shift the focus of development to cater towards the elderly and provide them with the goods and services that are of benefit to them. Meanwhile, the youth population is dropping, so the need for new or improved facilities for children and students may not be as great of a priority because there is less demand for those services.

Meanwhile, the Kodiak Island Borough has seen steady growth in all of its age groups except for the 20-34 year age groups. This age group has had a significant loss of population since 1980. The main possibilities for this is either because many of the residents in this age group attend a post-secondary educational institution outside of the borough, or that they relocate as young adults for employment opportunities. The borough and the state had a fairly high unemployment rate throughout the 1990s compared to the nation as a whole. This may have been a contributing factor to relocation. Again in the borough, the group with the largest gain is the 45 to 54 year age group, which increased the median age of residents' borough wide. Future needs for the borough may focus on services for the elderly here also. The Department of Labor estimates that the largest growing demand for employment over the next ten years will be in the health care and community assistance industry.

Table 2-7
Population, 1970 –2005 (Forecast 2006-2026)

| <u>Year</u> | <u>Port Lions</u> | <u>Kodiak Borough</u> | <u>Statewide</u> |
|---------------------|-------------------|---------------------------|------------------|
| 1970 | 227 | 9,409 | 553,171 |
| 1980 | 215 | 9,939 | 569,054 |
| 1990 | 222 | 13,309 | 586,722 |
| 2000 | 256 | 13,913 | 596,906 |
| 2001 | 246 | 13,566 | 600,622 |
| 2002 | 227 | 13,645 | 601,581 |
| 2003 | 236 | 13,959 | 605,212 |
| 2004 | 239 | 13,538 | 609,655 |
| 2005 | 220 | 13,638 | 617,082 |
| Ann. Avg. Growth | 0.60% | 4.10% | 1.35% |

| <u>Year</u> | <u>Port Lions</u> | <u>Kodiak Borough</u> | <u>Statewide</u> |
|-------------------------------|-------------------|---------------------------|----------------------|
| Population Projections | | | |
| 2006 | 221 ² | 14,197 ² | 625,413 ¹ |
| 2011 | 223 ² | 14,779 ² | 633,856 ¹ |
| 2016 | 224 ² | 15,385 ² | 642,413 ¹ |
| 2021 | 225 ² | 16,016 ² | 651,085 ¹ |
| 2026 | 227 ² | 16,673 ² | 659,875 ¹ |

¹ Population Projection, Alaska Dept. of Labor, Research.

² Population Projections, HDR Alaska, Inc.

Source: Alaska Dept. of Labor, Research & Analysis Section, <http://www.dced.state.ak.us>

2.5.2 Employment

There is no current employment data available for the City of Port Lions. However, data is available for the state and the Kodiak Island Borough. The statewide unemployment trend of the 1990s was echoed in the Kodiak Island Borough and has since continued to rise. In 1995, the Borough saw unemployment drop by 2.2% and it has varied anywhere from 7.2% to 9.8% since then, and currently sits at 8.4%. On the other hand, while the Kodiak Borough watched its unemployment rates rise farther through the early 1990s, the State of Alaska began to see a decline in unemployment as a whole with the attraction of new businesses and industries, and a diversification of the economic base. This was especially visible in urban areas such as Anchorage. So while the Kodiak Island Borough has struggled with high unemployment rates in recent years, the state as a whole has reduced unemployment from a high of 9.2% in 1992, to a rate of 6.2% in 2001. This is slightly higher than the nation, which was 4.8% in 2001 (U.S. Bureau of Labor Statistics).

Table 2-8
Unemployment Rate (8.75%), 1995-2005

| <u>Year</u> | <u>Port Lions</u> | <u>Kodiak Borough</u> | <u>Statewide</u> |
|-------------|-------------------|---------------------------|------------------|
| 1995 | -- | 9.8 | 7.3 |
| 1996 | -- | 9.5 | 7.8 |
| 1997 | -- | 9.8 | 7.9 |
| 1998 | -- | 7.2 | 5.8 |
| 1999 | -- | 7.2 | 6.4 |
| 2000 | -- | 8.1 | 6.2 |
| 2001 | -- | 8.6 | 6.2 |
| 2002 | -- | 8.9 | 7.1 |
| 2003 | -- | 9.8 | 7.7 |
| 2004 | -- | 9 | 7.4 |
| 2005 | -- | 8.4 | 6.8 |
| Ann. Avg. | -- | 8.75% | 6.96% |

Source: Alaska Dept. of Labor, Research & Analysis Section

2.5.3 Per Capita Income

The income data presented in the table below is directly related to the unemployment data above (there is no data available for Port Lions). The State of Alaska has seen an overall average annual 3.29% increase in per capita income (1995-2003), while the Kodiak Island Borough has witnessed a 3.4% average annual increase in per capita income from 1995 through 2005.

These changes in income reflect the changes in employment around the state since 1990. The same time period when wages began to go down in the Kodiak Island Borough (approximately 1992) is also when the Borough saw unemployment rise. For the rest of the state, the results were reversed. The state began to see a drop in unemployment, which made jobs more competitive. Thus, wages have risen over time and this is reflected in the statewide per capita income in Table 2-9. It can only be assumed that Port Lions' wages have performed similarly to those of the Kodiak Island Borough and have declined relative to the statistics of the Borough.

Table 2-9
Per Capita Income, 1995-2005

| <u>Year</u> | <u>Port Lions</u> | <u>Kodiak Borough</u> | <u>Statewide</u> |
|--------------------------|-----------------------|-----------------------|------------------|
| 1995 | -- | \$22,342 | \$23,711 |
| 1996 | -- | \$22,708 | \$22,073 |
| 1997 | -- | \$23,725 | \$21,496 |
| 1998 | -- | \$24,378 | \$21,073 |
| 1999 | -- | \$25,264 | \$27,835 |
| 2000 | -- | \$26,695 | \$28,523 |
| 2001 | -- | \$27,794 | \$29,960 |
| 2002 | -- | \$27,873 | \$31,027 |
| 2003 | -- | \$29,479 | \$32,151 |
| 2004 | -- | -- | -- |
| 2005 | -- | \$24,120 | -- |
| Annual Average Income | | \$25,438 | \$26,428 |
| Average Annual % | -- | 3.40% | 3.29% |

Source: Alaska Dept. of Labor, Research & Analysis Section.

2.5.4 Industry

Overall, employment in the Kodiak Island Borough is predominantly in the manufacturing and government sectors, followed by services and trade. The agriculture/forestry/fishing sector is an important economic sector for the area, especially for Port Lions.

As a remote community without any land based access to the mainland, residents of the Kodiak Island Borough rely on air transportation for the import and export of day to day mail and cargo as well as passenger service. Heavy goods are transported by water. Typically as industry grows so does the population base and as a result air traffic activity.

The remoteness of the region inhibits economic factors of scale that could significantly reduce per capita costs of goods and services. Examples of economies of scale that are more achievable in less remote areas are discounts in price resulting from high volume purchase of goods and nearly universal use of large electrical generation facilities. The limited transportation infrastructure inhibits movement between communities within the region, multiplying the costs of each individual movement.

Aviation is the primary means of accessing the area. Mainline service connects the region to the rest of the world through the key airport at Kodiak. Port Lions is defined as a General Aviation airport in the National Plan of Integrated Airport Systems (NPIAS), 2005 – 2009, since the enplanements for this facility fall below the 2,500 level required for commercial service. Because of the small population center and rugged terrain, a high percentage of freight is flown into this remote village. The community depends heavily for delivery of goods on the U.S. Postal Service bypass mail system, which allocates 4th class mail delivery from postal hubs to communities among approved system carriers.

2.6 Base Year (2006) Air Traffic Activity Estimate

Table 2-10, presents base year (2006) air traffic activity estimates generated by HDR.

Table 2-10
Air Traffic Estimate, Base Year (2006)
Port Lions Airport

| Based Aircraft | Aircraft Operations | | | | | Passenger Enplanements | | |
|----------------|---------------------|-------------------|-----|----------|-------|------------------------|-------------------|-------|
| | AC | Air Taxi/Commuter | GA | Military | Total | AC | Air Taxi/Commuter | Total |
| 1 | 0 | 2,440 | 720 | 10 | 3,170 | 0 | 2,143 | 2,143 |

Source: Compiled by HDR Alaska, Inc., September 2006.

Given the reported passenger enplanements, this means that of the estimated 1,220 commercial departures from Port Lions, each aircraft carried an average of 1.76 passengers from Port Lions. If these same aircraft carried freight and mail from Kodiak to Port Lions on the outbound leg (approximately 85% of the 197,000 total pounds is outbound) then each aircraft carried approximately 137 pounds of cargo, and presumably they also carried a nearly equal number of Kodiak enplaned passengers heading for Port Lions. These are light loads upon which these commercial air carriers could make any profit. However, the analysis validates HDR’s decision to use an estimation of operations rather than the 5010 or TAF forecast of operations.

These 2006 base year passenger enplanements are based on the 2005 ACAIS reported enplanements increased by the 0.6% projected population growth. HDR also estimated passenger enplanements from non-scheduled air carriers. This value is assumed to be 225 flights, and each flight is assumed to carry 1 passenger, resulting in the base year passenger enplanements increasing to 2,143.

2.7 Step 4. Select Forecasting Methods

Air traffic activity was forecast based on growth rates for the local population. The TAF in Alaska has usually been proven to be quite inaccurate. As shown in Table 2-6 where the TAF is compared to the scheduled flights, there is virtually no way that the TAF projections could be met. HDR is likewise uncertain about the validity of the 5010 operations data. These numbers have been constant for several years with no adjustment. A regression analysis of the historical air traffic activity data from either the TAF or the 5010 was not performed to generate future growth rates. Forecasting erroneous historical air traffic activity into the future would exacerbate the error and result in an inaccurate forecast of air traffic activity at Port Lions airport. HDR has selected as the base year an operations estimate based primarily on the current air carrier schedules.

A low forecast scenario of 0.6% is based on the historical annual average population growth rate.

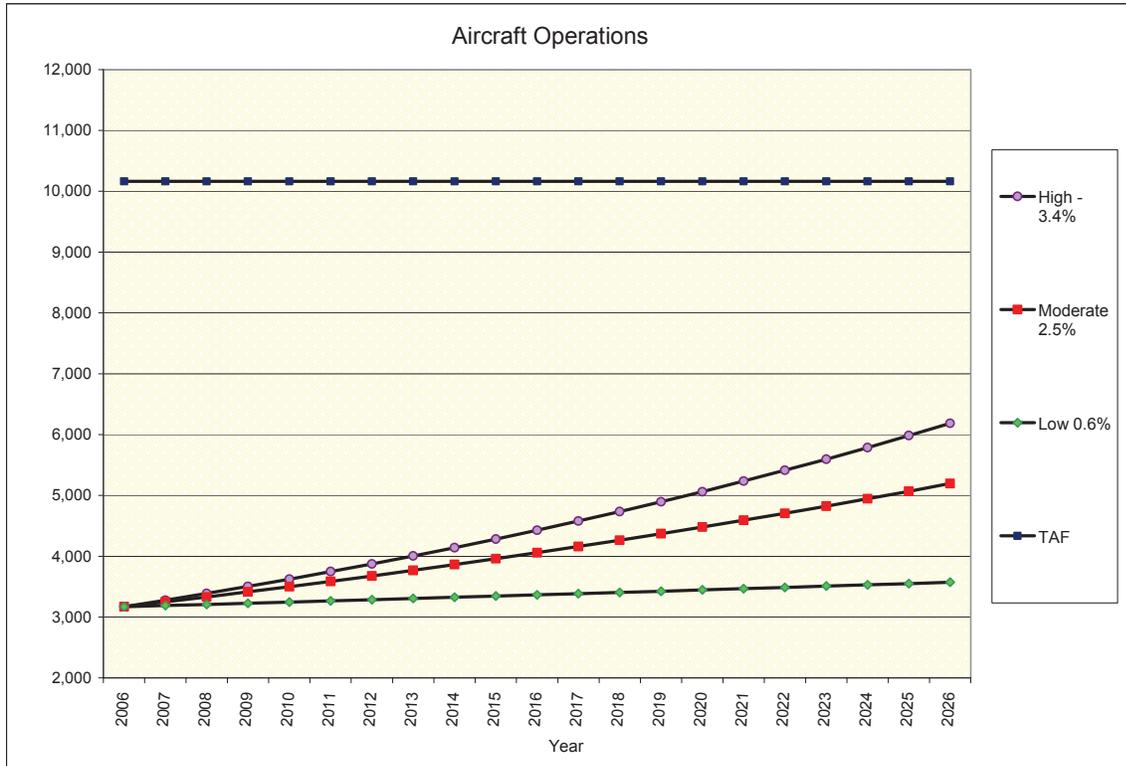
The moderate scenario (2.5% growth rate) is based on the average annual rate of growth for aircraft operations as forecast for Kodiak in the 1996 Alaska Aviation System Plan Update. The forecast of operation presented in the AASP is based on a macro analysis of the growth trends for the entire state of Alaska and a microanalysis of the economic trends in Southwest Alaska. Scenario two reflects a moderate level of potential growth.

The high scenario (3.4% growth rate) is based on the average annual rate of growth of per capita income for residents in the Kodiak Island Borough. As per capita income increases, residents may choose to travel more frequently thus increasing the possible number of aircraft operations. Scenario three reflects the highest level of potential growth.

2.8 Step 5. Apply Forecast Methods and Evaluate Results

This section presents three scenarios of air traffic forecasts for aircraft operations, passenger enplanements, and cargo for the Port Lions airport (Figures 2-1 through 2-3). The three forecast scenarios use the base year (2006) estimate for aircraft operations and enplanements, and the 2005 cargo summary from Bureau of Transportation Statistics (BTS).

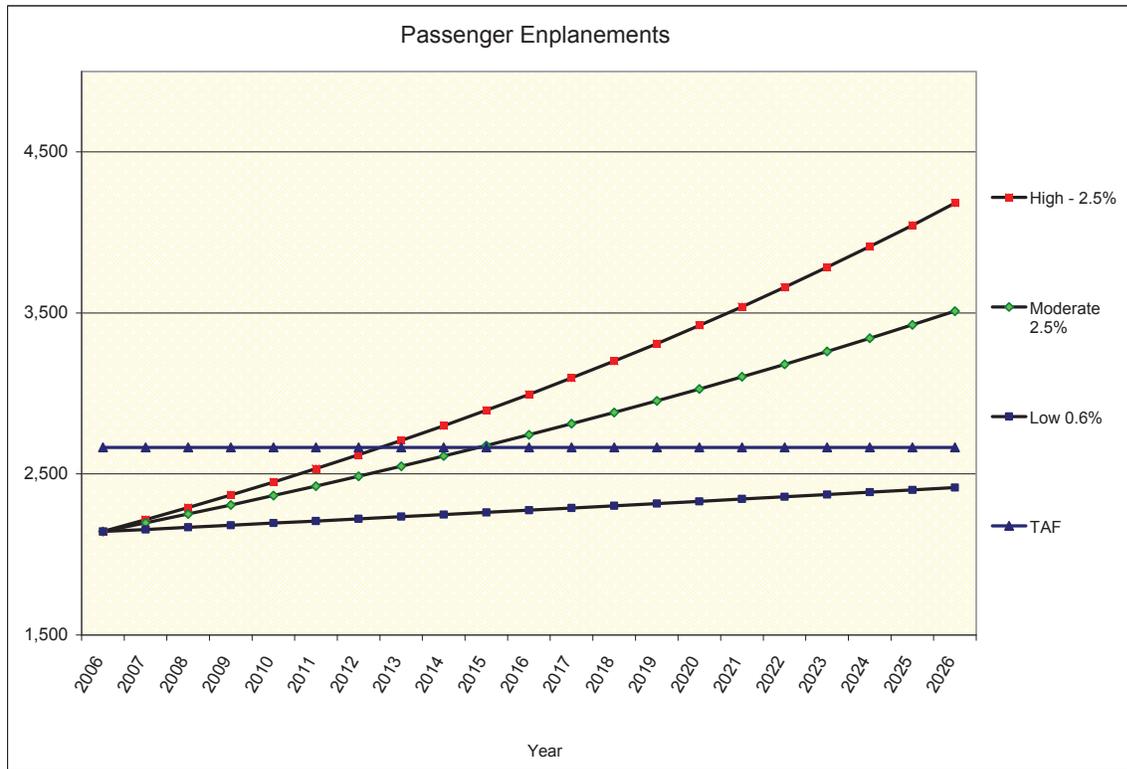
Figure 2-1
Aircraft Operations Forecast
Port Lions Airport



Source: Compiled by HDR Alaska, Inc., November 2006

| Year | Low | Moderate | High | TAF |
|------|-------|----------|-------|--------|
| 2006 | 3,170 | 3,170 | 3,170 | 10,162 |
| 2007 | 3,278 | 3,249 | 3,189 | 10,162 |
| 2008 | 3,389 | 3,330 | 3,208 | 10,162 |
| 2009 | 3,504 | 3,414 | 3,227 | 10,162 |
| 2010 | 3,624 | 3,499 | 3,247 | 10,162 |
| 2011 | 3,747 | 3,587 | 3,266 | 10,162 |
| 2012 | 3,874 | 3,676 | 3,286 | 10,162 |
| 2013 | 4,006 | 3,768 | 3,306 | 10,162 |
| 2014 | 4,142 | 3,862 | 3,325 | 10,162 |
| 2015 | 4,283 | 3,959 | 3,345 | 10,162 |
| 2016 | 4,429 | 4,058 | 3,365 | 10,162 |
| 2017 | 4,579 | 4,159 | 3,386 | 10,162 |
| 2018 | 4,735 | 4,263 | 3,406 | 10,162 |
| 2019 | 4,896 | 4,370 | 3,426 | 10,162 |
| 2020 | 5,062 | 4,479 | 3,447 | 10,162 |
| 2021 | 5,234 | 4,591 | 3,468 | 10,162 |
| 2022 | 5,412 | 4,706 | 3,488 | 10,162 |
| 2023 | 5,596 | 4,824 | 3,509 | 10,162 |
| 2024 | 5,787 | 4,944 | 3,530 | 10,162 |
| 2025 | 5,983 | 5,068 | 3,552 | 10,162 |
| 2026 | 6,187 | 5,194 | 3,573 | 10,162 |

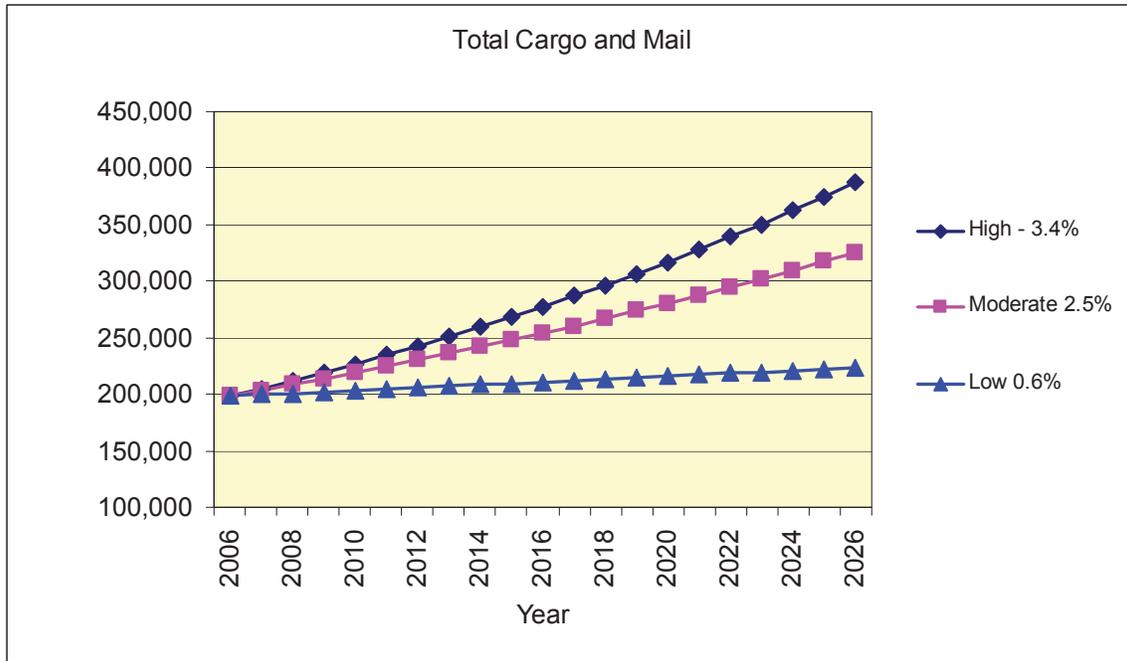
Figure 2-2
 Passenger Enplanements Forecast
 Port Lions Airport



Source: Compiled by HDR Alaska, Inc., November 2006

| Year | Low | Moderate | High | TAF |
|------|-------|----------|-------|-------|
| 2006 | 2,143 | 2,143 | 2,143 | 2,665 |
| 2007 | 2,216 | 2,197 | 2,156 | 2,665 |
| 2008 | 2,291 | 2,251 | 2,169 | 2,665 |
| 2009 | 2,369 | 2,308 | 2,182 | 2,665 |
| 2010 | 2,450 | 2,365 | 2,195 | 2,665 |
| 2011 | 2,533 | 2,425 | 2,208 | 2,665 |
| 2012 | 2,619 | 2,485 | 2,221 | 2,665 |
| 2013 | 2,708 | 2,547 | 2,235 | 2,665 |
| 2014 | 2,800 | 2,611 | 2,248 | 2,665 |
| 2015 | 2,895 | 2,676 | 2,262 | 2,665 |
| 2016 | 2,994 | 2,743 | 2,275 | 2,665 |
| 2017 | 3,096 | 2,812 | 2,289 | 2,665 |
| 2018 | 3,201 | 2,882 | 2,302 | 2,665 |
| 2019 | 3,310 | 2,954 | 2,316 | 2,665 |
| 2020 | 3,422 | 3,028 | 2,330 | 2,665 |
| 2021 | 3,539 | 3,104 | 2,344 | 2,665 |
| 2022 | 3,659 | 3,181 | 2,358 | 2,665 |
| 2023 | 3,783 | 3,261 | 2,372 | 2,665 |
| 2024 | 3,912 | 3,342 | 2,387 | 2,665 |
| 2025 | 4,045 | 3,426 | 2,401 | 2,665 |
| 2026 | 4,182 | 3,512 | 2,415 | 2,665 |

Figure 2-3
Cargo Operations Forecast
Port Lions Airport



Source: Compiled by HDR Alaska, Inc., November 2006

| Year | Low | Moderate | High |
|------|---------|----------|---------|
| 2006 | 198,519 | 198,519 | 198,519 |
| 2007 | 199,710 | 203,482 | 205,269 |
| 2008 | 200,908 | 208,569 | 212,248 |
| 2009 | 202,114 | 213,783 | 219,464 |
| 2010 | 203,327 | 219,128 | 226,926 |
| 2011 | 204,546 | 224,606 | 234,641 |
| 2012 | 205,774 | 230,221 | 242,619 |
| 2013 | 207,008 | 235,977 | 250,868 |
| 2014 | 208,250 | 241,876 | 259,398 |
| 2015 | 209,500 | 247,923 | 268,217 |
| 2016 | 210,757 | 254,121 | 277,337 |
| 2017 | 212,021 | 260,474 | 286,766 |
| 2018 | 213,294 | 266,986 | 296,516 |
| 2019 | 214,573 | 273,661 | 306,598 |
| 2020 | 215,861 | 280,502 | 317,022 |
| 2021 | 217,156 | 287,515 | 327,801 |
| 2022 | 218,459 | 294,703 | 338,946 |
| 2023 | 219,770 | 302,070 | 350,470 |
| 2024 | 221,088 | 309,622 | 362,386 |
| 2025 | 222,415 | 317,362 | 374,707 |
| 2026 | 223,749 | 325,296 | 387,447 |

2.9 Step 6. Compare Airport Planning Forecast Results with TAF

Table 2-11 presents a comparison between the updated air traffic forecast for Port Lions Airport and the FAA TAF. Based on communication with FAA personnel, the FAA TAF is an estimate of air traffic activity and does not accurately reflect actual conditions at the Port Lions airport. The updated forecast presented in this report is based on current actual data as described in Section 3.0 of this report and is more representative of actual air traffic at Port Lions Airport.

Table 2-11
Air Traffic Forecast, Port Lions Airport
Federal Aviation Administration, Terminal Area Forecast

| | | <u>Airport Forecast</u> | <u>Base Year TAF</u> | <u>AF/TAF (% Difference)</u> |
|--|------|-----------------------------|------------------------------|----------------------------------|
| Passenger Enplanements | | | | |
| Base yr. | 2006 | 2,143 | 2,665 | -20% |
| Base yr. + 5yrs. | 2011 | 2,425 | 2,665 | -9% |
| Base yr. + 10yrs. | 2016 | 2,743 | 2,665 | 3% |
| Base yr. + 15yrs. | 2021 | 3,104 | 2,665 | 16% |
| Base yr. + 20yrs. | 2026 | 3,512 | 2,665 | 32% |
| Commercial Operations | | | | |
| Base yr. | 2006 | 2,440 | 9,662 | -75% |
| Base yr. + 5yrs. | 2011 | 2,761 | 9,662 | -71% |
| Base yr. + 10yrs. | 2016 | 3,123 | 9,662 | -68% |
| Base yr. + 15yrs. | 2021 | 3,534 | 9,662 | -63% |
| Base yr. + 20yrs. | 2026 | 3,998 | 9,662 | -59% |
| General Aviation Operations | | | | |
| Base yr. | 2006 | 720 | 500 | 44% |
| Base yr. + 5yrs. | 2011 | 815 | 500 | 63% |
| Base yr. + 10yrs. | 2016 | 922 | 500 | 84% |
| Base yr. + 15yrs. | 2021 | 1,043 | 500 | 109% |
| Base yr. + 20yrs. | 2026 | 1,180 | 500 | 136% |
| Total Operations | | | | |
| Base yr. | 2006 | 3,170 | 10,162 | -69% |
| Base yr. + 5yrs. | 2011 | 3,587 | 10,162 | -65% |
| Base yr. + 10yrs. | 2016 | 4,058 | 10,162 | -60% |
| Base yr. + 15yrs. | 2021 | 4,591 | 10,162 | -55% |
| Base yr. + 20yrs. | 2026 | 5,194 | 10,162 | -49% |

1. The TAF does not provide a forecast beyond 2025. TAF data shown for 2026 is actually 2025.
Note: TAF data is on a U.S. government fiscal year basis (October through September)

Table 2-12 presents the 20-year air traffic forecast for the Port Lions airport. Average annual growth rates are presented for purposes of evaluation.

| | Forecast Levels, Base Year 2006 | | | | | Average Annual Compound Growth Rates | | | |
|--|---------------------------------|----------------------------|-----------------------------|------------------------------|------------------------------|--------------------------------------|------------------------|-------------------------|-------------------------|
| | 2006 Base Yr. Level | 2007 Base Yr. + 1Yr. | 2011 Base Yr. + 5Yrs. | 2016 Base Yr. + 10Yrs. | 2026 Base Yr. + 20Yrs. | 2007 Base yr. to +1 | 2011 Base yr. to +5 | 2016 Base yr. to +10 | 2026 Base yr. to +20 |
| Passenger Enplanements (Commercial) | | | | | | | | | |
| Air Carrier | 0 | 0 | 0 | 0 | 0 | 0.0% | 0.0% | 0.0% | 0.0% |
| Commuter | 2,143 | 2,197 | 2,425 | 2,743 | 3,512 | 2.5% | 2.5% | 2.5% | 2.5% |
| TOTAL | 2,143 | 2,197 | 2,425 | 2,743 | 3,512 | 2.5% | 2.5% | 2.5% | 2.5% |
| Operations | | | | | | | | | |
| <u>Itinerant</u> | | | | | | | | | |
| Air Carrier | 0 | 0 | 0 | 0 | 0 | 0.0% | 0.0% | 0.0% | 0.0% |
| Commuter/air taxi | 2,440 | 2,501 | 2,761 | 3,123 | 3,998 | 2.5% | 2.5% | 2.5% | 2.5% |
| Total Commercial Operations | 2,440 | 2,501 | 2,761 | 3,123 | 3,998 | 2.5% | 2.5% | 2.5% | 2.5% |
| General aviation | 720 | 738 | 815 | 922 | 1,180 | 2.5% | 2.5% | 2.5% | 2.5% |
| Military | 10 | 10 | 11 | 13 | 16 | 2.5% | 2.5% | 2.5% | 2.5% |
| <u>Local</u> | | | | | | | | | |
| General aviation | 0 | 0 | 0 | 0 | 0 | 0.0% | 0.0% | 0.0% | 0.0% |
| Military | 0 | 0 | 0 | 0 | 0 | 0.0% | 0.0% | 0.0% | 0.0% |
| TOTAL | 3,170 | 3,249 | 3,587 | 4,058 | 5,194 | 2.5% | 2.5% | 2.5% | 2.5% |
| Based Aircraft | | | | | | | | | |
| Single Engine (Nonjet) | 1 | 1 | 1 | 1 | 1 | 0.0% | 0.0% | 0.0% | 0.0% |
| Multi Engine (Nonjet) | 0 | 0 | 0 | 0 | 0 | 0.0% | 0.0% | 0.0% | 0.0% |
| Helicopter | 0 | 0 | 0 | 0 | 0 | 0.0% | 0.0% | 0.0% | 0.0% |
| Ultra Light | 0 | 0 | 0 | 0 | 0 | 0.0% | 0.0% | 0.0% | 0.0% |
| Other | 0 | 0 | 0 | 0 | 0 | 0.0% | 0.0% | 0.0% | 0.0% |
| TOTAL | 1 | 1 | 1 | 1 | 1 | 0.0% | 0.0% | 0.0% | 0.0% |

Source: HDR Alaska, Inc. November 2006

2.10 Step 7. Obtain approval of the forecast

The FAA has a responsibility to review aviation forecasts that are submitted to the agency in conjunction with airport planning, including airport master plans and environmental studies. FAA reviews such forecasts with the objective of including them in its TAF and the NPIAS. In addition, aviation activity forecasts are an important input to benefit-cost analyses associated with airport development, and FAA reviews these analyses when federal funding requests are submitted. The FAA has an Advisory Circular (AC) on Airport Master Plans, AC 150/5070-6B, dated July 2005, which includes a chapter on aviation forecasts.

The forecasts should be:

- ⇒ Realistic
- ⇒ Based on the latest available data
- ⇒ Reflect the current conditions at the airport
- ⇒ Supported by information in the study
- ⇒ Provide an adequate justification for the airport planning and development.

While the forecast methods provide a means for developing quantifiable results, aviation forecasters must use their professional judgment to determine what is reasonable as recommended in AC 150/5070-7, “The Airport System Planning Process”- paragraph 506.

In essence, then, FAA will find an airport planning forecast generally acceptable if the 5-year, 10-year, and 15-year forecast levels for the airport forecast and the TAF are within 10 percent of each other. The relevant parameters that should come within 10 percent are total airport operations, total commercial operations, and total enplanements. It should be emphasized that if the proposed airport forecast exceeds the TAF by more than 10 percent and is considered valid on FAA review, it will be incorporated into the TAF and NPIAS.

HDR believes that the forecast presented does represent a realistic outlook based on available data, reflecting the current conditions of the Port Lions Airport that can be used to provide justification for future airport planning as defined in AC 150/5070-7, “The Airport System Planning Process.”

2.11 FAA Approval

The FAA Alaska Region, Airports Division approved this forecast on December 5, 2006.

3.0 FACILITY REQUIREMENTS

3.1 Summary

The build alternative recommends a community class runway of 3,300 feet by 75 feet with standard safety area 3,900 feet by 150 feet. The runway would have medium intensity runway lights. A standard 60,000 square foot apron (200 ft x 300 ft) and 30,000 square foot leasing area (100 ft x 300 ft) would be constructed adjacent to each other. A single taxiway would connect the apron to the runway. A new Snow Removal Equipment Storage Building on a 10,000 square foot pad (100 ft x 100 ft) should be constructed to house the existing grader; and a front end loader with a snow blade should be assigned to the airport to help with snow removal operations.

This structure could be two separate smaller structures that each house one piece of equipment. The SREB pad would be located so it does not interfere with the apron usage or lease lot activity.

3.2 General

Access to Port Lions will continue to be by air and water. The Port Lions Airport will continue to serve a prime role in quickly moving people, small goods, and mail (including bypass mail) to and from Kodiak and the community. Port Lions is close enough to Kodiak that water access will continue to play a major role in commerce. Heavy and bulk items will continue to travel to Port Lions by water due to the capability and cost.

3.3 Emerging Trends

Several events are on the horizon that will change air service to Kodiak Island and the communities on the Island. Fuel availability and price will change the aircraft fleet. Most of the aircraft serving Kodiak Island are piston powered single engine and twin engine airplanes. These aircraft burn aviation grade gasoline containing tetra-ethyl lead, also called leaded gasoline. There is considerable uncertainty over the availability of leaded gasoline by the end of the planning period. Leaded gasoline has to be made and handled separately from the remaining gasoline products at a refinery. It also has to be shipped in containers or barges specifically used for leaded gasoline so residual lead does not contaminate other gasoline supplies. This special handling requirement makes the cost of aviation fuel very high. In some rural areas of Alaska the price of aviation fuel is over \$8.00 per gallon in the summer of 2006. Suppliers have not made any definitive statements about stopping the manufacture of leaded aviation fuel, but it would be prudent to plan on changes in the future.

Those changes could mean the aircraft fleet migrating towards turbine powered aircraft, probably turbine powered propeller type aircraft also called turboprop. Alaska has already seen this trend in some rural areas. Turbine powered aircraft can use a wider variety of fuel, and the fuel can be shipped in the same containers used for other petroleum products. The capital cost for turbine powered aircraft is higher, but the time between major engine maintenance is also much greater. There is a high probability that twin turboprop aircraft will be serving the villages on Kodiak Island by the end of the planning period.

One of the other drivers in this change in the fleet is the US Congress. The US Postal Service provides priority and other classes of mail service to rural Alaska, and in locations where the community is not on the highway system, the mail moves by air. A 1985 special provision in Federal law permits and subsidizes the delivery of fourth class mail at rates that are significantly lower than freight rates. Stores or businesses that ship large quantities of goods such as groceries and other consumer goods palletize their loads and deliver them directly to an air cargo shipper, bypassing the Post Office. Thus the term Bypass Mail is used for these shipments. A postal official at the air carrier facility accepts the pallet on behalf of the Post Office, and bills for the fourth class postage. The air carrier is responsible for delivery of the goods to the recipient in the destination community. Individuals can also ship goods by fourth class mail, but those packages must be taken to a post office. Approximately 75% of the fourth class mail to rural Alaska is transported as bypass mail. Hazardous materials and construction materials are not

accepted by the Post Office as fourth class mail, and must be shipped by air freight. Delivery of mail by air at these favorable rates has facilitated a better flow of goods to rural Alaska.

The Rural Air Service Improvement Act (RSIA) (Public Law 107-206, Sec. 3002, 2002) changed the freight, mail, and passenger service in rural Alaska. One of these changes is the encouragement of air carriers to upgrade to larger aircraft flying under 14 CFR 121, rather than the air taxi operations under 14 CFR 135. A Part 121 air carrier that hauls both passengers and mail has a mail dispatch priority over a Part 135 air carrier. The intent of Congress was to reward air carriers who fly passengers and to discourage air carriers who only fly mail. No air carrier on Kodiak Island has yet stepped forward to secure a Part 121 certificate. Nonetheless it is prudent for the villages on Kodiak Island to plan for this possible change.

The FAA and industry working groups are also working to improve the Instrument Flight Rules (IFR) capability on and around Kodiak Island. Currently only the Kodiak Airport has instrument approach and departure procedures. In general the plan is to create a ring shaped airway around the Island where IFR aircraft could safely fly clear of terrain and low enough to be below icing levels most of the year. This is now possible through the use of Area Navigation (RNAV) using the Wide Area Augmentation System (WAAS) signals to enhance Global Positioning System (GPS) satellite navigation. Approach and Departure procedures for the villages would connect to this ring. Thus, it is important for each village on the Island to plan for this eventuality. Each airport should have the capability for a WAAS enhanced GPS approach and departure. The Capstone Project in other parts of Alaska is accelerating the development of avionics and the type of procedures that will be used around Kodiak Island in the future.

