THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation
DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program
410 Willoughby Avenue, Suite 303
P.O. Box 111800
Juneau, AK 99811-1800
Phone: 907-465-5390
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www.dec.alaska.gov

File: 1529.38.023

September 28, 2016

Via Electronic Mail
Mr. Scott Gray
ADOT&PF Southeast Region M&O
PO Box 112506
Juneau, AK 99811

Re: Decision Document: ADOT&PF Wrangell Airport Sand & Chemical Building Cleanup Complete Determination – Institutional Controls

Dear Mr. Gray:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Wrangell Airport Sand & Chemical Building Class V Injection Well located on Airport Road in Wrangell, Alaska. Based on the information provided to date, it has been determined that the contaminant concentrations remaining on site do not pose an unacceptable risk to human health or the environment and no further remedial action will be required as long as the institutional controls are maintained and effective and no new information becomes available that indicates residual contamination poses an unacceptable risk.

This Cleanup Complete with Institutional Controls (ICs) determination is based on the administrative record for the Wrangell Airport Sand & Chemical Building Class V Injection Well which is located in the offices of the ADEC in Juneau, Alaska. This decision letter summarizes the site history, cleanup actions, regulatory decisions, and specific conditions required to effectively manage remaining contamination at this site.

Site Name and Location:
DOT Wrangell Airport Sand & Chemical Building
Airport Loop Road
Wrangell, Alaska, 99929
Latitude 56.482490, Longitude -132.374855,
Section 19, Township S62, Range 84E Copper River Meridian

Name and Mailing Address of Contact Party:
Scott Gray, Southcoast M&O
ADOT&PF Regional Office
Juneau, Alaska, 99811

DEC Site Identifiers:
File No.: 1529.38.023
Hazard ID.: 26004

Regulatory Authority for Determination:
18 AAC 75

Site Description and Background

The Alaska Department of Transportation and Public Facilities (DOT&PF) Wrangell Airport Sand and Chemical Storage Building is located south of the airport along Airport Road in Wrangell, Alaska. The building was constructed in the late 1970s and provides storage of sand and de-icing chemicals used by state workers for application on runways of the Wrangell Airport. The original design of the building had a floor drain system plumbed through an oil-water-separator (OWS) that emptied to an on-site treatment plant which discharged to two effluent pits. The effluent pits were thought to be side-by-side 10 foot by 10 foot gravel pits, four feet in depth. Upon excavation they were found to be constructed of wooden cribbing, constituting an EPA Class V Injection Well used for motor vehicle waste disposal.

The effluent pits were abandoned in place in 2001 during an expansion of the main building. A wastewater tank was added to replace the former Class V injection well system. The floor drain piping was reconfigured to drain from the OWS to a holding tank for domestic wastewater. A mounded septic system was built by adding soil to the surface in the vicinity of the effluent pits to receive discharge from the tank. As-builts prescribed that the injection well pits were about 40 feet east of the building and 20 feet west of the overhead electrical power lines. Prior to excavation, there was no surface indication of the abandoned Class V injection well. Conditions were that the new mound system was to the southeast and the 2001 building addition was to the west.

The source of soil contamination exceeding cleanup levels was removed during the 2012 Class V well decommissioning effort. During the closure process, indications were that soil contamination exceeding cleanup levels was limited to the area beneath the septic mound and immediately downgradient of the Class V well effluent pits. Contamination migrating off-site in groundwater was also suspected.

Contaminants of Concern

During the site investigation and cleanup activities at this site, samples were collected from soil and groundwater and were analyzed for gasoline (GRO), diesel (DRO), and residual (RRO) range hydrocarbons by Alaska Methods 101, 102, & 103, volatile and semi-volatile hydrocarbon compounds by EPA Methods 8260B and 8270, and total Resource Compensation and Recovery Act metals by EPA Method 6020. Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern at this site:

- Diesel Range Organics (DRO)
- Residual Range Organics (RRO)

Cleanup Levels

Title 18 Alaska Administrative Code (AAC) 75.340 authorizes DEC to set soil cleanup levels for this site. DEC has developed cleanup regulations for oil and other hazardous substances called the "site cleanup rules" under 18 AAC 75.325- 18 AAC 75.390. The most stringent levels of all applicable pathways under Method Two soil cleanup levels for the over 40-inch precipitations zone, established in 18 AAC 75.341(c), Table B1, and 18 AAC 75.341 (d), Table B2 apply to this site.

