



THE STATE  
of **ALASKA**  
GOVERNOR SEAN PARNELL

**Department of Environmental  
Conservation**

DIVISION OF SPILL PREVENTION & RESPONSE  
Contaminated Sites Program  
410 Willoughby Ave Suite 303  
PO Box 11180  
Juneau, Alaska 99811-1800  
Phone: (907) 465-5207  
Fax: (907) 465-5218  
[www.dec.alaska.gov](http://www.dec.alaska.gov)

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September 18, 2013

Chris Wilbur  
Facilities Manager  
City and Borough of Sitka  
113 Jarvis Street  
Sitka, Alaska 99835

Re: Decision Document: Harrigan Centennial Hall  
Corrective Action Complete Determination with Institutional Controls

Dear Mr. Wilbur:

The Alaska Department of Environmental Conservation (DEC) has reviewed the environmental records for the Harrigan Centennial Hall located at 330 Harbor Drive in Sitka, Alaska. This decision letter memorializes the site history, cleanup actions, and conditions (institutional controls) required to effectively manage remaining contamination. No further remedial action will be required as long as compliance with these conditions are maintained.

**Site Name and Location:**

Harrigan Centennial Hall  
330 Harbor Drive  
Sitka, Alaska 99835

**Name and Mailing Address of Contact Party:**

Chris Wilbur, Facilities Manager  
City and Borough of Sitka  
113 Jarvis Street  
Sitka, Alaska 99835

**DEC Site Identifiers:**

File: 1525.38.048  
Hazard ID: 25497

**Regulatory Authority for Determination:**

18 AAC 75

### **Site Description and Background**

The City and Borough of Sitka is the owner and manager of Harrigan Centennial Hall, a public use facility, in Sitka, Alaska. In December 2009, during the planned decommissioning of a 1,000-gallon underground heating oil tank (UST #1) a second, unknown tank (UST #2) was discovered. During the removal, Alaska Resources and Environmental Services, LLC discovered contaminated soil. The contractor observed surface pitting but no structural degradation of the tanks. Free product was extracted from both tanks prior to their removal. Field screening results indicated that contaminated soils were located near the base of the USTs. To verify site conditions, soil analytical samples were collected from the excavation pit areas and the temporary stockpile prior to its transport to Granite Creek Facility (GCF), see Figure 2. A total of six soil samples were collected and analyzed for diesel range organics (DRO) and benzene, toluene, ethylbenzene, and xylenes (BTEX). The complete removal of contaminated soil was not possible due to structural limitations with Harrigan Centennial Building to the north; an electrical transformer to the south; and fiber optic cable to the east, see Figure 1. Groundwater was encountered during excavation work and was attributed to tidal influence because of the high tide conditions. The Phase II Environmental Site Assessment/Release Investigation (ESA) did not assess the lateral and vertical extent of contamination or the potential for indoor air vapor intrusion. The report concluded that groundwater may be impacted due to the level of contamination remaining in place at the site. In February 2010, project management was transferred from the Prevention and Emergency Response Program to the Contaminated Sites Program (CSP).

### **Characterization and Cleanup Activities**

Field screening samples were collected to guide excavation activities and to assess subsurface conditions surrounding the two USTs during the excavations that took place in January 2009. A total of six soil samples were collected and analyzed for DRO and BTEX. Five of the six analytical results revealed contaminated soil above DEC's cleanup levels. The maximum depth of the excavation was 8.3 ft bgs where DRO concentrations were 1290 mg/kg and benzene concentrations were 0.119 mg/kg. The northeast end of the excavated area had DRO concentrations of 23,300 mg/kg (22,000 mg/kg-duplicate) and benzene 0.116 mg/kg (0.152 mg/kg-duplicate) at approximately 7.4 ft bgs. The southwest end of the excavated area was non-detect for both DRO and BTEX. Two soil analytical samples were collected from the temporary contaminated soil stockpile prior to transporting approximated 10 cubic yards for bioremediation to the City and Borough of Sitka Granite Creek Facility. Samples were collected for baseline measurement and monitoring cleanup progress. DRO concentrations ranged from 1880 mg/kg to 20,500 mg/kg and had benzene concentrations from 0.368 mg/kg to 0.136 mg/kg, respectively. All other constituents were non-detect or below DEC's cleanup levels. Final field screening results indicated that contaminated soil remained in place at the base of the excavation pit and sidewalls adjacent to UST #1. Complete removal of the contaminated soil was not possible due to site and structural limitations.