3.4 Design Hour demand

Capacity is not anticipated to be an issue for Port Lions. The single runway and taxiway planned for this facility should be able to handle all anticipated traffic loads with no delays. HDR estimates the peak hour of the average day of the peak month is approximately 6 aircraft. This is well below the calculated capacity of the runway. The airfield capacity for Port Lions in a single runway, single taxiway, VFR condition is approximately 50 aircraft per hour per AC 150/5060-5. This is far more capacity than is needed for the anticipated volume of traffic.

3.5 Security

Port Lions is not anticipated to be served by the size of aircraft that require a formal security program under Federal Regulation 49 CFR 1544; airports served by aircraft with more than 60 passenger seats require this type of program. Thus this airport will not require a formal airport security program to support an air carrier security program. However, general security guidelines do apply to Port Lions just as they apply to all small airports in Alaska.

Federal Regulation 49 CFR 1540 contains general rules for Civil Aviation Security that applies to all segments of civil aviation. It sets forth definitions, and specifies the responsibility of passengers and air carrier employees towards aviation security.

Federal Regulation 49 CFR 1550 applies to the operation of aircraft that are not covered under other security programs, including general aviation. This regulation authorizes the

Transportation Security Administration (TSA) to inspect any aircraft at any time. This regulation also sets forth a requirement that any aircraft over 12,500 pounds must screen passengers if they do not already screen passengers under another security program.

Security fencing is not required by these regulations. A wildlife control safety fence may be considered in the future should deer or bears become a hazard to aircraft operations. One of the early community requests was for a gate across the access road to the apron to control vandalism on the airport. DOT&PF Central Region Maintenance¹ does not agree with a gate as the proper method to control vandalism. Gates require locks and key control procedures to allow authorized apron access for freight and mail and passengers, and require repairs when the gates and locks are damaged which are not budgeted items at rural airports like Port Lions. Other rural airports utilize vigilance and social controls to manage vandalism. The airport access road will not traverse the apron like the road does to the old apron and should direct vehicles away from the aircraft operation area. A simple barricade of barrels or sawhorses could be installed by the community across the access road to the apron to further discourage unauthorized access but Maintenance does not want to be involved in these community decisions.

3.6 Airspace and Airfield

The volume of traffic is not sufficient to justify an air traffic control tower. In order for an airport to qualify for an FAA funded air traffic control tower the annual operations need to be in 40,000 to 60,000 range; the exact number depends on the mix of civilian and military and the size of the aircraft. It is anticipated this airport will continue to operate as a non-towered airport. The airspace around and over the airport is currently shown as Class G uncontrolled. In the future, when an instrument approach procedure is developed for the airport, this airspace will be upgraded to Class E to protect aircraft using the instrument approach procedure.

The selection of a design aircraft for Port Lions is primarily based on future anticipation of what could happen with the fleet. Currently two of the air carriers serving Port Lions (and the rest of Kodiak Island) utilize Britten Norman Twin Islander aircraft. This aircraft is only used in Alaskan markets where runways are short and twin engine reliability for over water operation is desired. In the future the fleet will change. Currently Servant air also flies a Piper Navajo and Aztec. The Navajo requires a runway in the length approximated by a community class airport to operate at full loads. Medical evacuation aircraft flying out of Anchorage are twin turbine aircraft that also require a runway in the community class length. The Alaska Aviation System Plan (AASP) recognized this problem and basically recommended a facility that would accommodate 100 percent of the fleet smaller than 12,500 pounds with a community class airport. A community class airport in the AASP generally meets the design standards for an Airport Reference Code (ARC) of B-I. The AASP recommends a community class airport unless an airport of different dimensions can be justified. Since heavy freight is transported to Port Lions by water, HDR recommends a community class airport for Port Lions. Table 3-1 sets forth the dimensional standards for a community class airport.

¹ Personal Communication, Anna Walker, Safety and Security Officer, March 15, 2007

Table 3-1
Minimal Dimensional Standards
Port Lions Airport

| | <u>Community Class Standards (ARC B-II)</u> |
|--|---|
| Runway Length DOT&PF Standard | 3,300 ft ^A |
| Runway Width | 75 ft |
| Runway Shoulder Width | 10 ft |
| Runway Safety Area Length beyond each threshold | 300 ft |
| Runway Safety Area Width | 150 ft |
| Runway Protection Zone Length | 1,000 ft |
| Runway Protection Zone Inner Width | 500 ft |
| Runway Protection Zone Outer Width | 700 ft |
| Obstacle Free Zone Length beyond each threshold | 200 ft |
| Obstacle Free Zone Width | 250 ft |
| Object Free Area Length beyond each threshold | 300 ft |
| Object Free Area Width | 500 ft |
| Runway Centerline to Aircraft Parking Area | 250 ft |
| Apron Size | 200 ft x 300 ft |
| Taxiway Width | 35 ft |
| Taxiway Shoulder Width | 10 ft |
| Taxiway Safety Area Width | 79 ft |
| Taxiway Object Free Area Width | 131 ft |
| Taxiway Length | 212.5 ft |

Note: These dimensions are minimal dimensions. The AASP suggests these dimensions can be exceeded with justification.

3.7 Passenger Terminal

The latest Alaska Aviation System Plan states that DOT&PF as the airport operator will not construct common use passenger terminals at rural airports. Most other rural airports with passenger terminals have had them constructed by air carriers wishing to provide that additional service to their customers. In a few cases a local government has constructed a passenger terminal, and then leased use of all or parts of the terminal to air carriers. In a few cases the local government operates the terminal as a service to the citizens and air carriers at no cost. In these cases the Alaska Administrative Code 17AAC 45.130 allows a rent reduction or waiver in the lease rental collected by the DOT&PF.

We anticipate the status quo will continue for Port Lions. Passengers generally travel to the airport in vehicles, and during inclement weather conditions stay inside the vehicle until it is time to board the aircraft. The use of vehicles substitutes for the need for a passenger terminal.

3.8 General Aviation

The DOT&PF as the airport operator will not construct any aircraft hangers to store aircraft. Any aircraft hangers will be constructed by tenants on the airport. Public aircraft tie downs sufficient to tie down four aircraft should be installed. This will provide parking for any resident aircraft plus any transient aircraft that need to tie down in Port Lions. An apron approximately 90,000 square feet should accommodate the tie downs and provide turn around space for aircraft to unload passengers and freight, reload, and takeoff.

3.9 Cargo

The regulations governing the storage and handling of air cargo and mail could potentially change. Currently, mail is transferred from the aircraft to a local station agent for delivery to the post office. Bypass mail is supposed to be picked up by the air carrier station agent and delivered to the recipient. Cargo is either left on the apron for the recipient to pick up, or delivered by the station agent. Future air cargo regulations may preclude leaving cargo unattended on the apron. If this happens, someone would either have to watch over the cargo until it is picked up or deliver it to the recipient.

3.10 Support

Port Lions as a non Part 139 airport is not required by the FAA to have Airport Rescue and Fire Fighting equipment (ARFF). In the event of an airport emergency, the local municipal response would be anticipated to respond. The airport is also not required to have trained first responders, thus the local emergency fire and medical response would be the first on the scene of an airport incident supplemented by response from adjacent communities or from the US Coast Guard and trained airport staff flown in from Kodiak if needed. An airport maintenance Snow Removal Equipment Building (SREB) should be provided to store the equipment used for snow removal. The DOT&PF has a relatively new grader at Port Lions and this should be supplemented with a loader with a snow blade to facilitate clearing snow from around the runway lights. Fuel storage and de-icing are not anticipated on the apron at Port Lions. Any aircraft maintenance is anticipated to be conducted in Kodiak where larger facilities and better access to parts and support exist.

3.11 Ground Access, parking

The access road from town to the current airport apron will need to be relocated to the northwest side of the airport to access the new apron. A trail off of the end of the old runway provided access to Talnik Point. A replacement trail should be constructed to allow traditional uses to continue.

3.12 Utilities

Power is currently extended to the airport to power the runway lights. This power feed should be moved as part of the project to provide power at the new apron. A new lighting vault should be constructed as part of the project. Power will also be needed at the snow removal equipment storage building. A phone line extension is also encouraged. A phone in the SREB is very useful. Also since cell phone service does not exist in Port Lions, a pay phone at the apron for pilots to get weather briefings and to open and close flight plans would be a safety enhancement for the airport. Should an automated weather observation system be installed in the future, a phone line is necessary to send the data into the National Weather Service network.

3.13 Other

Design of the new airport needs to consider continued use of the beach adjacent to the airport for traditional fishing and gathering activities.

4.0 ALTERNATIVES DEVELOPMENT AND EVALUATION

4.1 Summary

One build alternative and a no-build alternative were put forward in the environmental document. The build alternative is the preferred alternative.

4.2 General

This section of the airport master plan brings together different elements of the planning process to meet both the needs of the airport users as well as the needs of the airport sponsor. An Environmental Analysis is being written in conjunction with this airport master plan. HDR looked at a variety of ways to meet the air transportation needs of Port Lions; and towards that end identified only one development option that would meet those needs.

4.3 Alternatives Analysis Process

Alternatives were evaluated and analyzed as to whether they would meet the current and future aeronautical needs plus the environmental conflicts associated with each. While HDR did not conduct a detailed wetlands study and wildlife assessment of each alternative, we evaluated the layout of the various alternatives on aerial photography and made estimates of wetland impacts after conducting ground truthing surveys of some of the locations. We also evaluated the aerial obstruction issues associated with the most promising alternative in accordance with Advisory Circular 150/5300-13.

4.4 Identification of Alternatives

Several alternatives were considered. An alternative to place the airport in the drainage basin of Branchwater Creek was rejected since this drainage is the watershed for the municipal water supply. Another alternative further west beyond the Branchwater Creek drainage was rejected due to the expense of constructing the access road, the severe impact to wetlands, probable deep peat and ash foundation soils, and the runway being higher would be useable less of the time due to weather issues. An alternative on Pelegribni Point was considered and rejected. Planning

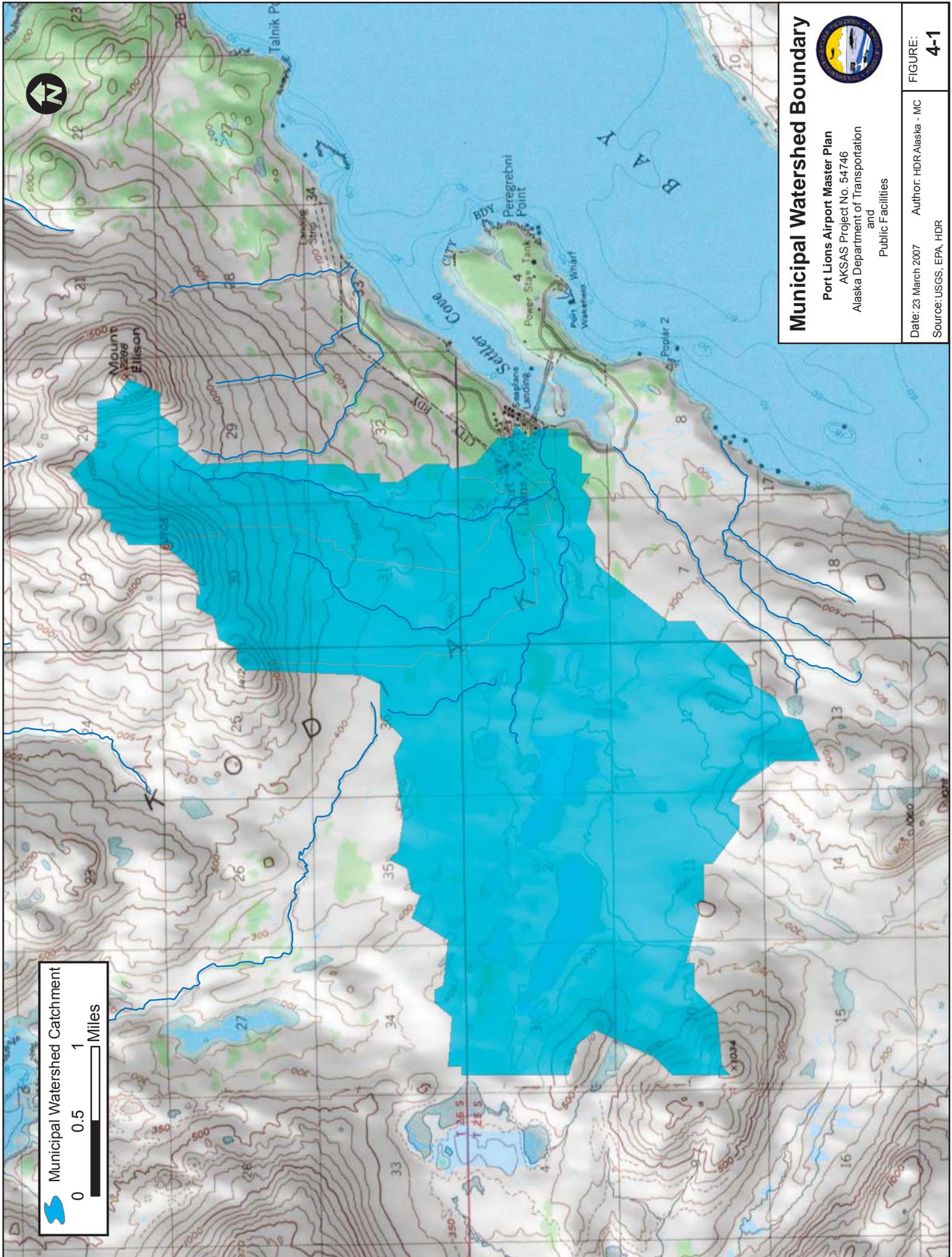
level contour mapping indicate the runway would cut through two hills with a 30 to 35-foot cut and fill a swamp in the middle. Construction on this site would require approximately 1.3 million cubic yards of excavation and would require clearing of at least 110 acres of heavy timber. The Kodiak Island Borough has zoned a portion of the property affected by a potential runway alignment as public lands; however, the remaining property is set aside as conservation. The alignment would also impact an already established sub-division with established residences on the southwest end of the alignment. The Community of Port Lions was adamantly opposed to changing the established land uses for this area. Alternative 1, an extension of the existing runway on the current alignment was dropped from consideration due to the environmental impacts of constructing the embankment fill into the inter-tidal wetlands deemed to be critical habitat and subsistence use area. HDR carried one build alternative forward in the environmental documentation in addition to the no-build alternative. The build alternative (Alternative 2) is a rotation relative to the existing runway alignment and construction of a new runway (see Figure 4-1).

4.5 Selection of Recommended Alternative

The recommended alternative (Alternative 2) is to rotate the runway alignment and extend the length to the DOT&PF community class standard of 3,300 feet with standard runway safety areas. A 300-foot by 300-foot apron and lease lot area would be connected to the runway with a single taxiway. A 100-foot by 100-foot maintenance area would hold a new two-bay snow removal equipment storage building, or two one-bay buildings depending on the requirements of Maintenance. A new portion of two-lane access road would connect the old access road to the new apron. A single lane access road would provide access from the apron to connect with the trail to Talnik Point east of the end of the new runway. The old portions of the airport access road and Talnik Point trail would be obliterated to limit unauthorized access to the new runway. The runway should be paved to provide better service to the community. This alternative is the only alternative that will meet all of the project objectives and will provide a community class airport of adequate length to meet the future aviation needs in Port Lions including the potential for an instrument approach to the airport for better access in inclement weather.

The terrain around the airport Alternative 2 is problematic in two areas. The Part 77 transition surface is normally a 7:1 slope that is not penetrated by terrain. It would take massive cuts into the mountain north of the runway to achieve a clear transition surface for the recommended alternative to meet standards. Discussions with FAA recommended that this slope could be steeper and shown on the ALP as a non-standard condition.

Terrain on the approaches was also problematic. FAA guidance is contained in AC 5300-13, for siting the threshold to avoid terrain. The resulting analysis is shown on Figures 4-2, 4-3, and 4-4 and in the ALP. Terrain penetrations exist for the approaches to both ends of the proposed runway. The analysis found that this terrain penetration could be mitigated by installing Precision Approach Path Indicator (PAPI) lights on both ends of the runway as allowed in the AC. The PAPI will need to be set at a nominal 4° approach slope. The normal approach slope is 3°; however, the steeper 4° is allowed. The steeper approach slope can easily be flown by all of the aircraft anticipated to utilize this runway. A flight check by FAA is required to ensure there are no unanticipated issues.



Municipal Watershed Catchment

0 0.5 1 Miles

Municipal Watershed Boundary



Port Lions Airport Master Plan
 AKSAS Project No. 54746
 Alaska Department of Transportation
 and
 Public Facilities

Date: 23 March 2007 Author: HDR Alaska - MC
 Source: USGS, EPA, HDR

FIGURE:
4-1



Figure 4.2

Legend

- Runway and Taxiway
- Apron
- Runway Safety Area
- Runway Protection Zone
- Access Road and Trail
- Airport Property Boundary
- Cut and Fill
- Wasting Site Location

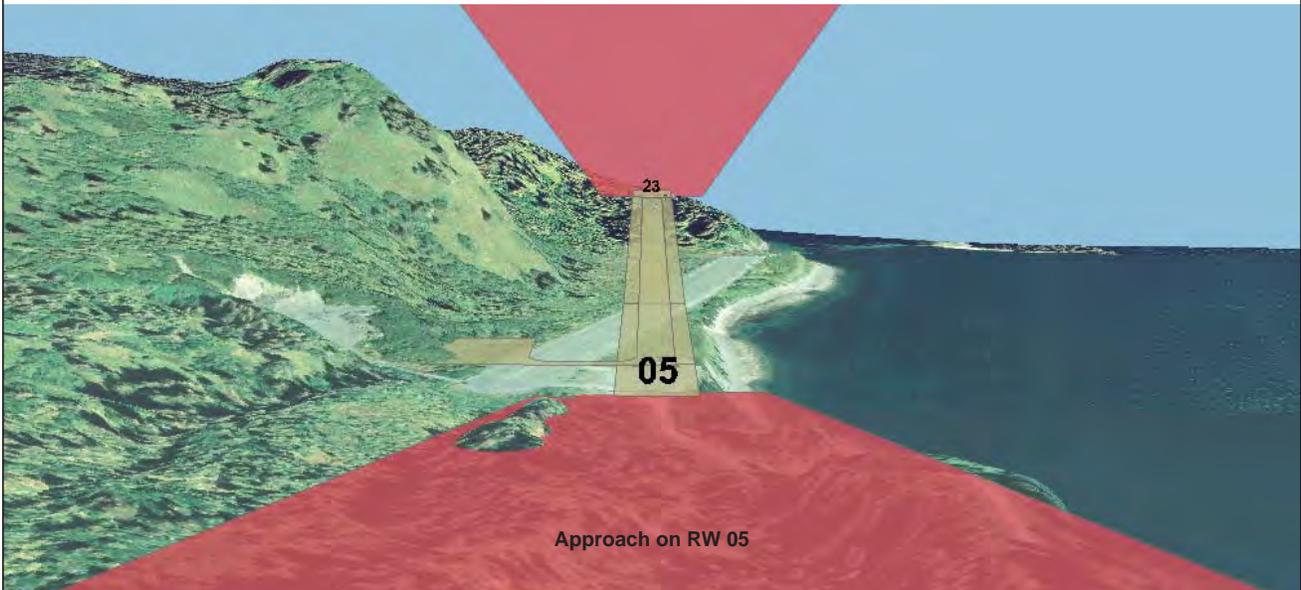
0 125 250 500 750 1,000 Feet

Proposed improvements include:

1. Realign runway and lengthen to 3,300 feet, but maintain runway width of 75 feet.
2. Construct a 300-foot by 150-foot runway safety area (RSA) beyond each runway end (Runway 05 and 23).
3. Construct a 212-foot long by 35-foot wide taxiway to provide adequate runway separation distance.
4. Construct an apron with a maintenance pad for a snow removal equipment building (SREB) and an aviation support area for potential lease lot development.
5. Construct a 0.95-mile airport bypass road on the north side of the airport to access areas to the east of Runway 23.
6. Construct a 1,100-foot trail to relocate an existing segment near the northwest end of the runway that will be eliminated through cut/fill activities.
7. Install a gate across airport access roads to limit unauthorized incursions onto airport property.
8. Replace lighting system.

**Port Lions Airport Master Plan
Environmental Assessment
Alternative 2
Runway Realignment**

AKSAS Project No. 54746
State of Alaska
Department of Transportation
and Public Facilities



PROPOSED RUNWAY
75' X 3,300'

PORT LIONS AIRPORT
PORT LIONS, ALASKA
THRESHOLD SITING SURFACE
APPENDIX 2, TABLE A2-1 LINE 5

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
CENTRAL REGION

FIGURE 4-3

The drawings showing the analysis of the PAPI approach surface clearances is located in Appendix 3. FAA advisory circulars specify a horizontal fan shaped area 10° either side of centerline to be clear of obstructions for four miles beyond the runway threshold; the vertical clearance is formed by the third PAPI light angle forming the Obstruction Clearance Surface (OCS). The nominal 4° approach slope using the threshold crossing height and other parameters as specified in the FAA procedure reduce the OCS angle to 2.8333°. FAA personnel recommend the horizontal fan be expanded to 12° as an additional safety factor; however, this recommended but not required expansion places terrain into the horizontal plane. Should the post construction flight check indicate potential issues, DOT&PF should set up the approaches with the final approach course to the threshold angled away from the terrain per AC 5300-13, paragraph 5c and Figure A2-2.

5.0 AIRPORT LAYOUT PLAN

A new Airport Layout Plan showing the preferred alternative is included with this master plan as Appendix 4.

6.0 FACILITIES IMPLEMENTATION PLAN

Development of the preferred alternative as shown in the ALP cannot realistically be implemented in phases. This project should be constructed with one contract. A safety plan will need to be written as part of the contract to allow air service to continue to Port Lions while the new runway alignment and new apron are under construction. This will be a short term problem that may temporarily restrict aircraft loads. It is anticipated that during construction the old runway will remain in service while the easterly half of the new runway is constructed. Then traffic can start using the easterly half of the new runway while the remainder of the project is built. However, if funding is limited the paving could be deferred to a future date. HDR encourages the paving to be constructed with the initial construction if at all possible to secure the best instrument approach minimums. Paving with the initial construction will also secure the best bid prices because mobilization of paving equipment can occur with the rest of the mobilization.

7.0 FINANCIAL FEASIBILITY

7.1 Cost Estimate

A planning level cost estimate for this project is attached as Appendix 5. The total cost of the project is estimated to be \$13,380,000. If the FAA administered Airport Improvement Program (AIP) is utilized for a majority of the funding, approximately 95% of the project would be paid for with AIP funds. This price is based on the assumption that FAA will approve a non-standard Part 77 transition surface on the north side of the airport. As shown on the ALP drawings, the standard slope is 7:1. A 7:1 slope would require extensive cuts on both approaches and north of the runway itself. Excavation of these obstructions results in a project cost estimated at nearly \$70M. Opening of these cuts is not favored by the community due to the environmental consequences. A 2:1 slope eliminates the majority of these cuts.

The installation of Precision Approach Path Indicator (PAPI) lights also figures prominently into the final price for this project. The new runway alignment has terrain penetrations of the

airspace on the north sides of the approaches to the new runway as defined in AC 150/5300-13. This terrain adversely impacts the threshold siting criteria. HDR calculates that a set of PAPI lights installed on both ends of the runway will allow both VFR and IFR use of the new runway by providing visual guidance over the terrain for pilots on approach. The PAPI will need to be set at the steepest allowable normal setting of 4 degrees. The DOT&PF has a long standing policy that installation and maintenance of navigation aids such as PAPI is the responsibility of the FAA. DOT&PF has contracted with FAA to install PAPI on other projects. The FAA Air Traffic Organization should be brought into the design process early to ensure PAPI are correctly incorporated into the project and ensure the FAA will accept these light systems for ownership and maintenance.

7.2 Airport Project Evaluation Board

Funding for this project will need to compete with all other airport projects statewide. The DOT&PF process for establishing a numerical ranking for projects is called the Airport Project Evaluation Board, or APEB. As a safety project that is improving the airport to Community Class Airport standards, the new runway for Port Lions should compete very well for the limited AIP funds. A negative in the scoring process is the small population of Port Lions which reduces the potential score. DOT&PF will make the final score decision and will need to place this project into the Airport Capital Improvement Spending Plan. Local financial community support can also improve the chances of this project competing with other statewide airport needs. Community support can come in many forms including but not limited to reduced royalties on construction rock and gravel, and reduced selling price for land need for this project.

A new loader is needed, but the APEB is not designed to encourage acquisition of new equipment and will probably reflect a low score for the loader. Maintenance may find it necessary to initially transfer a used loader to Port Lions until it requires replacement in order to justify a new loader. A new Snow Removal Equipment Building (SREB) should be included in this project to protect the investment in the equipment. The system scores projects to replace existing buildings better than it scores installation of buildings where none currently exist. For many years DOT&PF contracted for the grader storage with the City, but that is not currently an option. It is anticipated there would be some savings in mobilization to include the SREB in the airport construction project. A new building is also necessary before purchasing the loader, and would extend the life of the existing grader. HDR encourages the DOT&PF to revisit the APEB policy to encourage installing buildings where none currently exist.

7.3 Airport Improvement Program

The AIP is due to expire at the end of Federal Fiscal Year 2007. Congress needs to reauthorize or renew the program and appropriate funding in order for AIP funds to be available. During the reauthorization process, the AIP program could change the way airport capital projects are funded or it could simply renew the existing program. Airport users can participate in the renewal process by expressing their desires to Congress during the reauthorization debates during the summer of 2007.

Appendix 1
Public Involvement Process

Port Lions Airport Master Plan

The process to develop an Airport Master Plan for the community of Port Lions has begun. The Airport Master Plan is an Alaska Department of Transportation and Public Facilities (DOT&PF) project intended to identify and recommend actions to correct safety and capacity issues with an ultimate goal to provide better and safer air traffic service over the next 20 years to the citizens of Port Lions.



Q. What is an Airport Master Plan?

A. In everyday life, a plan helps us develop a course of action for achieving our goals. In much the same way, an airport master plan helps the DOT&PF and the Federal Aviation Administration (FAA) plan the future of Alaska's airports. The airport planning process involves listening to input from airport users, community members, and regulatory agencies, and then identifying an airport's needs and issues. The goal of the master plan is to identify improvements that accommodate aviation demand while also resolving any operational, environmental, or other challenges. The airport master plan then describes both the needed improvements and the timing of these improvements over the short and the long term.

Q. Why are we preparing an Airport Master Plan for Port Lions?

A. The DOT&PF operates approximately 260 airports across the state and is interested in making sure that public airports in Alaska meet minimum design standards. Preparing a master plan for the Port Lions Airport will help ensure that the airport meets the air transportation needs of the community well into the future. The DOT&PF recognizes the importance of Port Lion's Airport to the mobility of its citizens. Developing a master plan for the community will provide safe, efficient, and adequate aviation facilities that meet the requirements of the DOT&PF and the FAA, as well as satisfy the needs of Port Lions and the Kodiak Island Borough.

Background Information

The state-owned Port Lions Airport is located approximately 247 miles southwest of Anchorage and 19 miles outside of the City of Kodiak. The facility has a single lighted runway with a gravel surface and is 2,200 feet long by 75 feet wide. The standard approach is on Runway 24, and the standard departure is on Runway 6 due to topographical constraints. The airport is served approximately three times daily by Kodiak-based Island Air with a single-engine Piper Cherokee and a twin-engine Brit-Norman Islander. On occasion, Andrews Airways flies into the airport under charter contract, and several privately owned aircraft drop off out-of-state hunters and anglers visiting local sport lodges in the area.

Issues at the Port Lions Airport

Through previous discussions with residents in Port Lions, we understand that this airport master plan must resolve several issues to successfully ensure the future of safe air service for the community. Some of these issues include:

- ➔ *Airport Location.* The airport is confined by coastline and local topography. Is the current airport location suitable for facility expansion?
- ➔ *Runway Wind Coverage.* Local pilots report strong northeast and southwest winds that create turbulent conditions.
- ➔ *Runway Safety Area (RSA) Development.* The existing RSA is deficient at both ends of the runway.
- ➔ *Airport Lighting.* Several runway lights and lights atop the wind cone do not work.
- ➔ *Apron Congestion.* The airport manager indicates that the aircraft apron can become congested with automobiles during summer months.
- ➔ *Wildlife Hazards.* The Port Lions landfill may be within the minimum FAA recommended separation distance between airports and wildlife attractants.
- ➔ *Airport Security.* Reports of vandalism at the airport.



How can I be involved?

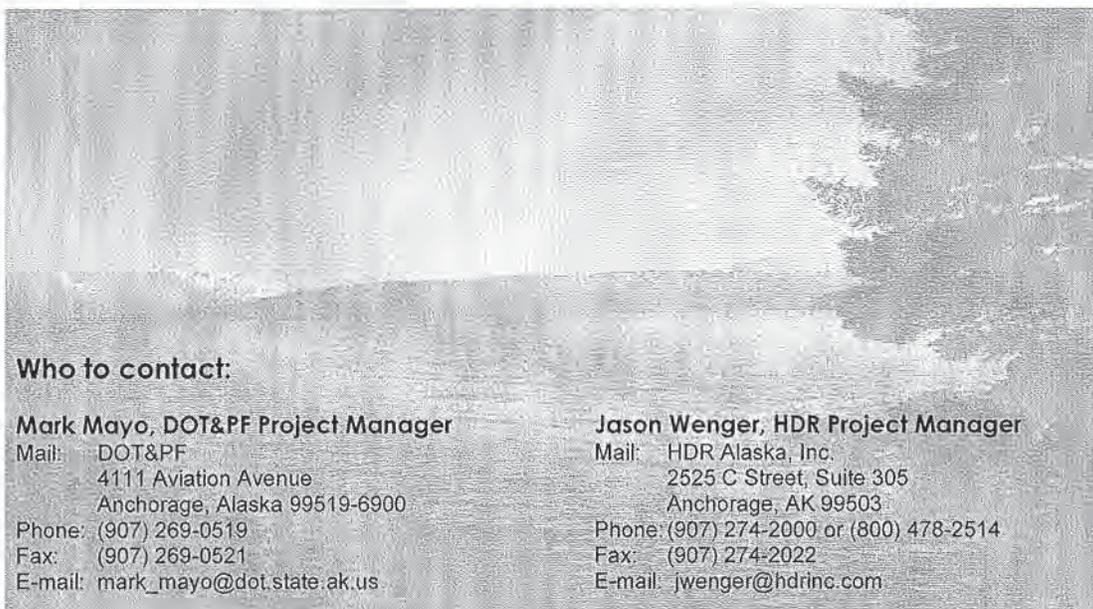
The planning team wants you to be involved in this project. By holding workshops in the community, mailing newsletters, and submitting documents for local review, DOT&PF and its consultant, HDR Alaska, will ensure that the community has an active role in this process. Aside from these formal opportunities to participate, the planning team also invites your comments and questions any time during the process by phone, fax, e-mail, or regular mail. Please contact us.

Project Kickoff Meeting

Please mark your calendar and plan on attending the upcoming project kickoff meeting in Port Lions. The project team will be in Port Lions on **August 21, 2002** and hold a kickoff meeting to introduce the project to the community and answer questions. The meeting is scheduled to begin at **1:00 p.m.** at the **City offices**. Please come and share your ideas about the airport. Your thoughts are important and will help define the direction of the project and the future of the Port Lions Airport.

HDR Alaska, Inc.
Port Lions Airport Master Plan
2525 C Street, Suite 305
Anchorage, AK 99503

To:



Who to contact:

Mark Mayo, DOT&PF Project Manager

Mail: DOT&PF
4111 Aviation Avenue
Anchorage, Alaska 99519-6900
Phone: (907) 269-0519
Fax: (907) 269-0521
E-mail: mark_mayo@dot.state.ak.us

Jason Wenger, HDR Project Manager

Mail: HDR Alaska, Inc.
2525 C Street, Suite 305
Anchorage, AK 99503
Phone: (907) 274-2000 or (800) 478-2514
Fax: (907) 274-2022
E-mail: jwenger@hdrinc.com

Port Lions Airport Scoping Report is Available

The Phase I Scoping Report for the Port Lions Airport Master Plan is now available for review. The report proposes improvements to address safety and capacity needs at the airport over the next twenty years. It looks at existing conditions, evaluates the needs of the airport and community, and provides an initial environmental assessment of the proposed airport improvement projects.

On behalf of the Federal Aviation Administration (FAA), the Alaska Department of Transportation and Public Facilities (DOT&PF) invites you to review the Phase I Scoping Report and submit your comments on the document. Your input will help assure that the final report is complete and covers all important community and airport safety, needs, and issues. Please return comments before **November 28, 2003**.

What is Contained in the Phase I Scoping Report?

The Scoping Report:

- Describes the existing conditions at the airport and in Port Lions
- Outlines FAA and DOT&PF requirements and standards for the airport
- Summarizes community and airport needs and gives a 20-year forecast for the future of the airport
- Presents three alternatives for meeting the safety and community needs (from these alternatives, a Preferred Alternative will be selected and included in the new Port Lions Airport Master Plan)

What Are the Issues at the Port Lions Airport?

The Phase I Scoping Report identifies a number of safety issues and needs at the Port Lions Airport. These are items that do not comply with either FAA or DOT&PF standards for ARC-II aircraft (like the Islander) or DOT&PF standards for a community class airport. Some, but not all, of the issues and needs include:

- ➔ The runway length is too short.
- ➔ The apron can become congested during the summer with aircraft and automobiles.
- ➔ The airport is used to access private property beyond the east end of the runway.
- ➔ The landfill is too close to the airport.
- ➔ The runway safety area length is too short.
- ➔ Trees and hills penetrate the surrounding airspace and compromise the safety of operations.
- ➔ There is no place to tie-down aircraft during high winds.

Where Can I Get More Information?

The Port Lions Airport Master Plan project now has a website where you can get more information, review reports, submit comments and questions, and view the project schedule. The website also has links to the project team to answer your questions and to receive comments on the project and specific reports. The website is a source of up-to-date project information, so visit it often. The website address is: www.portlionsairport.com.

What Are the Suggested Alternatives for Improving the Airport?

No Action Alternative

No airport improvements would be made under this alternative, other than those already planned and programmed. The airport would continue to be maintained and operated as it is.

Alternative 1

The runway would be extended from 2,200 ft to 2,700 ft. The apron would be moved to the north side of the runway. A new access road would be developed on the north side of the airport that would connect to the existing trail, and the existing road around the airport would be closed.



Alternative 1

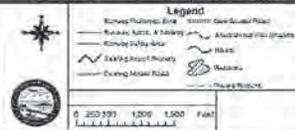


Alternative 2

Port Lions Airport Master Plan

AKSAS Project No. 51746
Alaska Dept. of Transportation
and Public Facilities

0 200 400 1,000 1,500 Feet



Alternative 2

The airport would be realigned and extended to 2,700 ft. The apron would be moved to the north side of the runway. Similar to Alternative 1, a new airport bypass road would be developed on the north side of the airport.

Receive a Copy of the Scoping Report

Your participation in this review is important. A copy of the Scoping Report may be downloaded from the project website at www.portlionsairport.com, or you can obtain the report from Mark Mayo at DOT&PF.

Please submit your comments and questions any time before **November 28, 2003** by phone, fax, e-mail, or regular mail. Comments and questions may also be given during the next public meeting on October 30, 2003.

Lunch on us!

A public scoping meeting will be held regarding the Port Lions Airport Master Plan.

