THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File No: 1516.38.049

December 15, 2014

Mr. Gareth Jones
Department of Administration
Division of General Services
PO Box 110210
Juneau, AK 99811-0210

RE: Decision Document; Dimond Courthouse
Cleanup Complete Determination with Institutional Controls

Dear Gareth,

The Alaska Department of Environmental Conservation, Contaminated Sites Program (DEC) has reviewed the environmental records for the referenced site. This decision letter explains the site history, cleanup activity and specific conditions required to effectively manage any remaining contamination. No additional remedial action is required as long as compliance with these conditions is maintained.

Site Name and Location
Dimond Courthouse
123 4th Street
Juneau, Alaska 99801
Lots 1-8, BL 8 Juneau Townsite

Address of Contact Party
Gareth Jones
Department of Administration
Division of General Services
PO Box 110210
Juneau AK, 99811-0210

DEC Site Identifiers
Hazard ID: 3857
File: 1513.38.049

Regulatory Authority for Determination
Title 18 Alaska Administrative Code 75

Site Description and Background
The Dimond Courthouse is a multi-story office building located on 4th Street between Main Street to the west and Seward Street to the east. The City of Juneau Public Works Department provides potable drinking water along with sewer and stormwater collection service to the site and to the downtown Juneau area for treatment in accordance with a DEC discharge permit.

Reports in April, 2002, of petroleum emerging with intermittent groundwater in a sump reservoir in the basement of the adjacent building downhill from the Dimond Courthouse, prompted the installation of a groundwater well in an alley separating the two buildings. Monitoring well MW-3 was completed to a depth of nearly twelve feet below ground surface (BGS). The Alaska Department of Transportation & Public Facilities (ADOT&PF) informed DEC that, after installation, R&M Engineering Inc. observed 18 inches of free-phase petroleum also known as light non-aqueous petroleum liquid (LNAPL) in the monitor well. Preparedness and Emergency Spill Response investigators added dye to the Courthouse underground storage tank (UST) and based on the results were able to confirm that the UST system was the source of the fuel release reaching the well. The piping that supplied diesel fuel to the Dimond Courthouse boilers and to the emergency generator was a more likely source than the UST. The 10,000 gallon UST located on the southeast corner of the property was partially buried under the Davis Log Cabin Visitor Center.

In May, 2002, ADOT&PF contracted Hart Crowser Inc. (HC) to close the 10,000-gallon UST by removal from the Dimond Courthouse property and replace it with an aboveground storage tank (AST) near the same location. The Davis Log Cabin Visitor Center was constructed in the early 1980s as a centennial project commemorating the first schoolhouse in Juneau. The cabin foundation was located parallel to and above the UST, which complicated the UST removal process. Due to decaying logs and the overall poor condition of the structure, ADOT&PF decided to demolish the cabin prior to excavating the UST. Although LNAPL was anticipated, none was observed during the UST removal excavation process conducted in June 2002.

Well MW-3 view west

MW-3, AST view east

AST & former UST site (black vehicles)

Contaminant of Concern

The following petroleum contaminant of concern is those above cleanup levels that were identified during the course of the site investigations summarized in the Characterization and Cleanup Activities section of this decision letter.

- Diesel Range Hydrocarbons (DRO)

Cleanup Levels

The cleanup level requirements for hazardous substances in soil, groundwater, and surface water at this site are those established in 18 AAC 75.341(d) Method Two for soil with chemicals listed on 18 AAC 75.341(c) Table B1 and petroleum hydrocarbon ranges listed on 18 AAC 75.341(d) Table B2 in the over 40 inch zone. Criteria listed in Table C at 18 AAC 75.345(b)(1) apply for groundwater cleanup levels. Although surface water is not present at the site and was not investigated for contamination, the migration to groundwater cleanup levels apply for soil protective of the migration to surface water pathway and 18 AAC 70 Water Quality Standards. The following table displays the contaminants of concern cleanup levels for completed pathways at this site:

Table 1 – Approved Cleanup Levels

Chemical	Soil (mg/kg)	Groundwater (mg/L)
DRO	230	1.5

Site Characterization and Cleanup Activities

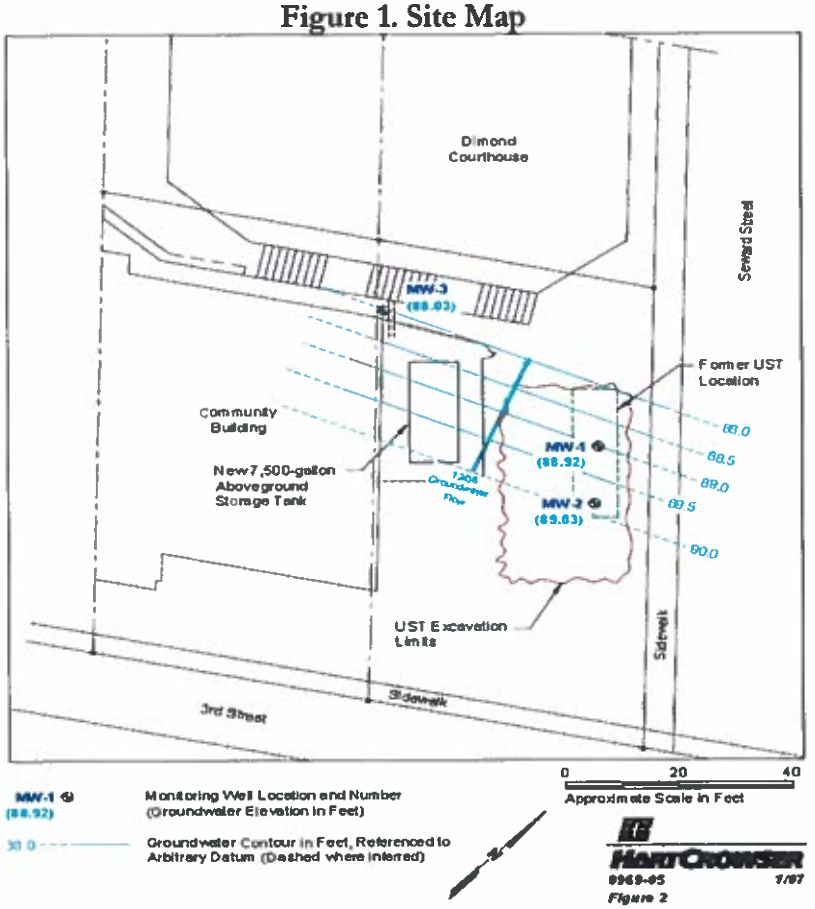
Site Investigation and Cleanup activities conducted under the regulatory authority of the Contaminated Sites Program began in 2002. These activities are described below.

After the UST was removed and associated piping was disconnected; approximately 70 cubic yards of hydrocarbon impacted soils were also removed. The presence of adjacent buildings, utilities, public sidewalks, and groundwater limited the size of the final excavation. The total area of the footprint of the excavation was approximately 943 square feet. The excavation depth was limited to 9.5 feet because groundwater was encountered. Excavations next to the sidewalks and building were sloped at a 45-degree angle where possible to avoid undermining surrounding structures.

During the UST closure, HC directed the removal of contaminated soil using soil field screen tests with a photoionization detector. Soil removal was limited at the north wall of the excavation by the presence of a newly installed fiber optic cable and the Dimond Courthouse foundation. Soil removal from the east wall of the excavation was limited by three electrical conduits and by the close proximity to the sidewalk west of Seward Street. HC collected seven field screen samples and, based on the highest readings, collected confirmation samples from the excavation sidewalls. Samples were analyzed by DEC approved methods for benzene, toluene, ethylbenzene and total xylenes (BTEX) volatile organic compounds, gasoline (GRO), diesel (DRO) and residual (RRO) range petroleum hydrocarbons. The results indicated that concentrations of DRO in soil remaining at the north and east ends of the excavation exceeded the DEC cleanup level. All the other analytes were below cleanup levels.

