

# STATE OF ALASKA

**SEAN PARNELL, GOVERNOR**

## DEPT. OF ENVIRONMENTAL CONSERVATION

### DIVISION OF SPILL PREVENTION AND RESPONSE CONTAMINATED SITES PROGRAM

410 Willoughby Ave. Suite 302  
Box 111800 Juneau AK 99801  
PHONE: (907) 465-5210  
FAX: (907) 465-5218  
www.dec.state.ak.us

File: 1525.26.009

June 29, 2012

Mr. Richard Burns  
Alaska Broadcast Communications  
3161 Channel Drive, Suite 2  
Juneau, Alaska 99801

Ms. Sylvia Sutton  
U.S. Department of Homeland Security  
500 C Street SW  
Washington D.C. 20472

Re: Decision Document; USFEMA - KIFW Radio Station, Sitka  
Corrective Action Complete Determination-Institutional Controls

Dear Mr. Lundberg and Ms. Sutton:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has reviewed the environmental records associated with the USFEMA - KIFW Radio Station, Sitka located at 611 Lake Street. Based on the information provided to date, DEC has 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 is required as long as the site is in compliance with established institutional controls (ICs).

This decision is based on the USFEMA - KIFW Radio Station, Sitka Contaminated Site administrative record, which is located in the offices of the DEC in Juneau, Alaska. This letter summarizes the decision process used to determine the environmental status of this site and provides a summary of the regulatory issues considered in the Cleanup Complete with ICs determination.

Site Name and Location:  
USFEMA - KIFW Radio Station  
611 Lake Street  
Sitka, Alaska 99835

Name and Address of Contact Party  
Mr. Mike Lundberg  
Alaska Broadcast Communications  
3161 Channel Drive, Suite 2  
Juneau, AK 99801

Legal Description: Lot 1 Block 7 Sitka Broadcaster Subdivision USS 2691



DEC Site Identifiers

DEC Reckey: 1994120031301

File: 1525.26.009

Hazard ID: 24529

Regulatory Authority for Decision

Title 18 Alaska Administrative Code 78

**Background**

The site encompasses an area approximately 100' x 100' and includes the radio station building, a concrete storage/generator building and a fenced area around the transmitter tower. The area in the vicinity of the site is served by the city's water system. The impacted aquifer is shallow and no drinking water wells are in use or are anticipated near the site due to the availability of a public water system. Based on measurements recorded between 1995 and 2004, the surface of the saturated zone fluctuates, as a result of infiltration from precipitation, up to about one foot at individual wells and typically ranges from about 5 - 11 feet below the surface across the site. Groundwater flow is generally southwest (towards Swan Lake) and is assumed to be hydrologically connected with the lake. The soil at the site is highly organic, physically and chemically favorable for bioremediation, and, based on well recharge rates and groundwater sample results, the migration of contaminants in the groundwater appears to be relatively slow.

**Historical Site Assessment and Corrective Actions**

In 1994, petroleum contamination was encountered at the KIFW radio station during the closure by removal of two regulated underground storage tanks (USTs) and the associated piping. The UST system use was reportedly discontinued in 1970. The removal of the USTs and the subsequent investigations were completed under the direction of the Environmental Resources Section, of the U.S. Army Corps of Engineers, Alaska District (CEPOA-EN-CW-ER) on behalf of the Federal Emergency Management Agency (FEMA), which was later incorporated into the Department of Homeland Security (DHS). The project was coordinated through the Alaska District's Interagency and International Projects Management Branch (CEPOA-PM-C).

A formal report of the 1994 site activity is not available however the Chemical Data Report KIFW Radio Station dated July 1995 by CEPOA-PM-C-ER states that in the course of removing the USTs, contaminated soil was identified in the excavation and was removed for off-site transport and remediation. Two additional excavations were advanced to the water table down gradient of the UST removal site. Soil samples collected from the excavations, stockpiles and from around the building were analyzed for benzene, ethylbenzene, toluene, total xylenes (BTEX) volatile hydrocarbon compounds, gasoline (GRO) and diesel (DRO) petroleum hydrocarbon fractions. The highest levels detected in the laboratory analysis of the 1994 soil samples were 26.79 mg/kg Total BTEX, 630 mg/kg GRO, and 13,000 mg/kg DRO. These historical data are of limited value to this determination due to the fact that precisely where these data points were collected is not available in the record, specifically whether the locations are from soil remaining at the site.