The groundwater criteria listed in Table C at 18 AAC 75.345(b)(1) also apply, and surface water as referenced in 18 AAC 75.345(f) must meet the Water Quality Standards found in 18 AAC 70. Groundwater was investigated for contamination but surface water was not present to collect samples. The following table displays the most stringent cleanup levels for completed pathways at this site:

Table 1. Cleanup levels

Contaminant	Pathway	Soil in milligrams per kilogram	Groundwater in milligrams per liter
DRO	migration to groundwater	230	1.5
RRO	ingestion	8,300	1.1

Characterization and Cleanup Activities

Site Investigation and Cleanup activities conducted under the regulatory authority of the Contaminated Sites Program began in April, 2013, when DEC met with ADOT&PF staff in the Southeast Regional Office to discuss the decommissioning of Class V injection wells at their facilities located in Southeast Alaska.

Excavation of the Class V injection well and associated piping began at the northern end of the septic system mound where the western-most pit was reportedly located. At four feet below ground surface (BGS), workers found insulated ductile iron pipe (DIP) extending northeast. As excavation followed the DIP it found wooden cribbing which was removed along with the DIP and stockpiled for off-site waste disposal. Once the western most crib was located, it became evident that much of the western and eastern injection well cribs were located under the mounded septic system and were inaccessible to excavation or testing.

The entrance of the DIP and walls of the crib were soundly made of treated wood but the roof of the structure had collapsed and allowed the pit to fill with soil and muddy water. Any further removal of the crib would destabilize the septic system mound. The excavation was extended vertically to a depth of 5.5 feet BGS where groundwater was encountered. The excavation could not extend south or west either without interfering with the OWS, the holding tank, and piping that were installed in 2001. A total volume of five cubic yards of contaminated soil was removed from the excavation and was stockpiled in a bermed and lined storage area located southeast of the mounded septic system. The excavation was confined laterally in most directions by site improvements and vertically by groundwater.

Soil
Soil field screening and analytical sampling performed during the excavation to close the injection wells was difficult as the soil matrix consisted of coarse gravel and cobbles. Four soil confirmation samples, WR-1 through WR-4 and a field duplicate were collected around the western effluent pit based on field screen readings to delineate the extent of soil contamination. Samples WR-5 and WR-6 were collected from the soil stockpile. Sample WR-1 was collected from an area adjacent to the creosote treated timber, which may account for the elevated DRO/RRO values. Two of the other confirmation samples were below the cleanup levels and the third with a field duplicate each had DRO above cleanup levels. Based on the design of the injection well, it is likely that the eastern pit, which was left intact under the septic system mound, would show similar results as the samples collected from the western pit.

The results for soil samples WR-5 and WR-6 collected from the five cubic yard volume of contaminated soil stockpiled on-site were below the DRO and RRO cleanup levels. DEC approved land-spreading the stockpile on-site or at the City and Borough of Wrangell Spur Road rock pit contaminated soil storage site.

Table 1 displays the highest levels detected in soil remaining at the site, the sample depth, and the Method Two (M2) Migration to Groundwater (MTG) cleanup levels. Levels shown in bold are above the applicable cleanup levels and represent the contaminant(s) of concern.

Table 2 the greatest levels of analytes detected in remaining soil at the site.

Hydrocarbon range and compounds of concern	Greatest level in soil mg/kg	Sample name and depth below the surface	M2 MTG Cleanup Levels mg/kg
DRO	**4,480**	WR-1 at 5 feet	230
RRO	**16,200**	WR-1 at 5 feet	8,300

The 2012 Class V Well Closure report suggested that natural attenuation will remediate any remaining contamination in the soil and recommended groundwater sampling to confirm that DRO and RRO concentrations in groundwater are decreasing, stable, or increasing over time. Based on available data, DEC concluded that, although the extent of remaining subsurface soil contamination under the septic mound was not clearly defined, groundwater monitoring would sufficiently characterize the completed exposure pathways at the site.

