THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation

Division of Spill Prevention and Response
Contaminated Sites Program

610 University Ave.
Fairbanks, Alaska 99709-3643
Main: 907.451.2181
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September 9, 2015

Mr. Brad Platt, Manager

Lance Raymore
FAA Alaska Region
222 West 7th Ave., #14
Anchorage, AK 99513-7587

Re: DEC Decision Document – FAA Station – Fairbanks International Airport, Alaska

Dear Mr. Raymore and Mr. Platt:

The Alaska Department of Environmental Conservation (DEC) has completed a comprehensive review of the historical, closed, and currently active contaminated sites at the Federal Aviation Administration (FAA) Station – Fairbanks International Airport (FIA), Alaska. Following this review, DEC has determined the site status of each area of concern (AOC), and has developed a decision document to record these determinations. This includes the closure of multiple AOCs, some with the implementation of institutional controls. The current status for each AOC, the history of each site, contaminated sites program database updates, and the site status determinations are contained within.

If you have any questions, please do not hesitate to contact me at (907) 451-2181, or by email at fred.vreeman@alaska.gov.

Sincerely,

Fred Vreeman
Program Manager

Enclosures: FAA FIA Decision Document and Attachments

cc: Rebekah Wenger, Alaska DOT, via email

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Decision Document
FAA Station – Fairbanks International Airport, Alaska
September 4, 2015

Site Names:
FAA - FIA - Sitewide, 100.38.249, Hazard ID (HID): 26277
FAA - FIA (Fairbanks Int'l Airport), 100.26.138, HID: 24435
FAA - FIA - Headquarters Compound, 100.26.138, HID: 24469
FAA - FIA - VORTAC, 100.38.198, HID: 24456
FAA - FIA - Air Surveilance Radar 8, HID: 24470
FAA - FIA - Air Traffic Control Tower, 100.38.151, HID: 24471
FAA - FIA – Fairbanks Air Traffic Control Tower, 100.26.138, HID: 3237
FAA - FIA - Headquarters Facility Bldgs 300 and 207 Floor Drains, 100.38.243, HID: 25912

Location:
Fairbanks International Airport
Airport Way
Fairbanks, AK 99709

DEC Site Identifiers:
File No: 100.38.249 Hazard ID: 26277
File No: 100.26 .138 Hazard ID: 24435
File No: 100.26 .138 Hazard ID: 24469
File No: 100.38.198 Hazard ID: 24456
File No: None Hazard ID: 24470
File No: 100.38.151 Hazard ID: 24471
File No: 100.26.138 Hazard ID: 3237
File No: 100.38.243 Hazard ID: 25912

Name and Mailing Address of Contact Party:
Lance Raymore
Federal Aviation Administration
222 W. 7th Ave, Suite 14
Anchorage, AK 99513

Regulatory Authority for Determination:
18 AAC 75, 18 AAC 78

Acronyms and Abbreviations

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
AFSS	Automated Flight Service Station
ALSAF	Approach Lighting System with Flashers Building
ANICS	Alaskan National Airspace Interfacility Communications System
AOC	Areas of Concern
ASR	Air Surveillance Radar
ATCT	Air Traffic Control Tower
bgs	below ground surface
BTEX	benzene, toluene, ethlybenzene, xylenes
COCs	Contaminants of Concern
CSP	Contaminated Sites Program
cy	cubic yards
DRO	Diesel Range Organics
ECIR	Environmental Compliance Investigation Report
EDB	1,2-Dibromoethane
EG	engine/generator
EPA	United States Environmental Protection Agency
EPH	extractable petroleum hydrocarbons
ETM	Exposure Tracking Model
FAA	Federal Aviation Administration
FIA	Fairbanks International Airport
GRO	Gasoline Range Organics
HID	Hazard ID
HQ	Headquarters
HRC	Hydrocarbon risk calculator
Ics	Institutional Controls
LIF	Laser-induced fluorescence
LUST	Leaking Underground Storage Tanks
MAC	Maximum Allowable Concentration
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
NDB	Non-Directional Beacon
PAHs	polycyclic aromatic hydrocarbon
PCBs	Polychlorinated biphenyls
RI	Remedial Investigation
RRO	Residual Range Organics
SALSR	Short Approach Lighting System Runway
SVOCs	semi-volatile organic compounds
TBD	To be determined
TOC	total organic carbon

UST	Underground storage tank
UVOST	UltraViolet Optical Screening Tool
VOCs	volatile organic compounds
VORTAC	Very High Frequency Omni-Directional Radio Range/Tactical Air Navigation Aid
VPH	volatile petroleum hydrocarbons

Document Purpose and Organization

This decision document covers all Areas of Concern (AOCs) identified by the Federal Aviation Administration (FAA) associated with the Fairbanks International Airport (FIA) over the history of FAA cleanup activities, and its intent is to consolidate and record the status of all AOCs in a single document. Some of the AOCs have already received some form of closure letter from Alaska Department of Environmental Conservation (DEC). The AOCs have been generally organized into three categories: (1) Cleanup Complete, (2) Non-Qualifying, and, (3) Further Action Required. The status for each AOC is identified in the "Comprehensive Site Status Summary for All FIA Areas of Concern" list, below.

The main body of the decision document is organized by the AOCs which have status or decision document updates.

This decision document includes sufficient detail to understand the history and results of cleanup activities associated with each AOC and to support the decisions. Additional information is available in the site files. The document includes Site Descriptions and Backgrounds, Cleanup Levels & Contaminants of Concern, Characterization and Cleanup Activities, Cumulative Risk Evaluations, Exposure Pathway Evaluations, and the DEC Decision.

Comprehensive Site Status Summary for All FIA Areas of Concern

The following identifies DEC site status determinations for all Areas of Concern at FIA. For clarity, this list includes AOCs which are not addressed in this letter. Specific details for each AOC and file references are available within the text or in the referenced document.

AOCs Addressed in this letter:

- Non-Qualifying
  - Fairbanks Wickwire Hanger Facility – lead and petroleum soil stain
  - Fairbanks Automated Flight Service Station Fuel Tank 4-K-01
- Further Action Required
  - Chena NDB – Former EG Building, Former UST
  - FIA ANICS facility
- Cleanup Complete
  - FAA Headquarters Buildings 207 and 300, Former USTs 4-E-4 and 4-E-5
  - FAA Headquarters Buildings 202 and 404, Former USTs 4-E-11 and 4-E-12
  - FAA Headquarters Building 203, Former UST 4-E-2
  - Air Surveillance Radar – Stained soil near Building 423
  - VORTAC - UST 4-J-1
- Cleanup Complete with ICs
  - Air Traffic Control Tower
  - FAA Headquarters Building 202, Former UST 4-E-3
  - FAA Headquarters Buildings 300 and 207 Floor Drains

AOCs Addressed in the February 26, 1997 DEC Decision Document No Further Action at Selected FAA Fuel Storage Tanks at Fairbanks Intl. Airport

- Cleanup Complete:
  - Air Surveillance Radar - UST 4-B-1
  - Remote Transmitter Receiver – B Bldg - UST 4-C-1
  - Remote Transmitter Receiver – A Bldg - UST 4-D-1
  - FAA Headquarters Bldgs - UST 4-E-1
  - FAA Headquarters Bldgs - UST 4-E-7
  - Short Approach Lighting System Runway (SALSR) - UST 4-G-1
  - Approach Lighting System with Flashers Building (ALSAF) - UST 4-I-2

AOCs Addressed in the March 30, 2005 DEC Decision Document Closure of Tank Sites at the Fairbanks Airport

- Cleanup Complete
  - Remote Transmitter Receiver – A Bldg - UST 4-D-2
  - FAA Headquarters Bldgs - UST 4-E-6
  - FAA Headquarters Bldgs - UST 4-E-13
  - Localizer Building - UST 4-F-1
  - Approach Lighting System with Flashers Building (ALSAF) - UST 4-I-1

Summary of Contaminated Sites Program Database Updates

The following table indicates the status updates for the CSP database entries which are associated with the FAA FIA areas of concern. These updates will be implemented following the finalization of this decision document.

Table 1. Summary of FAA FIA Contaminated Sites Program Database Updates

Site Name	File Number	Hazard ID	CSP/Lust	Status
FAA - FIA - Sitewide	100.38.249	26277	N/A	Informational
FAA - FIA (Fairbanks Int'l Airport)	100.26.138	24435	LUST	Active
FAA - FIA - Headquarters Compound	100.26.138	24469	Both	Active
FAA - FIA - VORTAC	100.38.198	24456	LUST	Cleanup Complete
FAA - FIA - Air Surveilance Radar 8	N/A	24470	LUST	Cleanup Complete
FAA - FIA - Air Traffic Control Tower	100.38.151	24471	LUST	Cleanup Complete with ICs
FAA - FIA - Air Traffic Control Tower	100.26.138	3237	CSP	Cleanup Complete with ICs
FAA - FIA - Headquarters Facility Bldgs 300 and 207 Floor Drains	100.38.243	25912	CSP	Cleanup Complete with ICs
FAA - FIA - Chena Non-Directional Beacon (NDB)	TBD	TBD	CSP	Active

CSP – Contaminated Sites Program
LUST – Leaking Underground Storage Tanks
ICs – Institutional Controls
TBD – To Be Determined

Fairbanks International Airport General Description and Background

According to the 2014 Hydrocarbon Risk Calculator (HRC) Report, FAA-owned properties are the Headquarters (HQ) area, very high frequency, omnidirectional range (VOR), Remote Transmitter/Receiver, Remote Speaking System, and the Outer Marker. The FAA leases the Sector Field Office and the Airport Traffic Control Towers (ATCT) lots as well as the Automated Flight Service Station (AFSS) lots

FAA Headquarters Site - The HQ compound is located on the historic remaining piece of the original Fairbanks International Airport Road. It contains two shop buildings (Buildings 207 and 300), four office buildings (Buildings 20, 404, 202, and 203), cold storage (Building 208), Engine Generator (Building 206), and a fenced yard with pole-barn style covered areas for storing equipment and materials.

Air Traffic Control Tower (ATCT) - The air traffic control tower is located southeast of the main runway, on property owned by the Alaska Department of Transportation and Public Facilities (Lots 2 and 2A of block 101), and leased to the FAA. The property is approximately 1.26 acres and contains one building housing the ATCT operations and administrative offices. The building is used for air traffic operations for commercial and private aircraft. The site is level and has no apparent surface drainages. The site is bordered on the northwest by a paved tarmac area used to park and taxi small aircraft and by University Avenue, a two-lane paved road, on the south. The Tanana River is located approximately 1 mile south of the facility and the Chena River is located 1 mile west.

FIA ANICS Facility – This Alaskan National Airspace Interfacility Communications System (ANICS) is located at the southeast side of the gravel overflow parking area for the Air Traffic Control Tower. The facility equipment is mounted on two large concrete pads. Standing water in a river slough is present to the east of the facility.

Localizer Building - Underground storage tank (UST) 4-F-1 was located adjacent to this building. No contamination was detected during its removal.

Short Approach Lighting System Runway Identification Lights (SALSR) Building - A single UST, 4-G-1, was associated with this building, located to the southeast of the living quarters facility.

Approach Lighting System with Flashers Building (ALSAF) - This building was located on the far west side of Taxiway A at the Fairbanks International Airport. Two USTs, 4-I-1 and 4-I-2, were associated with this area. 4-I-1 was removed in 1996 with no detected contamination, and UST 4-I-2 was removed in 1995 and had apparently never been used.

Remote Transmitter Receiver - One UST, 4-D-2, was located adjacent to this building and was removed in 1996.

Air Surveillance Radar (ASR) - The ASR-8 facility consists of a raised gravel pad with a generator building, a radio tower, and an electronics support building on a 0.85 acre lot. The pad consists of well drained sandy gravel built up above the surrounding wetlands. The facility lies within a locked security fence and is surrounded on the north, east, and west by wetlands. The south side of the facility is bordered by an unpaved access road and the Tanana River Flood Control Levee. The Tanana River is located approximately 800 feet south of the ASR-8 facility. The area within a one mile radius consists of a mix of residential and commercial land uses. Tank 4-B-1, a diesel fuel supply tank for the emergency engine/generator (E/G), was removed in September 1995.

Chena Non-Directional Beacon (NDB) - The Chena NDB is a 15.5 acre property located to the east of Fairbanks on Badger Road, and is leased from R.M. Fenton. The original lease started in August 1939 with a Southall R. Pfund for a Radio Range site. In 1972 R.M. Fenton became the land owner and a new lease was signed. This site historically contained a gasoline generator with a UST that was removed from the property in the early 1970's. When first leased in 1939 this area of Fairbanks was wilderness and mixed homesteads, and the Civil Aeronautics Authority had to supply their own electric power generation. The property now contains NDB Building 427 (FAA, 2011).

VORTAC – The VORTAC (Very High Frequency Omni-Directional Radio Range/Tactical Air Navigation Aid) facility is located on Chena Ridge on 85 acres of FAA owned property approximately 4.5 miles west of the airport. The facility consisted of Building 406, a 37.5 KVA engine generator, and tactical air navigation equipment. One 515 gallon UST (4-J-1) was located at the facility.

Contaminants of Concern

The following contaminants of concern were identified above approved cleanup levels during the course of the site investigations summarized in the Characterization and Cleanup Activities sections in this decision letter. This list covers all of the COCs that have been detected above cleanup levels or were associated with current and/or former activities at the FAA FIA AOCs. Not all of these compounds are present in every AOC.

- Gasoline Range Organics (GRO)
- Diesel Range Organics (DRO)
- Residual Range Organics (RRO)
- Benzene
- Toluene
- Ethylbenzene
- Xylenes
- 1-Methylnaphthalene
- 2-Methylnaphthalene
- 1,2,4-Trimethylbenzene
- 1,3,5-Trimethylbenzene
- Naphthalene
- N-Butylbenzene
- 1,2-Dibromoethane (EDB)
- Arsenic
- Cadmium
- Chromium
- Lead
- Polychlorinated biphenyls (PCBs)

Cleanup Levels

For AOCs that have been or will be evaluated under 18 AAC 75.340 Method Two, the applicable cleanup levels are those in the "Under 40 Inch Zone" under the "Direct Contact", "Outdoor Inhalation", "Ingestion", and "Inhalation" columns of Tables B1 and B2 in 18 AAC 75.341. The "Under 40 Inch Zone" refers to the number of inches of rainwater the area receives each year.

At several AOCs, modeling to determine alternative cleanup levels was done using the approved Hydrocarbon Risk Calculator, an alternative cleanup levels and risk calculator developed in accordance with Method 3 under 18 AAC 75.340. The model may demonstrate that, given the measured contaminant concentrations, soil conditions, and infiltration rates, residual petroleum contaminants in soil do not pose a migration to groundwater risk/concern.

The Department has determined that for these AOCs the Method 3 cleanup levels that apply will be the residual contaminant levels that were used to model the migration and human health risks for the Contaminants of Concern (COCs). The approved levels for each COC at each AOC are detailed in the AOC-specific cleanup levels tables. This determination means that no further work will be required unless new contamination is discovered in the future with higher concentrations than these measured residual contaminant levels.

In addition to the COCs listed below, per 18 AAC 75.340(k), for a cleanup conducted under methods two and three, any chemical that is detected at one-tenth or more of the Table B1 direct contact and inhalation cleanup levels must be included when calculating cumulative risk.

Table 2. FIA FAA Station Contaminants of Concern Cleanup Levels

	Method 2 Under 40 Inch Zone Cleanup Levels (mg/kg)						Groundwater Cleanup Levels (mg/L)
Contaminants	Migration to Groundwater	Ingestion	Inhalation	Direct Contact	Outdoor Inhalation	Maximum Allowable Concentrations	
Gasoline Range Organics (GRO)	300	1,400	1,400	-	-	1,400	2.2
Diesel Range Organics (DRO)	250	10,250	12,500	-	-	12,500	1.5
Residual Range Organics (RRO)	11,000	10,000	22,000	-	-	22,000	1.1
Benzene	0.025	-	-	150	11	-	0.005
Toluene	6.5	-	-	8,100	220	-	1
Ethylbenzene	6.9	-	-	10,100	110	-	0.7
Xylenes	63	-	-	20,300	63	-	10
1-Methylnaphthalene	6.2	-	-	280	760		0.15
2-Methylnaphthalene	6.1	-	-	280	750	-	0.15
1,2,4-Trimethylbenzene	23	-	-	5100	49	-	1.8
1,3,5-Trimethylbenzene	23	-	-	5100	42	-	1.8
Naphthalene	20	-	-	1400	28	-	0.73
N-Butylbenzene	15	-	-	1000	42	-	0.37
1,2-Dibromoethane (EDB)	0.00016	-	-	4.2	0.60	-	0.00005
Polychlorinated Biphenyls (PCBs)	-	-	-	1	-	-	0.0005
Arsenic	3.9	-	-	4.5	-	-	0.01
Cadmium	5.0	-	-	79	-	-	0.005
Chromium	25	-	-	300	-	-	0.1
Lead	-	-	-	400	-	-	0.015

mg/kg = milligrams per kilogram
mg/L = milligrams per liter

AOCs with a Non-Qualifying Determination

Following a review of the site records, the Fairbanks Wickwire Hanger Facility – lead and petroleum soil stain; and the Fairbanks Automated Flight Service Station Fuel Tank 4-K-01 areas were determined to not be Areas of Concern. The soil staining observed at the Fairbanks Wickwire Hanger Facility was determined to be de minimis. Therefore, providing that the FAA-owned barrel of petroleum waste has been properly disposed of and the soil staining has been removed, this site will be considered non-qualifying. The DEC contaminated sites database will be updated to reflect that this AOC is no longer of concern. At the Fairbanks Automated Flight Service Station Fuel Tank 4-K-01, DEC has determined that, given the de minimus release quantity from the fuel tank, this site does not qualify as a contaminated site.

The DEC contaminated sites database will also be updated to reflect that this area has been deemed "Non-Qualifying" and is no longer of concern. The informational CSP database entry "FAA - FIA – Sitewide" – file number 100.38.249, Hazard ID (HID): 26277 will be updated to describe the site status changes specified above. In addition, the site-specific CSP database entry associated with these areas will be updated. For these areas, an action will be added to the CSP database site "FAA - FIA (Fairbanks Int'l Airport)," site number 100.26.138, HID: 24435, which will explain that the areas specified above are no longer of concern. The "FAA - FIA (Fairbanks Int'l Airport)" site will remain "active" as it addresses multiple AOCs across the Fairbanks International Airport area.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

AOCs with Further Action Required

The Chena NDB and FIA ANICS facility sites will require further action before closure. Site descriptions, AOC COCs and associated cleanup levels, characterization history, and the DEC decision are included in the individual AOC sections below.

In addition, several sites in this decision document will be closed with Institutional Controls (ICs) that will require periodic reporting and additional work in the future to remove the ICs. These AOCs are the Air Traffic Control Tower; FAA Headquarters Building 202, Former UST 4-E-3; and FAA Headquarters Buildings 300 and 207 Floor Drains. Site descriptions, AOC COCs and associated cleanup levels, characterization and cleanup activities, cumulative risk evaluations, exposure pathway evaluations, and DEC decisions are included under the 'AOCs with a Cleanup Complete with ICs Determination' header, below.

Chena NDB – Former EG Building, Former UST

Site Description and Background

In the 1992 Environmental Compliance Investigation Report (ECIR), petroleum contamination was identified at what was described as a UST excavation at the Chena NDB. The site was inspected during the 1992 work and it was noted that an engine/generator (EG) building foundation was present directly south of the NDB antenna. There were two shallow depressions backfilled with scrap metal and soil.

These foundations were on the south side of the foundation. The site inspection also noted various pilings and concrete blocks in the woods around the clearing that indicated that there were additional structures at the site prior to the NDB system. A surface soil sample was collected and analyzed from the depression next to the foundation. Total recoverable petroleum hydrocarbons were detected at 3,400 mg/kg. No other analyses were performed on this sample.

During a 1995 environmental site investigation, ground-penetrating radar confirmed that no UST was present. The investigation report stated that there were what appeared to be fuel lines leading from the generator blocks on the foundation to the area of the depressions. Review of the site figure in the ground-penetrating radar report shows that the depressions are fairly small when compared to the foundation. A UST excavation depression would be expected to be larger. The depressions might have resulted from the removal of other structures. The presence of two generator pads indicates that this building was a Prime Power facility for the Radio Range Site and would have required a large fuel tank. If it was a back-up power system it would have had only one generator and a small fuel tank.

Contaminants of Concern and Cleanup Levels

The contaminants listed in Table 2 have been detected at this site at concentrations greater than the Method 2, under 40 inch zone, cleanup levels in soil, and/or the groundwater cleanup levels listed in 18 AAC 75.345 Table C.

In addition to the COCs listed below, per 18 AAC 75.340(k), for a cleanup conducted under methods two and three, any chemical that is detected at one-tenth or more of the Table B1 direct contact and inhalation cleanup levels must be included when calculating cumulative risk.

Table 3. COCs and Cleanup Levels at Chena NDB

	Method 2 Under 40 Inch Zone Cleanup Levels (mg/kg)						Groundwater Cleanup Levels (mg/L)
Contaminants	Migration to Groundwater	Ingestion	Inhalation	Direct Contact	Outdoor Inhalation	Maximum Allowable Concentrations	
Gasoline Range Organics (GRO)	300	1,400	1,400	-	-	1,400	2.2
Diesel Range Organics (DRO)	250	10,250	12,500	-	-	12,500	1.5
Residual Range Organics (RRO)	11,000	10,000	22,000	-	-	22,000	1.1
Benzene	0.025	-	-	150	11	-	0.005
Toluene	6.5	-	-	8,100	220	-	1
Ethylbenzene	6.9	-	-	10,100	110	-	0.7
Xylenes	63	-	-	20,300	63	-	10
1-Methylnaphthalene	6.2	-	-	280	760		0.15
2-Methylnaphthalene	6.1	-	-	280	750	-	0.15
1,2,4-Trimethylbenzene	23	-	-	5100	49	-	1.8
1,3,5-Trimethylbenzene	23	-	-	5100	42	-	1.8
Naphthalene	20	-	-	1400	28	-	0.73
N-Butylbenzene	15	-	-	1000	42	-	0.37
1,2-Dibromoethane (EDB)	0.00016	-	-	4.2	0.60	-	0.00005

mg/kg = milligrams per kilogram
mg/L = milligrams per liter

Characterization and Cleanup Activities

An UltraViolet Optical Screening Tool (UVOST) survey was conducted in 2012 in the former EG building pad area at the Chena NDB to determine if a fuel release had occurred in that area. A total of 42 UVOST probes were advanced. To verify the results of the UVOST system and to further investigate the area for petroleum-contaminated soil, 19 borings were advanced and 29 analytical soil samples were collected. Analytical soil samples included: 29 for DRO, RRO, GRO, and BTEX (benzene, toluene, ethlybenzene, xylene) analyses, 7 for extractable petroleum hydrocarbons (EPH) and volatile petroleum hydrocarbons (VPH) analyses, 8 for polycyclic aromatic hydrocarbon (PAH) analysis, 7 for volatile organic compound (VOC) analysis, and 8 for EDB and lead analyses. One soil sample for total organic carbon (TOC), bulk density, sieve, specific gravity, and moisture content analyses was also collected.

DRO, GRO, total xylenes, 1- methylnaphthalene, Trimethylbenzene, Naphthalene, n-Butylbenzene, and EDB were detected in soil at concentrations greater than the most stringent DEC Method Two cleanup levels. DRO soil concentrations varied from 357 mg/kg to 11,400 mg/kg.

Five monitoring wells were installed at the Chena NDB area as in 2012. Monitoring wells MW-102, MW-105, MW-114, and MW-116 were installed to 20 feet below ground surface (bgs) and monitoring well MW-117 was installed to 18 feet bgs. Groundwater samples were collected and analyzed for DRO, RRO, GRO, and BTEX. Groundwater samples collected from MW-102 and MW-105 were also analyzed for EPH, VPH, PAH, and VOCs. In addition, groundwater samples collected from MW-102, MW-105, and MW-114 were analyzed for EDB and total lead.

DRO was detected at concentrations greater than the DEC 18 AAC 75 Table C groundwater cleanup levels in four out of the five monitoring wells sampled at the Chena NDB AOC. Concentrations ranged from 2.2 mg/L to 14.4 mg/L in these four monitoring wells. GRO was detected at concentrations greater than the cleanup levels in MW-102, MW-105, and MW-114. GRO concentrations ranged from 3.02 mg/L to 34 mg/L. RRO was detected at 1.15 mg/L in MW-102. Total xylenes were detected at 12.8 mg/L in MW-105. 1,2,4-Trimethylbenzene was detected at 2.6 mg/L in MW-105. EDB was detected at 0.000055 mg/L in MW-102.

DEC Decision

Further action is required at this site. DRO contamination in the soil remains above the Method 2, under 40 inch zone, Ingestion and Migration to Groundwater cleanup levels. HRC results for the Chena NDB AOC indicate that concentrations of xylenes, GRO aromatics, ethylbenzene, 1,2,4-trimethylbenzene, and 1,3,5-trimethylbenzene pose unacceptable risk via the migration to indoor air vapor inhalation pathway under a residential land use scenario. HRC results also indicate that compounds or hydrocarbon fractions pose unacceptable risk under current site conditions via the groundwater ingestion pathway.

Groundwater contamination has not been completely delineated at this site. DEC recommends that an alternative point of compliance, per 18 AAC 75.345(g), be established at this site on the property at the downgradient edge of the groundwater plume. This could be achieved with the recommended action of installing additional monitoring wells at the fence line. Continued groundwater monitoring and free product removal should be conducted to determine if groundwater contamination is migrating off property and to demonstrate concentration trends.

To close this site, soil remediation must be implemented to eliminate the migration to indoor air, ingestion, and migration to groundwater risk. Groundwater must be remediated to 18 AAC 75.345 Table C cleanup levels and meet the requirements of 18 AAC 75.345 (d) and 18 AAC 75.345(h) at the alternative point of compliance.

Given the site's proximity to residential subdivisions and public water bodies, and the shallow groundwater depth, this site shall retain a residential land use going forward. The informational CSP database entry "FAA - FIA – Sitewide" – file number 100.38.249, Hazard ID: 26277 will be updated to indicate that further work is required at this site. In addition, following the finalization of this decision document, this AOC will be moved into a separate site in the DEC Contaminated Sites Database to separate it from the FAA Headquarters site, as it is located over 13 miles from the other headquarters AOCs. The site number and Hazard ID for this new site have not yet been determined.

FIA ANICS Facility

Site Description and Background

This Alaskan National Airspace Interfacility Communications System (ANICS) is located at the southeast side of the gravel overflow parking area for the Air Traffic Control Tower. The facility equipment is mounted on two large concrete pads. A diesel spill occurred from equipment mounted on the southern concrete pad in 1996.