Thursday, October 30, 2003

12:00 Noon

Port Lions City Hall

Come grab something to eat and:

- Learn about the proposed airport improvements alternatives
- Give your comments on the alternatives
- Voice any concerns you may have
- Ask the project team questions

HDR Alaska, Inc.
Port Lions Airport Master Plan
2525 C Street, Suite 305
Anchorage, AK 99503



To:

Public Scoping Meeting—Lunch is On Us!



Who to contact:

| | |
|--|--|
| Mark Mayo, DOT&PF Project Manager | Robin Reich, HDR Environmental Planner |
| Mail: DOT&PF | Mail: HDR Alaska, Inc. |
| 4111 Aviation Avenue | 2525 C Street, Suite 305 |
| Anchorage, Alaska 99519-6900 | Anchorage, AK 99503 |
| Phone: (907) 269-0519 | Phone: (907) 644-2000 or (800) 478-2514 |
| Fax: (907) 269-0521 | Fax: (907) 644-2022 |
| E-mail: mark_mayo@dot.state.ak.us | E-mail: robin.reich@hdrinc.com |
| | jason.wenger@hdrinc.com |

Anchorage Daily News

Anchorage Daily News Display Ad Request

To: Karen, Anchorage Daily News

Contact: Robin Reich, HDR Alaska, Inc., phone 644-2000/fax 644-2022

Billing: Jodi Lindall, HDR Alaska Inc. 2525 C St. Suite 305, Anchorage, AK 99503

Ad Size: Final size should be 2 columns wide and about 5½ inches long.

Run Dates: One day—October 16, 2003

Preferred Section: Front Section



Port Lions Airport Master Plan State Project No. 54746 Notice of Intent to Conduct Preliminary Engineering, and Environmental Studies, and Notice of Wetland Involvement

The Alaska Department of Transportation and Public Facilities (DOT&PF) and the Federal Aviation Administration (FAA) are preparing an environmental assessment as part of the Port Lions Airport Master Plan.

Airport improvement project alternatives include:

- ◆ Extending the runway length from 2,200 ft to 2,700 ft
- ◆ Realigning and extending the runway
- ◆ Moving the apron to north side of the runway
- ◆ Constructing a new airport bypass road on the north side of the airport that would connect to the existing trail
- ◆ Closing the existing bypass road

.....

Invitation to a Public Scoping Meeting

A public scoping meeting will be held in Port Lions, as noted below:

Thursday, October 30, 2003
12 noon – 1:30 p.m.
Port Lions City Hall

For more information, please contact:

Mark Mayo
DOT&PF Project Manager
907-269-0519
mark_mayo@dot.state.ak.us

.....

Persons with a hearing impairment can contact DOT&PF at a telephone device for the deaf at 907-269-0674. The DOT&PF will also provide, upon request, accommodations for special needs related to disabilities.

Kodiak Daily Mirror

Kodiak Daily Mirror Display Ad Request

To: Sarah

Contact: Robin Reich, HDR Alaska, Inc., phone 644-2000/fax 644-2022

Billing: Jodi Lindall, HDR Alaska Inc. 2525 C St. Suite 305, Anchorage, AK 99503

Ad Size: Final size should be 2 columns wide and about 5½ inches long.

Run Dates: One day—October 16, 2003

Preferred Section: Front Section



Port Lions Airport Master Plan
State Project No. 54746
**Notice of Intent to Conduct Preliminary
Engineering, and Environmental Studies,
and Notice of Wetland Involvement**

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Mark Mayo
DOT&PF Project Manager
907-269-0519
mark_mayo@dot.state.ak.us

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Persons with a hearing impairment can contact DOT&PF at a telephone device for the deaf at 907-269-0674. The DOT&PF will also provide, upon request, accommodations for special needs related to disabilities.

Port Lions Airport Master Plan
State Project #54746
Public Meeting

October 30, 2003 at 12:00 pm
Port Lion City Hall

Agenda

Meeting Purpose: To provide an update on the project, to solicit comments on the proposed draft airport improvement alternatives as discussed in the Phase I Scoping Plan, and to initiate public scoping as required by the National Environmental Policy Act (NEPA) for the environmental assessment and draft master plan.

- 12:00 Lunch**
- 12:15 Welcome & Introductions, and Agenda Overview**
Mark Mayo, Project Manager, DOT&PF
- 12:20 Project Overview and Alternatives**
Jason Wenger, HDR
- 12:30 NEPA Requirements and Environmental Issues**
Robin Reich, HDR
- 12:40 Discussion for future planning and schedule**
Jason Wenger, HDR
- 12:45 Questions and Comments**
- 1:15 Adjourn**

Comments

Comments are also accepted by phone, fax, mail, or e-mail. Please send your comments to one of the project team members listed below:

Mark Mayo
Project Manager
ADOT&PF
P.O. Box 196900
Anchorage, AK 99519
Telephone: 907-269-0519
Fax: 907-269-0520
Email: mark_mayo@dot.state.ak.us

Jason Wenger
Project Manager
HDR Alaska, Inc.
2525 C Street, Suite 305
Anchorage, AK 99503
Telephone: 907-644-2000
Fax: 907-644-2022
Email: jason.wenger@hdrinc.com

Comments will be accepted until November 28, 2003.

Send to file 07072-229



Port Lions Airport Master Plan Public Scoping Meeting

Sign-In Sheet

October 30, 2003 12:00 pm

Port Lions City Hall

| Name | Mailing Address | E-Mail |
|------------------------|--|--------|
| Bruce Pines | Box 110 Port Lions | |
| Mike Bartleson | Box 47 PORT LIONS | |
| Marvin Bartleson | PO Box 71 Port Lions | |
| Maria Bartleson | Box 71 Port Lions | |
| Jason Wenger | HDR 2525 C Street Suite 305 Anch AK 99507 | |
| Robin Reich | HDR " | |
| Betty Nelson | Box 75 Port Lions, 99550 | |
| Bruce Nelson | Box 92 Port Lions AK 99550 | |
| Alvin Mullan | Box 2 Port Lions AK 99550 | |
| Pat Pestrikoff | BX 18 Port Lions AK 99550 | |
| Michelle Stearns | KODIAK ISLAND BOROUGH | |
| SEE LUKIN GIRARD | PO BOX 114 PORT LIONS | |
| Judy & Julie Kaiser | PO Box 78 PL | |

| | |
|---|--|
| Subject: Port Lions Airport Master Plan | |
| Client: Department of Transportation and Public Affairs | |
| Project: Public Scoping Meeting | Project No: State Project #54746 |
| Meeting Date: October 30, 2003 | Meeting Location: Port Lions City Hall |
| Notes by: Robin Reich, HDR | |

Team Members in Attendance:

Mark Mayo, DOT&PF
Rex Young, DOT&PF
Jason Wenger, HDR Alaska, Inc.
Robin Reich, HDR Alaska, Inc.

Public In Attendance:

See attached sign in sheet.

Topic Discussed:

See attached meeting agenda sheet.

Meeting Summary:

The project team held a public scoping meeting that included a presentation and a question and answer period on October 30, 2003, from 12:00-1:15 p.m. Approximately 20 members of the public attended the meeting.

Mark Mayo called the meeting to order and introduced the project team. Jason Wenger provided a brief project description and described the alternatives for improving the airport in Port Lions. Robin Reich then discussed the NEPA process and some of the environmental, social, and economic issues associated with the project alternatives. Throughout the presentations, the public was encouraged to comment on the project and their issues and concerns with alternatives. Many comments and questions were voiced during the meeting and are listed below.

Issues and Questions Summary:

Adjacent Land Lessees Concerns

- Shareholders lease land adjacent to airport from Afognak Corporation.
- There are also Native allotments east of the airport area.
- DOT should contact and work with the lessees and allotment owners regarding the airport project.
- The shareholders are concerned about what will happen to their leased land with Alternative #2.
- Does DOT negotiate with the lessees or Afognak Corporation?

Alternatives Concerns

- Will the Realignment Alt (#2) enable more landings? A wind analysis would help to understand whether the new configuration would allow more landings when there is a crosswind.
- Paklook Air and Andrew Air also fly charters into Port Lions. The carriers should be contacted for their opinion of alternatives.
- Alternative #1 seems safer than #2 because there would be fewer crosswinds.
- I like Alternative #1 better than Alternative #2 (many meeting attendees stated this).

- Why did the pilots like Alternative #1 better? If pilots like Alternative #1 better, it should be the preferred alternative.
- What are the cost differences between the alternatives?
- Will people be able to use the existing apron once the airport is upgraded and the new apron is built?

Runway Access/Intrusions Concerns

- People often drive on the runway and safety area. Last week, the runway had to be re-graded because of people driving and “spinning out” on the runway.
- Anything to deter people from accessing the runway would be good, but don’t make it difficult for transient aircraft to use tie down area.
- Natural barriers may be a good way to keep people from driving onto the runway. However, natural barriers have to be able to stop 4-wheelers.
- Fencing could keep people off the runway. Fences are not as desirable as natural barriers.
- A gate between the road and apron may be a good way to keep people out, but may be a problem because someone will have to open with a key.
- A gate between the road and apron may also pose problems for medevac emergencies.
- Will the apron be the only way to access the runway?

Subsistence Issues

- The marine area near at east end of runway is a subsistence area. In the past, clams were collected there. Although PSP is a problem now, clamming may be important in the future.
- Firewood is collected on the beach adjacent to the airport area.
- It is important that residents be able to access the subsistence area on the beach for clamming and collecting firewood. Residents would like to be able to access the beach from the east side of the runway, if possible.
- There is an important salmonberry picking area beyond the east end of airport. The picking area is just outside of the Alternative #2.
- There are two salmon streams at the west end of airport. Pink salmon are found in the streams. Some people say that the salmon no longer run there.
- People want to be able to access hunting grounds north of the airport. Currently, hunters access trails north of the runway through the gravel pit. The new access road should allow people to get to trails.
- The new access road may make it easier for people to access hunting trails north of airport.

Erosion Issues

- The south side of the airport area is eroding into the ocean. The improvements at the airport should address this issue.

Wildlife Issues

- Porpoise, sea otters, and sea lions are sometimes seen in the marine area adjacent to the airport. Sea otters feed on clams in the area. Killer whales have been seen in Kizhuyak Bay.
- Bears have torn out lights on the airport in the past.
- Bird are not a problem at the landfill. The landfill is well maintained; garbage is burned and covered often (at least weekly) by the City of Port Lions. Bears are often seen at the landfill.
- There are no bald eagle nests near the airport.
- Steller’s eiders aren’t seen in the area.

Cultural Site Issues and Concerns

- People have collected seal oil lamp artifacts from the beach area adjacent to the runway.
- A 3,000-year-old skull fragment was found on the beach.
- There are probably more artifacts in the area.
- What will happen if more artifacts are found?

General Comments

- There needs to be a place for the Coast Guard emergency medevac to land at airport.
- Would be nice to have a parking area at the airport. People need to be able to leave cars.
- There is a need for transient airplane tie downs at the airport.
- When the C-117 flew out, a longer runway was needed.
- DOT should consult the Environmental Impact Statement for oil and gas development in Shelikof Strait, written about 15-20 years ago, for information regarding projected impacts on Port Lions.

General Questions

- How long until the project will be built?
- How long does NEPA take?
- Is the distance between the airport and the landfill a problem?
- What is the slope of the existing runway?
- How will the new lease lots be administered?

Appendix 2
Geotechnical Report



Duane Miller & Associates

1041 E. 76th Avenue
Anchorage, Alaska 99518-3215
(907) 644-0510, fax 644-0507

Arctic & Geotechnical Engineering

December 10, 2004

HDR Alaska, Inc.
2525 C St., Suite 305
Anchorage, Ak 99503

Attention: Jason Wenger, P.E.

Subject: Geotechnical Exploration
Airport Improvements
Port Lions, Alaska
DM&A Job No. 4086.041

This letter presents the results of our geotechnical exploration in the vicinity of the existing Port Lions airstrip. Alaska DOT/PF plans to upgrade the airport facility by widening and extending the existing runway prism or by rotating the alignment slightly counter-clockwise to take advantage of onshore terrain conditions. We coordinated our field investigation with Mr. Jason Wenger, P.E., Project Engineer for HDR, who supplied maps and other documentation. Mr. Alvin Muller, Port Lions Public Works Director, arranged local logistic support, and operated the excavator owned by the City of Port Lions.

Ten test pits (PLA-1 through PLA-10) were dug with a Case 580D backhoe equipped with an 18-inch toothed bucket. The pits ranged in depth from 4.5 to 8.5 feet. Mr. Walt Phillips, P.G., DM&A Project Geologist, observed the soil and groundwater conditions encountered in each test pit and collected representative soil samples. Pit locations were determined by measuring from identifiable landmarks and then quantified by use of a handheld GPS system. In addition, surface observations were made to the north and west of the runway in areas inaccessible to the backhoe. At seven sites (PLA-11 through PLA-17), the depth of overburden was determined using a 6-foot long steel probe. Test hole and probe locations are shown schematically on Plate 1.

Soil samples were double sealed in plastic bags to prevent moisture loss and were shipped to our laboratory in Anchorage. In the Laboratory the samples were reexamined to confirm the field classifications and to select samples appropriate for testing. Laboratory work included moisture content, gradation and plasticity testing.

When laboratory testing was complete, the soils were classified in accordance with the Unified Soil Classification System (Plate 2) and graphic logs of the test pits were prepared (Plates 3 through 7). Laboratory test data, including moisture contents and sieve analysis results are presented graphically on the logs and are tabulated in the summary of samples (Plates 8 through 10).

Previous Work

In October and November of 1971, the Alaska DOT conducted a centerline soils and materials site investigation in the Port Lions area as part of a project to provide road access from Port Wakefield to the Port Lions airport. That work included centerline information along the present airport access road from Port Lions and an evaluation of the quarry site adjacent to the airport.

The Alaska DOT/PF conducted another extensive soils investigation in the vicinity of the airport in December 1982. This work, prior to upgrading the already existing airport facility, included a search for a material site that could serve as an alternate to the existing quarry just north of the airport.

A housing foundation study by the Alaska Area Native Health Service in 1979 also discusses the general geologic setting at Port Lions.

It is our understanding that the Bureau of Indian Affairs is presently reviewing conditions at the existing airport materials site (rock quarry) in anticipation of a project to upgrade the Wakefield Road.

Physiographic Setting

Port Lions is located on Settlers Bay near the northern end of Kodiak Island, about 20 miles north of the City of Kodiak. The geology of the northwestern portion of Kodiak Island consists primarily of a series of interbedded marine sediments that have been metamorphosed to slates, argillites and graywackes. These alternating layers vary from an inch or two to several feet in thickness and have a prevailing northeast strike with a dip to the northwest.

The present rolling topography in the Port Lions area is the result of regional Pleistocene glaciation that extended over most of Kodiak Island. In addition to intermittent deposits of glacial till and colluvium, the bedrock is commonly mantled by

several inches to a foot or two of volcanic ash resulting from the Katmai eruption of 1912. Wave cut bluffs are common on headlands and streams tend to be incised into bedrock with little deposition except as small fans and deltas along the beach. Local beach deposits and associated dunes have accumulated in coves and other protected areas.

A wet maritime climate prevails throughout the region, and precipitation levels are moderately high. Drainage is typically well defined on the mountain slopes with steep, swift streamflow. Freezing weather is uncommon, so no permafrost is present in the project area.

Foundation Conditions

Existing Runway Prism—Five test pits (PLA-3 through PLA-7) were dug to gain information about foundation conditions beneath and adjacent to the existing runway. The organic mat immediately adjacent to the prism is one half to one foot thick. Brown organic silt, sometimes capped with a foot or two of tan sandy ash, is present below the live organic mat. The organic silt layer varies from 1.5 feet thick at the western end of the runway to about 4 feet at the eastern end. The organic silt is generally quite soft. In August 2004, the water table ranged in depth from 7 feet at the western end of the runway to only one foot at the eastern end.

Some colluvial rock fragments are mixed in the silty material beneath the western third of the runway prism. In this area, the silty colluvium forms a unit about 3 feet thick immediately beneath the organic silt. At the eastern end of the runway, the colluvial layer thins and in some areas the silt appears to rest directly on weathered bedrock. Bedrock was identified at a depth of 4.5 to 7.0 feet throughout the area.

Potential Runway Extensions—West of the existing runway, probe refusal on rocky colluvium or weathered bedrock occurred consistently between 2 and 3 feet (PLA-16 and PLA-17). Foundation conditions beneath any extension of the runway to the west would be similar to those under the western third of the existing prism. To extend the runway to the west, however, a sharply incised stream would have to be rerouted or bridged.

Extension of the runway to the east is blocked by another stream and associated wetland. This stream carries water coming off the hillside along the northern edge of the

airport reserve. It passes immediately east of the present prism and is constrained by a ridge to the east.

A hole dug in that ridge (PLA-8) encountered bedrock at 5 feet beneath 3.0 feet of organic rich material and 2.0 feet of light gray till composed of clayey gravelly silt. DOT work in the area found similar conditions.

Potential Runway Rotation—If the runway were to be rotated slightly counter-clockwise, the western end of the runway would lie at the top of the terrace slope near Test Pit PLA-1. That 7-foot deep hole exposed soft, wet organic rich soil for its full depth except for a sandy ash layer between 3.5 and 6.0 feet.

To the east, the rotated runway would cross a large wetland area underlain by a thick unit of compressible organic rich material. Water in this area is at or near the surface. Probes PLA-14 and PLA-15 indicate that the thickness of this material varies, but in places is more than 6-feet thick.

Access Road—Test Pits PLA-9 and PLA-10 show that the existing access road approaches the airport along a till-blanketed ridge. The silty sand (till) unit varies in thickness but locally extends to a depth of at least 8 feet. A new access road around the western end of the runway would cross this till/bedrock ridge and transition onto the colluvial/bedrock terrain that underlies the western end of the runway (PLA-3).

The proposed road alignment along the northern side of the runway will cross a bedrock ridge just south of the existing rock quarry (PLA-2) and then follow along the transition from the colluvium covered bedrock slope to the north and the bogland to the south. Probe PLA-11 revealed about 3.0 feet of organic material and colluvial gravel over the shaley rock on the slope. Sheet drainage flowing on or just above the bedrock surface tends to make the surficial layer susceptible to slumping. Differential compression should be anticipated with variations in overburden thickness along the edge of the wetlands.

Material Site— The existing quarry site has been used for portions of the existing runway prism and for local road construction. Stockpiled material from the quarry is regularly used for road and pad maintenance by the City of Port Lions. In August 2004, about 500 yards of material was stockpiled at the quarry site but much of the material was oversized and not suitable for surface maintenance.

The existing material site is a quarry, cut into interbedded black shale and argillite. The material is well indurated but highly fractured and sheared. We understand that explosives have not been needed for excavation in the past. Elsewhere on Kodiak Island, however, indurated sandstone layers that are resistant to ripping have been encountered in similar deposits. We did not conduct new durability tests on this material but two degradation tests run by DOT yielded values of 5 and 6, indicating a material that will tend to degrade and produce fines when manipulated in wet weather.

The working face is 20 to 40 feet high with 2 to 6 feet of overburden above the cut face. Portions of the rock unit tend to be platy and friable, but other portions of the sequence are blocky with boulders to 24 inches in diameter exposed in existing stockpiles. Because of varying rock quality across the face, sorting may be required to separate material suitable for crushing.

Conclusions and Recommendations

Foundation conditions– If the runway alignment is shifted counter-clockwise, the eastern extension of the runway will cross a bog with soft organic-rich soils extending to depths greater than 6 feet. Differential settling can be expected wherever this material is overlain by fill. Further investigation is needed to establish the limits of this soft material and to determine settlement characteristics. Drainage from the adjacent sidehill now flows through the bog and around the eastern end of the present airport prism. That drainage would need to be collected and routed around or through the new prism.

Road construction or runway extension at the west end of the existing airport would cross rock cored hills with varying thicknesses of organic material, ash, silty till and colluvium over bedrock. A roadway extension along the northern edge of the airport property will cut into a steep, wet, colluvium covered hillside or be overlain along the northern edge of a significant bogland. In either case, site-specific soils information is desirable prior to final design.

The ridge to the east of the airport is underlain by bedrock with varying thicknesses of organic material, ash and till. If this material is to be removed, a more thorough examination of overburden characteristics is recommended. If the cut is to extend into rock, tests should be conducted to determine its ripability.

Borrow Material–The existing quarry at the airport appears to be the best source of readily available material. Crushing and screening will be required, however, to produce

a useable product. If the ridge to the east of the airport is to be lowered, the cut may serve as a rock source with material similar to that found in the existing quarry. If such a cut is to be made, additional information will be needed to establish excavation characteristics and to determine wearing capabilities.

Locally, resistant rock and/or alluvial sources are scarce and material for surfacing may have to be imported by barge.

Very truly yours,

Walter T Phillips, P.G.

| | | |
|--------------|---------------------|---------------------------------|
| Attachments: | Plate 1, | Project Map |
| | Plate 2, | Soil Classification System |
| | Plates 3 through 7, | Test Hole Logs |
| | Plates 8 and 9, | Summary of Samples |
| | Plate 10, | Particle Size Data |
| | Plate 11, | Soil Summary at Probe Locations |



Note: Air photo © 2001, AeroMap, Inc.
All locations are approximate.



LEGEND:

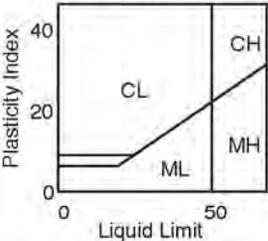
- PLA-1 TEST PIT LOCATION
- PLA-11 PROBE LOCATION



Duane Miller & Associates
Job No.: 4086.041
Date: December 2004

SITE MAP
Airport Improvement
Port Lions, Alaska

Plate
1

| MAJOR DIVISIONS | | SYMBOL | TYPICAL NAMES | |
|---|---|--|--|---|
| COARSE GRAINED SOILS 50% or more larger than #200 sieve, 0.075 mm | GRAVELS More than half of the coarse fraction is larger than #4 sieve size, > 4.75 mm. | Clean gravels with little or no fines | GW  | Well graded gravels, sandy gravel |
| | | Gravels with more than 12% fines | GP  | Poorly graded gravels, sandy gravel |
| | | | GM  | Silty gravels, silt sand gravel mixtures |
| | | GC  | Clayey gravels, clay sand gravel mixtures | |
| | SANDS More than half of the coarse fraction is smaller than #4 sieve size, < 4.75 mm. | Clean sands with little or no fines | SW  | Well graded sand, gravelly sand |
| | | Sands with more than 12% fines | SP  | Poorly graded sands, gravelly sand |
| | | | SM  | Silty sand, silt gravel sand mixtures |
| | | SC  | Clayey sand, clay gravel sand mixtures | |
| FINE GRAINED SOILS > 50% finer than #200 sieve | SILTS and CLAYS Plasticity Chart  | Liquid limit less than 50 | ML  | Inorganic silt and very fine sand, rock flour |
| | | Liquid limit greater than 50 | CL  | Inorganic clay, gravelly and sandy clay, silty clay |
| | | | OL  | Organic silts and clay of low plasticity |
| | | MH  | Inorganic silt | |
| | | CH  | Inorganic clay, fat clay | |
| | | OH  | Organic silt and clay of high plasticity | |
| HIGHLY ORGANIC SOILS | | Pt  | Peat and other highly organic soil | |

KEY TO TEST DATA

PP = Pocket Penetrometer
Dd = Dry Density (pcf)
LL = Liquid Limit
PL = Plastic Limit
PI = Plastic Index
NP = non Plastic
SpG = Specific Gravity
SA = Sieve Analysis
MA = Sieve and Hydrometer Analysis
OLI = Organic Loss
RD = Relative Density
D1557 = modified Proctor
TS = Thaw Consolidation
Con = Consolidation
TXUU = Unconsolidated Undrained Triaxial
TXCU = Consolidated Undrained Triaxial
TXCD = Consolidated Drained Triaxial
Strength Data
XXX(YYY), where
XXX = $(\sigma_1 - \sigma_3)/2$
YYY = σ_3

KEY TO SAMPLE TYPE

gr = Grab sample
Ab = Auger bulk
Ac = Air chip
Sh = 2.5" ID split barrel w/ 340 lb. manual hammer
Sh* = 2.5" ID split barrel w/ 140 lb. manual hammer
Sha = 2.5" ID split barrel w/ 340 lb. automatic hammer
Tw = Shelby tube
Ss = 1.4" ID split barrel w/ 140 lb. manual hammer
Cc = 3.25" continuous core barrel

UNIFIED SOIL CLASSIFICATION SYSTEM

| GROUP | ICE VISIBILITY | DESCRIPTION | SYMBOL | |
|-------|---|---------------------------------------|------------------------|------------|
| N | Segregated ice not visible by eye | Poorly bonded or friable | Nf | |
| | | Well bonded | No excess ice | Nb |
| | | | Excess microscopic ice | Nbn Nbe |
| V | Segregated ice is visible by eye and is one inch or less in thickness | Individual ice crystals or inclusions | Vx | |
| | | Ice coatings on particles | Vc | |
| | | Random or irregularly oriented ice | Vr | |
| | | Stratified or distinctly oriented ice | Vs | |
| | | Uniformly distributed ice | Vu | |
| ICE | Ice greater than one inch in thickness | Ice with soil inclusions | ICE + soil type | |
| | | Ice without soil inclusions | ICE | |

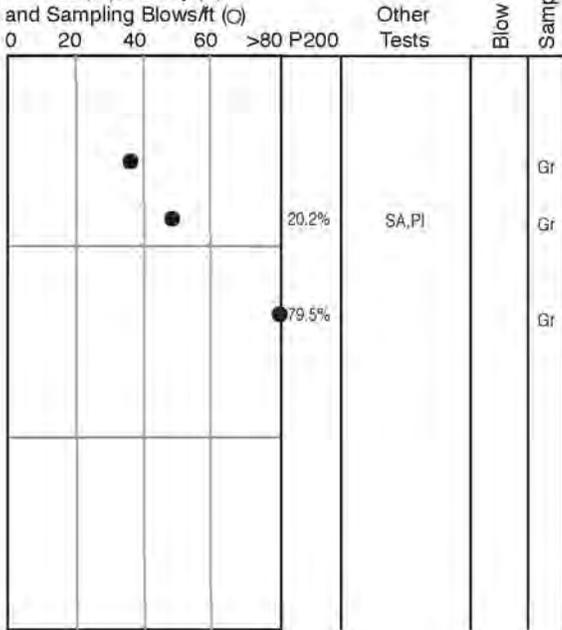
ICE CLASSIFICATION SYSTEM



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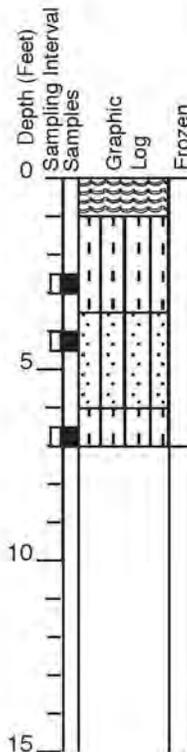
Project: Airport Improvement
 DM&A Job No.: 4086.041
 Logged By: W. Phillips

Moisture Content % (●),
 PL & LL (—), Salinity (Δ)
 and Sampling Blows/ft (○)



Log of HOLE: PLA-1

Date Drilled: August 3, 2004
 Contractor: City
 Equipment: CASE 580D w/ 18" toothed bucket
 GPS Coord.: N 57° 53' 02.5" W 152° 51' 04.2"
 Elevation: -

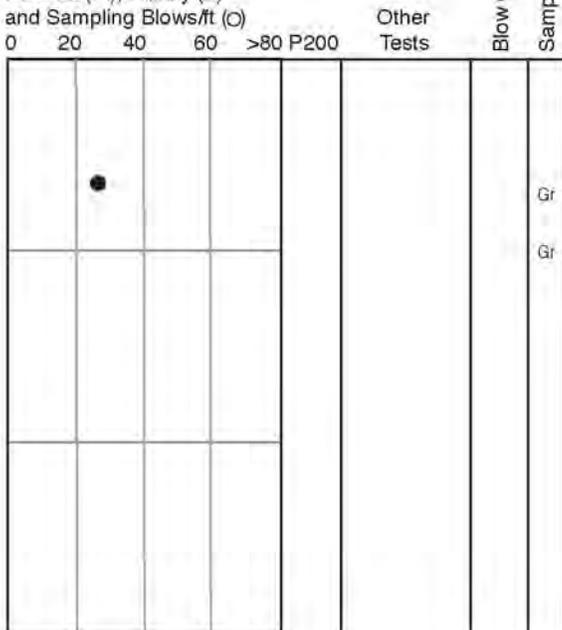


| Depth (Feet) | Description |
|--------------|--|
| 0 - 1 | ORGANIC MAT (Pt) Root mat w/ organic silt |
| 1 - 3 | ORGANIC SILT (OL) Dark brown w/ roots and traces of organic material |
| 3 - 5 | SILTY SAND (SM) Light gray ash (?) |
| 5 - 7.0 | ORGANIC SILT (OL) Brown w/ trace to some organic material Bottom of pit at 7.0 ft. |

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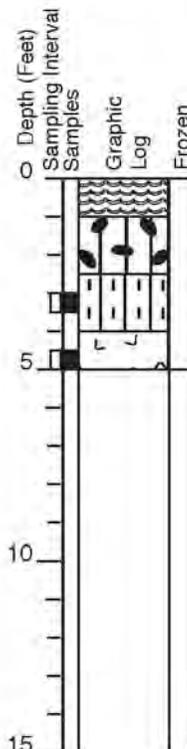
Project: Airport Improvement
 DM&A Job No.: 4086.041
 Logged By: W. Phillips

Moisture Content % (●),
 PL & LL (—), Salinity (Δ)
 and Sampling Blows/ft (○)



Log of HOLE: PLA-2

Date Drilled: August 4, 2004
 Contractor: City
 Equipment: CASE 580D w/ 18" toothed bucket
 GPS Coord.: 25' E of N 57° 53' 11.1" W 152° 50' 59.5"
 Elevation: -



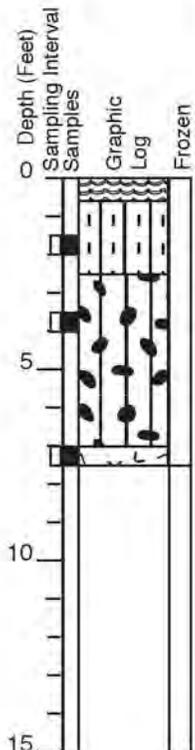
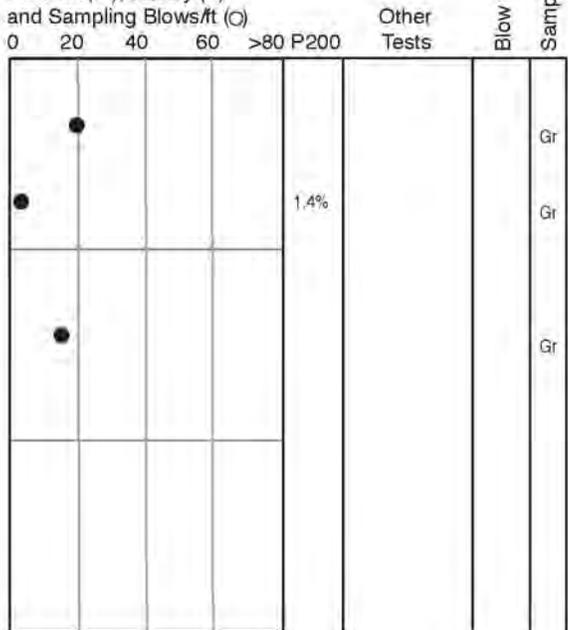
| Depth (Feet) | Description |
|--------------|---|
| 0 - 1 | ORGANIC MAT (Pt) Brown w/ organic silt |
| 1 - 3 | SILTY GRAVEL (GM) Gray-brown rock fragments to 2"+ mixed with organic silt |
| 3 - 5 | ORGANIC SILT (OL) Brown w/ trace to some angular sand and small rock fragments |
| 5 - 5.0 | BEDROCK (Bx) Black shale w/ thin quartz interbeds Bottom of pit at 5.0 ft. |



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Project: Airport Improvement
 DM&A Job No.: 4086.041
 Logged By: W. Phillips

Moisture Content % (●),
 PL & LL (—), Salinity (Δ)
 and Sampling Blows/ft (○)



Log of HOLE: PLA-3

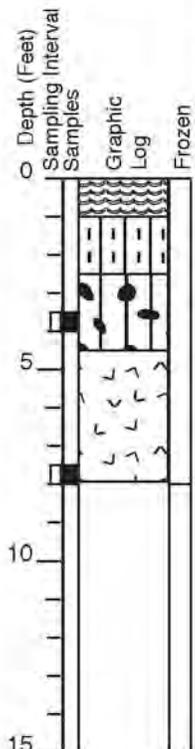
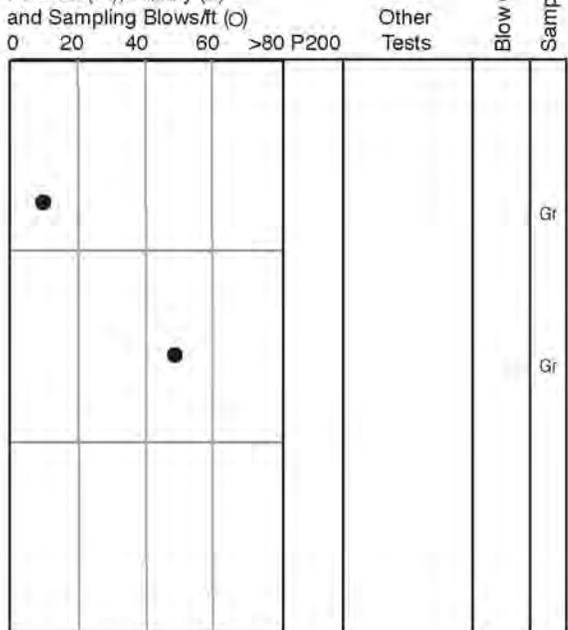
Date Drilled: August 4, 2004
 Contractor: City
 Equipment: CASE 580D w/ 18" toothed bucket
 GPS Coord.: N 57° 53' 06.6" W 152° 51' 07.2"
 Elevation: -

| Description |
|---|
| ORGANIC MAT (Pt) |
| ORGANIC SILT (OL) Brown w/ rock fragments, one rock to 14" |
| SILTY GRAVEL (GM) Gray-brown colluvium, shale and silt mixed, silt content varies w/ some gravel (GP) layers, most rock pieces <5" in diameter |
| Water seep encountered at 7.0 ft. while digging |
| BEDROCK (Bx) Shale |
| Bottom of pit at 7.0 ft. |

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Project: Airport Improvement
 DM&A Job No.: 4086.041
 Logged By: W. Phillips

Moisture Content % (●),
 PL & LL (—), Salinity (Δ)
 and Sampling Blows/ft (○)



Log of HOLE: PLA-4

Date Drilled: August 4, 2004
 Contractor: City
 Equipment: CASE 580D w/ 18" toothed bucket
 GPS Coord.: N 57° 53' 08.5" W 152° 50' 56.6"
 Elevation: -

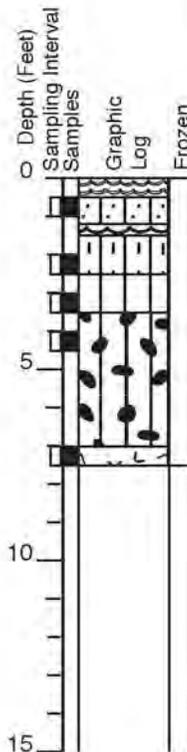
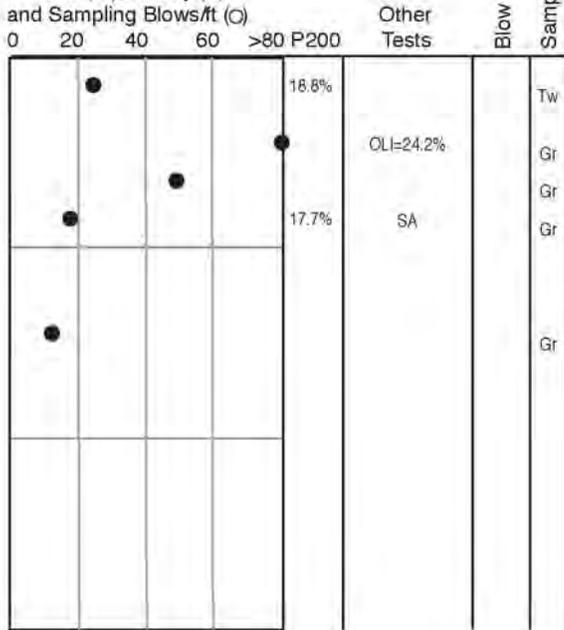
| Description |
|--|
| ORGANIC MAT (Pt) |
| ORGANIC SILT (OL) Brown w/ occasional rock fragments and thin ash and charcoal layers |
| SILTY GRAVEL (GM) Colluvium, mixed rock fragments and silt, 6" ash lens at 2.5' |
| WEATHERED BEDROCK (Bx-w) Brown-gray fragmented rock and silt |
| Bottom of pit at 8.0 ft. |