Groundwater
DEC approved a work plan for groundwater well installation and sampling in February, 2014. Samples collected from the three wells installed were analyzed for DRO and RRO. DRO was detected at low concentrations below cleanup levels in samples from each of the groundwater wells. RRO was detected at low concentrations below cleanup levels in samples from two of the three wells and was below the laboratory reporting limit on the third sample. An elevation survey estimated that groundwater flow was in a northeasterly direction.

In June, 2015, samples collected from the three wells were analyzed for DRO and RRO. The results for all the samples from the three wells were below the laboratory limit, also known as the limit of quantitation, and the cleanup levels. In December 2015, DEC approved the report and requested that the wells at the site be decommissioned in accordance with the Monitoring Well Guidance. In May, 2016, DEC approved the well decommissioning report.

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.

Based on a review of the environmental record, DEC has determined that residual contaminant concentrations meet the cumulative risk criteria for human health.

Exposure Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was evaluated using ADEC'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 Table 2.

Table 2 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contamination is not present in surface soil at the site.
Sub-Surface Soil Contact	Exposure Controlled	Contamination was left in place due to appurtenances which prohibit further removal. Contamination beneath and adjacent to the septic system mound exceed the cleanup levels but is capped with clean material and further controlled with institutional controls.
Inhalation – Outdoor Air	Pathway Incomplete	Contamination remains in the sub-surface, but is below inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Remaining contamination does not involve volatile compounds and buildings are not within 30 feet.
Groundwater Ingestion	De Minimis Exposure	A small area exceeds soil action levels but monitoring results clearly show that contamination is not migrating in groundwater at the site.
Surface Water Ingestion	Pathway Incomplete	Surface water is not used as a drinking water source in the vicinity of the site.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	No direct ecological pathways are present at the site.

Notes to Table 2: "De-Minimis Exposure" means that in ADEC's judgment receptors are unlikely to be affected by the minimal volume or concentration of remaining contamination. "Pathway Incomplete" means that in ADEC's judgment contamination has no potential to contact receptors. "Exposure Controlled" means there is an institutional control in place limiting land or groundwater use and there may be a physical barrier in place that prevents contact with residual contamination.

ADEC Decision

Petroleum contamination remains in sub-surface soil above levels suitable for unrestricted use. Institutional controls limit the potential for future exposure and the risk to human health or the environment. A Notice of Environmental Contamination has been recorded in the land records maintained by the Alaska Department of Natural Resources and a copy is attached to this letter.

Groundwater meets the applicable cleanup levels and the plume has been demonstrated to be shrinking with contaminant concentrations either decreasing or below laboratory detection limits. Therefore, ADEC has determined the residual soil contamination does not pose an unacceptable migration to groundwater concern.

Institutional controls necessary to support this closure determination include:

1. A restriction against future excavation of the septic mound system without coordinating with DEC prior to beginning any such action. In the event that the remaining contaminated soil becomes accessible by the septic system mound being removed and the effluent pits excavated or through some other action that fits the site circumstances, or other information becomes available which indicates that the site may pose an unacceptable risk to human health, safety, welfare or the environment, the land owner and/or operator are required under 18 AAC 75.300 to notify ADEC and evaluate the environmental status of the contamination in accordance with applicable laws and regulations; further site characterizations and cleanup may be necessary under 18 AAC 75.325-.390.

2. A restriction on installing groundwater wells or using groundwater from the site without prior DEC approval.

Standard site closure conditions that apply to all sites include:

1. Any proposal to transport soil or groundwater off-site requires ADEC approval in accordance with 18 AAC 75.325(i). 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. (See attached site figure.)

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

3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

ADEC has determined the cleanup is complete as long as the institutional controls are properly implemented and no new information becomes available that indicates residual contamination may pose an unacceptable risk.