With DEC approval HC stored the contaminated soil from the UST excavation on ADOT&PF property for analytical sampling. With DEC approval, an estimated volume of 70 cubic yards of soil was later transported to Roosevelt Regional Landfill in Roosevelt, Washington, for disposal.

Figure 1. Site Map



Soil

Observation of the sidewalls concluded that the greatest amount of contaminated material was located in in the north and east sides of the excavation where structures limited access. The estimated volume of remaining soil contamination was 20 cubic yards. Six confirmation samples and a field duplicate were collected from soil in the sidewalls near the water table interface at the limits of the excavation. The depth of confirmation sample collection was 9.5 feet BGS. The highest level of contamination remaining was detected in sample DC-01 collected in the southeast corner of the excavation at a depth of 9.5 feet BGS. Laboratory results for DRO were below the Method Two migration to groundwater (M2 MTG) soil cleanup levels in three of the confirmation soil samples. Three samples had results for DRO that were between the M2 MTG and the human health standard ingestion pathway soil cleanup levels listed in Title 18 Alaska Administrative Code (AAC) 75.341 Table B2. Table 1 displays the highest level detected in soil remaining at the site, the sample depth, and the M2 MTG and human health standard ingestion pathway cleanup levels. Levels shown in bold are above the applicable cleanup levels and represent the contaminant(s) of concern.

Table 2. The highest level of the COC remaining at the site in milligrams per kilogram (mg/kg)

Hydrocarbon range	Greatest level in soil mg/kg*	Sample name and depth below ground surface	M2-MTG Levels mg/kg*	M2-Direct Contact/Ingestion Cleanup Levels mg/kg*
DRO	5,300	DC-03 at 9.5 feet	230	8250

Groundwater

In 2002, after closure by removal of the UST, HC installed two additional monitor wells downhill of the UST footprint (Figure 1). The objective was to characterize the COC concentration as well as the BTEX hydrocarbon compounds in groundwater.

With LNAPL present in monitor well MW-3, HC decided collecting an analytical sample was not feasible and did not measure the thickness. HC sampled monitor wells MW-1 and MW-2 located downhill from the former UST site (Figure 1). Concentrations of BTEX compounds were below laboratory reporting limits and Table C levels. DRO concentrations in the MW-1 sample in the duplicate were above the cleanup level and in the MW-2 sample were below the cleanup levels.

Table 3. Results of 2002 groundwater sampling event (NS = not sampled)

Analyte	Units	MW-1	MW-1 duplicate	MW-2	MW-3	Table C level
DRO	mg/L	3.0	2.86	0.924	NS	1.5
Benzene	mg/L	<0.0005	<0.0005	<0.0005	NS	0.005
Toluene	mg/L	<0.002	<0.002	<0.002	NS	1.0
Ethylbenzene	mg/L	<0.002	<0.002	<0.002	NS	0.7
Total Xylenes	mg/L	<0.004	<0.004	<0.004	NS	10

mg/L= milligrams per liter

In 2006, the level of LNAPL measured in well MW-3 was measured at a thickness of 0.02 feet and collecting an analytical sample was deemed not feasible. HC collected analytical samples from wells MW-1 and MW-2 for DRO and BTEX analyses. Concentrations of BTEX compounds were below laboratory reporting limits and Table C levels. Concentrations of DRO from both of the wells sampled were above laboratory reporting limits and below the groundwater cleanup levels.