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 Logged By: W. Phillips

Moisture Content % (●),
 PL & LL (—), Salinity (Δ)
 and Sampling Blows/ft (○)



Log of HOLE: PLA-5

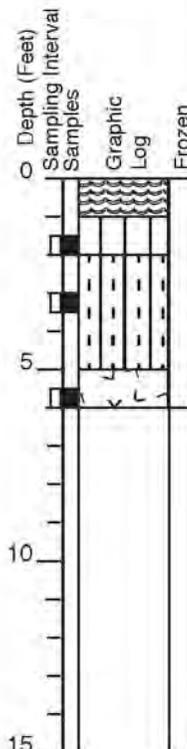
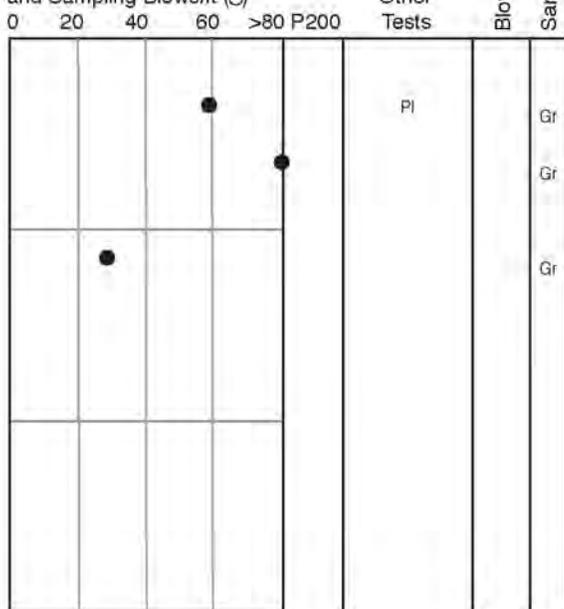
Date Drilled: August 4, 2004
 Contractor: City
 Equipment: CASE 580D w/ 18" toothed bucket
 GPS Coord.: N 57° 53' 08.8" W 152° 50' 45.8"
 Elevation: -

| Description |
|--|
| ORGANIC MAT (Pt) |
| SILTY SAND (SM) Tan sandy ash |
| PEAT (Pt) Dark brown w/ some silt |
| ORGANIC SILT (OL) Brown |
| SILT (ML) Gray |
| SILTY GRAVEL (GM) Dark gray oriented rock fragments mixed w/ silt, some silty sand (SM), colluvium |
| WEATHERED BEDROCK (Bx-w) Gray Bottom of pit at 7.5 ft. |

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Project: Airport Improvement
 DM&A Job No.: 4086.041
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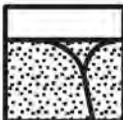
Moisture Content % (●),
 PL & LL (—), Salinity (Δ)
 and Sampling Blows/ft (○)



Log of HOLE: PLA-6

Date Drilled: August 4, 2004
 Contractor: City
 Equipment: CASE 580D w/ 18" toothed bucket
 GPS Coord.: N 57° 53' 11.5" W 152° 50' 20.8"
 Elevation: -

| Description |
|---|
| ORGANIC MAT (Pt) w/ grass roots and organic silt |
| SILT (ML) Tan to gray ash w/ sand |
| ORGANIC SILT (OL) w/ roots and thin peat (Pt) layers Water at 1' |
| WEATHERED BEDROCK (Bx-w) Gray oriented rock fragments w/ silt Bottom of pit at 6.0 ft. |

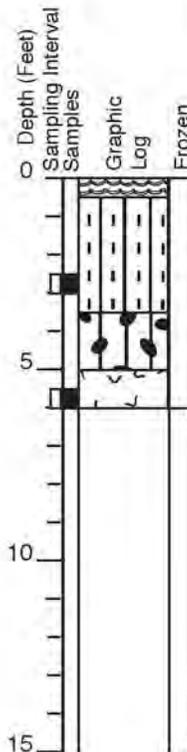


DUANE MILLER & ASSOCIATES

Project: Airport Improvement
 DM&A Job No.: 4086.041
 Logged By: W. Phillips

Moisture Content % (●),
 PL & LL (—), Salinity (Δ)
 and Sampling Blows/ft (○)

| 0 | 20 | 40 | 60 | >80 | P200 | Other Tests | Blow Counts | Sampler Type |
|---|----|----|----|-----|------|-------------|-------------|--------------|
| | | | | ● | | | | Gr |
| | | | | | | | | Gr |
| | | | | | | | | |



Log of HOLE: PLA-7

Date Drilled: August 4, 2004
 Contractor: City
 Equipment: CASE 580D w/ 18" toothed bucket
 GPS Coord.: N 57° 53' 06.0" W 152° 50' 53.9"
 Elevation: -

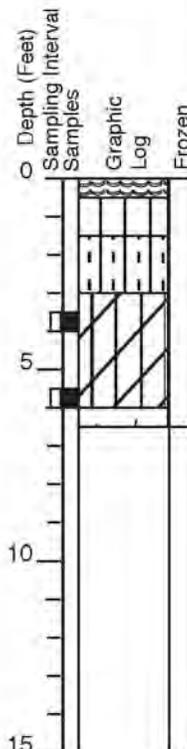
| Depth (Feet) | Description |
|--------------|---|
| 0 - 4 | ORGANIC MAT (Pt) ORGANIC SILT (OL) w/ thin ash layers and scattered rock fragments |
| 4 - 6 | SILTY GRAVEL (GM) Mixed oriented black rock fragments and gray-brown colluvial rock fragments w/ silt |
| 6.0 | WEATHERED BEDROCK (Bx-w) Gray Bottom of pit at 6.0 ft. |

DUANE MILLER & ASSOCIATES

Project: Airport Improvement
 DM&A Job No.: 4086.041
 Logged By: W. Phillips

Moisture Content % (●),
 PL & LL (—), Salinity (Δ)
 and Sampling Blows/ft (○)

| 0 | 20 | 40 | 60 | >80 | P200 | Other Tests | Blow Counts | Sampler Type |
|---|----|----|----|-----|------|-------------|-------------|--------------|
| | | | | | | PI | | Gr |
| | | | | | | | | Gr |
| | | | | | | | | |



Log of HOLE: PLA-8

Date Drilled: August 4, 2004
 Contractor: City
 Equipment: CASE 580D w/ 18" toothed bucket
 GPS Coord.: N 57° 53' 13.1" W 152° 50' 14.9"
 Elevation: -

| Depth (Feet) | Description |
|--------------|--|
| 0 - 1 | ORGANIC MAT (Pt) SILT (ML) Tan ash |
| 1 - 4 | ORGANIC SILT (OL) Dark brown |
| 4 - 6.5 | CLAYEY GRAVELLY SILT (gML) Light gray, hard, clayey silt w/ rock fragments to 8"+, till (?), ppn is 1 to 1.5 T/ft ² |
| 6.5 | WEATHERED BEDROCK (Bx-w) Gray shale Bottom of pit at 6.5 ft. |



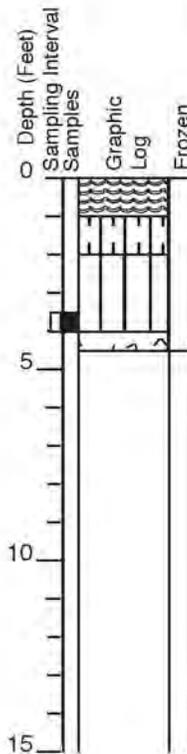
DRAFT

DUANE MILLER & ASSOCIATES

Project: Airport Improvement
 DM&A Job No.: 4086.041
 Logged By: W. Phillips

Moisture Content % (●),
 PL & LL (—), Salinity (Δ)
 and Sampling Blows/ft (○)

| 0 | 20 | 40 | 60 | >80 | P200 | Other Tests | Blow Counts | Sampler Type |
|---|----|----|----|-----|------|-------------|-------------|--------------|
| | | | | | | | | Gr |
| | | | | | | | | |
| | | | | | | | | |



Log of HOLE: PLA-9

Date Drilled: August 4, 2004
 Contractor: City
 Equipment: CASE 580D w/ 18" toothed bucket
 GPS Coord.: N 57° 53' 01.1" W 152° 51' 09.2"
 Elevation: -

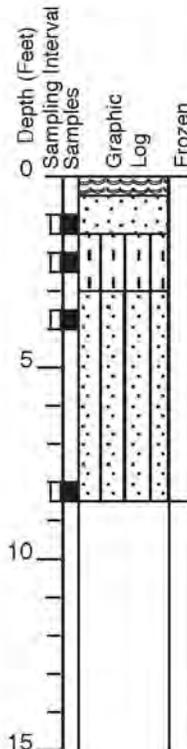
| Description |
|--|
| ORGANIC MAT (Pt) w/ organic silt |
| ORGANIC SILT (OL) Dark brown |
| GRAVELLY SILT (gML) Light gray w/ clay and fragmented, rounded rocks to 10", till (?) |
| BEDROCK (Bx) Gray shale Bottom of pit at 4.5 ft. |

DUANE MILLER & ASSOCIATES

Project: Airport Improvement
 DM&A Job No.: 4086.041
 Logged By: W. Phillips

Moisture Content % (●),
 PL & LL (—), Salinity (Δ)
 and Sampling Blows/ft (○)

| 0 | 20 | 40 | 60 | >80 | P200 | Other Tests | Blow Counts | Sampler Type |
|---|----|----|----|-----|------|-------------|-------------|--------------|
| | | | | | | 7.0% | | Gr |
| | | | | | | 27.1% | SA | Gr |
| | | | | | | 75.4% | | Gr |
| | | | | | | | | Gr |



Log of HOLE: PLA-10

Date Drilled: August 4, 2004
 Contractor: City
 Equipment: CASE 580D w/ 18" toothed bucket
 GPS Coord.: N 57° 52' 56.0" W 152° 51' 17.2"
 Elevation: -

| Description |
|---|
| ORGANIC MAT (Pt) Grass and alder root mat |
| SAND (SP-SM) Tan ash |
| ORGANIC SILT (OL) Brown to red-brown |
| SILTY SAND (SM) Light gray, w/ clay and subrounded boulders to 12", grading to gravelly silt (gML), till |
| Bottom of pit at 8.5 ft. |

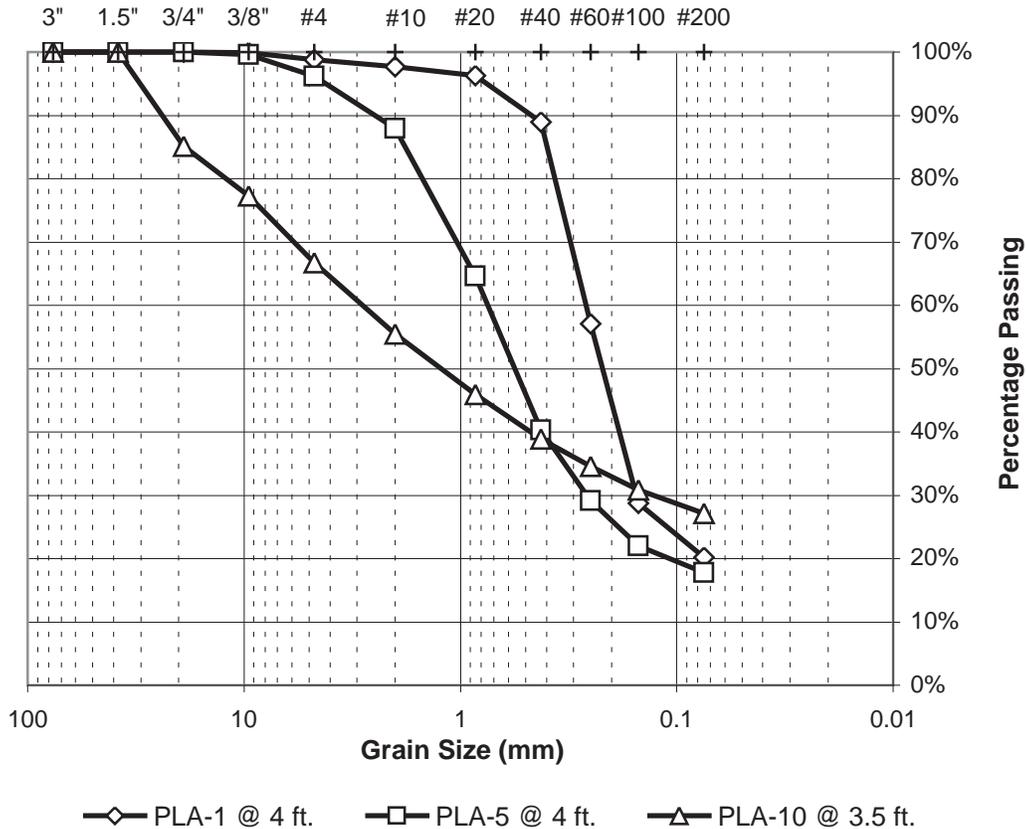


DRAFT

| Test Hole | Sample Depth | Soil Type (USCS) | Thermal State | Sampler Type | Moisture Content | Dry Density | Organic Loss | Passing #200 | Other Tests |
|-----------|--------------|------------------|---------------|--------------|------------------|-------------|--------------|--------------|-------------|
| PLA-1 | 2.5 ft. | OL | Unfrozen | Gr | 36.3% | | | | |
| PLA-1 | 4.0 ft. | SM | Unfrozen | Gr | 48.5% | | | 20.2% | SA |
| PLA-1 | 6.5 ft. | OL | Unfrozen | Gr | 95.8% | | | 79.5% | |
| PLA-2 | 3.0 ft. | OL | Unfrozen | Gr | 26.8% | | | | |
| PLA-2 | 4.5 ft. | Bx | Unfrozen | Gr | | | | | |
| PLA-3 | 1.5 ft. | OL | Unfrozen | Gr | 20.0% | | | | |
| PLA-3 | 3.5 ft. | GP | Unfrozen | Gr | 3.7% | | | 1.4% | |
| PLA-3 | 7.0 ft. | Bx | Unfrozen | Gr | 15.5% | | | | |
| PLA-4 | 3.5 ft. | GM | Unfrozen | Gr | 10.1% | | | | |
| PLA-4 | 7.5 ft. | Bx-w | Unfrozen | Gr | 48.7% | | | | |
| PLA-5 | 0.5 ft. | SM | Unfrozen | Tw | 24.8% | | | 18.8% | |
| PLA-5 | 2.0 ft. | OL | Unfrozen | Gr | 132.1% | | 24% | | |
| PLA-5 | 3.0 ft. | ML | Unfrozen | Gr | 49.1% | 67 pcf | | | |
| PLA-5 | 4.0 ft. | SM | Unfrozen | Gr | 18.0% | | | 17.7% | SA |
| PLA-5 | 7.0 ft. | Bx-w | Unfrozen | Gr | 12.7% | | | | |
| PLA-6 | 1.5 ft. | ML | Unfrozen | Gr | 58.7% | | | | |
| PLA-6 | 3.0 ft. | OL | Unfrozen | Gr | 238.9% | | | | |
| PLA-6 | 5.5 ft. | Bx-r | Unfrozen | Gr | 28.8% | | | | |
| PLA-7 | 2.5 ft. | OL | Unfrozen | Gr | 79.2% | | | | |
| PLA-7 | 5.5 ft. | Bx-w | Unfrozen | Gr | | | | | |

| Test Hole | Sample Depth | Soil Type (USCS) | Thermal State | Sampler Type | Moisture Content | Dry Density | Organic Loss | Passing #200 | Other Tests |
|-----------|--------------|------------------|---------------|--------------|------------------|-------------|--------------|--------------|-------------|
| PLA-8 | 3.5 ft. | gML | Unfrozen | Gr | 14.0% | | | | PI |
| PLA-8 | 5.5 ft. | gML | Unfrozen | Gr | 8.8% | | | | |
| PLA-9 | 3.5 ft. | gML | Unfrozen | Gr | 11.8% | | | | PI |
| PLA-10 | 1.0 ft. | SP-SM | Unfrozen | Gr | 29.7% | | | 7.0% | |
| PLA-10 | 2.0 ft. | OL | Unfrozen | Gr | 97.0% | | | | |
| PLA-10 | 3.5 ft. | SM | Unfrozen | Gr | 15.2% | | | 27.1% | SA |
| PLA-10 | 8.0 ft. | gML | Unfrozen | Gr | 12.0% | | | 75.4% | PI |

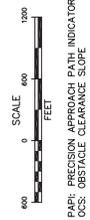
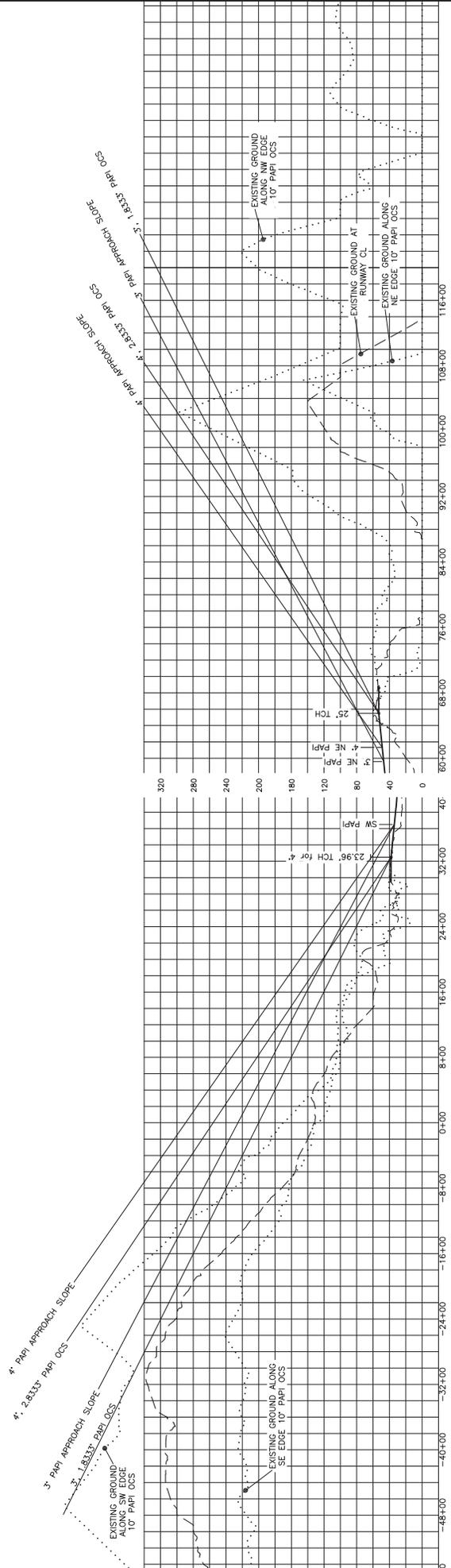
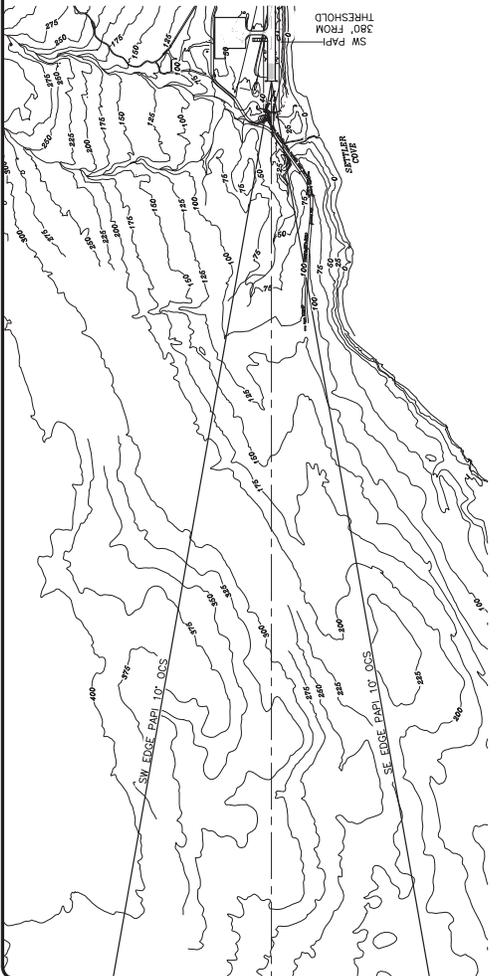
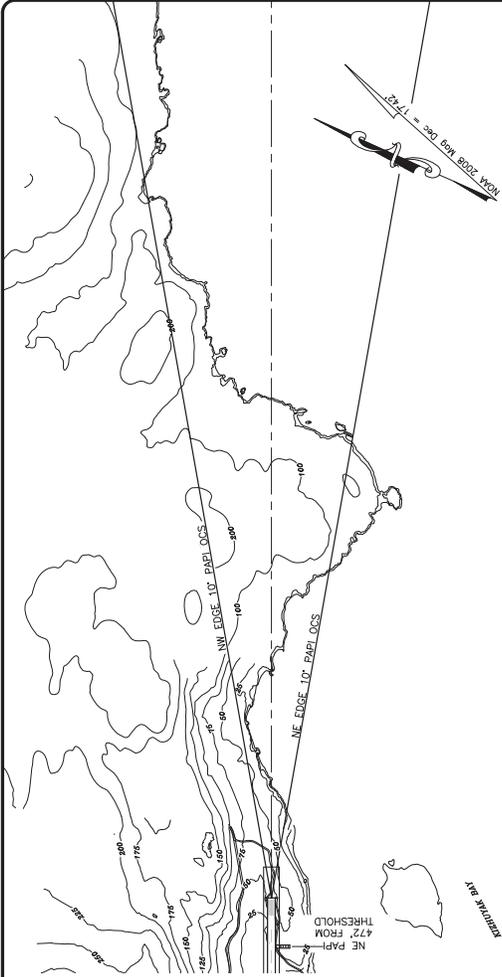
| Boring => | PLA-1 | PLA-5 | PLA-10 |
|-----------------------------|-----------|-----------|-----------|
| Depth => | 4.0 ft. | 4.0 ft. | 3.5 ft. |
| 3" => | 100.0% | 100.0% | 100.0% |
| 1 1/2" => | 100.0% | 100.0% | 100.0% |
| 3/4" => | 100.0% | 100.0% | 85.1% |
| 3/8" => | 99.9% | 99.6% | 77.2% |
| #4 => | 98.8% | 96.1% | 66.8% |
| #10 => | 97.7% | 87.9% | 55.5% |
| #20 => | 96.3% | 64.6% | 45.9% |
| #40 => | 88.9% | 40.3% | 38.9% |
| #60 => | 57.0% | 29.1% | 34.6% |
| #100 => | 28.8% | 22.0% | 30.9% |
| #200 => | 20.2% | 17.7% | 27.1% |
| Analysis of Data | | | |
| D10 size => | | | |
| D30 size => | 0.153 mm | 0.261 mm | 0.127 mm |
| D50 size => | 0.220 mm | 0.561 mm | 1.224 mm |
| D60 size => | 0.263 mm | 0.745 mm | 2.822 mm |
| Coeff. of Uniformity, Cu = | | | |
| Coeff. of Curvature, Cc = | | | |
| Gravel (+#4) percentage = | 1% | 4% | 33% |
| Sand percentage = | 78.6% | 78.4% | 39.7% |
| Fines percentage = | 20.2% | 17.7% | 27.1% |
| Unified Soil Class Symbol = | SM | SM | SM |



SUMMARY of PROBES-August 2004

| Probe Number | LOCATION (NAD 27) | | Organic mat/ Silt/ Ash/ Organic Silt (ft) | Top of | | Refusal: Colluvium/ Bedrock | Surface Cover |
|--------------|-------------------|----------------|---|--------------------------------|--------------------------|-----------------------------------|--------------------|
| | Latitude (N) | Longitude (W) | | Silty Gravel Colluvium (ft) | Gravel Colluvium (ft) | | |
| PLA-11 | 57° 53' 06.0" | 152° 50' 53.9" | 2.0 | 2.0 | 2.0 | 3 | Grassy Hillside |
| PLA-12 | 57° 53' 13.1" | 152° 50' 14.9" | 2.5 | 2.5 | 2.5 | 3.5 | Alder/Willow/trees |
| PLA-13 | 57° 53' 10.8" | 152° 50' 42.5" | 5.5 | - | - | 5.5 | Grassy meadow |
| PLA-14 | 57° 53' 13.4" | 152° 50' 27.5" | 6 + | - | - | 6 + | Willow/Spruce |
| PLA-15 | 57° 53' 06.0" | 152° 50' 53.9" | 6+ | - | - | 6 + | Grassy Bog |
| PLA-16 | 57° 53' 06.0" | 152° 50' 53.9" | 2.8 | - | - | 2.8 | Grass/ Willow |
| PLA-17 | 57° 53' 06.0" | 152° 50' 53.9" | 2.2 | - | - | 2.2 | Grass/Berry/Fern |

Appendix 3
PAPI Approach Slope Analysis



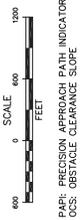
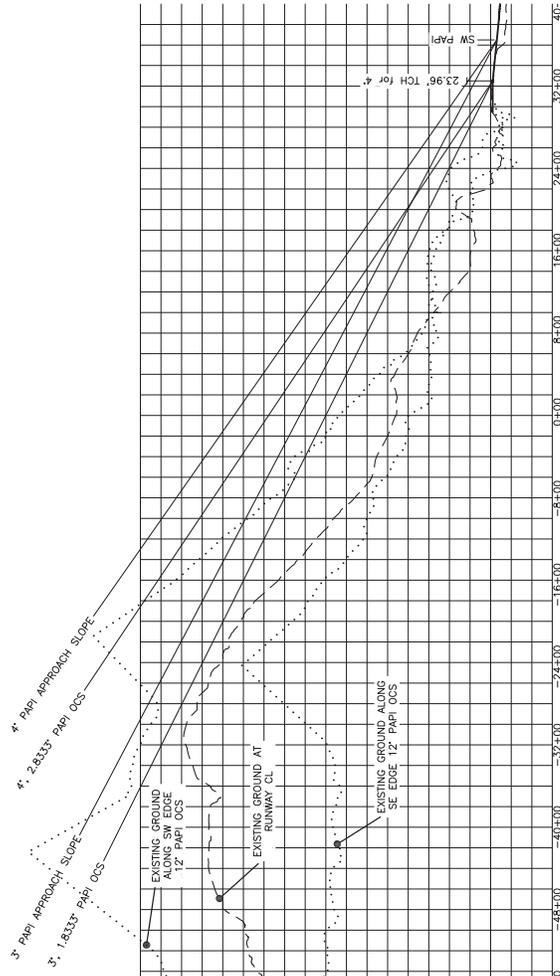
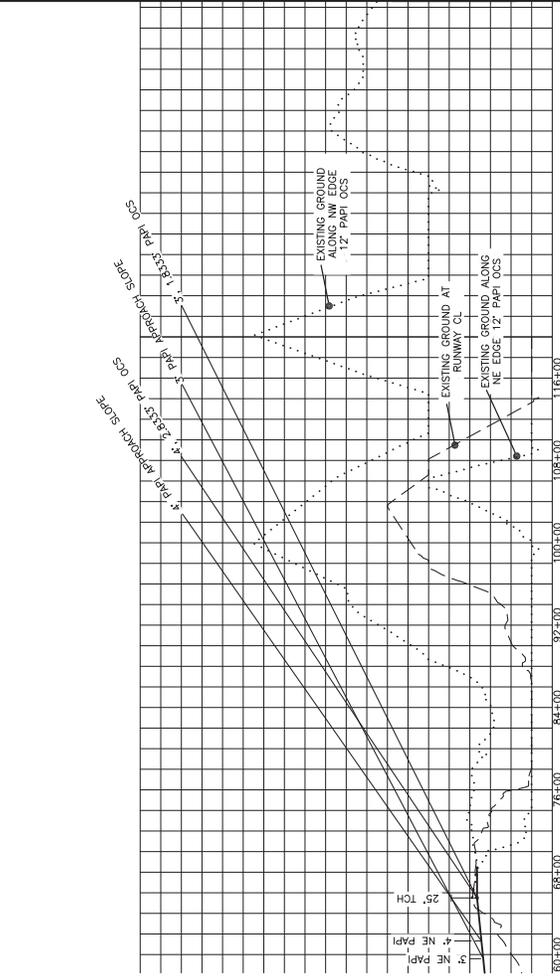
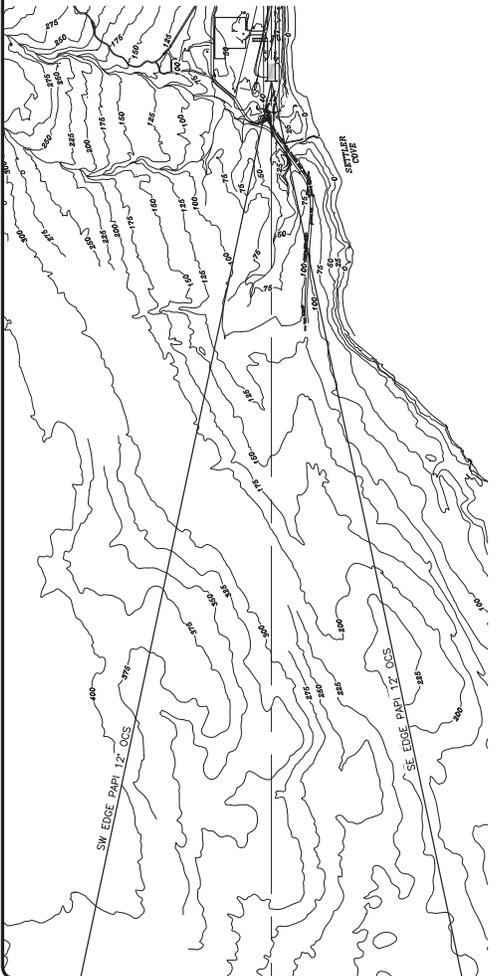
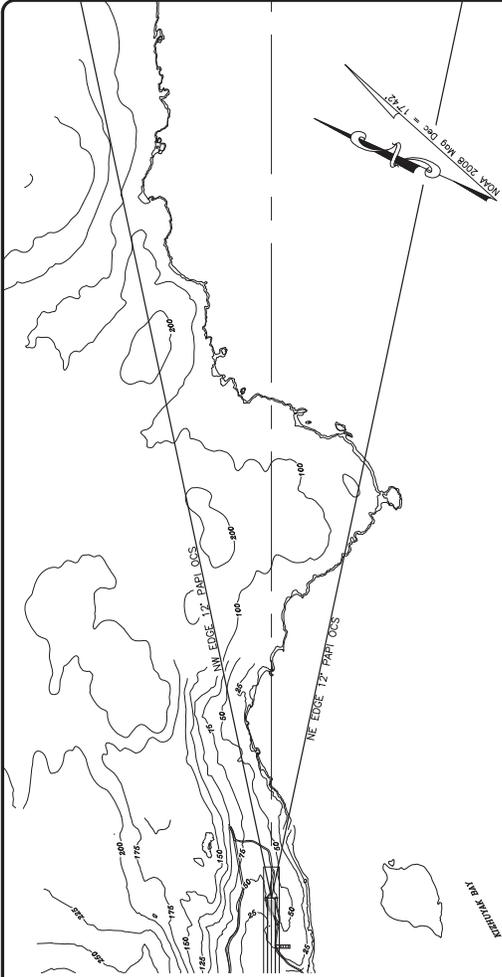
PAPI: PRECISION APPROACH PATH INDICATOR
 OCS: OBSTACLE CLEARANCE SURFACE

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 CENTRAL REGION

DATE: 3-5-07
 PORT LIONS AIRPORT
 PRECISION APPROACH PATH INDICATOR
 APPROACH SLOPE
 &
 10' OBSTACLE CLEARANCE SURFACE

| BY | DATE | REVISION |
|----|------|----------|
| | | |
| | | |
| | | |
| | | |

Date Plotted: March 5, 2007
 Layout Name: C:\working\SEA\graphics\dimas07\papi_rfp.dwg
 Drawn By: DJS
 Checked By: DJS



PAPI: PRECISION APPROACH PATH INDICATOR
 OCS: OBSTACLE CLEARANCE SURFACE

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 CENTRAL REGION

DATE: 3-5-07
 PORT LIONS, ALASKA
 PRECISION APPROACH PATH INDICATOR
 APPROACH SLOPE &
 12' OBSTACLE CLEARANCE SURFACE

| BY | DATE | REVISION |
|----|------|----------|
| | | |
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| | | |

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 Date Plotted: March 5, 2007
 Layout Name: 05
 Design By: DJS
 Checked By: DJS

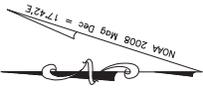
Appendix 4
Airport Layout Plan

| AIRPORT DATA TABLE | | |
|--|-------------------------------|------------|
| ITEM | EXISTING | ULTIMATE |
| ICAO IDENTIFIER | 0A1 | N/A |
| NATIONAL AIRPORT IDENTIFIER | OR1 | N/A |
| FAA SITE NUMBER | 50615.2A | SAME |
| AIRPORT ELEVATION | 52' MSL | 53' NAVD83 |
| MEAN MAX. TEMPERATURE | 62F | SAME |
| AIRPORT AND TERMINAL NAVIGATION AIDS | NONE | NONE |
| TAXIWAY LIGHTING/STAIRWAYS | MIL | SAME |
| OBSTRUCTION SURVEY SOURCE & TYPE | | D |
| MAGNETIC DECLINATION, YEAR, RATE OF CHANGE | 1742E, JAN 1, 2008: 0.13 W/YR | |
| MAGNETIC DECLINATION, EPOCH, YEAR | 1715E, JAN 1, 2010 | |