The ADEC Contaminated Sites Database will be updated to reflect the change in site status to "Cleanup Complete with Institutional Controls" and will include a description of the contamination remaining at the site.

The institutional controls will be removed in the future if documentation is provided that shows concentrations of all residual hazardous substances remaining at the site are below the levels that allow for unrestricted exposure to, and use of, the contaminated media and that the site does not pose a potential unacceptable risk to human health, safety or welfare, or to the environment. Standard conditions 1-3 above will remain in effect after ICs are removed.

This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if the institutional controls are determined to be ineffective or if new information indicates that contaminants at 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, 555 Cordova Street, Anchorage, Alaska 99501-2617, 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, P.O. Box 111800, 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.

If you have questions about this closure decision, please feel free to contact me at (907) 465-5210 or by email at bruce.wanstall@alaska.gov.

Sincerely,

Bruce Wanstall

Bruce Wanstall
Project Manager

Note: This letter is being transmitted to you in electronic format only. If you require a paper copy, let us know and we will be happy to provide one to you. In the interest of reducing file space, the Division of SPAR/Contaminated Sites Program is transitioning to electronic transmission of project correspondence.

Enclosures:
1. Cleanup Complete-ICs Agreement and Signature Page
2. Site Figure 1
3. Copy of recorded NEC-Deed Notice

cc: Anne Christopher, EPA Ground Water Unit
Hilary Lindh, Manager, ADOT&PF Regional Environmental Office
Sally Schlichting, Unit Manager, Contaminated Sites Program
DEC Spill Prevention and Response, Cost Recovery Unit

Cleanup Complete-ICs Agreement and Signature Page

The **ADOT&PF Southcoast Region Maintenance & Operations** agrees to the terms and Institutional Controls Conditions of this Cleanup Complete Determination, presented below for the ADOT&PF Wrangell Airport Sand & Chemical Building. 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 with18 AAC 75.380.

_____ _____
Signature of Authorized Representative, Title Date

_____
Printed Name of Authorized Representative, Title

Institutional Controls and Conditions

1. A restriction against future excavation of the septic mound system without coordinating with DEC prior to beginning any such action. In the event that the remaining contaminated soil becomes accessible by the septic system mound being removed and the effluent pits excavated or through some other action that fits the site circumstances, or other information becomes available which indicates that the site may pose an unacceptable risk to human health, safety, welfare or the environment, the land owner and/or operator are required under 18 AAC 75.300 to notify ADEC and evaluate the environmental status of the contamination in accordance with applicable laws and regulations; further site characterizations and cleanup may be necessary under 18 AAC 75.325-.390.

