



# A Source Water Assessment (SWA) for PWSID #370625 – Eielson Air Force Base –WL008 (Well F)

### What is an SWA?

The Drinking Water Protection group of the Drinking Water Program is producing Source Water Assessments (SWAs) in compliance with the Safe Drinking Water Act (SDWA) Amendments of 1996. Each SWA includes:

- A delineation of the drinking water source area;
- Inventory of potential and existing sources of contamination;
- Risk ranking for the identified contaminants;
- Evaluation of the overall vulnerability to the PWS source.

### What is a Protection Area?

The most probable area for contamination to reach the drinking water well is within the drinking water protection area (DWPA). The DWPA for a groundwater source is the area around the well (the area influenced by pumping) and also the area upgradient of the well, usually forming a parabola shape. Because releases of contaminants within the DWPA are most likely to impact the well, this area will serve as the focus for voluntary protection efforts.

The DWPAs established for wells by DEC are separated into two (2) zones, limited by the watershed. The following is a summary of the two (2) zones for wells and the estimated time-of-travel for each:

Zone	Definition
A	Several months time-of-travel
B	Less than the 2 year time-of-travel

### Natural Susceptibility

Susceptibility of a groundwater source is a measure of a water supply's potential to become contaminated based on information gathered on the wellhead and the aquifer.

Table 1: Public Water System Source Information

<b>PWS Name</b>	Eielson Air Force Base
<b>PWSID Number</b>	370625
<b>Federal Designation</b>	Community water system (CWS)
<b>State Assigned ID</b>	WL008
<b>Facility Name</b>	Well F
<b>Source Type</b>	Groundwater
<b>Total Depth of Well (ft bls*)</b>	157.6
<b>Static Water Level (ft bls*)</b>	7
<b>Aquifer Type</b>	Unconfined
<b>Aquifer Formation</b>	Gravel and sand
<b>Description and Cumulative Thickness of Barrier (ft)</b>	N/A
<b>Date Well Completed</b>	10/14/2009

\*"ft bls" = feet below land surface

### **Executive Summary**

The public water system (PWS) for Eielson Air Force Base is a Community water system (CWS) consisting of six (6) active wells at the time of this report, and is located approximately twenty (20) miles southeast of Fairbanks along the Richardson Highway. This report is an assessment of well WL008 (Well F). An assessment of the susceptibility of the wellhead and aquifer to contamination, and the vulnerability of the well to potential and existing contamination were evaluated as of June, 2013. The wellhead for WL008 received a susceptibility rating of **Low** and the aquifer received a susceptibility rating of **High**. Combining these two ratings produces a **Low** rating for the natural susceptibility. Identified potential and existing sources of contamination for Eielson Air Force Base WL008 include domestic wastewater collection systems, municipal Class III landfill, asphalt and tar processing / storage, residential areas, multiple contaminated sites, disposed or stockpiled asbestos, an airport, paved roads, and a fire training facility. These are considered sources of one or more of the following six (6) contaminant risk categories: 1) bacteria and viruses; 2) nitrates and/or nitrites; 3) volatile organic chemicals (VOCs); 4) heavy metals, cyanide, and other inorganic chemicals (inorganic chemicals); 5) synthetic organic chemicals (SOCs); and 6) other organic chemicals (OOCs).

Combining the natural susceptibility with the six (6) contaminant risk categories, EIELSON AIR FORCE BASE WL008 received an overall vulnerability rating of **Medium** for bacteria and viruses; **High** for nitrates and/or nitrites; **High** for VOCs; **High** for inorganic chemicals; and a **High** for SOCs and **High** for OOCs.

## Introduction

Source Water Assessments (SWAs) are intended to provide PWS operators, owners, communities, and local governments with the best available information that may be used to protect the quality of their drinking water. The SWA for the EIELSON AIR FORCE BASE WL008 is a tool to be used as the foundation or “stepping stone” to comprehensive management and protection of its groundwater resource. Protecting the quality of your drinking water is a sensible investment.

## Drinking Water Protection Area

For groundwater sources, a combination of a numerical flow model and natural factors such as drainage divides, subsurface barriers, and manmade structures are used to determine the size and shape of the Drinking Water Protection Area (DWPA). The orientation of the DWPA is typically drawn using a groundwater surface, or a land surface, elevation map. Because of uncertainties and changing site conditions, a factor of safety is added in calculating the size of the DWPA. (See Map1 of the Appendices)

## Natural Susceptibility (Wellhead and Aquifer)

The susceptibility of a wellhead to the introduction of contaminants to the drinking water is determined by, but not limited to, the following risk factors: presence of a sanitary seal, protection from flooding, drainage, and presence of adequate grouting.

The wellhead for the EIELSON AIR FORCE BASE WL008 received a **Low** susceptibility rating. The most recent sanitary survey (completed July 31, 2012) indicates that the well is capped with a sanitary seal, is not in a floodplain, the land surface is sloped to drain away from the wellhead, and that a subsurface grout seal was installed to the required depth. A sanitary seal prevents potential contaminants from entering the well while sloping of the land surface and grouting help to prevent potential contaminants from traveling down the outside of the well casing, or through casing seams/cracks to the inside of the well casing, and into the well and/or aquifer.

The susceptibility of an aquifer to the introduction of contaminants is determined by, but not limited to, the following risk factors: whether the aquifer is confined or unconfined, whether the well is completed in unconsolidated or fractured bedrock, whether other nearby wells and bore holes are penetrating the aquifer and if applicable the characteristics of the confining layer(s).