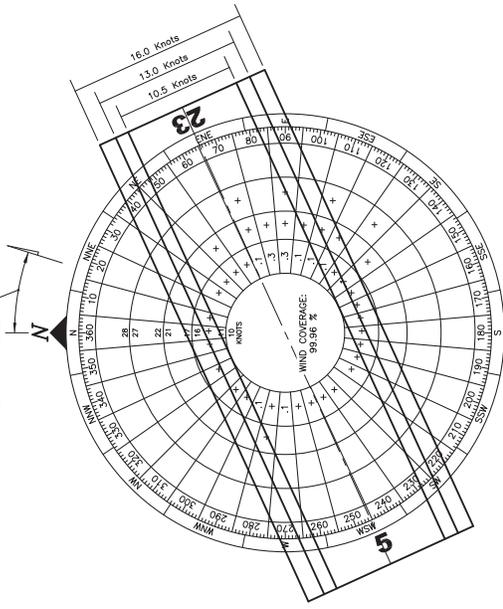
| LEGEND | | |
|----------------------------------|----------|----------|
| ITEM | EXISTING | ULTIMATE |
| AIRPORT REFERENCE POINT (A.R.P.) | | |
| ANTENNA | | |
| BLUFF | | |
| BUILDING RESTRICTION LINE | | |
| FENCE | | |
| PROPERTY LINE | | |
| ROADWAYS | | |
| ROTATING BEACON | | |
| SHORELINE | | |
| TOPOGRAPHIC CONTOURS | | |
| TREE (LARGE SINGLE) | | |
| WIND CONE | | |
| WIND CONE AND SEGMENTED CIRCLE | | |

| RUNWAY DATA TABLE | | |
|--|-----------------|--------------------|
| ITEM | EXISTING | ULTIMATE |
| RUNWAY HEADING | 06 / 24 | 05 / 23 |
| UTILITY AS OTHER THAN UTILITY | VISUAL | NP1 |
| FAIR PAVT 77 APPROACH CATEGORY (V, NP, P) | 1 MILE / 1 MILE | 201 / 201 |
| VISIBILITY MINIMUM | 1 MILE / 1 MILE | 1 MILE / 1 MILE |
| RUNWAY SURFACE | GRAVEL | ASPHALT |
| RUNWAY SURFACE STRENGTH (PCN) DIMENSIONS | 15,300 SH | 15,300 SH |
| RUNWAY OBJECT FREE AREA (OFA) DIMENSIONS | A | B |
| LENGTH BEYOND R/W END OR STOPWAY | 300' | 300' |
| RUNWAY OBSTACLE FREE ZONE (OFZ) DIMENSIONS | 2,600' X 250' | 3,700' X 250' |
| RUNWAY MARKINGS TYPE | NONE | NP1 |
| RUNWAY VISUAL APPROACH AIDS | NONE | PA1 / PA2 |
| RUNWAY END SITING SURFACE | NONE | LINE 5, TABLE A2-1 |

| GEOGRAPHIC COORDINATES TABLE | | |
|------------------------------|------------------------|------------------------|
| ITEM | EXISTING | ULTIMATE |
| ARP | N5753.0367 W15250.1125 | N5753.0368 W15250.1424 |
| THRESHOLD RW 06 | N5753.0367 W15250.1125 | N5753.0367 W15250.1424 |
| THRESHOLD RW 24 | N5753.0367 W15250.1125 | N5753.0367 W15250.1424 |
| THRESHOLD RW 05 | N5753.0367 W15250.1125 | N5753.0367 W15250.1424 |
| THRESHOLD RW 23 | N5753.0367 W15250.1125 | N5753.0367 W15250.1424 |

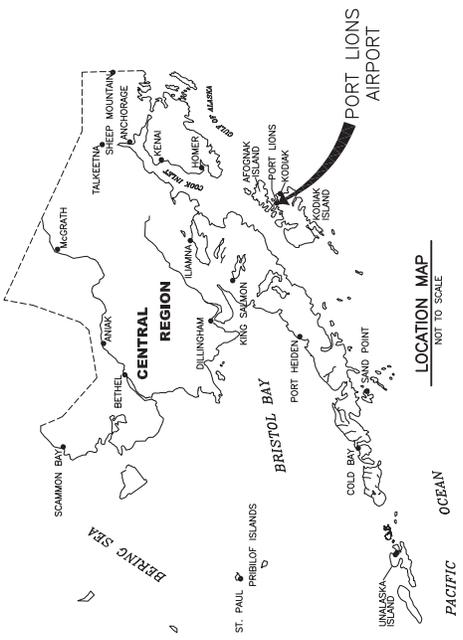


NOAA MAG DECLINATION:
1742E, JAN 1, 2008:
CHANGING 0.13 W PER YEAR



| WIND DATA TABLE | | |
|-----------------|------------|------------|
| RUNWAY | A-I/II/III | A-I/II/III |
| 05/23 | 99.41% | 99.25% |
| | 10.5 kt | 13.0 kt |
| | 10.5 kt | 13.0 kt |
| | 99.41% | 99.25% |

SOURCE: OUTSIDE WIND TOWER INSTALLED AND
MAINTAINED BY HOK ALASKA, INC.
N 73°14.4'E 14.4 MILES TO WIND TOWER
PERIOD: 08/2000 THRU 08/2002

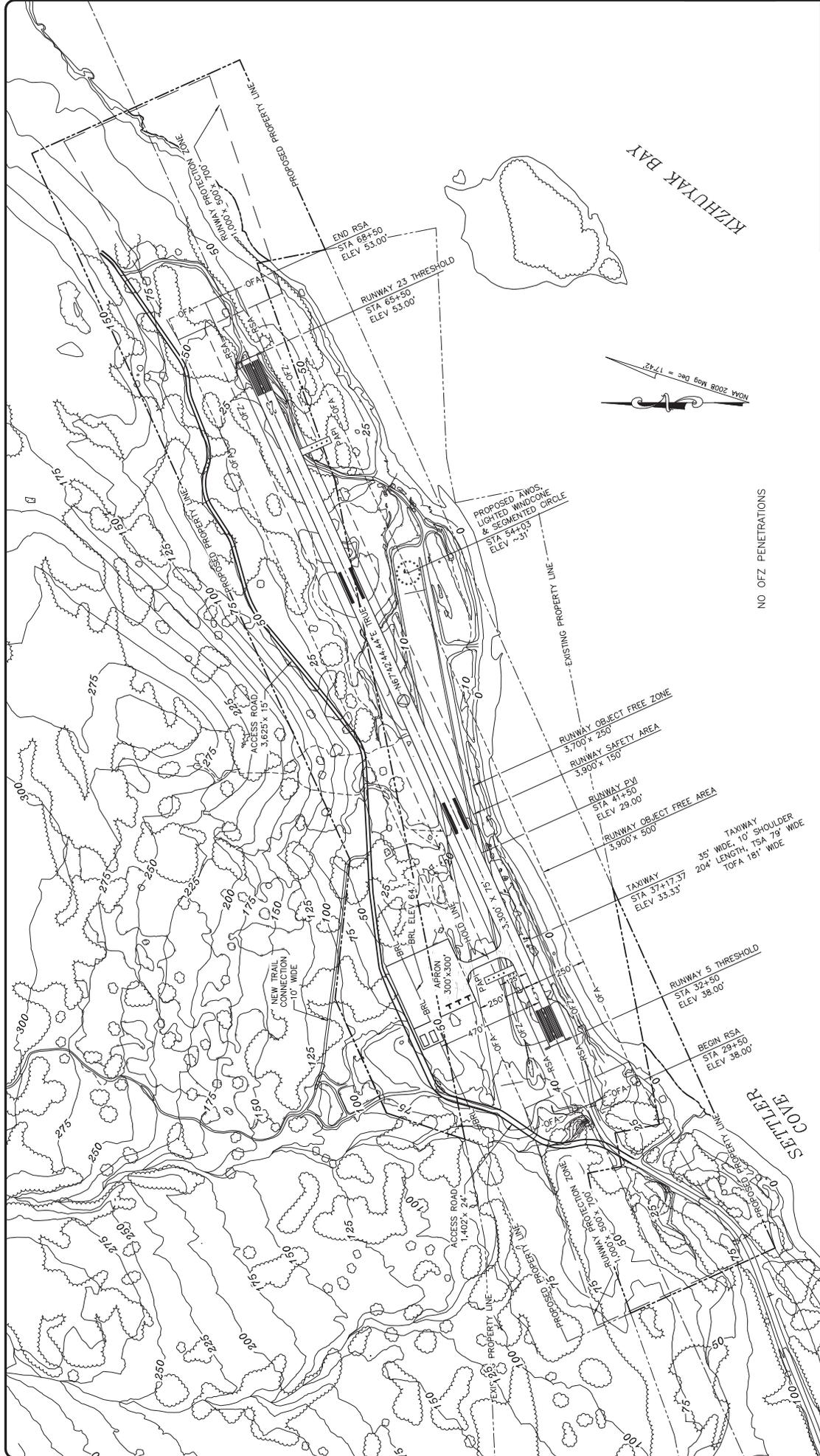


| MODIFICATION TO STANDARDS/ NON STANDARD CONDITIONS | | | |
|--|----------------|----------|----------|
| DESCRIPTION | STANDARD | EXISTING | ULTIMATE |
| RUNWAY TO AIRPORT | NO PENETRATION | 7:1 | 2:1 |
| OFA PENETRATION BY ACCESS ROAD AT WIDEFIELD | NO PENETRATION | 7:1 | 2:1 |
| PART 77 TRANSITION SURFACE (NORTH SIDE) | NO PENETRATION | 7:1 | 2:1 |

| DRAWING INDEX | |
|---------------|--|
| SHEET NO. | TITLE |
| 1 | AIRPORT DATA SHEET |
| 2 | EXISTING AIRPORT LAYOUT PLAN |
| 3 | ULTIMATE AIRPORT LAYOUT PLAN |
| 4 | INNER PORTION OF THE APPROACH SURFACE RUNWAY 05/23 |
| 5 | OUTER PORTION OF THE APPROACH SURFACE RUNWAY 05/23 |
| 6 | AIRPORT AIRSPACE |
| 7 | PROPERTY MAP |

| BY | DATE | REVISION |
|----------------------|------|----------|
| APPROVER: | | |
| PRECEDENT ENGINEER | | |
| PRECEDENT ENGINEER | | |
| DESIGN SECTION CHIEF | | |

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
CENTRAL REGION
PORT LIONS AIRPORT
AIRPORT LAYOUT PLAN
DATE: 1-31-07
SHEET: 1 OF 7



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STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 CENTRAL REGION
 PORT LIONS AIRPORT
 PORT LIONS, ALASKA
 AIRPORT LAYOUT PLAN
 ULTIMATE PLAN

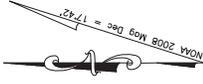
DATE: 1-31-07
 SHEET: 3 OF 6

| BY | DATE | REVISION |
|----|------|----------|
| | | |
| | | |
| | | |
| | | |



NOTE:
 1. 10' VERTICAL INTERVAL & FT.
 2. NO OFZ OBJECT PENETRATIONS

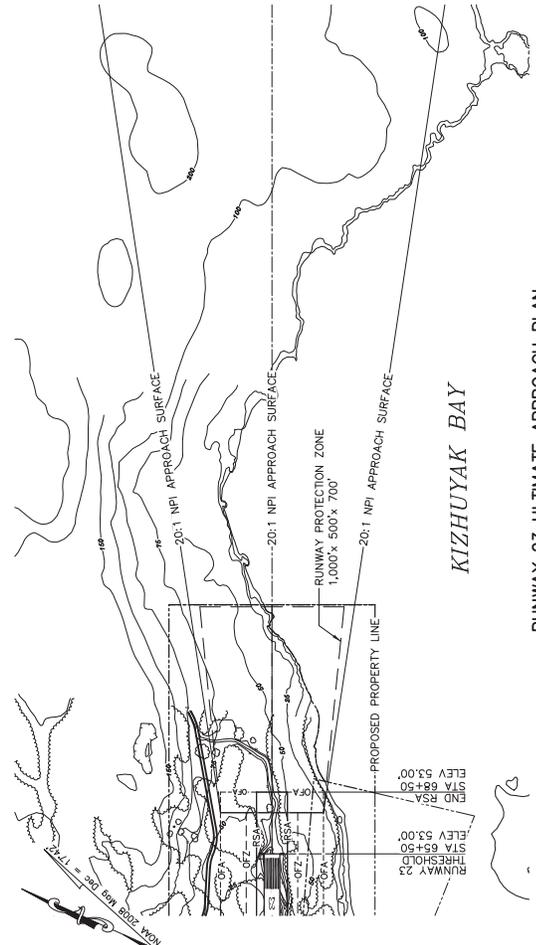
NO OFZ PENETRATIONS



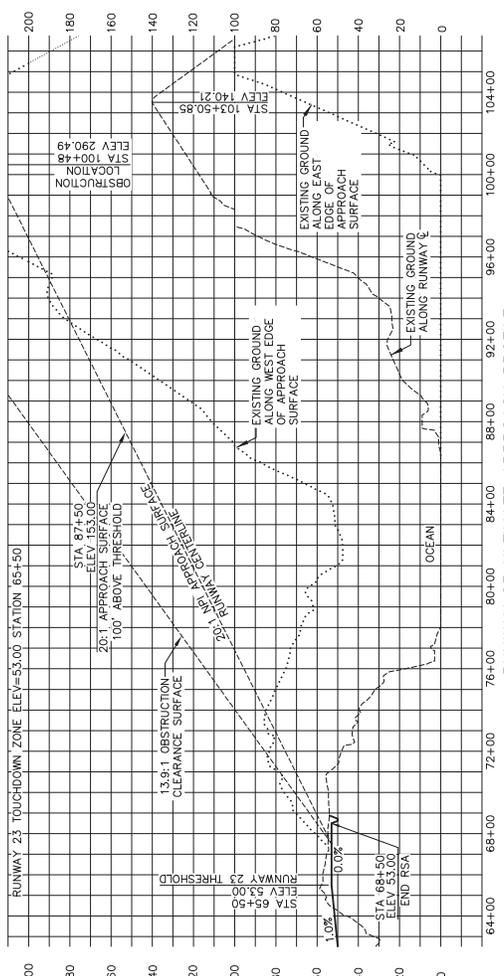
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 Project Name: C:\working\SEA\gymey\dm007\PORT LIONS.ALP Sheet-03.dwg
 Drawn By: DJS
 Checked By: DJS

DRAFT

BY: DATE: REVISION:

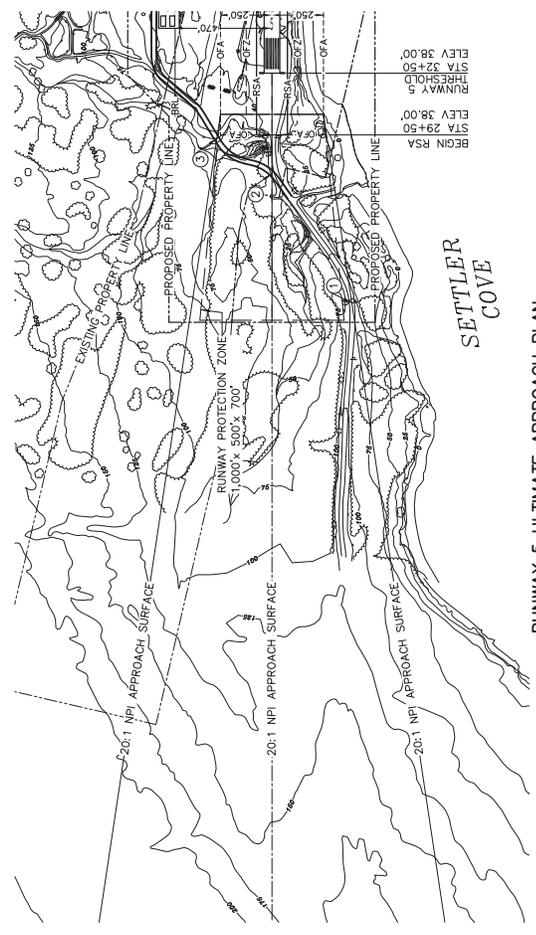


RUNWAY 23 ULTIMATE APPROACH PROFILE

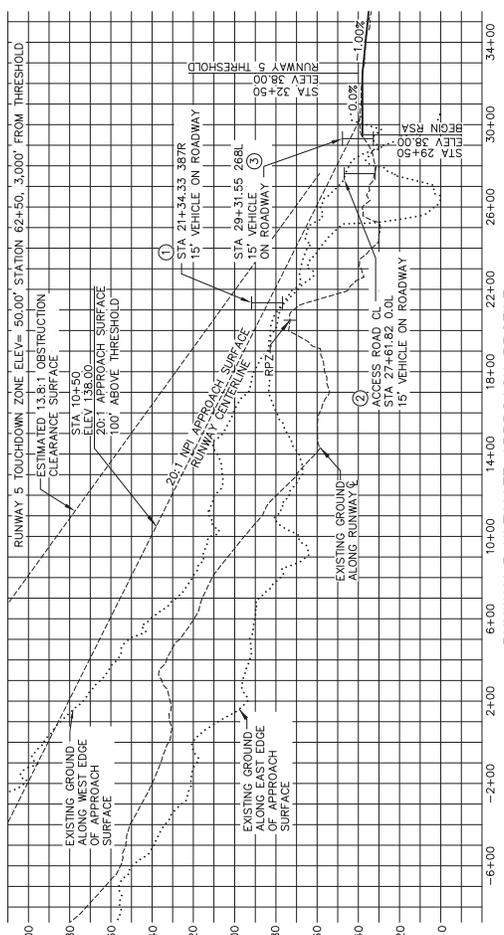


Runway 23 Ultimate Approach Profile

Scale: 0 to 600 Feet
 Contour Interval: 5 Ft



Runway 5 Ultimate Approach Profile



Runway 5 Ultimate Approach Profile

NOTES:

1. THERE ARE NO OCA PENETRATIONS.
2. THERE ARE NO OFZ PENETRATIONS.
3. THERE ARE NO TERRAIN PENETRATIONS IN THE RUNWAY APPROACH END SITING SURFACES AS DEFINED IN FAA AC 150/5300-13 CHG 9 APPENDIX 2, TABLE A2-1, LINE 5.
4. VEHICLE LOCATIONS & PENETRATIONS ARE PENETRATED BY VEHICLE LOCATIONS & PENETRATIONS.
5. THERE ARE NO OBSTRUCTIONS IN THE APPROACH OF RUNWAY 23.
6. RUNWAY 5/23 GEODETIC MEAN BEARING IS N67°42'15.44"E.
7. OBSTRUCTION SLOPE ESTABLISHED PER ORDER 5010, APPENDIX 1 REFER TO SHEET 5 OF 6 AIRPORT AIRSPACE 14 OF PART 77 FOR PENETRATIONS OF THE OUTER APPROACH SURFACES.
- 8.

| 20:1 APPROACH SURFACE OBSTRUCTIONS TABLE (INNER PORTION RW 5) | | | | | | | |
|---|-------------|----------------|-----------|--------------------|-----------------------|-------------|------------------|
| ID # | DESCRIPTION | STATION OFFSET | ELEVATION | SURFACE PENETRATED | AMOUNT OF PENETRATION | DISPOSITION | STAGE TO CORRECT |
| 1 | ACCESS ROAD | 21+34.33/287R | 91.79 | NPI APPROACH | 8.0 | TO REMAIN | N/A |
| 3 | ACCESS ROAD | 29+31.55/268L | 47.68 | NPI APPROACH | 3.8 | TO REMAIN | N/A |

| 20:1 APPROACH SURFACE OBSTRUCTIONS TABLE (INNER PORTION RW 23) | | | | | | | |
|--|-------------|----------------|-----------|--------------------|-----------------------|-------------|------------------|
| ID # | DESCRIPTION | STATION OFFSET | ELEVATION | SURFACE PENETRATED | AMOUNT OF PENETRATION | DISPOSITION | STAGE TO CORRECT |
| | NONE | | | | | | |

ELEVATIONS ARE IN FEET
 AIRPORT ELEVATION IS 53.0' NAVD 88
 DRAWING BASED ON U.S.G.S. KODIAK D3
 REFER TO THE INNER PORTION OF THE APPROACH
 SURFACE SHEET FOR CLOSE IN DETAILS, SHEET 4
 ULTIMATE PRIMARY SURFACE IS 500' WIDE
 THERE ARE NO KNOWN HEIGHT RESTRICTIONS
 THERE ARE NO SEWAGE LAGOONS WITHIN 10,000' OF THE
 PORT LIONS LANDFILL IS APPROXIMATELY
 4,000' FROM RUNWAY 5.

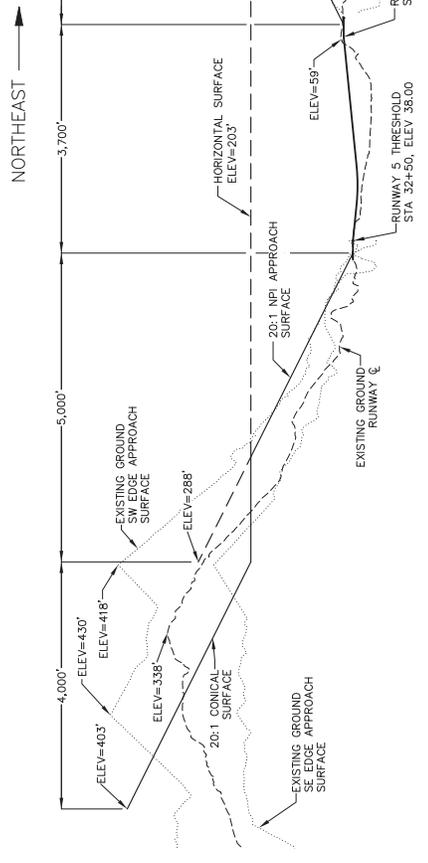
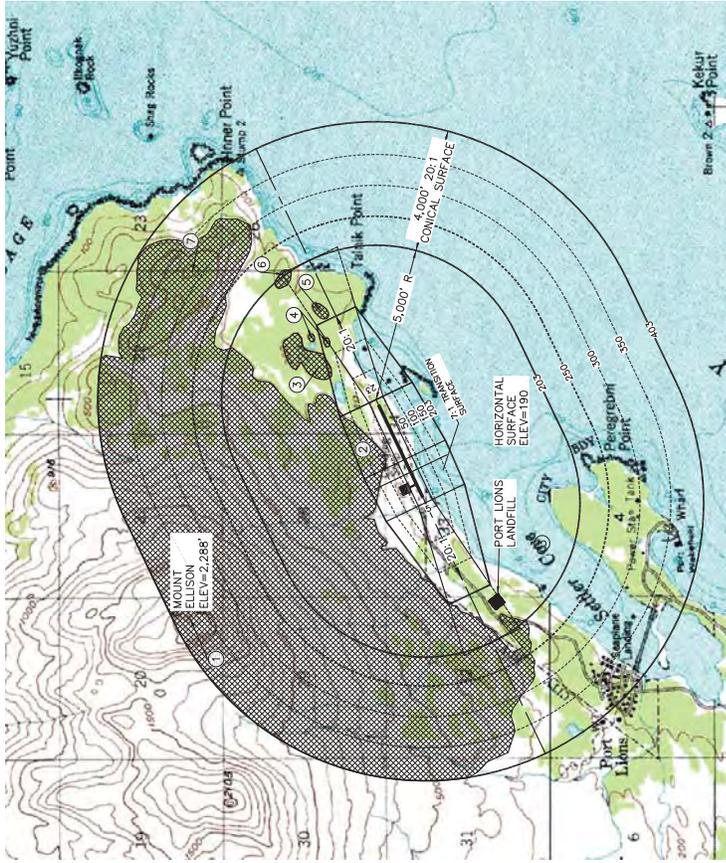


PART 77 SURFACE OBSTRUCTION TABLE

| ID # | DESCRIPTION | STATION OFFSET | ELEVATION (MSL) | SURFACE PENETRATION | SURFACE ELEVATION | AMOUNT PENETRATION | DISPOSITION | STAGE TO CORRECT |
|------|--------------------|-------------------|--------------------|------------------------|----------------------|-----------------------|-------------|---------------------|
| 1 | TERRAIN HIGH POINT | 29+46.5 | 8,440L | 2288 | | | | |
| 2 | HIGH TERRAIN | 65+21.1 | 1,222L | | | | | |
| 3 | TERRAIN HIGH POINT | 91+11.1 | 634L | | | | | |
| 4a | TERRAIN HIGH POINT | 94+61.1 | 1,026L | | | | | |
| 4b | TERRAIN HIGH POINT | 101+05.1 | 980L | | | | | |
| 5 | TERRAIN HIGH POINT | 117+28.1 | 968L | | | | | |
| 6 | TERRAIN HIGH POINT | 130+51.1 | 3,580L | | | | | |
| 7 | TERRAIN HIGH POINT | | | | | | | |



DRAFT



RUNWAY 5/23 PROFILE



HV = 10:1

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 CENTRAL REGION

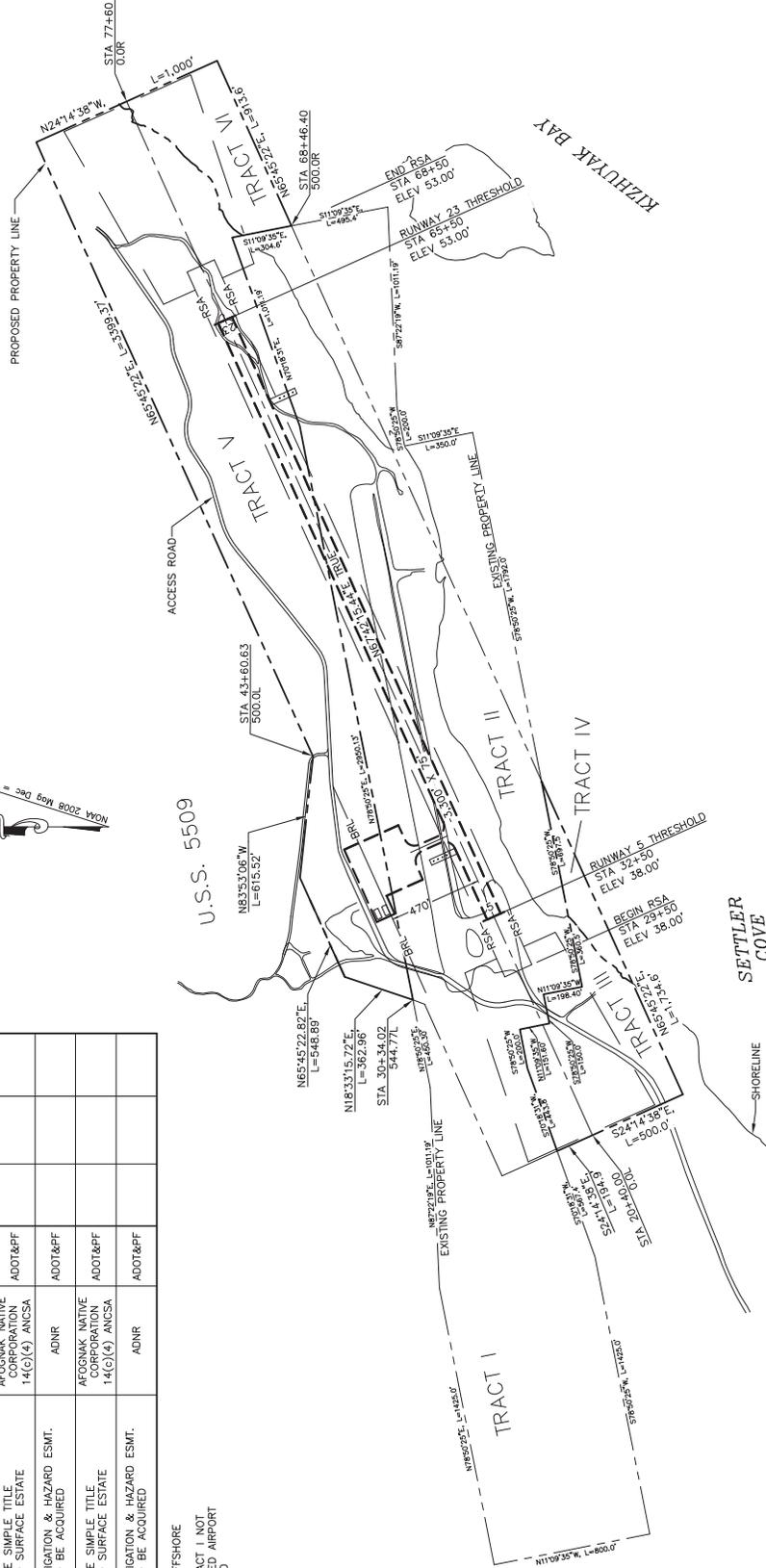
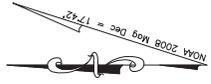
PORT LIONS AIRPORT
 PORT LIONS, ALASKA
 AIRPORT LAYOUT PLAN
 14 CFR, PART 77

DATE: 1-31-07
 SHEET: 5 of 6

| BY | DATE | REVISION |
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| | | |
| | | |
| | | |

| TRACT | | PROPERTY STATUS | | | DATE ACQUIRED | RECORDED DOC. NO. | ACQUIRED MAP NO. |
|------------|--------------|---|--|---------|---------------|-------------------|------------------|
| A.D.A. No. | AREA (ACRES) | INTEREST | GRANTOR | GRANTEE | | | |
| I | 89.8 | FEE SIMPLE TITLE TO SURFACE ESTATE | AFOGNAK NATIVE CORPORATION 14(C)(4) ANCSA | ADOT&PF | 4-13-83 | | |
| II | 28.7 | AVIGATION & HAZARD ESMT. TO BE ACQUIRED | ADNR | ADOT&PF | | | |
| III | 11.16 | FEE SIMPLE TITLE TO SURFACE ESTATE | AFOGNAK NATIVE CORPORATION 14(C)(4) ANCSA | ADOT&PF | | | |
| IV | 2.13 | AVIGATION & HAZARD ESMT. TO BE ACQUIRED | ADNR | ADOT&PF | | | |
| V | 60.87 | FEE SIMPLE TITLE TO SURFACE ESTATE | AFOGNAK NATIVE CORPORATION 14(C)(4) ANCSA | ADOT&PF | | | |
| VI | 7.13 | AVIGATION & HAZARD ESMT. TO BE ACQUIRED | ADNR | ADOT&PF | | | |

TRACTS II, IV & VI ARE OFFSHORE
WESTERLY PORTION OF TRACT II NOT
ELIGIBLE FOR PORT AIRPORT
AND CAN BE RELINQUISHED



DRAFT



EXISTING AIRPORT BOUNDARY BEARINGS &
DISTANCES FROM PORT AIRPORT
PROPERTY PLAN SHEET DATED 1-18-83
RIGHT OF WAY AGREEMENT ISSUED EFFECTIVE
01-1-72 PERPETUAL BY DEPT. OF PUBLIC WORKS,
01-1-72 AMENDING BY DEPT. OF PUBLIC WORKS,
HIGHWAYS FOR HIGHWAY PROJECT ALS-0370(1)
WAKEFIELD TO PORT LIONS.

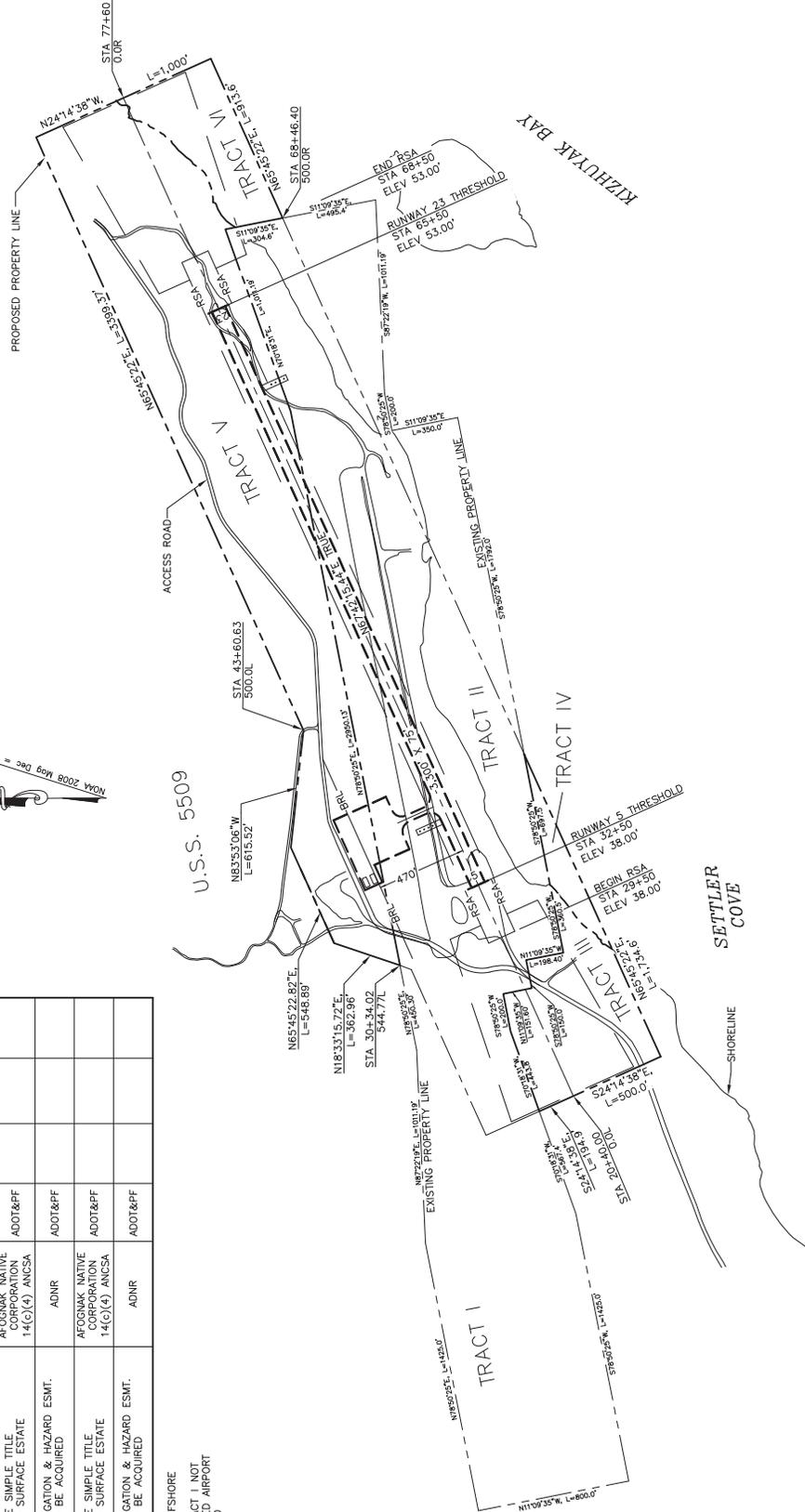
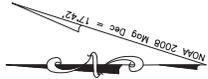
STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
CENTRAL REGION
PORT LIONS AIRPORT
AIRPORT LAYOUT PLAN
PROPERTY MAP

DATE: 1-31-07
SHEET: 6 OF 6

| BY | DATE | REVISION |
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| PROPERTY STATUS | | | |
|------------------|--------------|---|--|
| TRACT A.D.A. No. | AREA (ACRES) | INTEREST | GRANTOR |
| I | 89.8 | FEE SIMPLE TITLE TO SURFACE ESTATE | AFOGNAK NATIVE CORPORATION 14(C)(4) ANCSA |
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| V | 60.87 | FEE SIMPLE TITLE TO SURFACE ESTATE | AFOGNAK NATIVE CORPORATION 14(C)(4) ANCSA |
| VI | 7.13 | AVIGATION & HAZARD ESMT. TO BE ACQUIRED | ADNR |

TRACTS II, IV & VI ARE OFFSHORE WESTERN PORTION OF TRACT I NOT SUBJECT TO THE PROPOSED AIRPORT AND CAN BE RELINQUISHED



DRAFT



EXISTING AIRPORT BOUNDARY BEARINGS & DISTANCES SHOWN FOR REFERENCE
 PROPERTY PLAN SHEET DATED 1-18-83
 RIGHT OF WAY AGREEMENT ISSUED EFFECTIVE 1-18-83
 DIV. OF AVIATION, ALASKA DEPT. OF PUBLIC WORKS,
 HIGHWAYS FOR HIGHWAY PROJECT ALS-0370(1)
 WAKEFIELD TO PORT LIONS.