2. A restriction on installing groundwater wells or using groundwater from the site without prior DEC approval.

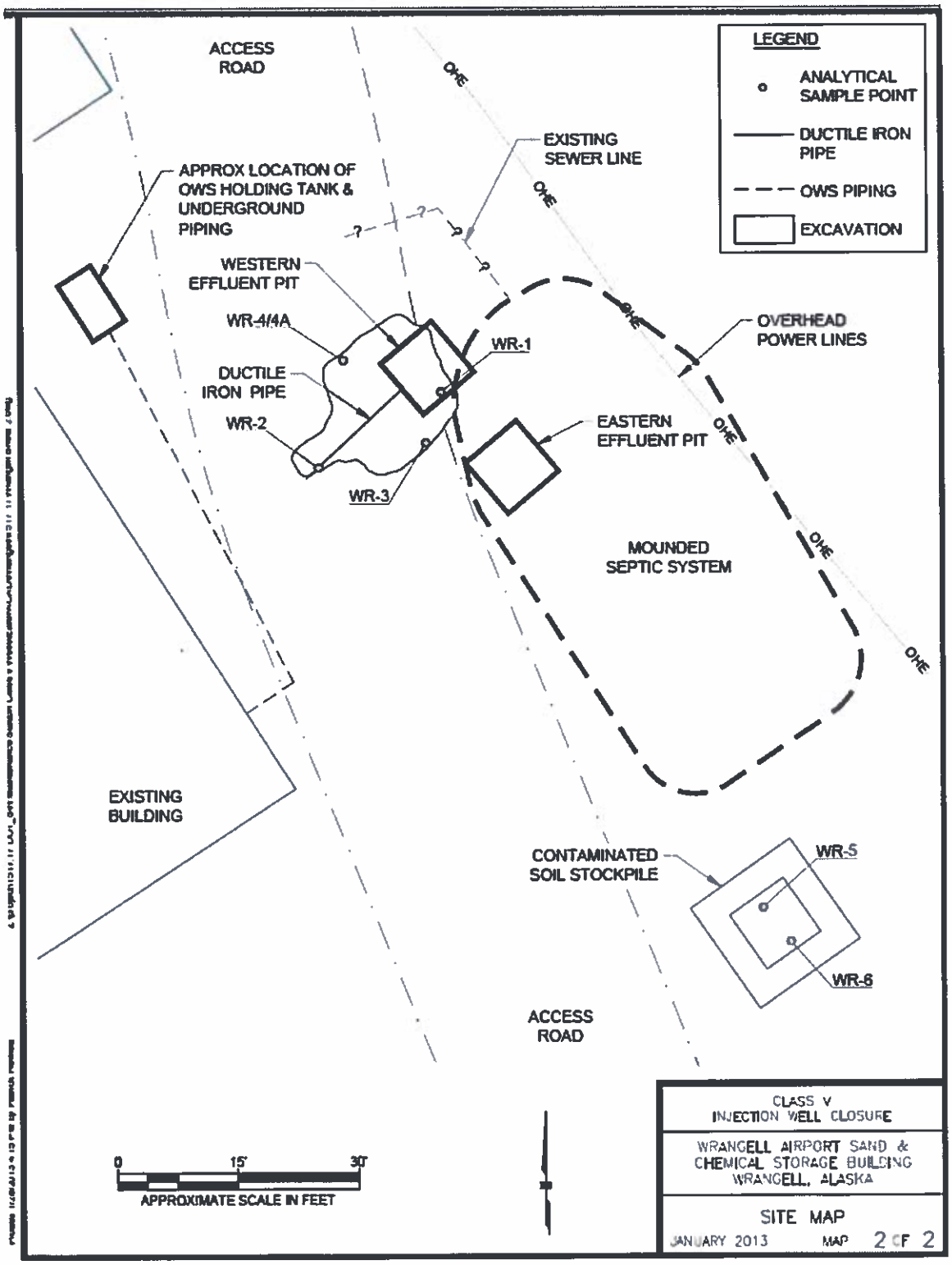
1. Any proposal to transport soil, sediment or groundwater off-site requires ADEC approval in accordance with 18 AAC 75.325. A "site" [as defined by 18 AAC 75.990 (115)] means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless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

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 is a standard condition.**

3. Groundwater in the state of Alaska is protected for aquaculture use. In the event that an aquaculture facility uses groundwater from this site in the future, additional treatment may be required to meet aquatic life criteria under 18 AAC 70. **This is a standard condition.**

Note to Responsible Person (RP):
After making a copy for your records, please email a scanned, signed copy of this form to the ADEC project manager at the email address on this correspondence within 30 days of receipt of this letter. The Division of SPAR/Contaminated Sites Program prefers and encourages electronic submittals.

Site Figure 1



cc

ALASKA
2016 – 000212 – 0
Recording District 104 Wrangell
09/28/2016 11:31 AM Page 1 of 4

Notice of Environmental Contamination

Grantor: State of Alaska
Department of Environmental Conservation
Contaminated Sites Program

Grantee: Mr. Scott Gray, ADOT&PF Southeast Region Maintenance and Operations

Legal Description: Latitude 56.482490, Longitude -132.374855, Section 19, Township S62, Range 84E Copper River Meridian

Recording District: ~~Juneau D~~istrict
Wrangell

Return to: Bruce Wanstall
410 Willoughby Suite 302
PO Box 111800
Juneau, AK 99811