The EIELSON AIR FORCE BASE WL008 draws water from an unconfined aquifer completed in varying proportions of sand and gravel. It received a **High** susceptibility rating primarily because the many water wells near contaminant sources located within the DWPA may provide a quick path to the subsurface. A confined aquifer is generally more protected than an unconfined aquifer from the infiltration of surface water potentially carrying contaminants migrating downward from the surface to the aquifer. However, other wells that penetrate the confining layers create a potential pathway for surface water and contaminants to the aquifer.

The Natural Susceptibility is the combination of the well and aquifer susceptibility to contamination, and is **Low**. Table 2 summarizes the susceptibility ratings for the EIELSON AIR FORCE BASE WL008.

**Table 2: Susceptibility Ratings**

Susceptibility of the wellhead	<b>Low</b>
+	
Susceptibility of the aquifer	<b>High</b>
=	
Natural susceptibility	<b>Low</b>

### Inventory of Potential and Existing Sources Contamination

The Drinking Water Protection (DWP) group has completed an inventory of potential and existing sources of contamination within the DWPA for the EIELSON AIR FORCE BASE WL008. This inventory was completed through a search of agency records and other publicly available information. Potential sources of contamination include a wide range of categories and types. Potential drinking water contaminants are found within agricultural, residential, commercial, and industrial areas, but can also occur within areas that have little or no development. The identified potential sources of contamination are summarized in Table 3 and are portrayed in Map 2 of the Appendices.

**Table 3: Contaminant Source Inventory**

Contaminant Source Type	Contaminant Source ID	Zone	Comments
Domestic wastewater collection systems (sewer lines or lift stations)	D01-01-10	A	Assumed 10 or less sewer lines.
Asphalt and tar processing/storage	I03-01	A	EiAFB (OU-4) (SS35) Asphalt MixArea
Residential Areas	R01-01	A	Assumed 50 or less acres.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-01	A	Eielson AFB (OU-2) (ST11) Bakery; Status: Active; Hazard ID: 337; Contaminant of concern: BTEX, DRO; Groundwater Ingestion: Low Potential Exposure ; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=337">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=337</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-02	A	Eielson AFB (SER-1) (ST16) Spill; Status: Cleanup Complete - Institutional Controls; Hazard ID: 342; Contaminant of concern: Benzene, GRO; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=342">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=342</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-03	A	Eielson AFB (SER-1) (SS31) Bldg. 3424: Cleanup Complete; Hazard ID: 390; Contaminant of concern: PCBs - Total; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=390">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=390</a> .
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-04	A	Eielson AFB (OU-4) (SS36): Cleanup Complete; Hazard ID: 393; Contaminant of concern: Chromium - Total, Lead - Total; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=393">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=393</a> .
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-05	A	Eielson AFB Bldg. 3426 Supply Facility CITS: Active; Hazard ID: 3688; Contaminant of concern: DRO, RRO; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=3688">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=3688</a>

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Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-06	A	Eielson AFB Bldg. 2762/6214: Active; Hazard ID: 4108; Contaminant of concern: Benzene; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=4108">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=4108</a> .
Highways and roads, paved (cement or asphalt)	X20-01-20	A	Assumed 20 or less roads.
Domestic wastewater collection systems (sewer lines or lift stations)	D01-11-20	B	Assumed 10 or less sewer lines.
Landfills (municipal; Class III)	D51-01	B	Runway POL Pond
Asphalt and tar processing/storage	I03-02	B	Asphalt stockpile
Residential Areas	R01-02	B	Assumed 50 or less acres.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-07	B	Eielson AFB (OU-2) (ST10) E-2: Active; Hazard ID: 336; Contaminant of concern: Benzene, Lead - Dissolved, Napthalene; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=336">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=336</a> .
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-08	B	Eielson AFB (OU-2) (ST13) Hydrant System: Active; Hazard ID: 339; Contaminant of concern: Benzene, Lead - Dissolved; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=339">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=339</a> .
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-09	B	Eielson AFB (OU-2) (SS14) E-2 POL; Active; Hazard ID: 340; Contaminant of Concern: Benzene, Lead - dissolved; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=340">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=340</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-10	B	Eielson AFB (OU-4) (DP25) E-6 Tank Farm; Active; Hazard ID: 366; Contaminant of Concern: Benzene, Lead - dissolved; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=366">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=366</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-11	B	Eielson AFB (OU-2) (DP26) T300 Sludge Pit; Active; Hazard ID: 367; Contaminant of Concern: Benzene, Lead - dissolved; Groundwater Ingestion: Not Evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=367">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=367</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-12	B	Eielson AFB (SER-1) (DP28) Fly Ash; Cleanup Complete; Hazard ID: 368; Contaminant of Concern: None; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=368">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=368</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-13	B	Eielson AFB (OU-4) (SS37); Active; Hazard ID: 372; Contaminant of Concern: Benzene; Groundwater Ingestion: Future Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=372">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=372</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-14	B	Eielson AFB (SER-1) (SS41) Old Hobby Shop; Cleanup Complete; Hazard ID: 376; Contaminant of Concern: RRO; Groundwater Ingestion: Not Evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=376">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=376</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-15	B	Eielson AFB (OU-5) (LF03) Landfill; Active; Hazard ID: 379; Contaminant of Concern: Tetrachloroethene, Trichloroethene, Vinyl Chloride; Groundwater Ingestion: Low Potential Exposure;