Contaminants of Concern and Cleanup Levels

The contaminants of concern (COCs) at this site are detailed in the table below. The applicable cleanup levels for each COC are the Method 2, under 40 inch zone, migration to groundwater cleanup levels listed in Tables B1 and B2 in 18 AAC 75.341, and the groundwater cleanup levels in 18 AAC 75.345 Table C.

In addition to the COCs listed below, per 18 AAC 75.340(k), for a cleanup conducted under methods two and three, any chemical that is detected at one-tenth or more of the Table B1 direct contact and inhalation cleanup levels must be included when calculating cumulative risk.

Table 4. COCs and Cleanup Levels at the FAA FIA ANICS Facility

Contaminants		GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Xylenes
Method 2 Under 40 Inch Zone Cleanup Levels (mg/kg)	Migration to Groundwater	300	250	11,000	0.025	6.5	6.9	63
	Ingestion	1,400	10,250	10,000	-	-	-	-
	Inhalation	1,400	12,500	22,000	-	-	-	-
	Direct Contact	-	-	-	150	8,100	10,100	20,300
	Outdoor Inhalation	-	-	-	11	220	110	63
	MAC (mg/kg)	1,400	12,500	22,000	-	-	-	-
GW (mg/L)		2.2	1.5	1.1	0.005	1	0.7	10

COCs – contaminants of concern
GRO – gasoline range organics
DRO – diesel range organics
RRO – residual range organics
mg/kg - milligrams per kilogram
mg/L - milligrams per liter
GW – groundwater cleanup levels

Characterization and Cleanup Activities

DEC first became aware of the ANICS spill in 1996 when the FAA submitted the report of a cleanup action that was undertaken following the 1996 release. This report indicated that 7 cubic yards of contaminated soil had been removed from the site, and multiple PID screening and analytical samples has been collected. Excavations were conducted along the west and south sides of the concrete pad.

DEC Decision

Petroleum contamination remains in the soil at this site adjacent to the concrete pad to an unknown depth. One analytical sample result, corresponding with a PID reading of 193 ppm, exceeded the DEC migration to groundwater cleanup level, with a detected concentration of 10,100 mg/kg. Several areas at both the north and south wall had PID readings exceeding 200 ppm with no corresponding analytical sample, suggesting that additional uncharacterized contamination remains at the site.

This area was noted to have shallow groundwater in the 1996 Fairbanks ANICS site report. There are also several surface water bodies nearby. There have been no groundwater or surface water investigations at this site.

To delineate soil contamination, test pits will be excavated around the site, screened, and sampled. To investigate surface water pathways, the nearest surface water bodies will be sampled. Groundwater samples will also be taken.

Subsurface investigations along the pad's edge would potentially undermine the pad's structural integrity, so additional soil investigation in that area must be delayed until the pad's removal.

The informational CSP database entry "FAA - FIA – Sitewide" – file number 100.38.249, Hazard ID: 26277 will be updated to indicate that further work is required at this site. In addition, the site-specific CSP database entry associated with this AOC, "FAA - FIA (Fairbanks Int'l Airport)," site number 100.26.138, HID: 24435, will also be updated to indicate that further work is required at this site.

AOCs with a Cleanup Complete Determination

The FAA Headquarters Buildings 207 and 300, Former USTs 4-E-4 and 4-E-5; FAA Headquarters Buildings 202 and 404, Former USTs 4-E-11 and 4-E-12; the FAA Headquarters Building 203, Former UST 4-E-2; Air Surveillance Radar – Stained soil near Building 423; and the VORTAC - UST 4-J-1 AOCs meet the requirements for a Cleanup Complete determination. Site descriptions, AOC COCs and associated cleanup levels, characterization and cleanup activities, cumulative risk evaluations, exposure pathway evaluations, and DEC decisions are included in the individual AOC sections below.

FAA Headquarters Buildings 207 and 300, Former USTs 4-E-4 and 4-E-5

Site Description and Background

Buildings 207 and 300 are located in the FAA headquarters (HQ) facility on the northeast side of the airport. UST 4-E-4 was located to the east of building 207, and 4-E-5 was located to the west of building 300, approximately 40 feet from 4-E-4. UST 4-E-4 was decommissioned in 1995, and UST 4-E-5 was decommissioned in 1996. Contamination was detected beneath each UST during removal activities.

Contaminants of Concern and Cleanup Levels

The contaminants of concern (COCs) at this site are detailed in the table below. The applicable cleanup levels for each COC are the Method 2, under 40 inch zone, migration to groundwater cleanup levels listed in Tables B1 and B2 in 18 AAC 75.341, and the groundwater cleanup levels in 18 AAC 75.345 Table C.

In addition to the COCs listed below, per 18 AAC 75.340(k), for a cleanup conducted under methods two and three, any chemical that is detected at one-tenth or more of the Table B1 direct contact and inhalation cleanup levels must be included when calculating cumulative risk.

Table 5. COCs and Cleanup Levels at the FAA FIA HQ USTs 4-E-4 and 4-E-5

Contaminants		GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Xylenes
Method 2 Under 40 Inch Zone Cleanup Levels (mg/kg)	Migration to Groundwater	300	250	11,000	0.025	6.5	6.9	63
	Ingestion	1,400	10,250	10,000	-	-	-	-
	Inhalation	1,400	12,500	22,000	-	-	-	-
	Direct Contact	-	-	-	150	8,100	10,100	20,300
	Outdoor Inhalation	-	-	-	11	220	110	63
	MAC (mg/kg)	1,400	12,500	22,000	-	-	-	-
GW (mg/L)		2.2	1.5	1.1	0.005	1	0.7	10

COCs – contaminants of concern
GRO – gasoline range organics
DRO – diesel range organics
RRO – residual range organics
mg/kg - milligrams per kilogram
mg/L - milligrams per liter
GW – groundwater cleanup levels

Characterization and Cleanup Activities

During the 1995 decommissioning of UST 4-E-4 from the Building 300 (B300) area, approximately 36 cubic yards (cy) of contaminated soil were identified and removed. One sample collected from 3.5 feet bgs at the excavation sidewall near the B300 foundation exceeded cleanup levels for DRO at 3,900 mg/kg. Another sample, taken from 8.5 feet bgs at the excavation bottom, did not exceed DEC cleanup levels.

Former UST 4-E-5 (Building 207) was decommissioned in 1996. Approximately 35 cy of potentially impacted soil was excavated, temporarily stockpiled on-site, and later thermally treated at Organic Incineration Technology, Inc. (OIT) facility near North Pole, AK. Due to the close proximity of the building foundation to the remaining contaminated soil, and the apparent shallow depth of contamination, no further excavation was conducted. A soil sample collected from a depth of 4 feet bgs from the west sidewall adjacent to the building foundation was reported to contain 5,300 mg/kg DRO.

During the 2011 remedial investigation (RI), a total of 29 UVOST probes were advanced to investigate the area for residual petroleum contamination at the locations of former USTs 4-E-4 and 4-E-5 in the Building 207/300 AOC. To verify the results of the UVOST system and to further investigate the area for petroleum-contaminated soil, 12 borings were advanced and 20 analytical soil samples were collected. Borings were advanced near UVOST locations that indicated the highest potential for petroleum-contaminated soil based on the laser-induced fluorescence (LIF) signal response. Two borings were advanced within Building 300 and one boring was advanced within Building 207 to investigate soils located beneath the two buildings. Analytical samples included: 20 for DRO, RRO, GRO, and BTEX analyses and four for PAH analyses. All soil sample results were less than the most stringent, DEC Method Two, Under 40 Inch Zone, Migration to Groundwater cleanup levels.

Also in 2011, monitoring wells MW-101 and MW-111 were installed at the locations of former USTs 4-E-4 and 4-E-5 to approximate depths of 18 feet bgs and 19 feet bgs, respectively. Groundwater samples were analyzed for DRO, RRO, GRO, BTEX, and PAH. All reported analytical results were less than the
DEC 18 AAC 75 Table C groundwater cleanup levels.

All soil and groundwater sample results for DRO, RRO, GRO, BTEX, and PAHs in the Building 207/300 AOC were less than the most stringent, DEC Method Two, Under 40 Inch Zone, Migration to Groundwater cleanup levels and DEC 18 AAC 75 Table C groundwater cleanup levels.

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

There were no compounds exceeding 1/10 of the DEC direct contact and inhalation cleanup levels at the site following characterization and remediation efforts. Therefore, based on a review of the environmental record, DEC has determined that residual contaminant concentrations do not pose a cumulative human health risk at this area of concern.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De-Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in the table below.

Table 6. Exposure Pathway Evaluation – FIA FAA HQ USTs 4-E-4 and 4-E-5

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contamination was released directly to the subsurface from a UST.
Sub-Surface Soil Contact	De-Minimis Exposure	DEC has determined that the remaining subsurface petroleum contamination is below all cleanup levels and is therefore de minimis.
Inhalation – Outdoor Air	Pathway Incomplete	No volatile contaminants are present at this site.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Contamination is not present in the groundwater and the remaining contaminants are not volatile.
Groundwater Ingestion	De-Minimis Exposure	Contaminants in groundwater are below all drinking water action levels, and the remaining soil contamination is below concentrations that would migrate to groundwater.
Surface Water Ingestion	Pathway Incomplete	Surface water is not present at the site, and the contamination is not at risk of migration into surface water.
Wild and Farmed Foods Ingestion	Pathway Incomplete	The area around the site is unlikely to be used for hunting, fishing, or the harvesting of food as it is located in the airport area.
Exposure to Ecological Receptors	Pathway Incomplete	No terrestrial or aquatic exposure routes are present in this area of the airport.

DEC Decision
Remaining petroleum contamination in soil is below all applicable cleanup levels. This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions
1. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 75.325. A "site" [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.

2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

The informational CSP database entry "FAA - FIA – Sitewide" – file number 100.38.249, Hazard ID: 26277 will be updated to describe the site status changes specified above. In addition, the site-specific CSP database entry for this AOC, "FAA - FIA - Headquarters Compound," site number 100.26.138, HID: 24469, will be updated to indicate that this AOC, with source area ID 79780, has received a "Cleanup Complete" determination. The "FAA - FIA - Headquarters Compound" site itself will remain "active," as it addresses all of the AOCs within the headquarters compound area.

Appeal
Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

FAA Headquarters Buildings 202 and 404, Former USTs 4-E-11 and 4-E-12

Site Description and Background
In 1995, an FAA contractor located two abandoned USTs (4-E-11 and 4-E-12) using ground penetrating radar. The tanks were discovered beneath a paved parking area between FAA Buildings 202 and 404. UST 4-E-12 was a 500 gallon diesel tank and UST 4-E-11 was a 1,000 gallon gasoline tank. These tanks were regulated under the Leaking Underground Storage Tank (LUST) program. Since the USTs were located end to end, they were removed with a single excavation. Approximately 30 cy of contaminated soil was removed from the excavation to the level of the groundwater, temporarily stockpiled on site, and later transported and disposed at OIT. Confirmatory samples collected at the base of the excavation indicated the presence of residual DRO (up to 420 mg/kg). The excavation was backfilled with clean fill and subsequently repaved. These tanks were closed in the LUST database on 7/10/1995.

Contaminants of Concern and Cleanup Levels

The contaminants of concern (COCs) at this site are detailed in the table below. The applicable cleanup levels for each COC are the Method 2, under 40 inch zone, migration to groundwater cleanup levels listed in Tables B1 and B2 in 18 AAC 75.341, and the groundwater cleanup levels in 18 AAC 75.345 Table C.

In addition to the COCs listed below, per 18 AAC 75.340(k), for a cleanup conducted under methods two and three, any chemical that is detected at one-tenth or more of the Table B1 direct contact and inhalation cleanup levels must be included when calculating cumulative risk.

Table 7. COCs and Cleanup Levels at the FAA FIA HQ USTs 4-E-11 and 4-E-12

Contaminants		GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Xylenes
Method 2 Under 40 Inch Zone Cleanup Levels (mg/kg)	Migration to Groundwater	300	250	11,000	0.025	6.5	6.9	63
	Ingestion	1,400	10,250	10,000	-	-	-	-
	Inhalation	1,400	12,500	22,000	-	-	-	-
	Direct Contact	-	-	-	150	8,100	10,100	20,300
	Outdoor Inhalation	-	-	-	11	220	110	63
	MAC (mg/kg)	1,400	12,500	22,000	-	-	-	-
GW (mg/L)		2.2	1.5	1.1	0.005	1	0.7	10

COCs – contaminants of concern
GRO – gasoline range organics
DRO – diesel range organics
RRO – residual range organics
mg/kg - milligrams per kilogram
mg/L - milligrams per liter
GW – groundwater cleanup levels

Characterization and Cleanup Activities

During the 2011 RI, a total of 10 UVOST probes were advanced to investigate the area for residual petroleum contamination from former USTs 4-E-11 and 4-E-12 at the Buildings 202/404 AOC. To verify the results of the UVOST system and to further investigate the area for petroleum-contaminated soil, 11 borings were advanced and 13 analytical soil samples were collected. Borings were advanced near UVOST locations that indicated the highest potential for petroleum-contaminated soil based on the LIF signal response. Analytical samples included: 13 for DRO and RRO; 7 for BTEX and GRO analyses; 5 for VOC analysis; 4 for PAH analysis; and 6 for 1,2-Dibromoethane (or ethylene dibromide) (EDB) analysis.

All reported DRO, RRO, GRO, BTEX, PAH, VOC, and EDB soil sample results were less than the most stringent, DEC Method Two, Under 40 Inch Zone, Migration to Groundwater cleanup levels.

One monitoring well, MW-106, was installed in the Building 202/404 AOC to a depth of approximately 19 feet bgs in 2011. A groundwater sample was collected and analyzed for DRO, RRO, GRO, BTEX, VOCs, and PAH. All reported analytical results were less than the DEC 18 AAC 75 Table C groundwater cleanup levels.

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a

cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

There were no compounds exceeding 1/10 of the DEC direct contact and inhalation cleanup levels at the site following characterization and remediation efforts. Therefore, based on a review of the environmental record, DEC has determined that residual contaminant concentrations do not pose a cumulative human health risk at this area of concern.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De-Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in the table below.

Table 8. Exposure Pathway Evaluation – FIA FAA HQ USTs 4-E-11 and 4-E-12

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contamination was released directly to the subsurface from a UST.
Sub-Surface Soil Contact	De-Minimis Exposure	DEC has determined that the remaining subsurface petroleum contamination is below all cleanup levels and is therefore de minimis.
Inhalation – Outdoor Air	Pathway Incomplete	No volatile contaminants are present at this site.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Contamination is not present in the groundwater and the remaining contaminants are not volatile.
Groundwater Ingestion	Pathway Incomplete	Contaminants in groundwater are below all drinking water action levels, and the remaining soil contamination is below concentrations that would migrate to groundwater.
Surface Water Ingestion	Pathway Incomplete	Surface water is not present at the site, and the contamination is not at risk of migration into surface water.
Wild and Farmed Foods Ingestion	Pathway Incomplete	The area around the site is unlikely to be used for hunting, fishing, or the harvesting of food as it is located in the airport area.
Exposure to Ecological Receptors	Pathway Incomplete	No terrestrial or aquatic exposure routes are present in this area of the airport.

DEC Decision

Remaining petroleum contamination in soil is below all applicable cleanup levels. This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

1. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 75.325. A "site" [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.

2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

The informational CSP database entry "FAA - FIA – Sitewide" – file number 100.38.249, Hazard ID: 26277 will be updated to describe the site status changes specified above. In addition, the site-specific CSP database entry for this AOC, "FAA - FIA - Headquarters Compound," site number 100.26.138, HID: 24469, will be updated to indicate that this AOC, with source area ID 79781, has received a "Cleanup Complete" determination. The "FAA - FIA - Headquarters Compound" site itself will remain "active," as it addresses all of the AOCs within the headquarters compound area.

Appeal
Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

FAA Headquarters Building 203, Former UST 4-E-2

Site Description and Background
Building 203 is a wooden building 20 feet long by 20 feet wide in the FAA FIA Headquarters area. Tank 4-E-2, a 500-gallon nonregulated UST that contained heating oil, was located near the southeast corner of the building. The UST was removed in August 1996 along with approximately 15 cy of contaminated soil. The final excavation dimensions measured approximately 6 feet wide, 13 feet long and 9 feet in depth. Two confirmation samples collected from beneath the tank contained 12 mg/kg and 12,000 mg/kg DRO. Two sidewall samples were reported to contain 14 mg/kg and 9,400 mg/kg DRO. BTEX results from two samples were reported to not exceed the laboratory reporting limits. The elevated DRO concentrations were both collected from the north end of the excavation. Additional soil was not removed due to the proximity of the building foundation.

Contaminants of Concern and Cleanup Levels
Modeling to determine alternative cleanup levels was done using the approved Hydrocarbon Risk Calculator, an alternative cleanup levels and risk calculator developed in accordance with Method 3 under 18 AAC 75.340. The model demonstrated that residual petroleum contaminants in soil do not pose a migration to groundwater risk/concern. Given the measured contaminant concentrations, soil conditions, and infiltration rates, contaminants will not migrate to groundwater.

The Department has determined that for this AOC the Method 3 cleanup levels that apply will be the residual contaminant levels that were used to model the migration and human health risks for the Contaminants of Concern (COCs). COCs and the approved levels for each COC are detailed in the table below. This determination means that no further work will be required unless new contamination is discovered in the future with higher concentrations than these measured residual contaminant levels.

In addition to the COCs listed below, per 18 AAC 75.340(k), for a cleanup conducted under methods two and three, any chemical that is detected at one-tenth or more of the Table B1 direct contact and inhalation cleanup levels must be included when calculating cumulative risk (see the cumulative risk evaluation section, below).

Table 9. COCs and Cleanup Levels at FAA Headquarters Building 203, Former UST 4-E-2

Contaminants	GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Xylenes
Residual Contaminant Levels (mg/kg)	34	3650	26.3	0.0023	0.0057	0.0057	0.0098
GW (mg/L)	2.2	1.5	1.1	0.005	1	0.7	10

COCs – contaminants of concern
GRO – gasoline range organics
DRO – diesel range organics
RRO – residual range organics
mg/kg - milligrams per kilogram
mg/L - milligrams per liter
GW – groundwater cleanup levels

Characterization and Cleanup Activities

Following the August 1996 removal action, in November 1996 an RI was conducted to investigate the extent of soil and groundwater contamination. The investigation included the advancement of two soil borings and the installation of four groundwater probes (GP-01, GP-02, GP-03 and GP-04). The two soil borings were drilled approximately 7 feet north of the tank and 12 feet north-northwest of the tank. Soil samples collected from multiple depths in the borings did not exceed DEC soil cleanup levels. Only DRO concentrations in groundwater probe GP-02, located approximately 10 feet northwest of Building 203, exceeded DEC cleanup levels with a concentration of 1.7 mg/L. Groundwater samples collected in 1997 and 1998 showed contaminant concentrations decreasing. Results for groundwater samples collected in May and August 1998 indicated contaminant concentrations in all of the wells were less than DEC groundwater cleanup levels.

During the 2011 RI, five soil borings were advanced to further characterize the extent of contamination at this AOC. A total of 11 soil samples were collected and analyzed as follows: 11 for DRO and RRO analyses, 8 for GRO and BTEX analyses, 5 for EPH and VPH analyses, and 6 for PAH analysis. DRO was detected at concentrations greater than the most stringent DEC Method Two cleanup level of 250 mg/kg in four soil samples collected from the Building 203, Former UST 4-E-2 AOC at depths varying from 6 to 12 feet bgs. DRO concentrations varied from 1,820 mg/kg to 3,650 mg/kg in these four samples. All reported RRO, GRO, BTEX, and PAH results were less than the most stringent, DEC Method Two, Under 40 Inch Zone, Migration to Groundwater cleanup levels.

During the 2011 RI, groundwater levels measured in the four existing groundwater probes were inconsistent indicating that the probes were likely damaged or defective. The four groundwater probes were decommissioned and backfilled with bentonite. Four new monitoring wells (MW- 100, MW-101, MW-102, and MW-104) were installed to replace the four groundwater probes. The new monitoring wells were installed to depths of approximately 18 feet bgs near Building 203. MW-104 was placed in the source area located at the Building 203, Former UST 4-E-2 AOC, in the immediate area or residual contamination identified in the UST Decommissioning Report. The other three monitoring wells (MW-100, MW-101, and MW-102) were placed approximately downgradient of the source area near the former locations of GP-02, GP-03, and GP-4. Groundwater samples were collected and analyzed for DRO, GRO, RRO, and BTEX. The groundwater sample collected from MW-104 was also analyzed for EPH, VPH, and PAH. All reported analytical results for the groundwater samples collected from monitoring

wells at the Building 203, Former UST 4-E-2 AOC were less than the DEC 18 AAC 75 Table C groundwater cleanup levels.

Cumulative Risk Evaluation

Per 18 AAC 75.325(g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

The HRC was used to evaluate risk from petroleum contamination at the Building 203, Former UST 4-E-2 AOC at the FAA FIA Headquarters. The HRC is designed for sites with petroleum contamination—specifically the petroleum fractions, BTEX, PAHs, and other compounds dissolved in petroleum—with the intention and purpose of assessing human health risk from this type of contamination.

The estimated rounded cumulative cancer risk at the Building 203, Former UST 4-E-2 AOC for the current and hypothetical exposure scenarios, across all exposure pathways, is below the regulatory risk standard of 1×10^{-5} for petroleum hydrocarbons.

The estimated cumulative non-cancer health index at the Building 203, Former UST 4-E-2 AOC for the current and hypothetical exposure scenarios, across all exposure pathways, is below the regulatory risk standard of 1. This AOC meets the DEC risk criteria [18 AAC 75.325(g)] for petroleum hydrocarbons. The risk posed by the DRO aromatic and aliphatic surrogate fractions meets the risk standard for each exposure pathway, assuming a residential land use scenario.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De-Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in the table below.

Table 10. Exposure Pathway Evaluation – FIA FAA B203

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contamination was released directly to the subsurface from a UST.
Sub-Surface Soil Contact	De-Minimis Exposure	The contamination remaining in the subsurface is below direct contact cleanup levels (3,650 mg/kg DRO).
Inhalation – Outdoor Air	Pathway Incomplete	No volatile contaminants remain at this site.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Contamination is not present in the groundwater and the remaining contaminants are not volatile.
Groundwater Ingestion	De-Minimis Exposure	Contaminants in groundwater are below all drinking water action levels, and modeling using the Hydrocarbon Risk Calculator, in accordance with Method 3 under 18 AAC 75.340, demonstrated that residual petroleum contaminants in soil do not pose a migration to groundwater risk/concern.
Surface Water Ingestion	Pathway Incomplete	Surface water is not present at the site, and modeling using the Hydrocarbon Risk Calculator, in accordance with Method 3 under 18 AAC 75.340, demonstrated that residual petroleum contaminants in soil do not pose a migration to surface water risk/concern.

Wild and Farmed Foods Ingestion	Pathway Incomplete	The area around the site is unlikely to be used for hunting, fishing, or the harvesting of food as it is located in the airport area.
Exposure to Ecological Receptors	Pathway Incomplete	There is no evidence of direct ecological impacts at this site, and no terrestrial or aquatic exposure routes are present in this area of the airport.

DEC Decision

Based on site-specific contaminant and non-contaminant input parameters and assuming that all exposure pathways are complete at the present time, the HRC results for the source areas listed above indicate that site conditions meet the DEC human health risk standard established in 18 AAC 75.325. That is, the soil direct contact, outdoor air vapor inhalation, indoor air vapor inhalation, and groundwater ingestion pathways pose acceptable risk for each compound and hydrocarbon fraction, and the cumulative risk meets the risk standard under an unrestricted land use scenario. In addition, the migration to groundwater criteria are attained in surface and subsurface soils in accordance with 18 AAC 75.340.

Remaining petroleum contamination in soil is below approved cleanup levels. This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database. However, contamination left in place may be a risk to groundwater or surface water contamination if the site is disturbed. Therefore, an additional protective mechanism is required for site closure. Additional documentation from FAA that future site excavation activities will require DEC approval under 18 AAC 75.325(i) is attached to this decision document (*Attachment D*). The following standard conditions also apply.

The informational CSP database entry "FAA - FIA – Sitewide" – file number 100.38.249, Hazard ID: 26277 will be updated to describe the site status changes specified above. In addition, the site-specific CSP database entry for this AOC, "FAA - FIA - Headquarters Compound," site number 100.26.138, HID: 24469, will be updated to indicate that this AOC, with source area ID 79782, has received a "Cleanup Complete" determination. The "FAA - FIA - Headquarters Compound" site itself will remain "active," as it addresses all of the AOCs within the headquarters compound area.

Standard Conditions

1. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 75.325. A "site" [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.

2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the

Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

Air Surveillance Radar – Stained soil near Building 423

Site Description and Background

The Airport Surveillance Radar-8 (ASR-8) Facility consisted of a raised gravel pad with a generator building, a radio tower, and an electronics support building on a 0.85 acre lot. The ASR-8 Building 423 was located at 64 48'09.07"N by 147 45'43.80"W. During the 1992 site investigation, stained soil was observed in several locations near Building 423 and the thermosyphons located at the facility.

Contaminants of Concern and Cleanup Levels

The contaminants of concern (COCs) at this site are detailed in the table below. The applicable cleanup levels for each COC are the Method 2, under 40 inch zone, migration to groundwater cleanup levels listed in Tables B1 and B2 in 18 AAC 75.341, and the groundwater cleanup levels in 18 AAC 75.345 Table C.

In addition to the COCs listed below, per 18 AAC 75.340(k), for a cleanup conducted under methods two and three, any chemical that is detected at one-tenth or more of the Table B1 direct contact and inhalation cleanup levels must be included when calculating cumulative risk.

Table 11. COCs and Cleanup Levels at the FAA ASR-8, B423 Stains AOC

Contaminants		GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Xylenes
Method 2 Under 40 Inch Zone Cleanup Levels (mg/kg)	Migration to Groundwater	300	250	11,000	0.025	6.5	6.9	63
	Ingestion	1,400	10,250	10,000	-	-	-	-
	Inhalation	1,400	12,500	22,000	-	-	-	-
	Direct Contact	-	-	-	150	8,100	10,100	20,300
	Outdoor Inhalation	-	-	-	11	220	110	63
	MAC (mg/kg)	1,400	12,500	22,000	-	-	-	-
GW (mg/L)		2.2	1.5	1.1	0.005	1	0.7	10

COCs – contaminants of concern
GRO – gasoline range organics
DRO – diesel range organics
RRO – residual range organics
mg/kg - milligrams per kilogram
mg/L - milligrams per liter
GW – groundwater cleanup levels

Characterization and Cleanup Activities

In the 1992 SI report, soil stains were observed in several areas at the ASR-8 facility. Several stains were below the thermal piles containing coolants to prevent permafrost melt. POL stains were observed near the antenna tower and beneath the vent and fill pipes of the UST adjacent to building 423. Five samples were taken from the area, and TPH was detected up to concentrations of 56,000 mg/kg.