State Business- No Charge

NOTICE OF ENVIRONMENTAL CONTAMINATION

As required by the Alaska Department of Environmental Conservation, Grantor, pursuant to 18 AAC 75.375 the State of Alaska Department of Transportation & Public Facilities, Southcoast Region Maintenance and Operations Grantee(s), as the owner and operator of the subject property, hereby provides public notice that the property located on Airport Loop Road in Wrangell, Alaska, 99929, and more particularly described as follows:

Latitude 56.482490 and Longitude -132.374855, Section 19, Township S62 and Range 84E in the Copper River Meridian.

has been subject to a discharge or release and subsequent cleanup of oil or other hazardous substances, regulated under 18 AAC 75, Article 3, revised as of April 8, 2012. This release and cleanup are documented in the Alaska Department of Environmental Conservation (ADEC) contaminated sites database at http://www.dec.state.ak.us/spar/csp/db_search.htm under Hazard ID number 26004.

ADEC reviewed and approved, subject to this and other institutional controls, the cleanup as protective of human health, safety, welfare, and the environment. In accordance with 18 AAC 75.325 – 390 site cleanup rules, ADEC determined that cleanup has been performed to the maximum extent practicable even though residual petroleum soil contamination is present under the septic system mound located southeast of the main building along the property boundary with the Airport Loop Right of Way. Monitoring well sample results indicate that groundwater meets the applicable cleanup levels. Contaminant concentrations are decreasing or not detected. Therefore, ADEC has determined that the residual soil contamination does not pose an unacceptable migration to groundwater concern.

Attached is a site survey or diagram drawn to scale that shows the property boundaries, locations of existing structures, the area that has been cleaned up, the approximate location and extent of remaining soil and groundwater contamination, and the locations where confirmation soil samples were collected.

Institutional controls necessary to support this closure determination include:

1. A restriction against future excavation of the septic mound system without coordinating with DEC prior to beginning any such action. In the event that the remaining contaminated soil becomes accessible by the septic system mound being removed and the effluent pits excavated or through some other action that fits the site circumstances, or other information becomes available which indicates that the site may pose an unacceptable risk to human health, safety, welfare or the environment, the land owner and/or operator are require under 18 AAC 75.300 to notify ADEC and evaluate the environmental status of the contamination in accordance with applicable laws and regulations; further site characterizations and cleanup may be necessary under 18 AAC 75.325-.390.

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3. Groundwater throughout Alaska is protected for use as a water supply for drinking, culinary and food processing, agriculture including irrigation and stock watering, aquaculture, and industrial use. Contaminated site cleanup complete determinations are based on groundwater being considered a potential drinking water source. In the event that groundwater from this site is to be used for other purposes in the future, such as aquaculture, additional testing and treatment may be required to ensure the water is suitable for its intended use.