Approximately 100 to 150 (cubic) yards of potentially contaminated soil was removed and the excavations were backfilled with clean soil. An estimated 40 cubic yards of contaminated soil were transported to the Roosevelt Regional landfill in Washington State for remedial treatment.

Contaminated soil was reportedly observed on the excavation sidewall along the east side of the Generator Building and extending under the structure. The contaminated layer was left in place and, at the request of DEC, two twelve foot runs of bio-venting piping were installed at the edge of the foundation prior to backfilling with clean soil. Soil amendments were added to the system to promote microbial breakdown of the residual petroleum. The potential for significant contaminant migration to the lake or off the property prompted an investigation of groundwater at the site.

### **Site Characterization and Monitoring Activities**

#### *SOIL*

In 1995, site activities to investigate petroleum contamination included collecting soil samples from borings to install monitor wells and groundwater sample collection after the wells were developed. Four soil borings were completed to depths between eight and ten feet below ground surface. Soil samples were analyzed for GRO and DRO range hydrocarbons, BTEX compounds and total lead. The only analytes detected in soil samples collected during well installation were DRO and toluene and the highest levels were 361 mg/kg DRO and 0.27 mg/kg toluene.

Two additional subsurface soil samples were collected in June 1998 using a hand auger advanced to depths of five to six feet. HAP-1 was advanced outside the contamination plume south of AP-330 near the shoreline of the lake and HAP-2 was advanced in the contamination plume between well AP-327 and the generator building. The only analytes detected in the soil samples were GRO, DRO and toluene and the highest levels were 16 mg/kg GRO (HAP-1), 740 mg/kg DRO (HAP-2) and 0.19 mg/kg toluene (HAP-1). Below see Table 1 for a list of the highest levels of all analytes detected in soil at the site and Table 2 for the highest levels of the analytes of concern remaining in soil at the site.

#### *GROUNDWATER*

The potential for contaminant migration to nearby Swan Lake prompted additional investigation. In July 1995, four groundwater monitoring wells (AP-327, AP-328, AP-329 and AP-330) were installed. In 2001, well DP-331 was added to improve groundwater assessment at the lakeshore. (See Attachment B Figure 3 for locations).

In accordance with the 1995 Sampling Plan, samples from all of the wells were tested for GRO, BTEX, DRO, RRO and lead beginning in 1995 and until 2002.

Results demonstrated that RRO and lead could be dropped from the list of analytes of concern but GRO was retained to assist in evaluating BTEX and DRO data. Based on soil and groundwater monitoring between 1995 and 2004, DEC agreed to a biannual sampling schedule for future monitoring events. A total of eleven sampling events took place between 1995 and 2007.

Benzene was detected consistently in samples of groundwater from three of the five monitor wells and at very low levels in well DP-331 in the last three sampling events, ending with 0.00012 mg/L in 2007. The highest level of 0.0117 mg/L was detected in the 2004 sample from well AP-330 located near the lakeshore but levels have declined consistently since that event ending with a benzene level of 0.0056 mg/L in 2007. In samples from well AP-328, benzene was detected above the Table C cleanup level of 0.005 mg/L in eight of the eleven events over the period between 1995 and 2007 and the last result was 0.010 mg/L.

DRO was detected in nearly every sample from all five wells throughout the period of groundwater monitoring between 1995 and 2007. The highest levels of DRO were in well AP-327, which had a high of 44.0 mg/L in 2002 but declined to 0.99 mg/L in 2007. DRO was detected in well AP-328 (point of compliance well) in ten of eleven of the sampling events between 1995 and 2007, but are all below the cleanup level.

Well AP-328 is located between the site of the former USTs and Lake Road. Water level measurements and the calculated groundwater flow direction indicate this well is located up-gradient of the UST release source area but the question of frost-jacking of wells has been raised in the environmental reporting. Damage to the wells has not been established but the data support that anomalies exist in the direction of groundwater flow. Field observations of water in well AP-328 described amber color which is a strong indication of surface water intrusion into the well. The well has a consistently slow recharge rate resulting in low sample volume. The elevated levels of benzene reported in the data do not correlate with elevated levels of DRO and GRO for the same sampling event. Benzene has not been detected in the any soil samples from the site.