Tank 4-B-1, a 1,000 gallon diesel tank, was removed from the facility in September 1995. Approximately 30 cy of contaminated soil was removed during the decommissioning, including the location where the 56,000 mg/kg TPH soil sample was collected. Analytical results from three samples collected at 8 feet bgs

showed DRO contamination at levels ranging from 250 mg/kg to 520 mg/kg. A concrete hold-down pad was located below that depth so additional soil removal was infeasible. A new 500 gallon tank was installed in the same excavation. Neither groundwater nor permafrost were encountered during the removal.

In December 1995, three soil borings were advanced to depths of 8 and 9 feet bgs approximately 6 feet from the excavation limits to delimit lateral contamination from the UST. Samples were collected from 4-6 feet and at the bottom of the boring. All samples were analyzed for DRO and BTEX, and two were analyzed for VOCs. DRO was detected at concentrations up to 9.6 mg/kg, all other analytes were non-detect. The tank 4-B-1 site was closed by DEC in a 1997 closure letter following this sampling effort. The stained soil areas that were observed in 1992, considered a separate source area, were all excavated during UST decommissioning. Therefore, the contamination at this site has been completely removed.

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

There were no compounds exceeding 1/10 of the DEC direct contact and inhalation cleanup levels at the site following characterization and remediation efforts. Therefore, based on a review of the environmental record, DEC has determined that residual contaminant concentrations do not pose a cumulative human health risk at this area of concern.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De-Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in the table below.

Table 12. Exposure Pathway Evaluation – FAA ASR-8, B423 Stains AOC

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contamination was completely removed during the 1995 tank decommissioning field effort.
Sub-Surface Soil Contact	De-Minimis Exposure	DEC has determined that the remaining subsurface petroleum contamination is de minimis.
Inhalation – Outdoor Air	Pathway Incomplete	No volatile contaminants are present at this site.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Contamination is not present in the groundwater and the remaining contaminants are not volatile.
Groundwater Ingestion	Pathway Incomplete	Groundwater was not encountered at the site, and the remaining soil contamination is below concentrations and mass that would migrate to groundwater.
Surface Water Ingestion	Pathway Incomplete	The remaining small mass of contamination is not at risk of migration into surface water.
Wild and Farmed Foods Ingestion	Pathway Incomplete	The remaining small mass of contamination is not available to terrestrial or aquatic receptors and will not impact wild and farmed foods.
Exposure to Ecological Receptors	Pathway Incomplete	No terrestrial or aquatic exposure routes are present within the area of remaining contamination at this site.

DEC Decision

Remaining petroleum contamination in soil is below all applicable cleanup levels. This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

1. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 75.325. A "site" [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.

2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

The informational CSP database entry "FAA - FIA – Sitewide" – file number 100.38.249, Hazard ID: 26277 will be updated to describe the site status changes specified above. In addition, the site-specific CSP database entry for this AOC, FAA - FIA - Air Surveilance Radar 8, HID: 24470, will be updated to indicate that this AOC has received a "Cleanup Complete" determination. The site itself was closed in the CSP database on March 5, 1997; this update will modify the problem statement to indicate that the surface stains observed in 1992 were cleaned up with the UST removal.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

VORTAC - UST 4-J-1

Site Description and Background

The VORTAC (Very High Frequency Omni-Directional Radio Range/Tactical Air Navigation Aid) facility is located on Chena Ridge on 85 acres of FAA owned property approximately 4.5 miles west of the airport. The facility consisted of Building 406, a 37.5 KVA engine generator, and tactical air navigation equipment. One 515 gallon diesel/gasoline UST (4-J-1) was located at the facility. This tank was regulated under the Leaking Underground Storage Tank (LUST) program, and was closed in that program on 7/10/1995.

Contaminants of Concern and Cleanup Levels

The contaminants of concern (COCs) at this site are detailed in the table below. The applicable cleanup levels for each COC are the Method 2, under 40 inch zone, migration to groundwater cleanup levels listed in Tables B1 and B2 in 18 AAC 75.341, and the groundwater cleanup levels in 18 AAC 75.345 Table C.

In addition to the COCs listed below, per 18 AAC 75.340(k), for a cleanup conducted under methods two and three, any chemical that is detected at one-tenth or more of the Table B1 direct contact and inhalation cleanup levels must be included when calculating cumulative risk.

Table 13. COCs and Cleanup Levels at the FAA FIA VORTAC UST 4-J-1

Contaminants		GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Xylenes
Method 2 Under 40 Inch Zone Cleanup Levels (mg/kg)	Migration to Groundwater	300	250	11,000	0.025	6.5	6.9	63
	Ingestion	1,400	10,250	10,000	-	-	-	-
	Inhalation	1,400	12,500	22,000	-	-	-	-
	Direct Contact	-	-	-	150	8,100	10,100	20,300
	Outdoor Inhalation	-	-	-	11	220	110	63
	MAC (mg/kg)	1,400	12,500	22,000	-	-	-	-
GW (mg/L)		2.2	1.5	1.1	0.005	1	0.7	10

COCs – contaminants of concern
GRO – gasoline range organics
DRO – diesel range organics
RRO – residual range organics
mg/kg - milligrams per kilogram
mg/L - milligrams per liter
GW – groundwater cleanup levels

Characterization and Cleanup Activities

UST 4-J-1 was decommissioned in 1995. The tank was abandoned in place because of its proximity to utility and building foundations. The final excavation dimensions were approximately 8' long, 3.5' wide, and 3-5' deep. Frozen soil was not encountered during the excavation. During the excavation, contamination was discovered under the supply and return lines. Approximately 0.25 cubic yards of contaminated soil in this area was removed and thermally treated. Two samples were collected, one at the north end of the tank at 7 feet bgs, and one directly below the supply and return lines at 3 feet bgs. The sample collected below the supply and return lines had a DRO concentration of 2,600 mg/kg and an ethylbenzene concentration of 9.6 mg/kg, both of which exceed the method two migration to groundwater cleanup levels. In addition, the method detection limit for benzene in this sample (0.88 mg/kg) was greater than the migration to groundwater cleanup level. The decommissioning report stated that, given the 200' bgs depth to groundwater, the small mass of remaining contamination will not migrate to groundwater.

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

Benzene at 0.88 mg/kg and ethylbenzene at 9.6 mg/kg were entered into the DEC Method Three and Cumulative Risk Calculator to evaluate cumulative risk. DRO, RRO, and GRO are not evaluated in this calculator. The Method Three calculator determined that the remaining cumulative carcinogenic risk at this site is $2x10^{-6}$, and the cumulative hazard index is 0.01, both below the DEC risk standards. Therefore, based on a review of the environmental record, DEC has determined that residual contaminant concentrations do not pose a cumulative human health risk at this area of concern.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De-Minimis

Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in the table below.

Table 14. Exposure Pathway Evaluation – FAA FIA VORTAC UST 4-J-1

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	This 500 gallon tank was abandoned in place in 1995. The bottom of the tank sits in a depression chipped into bedrock. Contamination was released directly to the subsurface from the UST supply and return lines.
Sub-Surface Soil Contact	De-Minimis Exposure	The contamination remaining in the subsurface is below direct contact cleanup levels (2,600 mg/kg DRO), and the cumulative risk is below DEC standards.
Inhalation – Outdoor Air	De-Minimis Exposure	Benzene and ethybenzene remain at the site above migration to groundwater cleanup levels, though below inhalation levels. Cumulative risk does not exceed carcinogenic or non-carcinogenic standards.
Inhalation – Indoor Air (vapor intrusion)	De-Minimis Exposure	Only ~5 CY contaminated soil remaining next to building. Only ethybenzene was detected above migration to groundwater cleanup levels at the site. DEC has therefore determined that the remaining mass and concentration is de minimis.
Groundwater Ingestion	Pathway Incomplete	The remaining soil contamination is below concentrations and mass that would migrate to groundwater which is located 200 feet bgs.
Surface Water Ingestion	Pathway Incomplete	There is no surface water in the area and the remaining small mass of contamination is not at risk of migration into surface water.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Remaining contaminants at this site do not bioaccumulate.
Exposure to Ecological Receptors	Pathway Incomplete	An ecoscoping form has determined that no further ecological evaluation is needed at this site. There is no critical or important habitat in this area.

DEC Decision

Two analytical soil samples were taken during the 1995 UST decommissioning. DRO (2,600 mg/kg) and ethylbenzene (9.6 mg/kg) contamination was detected in one of the samples at concentrations greater than DEC Method 2 migration to groundwater cleanup levels at the bottom of the excavation below the UST supply and return lines. In addition, the method detection limit for benzene in this sample (0.88 mg/kg) is greater than the migration to groundwater cleanup level. Well logs near the site (Well Log #402727 enclosed, retrieved from AK DNR Well Log Tracking System, 3-12-2015) corroborate the statement in the 1995 UST Decommissioning Report that the depth to groundwater is over 200 feet deep in this area. Therefore, given that the remaining contamination has been sufficiently characterized and is limited in extent, it is not a risk to groundwater and has been deemed de minimis. This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

1. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 75.325. A "site" [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.

2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

The informational CSP database entry "FAA - FIA – Sitewide" – file number 100.38.249, Hazard ID: 26277 will be updated to describe the site status changes specified above. In addition, the site-specific CSP database entry for this AOC, "FAA - FIA - VORTAC," site number 100.38.198, HID: 24456, will be closed in the CSP database with a "Cleanup Complete" determination.

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

AOCs with a Cleanup Complete with ICs Determination

The following AOCs meet the requirements for a "Cleanup Complete with ICs" determination:

- Air Traffic Control Tower
- FAA Headquarters Building 202, Former UST 4-E-3
- FAA Headquarters Buildings 300 and 207 Floor Drains

Site descriptions, AOC COCs and associated cleanup levels, characterization and cleanup activities, cumulative risk evaluations, exposure pathway evaluations, and DEC decisions are included below.

Air Traffic Control Tower

Site Description and Background

The air traffic control tower (ATCT) is located southeast of the main runway, on property owned by the Alaska Department of Transportation and Public Facilities (Lots 2 and 2A of block 101), and leased to the FAA. The property is approximately 1.26 acres and contains one building housing the ATCT operations and administrative offices. The building is used for air traffic operations for commercial and private aircraft. The site is level and has no apparent surface drainages. The site is bordered on the northwest by a paved tarmac area used to park and taxi small aircraft and by University Avenue, a two-lane paved road, on the south. The Tanana River is located approximately 1 mile south of the facility and the Chena River is located 1 mile west.

There are three Areas of Concern (AOCs) at the ATCT: (1) Adjacent USTs 4-A-1 and 4-A-2; (2) The 1999 Spill area, and; (3) the Base Building Fuel Tank.

Contaminants of Concern and Cleanup Levels

The contaminants of concern (COCs) at this site are detailed in the table below. The applicable cleanup levels for each COC are the Method 2, under 40 inch zone, migration to groundwater cleanup levels listed in Tables B1 and B2 in 18 AAC 75.341, and the groundwater cleanup levels in 18 AAC 75.345 Table C.

In addition to the COCs listed below, per 18 AAC 75.340(k), for a cleanup conducted under methods two and three, any chemical that is detected at one-tenth or more of the Table B1 direct contact and inhalation cleanup levels must be included when calculating cumulative risk (see the cumulative risk evaluation section, below).

Table 15. COCs and Cleanup Levels at Air Traffic Control Tower

Contaminants		GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Xylenes
Method 2 Under 40 Inch Zone Cleanup Levels (mg/kg)	Migration to Groundwater	300	250	11,000	0.025	6.5	6.9	63
	Ingestion	1,400	10,250	10,000	-	-	-	-
	Inhalation	1,400	12,500	22,000	-	-	-	-
	Direct Contact	-	-	-	150	8,100	10,100	20,300
	Outdoor Inhalation	-	-	-	11	220	110	63
	MAC (mg/kg)	1,400	12,500	22,000	-	-	-	-
GW (mg/L)		2.2	1.5	1.1	0.005	1	0.7	10

COCs – contaminants of concern
GRO – gasoline range organics
DRO – diesel range organics
RRO – residual range organics
mg/kg - milligrams per kilogram
mg/L - milligrams per liter
GW – groundwater cleanup levels

Characterization and Cleanup Activities

Previous environmental work at the site included a 1992 ECIR, an October 1995 UST decommissioning, a December release investigation, an emergency fuel spill response in October 1999, and a Site Investigation Report in 2006.

The 1992 ECIR report mentions that the fill pipe for a 2,500 gallon diesel "southernmost UST", was struck sometime in the early 1990s; causing a release of an unknown volume. It is unknown which UST this was referring to, as the report does not refer to the USTs by their designations, and the site figure does not identify the tanks.

The 2,500 gallon UST 4-A-1 and the adjacent 5,000 gallon UST 4-A-2 were decommissioned in October 1995. UST 4-A-1 was regulated under the LUST program, while 4-A-2 was not. The UST excavation was approximately 28 feet long, 21 feet wide, and 8.5 feet deep to a concrete slab, and 11 feet deep around the sides of the slab. Groundwater was encountered at 11 feet bgs. Stained soils were observed during the excavation, and approximately 100 cubic yards of contaminated soil was removed and thermally treated during the UST decommissioning. One sample collected at the southern bottom of the excavation at 11 feet bgs detected DRO contamination at 9,000 mg/kg. Seven other samples taken from the excavation bottom and sidewalls were either non-detect or below DEC method two migration to groundwater cleanup levels. The excavation did not continue to the south because of the presence of adjacent building foundations and the concrete pad, and the presence of groundwater.

In December 1995, a release investigation was performed at the site which included the advancement of four soil borings, three of which were completed as groundwater monitoring wells. Each soil sample was submitted for DRO and BTEX analyses. Each groundwater sample collected was submitted for DRO, volatile organic compounds (VOC), and polynuclear aromatic hydrocarbons (PAHs). The maximum soil concentration of DRO (59 mg/kg) was reported in Sample 95FA13038SB, collected from 10 to 12 feet bgs from Soil Boring SB-5. DRO concentrations in groundwater were reported in Monitoring Wells MW-D and

MW-F at concentrations of 0.13 and 0.22 milligrams per liter (mg/L), respectively. Concentrations of 1-methylnaphthalene and 2-methylnaphthalene were reported at Monitoring Well MW-D at concentrations of 0.0067 mg/L and 0.0056 mg/L, respectively, and at Monitoring Well MW-F at 0.0060 mg/L and 0.0049 mg/L, respectively. Xylenes were reported at a concentration of 0.0015 mg/L in the groundwater at Monitoring Well MW-D. The report estimated that 35 to 50 cubic yards of contaminated soil remained at the site, but was not accessible because of the concrete ballast pad for the former USTs and the proximity to the ATCT building. The report recommended that no further action be performed at the site because the groundwater samples did not exceed applicable cleanup levels and the bulk of the soil contamination had been removed.

On October 22, 1999, AGRA Earth & Environmental Inc. (AGRA), responded to a 380 gallon heating oil spill at the ATCT building. The release occurred immediately adjacent to the northeast side of the building at the approximate location shown in Figure 1-2. Response actions included the excavation of impacted soil and the collection of soil samples for laboratory analysis. The excavation measured about 6 feet by 8 feet and was limited laterally by adjacent structures. The excavation extended to a depth of about 12 feet where groundwater was observed. A soil sample was collected from the base and each of the sidewalls prior to backfilling. The samples were submitted for analysis for DRO and BTEX. Gasoline range organics (GRO) was also reported by the laboratory. DRO concentrations ranged from not detected (detection limit of 25 mg/kg) along the east sidewall to 620 mg/kg along the south sidewall (adjacent to the building). BTEX concentrations did not exceed the laboratory reporting limit for any of the soil samples and GRO was reported at a maximum of 82 mg/kg from the soil sample along the south sidewall. No other sampling was performed during this work. Approximately 20 cubic yards of contaminated soil were excavated and treated offsite at an approved facility. The report suggested the potential for groundwater contamination.

In 2006, the existing monitoring wells were sampled and one soil boring was advanced and completed as a monitoring well to assess the extent of contamination associated with the heating oil release in October 1999. The new groundwater monitoring well was installed on the south side of the ATCT Building in the downgradient groundwater flow direction. This site investigation and sampling did not reveal evidence of soil or groundwater contamination at the new Monitoring Well MW-G. Groundwater at Monitoring Well MW-F contained 0.447 mg/L DRO. No other analytes were reported to exceed the laboratories method reporting limit at Monitoring Wells MW-F or MW-E.

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

There were no compounds outside of DRO exceeding 1/10 of the DEC direct contact and inhalation cleanup levels at the site following characterization and remediation efforts. GRO, DRO, and RRO are not included in the cumulative risk calculator. Therefore, based on a review of the environmental record, DEC has determined that, provided that the institutional controls are in place, residual contaminant concentrations do not pose a cumulative human health risk at this area of concern.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De-Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in the table below.

Table 16. Exposure Pathway Evaluation – FAA FIA ATCT

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contaminants in the surface soil have been excavated to 2+ feet below ground surface.
Sub-Surface Soil Contact	Exposure Controlled	Contamination is present in the subsurface and there is an uncharacterized, currently inaccessible, amount of contamination beneath various structures and buildings at the ATCT. No excavation is planned in the near future at this site. This contamination is currently inaccessible and will be addressed when the buildings are removed or it becomes accessible.
Inhalation – Outdoor Air	De-Minimis Exposure	Only DRO has been detected above cleanup levels in the soil at this site, though it was detected below inhalation cleanup levels. Though there is likely uncharacterized contamination remaining downgradient of the highest DRO detection, the lack of volatile compounds in the samples and the likelihood that contamination decreases downgradient makes this area unlikely to be an inhalation risk.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Only DRO has been detected above cleanup levels at this site.
Groundwater Ingestion	De-Minimis Exposure	Groundwater monitoring has been conducted at this site in 1995 and 2006. No contamination was detected in the groundwater at concentrations above cleanup levels in either sampling event. While the site's contamination is not completely characterized, this pathway has been deemed de minimis because of the spill date and no resulting groundwater contamination.
Surface Water Ingestion	Pathway Incomplete	Contaminants are restricted to the subsurface and are not detected in the groundwater above cleanup levels where they could daylight in a surface water body.
Wild and Farmed Foods Ingestion	Pathway Incomplete	The airport is not an area that could reasonably be used for hunting, fishing, or the harvesting of food.
Exposure to Ecological Receptors	Pathway Incomplete	No terrestrial exposure routes are present in the area of remaining contamination.

DEC Decision

Petroleum contamination remains at the site above method 2 migration to groundwater cleanup levels. DRO at concentrations ranging from 170 to 9,000 mg/kg remains at the bottom of the 1995 UST decommissioning excavation. This excavation was limited by the presence of a concrete ballast pad and the proximity of adjacent structures. Additional contamination may underlie the adjacent structures. Furthermore, following a cleanup action at the area of the 1999 fuel spill, DRO was detected above migration to groundwater cleanup levels (620 mg/kg) in one soil sample adjacent to the ATCT building.

Further excavation was limited by the building's proximity. Contamination was also discovered in 1997 at the Base Building Fuel Tank, which is attached to the ATCT. The remaining contamination in this area has not been sampled. Groundwater monitoring was conducted downgradient of these areas of concern in both 1995 and 2006, and no analytes were detected above Table C groundwater cleanup levels in either event. Therefore, DEC has determined there is no unacceptable risk to human health or the environment as long as the contamination is properly managed. Monitoring has confirmed that there is no impact to groundwater above cleanup levels, and surface water migration is unlikely given the remaining contaminant mass, distance from the nearest surface water body, and known contaminant concentrations. This closure is subject to the following conditions:

1. Sub-surface soil contamination is located near several buildings and structures at the Air Traffic Control Tower. When the buildings or structures are removed and/or the soil becomes accessible, the soil must be evaluated and contamination addressed in accordance with a DEC approved work plan.
2. Excavation and soil disturbance is prohibited at this site without a DEC-approved workplan.
3. Monitoring wells are to remain in place at this site until the ICs are removed. Following the removal of ICs, the monitoring wells are to be removed within one year.
4. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 75.325. A "site" [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.
5. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

The DEC Contaminated Sites Database will be updated to reflect the change in site status as detailed above, and will include a description of the contamination remaining at the site. Institutional controls will be removed in the future if documentation can be provided that shows cleanup levels and risk standards have been met. Management conditions 4-5 remain in effect after ICs are removed. The informational CSP database entry "FAA - FIA – Sitewide" – file number 100.38.249, Hazard ID: 26277 will be updated to describe the site status changes specified above. In addition, the site-specific CSP database entries for this AOC, "FAA - FIA - Fairbanks Air Traffic Control Tower," site number 100.26.138, HID: 3237, and the duplicate entry, "FAA - FIA - Air Traffic Control Tower," site number 100.38.151, HID: 24471, will be closed with a "Cleanup Complete with ICs" determination and include the above information.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

***Attachment A* (enclosed) documents that the FAA concurs with the terms and conditions of this Cleanup Complete with ICs Determination.**

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

FAA Headquarters Building 202, Former UST 4-E-3

Site Description and Background

Building 202, located in the FAA FIA Headquarters area, houses the Logistics offices for the Northern District. UST 4-E-3 was a 500 gallon tank located on the north side of the building. During the 1992 ECIR, soil sample results from stained surface soil indicated that VPH and EPH were present at concentrations exceeding cleanup levels near the fill pipe associated with former UST 4-E-3

Contaminants of Concern and Cleanup Levels

Modeling to determine alternative cleanup levels was done using the approved Hydrocarbon Risk Calculator (HRC), an alternative cleanup levels and risk calculator developed in accordance with Method 3 under 18 AAC 75.340. The model demonstrated that residual petroleum contaminants in soil do not pose a migration to groundwater risk/concern. Given the measured contaminant concentrations, soil conditions, and infiltration rates, contaminants will not migrate to groundwater.

The Department has determined that for this AOC the Method 3 cleanup levels that apply will be the residual contaminant levels that were used to model the migration and human health risks for the Contaminants of Concern (COCs). The residual soil contamination at this site was calculated as the mean soil concentration at the 95% upper confidence limit (UCL) using the ProUCL program and accepted as an appropriate statistical method of calculating the remaining concentration per 18 AAC 75.380(c)(1). The maximum concentrations detected in the groundwater were used for the HRC input values. COCs and the approved levels for each COC are detailed in the table below. Therefore, for the purpose of closure with ICs, this determination means that no further work outside of that detailed in the closure conditions will be required, unless new contamination is discovered in the future with higher concentrations than these measured residual contaminant levels.

Table 17. COCs and Cleanup Levels at FAA Headquarters Building 202, Former UST 4-E-3

Contaminants		GRO	DRO	RRO	Benzene	Toluene	Ethylbenzene	Xylenes
Method 2 Under 40 Inch Zone Cleanup Levels (mg/kg)	Migration to Groundwater	300	250	11,000	0.025	6.5	6.9	63
	Ingestion	1,400	10,250	10,000	-	-	-	-
	Inhalation	1,400	12,500	22,000	-	-	-	-
	Direct Contact	-	-	-	150	8,100	10,100	20,300
	Outdoor Inhalation	-	-	-	11	220	110	63
	MAC (mg/kg)	1,400	12,500	22,000	-	-	-	-
Residual Contaminant Levels (mg/kg)		31.01	8377	96	.002	0.005	0.005	0.0101
GW (mg/L)		2.2	1.5	1.1	0.005	1	0.7	10

COCs – contaminants of concern
GRO – gasoline range organics
DRO – diesel range organics
RRO – residual range organics
mg/kg - milligrams per kilogram
mg/L - milligrams per liter
MAC – maximum allowable concentration
GW – groundwater cleanup levels

In addition to the COCs included in the above table, per 18 AAC 75.340(k), for a cleanup conducted under methods two and three, any chemical that is detected at one-tenth or more of the Table B1 direct contact and inhalation cleanup levels must be included when calculating cumulative risk (see the cumulative risk evaluation section, below).

Characterization and Cleanup Activities

In 1995, the UST 4-E-3 was removed and approximately 12 cy of soil was excavated. Excavated soils were thermally treated at OIT. Excavation was limited by Building 202 and its associated sewer line. Confirmatory samples collected at the base of the excavation (approximately 8 feet bgs) indicated the presence of residual DRO contamination (16,500 mg/kg).

During the 1995 RI, three monitoring wells (MW-A, MW-B and MW-C) were installed and five soil borings were advanced around the location of former UST 4-E-3. Based on the measured groundwater flow direction at the time, a well was not located immediately downgradient from the site. The Building 203 AOC has monitoring probes (GP-01, GP-02, GP-03 and GP-04) that are somewhat down gradient but they are over 250 feet away. DRO was detected in the groundwater sample from MW-A at a concentration of 7.3 milligrams per liter (mg/L). Soil samples from borings next to or in the location of former UST 4-E-3 contained DRO at concentrations greater than DEC cleanup levels (up to 29,000 mg/kg at 10.5 feet bgs and 7,400 mg/kg at 12 feet bgs).

Quarterly groundwater sampling was conducted for a year in 1998 and the results indicated that contaminants were less than regulatory levels. However, analytical results in monitoring well MW-A from the last sampling event in August 1998 showed that DRO concentrations were increasing (0.9 mg/L and 1.1 mg/L in the duplicate), possibly related to sampling methods/quality. Previous events showed a stable DRO concentration ranging from 0.540 mg/L to 0.660 mg/L.

During the 2011 RI, a total of 7 UVOST probes were advanced in this AOC. Nine borings were advanced to verify UVOST screening results and to further characterize the extent of contamination in this area. A total of 16 soil samples were collected and analyzed as follows: 16 for DRO and RRO analyses, 15 for GRO and BTEX analyses, five for VPH and EPH analyses, and six for PAH analysis. One soil sample was collected for TOC, bulk density, sieve, specific gravity, and moisture content analyses from this AOC. DRO was detected at concentrations greater than the most stringent DEC Method Two cleanup level of 250 mg/kg in seven soil samples collected from the Building 202, former UST 4-E-3 AOC at depths varying from 8 to 12.5 feet bgs. DRO concentrations ranged from 630 mg/kg to 19,000 mg/kg in these seven samples. The highest DRO concentration (19,000 mg/kg), from B100, is above the DEC maximum allowable concentration of 12,500 mg/kg. All reported RRO, GRO, BTEX, and PAH results were less than the most stringent, DEC Method Two, Under 40 Inch Zone, Migration to Groundwater cleanup levels.