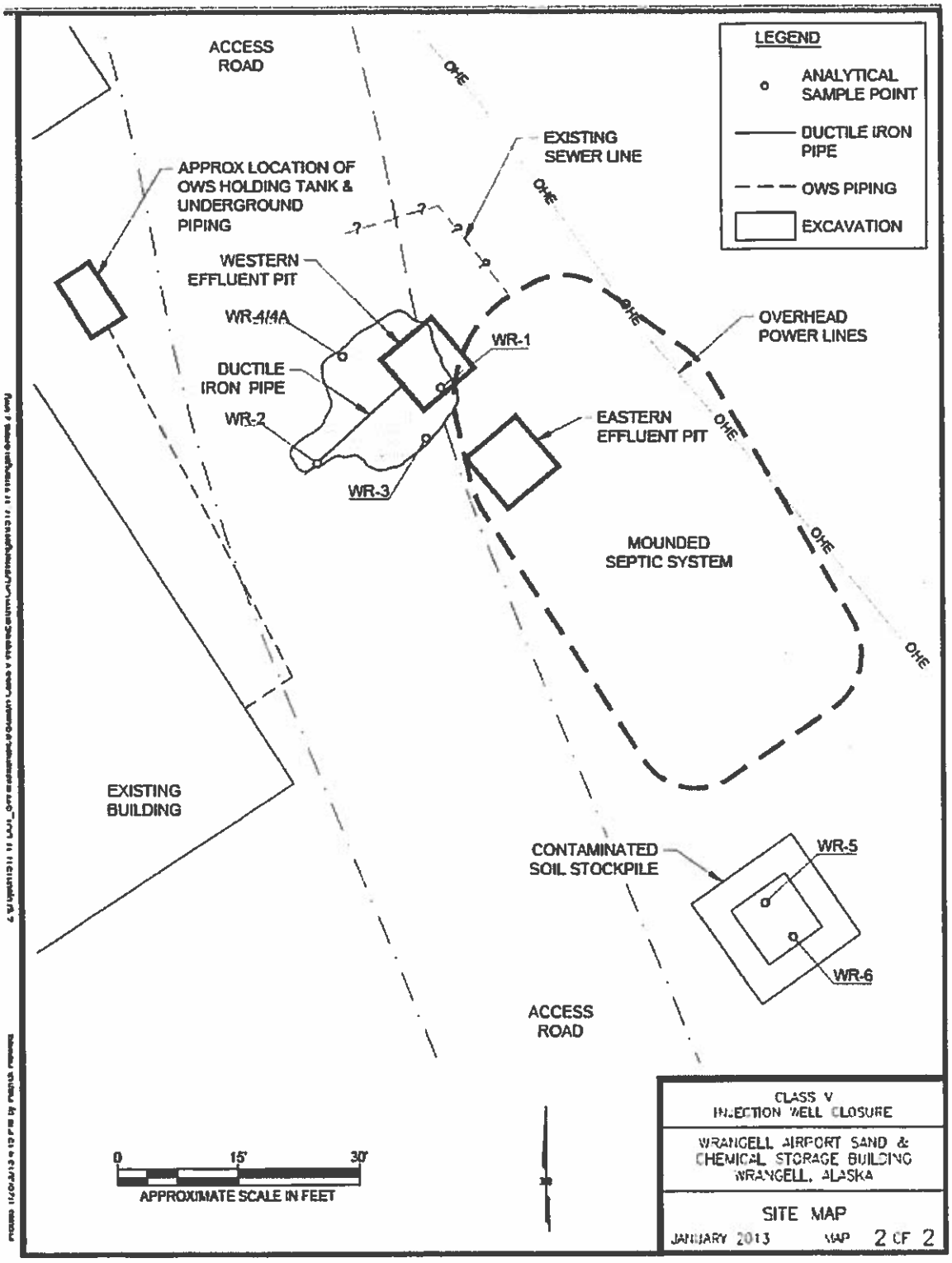
This NEC remains in effect until a written determination from ADEC is recorded that states that soil at the site has been shown to meet the most stringent soil cleanup levels in method two of 18 AAC 75.340 and groundwater meets the cleanup levels in Table C in 18 AAC 75.345 and that off-site transportation of soil and/or groundwater is not a concern.

For more information on the contaminated site in this Notice of Environmental Contamination, please see ADEC Contaminated Sites Program file number 1529.38.023 for the site named ADOT&PF Wrangell Airport Sand and Chemical Bldg.

Bruce Wanstall — 9/28/2016

Signature of Authorized ADEC Representative — Date

Figure1


ACCESS ROAD
LEGEND
ANALYTICAL SAMPLE POINT
DUCTILE IRON PIPE
OWS PIPING
EXCAVATION
OHE
EXISTING SEWER LINE
APPROX LOCATION OF OWS HOLDING TANK & UNDERGROUND PIPING
WESTERN EFFLUENT PIT
WR-4/4A
WR-1
OVERHEAD POWER LINES
DUCTILE IRON PIPE
WR-2
EASTERN EFFLUENT PIT
WR-3
MOUNDED SEPTIC SYSTEM
EXISTING BUILDING
CONTAMINATED SOIL STOCKPILE
WR-5
WR-6
ACCESS ROAD
0
15'
30'
APPROXIMATE SCALE IN FEET
CLASS V INJECTION WELL CLOSURE
WRANGELL AIRPORT SAND & CHEMICAL STORAGE BUILDING WRANGELL, ALASKA
SITE MAP
JANUARY 2013
MAP 2 OF 2