			<a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=379">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=379</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-16	B	Eielson AFB (OU-5) (FT09) Fire Training; Active; Hazard ID: 381; Contaminant of Concern: Tetrachloroethene, Trichloroethene, Vinyl Chloride; Groundwater Ingestion: Not Evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=381">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=381</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-17	B	Eielson AFB (OU-4) (ST27) E-11; Active; Hazard ID: 388; Contaminant of Concern: Lead - dissolved; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=388">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=388</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-18	B	Eielson AFB (OU-4) (SS35) Asphalt MixArea; Active; Hazard ID: 392; Contaminant of Concern: DDD, DDE, DDT; Groundwater Ingestion: Low Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=392">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=392</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-19	B	Eielson AFB Bldg. 1340; Cleanup Complete; Hazard ID: 1653; Contaminant of Concern: RRO, DRO; Groundwater Ingestion: Not Evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=1653">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=1653</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-20	B	Eielson AFB (OU-2) (ST19) JP-4 Fuel Line; Active; Hazard ID: 345; Contaminant of Concern: Benzene, Toluene, GRO; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=345">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=345</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-21	B	Eielson AFB Hangar - Building 1348; Cleanup Complete; Hazard ID: 1650; Contaminant of Concern: RRO; Groundwater Ingestion: Not Evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=1650">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=1650</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-22	B	Eielson AFB Hangar - Bldg. 1344 Area #2; Active; Hazard ID: 1651; Contaminant of Concern: Dichloromethane; Groundwater Ingestion: Low Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=1651">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=1651</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-23	B	Eielson AFB Fuel Pit (1994 spill at ST19); Active; Hazard ID: 2341; Contaminant of Concern: BTEX, DRO, GRO; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=2341">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=2341</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-24	B	Eielson AFB Bldg. 4231 AST/Bldg. 371; Active; Hazard ID: 2921; Contaminant of Concern: Benzene, GRO; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=2921">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=2921</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-25	B	Eielson AFB - Hangar - Building 1348; Cleanup Complete; Hazard ID: 24311; Contaminant of Concern: None; Groundwater Ingestion: N/A; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=24311">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=24311</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-26	B	Eielson AFB - Bldg 1340; Cleanup Complete; Hazard ID: 24318; Contaminant of Concern: None; Groundwater Ingestion: N/A; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=24318">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=24318</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-27	B	Eielson AFB - Hanger - Building 1344 Area #2; Cleanup Complete; Hazard ID: 24319; Contaminant of Concern: None; Groundwater Ingestion: N/A; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=24319">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=24319</a>

			319
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-28	B	Eielson AFB - BLDG. 4480; Cleanup Complete; Hazard ID: 24985; Contaminant of Concern: None; Groundwater Ingestion: N/A; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=24985">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=24985</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-29	B	Eielson AFB Oscar JP8 Pipeline; Active; Hazard ID: 25968; Contaminant of Concern: None; Groundwater Ingestion: N/A; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=25968">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=25968</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-30	B	Eielson AFB Bldg. 1350 Hush House; Active; Hazard ID: 25745; Contaminant of Concern: BTEX, DRO, GRO; Groundwater Ingestion: Low Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=25745">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=25745</a>
Asbestos, disposed or stockpiled	X05-01	B	Asbestos, disposed or stockpiled
Airports	X14-01	B	
Highways and roads, paved (cement or asphalt)	X20-21-70	B	Assumed 50 or less roads.
Fire training facilities	X39-01	B	Eielson AFS OU-5) (FT09) Fire Training

## Contaminant Risks

Inventoried contaminant sources are sorted by the Drinking Water Protection (DWP) group according to the six (6) major categories of contaminants regulated for drinking water: 1) bacteria and viruses; 2) nitrates and/or nitrites; 3) volatile organic chemicals (VOCs); 4) heavy metals, cyanide, and other inorganic chemicals (inorganic chemicals); 5) synthetic organic chemicals (SOCs); and 6) other organic chemicals (OOCs). The contaminant sources are then given a ranking (within each category) according to the density of sources within the DWPA, the PWS sampling history, as well as the degree of risk posed to human health based on the volume, toxicity, persistence, and the mobility of the contaminants involved. The contaminant risk rankings are summarized in Table 4.

**Table 4: Contaminant Risk Rankings**

Contaminant Source Type	Contaminant Source ID	Zone	Bacteria & Viruses	Nitrates and/or Nitrites	VOCs	Inorganic Chemicals*	SOCs	OOCs
Domestic wastewater collection systems (sewer lines or lift stations)	D01-01-10	A	Medium	Medium	Low	Low	Low	Low
Asphalt and tar processing/storage	I03-01	A	N/A	N/A	Medium	Low	N/A	High
Residential Areas	R01-01	A	Low	Low	Low	Low	Low	Low
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-01	A	N/A	N/A	Medium	N/A	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-02	A	N/A	N/A	Medium	N/A	N/A	N/A
Contaminated sites, DEC recognized, non-	U04-03	A	N/A	N/A	N/A	N/A	Low	N/A