---

### **Summary: Residual Contaminant Concentrations and Site Cleanup Levels**

The 1994 underground fuel tanks closure by removal and cleanup addressed the majority of source area contamination at the site. Soil and groundwater investigations indicate that limited hydrocarbon contamination extends from the impacted area trapped under the generator building but groundwater data shows that levels have steadily declined and the only contaminant remaining above criteria as of 2007 is benzene at 0.010 mg/L in well AP-328 at the point of compliance near Swan Lake, and a soil concentration of 740 mg/kg DRO near the generator building.

The groundwater contamination is in decline and there is no indication it has migrated off-site. The volume of inaccessible contaminated soil above cleanup levels, conservatively estimated at approximately 75 cubic yards, is present beneath the generator building. Groundwater monitoring data verifies that contaminant attenuation over time is assured. The greatest concentration of each type of analyte detected in historical data is summarized in Table 1, followed by the highest remaining concentrations remaining in soil and groundwater in Tables 2 and 3.

The soil cleanup level for this site is established in 18 AAC 75.341, Method Two, Tables B1 and B2 Over 40-inch Zone, Migration to Groundwater. The default groundwater cleanup levels for this site are established in 18 AAC 75.345 Table C Groundwater Cleanup Levels. The surface water cleanup levels are the 18 AAC 70 Water Quality Standards.

Table 1: Highest Historical Concentrations

Analyte	Soil in mg/kg	Method 2 Soil Levels (mg/kg)	Depth below ground surface (bgs)/Year	Groundwater in mg/L	Table C Criteria (mg/L)	Well/Year
GRO	16	260	5 feet bgs in 1998	0.320	2.2	AP-330 in 1995
DRO	<b>740</b>	230	5 feet bgs in 1998 (HAP-2)	<b>44</b>	1.5	AP-327 in 2002
Benzene	<0.1	0.025	4.5-6.5 feet bgs in 1995	<b>0.0395</b>	0.005	AP-328 in 2003
Ethylbenzene	<0.2	6.9	4.5-6.5 feet bgs in 1995	0.005	0.7	AP-327 in 1995
Toluene	0.27	6.5	3-5 feet bgs in 1995	0.006	1.0	AP-327 in 1995
Total Xylenes	<0.2	63	4.5-6.5 feet bgs in 1995	0.025	10	AP-327 in 1995
Lead	99	400	4.5-6.5 feet bgs in 1995	<b>0.0383</b>	0.015	AP-330 in 2001

Table 2: Highest Concentrations of Contaminants Remaining in Soil

Greatest Concentration COC remaining at site	Soil level in mg/kg	Method 2 soil cleanup levels in mg/kg	Depth below ground surface (bgs)/Year
GRO	16	260	5 feet bgs/ 1998
DRO	<b>740</b>	230	5 feet bgs/ 1998
Benzene	<0.1	0.025	4.5-6.5 feet bgs/ 1995

Table 3: Highest Concentrations of Contaminants Remaining in Groundwater

Greatest Concentration COC remaining at site	Groundwater level in mg/L	Table C groundwater cleanup levels in mg/L	Monitor well and Year
GRO	0.255	2.2	AP-327 in 2004
DRO	0.99	1.5	AP-327 in 2007
Benzene	<b>0.010</b>	0.0025	AP-328 in 2007

### **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 Attachment C.

### **Groundwater/Surface Water Media Exposure Pathways**

Groundwater underlying the site is not used for drinking water or other purposes. The City and Borough of Sitka operates a drinking water distribution system in the area. The source is Blue Lake, located several miles away from the site. No drinking water wells are located in the vicinity of the site.

The surface water body, Swan Lake, is located adjacent to the site. The lake was placed on DEC's 303(d) list of impaired water bodies in 1996 due to the presence of trash and urban debris. Groundwater sampling results indicate that contaminants have not migrated to Swan Lake and that a violation of 18 AAC 70 Water Quality Standards has not occurred.

### **Cumulative Health Risk Calculation**

Pursuant to 18 AAC 75.325 (g), when detectable contamination remains on-site following a cleanup, a cumulative risk determination must be calculated. A chemical that is detected at one-tenth or more of the Table B1 inhalation or ingestion values set out in 18 AAC 75.341(c) or the Table B2 values set out in 18 AAC 75.341(d) must be included when calculating cumulative risk under 18 AAC 75.325(g). Cumulative risk from petroleum contamination of environmental media at the site is addressed using the BTEX data. With data currently available, the DEC has determined that petroleum compounds remaining at the referenced site following cleanup are in concentrations that do not present a cumulative risk to human health.