STATE OF ALASKA
 DEPARTMENT OF TRANSPORTATION
 AND PUBLIC FACILITIES
 CENTRAL REGION
 PORT LIONS AIRPORT
 AIRPORT LAYOUT PLAN
 PROPERTY MAP

| | |
|--------|---------|
| DATE: | 1-31-07 |
| SHEET: | 7 |
| OF | 7 |

| BY | DATE | REVISION |
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**Appendix 5
Cost Estimate**

PORT LIONS AIRPORT ROTATION ALTERNATIVE

***** RUNWAY WITH 2:1 TRANSITION SURFACE, NO APPROACH SLOPE EXCAV *****

| Item No. | Pay Item | Pay Unit | Unit Price | Quantity | Amount | Subtotal |
|----------|--|----------|-------------|----------|-------------|--------------------|
| G-100a | MOBILIZATION AND DEMOBILIZATION | L.S. | \$1,000,000 | 1 | \$1,000,000 | |
| G-155a | WORKERS MEALS & LODGING, OR PER DIEM | L.S. | \$150,000 | 1 | \$150,000 | |
| G-130a | FIELD OFFICE | L.S. | \$50,000 | 1 | \$50,000 | |
| G-130b | FIELD LABORATORY | L.S. | \$20,000 | 1 | \$20,000 | |
| G-130g | NUCLEAR TESTING EQUIPMENT STORAGE SHED | EACH | \$8,000 | 1 | \$8,000 | |
| G-131a | ENGINEERING TRANSPORTATION (Truck) | EACH | \$40,000 | 1 | \$40,000 | |
| G-131b | ENGINEERING TRANSPORTATION (ATV) | EACH | \$8,000 | 1 | \$8,000 | |
| G-135a | CONSTRUCTION SURVEYING BY THE CONTRACTOR | L.S. | \$150,000 | 1 | \$150,000 | |
| | SUBTOTAL CONTRACTOR ITEMS | | | | | \$1,426,000 |
| P-151a | CLEARING | AC | \$5,500.00 | 36 | \$198,000 | |
| P-151b | CLEARING LARGE TREES | AC | \$6,500.00 | 13 | \$84,500 | |
| P-151c | CLEARING AND GRUBBING | AC | \$8,200.00 | 35 | \$287,000 | |
| P-152a | UNCLASSIFIED EXCAVATION | CY | \$5.00 | 215,170 | \$1,075,850 | |
| P-152b | ROCK EXCAVATION | CY | \$15.00 | 24,216 | \$363,240 | |
| P-152h | BORROW EMBANKMENT | CY | \$8.00 | 325,700 | \$2,605,600 | |
| P-157b | TEMPORARY EROSION AND POLLUTION CONTROL | L.S. | \$15,000.00 | 1 | \$15,000 | |
| P-500 | REROUTE TRAIL | L.S. | \$5,000.00 | 1 | \$5,000 | |
| | SUBTOTAL EARTHWORK | | | | | \$4,634,190 |
| P-154a | SUBBASE COURSE | CY | \$10.00 | 44,000 | \$440,000 | |
| P-208a | CRUSHED AGGREGATE BASE COURSE | CY | \$35.00 | 11,450 | \$400,750 | |
| P-401a | BITUMINOUS SURFACE COURSE | TON | \$55.00 | 3,100 | \$170,500 | |
| P-401b | BITUMINOUS MATERIAL | TON | \$900.00 | 155 | \$139,500 | |
| | SUBTOTAL SURFACING | | | | | \$1,150,750 |
| P-620 | RUNWAY MARKING | L.S. | \$150,000 | 1 | \$150,000 | |
| P-640b | SEGMENTED CIRCLE (PANEL TYPE) | L.S. | \$35,000 | 1 | \$35,000 | |
| P-650a | AIRCRAFT TIE-DOWN | Set | \$500 | 6 | \$3,000 | |
| P-660c | REFLECTIVE MARKERS | Ea | \$60 | 60 | \$3,600 | |
| P-681a | GEOTEXTILE SEPARATION | SY | \$2.0 | 114,000 | \$228,000 | |
| | SUBTOTAL FINISHES | | | | | \$419,600 |

Port Lions Airport Master Plan

| Item No. | Pay Item | Pay Unit | Unit Price | Quantity | Amount | Subtotal |
|-------------------------------------|-------------------------------|-------------------------|------------|----------|-----------|---------------------|
| S-150b | LOADER | L.S. | \$250,000 | 1 | \$250,000 | |
| | ENGINEERING DESIGN | 7% of Construction Cost | | | \$772,325 | |
| | CONSTRUCTION ADMINISTRATION | 8% of Construction Cost | | | \$882,657 | |
| | RIGHT-OF-WAY | 2% of Construction Cost | | | \$220,664 | |
| | NEPA ENGINEERING AND APPROVAL | 2% of Construction Cost | | | \$220,664 | |
| SUBTOTAL MISCELLANEOUS ITEMS | | | | | | \$2,346,310 |
| TOTAL CONSTRUCTION COST | | | | | | \$13,380,000 |

Port Lions Airport Master Plan

Environmental Site Assessment

Project No. 54746

September 2004

Prepared for:



**Federal Aviation Administration
222 W. 7th Ave #14
Anchorage, AK 99513**

Prepared on behalf of the Sponsor:



**State of Alaska
Department of Transportation
and Public Facilities
Central Region
P.O. Box 196900
Anchorage, Alaska 99519-6900**

Prepared by:

**HDR Alaska, Inc.
2525 C Street, Suite 305
Anchorage, Alaska 99503-2632**

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- Appendix B Telephone Conversation Records

Acronyms and Abbreviations

| | |
|---------|--|
| ADEC | Alaska Department of Environmental Conservation |
| ADNR | Alaska Department of Natural Resources |
| ASTM | American Standard for Testing Materials |
| CERCLIS | Comprehensive Environmental Response Compensation and Liability Information System |
| DOT&PF | (Alaska) Department of Transportation and Public Facilities |
| EPA | Environmental Protection Agency |
| ERNS | (EPA's) Emergency Response Notification System List |
| ESA | Environmental Site Assessment |
| FAA | Federal Aviation Administration |
| LUST | Leaking Underground Storage Tank |
| NPL | National Priorities List |
| PCB | Polychlorinated Biphenyl |
| RCRA | Resource Conservation and Recovery Act |
| UST | Underground Storage Tank |

Executive Summary

This report documents the results of our Environmental Site Assessment (ESA) of the Port Lions airport and proposed areas of development associated with the Port Lions Airport Master Plan *Scoping Report* (HDR 2003), located in Port Lions, Alaska. This ESA was completed in accordance with the Scope of Work set forth in an HDR Alaska, Inc. (HDR) proposal dated February 19, 2002 (here forth known as the “Proposal”) to the Department of Transportation and Public Facilities (DOT&PF). The purpose of this ESA was to evaluate whether current or historical activities on or adjacent to the subject property, within the proposed project area, have potentially resulted in significant contamination by hazardous substances or petroleum products. The ESA was conducted in accordance with the Scope of Work specified in the above referenced proposal. The American Society for Testing and Materials' (ASTM) Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process (E 1527-00) was used as guidance. Exceptions to E 1527-00 are noted in Section 1.2.

Methods used to prepare this ESA included a site visit and visual evaluation of the proposed project area and grounds. Historical aerial photos were examined to identify areas of potential concern. Local state offices were contacted during the records review to determine ownership information, public utility services to the project area, and incidents relating to spills or chemical releases. The records review also included researching State of Alaska databases to determine if listed contaminated sites, underground storage tanks, or leaking underground storage tanks are present in the project vicinity. A vicinity map is included as Figure 1, and a proposed project area site map is included as Figure 2. Aerial photographs of the proposed area are included as Figures 2 through 4. Site photographs are included in Appendix A and telephone conversation records are included in Appendix B.

All reasonable ascertainable information regarding environmental conditions at the site was identified. Based on HDR's physical observation and data research, no Recognized Environmental Conditions were identified.

1.0 Introduction: Purpose and Scope of Work

1.1 Purpose and Scope of Work

This report documents the results of an ESA of the runway and proposed runway expansion areas at Port Lions, Alaska. This ESA was performed in conjunction with the Port Lions Airport Master Plan (in preparation) and Environmental Assessment (in preparation), in order to document potential areas of contamination and assist with the design and placement of airport improvements. The objective of this ESA is to evaluate whether current or historical activities on or adjacent to the subject property (proposed project area) have potentially resulted in significant contamination by hazardous substances or petroleum products, which is subsequently referred to in this report as a "Recognized Environmental Condition." A Recognized Environmental Condition is defined as:

“The presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.”

1.2 Exceptions and Assumptions

This report was prepared using ASTM E 1527-00, Standard Practice for Environmental Site Assessments as guidance. Exceptions to ASTM E 1527-00 are listed below and discussed further in the body of this report:

- Historical use of the Property is identified back to 1964, not to 1940, as required by ASTM E 1527-00. Earlier records regarding the site are not available.¹
- This preliminary assessment does not evaluate radon gas levels, mold, or leaded paint.
- No title records were provided by DOT&PF and a title search was not conducted.

The following significant assumption was relied upon during the preparation of this report:

- The Alaska Department of Environmental Conservation (ADEC) List of Contaminated Sites is equivalent to a hazardous waste sites list.

¹ The displaced inhabitants of Afognak Village, which was destroyed by tsunami after the Good Friday Earthquake of 1964, relocated and founded the community of Port Lions later that year. Therefore, recent historic and community site records only date back to 1964.

2.0 Site and Project Description

This section presents the results of an evaluation of the community characteristics such as location, history, demographics, economy, subsistence activities, and community facilities; characteristics of the natural environment, such as topography, climate, vegetation, and wildlife; and airport features such as existing facilities and access patterns.

2.1 Location and Legal Description

The Property is located on the western shore of Settler Cove, near the mouth of Spruce Island's Kizhuyak Bay, near the north coast of Kodiak Island (approximately 57° 52' north latitude, 152° 53' west longitude). The gravel airstrip is 2,200 feet long and 75 feet wide, and is located approximately 2 miles north of the community of Port Lions. The community is 19 miles west-northwest of the City of Kodiak, and 247 air miles southwest of Anchorage. The proposed project area includes the existing airport and the surrounding area included in the proposed alternatives discussed in the Port Lions Airport Master Plan *Scoping Report* (HDR 2003).

A vicinity map indicating the project location is included as Figure 1. The proposed project area and general features are illustrated in Figure 2.

2.2 Site and Vicinity Characteristics

The current airport was constructed in 1964 in conjunction with the community relocation from Afognak Island. According to an interview with Mr. Wayne Lukin of the Port Lions Traditional Tribal Council, the project site was low lying wetland prior to development, during which time gravel fill was placed in the wetland to support airport construction. The airport currently is aligned in a northeast-southwest position, approximately parallel to the shoreline. A gravel borrow pit is located on the northwest end of the airport, and road access to the community extends from the southwest end of the airport. Several small streams are within the project area, and wetlands are present at the northeast end of the site.

2.3 Proposed Airport Improvements

Proposed airport improvements will result in compliance with the Federal Aviation Administration (FAA) standards and DOT&PF's community class recommendations. The airport design for Port Lions is based upon Airport Reference Code A-II design criteria. This would include development of a 3,300-foot long by 75-foot wide runway and a 3,900-foot long by 150-foot wide runway safety area. The recommended apron size is 60,000 square feet (ft²), with a 30,000 ft² aviation support area; and a 10,000 ft² maintenance and operations pad.

2.3.1 Realignment Alternative – Proposed Action

The Proposed Action Alternative would involve realigning the runway, in generally its current location, 13 degrees to the north of the existing runway. The existing apron and runway embankment would be utilized for construction of the realigned runway to the extent possible. Improvements under this alternative would meet all the FAA and DOT&PF standards and recommendations listed in Section 2.3. A new 1.1-mile long gravel airport bypass access road would be constructed on the north side of the airport to connect the existing airport access road to a trail east of the runway.

It is projected that the volume excavated from site leveling for the runway expansion and approach area would provide sufficient material for construction of the airport facility and access road. If additional material is required, the existing borrow pit located north of the runway on airport property may also be utilized. Development of a new material source or material site haul roads is not anticipated in conjunction with this alternative.

2.4 Information Regarding Environmental Liens

Reasonably ascertainable recorded land title records were checked to identify environmental liens or activity and use limitations. No liens or limitations were identified.

2.5 Current Use of the Property

The Port Lions Airport is located approximately one and a half miles northeast of the community's developed area. All airport facilities and a gravel borrow pit are located entirely on DOT&PF owned property, as shown on Figure 2. Most of the land surrounding the airport property is undeveloped and owned by the Afognak Native Corporation. Settler Cove and Kizhuyak Bay are directly to the east of the DOT&PF-owned airport property.

Original communication with the Afognak Native Corporation and community members of Port Lions indicated privately owned Native allotment in the vicinity of the project area, although specific references were not identified. Further research indicates that Afognak Native Corporation owns the surface rights and Koniag, Inc. owns the subsurface rights to all properties within the proposed project area that are not within the DOT&PF-owned airport property. The privately owned Native allotment that was originally indicated was identified as an expired utility lease that has been reverted back to the Afognak Native Corporation.

2.6 Past Use of the Property

The City of Port Lions was founded in 1964 for the displaced residents of Afognak Village to the north, which was partially destroyed by a tsunami during the Good Friday earthquake. Interviews with Port Lions residents indicate that the current airport site was chosen during the relocation. No historical documents were located suggesting the project area was developed or utilized prior to airport construction.

2.7 Current and Past Uses of Adjacent Properties

Based on the site visit and interviews, the surrounding property is undeveloped and has not been developed or utilized in the past. A small home on residential property is located northeast of the airport property, outside of the project area.

2.8 Soil Characteristics

Peat has been identified in poorly drained areas around the community of Port Lions. Investigations associated with wetland classification identified a vegetative mat ranging in depth from 3 inches to 1 foot that covers a layer of volcanic ash. Soil beneath the ash layer is a silty loam containing a substantial percentage of greywacke rock fragments and rounded granite stones. The nearby gravel borrow pit suggests that bedrock is near the surface in the vicinity of the airport.

3.0 Records Review

The purpose of the records review was to identify previous activities which may have constituted environmental misuse and/or contributed to the presence of hazardous substances or petroleum products at the project site.

3.1 Federal Records

The following environmental record sources were reviewed to locate sites within specified distances (per ASTM E 1527-00) from the proposed project area.

The National Priorities List (NPL), compiled by the Environmental Protection Agency (EPA), contains properties with the highest priority for cleanup. No sites on this list are within 1 mile of the proposed project area.

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 possible inclusion on the NPL. There are no CERCLIS-listed sites within 0.5 mile of the proposed project area.

Resource Conservation and Recovery Act (RCRA), found in an EPA Region 10 report, indicates sites subject to corrective action or RCRA treatment, storage, or disposal facilities. There are no RCRA listed sites within 1 mile of the project site.

The Emergency Response Notification System (ERNS) lists reported hazardous substance releases in quantities greater than the reportable quantity. The project site and adjacent properties were not identified.

3.2 State Records

In reviewing the ADEC online records, HDR found no reference to regulated underground storage tanks (USTs) on the Property. The ADEC UST database lists one regulated tank at the former Wakefield Seafood facility on Peregrebni Point. This tank is approximately 0.75 mile southwest from the proposed project area and across Settler Cove. The database lists the site as having one 500-gallon diesel UST that is permanently out of use.

The ADEC listings of leaking underground storage tanks (LUSTs) and contaminated sites were reviewed on May 3, 2004, for sites within 0.5 mile and 1 mile of the project site, respectively. No LUSTs or contaminated sites were identified within the applicable search radii.

The State Landfill/Solid Waste Disposal Site List was reviewed. No landfills were identified within 0.5 mile of the project site. However, the Port Lions municipal landfill is located approximately 0.75 mile west of the project site, and is not permitted by the ADEC.

4.0 Site Reconnaissance

On October 8-9, 2003, the Port Lions Airport proposed project site was traversed and visually evaluated by two HDR representatives. Photographs of the area were taken during the site reconnaissance. Photos of the site are included in Appendix A.

4.1 Project Site Evaluation

The existing Port Lions airport site is generally flat. An unpaved, gravel airstrip is the dominant feature, and is oriented in a west-to-east direction. The taxiway and apron are located at the southwest end of the airstrip, and are also unpaved. The airstrip is approximately 50 feet from the Settler Cove shoreline and appears to be constructed on a fill prism. The existing airstrip is shown in Photo 1 of Appendix A. The project area was traversed and crossed in several directions. Surface staining was not observed. Vegetated uplands and wetlands surround the airstrip. Within the proposed project area a small creek east of the runway drains the adjacent wetland area. Additionally two slightly larger creeks cross the project area site from the north to south at the southwest end of the airstrip. These two creeks cross under the existing road through culverts. All creeks within the project area drain into Settler Cove.

A C-119 aircraft was parked on the airport apron during a 2002 site visit. The aircraft is shown in Photo 2 of Appendix A. The aircraft, a 1953 military “flying boxcar” aircraft, had an emergency landing in Port Lions in 1989. It was parked on the apron for 13 years while being repaired. The aircraft was flown out of Port Lions in 2002. The aircraft was not present during the October 2003 site visit and no leaks or stained soils were observed in the vicinity of the aircraft.

A trap shooting area was observed north of the airstrip near the runway’s midpoint. The shooting area did not appear to be currently used, but some spent shell casings were observed in the area. According to Mr. Alvin Mullan, the Port Lions Airport Manager, the area is used infrequently.

A gravel borrow pit is located north of the west end of the runway, and was accessed by a gravel spur from the airport access road. The gravel borrow pit is shown in Photo 3 in Appendix A. Various pieces of loading and earthmoving equipment were observed in the borrow pit. Surface staining was not observed in the area.

A steel-fabricated building, which houses the electrical equipment for the airport, is located at the west end of the runway. A telephone booth (non-working) is located near the building. The structure is shown in Photo 4 in Appendix A. No signs of activity were noted in the area surrounding the building.

4.2 Surrounding Properties Evaluation

A small home on a residential property is located northeast of the airport property. However, most areas adjacent to the airport are undeveloped and vegetated. The shoreline and Settler Bay are south of the airport property boundary, and the airport access road to the community of Port Lions extends to the southwest. Areas that were reasonably accessible were traversed and viewed in October of 2003. However, the natural terrain and vegetative cover did not allow for complete viewing of a portion of the surrounding properties. Hazardous materials and petroleum products were not observed within areas traversed in the proposed project area.

5.0 Hazardous Materials

5.1 Hazardous Substances in Connection with Identified Use, Containers, and Unidentified Substance Containers

Hazardous substances, hazardous substance containers, and unidentified substance containers were not observed within or in the vicinity of the proposed project area during the site visit.

Fueling facilities are not present at the existing Port Lions airport, and no evidence of petroleum products or hazardous substances storage were observed.

5.2 Storage Tanks

Storage tanks were not observed within or in the vicinity of the proposed project area during the site visit.

5.3 Polychlorinated Biphenyls

One pole-mounted transformer is present in the proposed project area, and is located at the south end of the airport. According to Mr. Jim Devlin of the Kodiak Electric Association, the transformer provides power for the lighting system at the existing airport, and has been tested for polychlorinated biphenyls (PCBs). The transformer's fluids contained PCB concentrations lower than the EPA-regulated level of 2 parts per million.

5.4 Solid Waste Disposal

As part of the site evaluation, the site was walked and photographed. It does not appear that there has been any solid waste disposal on the project site.

6.0 Historical Use Information

The following sections present a review of aerial photographs, title and ownership documents, and personal interviews with persons knowledgeable about the project area. These reviews were performed to gain information pertinent to the environmental history of the project area.

6.1 Aerial Photographs

Aerial photographs from Aeromap USA, Inc. and Kodiak Mapping Consultants were reviewed to evaluate land use in this area. Of the aerial photos that illustrate significant land use patterns, three were chosen to print, dated 1966, 1997, and 2002. The photographs are enlarged to a scale of 1-inch equals approximately 550 feet. The approximate proposed project area boundary is shown on the photographs for reference.

The oldest aerial photograph available was taken August 25, 1966. The runway, taxiway, and apron are present, and appear to be unpaved. The area north of the west end of the airstrip has been excavated, and the surrounding area is undeveloped and vegetated. This aerial photograph and the proposed project boundary are shown on Figure 3.

The next available aerial photograph for review was taken on August 14, 1997, and is shown on Figure 4. With the exception of the gravel borrow pit, the project area appears much the same as it did in the 1966 photograph. The gravel borrow pit is present north of the northwest end of the airstrip, and an unpaved road appears to connect the airport and gravel pit. Additionally, the C-119 aircraft can be seen on the apron area, and a small access trail near the east end of the airstrip appears to have been established. This access trail appears to travel northeast to the location of an old sawmill and beyond, with a spur connecting to the beach along Settler Cove. All other surrounding areas on this aerial photograph are undeveloped and vegetated.

The aerial photograph taken September 2, 2002 is included as Figure 5. The project site appears much as it is today. The unpaved airstrip, taxiway, apron, gravel borrow pit, and small access

trail are still present and appear unchanged from 1997 aerial photograph. The C-119 aircraft observed on the apron in the 1997 aerial photograph is also still present. However, the aircraft was removed later in the year. Several new paths appear in the vicinity of the airport, but do not appear to be well established.

6.2 Title and Ownership Documents

The State of Alaska Department of Natural Resources (ADNR) Records Office was contacted to gather historical information about the ownership of the existing Property. The proposed project area includes the existing airport facilities and additional property to accommodate airport improvements. The proposed project area would occur on land that is currently owned by the DOT&PF and the Afognak Native Corporation. A title search was not performed.

6.3 Personal Interviews

Ms. Katie Adkins, Deputy Clerk of the City of Port Lions, was interviewed on May 5, 2004. According to Ms. Adkins, fueling facilities and storage of petroleum products or hazardous substances are not present at the existing airport. Ms. Adkins reported that a C-119 airplane remained “parked” on the airport apron for several years, and recalled a petroleum product spill had been associated with the airplane. Ms. Adkins provided the name of Mr. Bob Carlson of the ADEC for further information regarding the spill.

Mr. Bob Carlson, Environmental Specialist with the Spill Prevention and Response Division of the ADEC, was contacted on May 5, 2004 regarding the reported fuel spill at the existing Port Lions airport. According to Mr. Carlson, stained gravel from a lube oil leak was observed beneath each of the two engines of the C-119 aircraft on May 3, 2002. Mr. Carlson reported the observation to the airplane owner, who reportedly excavated the stained soils and transported the material to the City of Kodiak in drums. No analytical or screening samples were collected from the impacted area. The final destination of the drummed material is unknown. Mr. Carlson said that he dealt with the release informally, and opined that the site is clean.

Mr. Wayne Lukin, City Council member and representative of the Port Lions Traditional Tribal Council, was interviewed by telephone on May 5, 2004 regarding airport activities. According to Mr. Lukin, petroleum products and hazardous substances are not stored or used at the existing airport, with the exception of fuel storage during mobilization or shipping. Mr. Lukin emphasized that the mobilization time is typically brief, and that such products would not have been used or stored at the airport. Mr. Lukin was not aware of any current or historic spills or releases of petroleum products or hazardous substances at the project site, allowing for minor drips associated with aircraft and vehicle traffic. Mr. Lukin reported that the area was likely an undeveloped lowland wetland prior to airport construction. Mr. Lukin also stated that electricity is provided to the airport via power lines in a utility easement adjacent to the road connecting the airport to the Port Lions community.

Mr. Alvin Mullan, manager of the Port Lions Airport, was interviewed by telephone on May 20, 2004. Mr. Mullan was questioned regarding the reported trap and target shooting range adjacent to the runway. According to Mr. Mullan, an area north of the runway midpoint is rarely used for target and trap shooting. Mr. Mullan believed that activities were largely restricted to trap shooting with clay pigeons, and believed the area used is owned by the State of Alaska.

7.0 Conclusions and Recommendations

HDR performed an ESA of the Port Lions airport and proposed improvement areas, in conjunction with the Port Lions Airport Master Plan (in preparation) and associated Environmental Assessment (in preparation). HDR identified all reasonably ascertainable documents and information pertaining to environmental conditions on or adjacent to the subject property (proposed project area).

7.1 Subject Property

Based on our physical observation and data research, HDR did not identify evidence of recognized environmental conditions associated with petroleum hydrocarbon and/or hazardous substances within the proposed project area that constitute a material threat.

According to Mr. Bob Carlson of the ADEC, lube oil leaking from each engine of an abandoned C-119 airplane impacted a small amount of soil on the apron portion of the existing airport. Mr. Carlson indicated that the affected area had been cleaned to his satisfaction, and does not believe impacted material was left on site. Analytical sampling of the area soils has not been conducted, and it is possible that a greater area of soil, and/or groundwater, has been affected by the aircraft's leaking fluids. The evaluation of the "release" by Mr. Carlson does not indicate that it qualifies as a material threat, and is not considered as a recognized environmental condition at the project site.

Fueling facilities are not present within the proposed project site, but small leaks and drips associated with the operation and temporary storage of vehicles and aircraft may have affected the soil and/or groundwater at the existing airport site. Equipment used to access the gravel borrow pit may also have experienced leaks, spills, or releases of petroleum products in the area.

The former trap shooting area at the north of the runway near the midpoint has likely been in operation since the development of the airport. Spent ammunition used at the shooting area may have contributed to a lead accumulation in the area; however, it is unlikely that the area has been significantly impacted from this accumulation, given the limited time of use.

7.2 Surrounding Properties

Based upon the site visit and aerial photographs, there are no recognized environmental conditions present in the immediate vicinity of the Property.

One registered UST is present within 0.75 mile of the project site, and is located across Settler Bay on Peregrebni Point. Because of the distance and the geographic location, it is unlikely that spills or releases associated with this UST have affected the project area.

8.0 Closure and Limitations

HDR has completed the scope of work set forth in the proposal related to Port Lions Airport Master Plan project, as it may have been amended, in specific reliance on the understandings and agreements.

This ESA report and any other information which was prepared and submitted to the DOT&PF in connection with this report are for the sole use and benefit of DOT&PF. Any reliance by other

parties as granted by the Grantee shall be deemed to be and shall be subject to the terms and conditions of the Proposal and such other terms and conditions as may reasonably require, including without limitation a monetary limit to liability to any person granted such consent, and any such Grantee shall be deemed to have agreed to such terms and conditions by its use and reliance on the Reports. Such Grantee must also agree not to reveal the contents of this ESA report to any other person or entity without the prior written consent of both DOT&PF and HDR.

DOT&PF and any Grantee also recognize and agree that (1) the information in this ESA report relates only to the subject property specifically described in the Proposal and was presented in accordance with and subject to the scope of work described in this Proposal specifically agreed to by DOT&PF; (2) the information and conclusions provided in this ESA report apply only to the subject property as it existed at the time of site visit. Should site use or conditions change or should there be changes in applicable laws, standards or technology, the information and conclusions in this ESA report may no longer apply; (3) HDR makes no representations regarding the value or marketability of the subject property or its suitability for any particular use, and none should be inferred based on this ESA report; (4) this ESA report is intended to be used in its entirety and no excerpts may be taken to be representative of the findings of this investigation; (5) environmental land-use issues and constraints of possible relevance (e.g. wetlands surveys, sensitive habitats) were not included in the scope of services; and (6) no sample collection, laboratory analysis, or determination of asbestos-containing materials was conducted as part of this assessment.

Facts that were concealed, withheld or not fully disclosed at the time that this ESA report was prepared may have significant impact on the findings and recommendations of this study. This approach reflects current professional practice unless the information obtained as part of this work suggests the need for further assessment.

9.0 About the Preparers

This ESA report was prepared by Ms. Anna B. Jones under the direct supervision of Ms. Robin Reich and reviewed for quality assurance by Mr. Shawn Florio, P.E.

9.1 Signatures of Environmental Professionals

Prepared by:

Reviewed and Approved by:

Anna B. Jones
Environmental Scientist

Shawn Florio, P.E.
Senior Engineer

9.2 Qualifications of Environmental Professionals

ROBIN REICH, Environmental Planner

M.S., Biology, University of Alaska Anchorage, pending
B.S., Biology and Zoology, Humboldt College, 1992

Ms. Reich has extensive experience with environmental studies throughout Alaska. She has directed reconnaissance and baseline investigations, and provided supervision and technical review for this Environmental Site Assessment.

SHAWN FLORIO, P.E., Project Engineer

M.S., Civil/Environmental Engineering, Clarkson University, 1989
B.S., Environmental Engineering, Clarkson University, 1985

Mr. Florio is an Alaska Registered Professional Engineer with over 15 years of experience conducting contaminated site and other environmental investigations. He is an Alaska Certified UST Worker and an ADEC Qualified Person. Mr. Florio conducted quality assurance and quality control for the Environmental Site Assessment.

ANNA B. JONES, Environmental Scientist

B.A., Geology, Mount Holyoke College, 1999

Ms. Jones has performed several Phase I ESA's throughout Alaska, and has been involved in the development of subsequent Phase II efforts. She is an ADEC Qualified Person.

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Appendix A Site Photographs

Appendix B Telephone Conversation Records

Appendix E: Envirosite Database Report





Port Lions Airport

Port Lions Airport

Kodiak, AK 99615

Inquiry Number: 5404928.3

August 24, 2018

Certified Sanborn® Map Report



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Certified Sanborn® Map Report

08/24/18

Site Name:

Port Lions Airport
Port Lions Airport
Kodiak, AK 99615
EDR Inquiry # 5404928.3

Client Name:

Restoration Science & Eng.
911 West 8th Avenue
Anchorage, AK 99501
Contact: Arran Forbes



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Project Port Lions Airport Phase I

UNMAPPED PROPERTY

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- Library of Congress
- University Publications of America
- EDR Private Collection

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Port Lions Airport

Port Lions Airport
Kodiak, AK 99615

Inquiry Number: 5404928.2s
August 24, 2018

The EDR Radius Map™ Report with GeoCheck®



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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

PORT LIONS AIRPORT
KODIAK, AK 99615

COORDINATES

Latitude (North): 57.8861190 - 57° 53' 10.02"
Longitude (West): 152.8475000 - 152° 50' 51.00"
Universal Transverse Mercator: Zone 5
UTM X (Meters): 509043.1
UTM Y (Meters): 6415831.0
Elevation: 98 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property: N/A
Source: U.S. Geological Survey

MAPPED SITES SUMMARY

Target Property Address:
PORT LIONS AIRPORT
KODIAK, AK 99615

Click on Map ID to see full detail.

| MAP ID | SITE NAME | ADDRESS | DATABASE ACRONYMS | RELATIVE ELEVATION | DIST (ft. & mi.) DIRECTION |
|-------------------|---------------------|---------|-------------------|--------------------|----------------------------|
| 1 | PORT LIONS LANDFILL | | SWF/LF | Higher | 1121, 0.212, WSW |

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL..... National Priority List
Proposed NPL..... Proposed National Priority List Sites
NPL LIENS..... Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL..... National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY..... Federal Facility Site Information listing
SEMS..... Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE..... Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS..... Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF..... RCRA - Treatment, Storage and Disposal

Federal RCRA generators list

RCRA-LQG..... RCRA - Large Quantity Generators
RCRA-SQG..... RCRA - Small Quantity Generators
RCRA-CESQG..... RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS..... Land Use Control Information System
US ENG CONTROLS..... Engineering Controls Sites List

EXECUTIVE SUMMARY

US INST CONTROL..... Sites with Institutional Controls

Federal ERNS list

ERNS..... Emergency Response Notification System

State- and tribal - equivalent CERCLIS

SHWS..... Contaminated Sites Database

State and tribal leaking storage tank lists

LUST..... Leaking Underground Storage Tank Database

INDIAN LUST..... Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST..... Underground Storage Tank Listing

UST..... Underground Storage Tank Database

AST..... Regulated Aboveground Storage Tanks

INDIAN UST..... Underground Storage Tanks on Indian Land

State and tribal institutional control / engineering control registries

ENG CONTROLS..... Engineering Controls Site Listing

INST CONTROL..... Contaminated Sites with Institutional Controls

State and tribal voluntary cleanup sites

INDIAN VCP..... Voluntary Cleanup Priority Listing

VCP..... Voluntary Cleanup Program sites

State and tribal Brownfields sites

BROWNFIELDS..... Identified and/or Proposed Brownfields Sites

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS..... A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY..... Recycling Facilities

INDIAN ODI..... Report on the Status of Open Dumps on Indian Lands

DEBRIS REGION 9..... Torres Martinez Reservation Illegal Dump Site Locations

ODI..... Open Dump Inventory

IHS OPEN DUMPS..... Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL..... Delisted National Clandestine Laboratory Register

CDL..... Illegal Drug Manufacturing Sites

EXECUTIVE SUMMARY

US CDL..... National Clandestine Laboratory Register

Local Land Records

LIENS 2..... CERCLA Lien Information

Records of Emergency Release Reports

HMIRS..... Hazardous Materials Information Reporting System

SPILLS..... Spills Database

SPILLS 90..... SPILLS 90 data from FirstSearch

Other Ascertainable Records

RCRA NonGen / NLR..... RCRA - Non Generators / No Longer Regulated

FUDS..... Formerly Used Defense Sites

DOD..... Department of Defense Sites

SCRD DRYCLEANERS..... State Coalition for Remediation of Drycleaners Listing

US FIN ASSUR..... Financial Assurance Information

EPA WATCH LIST..... EPA WATCH LIST

2020 COR ACTION..... 2020 Corrective Action Program List

TSCA..... Toxic Substances Control Act

TRIS..... Toxic Chemical Release Inventory System

SSTS..... Section 7 Tracking Systems

ROD..... Records Of Decision

RMP..... Risk Management Plans

RAATS..... RCRA Administrative Action Tracking System

PRP..... Potentially Responsible Parties

PADS..... PCB Activity Database System

ICIS..... Integrated Compliance Information System

FTTS..... FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

MLTS..... Material Licensing Tracking System

COAL ASH DOE..... Steam-Electric Plant Operation Data

COAL ASH EPA..... Coal Combustion Residues Surface Impoundments List

PCB TRANSFORMER..... PCB Transformer Registration Database

RADINFO..... Radiation Information Database

HIST FTTS..... FIFRA/TSCA Tracking System Administrative Case Listing

DOT OPS..... Incident and Accident Data

CONSENT..... Superfund (CERCLA) Consent Decrees

INDIAN RESERV..... Indian Reservations

FUSRAP..... Formerly Utilized Sites Remedial Action Program

UMTRA..... Uranium Mill Tailings Sites

LEAD SMELTERS..... Lead Smelter Sites

US AIRS..... Aerometric Information Retrieval System Facility Subsystem

US MINES..... Mines Master Index File

ABANDONED MINES..... Abandoned Mines

FINDS..... Facility Index System/Facility Registry System

DOCKET HWC..... Hazardous Waste Compliance Docket Listing

UXO..... Unexploded Ordnance Sites

ECHO..... Enforcement & Compliance History Information

FUELS PROGRAM..... EPA Fuels Program Registered Listing

AIRS..... AIRS Facility Listing

COAL ASH..... Coal Ash Disposal Sites

DRYCLEANERS..... Drycleaner Facility Listing

EXECUTIVE SUMMARY

Financial Assurance..... Financial Assurance Information Listing
NPDES..... Wastewater Discharge Permit Listing
UIC..... UIC Information

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP..... EDR Proprietary Manufactured Gas Plants
EDR Hist Auto..... EDR Exclusive Historical Auto Stations
EDR Hist Cleaner..... EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF..... Recovered Government Archive Solid Waste Facilities List
RGA LUST..... Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.

Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Department of Pollution Control & Ecology's Permit Data System Facilities database.