Contaminant Source Type	Contaminant Source ID	Zone	Bacteria & Viruses	Nitrates and/or Nitrites	VOCs	Inorganic Chemicals*	SOCs	OOCs
Superfund, non-RCRA								
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-04	A	N/A	N/A	N/A	Low	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-05	A	N/A	N/A	Very High	N/A	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-06	A	N/A	N/A	Very High	N/A	N/A	N/A
Highways and roads, paved (cement or asphalt)	X20-01-20	A	Low	Low	Low	Low	N/A	Low
Domestic wastewater collection systems (sewer lines or lift stations)	D01-11-20	B	Medium	Medium	Low	Low	Low	Low
Landfills (municipal; Class III)	D51-01	B	High	Very High	High	High	Very High	Very High
Asphalt and tar processing/storage	I03-02	B	N/A	N/A	Medium	Low	N/A	High
Residential Areas	R01-02	B	Low	Low	Low	Low	Low	Low
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-07	B	N/A	N/A	Very High	Very High	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-08	B	N/A	N/A	Very High	Very High	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-09	B	N/A	N/A	Very High	Very High	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-10	B	N/A	N/A	Very High	Very High	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-11	B	N/A	N/A	Very High	Very High	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-13	B	N/A	N/A	High	N/A	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-14	B	N/A	N/A	Low	N/A	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-15	B	N/A	N/A	Medium	N/A	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-16	B	N/A	N/A	Very High	N/A	N/A	N/A
Contaminated sites, DEC recognized, non-	U04-17	B	N/A	N/A	N/A	Very High	N/A	N/A

Contaminant Source Type	Contaminant Source ID	Zone	Bacteria & Viruses	Nitrates and/or Nitrites	VOCs	Inorganic Chemicals*	SOCs	OOCs
Superfund, non-RCRA								
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-18	B	N/A	N/A	N/A	N/A	Medium	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-19	B	N/A	N/A	Low	N/A	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-20	B	N/A	N/A	Very High	N/A	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-21	B	N/A	N/A	Low	N/A	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-22	B	N/A	N/A	Medium	N/A	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-23	B	N/A	N/A	Very High	N/A	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-24	B	N/A	N/A	Very High	N/A	N/A	N/A
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04-30	B	N/A	N/A	Medium	N/A	N/A	N/A
Asbestos, disposed or stockpiled	X05-01	B	N/A	N/A	N/A	Low	N/A	N/A
Airports	X14-01	B	N/A	Low	High	Low	Medium	Medium
Highways and roads, paved (cement or asphalt)	X20-21-70	B	Low	Low	Low	Low	N/A	Low
Fire training facilities	X39-01	B	N/A	N/A	Low	Low	N/A	High
<b>Contaminant Category Risk Ranking**</b>			<b>High</b>	<b>Very High</b>	<b>Very High</b>	<b>Very High</b>	<b>Very High</b>	<b>Very High</b>

\* Includes heavy metals, cyanide, and other inorganic chemicals.

\*\* Scores based on additional factors, such as sampling history, and number/density of sources.

The contaminant category risk ranking for Bacteria & Viruses is **High**. This ranking is driven primarily by the municipal Class III landfill, domestic wastewater system, as well as density of roads, and residential areas located within the DWPA. A positive Total Coliform (which may include fecal coliform and *E. Coli*, but is not a confirmation of the presence of either) has not been detected in recent years. Coliforms are naturally present in the environment, as well as feces; fecal coliforms and *E. Coli* only come from human and animal fecal waste. Total Coliforms is not a health threat in itself; it is used to indicate whether other potentially harmful bacteria may be present.

The contaminant category risk ranking for Nitrates and/or Nitrites is **Very High**. This ranking is driven primarily by the municipal Class III landfill, domestic wastewater system, an airport, as well as the density of roads, and residential areas located within the DWPA. Nitrates and/or nitrites have not been detected in samples collected in recent years. Sources



of nitrate and/or nitrite may include runoff from fertilizer use, leaking from septic tanks, sewage, and/or erosion from natural deposits. Potential health effects include serious illness and, if untreated, death for infants below the age of six months; symptoms include a shortness of breath and blue-baby syndrome.

The contaminant category risk ranking for VOCs is **Very High**. This ranking is driven primarily by the municipal Class III landfill, domestic wastewater system, asphalt and tar processing/storage, several contaminated sites, an airport, a fire training facility as well as the density of roads, and residential areas located within the DWPA. VOCs have not been detected in samples collected in recent years. Sources of VOCs may be either natural or anthropogenic. Potential health effects are typically compounding long-term, and not acute.

The contaminant category risk ranking for Inorganic Chemicals is **Very High**. This ranking is driven primarily by the municipal Class III landfill, domestic wastewater collection system, asphalt and tar processing/storage, multiple contaminated sites, Disposed/stockpiled asbestos, an airport, fire training facilities, as well as the density of roads, and residential areas located within the DWPA. Arsenic was detected at a concentration of 5.01 micrograms per liter ( $\mu\text{g/L}$ ) (50% of the MCL of  $10\mu\text{g/L}$ ) January 2012. Sources of arsenic may include erosion of natural deposits, runoff from orchards, and/or runoff from glass & electronics production wastes. A potential health effect from long-term exposure above the MCL may include skin damage or problems with circulatory systems, and an increased risk of cancer.

The contaminant category risk ranking for SOCs is **Very High**. This ranking is driven primarily by a municipal Class III landfill, domestic wastewater collection, a contaminated site, an airport, as well as the density of residential areas located within the DWPA. This PWS has received an SOC Monitoring Waiver for compliance periods since 2001 up until the current 2011-2013 period.

The contaminant category risk ranking for OOCs is **Very High**. This ranking is driven primarily by a municipal Class III landfill, domestic wastewater collection, a contaminated site, an airport, as well as the density of residential areas located within the DWPA. This PWS has received an SOC Monitoring Waiver for compliance periods since 2001 up until the current 2011-2013 period.