In May 2010, the CSP requested the City and Borough of Sitka to submit a release investigation report for the known soil contamination that remained onsite after the discovery of DRO and benzene above DEC's cleanup levels. In November 2010, Carson Dorn, Inc. submitted a Site Characterization Work Plan to perform the additional environmental investigation that remained to be done to characterize the site. On January 26 and 27, 2011 a site investigation was conducted. Two soil gas probes were installed and soil gas samples were analyzed for volatile organic compounds (VOCs). Acetone and methylene chloride were the only VOCs detected and were well below DEC's commercial and residential soil gas target levels. The groundwater investigation included the installation of one stainless steel drive-point piezometer and one subsequent sample, and duplicate, after development of the piezometer. The well was placed in the footprint of the tank area and installed to a depth of 9.25 ft below ground surface (bgs)

with a screened interval at 8.25 ft bgs and 9.25 ft bgs. Groundwater samples were analyzed for DRO and BTEX. DRO was detected at 5.75 mg/L which exceeds the DEC groundwater cleanup level of 1.5 mg/L. Detectable concentrations of RRO, ethylbenzene and xylenes were below the DEC groundwater cleanup levels. Benzene and toluene were both non-detect. A laboratory soil sample and duplicate revealed DRO concentrations were 620 ppm and 740 ppm and above DEC cleanup levels; BTEX were not analyzed.

As a result to finding contaminated groundwater in the footprint of the excavation, CSP requested CDI to submit a groundwater monitoring plan. In May 2011, three wells were installed to monitor for site contamination (MW-1, MW-2 and MW-3) and one to monitor for potential upgradient contamination (MW-4). On June 12, 2011 groundwater sampling for DRO, RRO and BTEX was conducted. This event was performed during a high tide (10.70ft) however; productivity of MW-1, MW-2, and MW-4 was insufficient and the wells could not be sampled. As a result, only MW-3 was sampled and the analytical results showed that DRO and RRO were detected below DEC groundwater cleanup criteria and BTEX constituents were non-detect. In September 2011, a second round of groundwater monitoring was conducted at all wells and for the same parameters. No constituents were detected in MW-2, MW-3, and MW-4, however; MW-1 had detectable concentrations of DRO below DEC groundwater cleanup levels and both RRO and BTEX were non-detect.

The CSP requested laboratory analyses for total aromatic hydrocarbons (TAH) and total aqueous hydrocarbons (TAqH) per 18 AAC 70 Alaska Water Quality Standards due to the site's proximity to surface water. On October 26, 2012, groundwater sampling was performed during a high tide event (12.09ft) and the requested laboratory analysis showed that all constituents were non-detect.

Table 1 displays the contaminant concentrations detected at the site for each event. The applicable cleanup levels for the contaminants of concern are protective of DEC's Groundwater Cleanup Levels in Table C of 18 AAC 75.345.

**Table 1: Groundwater analytical results at the site**

| Analyte             | DEC Method 2 Groundwater Cleanup Level (mg/L) | MW-1<br>1/27/11 | MW-3<br>6/12/11 | MW-1<br>9/28/11 | MW-2<br>9/28/11 | MW-3<br>9/28/11 | MW-4<br>9/28/11 | MW-1<br>10/16/12 | MW-2<br>10/16/12 | MW-3<br>10/16/12 | MW-4<br>10/16/12 |
|---------------------|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|------------------|------------------|------------------|------------------|
| <b>DRO</b>          | 1.5   | <b>5.75</b>     | 0.34            | 0.436           | ND              | ND              | ND              | ND               | ND               | ND               | ND               |
| <b>RRO</b>          | 1.1   | 0.735           | 0.15            | ND              | ND              | ND              | ND              | ND               | ND               | ND               | ND               |
| <b>Benzene</b>      | 0.005   | ND              | ND              | ND              | ND              | ND              | ND              | ND               | ND               | ND               | ND               |
| <b>Toluene</b>      | 1.0   | ND              | ND              | ND              | ND              | ND              | ND              | ND               | ND               | ND               | ND               |
| <b>Ethylbenzene</b> | 0.7   | .0615           | ND              | ND              | ND              | ND              | ND              | ND               | ND               | ND               | ND               |
| <b>Xylene-total</b> | 10  | 0.172           | ND              | ND              | ND              | ND              | ND              | ND               | ND               | ND               | ND               |
| <b>TAqH</b>         | -   | -               | -               | -               | -               | -               | -               | ND               | ND               | ND               | ND               |
| <b>TAH</b>          | -   | -               | -               | -               | -               | -               | -               | ND               | ND               | ND               | ND               |