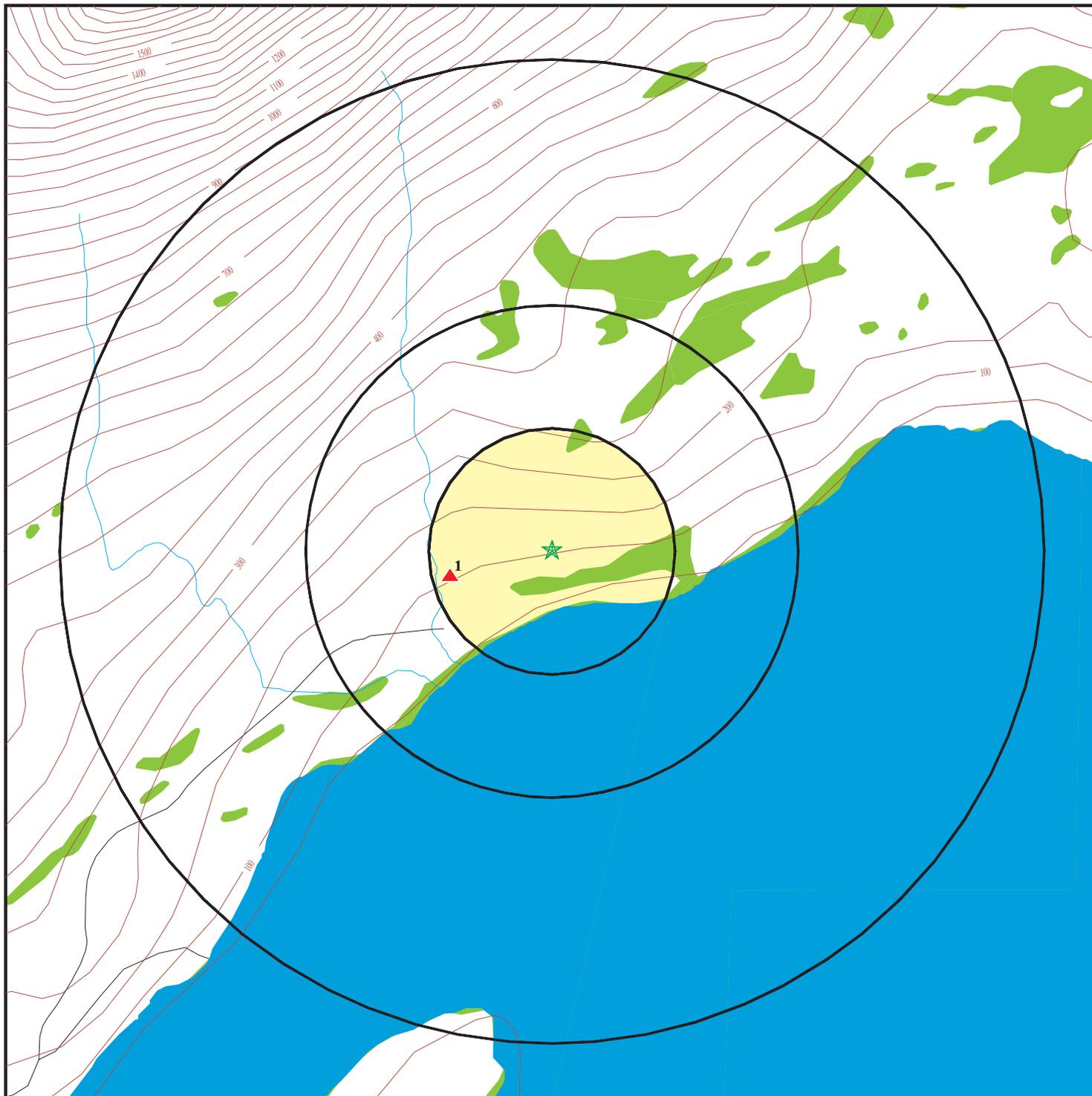
A review of the SWF/LF list, as provided by EDR, and dated 06/14/2018 has revealed that there is 1 SWF/LF site within approximately 0.5 miles of the target property.

| <u>Equal/Higher Elevation</u> | <u>Address</u> | <u>Direction / Distance</u> | <u>Map ID</u> | <u>Page</u> |
|--|----------------|-----------------------------|---------------|-------------|
| PORT LIONS LANDFILL Permit: SW3A169-20 Facility Status: Active Permit Status: Current | | WSW 1/8 - 1/4 (0.212 mi.) | 1 | 8 |

EXECUTIVE SUMMARY

There were no unmapped sites in this report.

OVERVIEW MAP - 5404928.2S



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ⚙ Manufactured Gas Plants
- ☒ National Priority List Sites
- ☒ Dept. Defense Sites

0 1/4 1/2 1 Miles

- ☒ Indian Reservations BIA
- ☐ Upgradient Area
- 🟢 National Wetland Inventory
- 🟡 State Wetlands

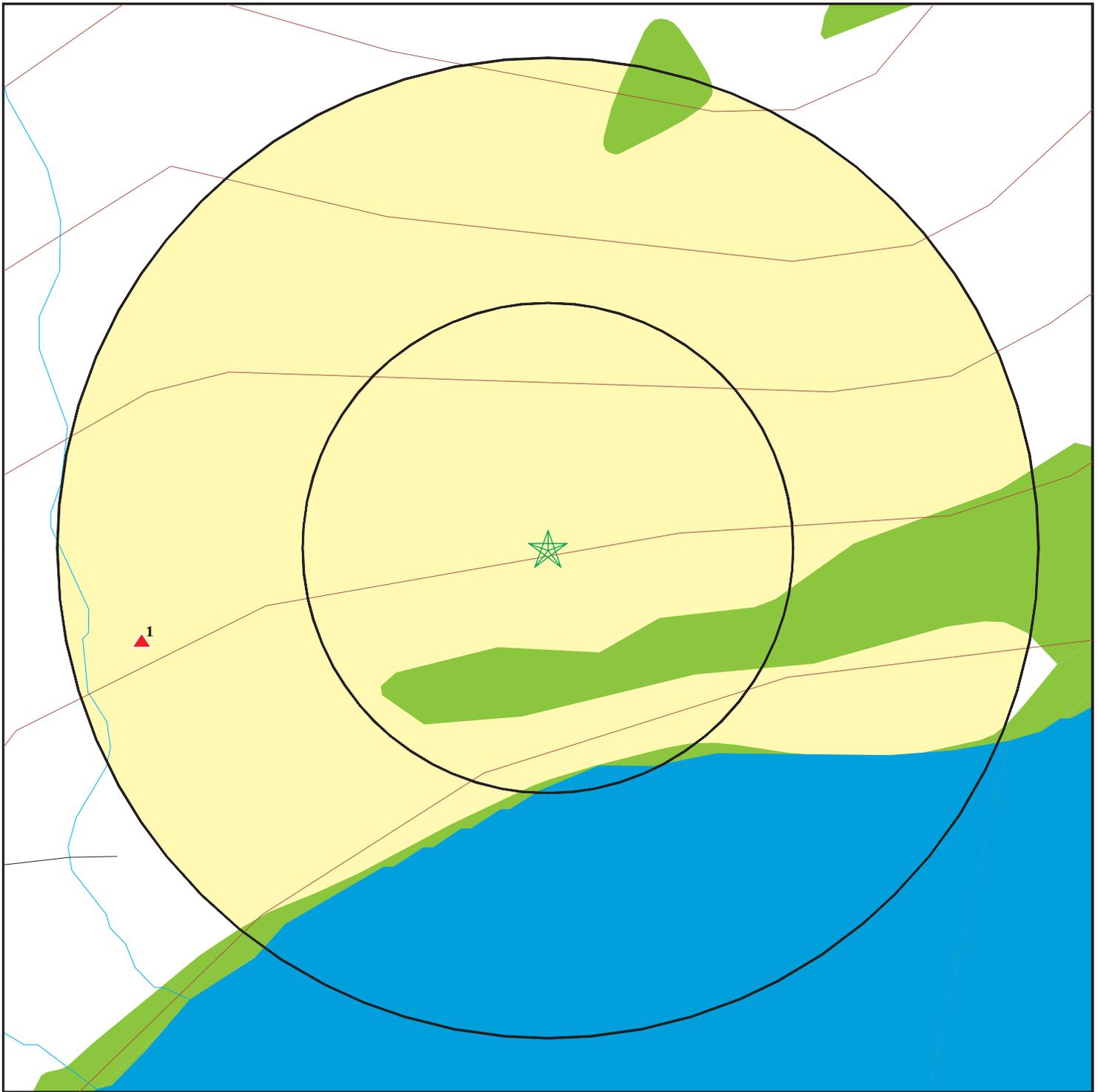


This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Port Lions Airport
 ADDRESS: Port Lions Airport
 Kodiak AK 99615
 LAT/LONG: 57.886119 / 152.8475

CLIENT: Restoration Science & Eng.
 CONTACT: Arran Forbes
 INQUIRY #: 5404928.2s
 DATE: August 24, 2018 3:03 pm

DETAIL MAP - 5404928.2S



- ★ Target Property
- ▲ Sites at elevations higher than or equal to the target property
- ◆ Sites at elevations lower than the target property
- ▲ Manufactured Gas Plants
- Sensitive Receptors
- ▨ National Priority List Sites
- ▨ Dept. Defense Sites

0 1/16 1/8 1/4 Miles

- ▨ Indian Reservations BIA
- National Wetland Inventory
- State Wetlands

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Port Lions Airport
 ADDRESS: Port Lions Airport
 Kodiak AK 99615
 LAT/LONG: 57.886119 / 152.8475

CLIENT: Restoration Science & Eng.
 CONTACT: Arran Forbes
 INQUIRY #: 5404928.2s
 DATE: August 24, 2018 3:05 pm

MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|--|-------------------------------|--------------------|-------|-----------|-----------|---------|-----|------------------|
| STANDARD ENVIRONMENTAL RECORDS | | | | | | | | |
| <i>Federal NPL site list</i> | | | | | | | | |
| NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| Proposed NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| NPL LIENS | TP | | NR | NR | NR | NR | NR | 0 |
| <i>Federal Delisted NPL site list</i> | | | | | | | | |
| Delisted NPL | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| <i>Federal CERCLIS list</i> | | | | | | | | |
| FEDERAL FACILITY | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| SEMS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| <i>Federal CERCLIS NFRAP site list</i> | | | | | | | | |
| SEMS-ARCHIVE | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| <i>Federal RCRA CORRACTS facilities list</i> | | | | | | | | |
| CORRACTS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| <i>Federal RCRA non-CORRACTS TSD facilities list</i> | | | | | | | | |
| RCRA-TSDF | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| <i>Federal RCRA generators list</i> | | | | | | | | |
| RCRA-LQG | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| RCRA-SQG | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| RCRA-CESQG | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| <i>Federal institutional controls / engineering controls registries</i> | | | | | | | | |
| LUCIS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US ENG CONTROLS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US INST CONTROL | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| <i>Federal ERNS list</i> | | | | | | | | |
| ERNS | TP | | NR | NR | NR | NR | NR | 0 |
| <i>State- and tribal - equivalent CERCLIS</i> | | | | | | | | |
| SHWS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| <i>State and tribal landfill and/or solid waste disposal site lists</i> | | | | | | | | |
| SWF/LF | 0.500 | | 0 | 1 | 0 | NR | NR | 1 |
| <i>State and tribal leaking storage tank lists</i> | | | | | | | | |
| LUST | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| INDIAN LUST | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| <i>State and tribal registered storage tank lists</i> | | | | | | | | |
| FEMA UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |

MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|--|-------------------------|-----------------|-------|-----------|-----------|---------|-----|---------------|
| UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| AST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| INDIAN UST | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| State and tribal institutional control / engineering control registries | | | | | | | | |
| ENG CONTROLS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| INST CONTROL | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| State and tribal voluntary cleanup sites | | | | | | | | |
| INDIAN VCP | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| VCP | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| State and tribal Brownfields sites | | | | | | | | |
| BROWNFIELDS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ADDITIONAL ENVIRONMENTAL RECORDS | | | | | | | | |
| Local Brownfield lists | | | | | | | | |
| US BROWNFIELDS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| Local Lists of Landfill / Solid Waste Disposal Sites | | | | | | | | |
| SWRCY | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| INDIAN ODI | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| DEBRIS REGION 9 | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| ODI | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| IHS OPEN DUMPS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| Local Lists of Hazardous waste / Contaminated Sites | | | | | | | | |
| US HIST CDL | TP | | NR | NR | NR | NR | NR | 0 |
| CDL | TP | | NR | NR | NR | NR | NR | 0 |
| US CDL | TP | | NR | NR | NR | NR | NR | 0 |
| Local Land Records | | | | | | | | |
| LIENS 2 | TP | | NR | NR | NR | NR | NR | 0 |
| Records of Emergency Release Reports | | | | | | | | |
| HMIRS | TP | | NR | NR | NR | NR | NR | 0 |
| SPILLS | TP | | NR | NR | NR | NR | NR | 0 |
| SPILLS 90 | TP | | NR | NR | NR | NR | NR | 0 |
| Other Ascertainable Records | | | | | | | | |
| RCRA NonGen / NLR | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| FUDS | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| DOD | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| SCRD DRYCLEANERS | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| US FIN ASSUR | TP | | NR | NR | NR | NR | NR | 0 |
| EPA WATCH LIST | TP | | NR | NR | NR | NR | NR | 0 |

MAP FINDINGS SUMMARY

| Database | Search Distance (Miles) | Target Property | < 1/8 | 1/8 - 1/4 | 1/4 - 1/2 | 1/2 - 1 | > 1 | Total Plotted |
|---------------------|-------------------------|-----------------|-------|-----------|-----------|---------|-----|---------------|
| 2020 COR ACTION | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| TSCA | TP | | NR | NR | NR | NR | NR | 0 |
| TRIS | TP | | NR | NR | NR | NR | NR | 0 |
| SSTS | TP | | NR | NR | NR | NR | NR | 0 |
| ROD | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| RMP | TP | | NR | NR | NR | NR | NR | 0 |
| RAATS | TP | | NR | NR | NR | NR | NR | 0 |
| PRP | TP | | NR | NR | NR | NR | NR | 0 |
| PADS | TP | | NR | NR | NR | NR | NR | 0 |
| ICIS | TP | | NR | NR | NR | NR | NR | 0 |
| FTTS | TP | | NR | NR | NR | NR | NR | 0 |
| MLTS | TP | | NR | NR | NR | NR | NR | 0 |
| COAL ASH DOE | TP | | NR | NR | NR | NR | NR | 0 |
| COAL ASH EPA | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| PCB TRANSFORMER | TP | | NR | NR | NR | NR | NR | 0 |
| RADINFO | TP | | NR | NR | NR | NR | NR | 0 |
| HIST FTTS | TP | | NR | NR | NR | NR | NR | 0 |
| DOT OPS | TP | | NR | NR | NR | NR | NR | 0 |
| CONSENT | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| INDIAN RESERV | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| FUSRAP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| UMTRA | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| LEAD SMELTERS | TP | | NR | NR | NR | NR | NR | 0 |
| US AIRS | TP | | NR | NR | NR | NR | NR | 0 |
| US MINES | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| ABANDONED MINES | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| FINDS | TP | | NR | NR | NR | NR | NR | 0 |
| DOCKET HWC | TP | | NR | NR | NR | NR | NR | 0 |
| UXO | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| ECHO | TP | | NR | NR | NR | NR | NR | 0 |
| FUELS PROGRAM | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| AIRS | TP | | NR | NR | NR | NR | NR | 0 |
| COAL ASH | 0.500 | | 0 | 0 | 0 | NR | NR | 0 |
| DRYCLEANERS | 0.250 | | 0 | 0 | NR | NR | NR | 0 |
| Financial Assurance | TP | | NR | NR | NR | NR | NR | 0 |
| NPDES | TP | | NR | NR | NR | NR | NR | 0 |
| UIC | TP | | NR | NR | NR | NR | NR | 0 |

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

| | | | | | | | | |
|------------------|-------|--|---|----|----|----|----|---|
| EDR MGP | 1.000 | | 0 | 0 | 0 | 0 | NR | 0 |
| EDR Hist Auto | 0.125 | | 0 | NR | NR | NR | NR | 0 |
| EDR Hist Cleaner | 0.125 | | 0 | NR | NR | NR | NR | 0 |

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

| | | | | | | | | |
|--------|----|--|----|----|----|----|----|---|
| RGA LF | TP | | NR | NR | NR | NR | NR | 0 |
|--------|----|--|----|----|----|----|----|---|

MAP FINDINGS SUMMARY

| <u>Database</u> | <u>Search Distance (Miles)</u> | <u>Target Property</u> | <u>< 1/8</u> | <u>1/8 - 1/4</u> | <u>1/4 - 1/2</u> | <u>1/2 - 1</u> | <u>> 1</u> | <u>Total Plotted</u> |
|-----------------|--|----------------------------|-----------------|------------------|------------------|----------------|---------------|--------------------------|
| RGA LUST | TP | | NR | NR | NR | NR | NR | 0 |
| - Totals -- | | 0 | 0 | 1 | 0 | 0 | 0 | 1 |

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

MAP FINDINGS

Map ID
 Direction
 Distance
 Elevation

Site

Database(s)

EDR ID Number
 EPA ID Number

1
WSW
1/8-1/4
0.212 mi.
1121 ft.

PORT LIONS LANDFILL
PORT LIONS, AK

SWF/LF S110118794
N/A

Relative:
Higher
Actual:
101 ft.

SWF/LF:
 Facility Status: Active
 Permit: SW3A169-20
 Permit Status: Current
 Category: Municipal
 Classification: Class III Landfill
 Issued Date: 08/07/2015
 Expiration Date: 08/07/2020
 Lat/Long: 57.877917 / -152.869649
 Meridian Range Township Section: S026S022W SE1/4 Sec. 32
 Address: PO Box 110
 Address2: Not reported
 City: Port Lions
 Zip Code: 99550
 Site Manager: Stephen Price

Count: 0 records.

ORPHAN SUMMARY

| City | EDR ID | Site Name | Site Address | Zip | Database(s) |
|----------------|--------|-----------|--------------|-----|-------------|
| NO SITES FOUND | | | | | |

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

| | |
|---|--|
| Date of Government Version: 05/13/2018 | Source: EPA |
| Date Data Arrived at EDR: 05/30/2018 | Telephone: N/A |
| Date Made Active in Reports: 06/22/2018 | Last EDR Contact: 08/09/2018 |
| Number of Days to Update: 23 | Next Scheduled EDR Contact: 10/15/2018 |
| | Data Release Frequency: Quarterly |

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

| | |
|---|--|
| Date of Government Version: 05/13/2018 | Source: EPA |
| Date Data Arrived at EDR: 05/30/2018 | Telephone: N/A |
| Date Made Active in Reports: 06/22/2018 | Last EDR Contact: 08/09/2018 |
| Number of Days to Update: 23 | Next Scheduled EDR Contact: 10/15/2018 |
| | Data Release Frequency: Quarterly |

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 23

Source: EPA
Telephone: N/A
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 07/06/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly known as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 05/18/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 23

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 10/29/2018
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be potential NPL site.

| | |
|---|--|
| Date of Government Version: 05/18/2018 | Source: EPA |
| Date Data Arrived at EDR: 05/30/2018 | Telephone: 800-424-9346 |
| Date Made Active in Reports: 06/22/2018 | Last EDR Contact: 08/09/2018 |
| Number of Days to Update: 23 | Next Scheduled EDR Contact: 10/29/2018 |
| | Data Release Frequency: Quarterly |

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

| | |
|---|--|
| Date of Government Version: 03/01/2018 | Source: EPA |
| Date Data Arrived at EDR: 03/28/2018 | Telephone: 800-424-9346 |
| Date Made Active in Reports: 06/22/2018 | Last EDR Contact: 06/28/2018 |
| Number of Days to Update: 86 | Next Scheduled EDR Contact: 10/08/2018 |
| | Data Release Frequency: Quarterly |

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

| | |
|---|---|
| Date of Government Version: 03/01/2018 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 03/28/2018 | Telephone: (206) 553-1200 |
| Date Made Active in Reports: 06/22/2018 | Last EDR Contact: 06/28/2018 |
| Number of Days to Update: 86 | Next Scheduled EDR Contact: 10/08/2018 |
| | Data Release Frequency: Quarterly |

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

| | |
|---|---|
| Date of Government Version: 03/01/2018 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 03/28/2018 | Telephone: (206) 553-1200 |
| Date Made Active in Reports: 06/22/2018 | Last EDR Contact: 06/28/2018 |
| Number of Days to Update: 86 | Next Scheduled EDR Contact: 10/08/2018 |
| | Data Release Frequency: Quarterly |

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

| | |
|---|---|
| Date of Government Version: 03/01/2018 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 03/28/2018 | Telephone: (206) 553-1200 |
| Date Made Active in Reports: 06/22/2018 | Last EDR Contact: 06/28/2018 |
| Number of Days to Update: 86 | Next Scheduled EDR Contact: 10/08/2018 |
| | Data Release Frequency: Quarterly |

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

| | |
|---|---|
| Date of Government Version: 03/01/2018 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 03/28/2018 | Telephone: (206) 553-1200 |
| Date Made Active in Reports: 06/22/2018 | Last EDR Contact: 06/28/2018 |
| Number of Days to Update: 86 | Next Scheduled EDR Contact: 10/08/2018 |
| | Data Release Frequency: Quarterly |

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

| | |
|---|--|
| Date of Government Version: 05/14/2018 | Source: Department of the Navy |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 843-820-7326 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/16/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/26/2018 |
| | Data Release Frequency: Varies |

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

| | |
|---|---|
| Date of Government Version: 02/13/2018 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 02/27/2018 | Telephone: 703-603-0695 |
| Date Made Active in Reports: 05/11/2018 | Last EDR Contact: 05/29/2018 |
| Number of Days to Update: 73 | Next Scheduled EDR Contact: 09/10/2018 |
| | Data Release Frequency: Varies |

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

| | |
|---|---|
| Date of Government Version: 02/13/2018 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 02/27/2018 | Telephone: 703-603-0695 |
| Date Made Active in Reports: 05/11/2018 | Last EDR Contact: 05/29/2018 |
| Number of Days to Update: 73 | Next Scheduled EDR Contact: 09/10/2018 |
| | Data Release Frequency: Varies |

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 03/19/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 73

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

SHWS: Contaminated Sites Database

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: 04/30/2018
Date Data Arrived at EDR: 05/01/2018
Date Made Active in Reports: 05/09/2018
Number of Days to Update: 8

Source: Department of Environmental Conservation
Telephone: 907-451-2143
Last EDR Contact: 08/07/2018
Next Scheduled EDR Contact: 11/26/2018
Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 06/14/2018
Date Data Arrived at EDR: 07/10/2018
Date Made Active in Reports: 08/20/2018
Number of Days to Update: 41

Source: Department of Environmental Conservation
Telephone: 907-269-7632
Last EDR Contact: 06/20/2018
Next Scheduled EDR Contact: 01/09/2047
Data Release Frequency: Semi-Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 08/09/2018
Date Data Arrived at EDR: 08/10/2018
Date Made Active in Reports: 08/20/2018
Number of Days to Update: 10

Source: Department of Environmental Conservation
Telephone: 907-465-5301
Last EDR Contact: 08/10/2018
Next Scheduled EDR Contact: 11/26/2018
Data Release Frequency: Semi-Annually

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land

Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/12/2018
Date Data Arrived at EDR: 05/18/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 63

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

| | |
|---|--|
| Date of Government Version: 04/12/2018 | Source: EPA Region 10 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 206-553-2857 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

| | |
|---|---|
| Date of Government Version: 04/10/2018 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 415-972-3372 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

| | |
|---|--|
| Date of Government Version: 04/25/2018 | Source: EPA Region 8 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 303-312-6271 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

| | |
|---|--|
| Date of Government Version: 04/24/2018 | Source: EPA Region 7 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 913-551-7003 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

| | |
|---|--|
| Date of Government Version: 04/01/2018 | Source: EPA Region 6 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 214-665-6597 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

| | |
|---|--|
| Date of Government Version: 05/08/2018 | Source: EPA Region 4 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 404-562-8677 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

| | |
|---|--|
| Date of Government Version: 04/13/2018 | Source: EPA Region 1 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 617-918-1313 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

| | |
|---|--|
| Date of Government Version: 05/15/2017 | Source: FEMA |
| Date Data Arrived at EDR: 05/30/2017 | Telephone: 202-646-5797 |
| Date Made Active in Reports: 10/13/2017 | Last EDR Contact: 07/11/2018 |
| Number of Days to Update: 136 | Next Scheduled EDR Contact: 10/22/2018 |
| | Data Release Frequency: Varies |

UST: Underground Storage Tank Database

Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

| | |
|---|--|
| Date of Government Version: 08/09/2018 | Source: Department of Environmental Conservation |
| Date Data Arrived at EDR: 08/10/2018 | Telephone: 907-269-7504 |
| Date Made Active in Reports: 08/22/2018 | Last EDR Contact: 08/10/2018 |
| Number of Days to Update: 12 | Next Scheduled EDR Contact: 11/26/2018 |
| | Data Release Frequency: Semi-Annually |

AST: Regulated Aboveground Storage Tanks

The list covers "regulated" facilities with storage capacities above 10,000 barrels (or 5,000 barrels of crude).

| | |
|---|--|
| Date of Government Version: 01/05/2005 | Source: Department of Environmental Conservation |
| Date Data Arrived at EDR: 01/06/2005 | Telephone: 907-465-5231 |
| Date Made Active in Reports: 02/02/2005 | Last EDR Contact: 06/06/2018 |
| Number of Days to Update: 27 | Next Scheduled EDR Contact: 09/10/2018 |
| | Data Release Frequency: Varies |

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

| | |
|---|--|
| Date of Government Version: 04/01/2018 | Source: EPA Region 6 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 214-665-7591 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

| | |
|---|--|
| Date of Government Version: 04/24/2018 | Source: EPA Region 7 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 913-551-7003 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

| | |
|---|--|
| Date of Government Version: 04/25/2018 | Source: EPA Region 8 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 303-312-6137 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

| | |
|---|--|
| Date of Government Version: 04/10/2018 | Source: EPA Region 9 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 415-972-3368 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

| | |
|---|--|
| Date of Government Version: 04/13/2018 | Source: EPA, Region 1 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 617-918-1313 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

| | |
|---|--|
| Date of Government Version: 05/08/2018 | Source: EPA Region 4 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 404-562-9424 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

| | |
|---|--|
| Date of Government Version: 04/12/2018 | Source: EPA Region 5 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 312-886-6136 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

| | |
|---|--|
| Date of Government Version: 04/12/2018 | Source: EPA Region 10 |
| Date Data Arrived at EDR: 05/18/2018 | Telephone: 206-553-2857 |
| Date Made Active in Reports: 07/20/2018 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 63 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

State and tribal institutional control / engineering control registries

ENG CONTROLS: Engineering Controls Site Listing

A listing of sites with engineering controls in place included in the Contaminated Sites.

| | |
|---|--|
| Date of Government Version: 04/30/2018 | Source: Department of Environmental Conservation |
| Date Data Arrived at EDR: 05/01/2018 | Telephone: 907-451-2143 |
| Date Made Active in Reports: 05/09/2018 | Last EDR Contact: 08/07/2018 |
| Number of Days to Update: 8 | Next Scheduled EDR Contact: 11/26/2018 |
| | Data Release Frequency: Semi-Annually |

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Inst Control: Contaminated Sites with Institutional Controls
Contaminated sites that have institutional controls.

| | |
|---|--|
| Date of Government Version: 04/30/2018 | Source: Department of Environmental Conservation |
| Date Data Arrived at EDR: 05/01/2018 | Telephone: 907-451-2143 |
| Date Made Active in Reports: 05/09/2018 | Last EDR Contact: 08/07/2018 |
| Number of Days to Update: 8 | Next Scheduled EDR Contact: 11/26/2018 |
| | Data Release Frequency: Semi-Annually |

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

| | |
|---|--|
| Date of Government Version: 07/27/2015 | Source: EPA, Region 1 |
| Date Data Arrived at EDR: 09/29/2015 | Telephone: 617-918-1102 |
| Date Made Active in Reports: 02/18/2016 | Last EDR Contact: 06/22/2018 |
| Number of Days to Update: 142 | Next Scheduled EDR Contact: 10/08/2018 |
| | Data Release Frequency: Varies |

INDIAN VCP R7: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

| | |
|---|--|
| Date of Government Version: 03/20/2008 | Source: EPA, Region 7 |
| Date Data Arrived at EDR: 04/22/2008 | Telephone: 913-551-7365 |
| Date Made Active in Reports: 05/19/2008 | Last EDR Contact: 04/20/2009 |
| Number of Days to Update: 27 | Next Scheduled EDR Contact: 07/20/2009 |
| | Data Release Frequency: Varies |

VCP: Voluntary Cleanup Program sites

Sites involved in the Voluntary Cleanup Program.

| | |
|---|--|
| Date of Government Version: 06/05/2018 | Source: Department of Environmental Conservation |
| Date Data Arrived at EDR: 06/08/2018 | Telephone: 907-451-2143 |
| Date Made Active in Reports: 07/09/2018 | Last EDR Contact: 06/06/2018 |
| Number of Days to Update: 31 | Next Scheduled EDR Contact: 09/10/2018 |
| | Data Release Frequency: Varies |

State and tribal Brownfields sites

BROWNFIELDS: Identified and/or Proposed Brownfields Sites

Brownfield properties are defined by U.S Environmental Protection Agency (EPA) as "real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contamination." DEC is developing resources to assist eligible entities in Alaska in applying for EPA brownfields grants. The program also will provide technical assistance and perform some site assessments. The purpose of these assessments is to assist local redevelopment efforts on previously contaminated properties that are vacant or underused.

| | |
|---|--|
| Date of Government Version: 04/30/2018 | Source: Department of Environmental Conservation |
| Date Data Arrived at EDR: 05/01/2018 | Telephone: 907-451-2166 |
| Date Made Active in Reports: 05/09/2018 | Last EDR Contact: 08/07/2018 |
| Number of Days to Update: 8 | Next Scheduled EDR Contact: 11/26/2018 |
| | Data Release Frequency: Semi-Annually |

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 03/19/2018
Date Data Arrived at EDR: 03/21/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 06/20/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: Recycling Facilities

A listing of Recycling centers in the state of Alaska.

Date of Government Version: 12/29/2014
Date Data Arrived at EDR: 12/30/2014
Date Made Active in Reports: 02/02/2015
Number of Days to Update: 34

Source: Department of Environmental Conservation
Telephone: 907-269-7802
Last EDR Contact: 06/20/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 07/30/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 07/17/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: No Update Planned

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land

A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Services, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 08/03/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: No Update Planned

CDL: Illegal Drug Manufacturing Sites

A list of properties that have been determined to be illegal drug manufacturing sites.

Date of Government Version: 02/12/2018
Date Data Arrived at EDR: 02/13/2018
Date Made Active in Reports: 03/21/2018
Number of Days to Update: 36

Source: Department of Environmental Conservation
Telephone: 907-269-7543
Last EDR Contact: 05/18/2018
Next Scheduled EDR Contact: 08/27/2018
Data Release Frequency: Varies

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 02/22/2018
Date Data Arrived at EDR: 03/01/2018
Date Made Active in Reports: 05/11/2018
Number of Days to Update: 71

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/30/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 30

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 03/26/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/08/2018
Number of Days to Update: 73

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/27/2018
Next Scheduled EDR Contact: 07/09/2018
Data Release Frequency: Quarterly

SPILLS: Spills Database

Oil and hazardous substance releases to be reported to the Department of Environmental Conservation.

Date of Government Version: 07/18/2018
Date Data Arrived at EDR: 07/24/2018
Date Made Active in Reports: 08/22/2018
Number of Days to Update: 29

Source: Department of Environmental Conservation
Telephone: 907-465-5242
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Semi-Annually

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

| | |
|---|---|
| Date of Government Version: 07/21/2010 | Source: FirstSearch |
| Date Data Arrived at EDR: 01/03/2013 | Telephone: N/A |
| Date Made Active in Reports: 02/08/2013 | Last EDR Contact: 01/03/2013 |
| Number of Days to Update: 36 | Next Scheduled EDR Contact: N/A |
| | Data Release Frequency: No Update Planned |

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

| | |
|---|---|
| Date of Government Version: 03/01/2018 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 03/28/2018 | Telephone: (206) 553-1200 |
| Date Made Active in Reports: 06/22/2018 | Last EDR Contact: 06/28/2018 |
| Number of Days to Update: 86 | Next Scheduled EDR Contact: 10/08/2018 |
| | Data Release Frequency: Quarterly |

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

| | |
|---|--|
| Date of Government Version: 01/31/2015 | Source: U.S. Army Corps of Engineers |
| Date Data Arrived at EDR: 07/08/2015 | Telephone: 202-528-4285 |
| Date Made Active in Reports: 10/13/2015 | Last EDR Contact: 05/25/2018 |
| Number of Days to Update: 97 | Next Scheduled EDR Contact: 09/03/2018 |
| | Data Release Frequency: Varies |

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

| | |
|---|--|
| Date of Government Version: 12/31/2005 | Source: USGS |
| Date Data Arrived at EDR: 11/10/2006 | Telephone: 888-275-8747 |
| Date Made Active in Reports: 01/11/2007 | Last EDR Contact: 07/11/2018 |
| Number of Days to Update: 62 | Next Scheduled EDR Contact: 10/22/2018 |
| | Data Release Frequency: Semi-Annually |

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

| | |
|---|--|
| Date of Government Version: 12/31/2005 | Source: U.S. Geological Survey |
| Date Data Arrived at EDR: 02/06/2006 | Telephone: 888-275-8747 |
| Date Made Active in Reports: 01/11/2007 | Last EDR Contact: 07/13/2018 |
| Number of Days to Update: 339 | Next Scheduled EDR Contact: 10/22/2018 |
| | Data Release Frequency: N/A |

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/17/2018
Next Scheduled EDR Contact: 11/26/2018
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 03/01/2018
Date Data Arrived at EDR: 03/27/2018
Date Made Active in Reports: 06/22/2018
Number of Days to Update: 87

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 06/27/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 08/03/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/10/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/21/2017
Date Made Active in Reports: 01/05/2018
Number of Days to Update: 198

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 06/22/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 01/10/2018
Date Made Active in Reports: 01/12/2018
Number of Days to Update: 2

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/25/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 07/27/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 30

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 11/02/2017
Date Data Arrived at EDR: 11/17/2017
Date Made Active in Reports: 12/08/2017
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 07/20/2018
Next Scheduled EDR Contact: 11/05/2018
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

PRP: Potentially Responsible Parties

A listing of verified Potentially Responsible Parties

| | |
|---|--|
| Date of Government Version: 10/25/2013 | Source: EPA |
| Date Data Arrived at EDR: 10/17/2014 | Telephone: 202-564-6023 |
| Date Made Active in Reports: 10/20/2014 | Last EDR Contact: 08/09/2018 |
| Number of Days to Update: 3 | Next Scheduled EDR Contact: 11/19/2018 |
| | Data Release Frequency: Quarterly |

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

| | |
|---|--|
| Date of Government Version: 06/01/2017 | Source: EPA |
| Date Data Arrived at EDR: 06/09/2017 | Telephone: 202-566-0500 |
| Date Made Active in Reports: 10/13/2017 | Last EDR Contact: 07/13/2018 |
| Number of Days to Update: 126 | Next Scheduled EDR Contact: 10/22/2018 |
| | Data Release Frequency: Annually |

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

| | |
|---|---|
| Date of Government Version: 11/18/2016 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 11/23/2016 | Telephone: 202-564-2501 |
| Date Made Active in Reports: 02/10/2017 | Last EDR Contact: 07/09/2018 |
| Number of Days to Update: 79 | Next Scheduled EDR Contact: 10/22/2018 |
| | Data Release Frequency: Quarterly |

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

| | |
|---|---|
| Date of Government Version: 04/09/2009 | Source: EPA/Office of Prevention, Pesticides and Toxic Substances |
| Date Data Arrived at EDR: 04/16/2009 | Telephone: 202-566-1667 |
| Date Made Active in Reports: 05/11/2009 | Last EDR Contact: 08/18/2017 |
| Number of Days to Update: 25 | Next Scheduled EDR Contact: 12/04/2017 |
| | Data Release Frequency: Quarterly |

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

| | |
|---|--|
| Date of Government Version: 04/09/2009 | Source: EPA |
| Date Data Arrived at EDR: 04/16/2009 | Telephone: 202-566-1667 |
| Date Made Active in Reports: 05/11/2009 | Last EDR Contact: 08/18/2017 |
| Number of Days to Update: 25 | Next Scheduled EDR Contact: 12/04/2017 |
| | Data Release Frequency: Quarterly |

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

| | |
|---|--|
| Date of Government Version: 08/30/2016 | Source: Nuclear Regulatory Commission |
| Date Data Arrived at EDR: 09/08/2016 | Telephone: 301-415-7169 |
| Date Made Active in Reports: 10/21/2016 | Last EDR Contact: 07/23/2018 |
| Number of Days to Update: 43 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Quarterly |

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

COAL ASH DOE: Steam-Electric Plant Operation Data

A listing of power plants that store ash in surface ponds.

| | |
|---|--|
| Date of Government Version: 12/31/2005 | Source: Department of Energy |
| Date Data Arrived at EDR: 08/07/2009 | Telephone: 202-586-8719 |
| Date Made Active in Reports: 10/22/2009 | Last EDR Contact: 06/07/2018 |
| Number of Days to Update: 76 | Next Scheduled EDR Contact: 09/17/2018 |
| | Data Release Frequency: Varies |