**Overall Vulnerability of the Drinking Water Source to Contamination**

An overall vulnerability is determined by combining each of the contaminant category risk rankings with the natural susceptibility score:

<b><i>Overall Vulnerability of the Drinking Water Source to Contamination = Natural Susceptibility + Contaminant Risks</i></b>
--

Table 5 summarizes the overall vulnerability ratings for each of the six (6) contaminant categories.

<b><i>Category</i></b>	<b><i>Rating</i></b>
Bacteria and Viruses	<b><i>Medium</i></b>
Nitrates and/or Nitrites	<b><i>High</i></b>
Volatile Organic Chemicals	<b><i>High</i></b>
Heavy Metals, Cyanide, and Other Inorganic Chemicals	<b><i>High</i></b>
Synthetic Organic Chemicals	<b><i>High</i></b>
Other Organic Chemicals	<b><i>High</i></b>

**Using the Source Water Assessment**

This assessment of contaminant risks and source vulnerability can be used as a foundation for local voluntary protection efforts as well as a basis for the continuous efforts on the part of the EIELSON AIR FORCE BASE PWS to protect public

health. Communities can use the Source Water Assessment (SWA) to create a drinking water protection plan to manage the identified potential and existing sources of regulated drinking water contaminants and to prevent or minimize new contaminant threats in the drinking water protection area.

The EIELSON AIR FORCE BASE PWS can use a number of different drinking water protection methods to limit or prevent contamination of its drinking water source.

- *Non-Regulatory Options include:*
  - Public education about where drinking water comes from and the effects of contaminants is probably the most effective and least costly method of protection;
  - Household hazardous waste collection - household hazardous wastes are usually generated in small amounts but can have a big impact on the environment;
  - The source water assessment report is a tool that can be used to prioritize protection strategies identified in a drinking water protection plan;
  - Taking proactive measures towards proper waste storage and disposal can help eliminate the need to find an alternative drinking water source by preventing source water contamination;
  - Conservation easements - easements can assist in protecting the area by limiting development;
  - Make a written plan on what you will do if an accidental spill happens that could contaminate your source of drinking water; and
  - Local drinking water protection plan (an example or template is available from DEC).
  
- *Regulatory Options include:*
  - Source protection regulations prohibiting the presence or use of all or specific chemicals within the drinking water protection area;
  - Zoning ordinances to control development within the different protection areas around the source;
  - Subdivision ordinance; and
  - Operating standards for industrial and other activities within the different protection areas around the source.

Source Water Assessments can be updated to reflect any changes in the vulnerability and/or susceptibility of the EIELSON AIR FORCE BASE WL008. The data that is used to generate the SWA is updated on an on-going basis as identified in the field or if changes are identified and brought to the attention of the Drinking Water Program.

### **Where to go from here?**

The SWA is a comprehensive evaluation of the potential risk of contamination to the PWS and the source(s) of drinking water used by the system. Identifying potential sources of contamination and the vulnerability of the PWS is an important first step in protecting the drinking water source from contamination. However, in order to prevent contamination from occurring, action must be taken by the PWS owner and/or operator. The SWA can be used by the PWS to educate the local community and to prioritize community-driven protection strategies. Inviting community members, council members, and local government officials to help develop a drinking water protection plan is one essential component towards successful drinking water protection efforts. For questions regarding, or assistance to begin, the process of developing a drinking water protection plan, please contact the Drinking Water Protection group toll-free at #1-866-956-7656 (within Alaska only), or direct at #907-269-7656.

## Other Resources

The Drinking Water Protection group, the Environmental Protection Agency (EPA), and local organizations are available to help you build on this SWA report as you continue to improve drinking water protection in your community.

- DEC, Drinking Water Protection - [http://dec.alaska.gov/eh/dw/DWP/DWP\\_main.html](http://dec.alaska.gov/eh/dw/DWP/DWP_main.html)
- EPA, Drinking Water Protection - <http://cfpub.epa.gov/safewater/sourcewater/index.cfm>
- Groundwater Foundation - <http://www.groundwater.org>
- Groundwater Protection Council- <http://www.gwpc.org>
- National Ground Water Association: <http://www.ngwa.org/Pages/default.aspx>

## Appendices

- EIELSON AIR FORCE BASE WL008 Drinking Water Protection Area Location Map (Map 1);
- EIELSON AIR FORCE BASE WL008 Drinking Water Protection Area with Potential and Existing Contaminant Sources (Map 2);
- Example Best Management Strategies for Potential Contaminants Identified within a Drinking Water Protection Area.





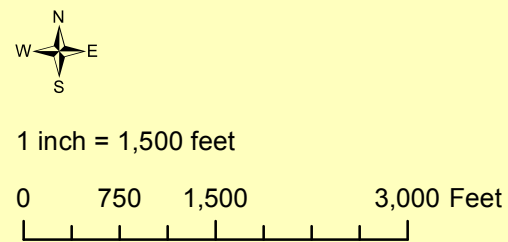
Drinking Water Protection Areas (in grey)  
 PWSID 370625  
 WL001, WL002, WL003, WL004  
 Wells A, B, D, E

1 inch = 1.25 miles

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**Map 1 - Eielson Air Force Base**

**PWSID 370625- WL008  
 Well F**



Public Water Systems	Drinking Water Protection Areas (DWPAs)	Other Relevant DWPAs
⊕ Community Water System (Formerly Class A)	Zone A (GW-Several Months Time of Travel or SW 1000 ft buffer)	Zone A (GW-Several Months Time of Travel or SW 1000 ft buffer)
● NonTransient/NonCommunity (Formerly Class A)	Zone B (GW-2 Yr Time of Travel or SW-1 mile buffer)	Zone B (GW-2 Yr Time of Travel or SW-1 mile buffer)
● NonCommunity (Formerly Class B)		Zone C Surface Water (Watershed Boundary)
⊕ NonPublic (Class C-State Regulated)		

**Data sources:**  
 Alaska DEC: Public Water System sources and Drinking Water Protection Areas.  
 Alaska Mapped Best Data Layer Web Map Service: Aerial imagery.  
 U.S. Geological Survey (USGS) National Hydrography Dataset (NHD): Water bodies.