---

### **DEC Decision**

Contamination remains on site above established default cleanup levels; however, DEC has determined there is no unacceptable risk to human health or the environment. Therefore this site will be issued a Corrective Action Complete – Institutional Controls subject to the following:

1. Any future change in land use may impact the exposure assumptions cited in this document. If land use and/or ownership changes, current ICs may not be protective and DEC may require additional remediation and/or ICs. Therefore the KIFW Radio Station shall report to DEC **every three years** to document land use, or report as soon as KIFW Radio Station becomes aware

June 29, 2012

of any change in land ownership and/or use, if earlier. **The report can be sent to the local DEC office or electronically to DEC.ICUnit@alaska.gov.**

2. A Notice of Environmental Contamination (deed notice) shall be recorded in the State Recorder's Office that identifies the nature and extent of contamination at the property and any conditions that the owners and operators are subject to in accordance with this decision document.
3. Existing monitoring wells (MWs) installed at the property and the surrounding area must be decommissioned in accordance with DEC guidance.
4. Soil contamination is located under the generator shed. 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.

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. When the site meets the requirements for a Cleanup Complete determination, Institutional Controls will be terminated.

This determination is in accordance with 18 AAC 75.276(f) 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 99801, 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 99801, 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.

**Please sign and return Attachment A to DEC within 30 days of receipt of this letter.** If you have questions about this closure decision, please contact the DEC project manager, Bruce Wanstall at (907) 465-5210.


June 29, 2012

Approved By:



Sally Schlichting  
Environmental Manager

Recommended By



Bruce Wanstall  
Environmental Program Specialist

Attachment A: Cleanup Complete-ICs Agreement Signature Page  
Attachment B: Site Figure  
Attachment C: Exposure Pathway Evaluation



June 29, 2012

**Attachment A: Cleanup Complete-ICs Agreement and Signature Page\***

Mike Lundberg, of Alaska Broadcast Communications Inc. agrees to the terms of this Corrective Action Complete - ICs determination as stated in this Closure Decision Document dated June 15, 2012 for the USFEMA - KIFW Radio Station, Sitka. Failure to comply with the terms of this agreement may result in DEC reopening this site and requiring further remedial action in accordance with 18 AAC 78.276(f).