One monitoring well, MW-109, was installed at the Building 202, former UST 4-E-3 AOC to a depth of approximately 18 feet bgs during the 2011 RI. Three existing monitoring wells; MWA, MW-B, and MW-C, were also sampled during this RI. Groundwater samples were collected and analyzed for DRO, RRO, GRO, BTEX, and PAH. MW-A was also sampled and analyzed for VPH and EPH in addition to the previously mentioned analyses. All reported analytical results for the groundwater samples collected from monitoring wells at the Building 202, former UST 4-E-3 AOC were less than the DEC 18 AAC 75 Table C groundwater cleanup levels. The RRO concentrations (all were non-detect) were estimated due to an exceedance of the extraction hold time.

Cumulative Risk Evaluation

Per 18 AAC 75.325(g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative

carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

The HRC was used to evaluate risk from petroleum contamination at the Building 202, Former UST 4-E-3 AOC at the FAA FIA Headquarters. The HRC is designed for sites with petroleum contamination—specifically the petroleum fractions, BTEX, PAHs, and other compounds dissolved in petroleum—with the intention and purpose of assessing human health risk from this type of contamination.

The estimated rounded cumulative cancer risk at the Building 202, Former UST 4-E-3 AOC for the current and hypothetical exposure scenarios, across all exposure pathways, is below the regulatory risk standard of 1×10^{-5} for petroleum hydrocarbons.

The estimated cumulative non-cancer health index at the Building 202, Former UST 4-E-3 AOC for the current and hypothetical exposure scenarios, across all exposure pathways, is below the regulatory risk standard of 1. This AOC meets the DEC risk criteria [18 AAC 75.325(g)] for petroleum hydrocarbons. The risk posed by the DRO aromatic and aliphatic surrogate fractions meets the risk standard for each exposure pathway, assuming a residential land use scenario.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De-Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in the table below.

Table 18. Exposure Pathway Evaluation – FIA FAA B202, UST 4-E-3

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contamination was released directly to the subsurface from a UST.
Sub-Surface Soil Contact	Exposure Controlled	The contamination remaining is inaccessible at 8-14' bgs and therefore exposure is controlled as long as soil disturbance institutional controls are maintained.
Inhalation – Outdoor Air	De Minimis Exposure	Modeling using the Hydrocarbon Risk Calculator, in accordance with Method 3 under 18 AAC 75.340, demonstrated that residual petroleum contaminants in soil do not pose an inhalation risk.
Inhalation – Indoor Air (vapor intrusion)	De Minimis Exposure	Contamination is not present in the groundwater and modeling using the Hydrocarbon Risk Calculator, in accordance with Method 3 under 18 AAC 75.340, using conservative assumptions, demonstrated that residual petroleum contaminants in soil do not pose an inhalation risk.
Groundwater Ingestion	Pathway Incomplete	Contaminants in groundwater are below all drinking water action levels, and modeling using the Hydrocarbon Risk Calculator, in accordance with Method 3 under 18 AAC 75.340, demonstrated that residual petroleum contaminants in soil do not pose a migration to groundwater risk/concern.
Surface Water Ingestion	Pathway Incomplete	Surface water is not present at the site, and modeling using the Hydrocarbon Risk Calculator, in accordance with Method 3 under 18 AAC 75.340, demonstrated that residual petroleum contaminants in soil do not pose a migration to surface water risk/concern.

Wild and Farmed Foods Ingestion	Pathway Incomplete	The area around the site is unlikely to be used for hunting, fishing, or the harvesting of food as it is located in the airport area.
Exposure to Ecological Receptors	Pathway Incomplete	There is no evidence of direct ecological impacts at this site, and no terrestrial or aquatic exposure routes are present in this area of the airport.

DEC Decision

Uncharacterized contamination evidently extends under Building 202. Sampling near the building's foundation indicate DRO is present at concentrations exceeding the DEC Method 2 under 40 inch zone Migration to Groundwater Cleanup Levels.

In addition, based on the HRC calculations, it appears that the Building 202, Former UST 4-E-3 AOC is not eligible for a Cleanup Complete determination due to DRO aliphatics in the soil direct contact pathway that pose unacceptable risk under a residential land use scenario. However, the contamination is isolated to the depth of 8-14 feet bgs, where it is unlikely to impact potential receptors if left undisturbed. The HRC results indicate that the outdoor air vapor inhalation, indoor air vapor inhalation, and groundwater ingestion pathways pose acceptable risk and the migration to groundwater criteria have been attained in surface and subsurface soils in accordance with 18 AAC 75.340.

DEC has determined there is no unacceptable risk to human health or the environment as long as the contamination is properly managed. Monitoring has confirmed that there is no impact to groundwater above cleanup levels, and surface water migration is unlikely given the remaining contaminant mass, distance from the nearest surface water body, and known contaminant concentrations. Exposure to the direct contact pathway will be controlled with ICs. This closure is subject to the following conditions:

1. Sub-surface soil contamination is located near the Building 202. When the building is removed and/or the soil becomes accessible, the soil must be evaluated and contamination addressed in accordance with a DEC approved work plan.
2. Excavation and soil disturbance is prohibited at this site without a DEC-approved workplan.
3. Monitoring wells are to remain in place at this site until the ICs are removed. Following the removal of ICs, the monitoring wells are to be removed within one year.
4. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 75.325. A "site" [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.
5. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

The DEC Contaminated Sites Database will be updated to reflect the change in site status as detailed above, and will include a description of the contamination remaining at the site. Institutional controls will be removed in the future if documentation can be provided that shows cleanup levels and risk standards have been met. Management conditions 4-5 remain in effect after ICs are removed. The informational CSP database entry "FAA - FIA – Sitewide" – file number 100.38.249, Hazard ID: 26277 will be updated to describe the site status changes specified above. In addition, the site-specific CSP database entry for this AOC, "FAA - FIA - Headquarters Compound," site number 100.26.138, HID: 24469, will be updated to indicate that this AOC, with source area ID 79784, has received a "Cleanup Complete with ICs" determination and will include the above information. The "FAA - FIA - Headquarters Compound" site itself will remain "active," as it addresses all of the AOCs within the headquarters compound area. This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

***Attachment B* (enclosed) documents that the FAA concurs with the terms and conditions of this Cleanup Complete with ICs Determination.**

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

FAA Headquarters Buildings 300 and 207 Floor Drains

Site Description and Background

Building 300 is a pre-fabricated metal structure that was constructed in the late 1950s and has been used as a carpenter shop and vehicle shop. There are two sump-style floor drains in Building 300 that are classified as Class V Motor Vehicle Waste Disposal Wells. Drain 1 is located in the southern portion of the building and was reported to receive an average of 500 gallons per month until the 1980s, then less than 5 gallons per month as of 1996. Drain 2 is located in the northern portion and was reported to receive an average of 500 gallons per month until the 1980s, then less than 50 gallons per month as of 1996. According to the facility's injection well (IW) inventory from 1996, both of the floor sumps in this structure had gravel floors that were covered with concrete in 1995 and were still in use.

Building 207 is a two-level structure constructed in the 1980s that has been used as a garage, for storage, as a shop, and for employee training. Building 207 was reported to have three sump style floor drains that each received an average of 500 gallons per month in the 1980s and received less than 50 gallons per month as of 1996. As with the Building 300 sumps, the floors of the three Building 207 sumps were reportedly covered with concrete in 1995 and were still in use. FAA notes indicate that the Building 207 drains are connected to each other by a 4-inch pipe that leads to an unknown location.

Contaminants of Concern and Cleanup Levels

The contaminants of concern (COCs) at this site are detailed in the table below. The applicable cleanup levels for each COC are the Method 2, under 40 inch zone, migration to groundwater cleanup levels listed in Tables B1 and B2 in 18 AAC 75.341, and the groundwater cleanup levels in 18 AAC 75.345 Table C.

In addition to the COCs listed below, per 18 AAC 75.340(k), for a cleanup conducted under methods two and three, any chemical that is detected at one-tenth or more of the Table B1 direct contact and inhalation cleanup levels must be included when calculating cumulative risk.

Table 19. COCs and Cleanup Levels at FAA Headquarters B300 and B207 Floor Drains

Contaminants	Method 2 Under 40 Inch Zone Cleanup Levels (mg/kg)						GW (mg/L)
	Migration to Groundwater	Ingestion	Inhalation	Direct Contact	Outdoor Inhalation	MAC (mg/kg)	
GRO	300	1,400	1,400	-	-	1,400	2.2
DRO	250	10,250	12,500	-	-	12,500	1.5
RRO	11,000	10,000	22,000	-	-	22,000	1.1
VOCs	Various						
SVOCs	Various						
PCBs	-	-	-	1	-	-	0.0005
Arsenic	3.9	-	-	4.5	-	-	0.01
Cadmium	5	-	-	79	-	-	0.005
Chromium	25	-	-	300	-	-	0.1
Lead	-	-	-	400	-	-	0.015

COCs – contaminants of concern
GRO – gasoline range organics
DRO – diesel range organics
RRO – residual range organics
VOCs – volatile organic compounds
SVOCs – semi-volatile organic compounds
PCBs – polychlorinated biphenyls
mg/kg - milligrams per kilogram
mg/L - milligrams per liter
MAC – maximum allowable concentration
GW – groundwater cleanup levels

Characterization and Cleanup Activities

Work at the Building 2007 and 300 floor drains was conducted in 2011. Work at the Building 207 floor drains consisted of assessing whether the building's three floor sumps qualify as Class V Injection Wells since it was unclear if or where they discharge fluids. Each floor sump measured approximately 1.5 feet by 1.5 feet and was 1.5 feet deep. Two 4-inch pipes linked the central sump with the other two sumps. Each sump is constructed of concrete walls and bottom, and liquids that enter sumps do not discharge to the subsurface. A few inches of standing water was present in the northwest floor sump and sorbent pads and kitty litter were present at the bottom of the other two sumps. The pipes that connect the sumps appeared to allow liquids to flow among the sumps so that if one sump receives more fluid that its volumetric capacity, the liquid will distribute among the sumps to reduce the potential for overflow. According to the FAI Systems Support Center manager, liquids are periodically pumped from the sumps to avoid overspills. Since the Building 300 floor sumps did not appear to discharge to the subsurface, they were not cleaned, closed, or sampled. After consultation between the United States Environmental Protection Agency (EPA) and DEC, however, it was determined that the drain sumps originally had open bottoms. It was recommended that the discharge point under the building should be investigated when the building is decommissioned.

Building 300 had one IW, constructed of two floor drains (sumps) that were plumbed into a common discharge pipe that lead to a buried timber crib on the southwest side of the structure. Both sumps measured 12 inches by 18 inches and were 16 inches deep with 3-inch discharge pipes. The common discharge pipe ends at a the crib that is buried approximately 2 feet bgs and is shown to be 5 feet by 5 feet and 4.5 feet deep on Building 300 as-built drawings. For the 2011 B300 injection well closure, pipes leading from the two sumps to the common outfall pipe were plugged with expandable plugs and the sump was partially filled with clean soil and capped with 8 inches of concrete cement.

The expandable plugs were entirely covered with concrete. Approximately 3 and 5 inches of freeboard were left in the Drain 1 and Drain 2 sumps, respectively, to permit accumulation of snowmelt and other liquids. Sediment and sludge that had accumulated in the Building 300 sumps were removed and disposed of in accordance with federal and state regulations that regulate transport and handling of potentially-hazardous waste. A waste characterization sample collected from approximately 41 kilograms of waste indicated that it was non-hazardous. One primary and one duplicate sample were collected from approximately one foot beneath the floor of the Building 300 septic crib using a Geoprobe drill rig and Macro-Core sampler. Soil samples were analyzed for gasoline-range organics (GRO), diesel-range organics (DRO), residual-range organics (RRO), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals (arsenic, cadmium, chromium, and lead). Sample results indicated concentrations of each target analyte were less than its respective DEC Method 2 cleanup level. The detection limits for multiple VOCs and SVOCs, however, were above the cleanup levels in the sample results.

In November 2012, The EPA provided the FAA with an injection well closure letter titled "Conditional Approval of Permanent Closure of One Injection Well at FAA's Fairbanks Station Building 300 and Three Injection Wells at Building 207, Fairbanks, Alaska 99709." This letter directed the FAA to work with DEC to determine the appropriate next steps for the investigation under Building 207 following decommissioning, and to follow up on the Building 300 septic crib VOC and SVOC analytical results' detection limits which exceeded cleanup levels.

Cumulative Risk Evaluation

Pursuant to 18 AAC 75.325(g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be made that the risk from hazardous substances does not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative noncarcinogenic risk standard at a hazard index of one across all exposure pathways.

From the existing information, there are no compounds exceeding 1/10 of the DEC direct contact and inhalation cleanup levels at the site following characterization and remediation efforts. Therefore, based on a review of the environmental record, DEC has determined that, provided that the institutional controls are in place, residual contaminant concentrations do not pose a cumulative human health risk at this area of concern.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using DEC's Exposure Tracking Model (ETM). Exposure pathways are the conduits by which contamination may reach human or ecological receptors. ETM results show all pathways to be one of the following: De-Minimis Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in the table below.

Table 20. Exposure Pathway Evaluation - FAA Headquarters B300 and B207 Floor Drains

Pathway	Result	Explanation
Surface Soil Contact	Exposure Controlled	The three sumps at Building 207 originally had open bottoms and the original discharge location beneath the building is unknown. FAA will work with DEC to investigate under the floor of the building when it is decommissioned.
Sub-Surface Soil Contact	Exposure Controlled	The Building 300 floor drain samples had detection limits for multiple VOCs and SVOCs that were above the DEC Method 2 cleanup levels and the three sumps at Building 207 originally had open bottoms and the original discharge

		location beneath the building is unknown. For both Buildings 207 and 300, when the building is removed and/or the soil becomes accessible, the soil must be evaluated and contamination addressed in accordance with a DEC approved work plan.
Inhalation – Outdoor Air	Exposure Controlled	While the VOC and SVOC analysis detection limits were greater than state cleanup standards at the Building 300 injection well, they were less than inhalation action levels.
Inhalation – Indoor Air (vapor intrusion)	Exposure Controlled	Samples taken from the floor drain directly beneath B300 were non-detect for volatile compounds. In Building 207, the floor sumps are linked together and the former unknown drain location will be sampled when the building is decommissioned
Groundwater Ingestion	Pathway Incomplete	Monitoring wells installed in the area of Building 207 and 300 for the UST 4-E-4 and 4-E-5 UST investigations did not detect any contaminants greater than the DEC groundwater cleanup levels. This indicates that the contaminants possibly remaining beneath the buildings have not migrated to groundwater.
Surface Water Ingestion	Pathway Incomplete	There is no surface water in the area and groundwater monitoring wells in the area indicate the remaining mass of contamination is not at risk of migration into surface water.
Wild and Farmed Foods Ingestion	Pathway Incomplete	The area around the site is unlikely to be used for hunting, fishing, or the harvesting of food as it is located in the airport area.
Exposure to Ecological Receptors	Pathway Incomplete	There is no evidence of direct ecological impacts at this site, and no terrestrial or aquatic exposure routes are present in this area of the airport.

DEC Decision

No sampling was conducted at the three floor sumps at Building 207. In addition, the Building 300 floor drain samples had detection limits for multiple VOCs and SVOCs that were above the DEC Method 2 cleanup levels. The November 9, 2012 letter from the EPA titled "Conditional Approval of Permanent Closure of One Injection Well at FAA's Fairbanks Station Building 300 and Three Injection Wells at Building 207, Fairbanks, Alaska 99709," (enclosed) states that because the three sumps at Building 207 originally had open bottoms and the original discharge location beneath the building is unknown, FAA will work with DEC to investigate under the floor of the building when it is decommissioned. Also, the letter states that FAA will work with DEC to determine the appropriate steps in response to the VOC and SVOC analysis detection limits were greater than state cleanup standards at the Building 300 injection well. DEC has determined that this site will receive a "cleanup complete with ICs" determination, with the following conditions:

1. For both Buildings 207 and 300, when the building is removed and/or the soil becomes accessible, the soil must be evaluated and contamination addressed in accordance with a DEC approved work plan.
2. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 75.325. A "site" [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.
3. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

The DEC Contaminated Sites Database will be updated to reflect the change in site status as detailed above, and will include a description of the contamination remaining at the site. Institutional controls will be removed in the future if documentation can be provided that shows cleanup levels and risk standards have been met. Management conditions 2-3 remain in effect after ICs are removed. The informational CSP database entry "FAA - FIA – Sitewide" – file number 100.38.249, Hazard ID: 26277 will be updated to describe the site status changes specified above. In addition, the CSP database entry for "FAA - FIA - Headquarters Compound," site number 100.26.138, HID: 24469, will be updated to indicate that that this area has received a "Cleanup Complete with ICs determination. The "FAA - FIA - Headquarters Compound" site itself will remain "active," as it addresses all of the AOCs within the headquarters compound area. In addition, the site specific CSP database entry titled, "FAA - FIA - Headquarters Facility Bldgs 300 and 207 Floor Drains," with site number 100.38.243 and HID: 25912, will be closed with a "Cleanup Complete with ICs" determination and the information above.

This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

***Attachment C* (enclosed) documents that the FAA and the site landowners concur with the terms and conditions of this Cleanup Complete with ICs Determination.**

Appeal

Any person who disagrees with this decision may request an adjudicatory hearing in accordance with 18 AAC 15.195 – 18 AAC 15.340 or an informal review by the Division Director in accordance with 18 AAC 15.185. Informal review requests must be delivered to the Division Director, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 15 days after receiving the department's decision reviewable under this section. Adjudicatory hearing requests must be delivered to the Commissioner of the Department of Environmental Conservation, 410 Willoughby Avenue, Suite 303, Juneau, Alaska 99811-1800, within 30 days after the date of issuance of this letter, or within 30 days after the department issues a final decision under 18 AAC 15.185. If a hearing is not requested within 30 days, the right to appeal is waived.

Sincerely,

Recommended By

Monte Garroutte

Monte Garroutte
Environmental Program Specialist

Approved By

Fred Vreeman
Program Manager

Enclosures:

- Site Figures
- DEC Record of Decision - "No Further Action at Selected FAA Fuel Storage Tanks at Fairbanks Intl. Airport" (February 26, 1997)
- DEC Record of Decision - "Closure of Tank Sites at the Fairbanks Airport" (March 30, 2005)
- VORTAC Area Well Log 402727 – Recorded September 12, 1980
- EPA - Conditional Approval of Permanent Closure of One Injection Well at FAA's Fairbanks Station Building 300 and Three Injection Wells at Building 207, Fairbanks, Alaska 99709 (November 9, 2012)
- Attachment A: FAA FIA Air Traffic Control Tower, Cleanup Complete-ICs Agreement and Signature Page
- Attachment B: FAA FIA Headquarters Building 202, Former UST 4-E-3, Cleanup Complete-ICs Agreement and Signature Page
- Attachment C: FAA FIA Headquarters Buildings 300 and 207 Floor Drains - Cleanup Complete-ICs Agreement and Signature Page
- Attachment D: FAA FIA, DEC Excavation Approval Agreement

Attachment A: FAA FIA Air Traffic Control Tower Area of Concern Cleanup Complete-ICs Agreement and Signature Page*

The Federal Aviation Administration agrees to the terms and conditions of this Cleanup Complete with ICs Determination, as stated in decision letter for the FAA Station – Fairbanks International Airport, Alaska, dated September 4, 2015. Failure to comply with the terms and conditions of the determination may result in ADEC reopening this site and requiring further remedial action in accordance with 18 AAC 78.276(f).

Engineer
Signature of Authorized Representative, Title
United States Federal Aviation Administration

12/10/2015
Date

Lance Raymore
Printed Name of Authorized Representative, Title
United States Federal Aviation Administration

Note to Responsible Person (RP):
After making a copy for your records, please return a signed copy of this form to the ADEC project manager at the address on this correspondence within 30 days of receipt of this letter.

Attachment B: FAA FIA Headquarters Building 202, Former UST 4-E-3 Area of Concern Cleanup Complete-ICs Agreement and Signature Page*

The Federal Aviation Administration agrees to the terms and conditions of this Cleanup Complete with ICs Determination, as stated in decision letter for the FAA Station – Fairbanks International Airport, Alaska, dated September 4, 2015. Failure to comply with the terms and conditions of the determination may result in ADEC reopening this site and requiring further remedial action in accordance with 18 AAC 78.276(f).

[signature] Engineer
Signature of Authorized Representative, Title
United States Federal Aviation Administration

12/10/2015
Date

Lance Raymore
Printed Name of Authorized Representative, Title
United States Federal Aviation Administration

Note to Responsible Person (RP):
After making a copy for your records, please return a signed copy of this form to the ADEC project manager at the address on this correspondence within 30 days of receipt of this letter.

Attachment C: FAA FIA Headquarters Buildings 300 and 207 Floor Drains Area of Concern Cleanup Complete-ICs Agreement and Signature Page*

The Federal Aviation Administration agrees to the terms and conditions of this Cleanup Complete with ICs Determination, as stated in decision letter for the FAA Station – Fairbanks International Airport, Alaska, dated September 4, 2015. Failure to comply with the terms and conditions of the determination may result in ADEC reopening this site and requiring further remedial action in accordance with 18 AAC 78.276(f).

Engineer — 12/10/2015

Signature of Authorized Representative, Title — Date
United States Federal Aviation Administration

Lance Raymore

Printed Name of Authorized Representative, Title
United States Federal Aviation Administration

Note to Responsible Person (RP):
After making a copy for your records, please return a signed copy of this form to the ADEC project manager at the address on this correspondence within 30 days of receipt of this letter.

Attachment D: FAA FIA Excavation Approval Agreement and Signature Page*

The Federal Aviation Administration agrees that DEC approval under 18 AAC 75.325(i) will be required before future site excavation activities are conducted, as stated in decision letter for the FAA Station – Fairbanks International Airport, Alaska, dated September 4, 2015. Failure to comply with the terms and conditions of the determination may result in ADEC reopening this site and requiring further remedial action in accordance with 18 AAC 78.276(f).

Engineer

Signature of Authorized Representative, Title
United States Federal Aviation Administration

12/10/2015
Date

Lance Raymore

Printed Name of Authorized Representative, Title
United States Federal Aviation Administration

Note to Responsible Person (RP):
After making a copy for your records, please return a signed copy of this form to the ADEC project manager at the address on this correspondence within 30 days of receipt of this letter.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

NOV - 9 2012

OFFICE OF
COMPLIANCE AND ENFORCEMENT

Reply To: OCE-082

David C. Allen
FAA Anchorage ARTCC District Office
700 N. Boniface Parkway
Anchorage, Alaska 99506

Re: Conditional Approval of Permanent Closure of One Injection Well at Federal Aviation Administration's Fairbanks Station Building 300 and Three Injection Wells at Building 207, Fairbanks, Alaska 99709
(UIC Facility ID # AK090F5-99-10559)
Administrative Order on Consent (SDWA-10-2010-0071)

Dear Mr. Allen:

The Federal Aviation Administration (FAA) closed one Class V injection well at Fairbanks Station Building 300 and three Class V injection wells at Building 207 under an Administrative Order on Consent (AOC) (SDWA-10-2010-0071).

As required in the AOC, on May 12, 2011, the EPA received a well closure plan for the injection wells located at Fairbanks Station Buildings 300 and 207. On June 15, 2011, the EPA conditionally approved the closure plan. On December 21, 2011, the EPA received a draft well closure report summarizing work conducted from August 9-10, 2011, and on September 20, 2011, toward the closure of the injection wells. On February 17, 2012, the EPA sent comments on the draft well closure report that were coordinated with the Alaska Department of Environmental Conservation's Contaminated Sites Program (ADEC CSP). The EPA received the FAA's response to the comments on April 10, 2012. The EPA sent additional comments on June 1, 2012, and the FAA submitted the final well closure report on July 3, 2012.

The injection wells at Fairbanks Station Buildings 300 and 207 are categorized as motor vehicle waste disposal wells. The sampling and the closure of the injection wells is conducted under 40 C.F.R. §§ 144.82, 144.89, and 146.10(c).

The information provided to the EPA about the closure activities for the injection wells at this site is summarized as follows:

Building 300

The motor vehicle waste disposal well at Building 300 consisted of two floor drain sumps that were plumbed to a common 3 inch discharge pipe that lead to a buried timber crib on the southwest side of the building. The timber crib is buried approximately 2 feet below ground surface and is shown to be 5 feet by 5 feet and 4.5 feet deep.

The floor drain sumps were cleaned, the outfall pipes were plugged with expandable plugs, and the sumps were partially filled with clean soil and capped with 8 inches of concrete cement. One sample and one duplicate were collected from approximately one foot beneath the floor of the timber crib using a Geoprobe drill rig and Macro-Core sampler. The samples were analyzed for gasoline range organics (GRO), diesel range organics (DRO), residual range organics (RRO), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), and metals (arsenic, cadmium, chromium, and lead). The sample results indicate that none of the contaminants of concern are present at concentrations that exceed ADEC's cleanup standards. It was noted that the detection limits for several VOCs and SVOCs are above the state cleanup levels.

Building 207

Three injection wells are listed in the AOC for Building 207 because FAA inventoried three floor drains in 1996 when it was unclear if or where the drains discharged fluids. Each floor drain sump is currently constructed of concrete walls and bottoms with two 4 inch pipes that connect the central sump with the other two sumps. Because the three floor drains are all connected to each other and do not currently discharge, the sumps were not cleaned, closed, or sampled.

Inventory sheets from 1996 in Appendix C of the closure report say, "18in by 18in by 18in deep sumps below floor drains with gravel floors until 1995 when bottoms were closed with concrete; discharge piping remains connected to unknown discharge point beneath building floor. The sumps received 500 gallons of fluid per month until the 1980s and 50 gallons per month since then."

FAA submitted the final well closure report to the ADEC CSP that documents the current status of the sumps. EPA has consulted with the ADEC CSP and has determined that these three floor drain sumps that originally had open bottoms and the original discharge point under the building should be investigated when the building is decommissioned. FAA has agreed to do so, and has agreed to remediate any contamination found at that time.