Date Saved: 2/14/2013; Author: rmbarril





### Identified Existing Potential Sources of Contamination

**SPAR Contaminated Sites**

- ▲ Active
- ▲ Cleanup Complete
- ▲ Cleanup Complete - Institutional Controls

**Within Zone A**

- ◆ Asphalt and tar processing/storage (I03)

**Within Zone B**

- 🏠 Fire training facilities (X39)
- ⊙ Closed Leaking Underground Fuel Storage Tank (LUST) Sites (U08)
- ⊙ Injection wells (Class V) Industrial Drainage Wells (D39)
- ⊙ Injection wells (Class V) Large-Capacity Septic Systems (Well Disposal Method) (D12)
- D51, Landfills (municipal; Class III)
- I03, Asphalt stockpile
- X05, Asbestos, disposed or stockpiled
- X14, Airports/Airstrips

Additional in Zone A  
 D01: Sewer Lines (assumed 10 or less)  
 R01: Residential Areas (assumed 50 or less acres)  
 X20: Paved Roads (assumed 20 or less)

Additional in Zone B  
 D01: Sewer Lines (assumed 10 or less)  
 D51: Runway POL Pond  
 R01: Residential (assumed 50 or less acres)  
 X20: Paved Roads (assumed 50 or less roads)

Drinking Water Protection Areas (in grey)  
 PWSID 370625  
 WL001, WL002, WL003, WL004  
 Wells A, B, D, E

Map 2 - Eielson Air Force Base

PWSID 370625- WL008  
 Well F

Date Saved: 2/19/2013; Author: rmbarril

1 inch = 1,500 feet

0 750 1,500 3,000 Feet

Public Water Systems	Drinking Water Protection Areas (DWPAs)	Other Relevant DWPAs
⊕ Community Water System (Formerly Class A)	🔴 Zone A (GW-Several Months Time of Travel or SW 1000 ft buffer)	🔴 Zone A (GW-Several Months Time of Travel or SW 1000 ft buffer)
⊙ NonTransient/NonCommunity (Formerly Class A)	🟡 Zone B (GW-2 Yr Time of Travel or SW-1 mile buffer)	🟡 Zone B (GW-2 Yr Time of Travel or SW-1 mile buffer)
⊙ NonCommunity (Formerly Class B)		🟡 Zone C Surface Water (Watershed Boundary)
⊕ NonPublic (Class C-State Regulated)		

**Data sources:**  
 Alaska DEC: Public Water System sources and Drinking Water Protection Areas.  
 Alaska Mapped Best Data Layer Web Map Service: Aerial imagery.



# Contaminant Source Inventory and Risk Ranking for

EIELSON - AIR FORCE BASE

WL F EIELSON AFB

AK2370625

WL008

Contaminant Source	CSI D	CSID Tag	Zone	Map	Risk Rank	Comments
<b>Bacteria and Viruses</b>						
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01-10	A	2	Medium	Assumed 10 or less sewer lines.
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-11-20	B	2	Medium	Assumed 10 or less sewer lines.
Landfills (municipal; Class III)	D51	D51-01	B	2	High	Runway POL Pond
Residential Areas	R01	R01-01	A	2	Low	Assumed 50 or less acres.
Residential Areas	R01	R01-02	B	2	Low	Assumed 50 or less acres.
Highways and roads, paved (cement or asphalt)	X20	X20-01-20	A	2	Low	Assumed 20 or less roads.
Highways and roads, paved (cement or asphalt)	X20	X20-21-70	B	2	Low	Assumed 50 or less roads.
<b>Heavy Metals, Cyanide, and Other Inorganic Chemicals</b>						
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01-10	A	2	Low	Assumed 10 or less sewer lines.
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-11-20	B	2	Low	Assumed 10 or less sewer lines.
Landfills (municipal; Class III)	D51	D51-01	B	2	High	Runway POL Pond
Asphalt and tar processing/storage	I03	I03-01	A	2	Low	EiAFB (OU-4) (SS35) Asphalt MixArea
Asphalt and tar processing/storage	I03	I03-02	B	2	Low	Asphalt stockpile
Residential Areas	R01	R01-01	A	2	Low	Assumed 50 or less acres.
Residential Areas	R01	R01-02	B	2	Low	Assumed 50 or less acres.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-04	A	2	Low	Eielson AFB (OU-4) (SS36): Cleanup Complete; Hazard ID: 393; Contaminant of concern: Chromium - Total, Lead - Total; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=393">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=393</a> .
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-07	B	2	Very High	Eielson AFB (OU-2) (ST10) E-2: Active; Hazard ID: 336; Contaminant of concern: Benzene, Lead - Dissolved, Napthalene; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=336">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=336</a> .
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-08	B	2	Very High	Eielson AFB (OU-2) (ST13) Hydrant System: Active; Hazard ID: 339; Contaminant of concern: Benzene, Lead - Dissolved; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=339">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=339</a> .