Table 4. Results of 2006 groundwater sampling event (NS= not sampled due to LNAPL)

Analyte	Units	MW-1	MW-1 duplicate	MW-2	MW-3	Table C level
DRO	mg/L	0.397	0.410	0.417	NS	1.5
Benzene	mg/L	<0.0005	<0.0005	<0.0005	NS	0.005
Toluene	mg/L	<0.0005	<0.0005	<0.0005	NS	1.0
Ethylbenzene	mg/L	<0.0005	<0.0005	<0.0005	NS	0.7
Total Xylenes	mg/L	<0.0015	<0.0015	<0.0015	NS	10

mg/L= milligrams per liter

In 2010, the level of LNAPL in well MW-3 was sufficiently reduced to allow Shannon & Wilson (S&W) to collect the well's first analytical sample along with samples from wells MW-1 and MW-2. The samples were analyzed for GRO, DRO, RRO range hydrocarbons and BTEX compounds. Concentrations of GRO and BTEX compounds were below laboratory reporting limits and Table C levels. Concentrations of DRO in samples from wells MW-1 and MW-2 were above laboratory reporting limits and below the Table C levels. DRO and RRO concentrations were above groundwater cleanup levels in the sample from well MW-3.

Table 5. Results of 2010 groundwater sampling event

Analyte	Units	MW-1	MW-1 duplicate	MW-2	MW-3	Table C level
GRO	mg/L	<0.062	<0.062	<0.062	<0.433	2.2
DRO	mg/L	0.397	0.410	0.111	80.5	1.5
RRO	mg/L	<0.300	<0.294	<0.312	2.07	1.1
Benzene	mg/L	<0.0003	<0.0003	<0.0003	0.00107	0.005
Toluene	mg/L	<0.00124	<0.00124	<0.00124	<0.00124	1.0
Ethylbenzene	mg/L	<0.00124	<0.00124	<0.00124	0.0262	0.7
Total Xylenes	mg/L	<0.00124	<0.00124	<0.00124	0.0117	10

mg/L= milligrams per liter
NS= not sampled due to LNAPL

In June, 2012, S&W collected analytical groundwater samples from monitor wells MW-1, MW-2, and MW-3. DEC requested S&W collect and submit duplicate samples in sequence from each well for analysis of DRO and RRO. BTEX compounds were eliminated because they were not detected in remaining soil or in samples from three well monitoring events. Prior to analysis, the duplicate (secondary) sample from each well was pre-treated with silica gel to remove biogenic interference. The results for each pair of samples were compared to measure the degree of bias on concentrations of DRO and RRO in groundwater.

Analysis found that each groundwater sample contained detectable concentrations of petroleum hydrocarbons. However, due to method blank detections, many of the reported DRO and RRO concentrations are qualified as non-detect. From a quality assurance standpoint, only the samples from Well MW-3 (primary and duplicate) contain reportable detections. The DRO concentration in both the project and duplicate samples were above Table C levels, and the RRO concentration in the primary sample also exceeded the cleanup level.

S&W concluded the DRO concentration in Sample MW3 does not appear to be primarily attributed to biogenic (naturally occurring) contributions, while the bulk of the RRO concentration may be biogenic. DRO and RRO concentrations for both the standard method and silica gel method were detected in the method blank samples, therefore data may not be sufficient to definitely confirm the presence or absence of DRO/RRO in the samples from Wells MWI and MW2, or effectively answer the question regarding potential biogenic contributions.

Table 6. Results of 2012 groundwater sampling event in milligrams per liter (mg/L)

Analyte	Units	MW-1	MW-2	MW-3	MW-3 duplicate	Table C level
DRO	mg/L	<0.720	<0.720	6.13	9.42	1.5
RRO	mg/L	<1.00	<0.600	3.21	<1.00	1.1

Site investigation of remaining soil and groundwater at the site has shown that BTEX volatile compounds, as indicators of potential effects to aquatic life in 18 AAC 70 water quality standards and of petroleum vapors affecting indoor and outdoor exposure pathways, are consistently not present at levels above soil and groundwater cleanup levels. With DEC concurrence, no additional monitoring events were conducted following the 2012 event. The data from the four groundwater

sampling events demonstrated that the LNAPL no longer appears in well MW-3 located between the buildings. Based on this data, and in accordance with 18 AAC 75.380(c)(2), the department has determined that concentrations of DRO at the site are decreasing and will continue to attenuate below cleanup levels, and the size of the dissolved plume is shrinking.