The UIC program has reviewed the information provided and consulted with staff of the ADEC CSP regarding the closure activities. The EPA UIC program file for this facility has been updated to show that one Class V injection well at Building 300 and three Class V injection wells at Building 207 have been permanently closed with the following conditions:

1. Because the three sumps at Building 207 originally had open bottoms and the location of the original discharge point beneath the building in unknown, FAA will work with the ADEC CSP to investigate under the floor of the building when the building is decommissioned.
2. FAA will also work with the ADEC CSP to determine appropriate next steps in response to the VOC and SVOC analytical results where detection limits were higher than the state cleanup standards for the samples collected from the injection well at Building 300.
3. In EPA's February 17, 2012 letter, EPA requested that FAA provide more information about the "former oil drain pit" mentioned in Appendix C of the draft closure report and that FAA have it added to ADEC's CSP database as an unconfirmed area of concern to investigate when the building is demolished. FAA responded that a follow on release investigation was completed in September 2011 at Buildings 207 and 300 to determine if a release to

groundwater had occurred from the former heating oil tanks at each of the buildings. FAA reported that the results from the release investigation did not find a contamination plume under or around the buildings. Please provide a copy of the September 2011 follow on release investigation document for Buildings 207 and 300 for EPA files.

If additional information becomes available indicating that the injection well closure activities at this site were inadequate, you are required to provide the additional information to the EPA and further efforts may be required in the future. You are also advised that you are responsible for compliance with all other federal, state, or local laws and regulations. If you have any questions, please contact Anne Christopher of my staff, at (206) 553-8293.

Sincerely,

Peter Contreras, Manager
Ground Water Unit

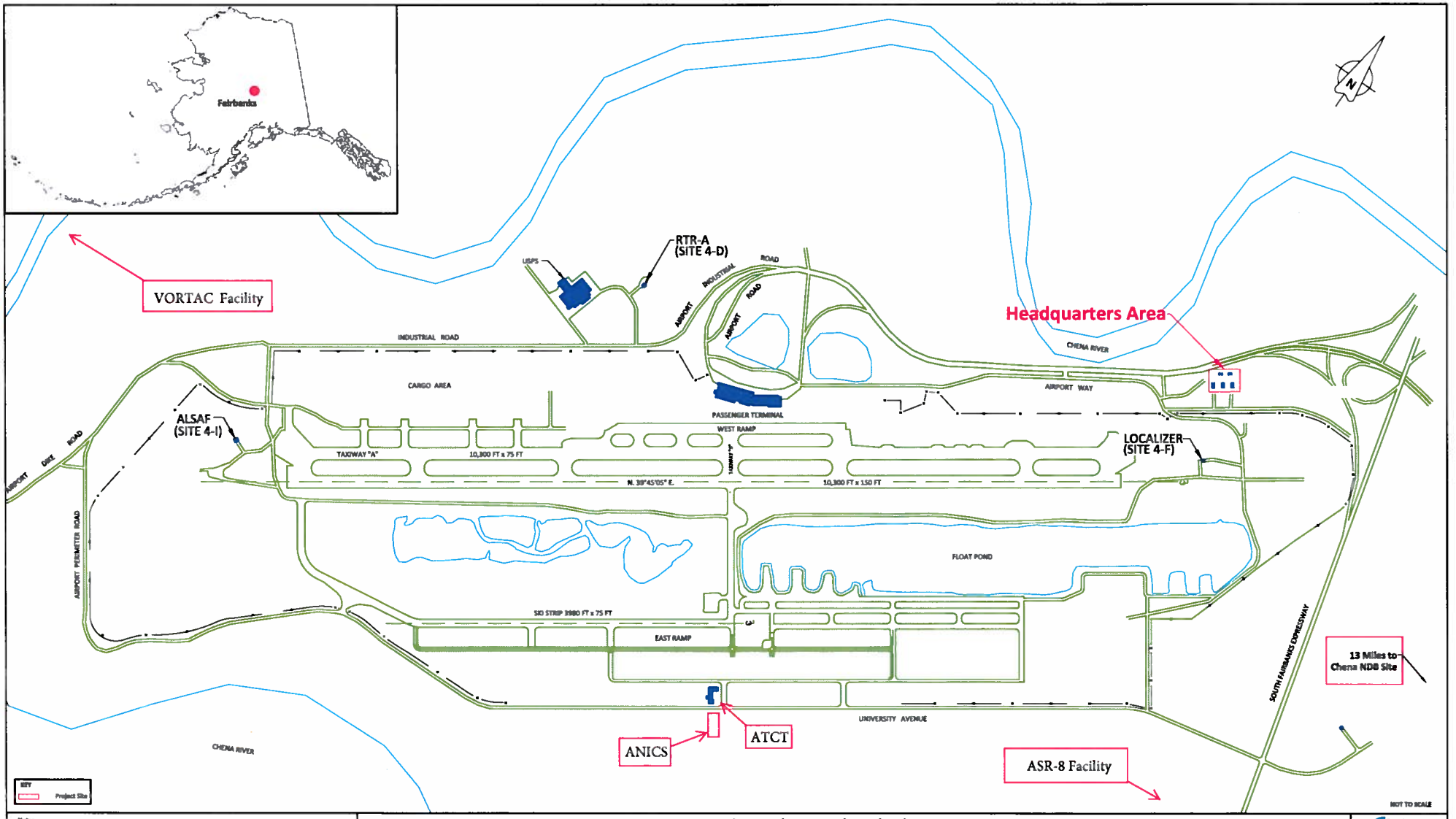
cc by email: Scott Berglund
Federal Aviation Administration

Derrick Wilkerson
Federal Aviation Administration

Aemon Wetmore
Federal Aviation Administration

Fred Vreeman
Alaska Department of Environmental Conservation
Contaminated Sites Program

Melody Debenham
Alaska Department of Environmental Conservation
Contaminated Sites Program



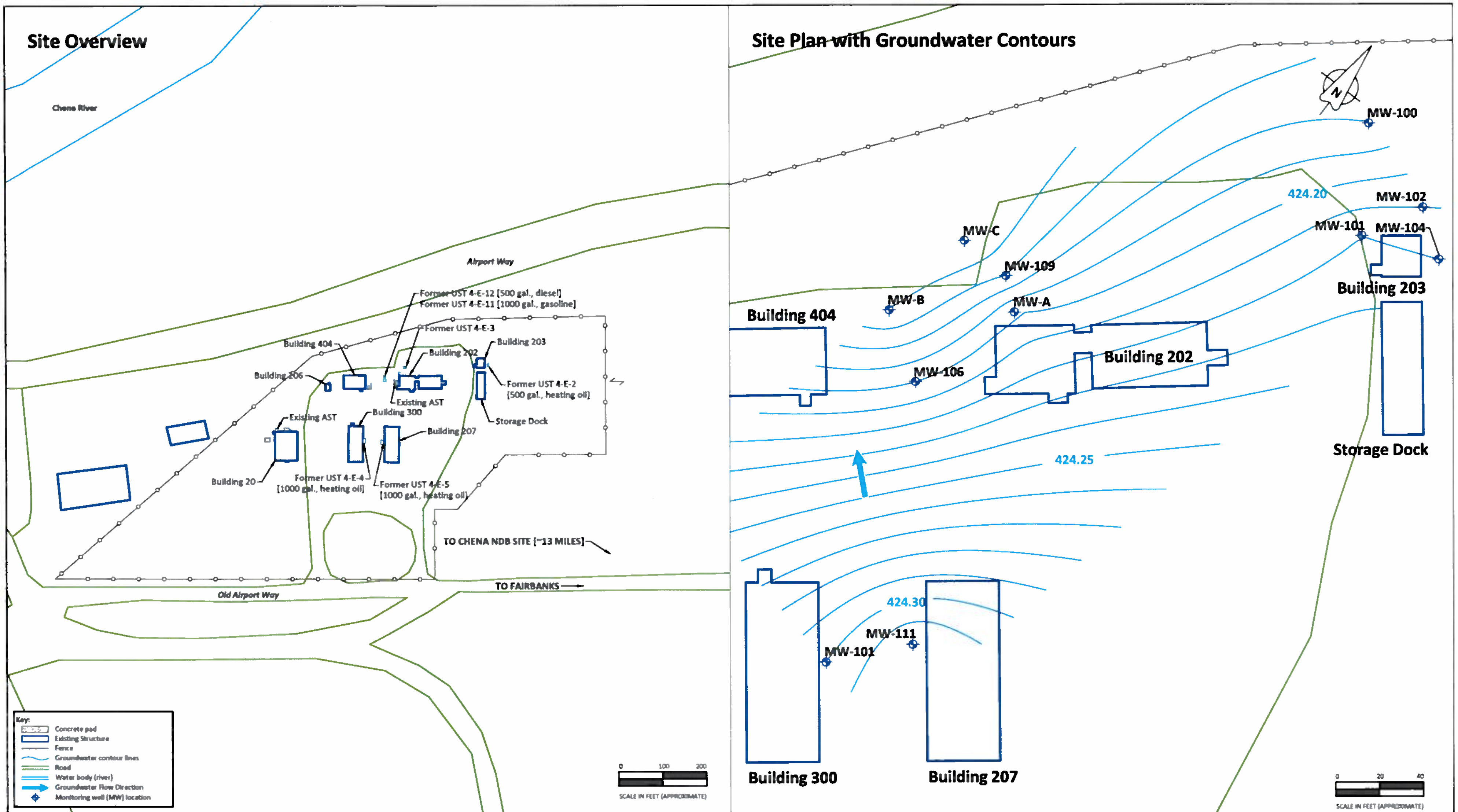
Notes
1. Figure modified from:
   a) E&E. 1995. UST Decommissioning Report. pg. 1-8.
2. All locations are approximate.

Hydrocarbon Risk Calculator Report
Fairbanks FAA Station, Alaska

State and Site Vicinity Maps

Ahtna Engineering

Project Number: 30529.058
Date: 11-12-2014
Drawn By: G.K.
Figure Number: 1-1



Notes:
1. Figure locations based on GPS survey data [Alaska Zone 3, NAD 83 US Survey Feet] provided by Design Alaska Inc. of Fairbanks, Alaska, in 2011.
2. All locations are approximate.

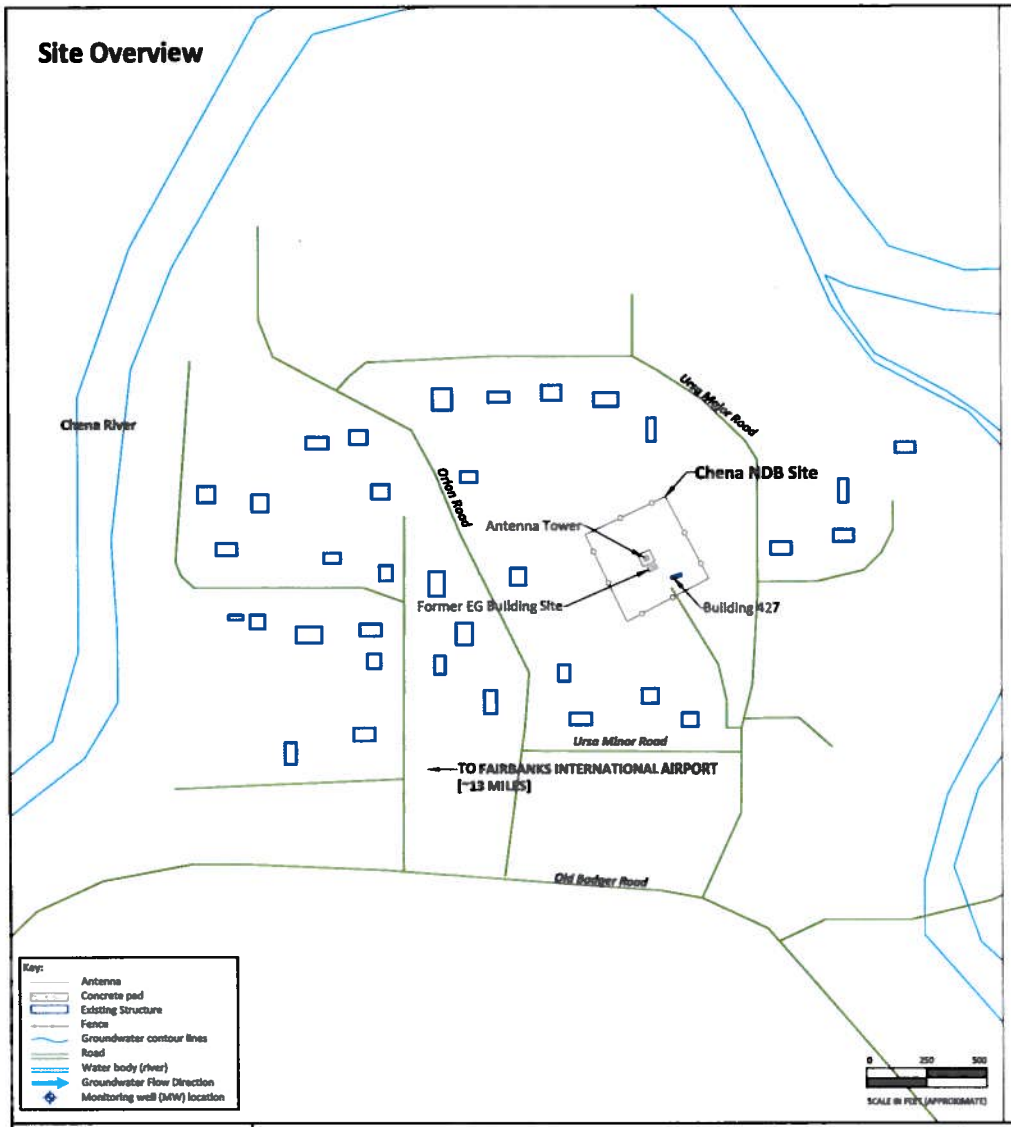
Hydrocarbon Risk Calculator Report
Fairbanks FAA Station, Alaska

Headquarters Area - Site Overview and Groundwater Contours

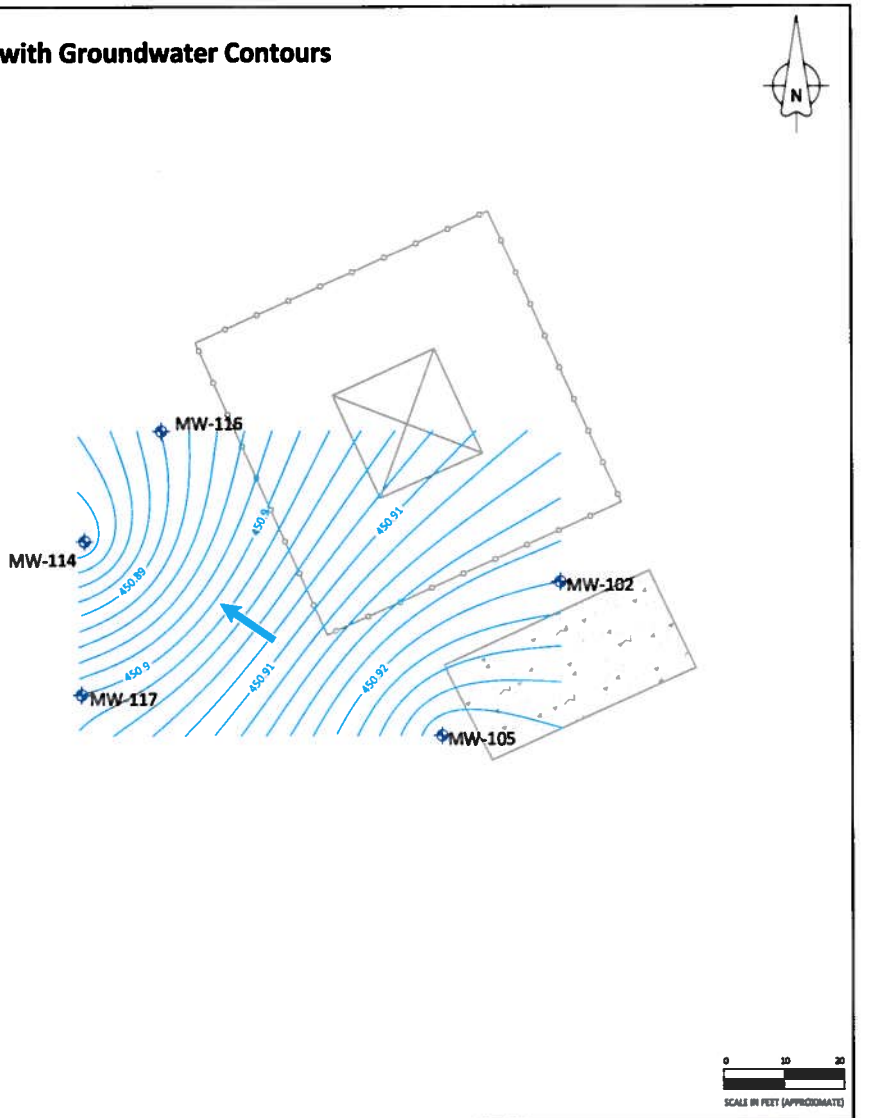
Ahtna Engineering

1-2

Site Overview



Site Plan with Groundwater Contours



Notes:
1. Figure locations based on GPS survey data (Alaska Zone 3, NAD 83 US Survey Feet) provided by Design Alaska Inc. of Fairbanks, Alaska, in 2011.
2. All locations are approximate.

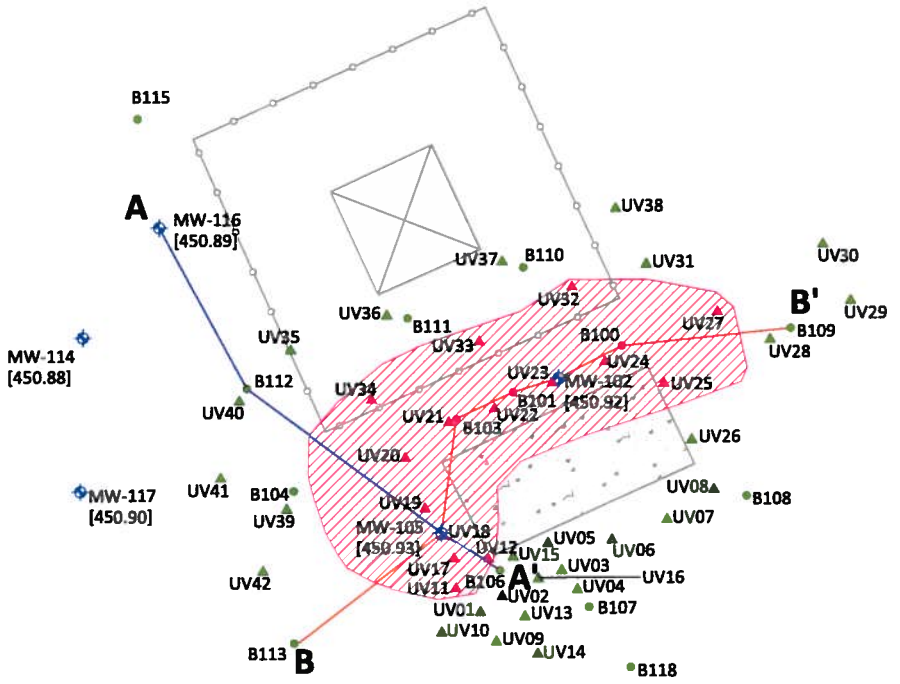
Hydrocarbon Risk Calculator Report
Fairbanks FAA Station, Alaska

Chena NDB - Site Overview and Groundwater Contours

Ahtna Engineering

Figure Number: 1-3

Boring Number	Depth (ft bgs)	DRO (mg/kg)	RRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
B100	8-10	2630	ND	155	ND	ND	ND	0.944
	10-12	5970	176	96	ND	ND	ND	1.38
	14-16	10.1	ND	0.225	ND	ND	ND	ND
B101	10-12	11400	ND	73	ND	ND	ND	22.4
	12-14	481	ND	18.7	ND	0.0171	0.0579	5.05
B102 / MW-102	10-12	5050	ND	290	ND	ND	ND	90
	12-14	941	40.8	88	ND	ND	0.066	19.8
	18-20	12.1	ND	1.2	ND	ND	ND	0.00759
B103	6-8	357	ND	209	ND	ND	ND	1.19
	10-12	6620	280	1100	ND	ND	ND	232
	14-16	21.6	ND	11	ND	ND	ND	0.141
	18-20	18.8	ND	1.03	ND	ND	ND	0.0158
B104	12-14	24.3	ND	0.836	ND	ND	0.0144	0.176
B105 / MW-105	10-12	2410	ND	2200	ND	ND	ND	390
B106	10-12	46	ND	160	ND	ND	0.11	13.7
	14-16	11.8	ND	7.92	ND	ND	0.0329	0.659
	16-18	11.8	ND	1.2	ND	ND	ND	0.0581
B107	8-10	21.1	ND	81.3	ND	ND	0.0112	0.212
	12-14	27.2	ND	10.3	ND	ND	ND	ND
B108	10-12	22	ND	1.38	ND	ND	ND	ND
B109	10-12	12.2	ND	0.828	ND	ND	ND	ND
B110	12-14	22	32.6	0.618	ND	ND	ND	0.018
B111	10-12	144	ND	4.38	ND	0.0151	0.00866	0.142
B112	12-14	11.2	ND	6.4	ND	0.218	0.111	0.776
B113	12-14	15.6	ND	0.598	ND	ND	ND	ND
B114 / MW-114	12-14	34	ND	1.16	ND	ND	0.0128	0.27
B116 / MW-116	14-16	13.4	ND	0.734	ND	ND	0.0139	0.126
B117 / MW-117	12-14	13.9	ND	0.3	ND	ND	ND	ND
B118	12-14	15.6	ND	0.263	ND	ND	ND	ND



Key:

[450.88]	Groundwater elevation measured 9/23/11 in feet
ft bgs	Feet below ground surface
DRO	Diesel Range Organics
GRO	Gasoline Range Organics
mg/kg	Milligrams per Kilogram
ND	Non-detect
RRO	Residual Range Organics
	Antenna
	Approximate area of soil contamination
	Boring location (DRO ≥ 250 mg/kg)
	Boring location (DRO < 250 mg/kg)
	Concrete pad
	Cross Section A Baseline
	Cross Section B Baseline
	Fence
	Monitoring well (MW) location
	UVOST (UV) probe location (Fluorescence ≥ 3%)
	UVOST probe (UV) location (Fluorescence < 3%)

Notes:
1. Figure locations based on GPS survey data (Alaska Zone 3, NAD 83 US Survey Feet) provided by Design Alaska Inc. of Fairbanks, Alaska, in 2011.
2. All locations are approximate.
3. Highlighted analytical results indicate that the result exceeds ADEC Method 2, Under 40-inch Zone, Migration to Groundwater cleanup levels.

Hydrocarbon Risk Calculator Report
Fairbanks FAA Station, Alaska

Chena NDB - Former EG Building, Former UST - 2011 Soil Data

Ahtna Engineering

Project Number: 20123.050
Date: 11-09-2012
Drawn By: L.B.
Figure Number: 8-1

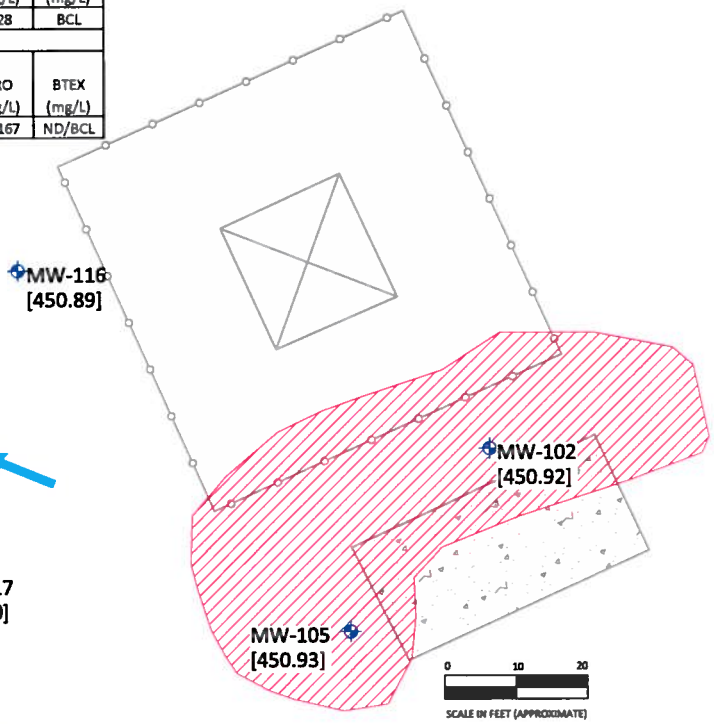
MW-102						
Sample Date	Depth to Water (feet)	Total Depth (feet)	DRO (mg/L)	RRO (mg/L)	GRO (mg/L)	BTEX (mg/L)
9/23/2011	13.29	20.10	14.4	1.15	7.3	ND/BCL

MW-105						
Sample Date	Depth to Water (feet)	Total Depth (feet)	DRO (mg/L)	RRO (mg/L)	GRO (mg/L)	BTEX (mg/L)
9/23/2011	13.15	20.10	4.01	ND	34	X:12.8

MW-114						
Sample Date	Depth to Water (feet)	Total Depth (feet)	DRO (mg/L)	RRO (mg/L)	GRO (mg/L)	BTEX (mg/L)
9/23/2011	12.13	20.10	2.2	0.147	3.02	ND/BCL

MW-116						
Sample Date	Depth to Water (feet)	Total Depth (feet)	DRO (mg/L)	RRO (mg/L)	GRO (mg/L)	BTEX (mg/L)
9/23/2011	12.75	20.10	2.63	0.168	1.28	BCL

MW-117						
Sample Date	Depth to Water (feet)	Total Depth (feet)	DRO (mg/L)	RRO (mg/L)	GRO (mg/L)	BTEX (mg/L)
9/23/2011	9.31	18.00	0.259	ND	0.0167	ND/BCL



Key:
- BCL: Below cleanup limits
- BTEX: Benzene, Toluene, Ethylbenzene, Xylenes
- DRO: Diesel Range Organics
- GRO: Gasoline Range Organics
- mg/L: Milligrams per liter
- ND: Non-detect
- RRO: Residual Range Organics

- [450.93]: Groundwater elevation measured 9/23/11 in feet
- Groundwater Flow Direction
- Antenna
- Approximate area of soil contamination
- Concrete pad
- Fence
- Monitoring well (MW) location

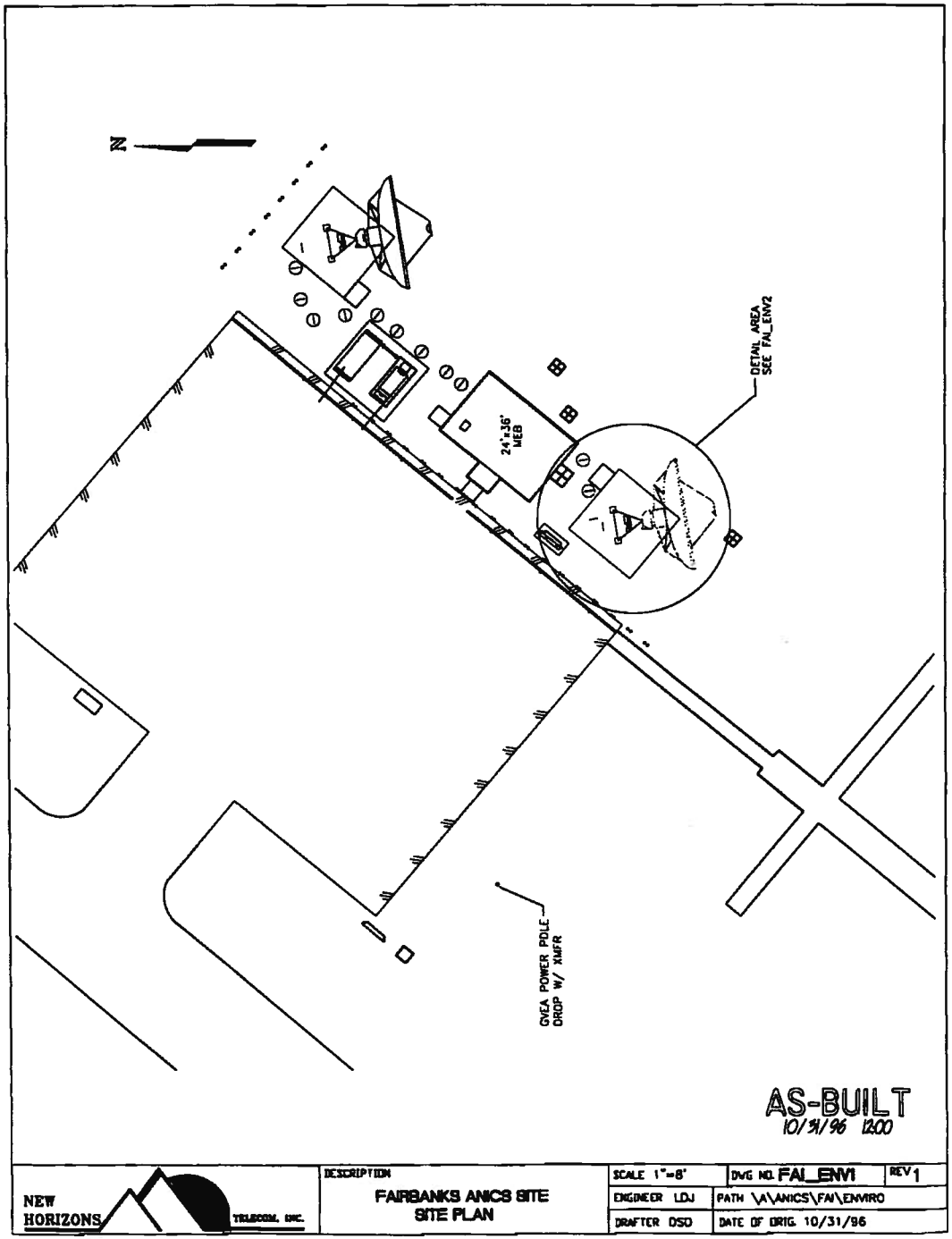
Notes:
1. Figure locations based on GPS survey data (Alaska Zone 3, NAD 83 US Survey Feet) provided by Design Alaska Inc. of Fairbanks, Alaska, in 2011.
2. All locations are approximate.
3. Yellow shaded results indicate that the value exceeds 18 AAC 75 Table C Groundwater cleanup levels.
4. MW-102 excluded from Groundwater Flow Direction calculations due to high contaminant concentrations; potential sheen may have prohibited accurate water level measurement.