# Contaminant Source Inventory and Risk Ranking for

## EIELSON - AIR FORCE BASE

### WL F EIELSON AFB

AK2370625

WL008

Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-09	B	2	Very High	Eielson AFB (OU-2) (SS14) E-2 POL; Active; Hazard ID: 340; Contaminant of Concern: Benzene, Lead - dissolved; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=340">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=340</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-10	B	2	Very High	Eielson AFB (OU-4) (DP25) E-6 Tank Farm; Active; Hazard ID: 366; Contaminant of Concern: Benzene, Lead - dissolved; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=366">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=366</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-11	B	2	Very High	Eielson AFB (OU-2) (DP26) T300 Sludge Pit; Active; Hazard ID: 367; Contaminant of Concern: Benzene, Lead - dissolved; Groundwater Ingestion: Not Evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=367">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=367</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-17	B	2	Very High	Eielson AFB (OU-4) (ST27) E-11; Active; Hazard ID: 388; Contaminant of Concern: Lead - dissolved; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=388">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=388</a>
Asbestos, disposed or stockpiled	X05	X05-01	B	2	Low	Asbestos, disposed or stockpiled
Airports	X14	X14-01	B	2	Low	
Highways and roads, paved (cement or asphalt)	X20	X20-01-20	A	2	Low	Assumed 20 or less roads.
Highways and roads, paved (cement or asphalt)	X20	X20-21-70	B	2	Low	Assumed 50 or less roads.
Fire training facilities	X39	X39-01	B	2	Low	Eielson AFS OU-5) (FT09) Fire Training

## Nitrates/Nitrites

Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01-10	A	2	Medium	Assumed 10 or less sewer lines.
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-11-20	B	2	Medium	Assumed 10 or less sewer lines.
Landfills (municipal; Class III)	D51	D51-01	B	2	Very High	Runway POL Pond
Residential Areas	R01	R01-01	A	2	Low	Assumed 50 or less acres.
Residential Areas	R01	R01-02	B	2	Low	Assumed 50 or less acres.
Airports	X14	X14-01	B	2	Low	
Highways and roads, paved (cement or asphalt)	X20	X20-01-20	A	2	Low	Assumed 20 or less roads.
Highways and roads, paved (cement or asphalt)	X20	X20-21-70	B	2	Low	Assumed 50 or less roads.

# Contaminant Source Inventory and Risk Ranking for

## EIELSON - AIR FORCE BASE

### WL F EIELSON AFB

AK2370625

WL008

#### Other Organic Chemicals

Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01-10	A	2	Low	Assumed 10 or less sewer lines.
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-11-20	B	2	Low	Assumed 10 or less sewer lines.
Landfills (municipal; Class III)	D51	D51-01	B	2	Very High	Runway POL Pond
Asphalt and tar processing/storage	I03	I03-01	A	2	High	EiAFB (OU-4) (SS35) Asphalt MixArea
Asphalt and tar processing/storage	I03	I03-02	B	2	High	Asphalt stockpile
Residential Areas	R01	R01-01	A	2	Low	Assumed 50 or less acres.
Residential Areas	R01	R01-02	B	2	Low	Assumed 50 or less acres.
Airports	X14	X14-01	B	2	Medium	
Highways and roads, paved (cement or asphalt)	X20	X20-01-20	A	2	Low	Assumed 20 or less roads.
Highways and roads, paved (cement or asphalt)	X20	X20-21-70	B	2	Low	Assumed 50 or less roads.
Fire training facilities	X39	X39-01	B	2	High	Eielson AFS OU-5) (FT09) Fire Training

#### Synthetic Organic Chemicals

Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01-10	A	2	Low	Assumed 10 or less sewer lines.
Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-11-20	B	2	Low	Assumed 10 or less sewer lines.
Landfills (municipal; Class III)	D51	D51-01	B	2	Very High	Runway POL Pond
Residential Areas	R01	R01-01	A	2	Low	Assumed 50 or less acres.
Residential Areas	R01	R01-02	B	2	Low	Assumed 50 or less acres.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-03	A	2	Low	Eielson AFB (SER-1) (SS31) Bldg. 3424: Cleanup Complete; Hazard ID: 390; Contaminant of concern: PCBs - Total; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=390">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=390</a> .
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-18	B	2	Medium	Eielson AFB (OU-4) (SS35) Asphalt MixArea; Active; Hazard ID: 392; Contaminant of Concern: DDD, DDE, DDT; Groundwater Ingestion: Low Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=392">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=392</a>
Airports	X14	X14-01	B	2	Medium	

#### Volatile Organic Chemicals

Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-01-10	A	2	Low	Assumed 10 or less sewer lines.
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**Contaminant Source Inventory and Risk Ranking for**