\_\_\_\_\_  
Signature of Authorized Representative, Title  
Mr. Richard Burns,

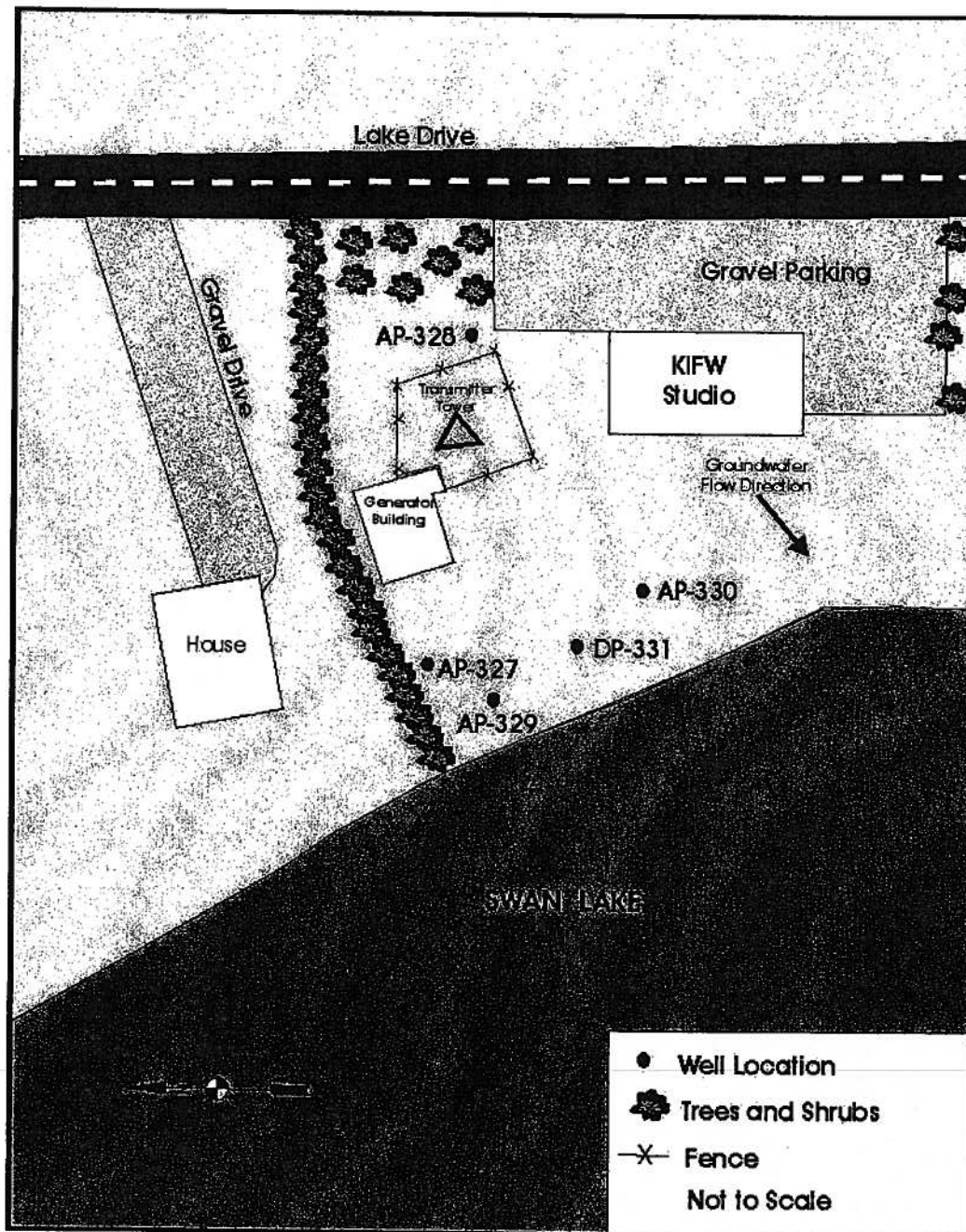
\_\_\_\_\_  
Printed Name of Authorized Representative, Title  
Alaska Broadcast Communications

**Note to Responsible Person (RP):**

**After making a copy for your records, please return a signed copy of this form to the DEC project manager at the address on this correspondence within 30 days of receipt of this letter.**

-----  
-----  
DEC File No. 1525.26.009  
Hazard ID: 24529  
DEC Project Manager: Bruce Wanstall

**Attachment B: Site Figure**



**Figure 3**  
Well Location Map  
KIFW Radio Station  
Sitka, Alaska

**Attachment C: Table 1 – Exposure Pathway Evaluation**

<b>Pathway</b>	<b>Result</b>	<b>Explanation</b>
Surface Soil Contact	Pathway Incomplete	Contaminated soil stockpiles were transported off-site and remediated.
Sub-Surface Soil Contact	Pathway Incomplete	A thin layer of soil contamination at the groundwater interface is below direct contact and ingestion soil cleanup levels.
Inhalation – Outdoor Air	Pathway Incomplete	Contamination remains in the subsurface below inhalation screening levels
Inhalation – Indoor Air (vapor intrusion)	De-minimis exposure	The building adjacent to the source has a solid concrete floor and is not occupied. The house next door was not present in May 2012. Any remaining contamination is below inhalation screening levels.
Groundwater Ingestion	Exposure controlled	Groundwater is not suitable and is not used as a drinking water source on the site or in the area.
Surface Water Ingestion	Pathway Incomplete	Swan Lake is a listed impaired water body for urban debris and is unsuitable for use as a potential drinking water source.
Wild Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.
Exposure to Ecological Receptors	Pathway Incomplete	Significant or threatened species are not present on-site or on Swan Lake.

Notes to Table 1: “De-minimis exposure” means that in DEC’s judgment receptors are unlikely to be affected by the minimal volume of remaining contamination. “Pathway incomplete” means that in DEC’s judgment contamination has no potential to contact receptors. “Exposure controlled” means there is an administrative mechanism in place limiting land or groundwater use, or a physical barrier in place that deters contact with residual contamination.