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

| | |
|---|---|
| Date of Government Version: 07/01/2014 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 09/10/2014 | Telephone: N/A |
| Date Made Active in Reports: 10/20/2014 | Last EDR Contact: 06/04/2018 |
| Number of Days to Update: 40 | Next Scheduled EDR Contact: 09/17/2018 |
| | Data Release Frequency: Varies |

PCB TRANSFORMER: PCB Transformer Registration Database

The database of PCB transformer registrations that includes all PCB registration submittals.

| | |
|---|---|
| Date of Government Version: 05/24/2017 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 11/30/2017 | Telephone: 202-566-0517 |
| Date Made Active in Reports: 12/15/2017 | Last EDR Contact: 07/27/2018 |
| Number of Days to Update: 15 | Next Scheduled EDR Contact: 11/05/2018 |
| | Data Release Frequency: Varies |

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

| | |
|---|---|
| Date of Government Version: 04/03/2018 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 04/05/2018 | Telephone: 202-343-9775 |
| Date Made Active in Reports: 06/29/2018 | Last EDR Contact: 07/05/2018 |
| Number of Days to Update: 85 | Next Scheduled EDR Contact: 10/15/2018 |
| | Data Release Frequency: Quarterly |

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

| | |
|---|---|
| Date of Government Version: 10/19/2006 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 03/01/2007 | Telephone: 202-564-2501 |
| Date Made Active in Reports: 04/10/2007 | Last EDR Contact: 12/17/2007 |
| Number of Days to Update: 40 | Next Scheduled EDR Contact: 03/17/2008 |
| | Data Release Frequency: No Update Planned |

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transportation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transportation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 11/12/2018
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 03/31/2018
Date Data Arrived at EDR: 04/16/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 74

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 07/09/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 09/28/2017
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 06/28/2018
Next Scheduled EDR Contact: 09/03/2018
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 07/11/2018
Next Scheduled EDR Contact: 10/22/2018
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 08/01/2018
Next Scheduled EDR Contact: 11/19/2018
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 06/23/2017
Date Data Arrived at EDR: 10/11/2017
Date Made Active in Reports: 11/03/2017
Number of Days to Update: 23

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/20/2018
Next Scheduled EDR Contact: 12/03/2018
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 05/13/2018
Date Data Arrived at EDR: 05/30/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 30

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 08/09/2018
Next Scheduled EDR Contact: 10/15/2018
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931 and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/03/2018
Date Data Arrived at EDR: 05/31/2018
Date Made Active in Reports: 06/29/2018
Number of Days to Update: 29

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/31/2018
Next Scheduled EDR Contact: 09/10/2018
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

| | |
|---|--|
| Date of Government Version: 12/05/2005 | Source: USGS |
| Date Data Arrived at EDR: 02/29/2008 | Telephone: 703-648-7709 |
| Date Made Active in Reports: 04/18/2008 | Last EDR Contact: 05/30/2018 |
| Number of Days to Update: 49 | Next Scheduled EDR Contact: 09/10/2018 |
| | Data Release Frequency: Varies |

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

| | |
|---|--|
| Date of Government Version: 04/14/2011 | Source: USGS |
| Date Data Arrived at EDR: 06/08/2011 | Telephone: 703-648-7709 |
| Date Made Active in Reports: 09/13/2011 | Last EDR Contact: 05/30/2018 |
| Number of Days to Update: 97 | Next Scheduled EDR Contact: 09/10/2018 |
| | Data Release Frequency: Varies |

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

| | |
|---|--|
| Date of Government Version: 03/08/2018 | Source: Department of Interior |
| Date Data Arrived at EDR: 03/13/2018 | Telephone: 202-208-2609 |
| Date Made Active in Reports: 06/08/2018 | Last EDR Contact: 06/20/2018 |
| Number of Days to Update: 87 | Next Scheduled EDR Contact: 09/24/2018 |
| | Data Release Frequency: Quarterly |

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

| | |
|---|--|
| Date of Government Version: 02/21/2018 | Source: EPA |
| Date Data Arrived at EDR: 02/23/2018 | Telephone: (206) 553-1200 |
| Date Made Active in Reports: 03/23/2018 | Last EDR Contact: 06/06/2018 |
| Number of Days to Update: 28 | Next Scheduled EDR Contact: 09/17/2018 |
| | Data Release Frequency: Quarterly |

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

| | |
|---|---|
| Date of Government Version: 02/25/2018 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 03/17/2018 | Telephone: 202-564-2280 |
| Date Made Active in Reports: 06/08/2018 | Last EDR Contact: 06/06/2018 |
| Number of Days to Update: 83 | Next Scheduled EDR Contact: 09/17/2018 |
| | Data Release Frequency: Quarterly |

DOCKET HWC: Hazardous Waste Compliance Docket Listing

A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

| | |
|---|---|
| Date of Government Version: 01/04/2018 | Source: Environmental Protection Agency |
| Date Data Arrived at EDR: 01/19/2018 | Telephone: 202-564-0527 |
| Date Made Active in Reports: 04/13/2018 | Last EDR Contact: 06/01/2018 |
| Number of Days to Update: 84 | Next Scheduled EDR Contact: 09/10/2018 |
| | Data Release Frequency: Varies |

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

| | |
|---|--|
| Date of Government Version: 09/30/2016 | Source: Department of Defense |
| Date Data Arrived at EDR: 10/31/2017 | Telephone: 703-704-1564 |
| Date Made Active in Reports: 01/12/2018 | Last EDR Contact: 07/13/2018 |
| Number of Days to Update: 73 | Next Scheduled EDR Contact: 10/29/2018 |
| | Data Release Frequency: Varies |

FUELS PROGRAM: EPA Fuels Program Registered Listing

This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

| | |
|---|--|
| Date of Government Version: 02/20/2018 | Source: EPA |
| Date Data Arrived at EDR: 02/21/2018 | Telephone: 800-385-6164 |
| Date Made Active in Reports: 03/23/2018 | Last EDR Contact: 08/22/2018 |
| Number of Days to Update: 30 | Next Scheduled EDR Contact: 12/03/2018 |
| | Data Release Frequency: Quarterly |

AIRS: AIRS Facility Listing

A listing of permitted airs facilities.

| | |
|---|--|
| Date of Government Version: 07/09/2018 | Source: Department of Environmental Conservation |
| Date Data Arrived at EDR: 07/13/2018 | Telephone: 907-451-2103 |
| Date Made Active in Reports: 08/20/2018 | Last EDR Contact: 07/05/2018 |
| Number of Days to Update: 38 | Next Scheduled EDR Contact: 10/22/2018 |
| | Data Release Frequency: Varies |

COAL ASH: Coal Ash Disposal Sites

A listing of coal ash disposal site locations.

| | |
|---|--|
| Date of Government Version: 03/08/2018 | Source: Department of Environmental Conservation |
| Date Data Arrived at EDR: 03/27/2018 | Telephone: 907-451-2135 |
| Date Made Active in Reports: 04/13/2018 | Last EDR Contact: 06/20/2018 |
| Number of Days to Update: 17 | Next Scheduled EDR Contact: 10/08/2018 |
| | Data Release Frequency: Varies |

DRYCLEANERS: Drycleaner Facility Listing

A listing of drycleaning facilities in Alaska.

| | |
|---|--|
| Date of Government Version: 02/15/2006 | Source: Department of Environmental Conservation |
| Date Data Arrived at EDR: 02/16/2006 | Telephone: 907-269-7577 |
| Date Made Active in Reports: 03/15/2006 | Last EDR Contact: 06/20/2018 |
| Number of Days to Update: 27 | Next Scheduled EDR Contact: 10/08/2018 |
| | Data Release Frequency: No Update Planned |

Financial Assurance 1: Financial Assurance Information Listing

Financial assurance information for underground storage tank facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

| | |
|---|--|
| Date of Government Version: 08/09/2018 | Source: Department of Environmental Conservation |
| Date Data Arrived at EDR: 08/10/2018 | Telephone: 907-269-8149 |
| Date Made Active in Reports: 08/22/2018 | Last EDR Contact: 08/10/2018 |
| Number of Days to Update: 12 | Next Scheduled EDR Contact: 11/26/2018 |
| | Data Release Frequency: Quarterly |

Financial Assurance 2: Financial Assurance Information Listing

Financial Assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Date of Government Version: 04/24/2007
Date Data Arrived at EDR: 04/26/2007
Date Made Active in Reports: 05/14/2007
Number of Days to Update: 18

Source: Department of Environmental Conservation
Telephone: 907-269-7802
Last EDR Contact: 06/20/2018
Next Scheduled EDR Contact: 10/08/2018
Data Release Frequency: Varies

NPDES: Wastewater Discharge Permit Listing
A listing of permitted wastewater facilities.

Date of Government Version: 06/18/2018
Date Data Arrived at EDR: 06/20/2018
Date Made Active in Reports: 07/09/2018
Number of Days to Update: 19

Source: Department of Environmental Conservation
Telephone: 907-465-5480
Last EDR Contact: 06/20/2018
Next Scheduled EDR Contact: 10/01/2018
Data Release Frequency: Varies

UIC: UIC Information
A listing of underground injection control wells.

Date of Government Version: 08/07/2018
Date Data Arrived at EDR: 08/10/2018
Date Made Active in Reports: 08/22/2018
Number of Days to Update: 12

Source: Oil & Gas Conservation Commission
Telephone: 907-793-1224
Last EDR Contact: 08/10/2018
Next Scheduled EDR Contact: 11/26/2018
Data Release Frequency: Quarterly

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

| | |
|----------------------------------|---------------------------------|
| Date of Government Version: N/A | Source: EDR, Inc. |
| Date Data Arrived at EDR: N/A | Telephone: N/A |
| Date Made Active in Reports: N/A | Last EDR Contact: N/A |
| Number of Days to Update: N/A | Next Scheduled EDR Contact: N/A |
| | Data Release Frequency: Varies |

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Conservation in Alaska.

| | |
|---|--|
| Date of Government Version: N/A | Source: Department of Environmental Conservation |
| Date Data Arrived at EDR: 07/01/2013 | Telephone: N/A |
| Date Made Active in Reports: 01/17/2014 | Last EDR Contact: 06/01/2012 |
| Number of Days to Update: 200 | Next Scheduled EDR Contact: N/A |
| | Data Release Frequency: Varies |

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Environmental Conservation in Alaska.

| | |
|---|--|
| Date of Government Version: N/A | Source: Department of Environmental Conservation |
| Date Data Arrived at EDR: 07/01/2013 | Telephone: N/A |
| Date Made Active in Reports: 01/04/2014 | Last EDR Contact: 06/01/2012 |
| Number of Days to Update: 187 | Next Scheduled EDR Contact: N/A |
| | Data Release Frequency: Varies |

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

| | |
|---|--|
| Date of Government Version: 04/30/2018 | Source: Department of Environmental Conservation |
| Date Data Arrived at EDR: 05/03/2018 | Telephone: 518-402-8651 |
| Date Made Active in Reports: 06/07/2018 | Last EDR Contact: 08/01/2018 |
| Number of Days to Update: 35 | Next Scheduled EDR Contact: 11/12/2018 |
| | Data Release Frequency: Quarterly |

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Oil/Gas Pipelines

Source: PennWell Corporation
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation
This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes

Source: National Institutes of Health
Telephone: 301-594-6248

Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools

Source: National Center for Education Statistics
Telephone: 202-502-7300

The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Child Care Facilities Database

Source: Department of Education & Early Development
Telephone: 907-465-2800

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Classification and Mapping

Source: Alaska Natural Heritage Program
Telephone: 907-235-2218

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

2008 TIGER© Map, produced by the U.S. Census Bureau.

GEOCHECK[®] - PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

PORT LIONS AIRPORT
PORT LIONS AIRPORT
KODIAK, AK 99615

TARGET PROPERTY COORDINATES

| | |
|-------------------------------|----------------------------|
| Latitude (North): | 57.886119 - 57° 53' 10.03" |
| Longitude (West): | 152.8475 - 152° 50' 51.00" |
| Universal Tranverse Mercator: | Zone 5 |
| UTM X (Meters): | 509043.1 |
| UTM Y (Meters): | 6415831.0 |
| Elevation: | 98 ft. above sea level |

USGS TOPOGRAPHIC MAP

| | |
|------------------|-------------------------|
| Target Property: | N/A |
| Source: | USGS 7.5 min quad index |

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

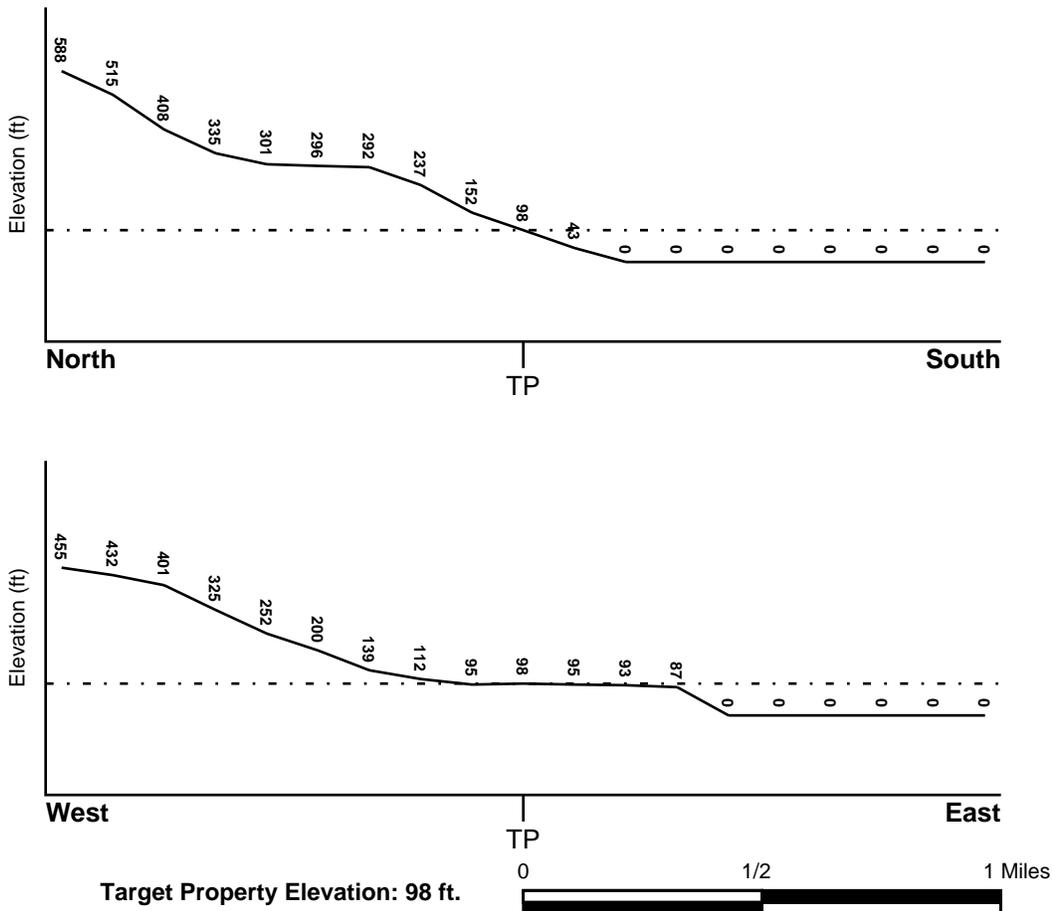
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General South

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property FEMA Source Type

Not Reported

Additional Panels in search area: FEMA Source Type

Not Reported

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property NWI Electronic Data Coverage

Not Reported

N

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

| <u>MAP ID</u> | <u>LOCATION FROM TP</u> | <u>GENERAL DIRECTION GROUNDWATER FLOW</u> |
|---------------|-------------------------|---|
| Not Reported | | |

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era: -
System: -
Series: -
Code: N/A (decoded above as Era, System & Series)

GEOLOGIC AGE IDENTIFICATION

Category: -

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

No detail available.

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

| <u>DATABASE</u> | <u>SEARCH DISTANCE (miles)</u> |
|------------------|--------------------------------|
| Federal USGS | 1.000 |
| Federal FRDS PWS | Nearest PWS within 1 mile |

FEDERAL USGS WELL INFORMATION

| <u>MAP ID</u> | <u>WELL ID</u> | <u>LOCATION FROM TP</u> |
|----------------|----------------|-------------------------|
| No Wells Found | | |

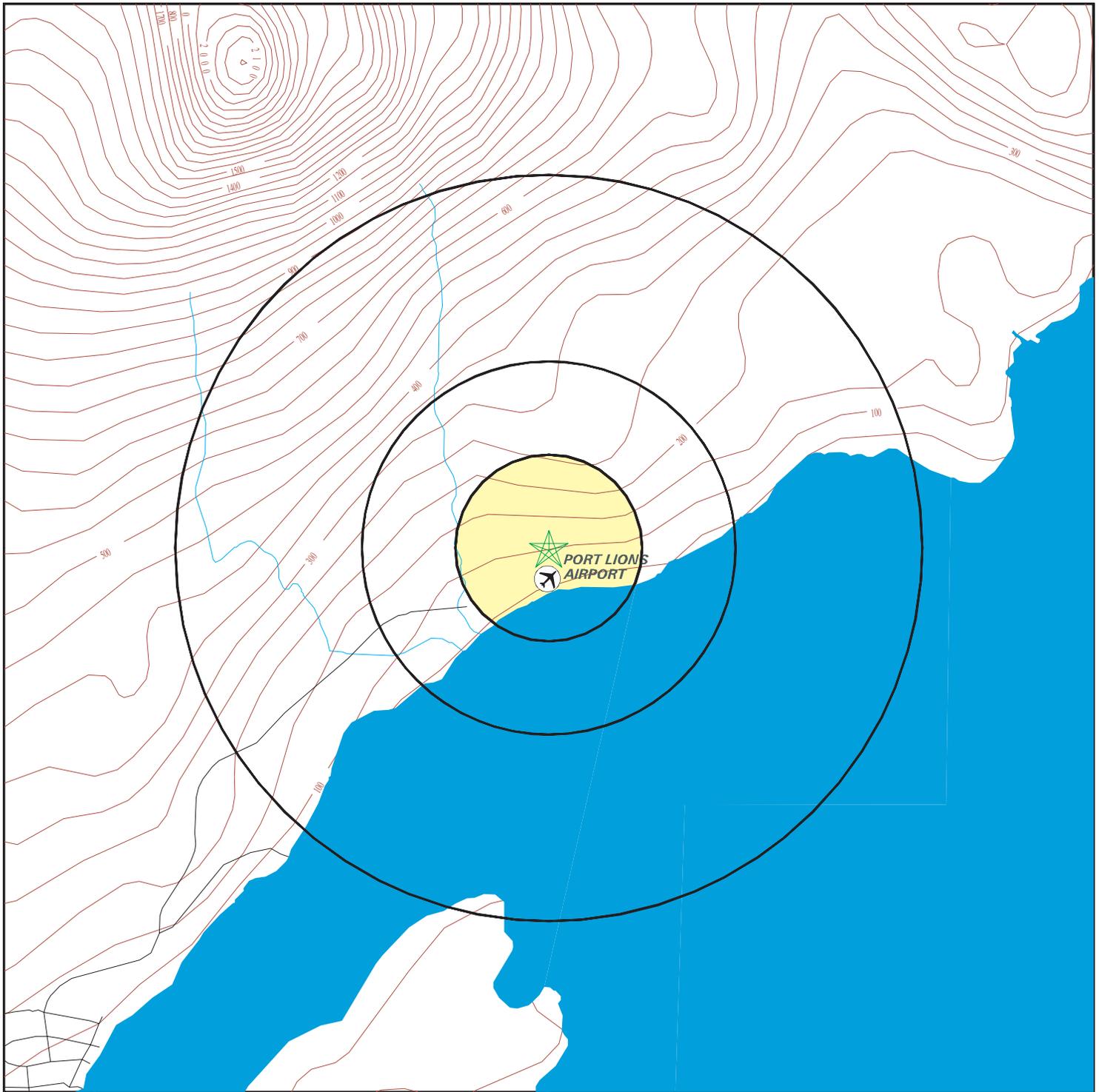
GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

| MAP ID | WELL ID | LOCATION FROM TP |
|---------------------|---------|---------------------|
| No PWS System Found | | |

Note: PWS System location is not always the same as well location.

PHYSICAL SETTING SOURCE MAP - 5404928.2s



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons



- Groundwater Flow Direction
- Indeterminate Groundwater Flow at Location
- Groundwater Flow Varies at Location
- Oil, gas or related wells



SITE NAME: Port Lions Airport
 ADDRESS: Port Lions Airport
 Kodiak AK 99615
 LAT/LONG: 57.886119 / 152.8475

CLIENT: Restoration Science & Eng.
 CONTACT: Arran Forbes
 INQUIRY #: 5404928.2s
 DATE: August 24, 2018 3:05 pm

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS RADON

AREA RADON INFORMATION

State Database: AK Radon

Radon Test Results

| Num Tests | < 0.5 pCi/L | 0.5 - 2.0 | 2.1 - 4.0 | 4.1 - 10 | 10-20 | > 20 pCi/L |
|-----------|-------------|-----------|-----------|----------|-------|------------|
| 27 | 21 | 5 | 1 | 0 | 0 | 0 |
| 5 | 4 | 0 | 0 | 0 | 0 | 0 |

Federal EPA Radon Zone for KODIAK ISLAND County: 3

- Note: Zone 1 indoor average level > 4 pCi/L.
 : Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
 : Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 99615

Number of sites tested: 17

| Area | Average Activity | % <4 pCi/L | % 4-20 pCi/L | % >20 pCi/L |
|-------------------------|------------------|--------------|--------------|--------------|
| Living Area - 1st Floor | 0.135 pCi/L | 100% | 0% | 0% |
| Living Area - 2nd Floor | Not Reported | Not Reported | Not Reported | Not Reported |
| Basement | 0.790 pCi/L | 100% | 0% | 0% |

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)

Source: United States Geologic Survey

EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map

Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.

Source: FEMA

Telephone: 877-336-2627

Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Classification and Mapping

Source: Alaska Natural Heritage Program

Telephone: 907-235-2218

HYDROGEOLOGIC INFORMATION

AQUIFLOW^R Information System

Source: EDR proprietary database of groundwater flow information

EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit

Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database

Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)

Telephone: 800-672-5559

SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data

Source: EPA/Office of Drinking Water

Telephone: 202-564-3750

Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)

This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

OTHER STATE DATABASE INFORMATION

Oil and Gas Well Database

Source: Department of Administration, Oil & Gas Conservation Commission.

Oil and gas well locations in the state.

RADON

State Database: AK Radon

Source: University of Alaska Fairbanks

Telephone: 907-474-7201

Radon Information

Area Radon Information

Source: USGS

Telephone: 703-356-4020

The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones

Source: EPA

Telephone: 703-356-4020

Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities

Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater

Source: Department of Commerce, National Oceanic and Atmospheric Administration

Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary faultlines, prepared in 1975 by the United State Geological Survey

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

2008 TIGER© Map, produced by the U.S. Census Bureau.

Appendix F: Resumes of Qualified Persons





Areas of Expertise

Phase I ESA
Phase II ESA
Regulatory Compliance
Groundwater Monitoring
Contaminated Sites
Formerly Used Defense Sites
Chemistry & Biology

Years of Experience

With RSE: 4 Years
Total: 6 Years

Education

B.S., 2009, Environmental Science
Dartmouth College

Registration/Certification

HAZWOPER 40 hour OSHA
Training (2011 -2016)
ShIPLEY Group Certification:
“Applying the NEPA Process and
Writing Effective NEPA
Documents” and, “NEPA
Cumulative Effects Analysis and
Documentation.”
ADEC Qualified Environmental
Professional
Certified Erosion and Sediment
Control Lead (CESCL)

Arran C. Forbes

Environmental Scientist

Overview

Ms. Arran Forbes is an experienced Environmental Scientist for RSE in Anchorage, Alaska and brings seven years of environmental experience. She is a born and raised Alaskan and received her B.S. in environmental science from Dartmouth College. She has extensive experience in conducting Phase I and Phase II site investigations in accordance with both ADEC and ASTM standards around the state of Alaska. She has served as a technical lead for dozens of environmental assessments, including compiling historical data from myriad sources, preparing work plans and waste characterization documents for ADEC approval, performing soil, groundwater, and surface water sampling, and conducting in-depth analysis of field-screening and laboratory results for presentation to stakeholder agencies and clients. She is additionally well-acquainted with local and State permitting processes, as well as conveying technical data and its ramifications to the public.

Project Specific Experience

Alaska Railroad Corporation Terminal Reserve Yard Phase II Assessment; Anchorage, Alaska Collaborated with the Alaska Railroad and Dowl HKM to conduct a Phase II site investigation of the Terminal Reserve Yard in preparation for an upgrade to the AWWU waterline. Project tasks included analyzing historical regional data to determine areas of highest likelihood of contamination, submitting work plan with proposed sampling locations to the ADEC for approval, and arranging all requiring trainings to perform work in railroad safety corridors. Worked with drillers to access locations best representing contamination in the area, field-screened soil boring intervals and submitted for laboratory analysis, installed temporary water monitoring wells and sampled groundwater for contaminants of concern. At the conclusion of field activities, laboratory data was used to recommend appropriate piping materials to be used by AWWU.

Clear Air Force Base Long-Term Landfill Monitoring; Clear, Alaska

Prepared ADEC-approved work plan on behalf of US Army Corps of Engineers for long-term soil and groundwater monitoring at a former landfill located at Clear Air Force Base. Required installation of groundwater monitoring wells at depths beyond 200 feet, determination of contaminants of potential concern based upon historic use, and establishment of monitoring plan. Additionally provided support for the grade and capping of the landfill for conditional use by the Air Force Base.



Port of Anchorage Storm System 3 Revitalization Project; Anchorage, Alaska Served as technical lead for environmental oversight during the removal and replacement of Storm System 3 buried piping infrastructure within the Port of Anchorage. Prepared a waste characterization and waste handling work plan outlining the known history of contaminant levels and sources, as well as multiple alternatives for the removal of project-generated water, including treatment and discharge into the AWWU sanitary sewer. The plans were submitted to and approved by the ADEC. Characterized highly fluidized sediments and contaminated groundwater, and oversaw the treatment of removed fluids through multiple sedimentation tanks and carbon filter trains until analytical results of samples taken from the water met Anchorage Municipal Standards for discharge to sanitary sewer. Further in the project, Arran prepared bid specification documents for future sediment treatment work at the Port, and provided third-party oversight for consultant work resulting from the bid.

City of Whittier Phase I Investigations; Whittier, Alaska RSE was contracted by the City of Whittier to perform three (3) Phase I Environmental Site Assessments in accordance with ASTM standards to facilitate negotiations with the Alaska Railroad for property valuations within city limits. Tasks included analysis of historical photographs and sampling data, in-depth site investigations considering all possible sources and migration routes of contaminants, and collaboration with the ADEC in regards to ongoing management of registered contaminated sites. Made recommendations to the City of Whittier regarding areas of concern, exposure routes, and potential future actions.

Chugach Electric Association Raspberry Substation Phase II Environmental Investigation Anchorage, Alaska Following the release of transformer oil, Ms. Forbes drafted and submitted a work plan to the ADEC to determine whether the contaminant had reached groundwater and potentially migrated to downgradient areas. Work plan included in-depth hydrogeology and waste characterization discussions. Oversaw the drilling of multiple locations, classified soils according to USCS classification, field-screened, and submitted samples for laboratory analysis. Determined that transformer oil had not migrated past the spill release area, and submitted final report to ADEC. Site was closed with institutional controls.

Johnson's Tire Service Phase II Site Investigation and UST Removal; Anchorage, Alaska Submitted a work plan to the ADEC for the removal of an unregistered underground storage tank and sampling methodology for excavation of surrounding soils and dewatering of shallow groundwater. Created groundwater gradient maps and analyzed historic data to determine most representative locations for monitoring wells. Characterized investigative-derived waste and received ADEC approval for offsite treatment. Installed multiple groundwater monitoring wells on the subject property to determine the path of contentment migration, and conducted quarterly monitoring to ensure natural attenuation to close the site with the ADEC.

Alaska Railroad Corporation MI Swaco Phase I Investigation; Anchorage, Alaska Upon vacancy of a long-term ARRC lease property to MI Swaco for shipment of drilling materials, Ms. Forbes conducted a site investigation to determine the quality of the property for the owner. Indexed chemicals and materials used onsite for an evaluation of potential lasting risks to human health and the environment, conducted multiple personal interviews, assessed in-ground drainage systems and sewer, and made recommendations to the Railroad to ensure environmental compliance of the facility.

Lower Kuskokwim School District Kwethluk School Limited Phase I and Phase II Site Assessment; Kwethluk, Alaska Conducted a limited Phase I investigation of three (3) properties located in Kwethluk, Alaska on behalf of Stantec Architects (formerly USKH) for the construction of a new school and demolition of former. Tasks included researching historical documents and photographs, speaking with applicable agencies and local representatives, and making recommendations to Stantec on how to proceed with project activities while minimizing environmental disturbances. Performed all reporting of a limited surface soil investigation at two (2) Kwethluk properties identified in Phase I investigations. Included analysis of nearly 100 field-screening samples, and determination from laboratory results of areas of greatest concern during excavation activities.



Areas of Expertise

Project Management
Surface Water and Hydrogeologic
Assessments and Baseline Data
Collection
Fluvial and Glacial Geomorphology
Monitoring Well Installations and
Ground Water Instrumentation
Environmental Site
Characterization, Remediation, and
Restoration

Years of Experience

With RSE: 17 Years
With Other Firms: 0 Years

Education

Master in Science and Engineering
Management, Montana State
University, 2017
B.S. Environmental Science,
University of Alaska Southeast,
2005

Certifications/Special Training

ADEC Qualified Environmental
Professional
40-hour OSHA Hazardous Waste
and Emergency Operations
Training
Wetland Functional Assessment
using HGM Alaska Department of
Environmental Conservation
One Day Training in Soldotna,
Alaska
38-hour Army Corps of Engineers
Wetland Delineation &
Management Training
Hazardous Materials
Transportation, 49 CFR Part 172

Lucus Gamble

Environmental Sciences Project Manager

Overview

Since 2001 Mr. Gamble has worked at RSE in broad fields of engineering and environmental assessment and reporting with adherence to industry professional and safety standards under complex logistical or environmental conditions. Lucas' project experience ranges from ADEC, ADOT or EPA funded scientific studies, extensive private sector on site characterization, cleanup and monitoring programs, solid waste landfill studies, watershed scale groundwater and surface water programs, fuel storage and industrial facility storm water pollution prevention. He brings a profound understanding of groundwater management regulatory compliance, environmental construction management, and sampling and analysis of environmental contaminants. Lucas is an ADEC Qualified Environmental Professional and frequently prepares and executes projects in accordance with ADEC and EPA requirements.

Project Specific Experience

VC Sellers LLC – North Slope Remediation Project Project manager for one of the largest privately funded cleanup projects on the North Slope. The scope of work included site assessment and corrective actions on two North Slope lease pads. Both pads had 30 years of use as oilfield support and equipment staging facilities and prior to recent project completion had substantial diesel impacts to the subsurface soil. Total remedial actions included excavation and thermally treating more than 90,000 tons of impacted soil. Both sites received ADEC Cleanup Complete status with normal North Slope institutional controls relating to site usage.

NORCON Benzene Corrective Actions and LTM Project manager for excavation and remediation of benzene impacted soil and groundwater at industrial yard in Fairbanks, Alaska. Multiple hydrocarbon releases resulted in benzene concentrations above ADEC cleanup standards in both the subsurface soil and groundwater. The local groundwater aquifer is high yield and excavation below the confining layer required substantial modeling of the local hydrology to determine the best time of year to excavate impacted soil below static water level without incurring the high cost of dewatering and treating contaminated groundwater. This site was subject to nearly 10 years of long-term monitoring for groundwater. Final site characterization, statistical analysis, and conceptual site modeling was completed in 2017.

Alaska Railroad Corporation 2017 Contaminated Site Assessments, Railbelt, AK Project manager responsible for cost estimation, work planning and site characterization initiation for ARRC Anchorage Terminal Reserve groundwater sampling, 801 Ship Avenue site characterization, Healy UST-6 site characterization and landfarming, and Healy Roundhouse groundwater LTM. Each of these sites was a historic contaminated site and listed on the ADEC Contaminated Sites database. Each site required a subsurface investigation for petroleum hydrocarbons including both soil and groundwater sampling. RSE



completed site characterization reports for each site, and in some cases requested Cleanup Complete status for eligible candidate sites. The project estimation exceeded \$110,000. RSE completed the project for less \$92,000.

Milepost 341 Dalton Highway Diesel Release Cleanup Project manager and lead field scientist who mobilized to remote site in response to release of several hundred gallons of diesel fuel into assumed wetland areas surrounding the Dalton Highway. Quickly prepared ADEC work plan and notified applicable stakeholders including the ADOT and US Army Corps of Engineers. Oversaw excavation of impacted soil and snow, conducted field screening to direct cleanup efforts, managed excavation to depths deemed safe for road prism stability in 2014. Lucus returned to the site during the summer of 2015 to remove additional impacts to the road prism not accessible during frozen conditions, determined that the impacts were limited to upland areas, and analyzed final laboratory samples to direct final cleanup efforts to achieve cleanup complete status.

ADOT&PF Ted Stevens International Airport – Groundwater Study Performed hydrogeology background research followed by installation of numerous groundwater monitoring wells into various perched aquifers to quantify hydrocarbon impacts to the local water table and first confined aquifer. The scope of work required careful placement of wells to meet the project objectives. Results of the study lead to a NFRAP status by the ADEC.

Alaska Pacific University – Gould Hall UST Impacts Performed site assessment and sampling of numerous wells in a unique geologic setting as a QEP. Observations of the groundwater indicated that a contaminant plume resulting from a historic UST was limited to a localized aquifer present within the esker and not connected to the regional water table of groundwater regime. The technical groundwater sampling program and understanding of the local geology lead to a Cleanup Complete status from the ADEC. The ADEC determination was based largely on the information provided within the conceptual site model.

Evergreen Resources, Hydrologic Assessment and Baseline Monitoring Project, Matanuska-Susitna Valley, Alaska Lucus was the project geologist responsible for conducting groundwater production monitoring and groundwater quality sampling in the Matanuska-Susitna Valley to support a large-scale coal bed methane development project. Lucus acquired and reviewed existing well logs and publically available soil boring data to develop a conceptual site model depicting local hydrogeologic conditions. Lucus designed and provided technical support during the installation of two deep (>400 feet) groundwater monitoring wells installed to model impacts (groundwater flux) from resource development/production within massive yet highly sensitive confined aquifer.

Milepost 48 Richardson Highway Diesel Release Cleanup Lucus was the environmental services PM for the responsible party. Mobilized to remote site in response to release of several thousand gallons of diesel fuel into protected riparian area adjacent to the Richardson Highway. Quickly prepared ADEC work plan and notified applicable stakeholders. Worked closely with ADEC, EPA, ADOT, and Coast Guard to develop cleanup plan and delineate extent of contamination through the installation of multiple soil borings and groundwater monitoring wells. Oversaw initial excavation of impacted soil and snow, conducted field screening to direct cleanup efforts, and managed logistics for mobilizing necessary large equipment into area.

Ted Stevens International Airport Storm Water Management Lucus was the environmental project manager and worked with CRW Engineering to prepare an individual storm water discharge permit for the Anchorage International Airport upon notification from the ADEC that an MSGP was not applicable to the facility. Prepared documentation under the Clean Water Act Sections 308 and 404 to provide rationale for storm water sampling requirements which was subsequently approved by the ADEC. Collected monthly storm water samples from five (5) distinct outfalls to compile quality and quantity data for development of the APDES permit for the Airport. Project activities are ongoing as RSE determines maximum expected concentrations for regulated pollutants and the required dilution needed to meet water quality standards per the ADEC.