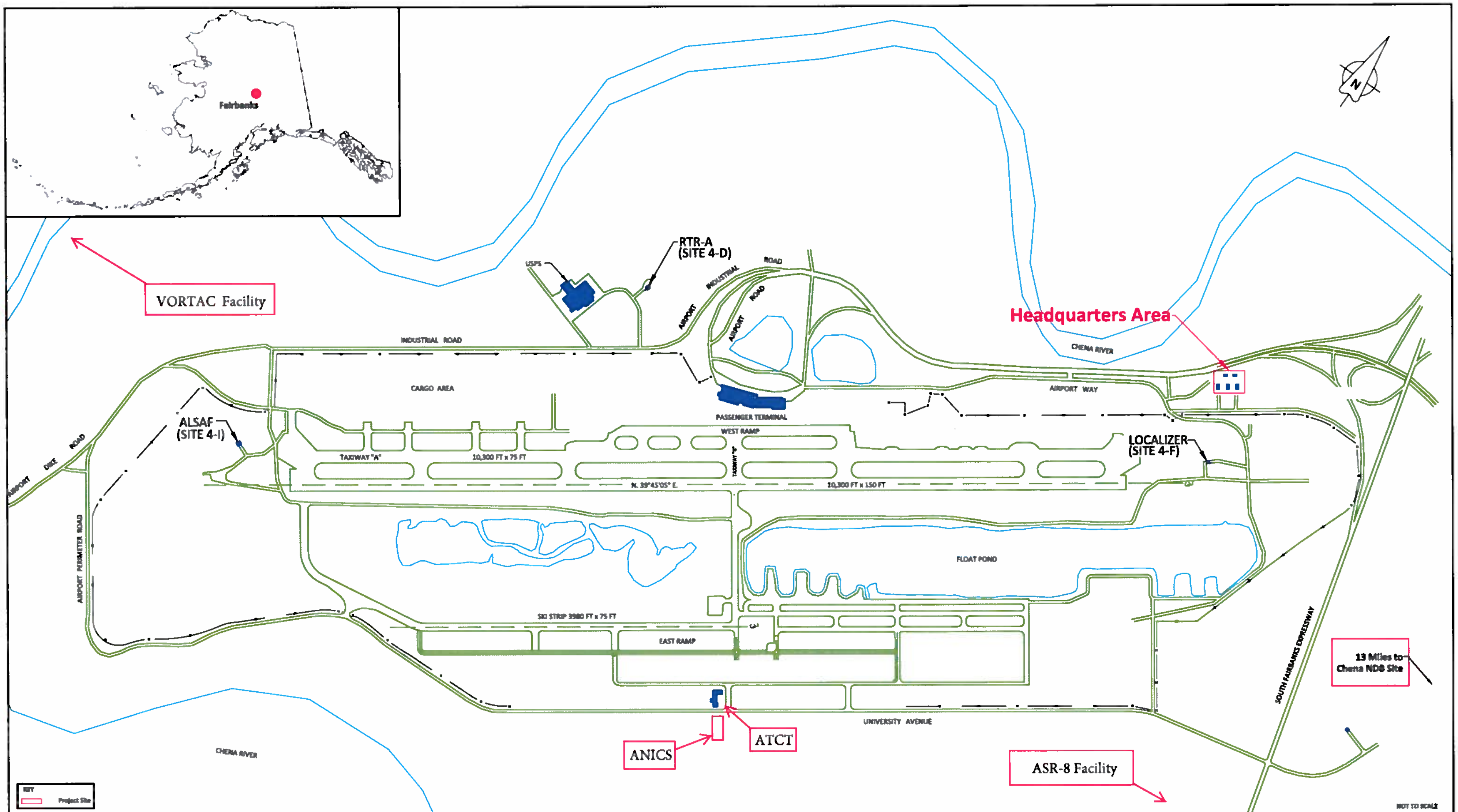
Hydrocarbon Risk Calculator Report
FAA Station Fairbanks, Alaska

Ahtna Engineering

Chena NDB - Former EG Building, Former UST- 2011 Groundwater Data

Project Number: 20125.016
Date: 11-12-2014
Drawn By: K.R.
Figure Number: 8-2


N
24'x36'
MEB
DETAIL AREA
SEE FAI_ENV2
GVEA POWER POLE
DROP W/ XMFR
AS-BUILT
10/31/96 1200
NEW
HORIZONS
TELECOM, INC.
DESCRIPTION
FAIRBANKS ANICS SITE
SITE PLAN
SCALE 1"=8'
DWG NO. FAI_ENV1
REV 1
ENGINEER LDJ
PATH \A\ANICS\FAI\ENVIRO
DRAFTER DSD
DATE OF ORIG. 10/31/96



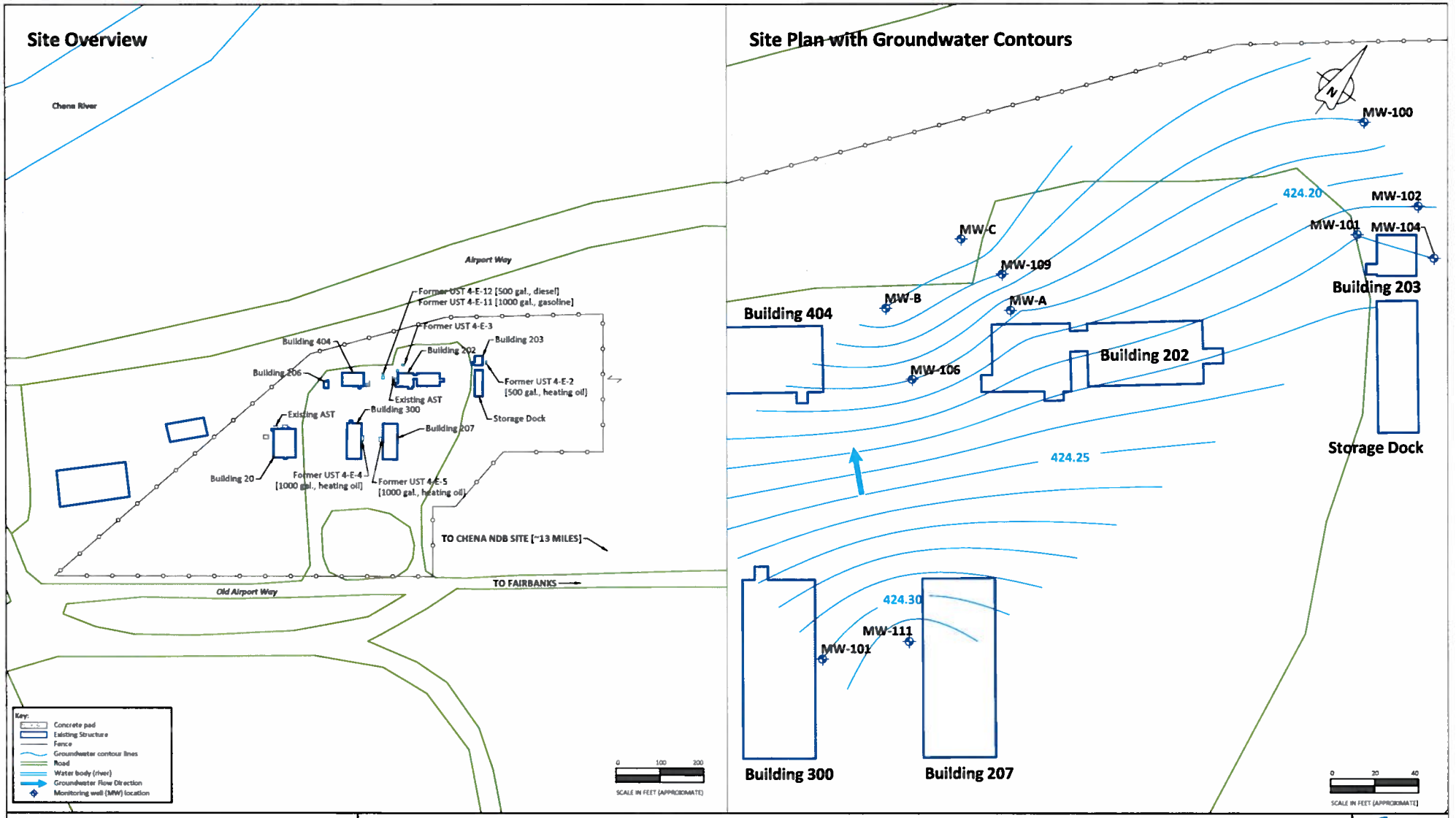
Notes
1. Figure modified from:
a) E&E, 1995. UST Decommissioning Report, pg. 1-8.
2. All locations are approximate.

Hydrocarbon Risk Calculator Report
Fairbanks FAA Station, Alaska

State and Site Vicinity Maps

Ahtna Engineering

Figure Number: 1-1



Notes:
1. Figure locations based on GPS survey data (Alaska Zone 3, NAD 83 US Survey Feet) provided by Design Alaska Inc. of Fairbanks, Alaska, in 2011.
2. All locations are approximate.

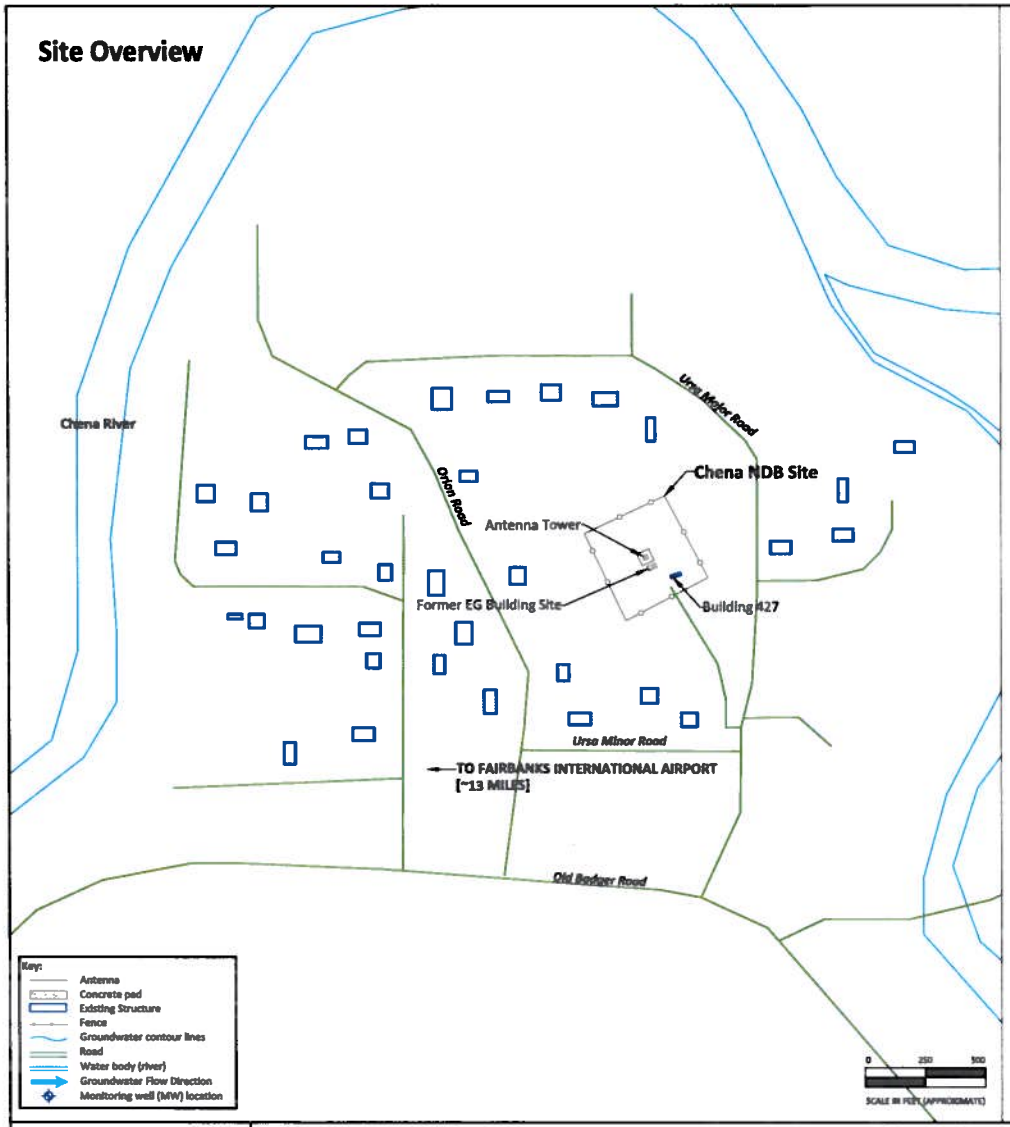
Hydrocarbon Risk Calculator Report
Fairbanks FAA Station, Alaska

Headquarters Area - Site Overview and Groundwater Contours

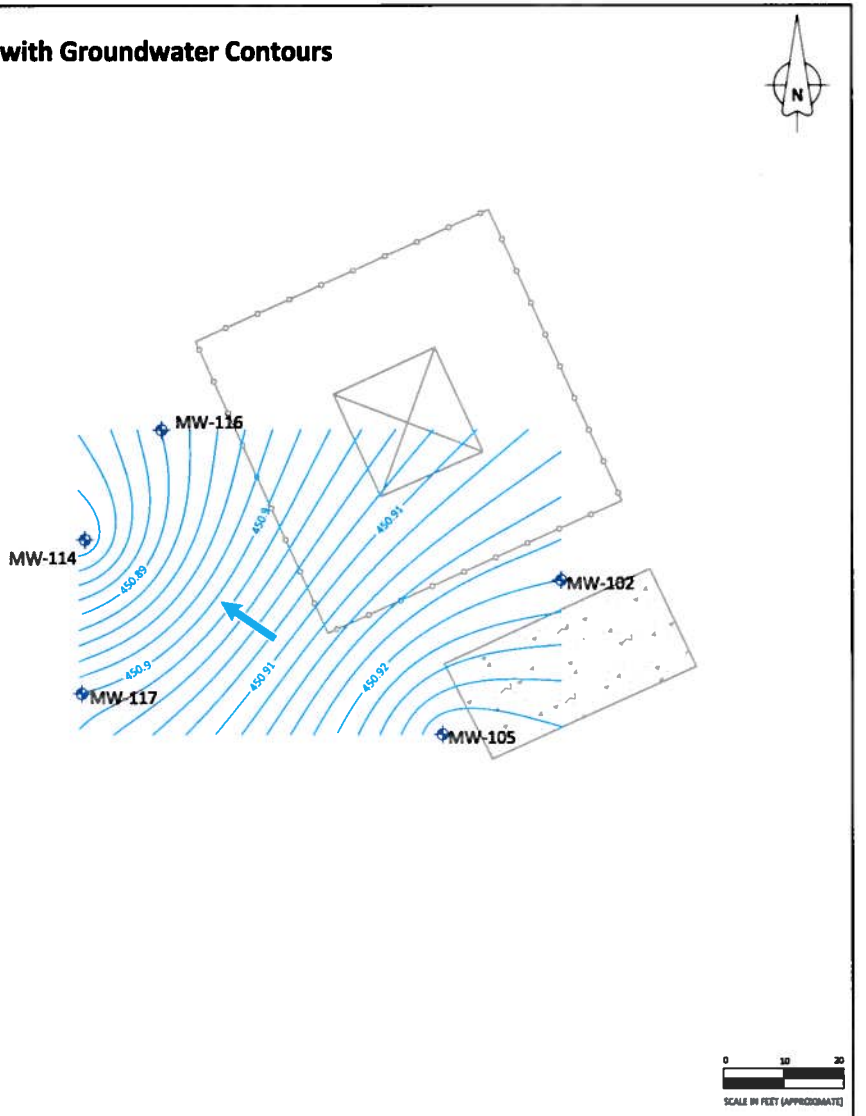
Ahtna Engineering

Project Number: 30125.018
Date: 01-19-2015
Drawn By: G.R.
Figure Number: 1-2

Site Overview



Site Plan with Groundwater Contours



Notes:
1. Figure locations based on GPS survey data (Alaska Zone 3, NAD 83 US Survey Feet) provided by Design Alaska Inc. of Fairbanks, Alaska, in 2011.
2. All locations are approximate.

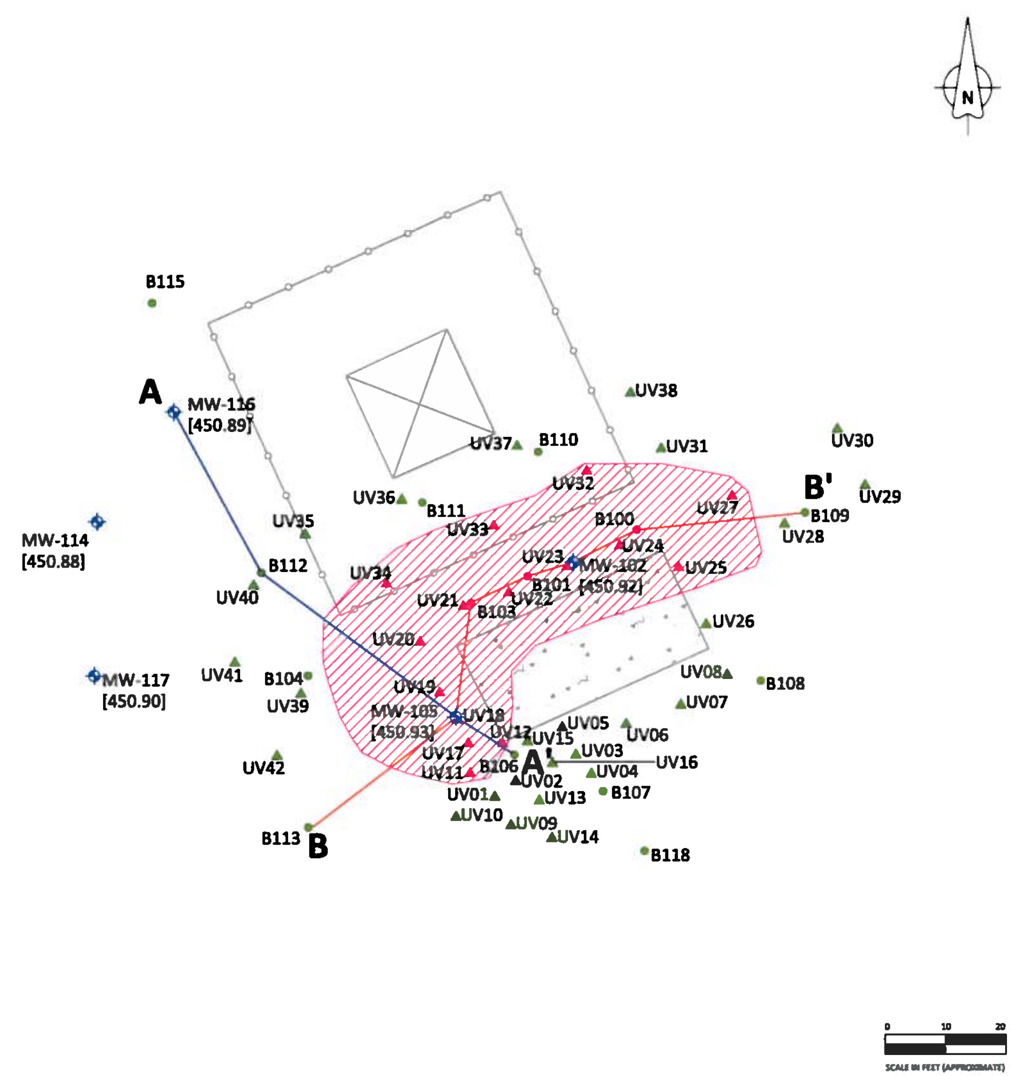
Hydrocarbon Risk Calculator Report
Fairbanks FAA Station, Alaska

Chena NDB - Site Overview and Groundwater Contours

Ahtna Engineering

Project Number: 39125.010
Date: 11-03-2014
Drawn By: G.R.
Figure Number: 1-3

Boring Number	Depth (ft bgs)	DRO (mg/kg)	RRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
B100	8-10	2630	ND	155	ND	ND	ND	0.944
	10-12	5970	176	96	ND	ND	ND	1.38
	14-16	10.1	ND	0.225	ND	ND	ND	ND
B101	10-12	11400	ND	73	ND	ND	ND	22.4
	12-14	481	ND	18.7	ND	0.0171	0.0579	5.05
B102 / MW-102	10-12	5050	ND	290	ND	ND	ND	90
	12-14	941	40.8	88	ND	ND	0.066	19.8
	18-20	12.1	ND	1.2	ND	ND	ND	0.00759
B103	6-8	357	ND	209	ND	ND	ND	1.19
	10-12	6620	280	1100	ND	ND	ND	232
	14-16	21.6	ND	11	ND	ND	ND	0.141
	18-20	18.8	ND	1.03	ND	ND	ND	0.0158
B104	12-14	24.3	ND	0.836	ND	ND	0.0144	0.176
B105 / MW-105	10-12	2410	ND	2200	ND	ND	ND	390
B106	10-12	46	ND	160	ND	ND	0.11	13.7
	14-16	11.8	ND	7.92	ND	ND	0.0329	0.659
	16-18	11.8	ND	1.2	ND	ND	ND	0.0581
B107	8-10	21.1	ND	81.3	ND	ND	0.0112	0.212
	12-14	27.2	ND	10.3	ND	ND	ND	ND
B108	10-12	22	ND	1.38	ND	ND	ND	ND
B109	10-12	12.2	ND	0.828	ND	ND	ND	ND
B110	12-14	22	32.6	0.618	ND	ND	ND	0.018
B111	10-12	144	ND	4.38	ND	0.0151	0.00866	0.142
B112	12-14	11.2	ND	6.4	ND	0.218	0.111	0.776
B113	12-14	15.6	ND	0.598	ND	ND	ND	ND
B114 / MW-114	12-14	34	ND	1.16	ND	ND	0.0128	0.27
B116 / MW-116	14-16	13.4	ND	0.734	ND	ND	0.0139	0.126
B117 / MW-117	12-14	13.9	ND	0.3	ND	ND	ND	ND
B118	12-14	15.6	ND	0.263	ND	ND	ND	ND



Key:

[450.88]	Groundwater elevation measured 9/23/11 in feet
ft bgs	Feet below ground surface
DRO	Diesel Range Organics
GRO	Gasoline Range Organics
mg/kg	Milligrams per Kilogram
ND	Non-detect
RRO	Residual Range Organics
——	Antenna

- Approximate area of soil contamination
- Boring location (DRO ≥ 250 mg/kg)
- Boring location (DRO < 250 mg/kg)
- Concrete pad
- Cross Section A Baseline
- Cross Section B Baseline
- Fence
- Monitoring well (MW) location
- UVOST (UV) probe location (Fluorescence ≥ 3%)
- UVOST probe (UV) location (Fluorescence < 3%)

Notes:

1. Figure locations based on GPS survey data (Alaska Zone 3, NAD 83 US Survey Feet) provided by Design Alaska Inc. of Fairbanks, Alaska, in 2011.
2. All locations are approximate.
3. Highlighted analytical results indicate that the result exceeds ADEC Method 2, Under 40-inch Zone, Migration to Groundwater cleanup levels.