ND: non-detect at the reporting limit.

Results in **bold** are above DEC Method 2 Groundwater Cleanup Level

"-" means this parameter was not sampled for

### Contaminants of Concern

The following contaminants of concern were identified during the course of the site investigations:

- Diesel Range Organics (DRO)
- Benzene

### Cleanup Levels

Soil cleanup levels for this site are approved under Method Two Over 40 inch Zone, Migration to Groundwater, as set forth in 18 AAC 75.341(c), Table B1 and 18 AAC 75.341 (d), Table B2 Petroleum Hydrocarbon Cleanup Levels.

| <u>Contaminant</u>    | <u>Cleanup Level (mg/kg)</u> |
|-----------------------|------------------------------|
| Diesel Range Organics | 230                          |
| Benzene               | 0.025                        |
| Toluene               | 6.5                          |
| Ethylbenzene          | 6.9                          |
| Xylenes               | 63                           |

Groundwater cleanup levels are established in 18 AAC 75.345 Table C Groundwater Cleanup Levels.

| <u>Contaminant</u>    | <u>Cleanup Level (mg/L)</u> |
|-----------------------|-----------------------------|
| Diesel Range Organics | 1.5                         |
| Benzene               | 0.025                       |
| Toluene               | 1.0                         |
| Ethylbenzene          | 0.7                         |
| Xylenes               | 10                          |

Surface water cleanup levels for this site are established in the Water Quality Standards in 18 AAC 70, as referenced in 18 AAC 75.345(f).

| <u>Contaminant</u> | <u>Cleanup Level (ug/L)</u> |
|--------------------|-----------------------------|
| TAqH               | 15                          |
| TAH                | 10                          |

Groundwater cleanup levels have met the DEC regulatory criteria. Soil gas does not pose a risk to human health. Contaminated soils that were removed and taken to the GCF for bioremediation have attained DEC cleanup levels. Contaminated soils that remain in the excavation area are considered stable due to decreasing groundwater concentrations. The complete removal of contaminated soils both laterally and vertically was not possible due to site restrictions. Soil removal actions were completed to the maximum extent practicable without posing a risk to the structure of the building foundation. All pathway exposure routes are either *Pathway Incomplete* or *Di-Minimis*, please refer to Attachment A.

### 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 do not pose a cumulative human health risk.

### **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 or Pathway Incomplete. A summary of this pathway evaluation is included in *Attachment A*.

### **DEC Decision**

Petroleum contamination remains onsite above applicable cleanup levels, however; DEC has determined there is no unacceptable risk to human health or the environment as long as the contamination is properly managed. This site will receive a Cleanup Complete with Institutional Controls designation on the Contaminated Sites Database, subject to the following standard conditions:

1. Groundwater monitoring wells must be decommissioned by November 15, 2013 in accordance with DEC guidance. Submit well decommissioning documentation to DEC within 30 days.
2. Any future change in land use may impact the exposure assumptions cited in this document. If land use and/or ownership changes, these management conditions may not be protective and DEC may require additional remediation and revised conditions. Therefore the City and Borough of Sitka shall report to DEC every 5 years to document land use, or report as soon as the City and Borough of Sitka becomes aware 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](mailto:DEC.ICUnit@alaska.gov).**
3. Any proposal to transport soil or groundwater off site requires DEC approval in accordance with 18 AAC 75.370(b) 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.
4. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.
5. 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.