**EIELSON - AIR FORCE BASE**

**WL F EIELSON AFB**

AK2370625

WL008

Domestic wastewater collection systems (sewer lines or lift stations)	D01	D01-11-20	B	2	Low	Assumed 10 or less sewer lines.
Landfills (municipal; Class III)	D51	D51-01	B	2	High	Runway POL Pond
Asphalt and tar processing/storage	I03	I03-01	A	2	Medium	EiAFB (OU-4) (SS35) Asphalt MixArea
Asphalt and tar processing/storage	I03	I03-02	B	2	Medium	Asphalt stockpile
Residential Areas	R01	R01-01	A	2	Low	Assumed 50 or less acres.
Residential Areas	R01	R01-02	B	2	Low	Assumed 50 or less acres.
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-01	A	2	Medium	Eielson AFB (OU-2) (ST11) Bakery; Status: Active; Hazard ID: 337; Contaminant of concern: BTEX, DRO; Groundwater Ingestion: Low Potential Exposure ; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=337">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=337</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-02	A	2	Medium	Eielson AFB (SER-1) (ST16) Spill; Status: Cleanup Complete - Institutional Controls; Hazard ID: 342; Contaminant of concern: Benzene, GRO; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=342">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=342</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-05	A	2	Very High	Eielson AFB Bldg. 3426 Supply Facility CITS: Active; Hazard ID: 3688; Contaminant of concern: DRO, RRO; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=3688">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=3688</a> .
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-06	A	2	Very High	Eielson AFB Bldg. 2762/6214: Active; Hazard ID: 4108; Contaminant of concern: Benzene; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=4108">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=4108</a> .
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-07	B	2	Very High	Eielson AFB (OU-2) (ST10) E-2: Active; Hazard ID: 336; Contaminant of concern: Benzene, Lead - Dissolved, Napthalene; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=336">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=336</a> .
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-08	B	2	Very High	Eielson AFB (OU-2) (ST13) Hydrant System: Active; Hazard ID: 339; Contaminant of concern: Benzene, Lead - Dissolved; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=339">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=339</a> .

**Contaminant Source Inventory and Risk Ranking for**

**EIELSON - AIR FORCE BASE**

**WL F EIELSON AFB**

AK2370625

WL008

Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-09	B	2	Very High	Eielson AFB (OU-2) (SS14) E-2 POL; Active; Hazard ID: 340; Contaminant of Concern: Benzene, Lead - dissolved; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=340">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=340</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-10	B	2	Very High	Eielson AFB (OU-4) (DP25) E-6 Tank Farm; Active; Hazard ID: 366; Contaminant of Concern: Benzene, Lead - dissolved; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=366">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=366</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-11	B	2	Very High	Eielson AFB (OU-2) (DP26) T300 Sludge Pit; Active; Hazard ID: 367; Contaminant of Concern: Benzene, Lead - dissolved; Groundwater Ingestion: Not Evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=367">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=367</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-13	B	2	High	Eielson AFB (OU-4) (SS37); Active; Hazard ID: 372; Contaminant of Concern: Benzene; Groundwater Ingestion: Future Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=372">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=372</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-14	B	2	Low	Eielson AFB (SER-1) (SS41) Old Hobby Shop; Cleanup Complete; Hazard ID: 376; Contaminant of Concern: RRO; Groundwater Ingestion: Not Evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=376">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=376</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-15	B	2	Medium	Eielson AFB (OU-5) (LF03) Landfill; Active; Hazard ID: 379; Contaminant of Concern: Tetrachloroethene, Trichloroethene, Vinyl Chloride; Groundwater Ingestion: Low Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=379">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=379</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-16	B	2	Very High	Eielson AFB (OU-5) (FT09) Fire Training; Active; Hazard ID: 381; Contaminant of Concern: Tetrachloroethene, Trichloroethene, Vinyl Chloride; Groundwater Ingestion: Not Evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=381">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=381</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-19	B	2	Low	Eielson AFB Bldg. 1340; Cleanup Complete; Hazard ID: 1653; Contaminant of Concern: RRO, DRO; Groundwater Ingestion: Not Evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=1653">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=1653</a>

**Contaminant Source Inventory and Risk Ranking for**

**EIELSON - AIR FORCE BASE**

**WL F EIELSON AFB**

AK2370625

WL008

Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-20	B	2	Very High	Eielson AFB (OU-2) (ST19) JP-4 Fuel Line; Active; Hazard ID: 345; Contaminant of Concern: Benzene, Toluene, GRO; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=345">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=345</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-21	B	2	Low	Eielson AFB Hangar - Building 1348; Cleanup Complete; Hazard ID: 1650; Contaminant of Concern: RRO; Groundwater Ingestion: Not Evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=1650">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=1650</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-22	B	2	Medium	Eielson AFB Hangar - Bldg. 1344 Area #2; Active; Hazard ID: 1651; Contaminant of Concern: Dichloromethane; Groundwater Ingestion: Low Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=1651">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=1651</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-23	B	2	Very High	Eielson AFB Fuel Pit (1994 spill at ST19); Active; Hazard ID: 2341; Contaminant of Concern: BTEX, DRO, GRO; Groundwater Ingestion: Not evaluated; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=2341">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=2341</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-24	B	2	Very High	Eielson AFB Bldg. 4231 AST/Bldg. 371; Active; Hazard ID: 2921; Contaminant of Concern: Benzene, GRO; Groundwater Ingestion: High Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=2921">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=2921</a>
Contaminated sites, DEC recognized, non-Superfund, non-RCRA	U04	U04-30	B	2	Medium	Eielson AFB Bldg. 1350 Hush House; Active; Hazard ID: 25745; Contaminant of Concern: BTEX, DRO, GRO; Groundwater Ingestion: Low Potential Exposure; <a href="http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=25745">http://dec.alaska.gov/Applications/SPAR/CCReports/Site_Report.aspx?Hazard_ID=25745</a>
Airports	X14	X14-01	B	2	High	
Highways and roads, paved (cement or asphalt)	X20	X20-01-20	A	2	Low	Assumed 20 or less roads.
Highways and roads, paved (cement or asphalt)	X20	X20-21-70	B	2	Low	Assumed 50 or less roads.
Fire training facilities	X39	X39-01	B	2	Low	Eielson AFS OU-5) (FT09) Fire Training