Hydrocarbon Risk Calculator Report
Fairbanks FAA Station, Alaska

Chena NDB - Former EG Building, Former UST - 2011 Soil Data

Ahtna Engineering

8-1

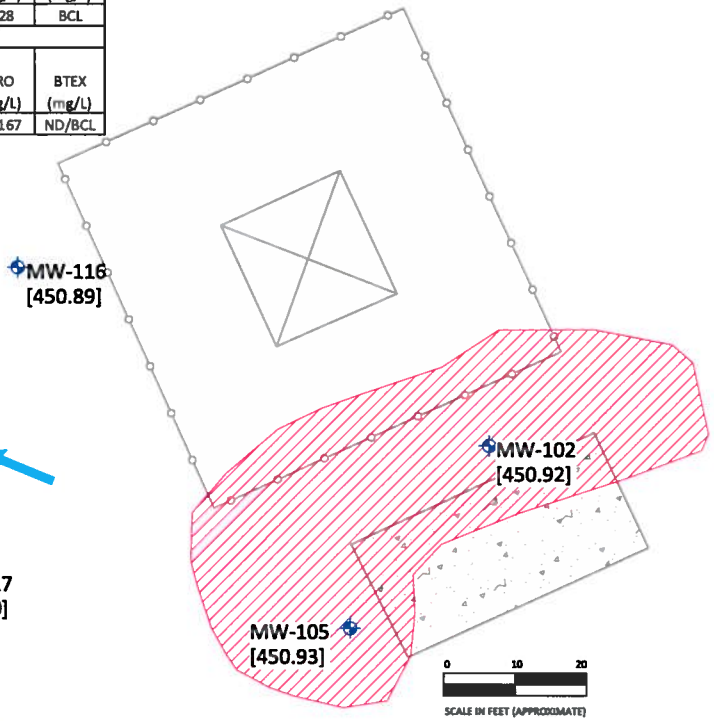
MW-102						
Sample Date	Depth to Water (feet)	Total Depth (feet)	DRO (mg/L)	RRO (mg/L)	GRO (mg/L)	BTEX (mg/L)
9/23/2011	13.29	20.10	14.4	1.15	7.3	ND/BCL

MW-105						
Sample Date	Depth to Water (feet)	Total Depth (feet)	DRO (mg/L)	RRO (mg/L)	GRO (mg/L)	BTEX (mg/L)
9/23/2011	13.15	20.10	4.01	ND	34	X:12.8

MW-114						
Sample Date	Depth to Water (feet)	Total Depth (feet)	DRO (mg/L)	RRO (mg/L)	GRO (mg/L)	BTEX (mg/L)
9/23/2011	12.13	20.10	2.2	0.147	3.02	ND/BCL

MW-116						
Sample Date	Depth to Water (feet)	Total Depth (feet)	DRO (mg/L)	RRO (mg/L)	GRO (mg/L)	BTEX (mg/L)
9/23/2011	12.75	20.10	2.63	0.168	1.28	BCL

MW-117						
Sample Date	Depth to Water (feet)	Total Depth (feet)	DRO (mg/L)	RRO (mg/L)	GRO (mg/L)	BTEX (mg/L)
9/23/2011	9.31	18.00	0.259	ND	0.0167	ND/BCL



Key:

BCL	Below cleanup limits
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
DRO	Diesel Range Organics
GRO	Gasoline Range Organics
mg/L	Milligrams per liter
ND	Non-detect
RRO	Residual Range Organics

[450.93]	Groundwater elevation measured 9/23/11 in feet
	Groundwater Flow Direction
	Antenna
	Approximate area of soil contamination
	Concrete pad
	Fence
	Monitoring well (MW) location

Notes:

1. Figure locations based on GPS survey data (Alaska Zone 3, NAD 83 US Survey Feet) provided by Design Alaska Inc. of Fairbanks, Alaska, in 2011.
2. All locations are approximate.
3. Yellow shaded results indicate that the value exceeds 18 AAC 75 Table C Groundwater cleanup levels.
4. MW-102 excluded from Groundwater Flow Direction calculations due to high contaminant concentrations; potential sheen may have prohibited accurate water level measurement.

Hydrocarbon Risk Calculator Report
FAA Station Fairbanks, Alaska

Ahtna Engineering

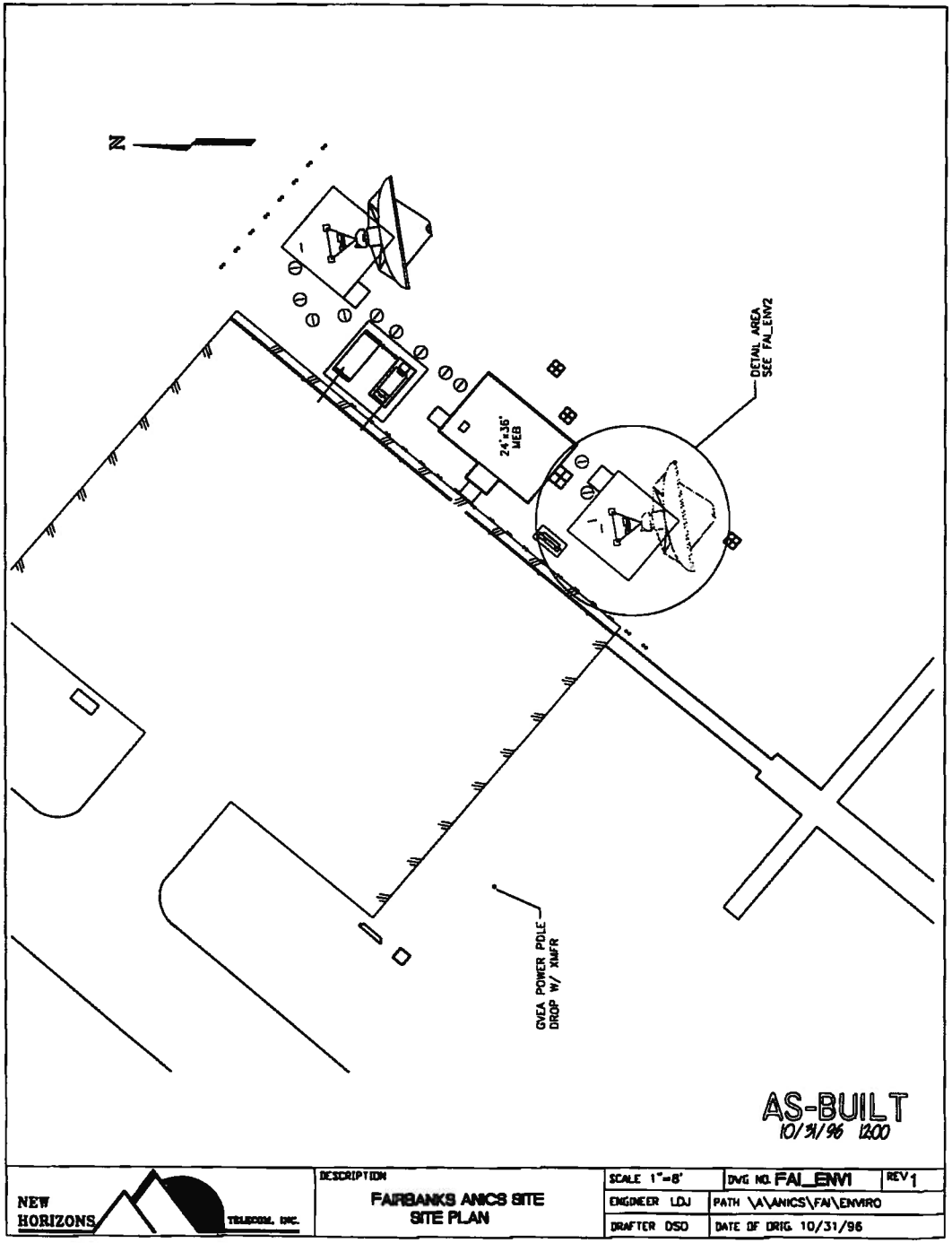
Chena NDB - Former EG Building, Former UST- 2011 Groundwater Data

Project Number: 2012S.016

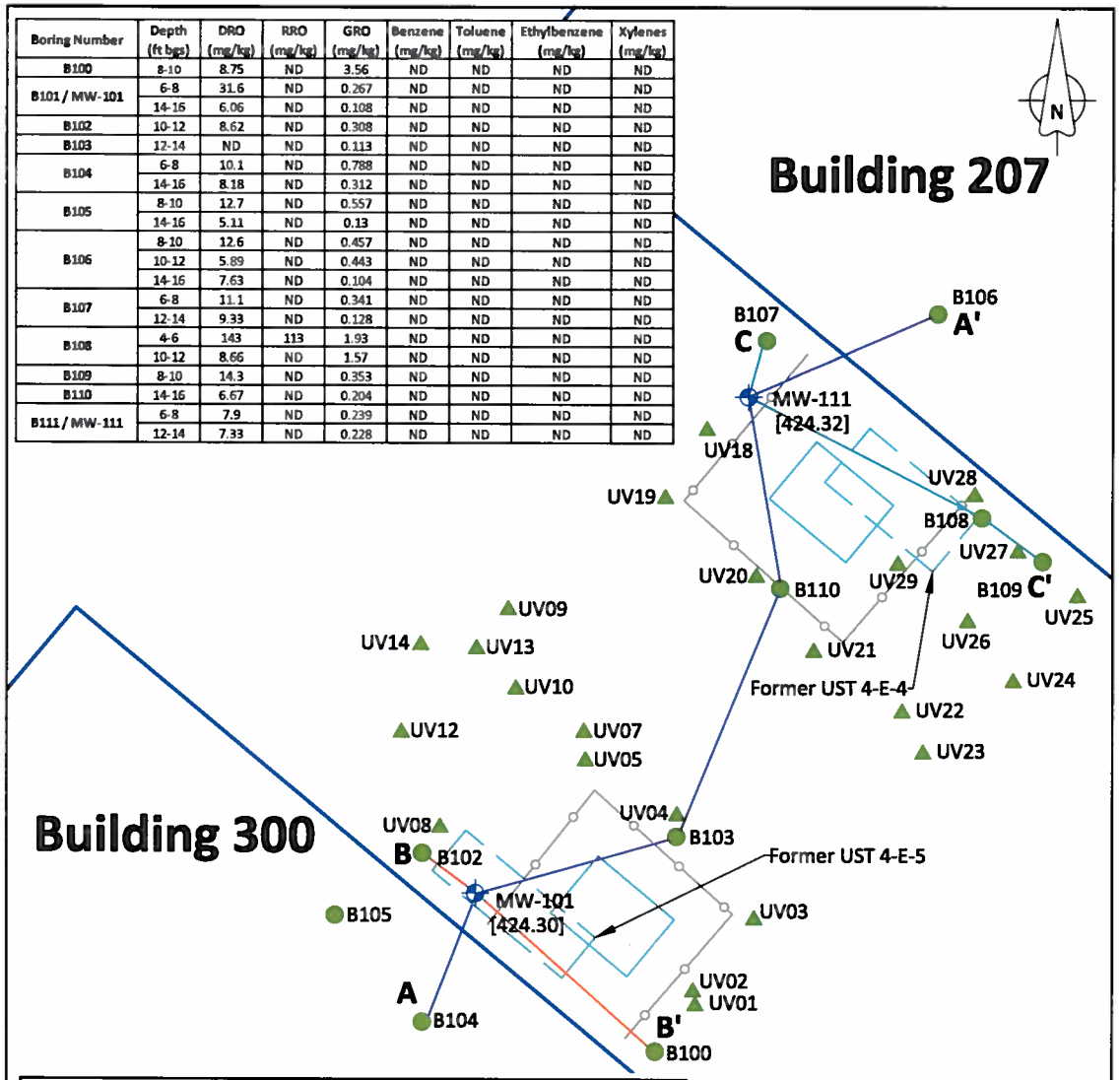
Date: 11-13-2014

Drawn By: R.R.

Figure Number: 8-2


N
24'x36' MEB
DETAIL AREA SEE FAI_ENV2
GVEA POWER POLE DROP W/ XMFR
AS-BUILT
10/31/96 1200
NEW HORIZONS TELECOM. INC.
DESCRIPTION
FAIRBANKS ANICS SITE
SITE PLAN
SCALE 1"=8'
DWG NO. FAI_ENV1
REV 1
ENGINEER LDJ
PATH \A\ANICS\FAI\ENVIRO
DRAFTER DSD
DATE OF ORIG. 10/31/96

Boring Number	Depth (ft bgs)	DRO (mg/kg)	RRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
B100	8-10	8.75	ND	3.56	ND	ND	ND	ND
B101 / MW-101	6-8	31.6	ND	0.267	ND	ND	ND	ND
	14-16	6.06	ND	0.108	ND	ND	ND	ND
B102	10-12	8.62	ND	0.308	ND	ND	ND	ND
B103	12-14	ND	ND	0.113	ND	ND	ND	ND
B104	6-8	10.1	ND	0.788	ND	ND	ND	ND
	14-16	8.18	ND	0.312	ND	ND	ND	ND
B105	8-10	12.7	ND	0.557	ND	ND	ND	ND
	14-16	5.11	ND	0.13	ND	ND	ND	ND
B106	8-10	12.6	ND	0.457	ND	ND	ND	ND
	10-12	5.89	ND	0.443	ND	ND	ND	ND
	14-16	7.63	ND	0.104	ND	ND	ND	ND
B107	6-8	11.1	ND	0.341	ND	ND	ND	ND
	12-14	9.33	ND	0.128	ND	ND	ND	ND
B108	4-6	143	113	1.93	ND	ND	ND	ND
	10-12	8.66	ND	1.57	ND	ND	ND	ND
B109	8-10	14.3	ND	0.353	ND	ND	ND	ND
B110	14-16	6.67	ND	0.204	ND	ND	ND	ND
B111 / MW-111	6-8	7.9	ND	0.239	ND	ND	ND	ND
	12-14	7.33	ND	0.228	ND	ND	ND	ND



Hydrocarbon Risk Calculator Report
Fairbanks FAA Station, Alaska

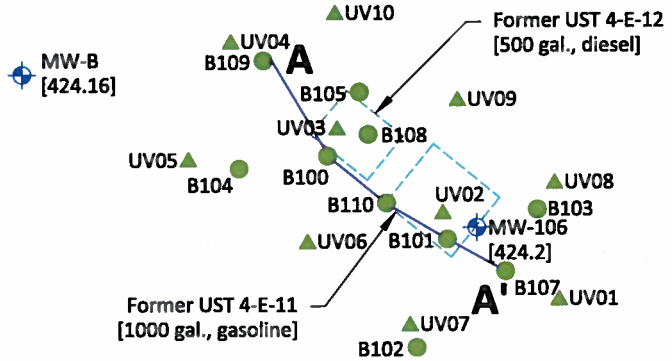
Buildings 207 and 300, Former USTs 4-E-4 and 4-E-5 - 2011 Soil Data

Ahtna Engineering

Project Number: 20125.016
Date: 11-06-2012
Drawn By: L.B.

Figure Number: 4-1

Boring Number	Depth (ft bgs)	DRO (mg/kg)	RRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
B100	10-12	10.2	ND	0.142	ND	0.00163	ND	ND
B101	8-10	97.7	67.9	2.12	ND	0.0054	0.00192	0.0117
	10-12	48.8	ND	1.14	ND	0.00308	ND	0.00677
B102	6-8	16.9	ND	0.545	ND	0.0055	0.00275	0.0105
B103	4-6	ND	ND	0.239	ND	0.00357	ND	0.00714
B104	0-2	100	199	0.320	ND	ND	ND	ND
B105	6-8	27.6	ND	0.406	ND	ND	ND	ND
B106 / MW-106	10-12	198	909	--	--	--	--	--
	14-16	8.24	ND	--	--	--	--	--
B107	10-12	7.83	ND	--	--	--	--	--
B108	10.5-12	6.13	ND	--	--	--	--	--
B109	10.5-12	13.6	ND	--	--	--	--	--
B110	11.5-12	7.01	ND	--	--	--	--	--



Notes:
1. Figure locations based on GPS survey data [Alaska Zone 3, NAD 83 US Survey Feet] provided by Design Alaska Inc. of Fairbanks, Alaska, in 2011.
2. All locations are approximate.

Key:

[424.2]	Groundwater elevation measured 9/25/11 in feet	UST	Underground Storage Tank
--	Not analyzed	UVOST	Ultra-Violet Optical Screening Tool
AST	Aboveground Storage Tank		Boring location [DRO < 250 mg/kg]
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes		Cross Section A Baseline
DRO	Diesel Range Organics		Existing structure
ft bgs	Feet below ground surface		Existing AST
GRO	Gasoline Range Organics		Fence
mg/kg	Milligrams per Kilograms		Former UST
ND	Non-detect		Monitoring well (MW) location
RRO	Residual Range Organics		UVOST probe (UV) location [Fluorescence < 3%]

0 05 10
SCALE IN FEET (APPROXIMATE)

Hydrocarbon Risk Calculator Report
Fairbanks FAA Station, Alaska

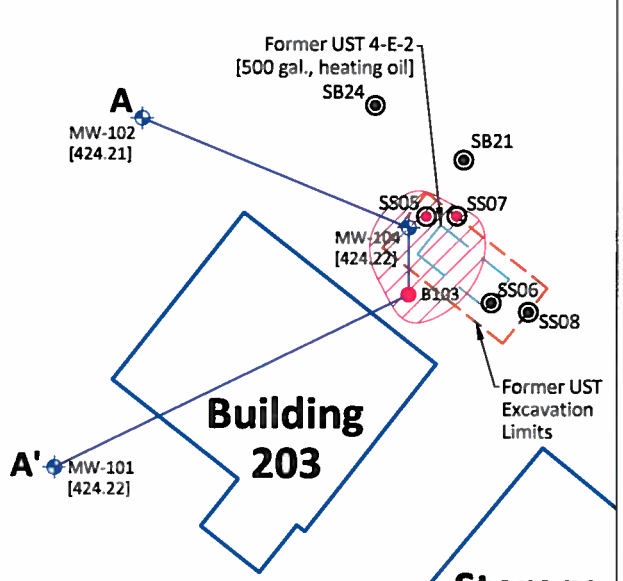
Buildings 202 and 404, Former USTs 4-E-11 and 4-E-12 - 2011 Soil Data

Ahtna Engineering

Project Number: 20120.018
Date: 11-08-2012
Drawn By: I.A.
Figure Number: 5-1

Boring Number	Depth (ft bgs)	DRO (mg/kg)	RRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
B100 / MW-100	8-12	7.75	ND	--	--	--	--	--
B101 / MW-101	12-16	5.96	ND	--	--	--	--	--
B102 / MW-102	10-12	7.98	ND	--	--	--	--	--
B103	6-8	1840	ND	30.7	ND	ND	ND	ND
	8-10	2160	ND	17	ND	ND	ND	ND
	12-14	1820	ND	34	ND	ND	ND	ND
	14-16	7.77	ND	11.3	ND	ND	ND	ND
B104 / MW-104	8-10	3650	ND	5.6	ND	ND	ND	ND
	10-12	169	ND	4.4	ND	ND	ND	ND
	12-14	54.7	ND	10	ND	ND	ND	ND
	14-16	7.33	ND	0.476	ND	ND	ND	ND

	Sample Number	Depth (ft bgs)	DRO (mg/kg)
Aug 1996 Confirmation Soil Samples	SS05	9	12,000
	SS06	9	12
	SS07	7-9	9,400
	SS08	8	14
Nov. 1996 Soil Boring Samples	SB21	5-6.5	ND
		8-9.5	ND
		11-12	7
	SB24	5-6	ND
		8-10	ND
		11-13	ND



Key:

[424.22]	Groundwater elevation measured 9/25/11 in feet
BCL	Below cleanup limits
DRO	Diesel Range Organics
ft bgs	Feet below ground surface
GRO	Gasoline Range Organics
mg/kg	Milligrams per Kilograms
ND	Non-detect
RRO	Residual Range Organics
	Boring location [DRO ≥ 250 mg/kg]
	Historical Soil Sample [DRO ≤ 250 mg/kg]
	Historical Soil Sample [DRO ≥ 250 mg/kg]
	Approximate area of soil contamination
	Cross Section A Baseline
	Existing structure
	Former Underground Storage Tank (UST)
	Monitoring well (MW) location

Notes:

1. Figure locations based on GPS survey data [Alaska Zone 3, NAD 83 US Survey Feet] provided by Design Alaska Inc. of Fairbanks, Alaska, in 2011.
2. All locations are approximate.
3. Yellow shaded results indicate that the value exceeds ADEC Method 2, Under 40-Inch Zone, Migration to Groundwater cleanup levels.
4. The 1996 results table per CH2-OH *Building 203 Release Investigation Report, 1997.*

0 06 12

SCALE IN FEET (APPROXIMATE)

Hydrocarbon Risk Calculator Report
Fairbanks FAA Station, Alaska

Ahtna Engineering

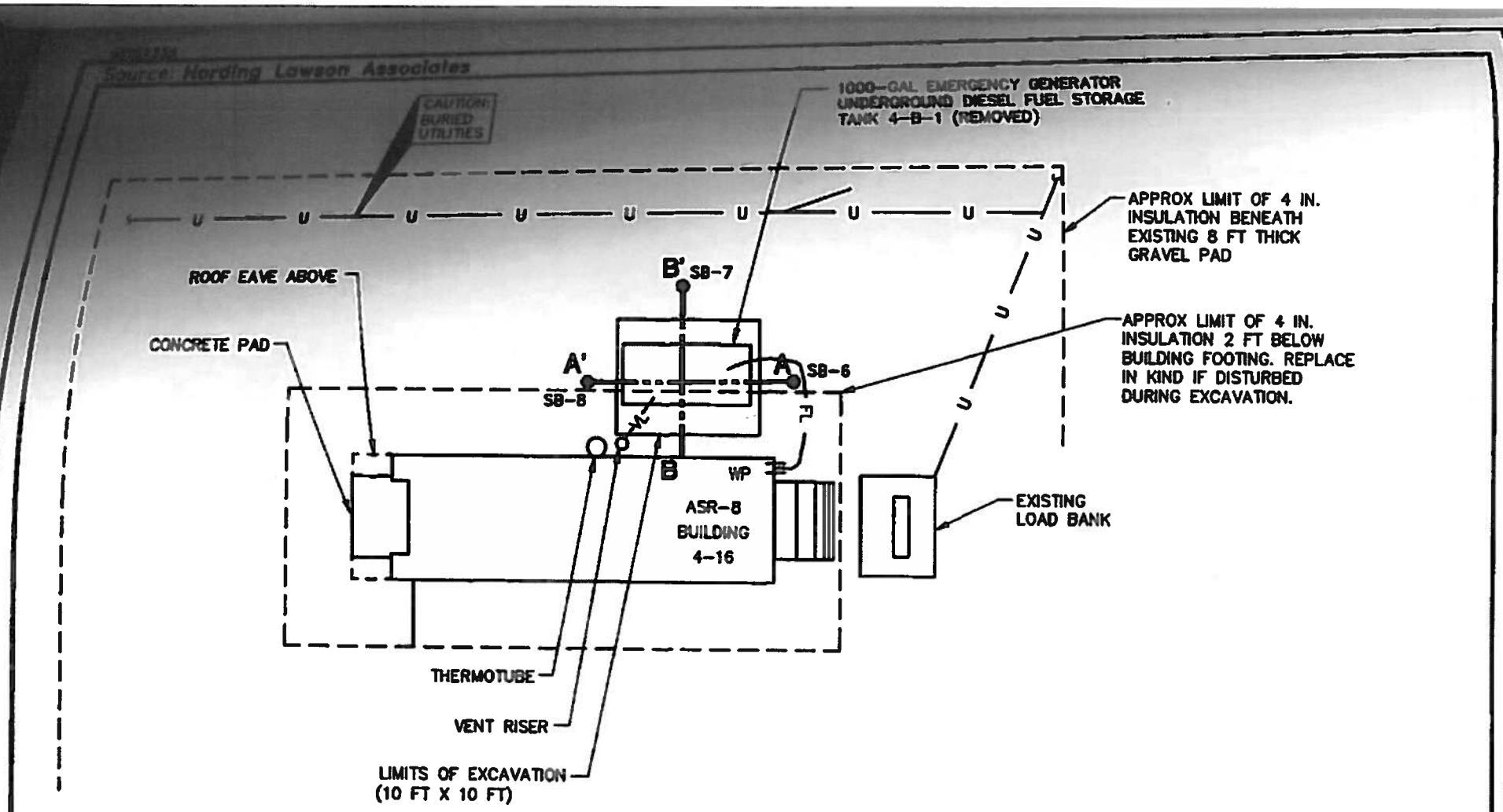
Building 203, Former UST 4-E-2 - 2011 Soil Data

Project Number: 20125.016

Date: 01-20-2015

Drawn By: G.R.