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. The Institutional Control will be removed in the future if documentation can be provided to show Condition 1 has been received by the department. Management conditions 2-5 remain in effect after ICs are removed.

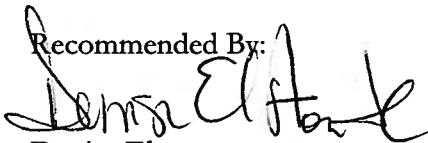
This determination is in accordance with 18 AAC 75.380 and does not preclude DEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

**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 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 B* to ADEC within 30 days of receipt of this letter.** If you have questions about this closure decision, please contact me (907) 465-5207.

Recommended By:



Denise Elston  
Environmental Program Specialist

Attachment A: Exposure Pathway Evaluation

cc: Jolene Cox, CDI consultant, electronic mail

**Attachment A: Exposure Pathway Evaluation**

| <b>Pathway</b>                            | <b>Result</b>      | <b>Explanation</b>  |
|---|--------------------|---|
| Surface Soil Contact                      | Pathway Incomplete | Contamination is not present in surface soil (0 to 2' below ground surface).  |
| Sub-Surface Soil Contact                  | Di-Minimis         | Soil contamination remains in the subsurface above Table 2 Method 2 Over 40 Inch Zone, Maximum Allowable Concentrations below the excavated tank area. DRO concentrations of 23,300 mg/kg (22,000 mg/kg-duplicate) were detected at approximately 7.4 ft bgs near the building foundation and remain at an unknown volume. The lateral and vertical characterization demonstrates that contamination is not migrating off-site. The groundwater monitoring has established a decreasing trend of contaminant constituents to a non-detectable level demonstrating petroleum contamination is not migrating. |
| Inhalation – Outdoor Air                  | Pathway Incomplete | Soil gas probes were installed adjacent to the Harrigan Centennial Hall. VOCs were not detected at levels that exceed DEC shallow soil gas vapor intrusion target levels  |
| Inhalation – Indoor Air (vapor intrusion) | Pathway Incomplete | No related soil gas contaminants of potential concern were detected above the DEC commercial or residential soil gas target levels  |
| Groundwater Ingestion                     | Pathway Incomplete | Groundwater is not a current or future drinking water source. Sitka Public Works supplies potable water to residents of the area.   |
| Surface Water Ingestion                   | Pathway Incomplete | The nearest known surface water body is Sitka Sound, less than 50 feet from the source area. Groundwater samples analyzed for DRO, RRO, BTEX, TAH, and TAqH were non-detect, meeting applicable water quality criteria for surface water.   |
| Wild and Farmed Foods Ingestion           | Pathway Incomplete | The site and the urban area around the site are considered a wild foods harvest area; specifically, seafood from Sitka Sound and possible berry picking. However, contaminants have not been detected and thus eliminate the potential for bioaccumulation in flora or fauna.   |
| Exposure to Ecological Receptors          | Pathway Incomplete | Contaminants of concern are below cleanup levels and not expected to result in acute or chronic toxicity.   |

Notes to Table 1: “Pathway Incomplete” means that in DEC’s judgment contamination has no potential to contact receptors. “De-Minimis” means that in ADEC’s judgment receptors are unlikely to be affected by the minimal volume or concentration of remaining contamination.

Mr. Chris Wilbur  
Harrigan Centennial Hall

September 18, 2013

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

The City and Borough of Sitka, Alaska agrees to the terms and conditions of the Cleanup Complete Determination, as stated in the decision letter for the Harrigan Centennial Hall, dated September 18, 2013. Failure to comply with the terms and conditions of the determination may result in DEC reopening this site and requiring further remedial action in accordance with 18 AAC 18 AAC 75.380.

Chris Wilbur CBS Facilities Mgr

Signature of Authorized Representative, Title  
Chris Wilbur, City and Borough of Sitka

10/18/13  
Date

Chris Wilbur CBS Facilities Mgr

Printed Name of Authorized Representative, Title  
Chris Wilbur, City and Borough of Sitka

**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.