Figure Number: 7-1



N →

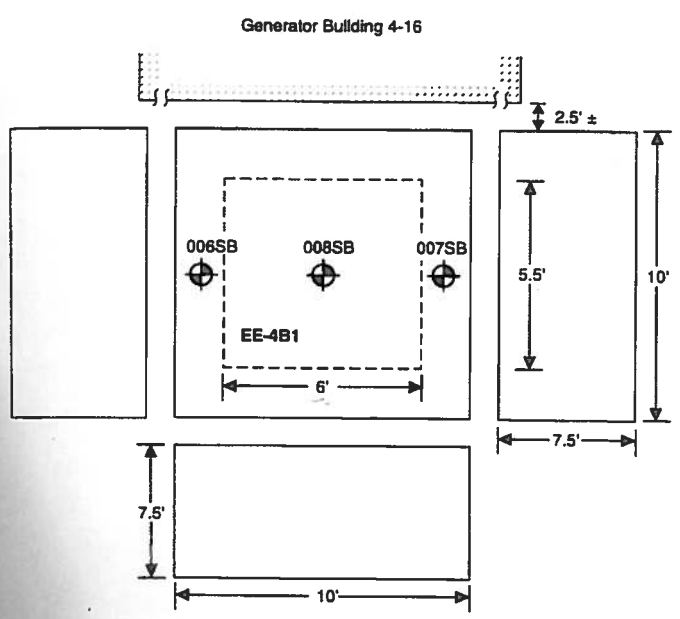
NOT TO SCALE

LEGEND

- SB-7 — SOIL BORING
- FL — FUEL LINE
- U — BURIED ELECTRICAL LINE
- VL — VENT LINE

ASR-8 FACILITY
KEY TO GEOLOGICAL CROSS SECTIONS
FAIRBANKS INTERNATIONAL AIRPORT FAA FACILITIES
FAIRBANKS, ALASKA

FAA Contract: DTFA04-90-C-10014	
Drawn by: REB	Proj. No: VT2000
Date: 3-1-96	Figure: 2-14



Soil Sample Number	Depth (BGS)	Location	Results DRO (mg/kg)
FAI952 006SB	7.5'	East Bottom	340
007SB		West Bottom	250
008SB		Center Bottom	520

NOT TO SCALE

KEY:

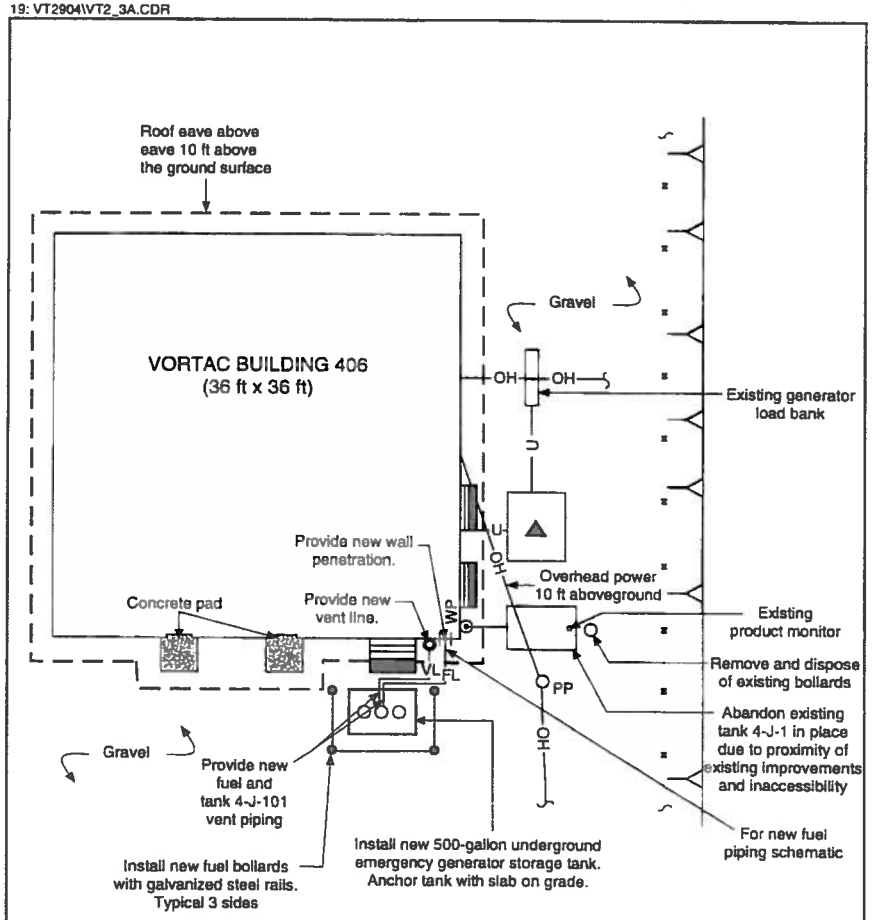
- Tank location
- Soil sample
- mg/kg Milligrams per kilogram
- DRO Diesel-range organics
- BGS Below Ground Surface

SOURCE: Ecology and Environment, Inc., 1995

Figure 4

CONFIRMATION SAMPLE LOCATION AT EXCAVATION FOR UST EE-4B1
FAIRBANKS INTERNATIONAL AIRPORT ASR-8 GENERATOR BUILDING
FAIRBANKS, ALASKA

19: VT2904\VT2_3A.CDR



NOT TO SCALE

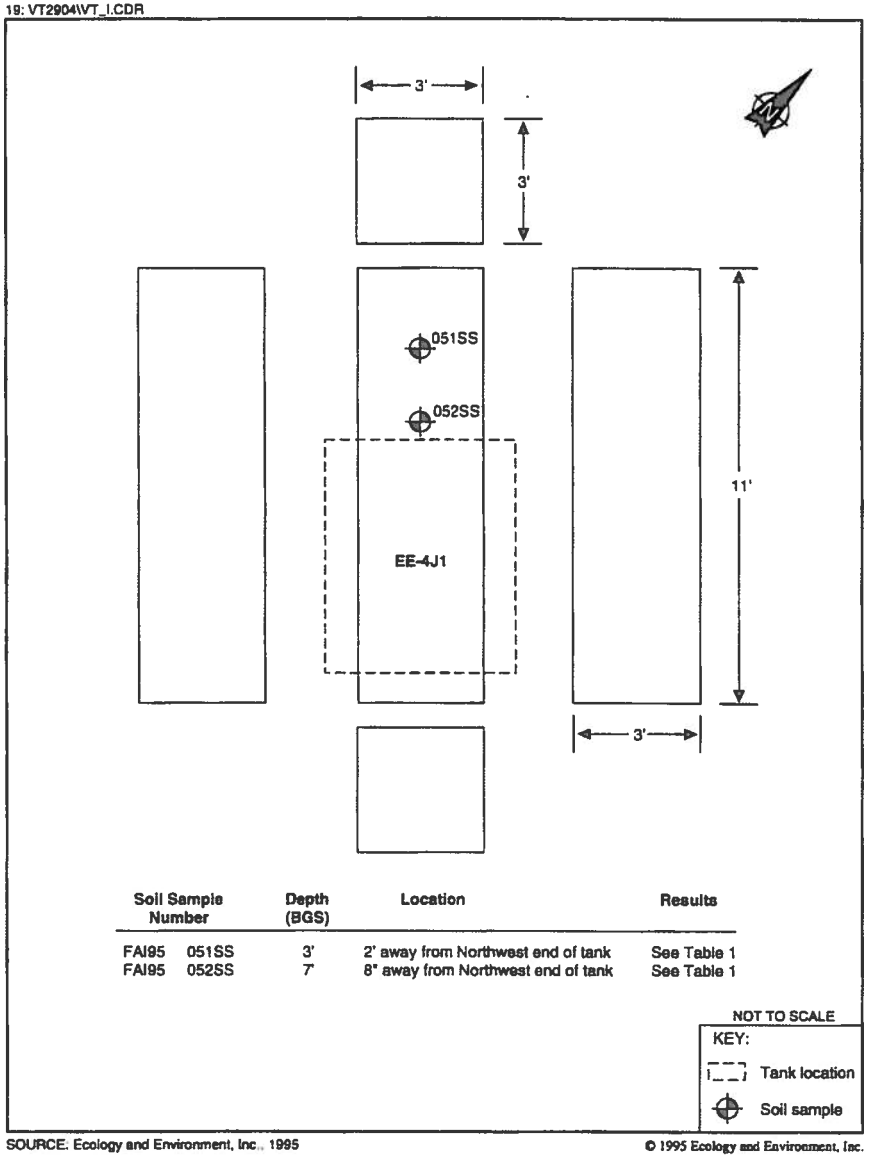
LEGEND	
—OH—	Overhead Utility Line
—U—	Buried Utility Line
OPP	Power Pole
▲	Transformer
WP	Wall Penetration

FAIRBANKS INTERNATIONAL AIRPORT FACILITIES
VORTAC SITE PLAN,
FAIRBANKS, ALASKA

FAA Contract: DTFA04-90-C-10014

Drawn by: JAL	Proj. No.: VT2000
Date: 11-9-95	Figure: 3A

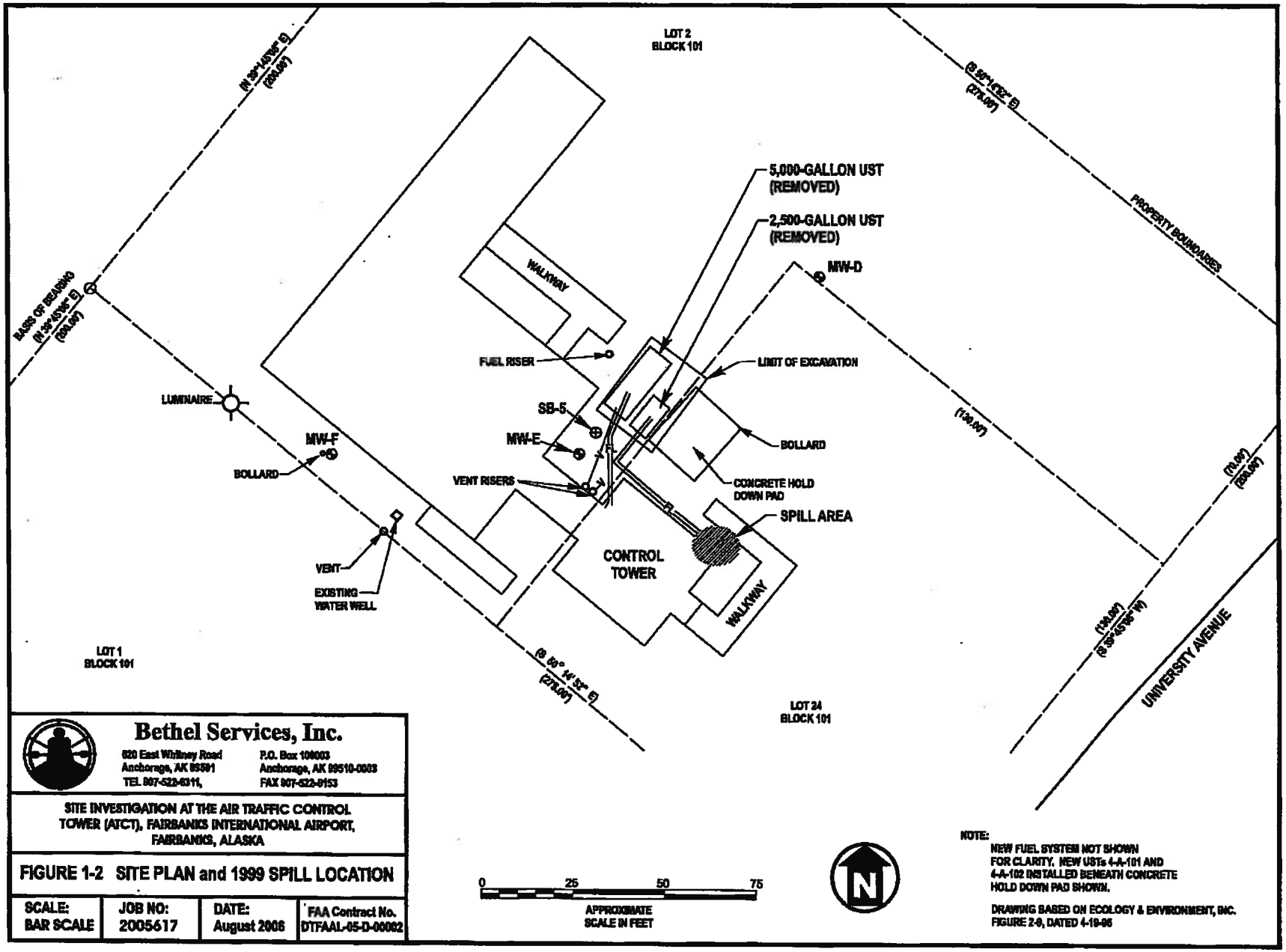
19: VT2904\VT_1.CDR



Soil Sample Number		Depth (BGS)	Location	Results
FAI95	051SS	3'	2' away from Northwest end of tank	See Table 1
FAI95	052SS	7'	8" away from Northwest end of tank	See Table 1

SOURCE: Ecology and Environment, Inc., 1995

Figure 4 **CONFIRMATORY SAMPLE LOCATIONS AT THE EXCAVATION FOR UST EE-4J1 FAIRBANKS INTERNATIONAL AIRPORT FAA VORTAC FACILITY FAIRBANKS, ALASKA**



Bethel Services, Inc.

620 East Whitney Road
Anchorage, AK 99501
TEL 907-522-6311,

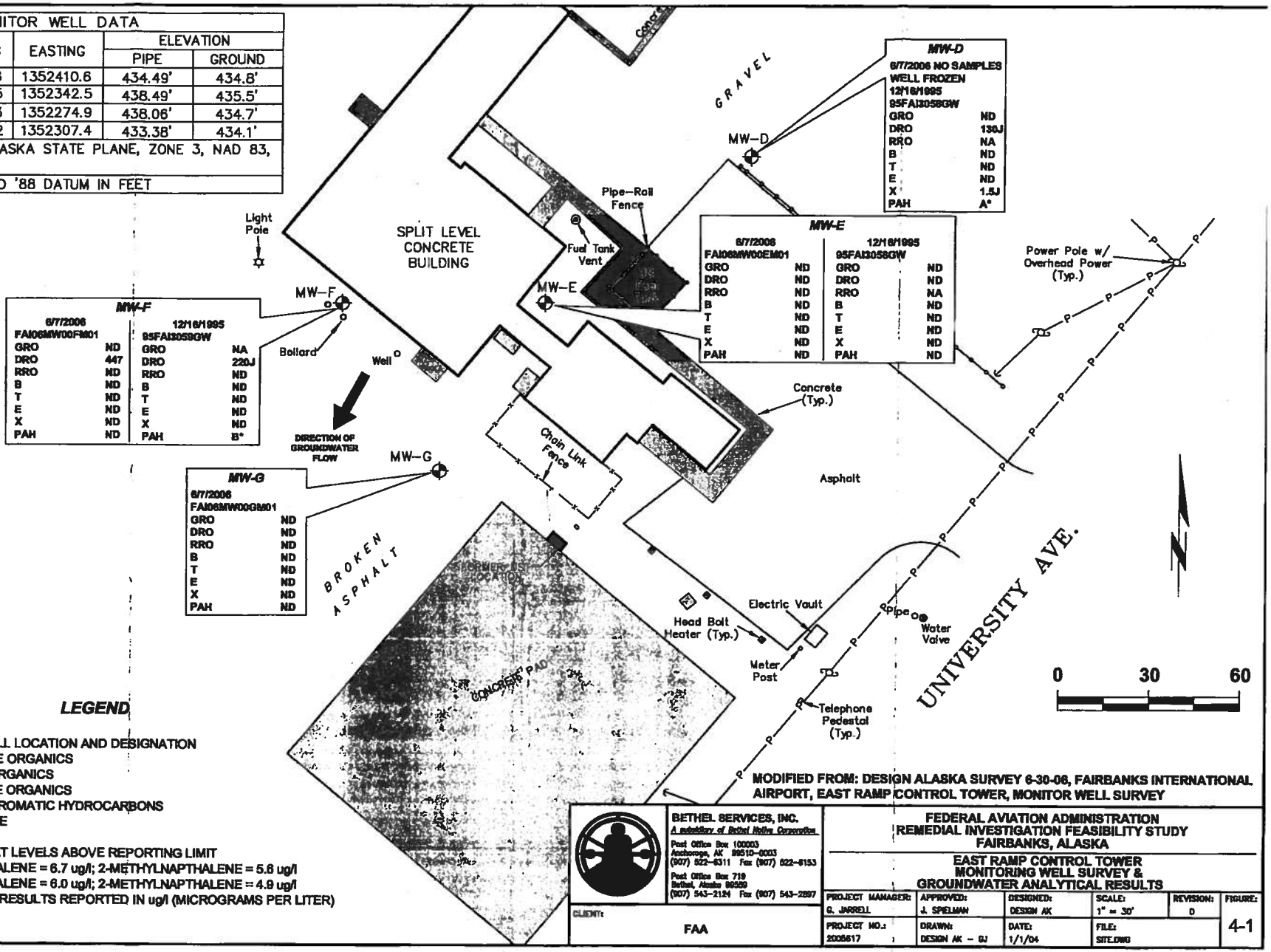
P.O. Box 100003
Anchorage, AK 99510-0003
FAX 907-522-9153

SITE INVESTIGATION AT THE AIR TRAFFIC CONTROL TOWER (ATCT), FAIRBANKS INTERNATIONAL AIRPORT, FAIRBANKS, ALASKA

FIGURE 1-2 SITE PLAN and 1999 SPILL LOCATION

SCALE:	JOB NO:	DATE:	FAA Contract No.
BAR SCALE	2005617	August 2006	DTFAAL-05-D-00002

MONITOR WELL DATA				
WELL	NORTHING	EASTING	ELEVATION	
			PIPE	GROUND
MW–D	3955110.6	1352410.6	434.49'	434.8'
MW–E	3955061.5	1352342.5	438.49'	435.5'
MW–F	3955061.3	1352274.9	438.06'	434.7'
MW–G	3955005.2	1352307.4	433.38'	434.1'
COORDINATES ARE ALASKA STATE PLANE, ZONE 3, NAD 83, U.S. SURVEY FEET.				
ELEVATIONS ARE NAVD '88 DATUM IN FEET				



LEGEND

- ⊕ MONITORING WELL LOCATION AND DESIGNATION
- GRO GASOLINE RANGE ORGANICS
- DRO DIESEL RANGE ORGANICS
- RRO RESIDUAL RANGE ORGANICS
- PAH POLYNUCLEAR AROMATIC HYDROCARBONS
- J ESTIMATED VALUE
- NA NOT ANALYZED
- ND NOT DETECTED AT LEVELS ABOVE REPORTING LIMIT
- A* 1-METHYLNAPTHALENE = 6.7 ug/l; 2-METHYLNAPTHALENE = 5.6 ug/l
- B* 1-METHYLNAPTHALENE = 6.0 ug/l; 2-METHYLNAPTHALENE = 4.9 ug/l
- NOTE: ALL ANALYTICAL RESULTS REPORTED IN ug/l (MICROGRAMS PER LITER)

MODIFIED FROM: DESIGN ALASKA SURVEY 6-30-06, FAIRBANKS INTERNATIONAL AIRPORT, EAST RAMP CONTROL TOWER, MONITOR WELL SURVEY

BETHEL SERVICES, INC.
A subsidiary of Bethel Native Corporation
Post Office Box 100003
Anchorage, AK 99510-0003
(907) 522-6311 Fax (907) 522-6153
Post Office Box 719
Bethel, Alaska 99559
(907) 543-2124 Fax (907) 543-2697

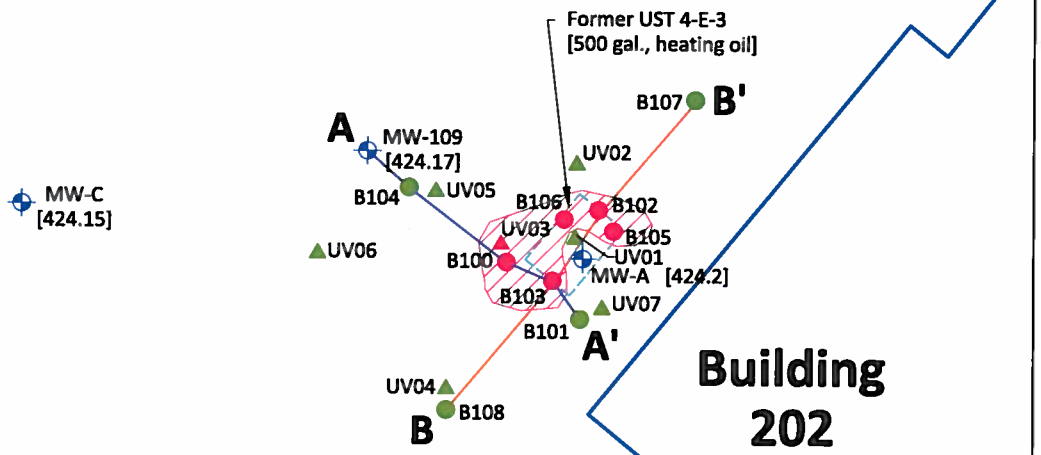
CLIENT: FAA

FEDERAL AVIATION ADMINISTRATION
REMEDIAL INVESTIGATION FEASIBILITY STUDY
FAIRBANKS, ALASKA

EAST RAMP CONTROL TOWER
MONITORING WELL SURVEY &
GROUNDWATER ANALYTICAL RESULTS

PROJECT MANAGER:	APPROVED:	DESIGNED:	SCALE:	REVISION:	FIGURE:
G. JARRELL	J. SPIELMAN	DESIGN AK	1" = 30'	0	4-1
PROJECT NO.: 2005617	DRAWN: DESIGN AK – GJ	DATE: 1/1/04	FILE: SITE.DWG		

Boring Number	Depth (ft bgs)	DRO (mg/kg)	RRO (mg/kg)	GRO (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Xylenes (mg/kg)
B100	8-10	19000	75	42	ND	ND	ND	ND
	10-12	230	15	1.2	ND	ND	ND	ND
	14-16	5.7	ND	--	--	--	--	--
B101	10-12	ND	ND	ND	ND	ND	ND	ND
B102	8-12	1500	200	1.3	ND	ND	ND	ND
	10.5-12	630	17	1.1	ND	ND	ND	ND
	12-14.5	1700	11	21	ND	ND	ND	ND
	14.5-16	13	ND	0.91	ND	ND	ND	ND
	18	2.7	ND	ND	ND	ND	ND	ND
B103	8-9	2100	44	1.9	ND	ND	ND	ND
	10-12	3.6	ND	ND	ND	ND	ND	ND
B104	12-14	2.8	ND	ND	ND	ND	ND	ND
B105	12-14	4000	15	40	ND	ND	ND	ND
B106	12-14	1100	ND	30	ND	ND	ND	ND
B107	8-10.5	12	54	0.25	ND	ND	ND	ND
B108	12-14	3.4	ND	ND	ND	ND	ND	ND



Notes:

1. Figure locations based on GPS survey data [Alaska Zone 3, NAD 83 US Survey Feet] provided by Design Alaska Inc. of Fairbanks, Alaska, in 2011.
2. All locations are approximate.
3. Yellow shaded results indicate that the value exceeds ADEC Method 2, Under 40-Inch Zone, Migration to Groundwater cleanup levels.

Key:

--	Not analyzed
DRO	Diesel Range Organics
ft bgs	Feet below ground surface
GRO	Gasoline Range Organics
mg/kg	Milligrams per Kilogram
ND	Non-detect
RRO	Residual Range Organics
UVOST	Ultra-Violet Optical Screening Tool
	Approximate area of soil contamination
	Boring location [DRO ≥ 250 mg/kg]
	Boring location [DRO < 250 mg/kg]
	Cross Section A Baseline
	Cross Section B Baseline
	Existing Aboveground Storage Tank (AST)
	Existing Structure
	Fence
	Former Underground Storage Tank (UST)
	Monitoring well (MW) location
	UVOST (UV) probe location [Fluorescence ≥ 3%]
	UVOST probe location [Fluorescence < 3%]

0 05 10

SCALE IN FEET (APPROXIMATE)

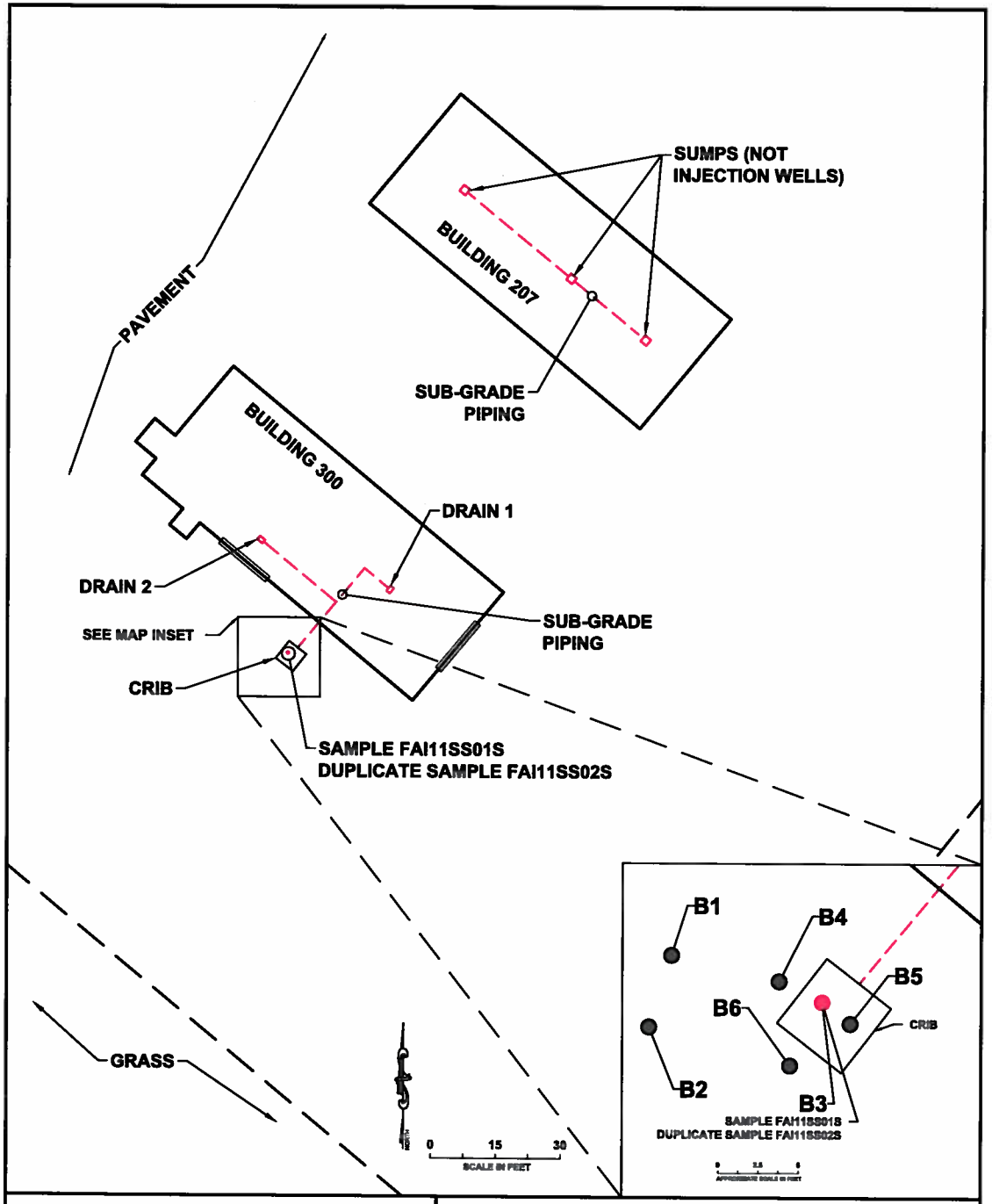
Hydrocarbon Risk Calculator Report
FAA Station Fairbanks, Alaska

Building 202, Former UST 4-E-3 - 2011 Soil Data

Ahtna Engineering

Project Number: 30120.016
Date: 11-08-2012
Drawn By: LB

Figure Number: 6-1



Bethel Services Inc.
A subsidiary of Bethel Native Corporation

FAA Injection Well Closure
Fairbanks, Alaska

BUILDING 300 SITE PLAN

FAA Injection Well Closure

CONTRACT NO: DTFAAL-10-D-0003	APPROVED: J. THOMAS	DESIGNED: K. RUSSELL	FIGURE: 1-2
PROJECT NO: 2010704	PROJECT MANAGER: S. THOMAS	DATE: APRIL 2012	