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. The risk from hazardous substances must not exceed a cumulative carcinogenic risk standard of 1 in 100,000 across all exposure pathways and does not exceed a cumulative non-carcinogenic risk standard at a hazard index of one across all exposure pathways. Cumulative risk from petroleum contamination of environmental media at the site is addressed using the BTEX analyte concentration data. 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 Exposure, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 3 as Attachment A to this letter.

DEC Decision

Petroleum contamination remains on-site in soil and groundwater above the approved cleanup levels as described in this decision document. DEC has determined the nature and extent of contamination at the property poses no unacceptable risk to human health or the environment as long as the contamination is managed in accordance with the following conditions:

1. 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 State of Alaska Department of Administration Division of General Services (DGS) shall report to DEC every five years to document land use is unchanged, or report as soon as DGS 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.

2. Installation of groundwater wells requires DEC approval.

3. Sub-surface soil contamination remains on the property under the sidewalk and vehicle parking adjacent to Seward Street east of the AST (see Attachment C Figure 1). If these structures and buried utilities are removed and the underlying soil becomes accessible, the soil must be evaluated and contamination addressed in accordance with an DEC approved work plan.

4. Groundwater monitoring wells must be decommissioned by June 30th, 2015, in accordance with DEC guidance. Submit documentation to DEC within 30 days of completion.

5. Any proposal to transport soil or groundwater off-site requires DEC approval in accordance with 18 AAC 7.325(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 Attachment C Figure 1).

6. 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 have been met. Management conditions 5 and 6 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 DEC within 30 days of receipt of this letter. As project manager, if you have questions about statements in this document and/or this closure decision, please contact me in the Juneau office at 410 Willoughby Suite 303, by telephone at (907) 465-5210, or by electronic mail at bruce.wanstall@alaska.gov.

Sincerely,

Bruce Wanstall

Bruce Wanstall
Remedial Project Manager
Contaminated Sites Program

Attachment A: Table 7 – Exposure Pathway Evaluation
Attachment B: Cleanup Complete-ICs Agreement and Signature Page*
Attachment C: Figure 1 Site Map

cc: Sally Schlichting, DEC Project Manager, via email

Attachment A: Exposure Pathway Evaluation

Table 7 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Surface soil contamination has been removed and remediated off-site. There is no soil contamination remaining at the surface on the site above the direct contact cleanup levels.
Sub-Surface Soil Contact	De-minimis exposure	Soil contamination remains not accessible in the subsurface at levels between Method Two Table B2 Migration to Groundwater and human health ingestion levels and future excavation is not planned.
Inhalation – Outdoor Air	Pathway Incomplete	Contamination remains in the subsurface, but no volatile compounds are present at levels above outdoor inhalation screening levels
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Buildings are present but any remaining volatile petroleum levels are either below laboratory reporting limits and/or the inhalation and migration to groundwater screening levels.
Groundwater Ingestion	Pathway Incomplete	DRO in groundwater remains at concentrations above below Table C cleanup levels. Groundwater is intermittent and no wells are present. Juneau Public Works provides potable drinking water and collects sewer and storm water from the site and the area for treatment under a DEC discharge permit.
Surface Water Ingestion	Pathway Incomplete	Surface water hydraulically connected to the site is not of sufficient quality or quantity for a potable water source.
Wild Foods Ingestion	Pathway Incomplete	The site and the urban area are not a wild foods harvest area and none of the contaminants have potential to bioaccumulate in flora or fauna.
Exposure to Ecological Receptors	Pathway Incomplete	Ecological receptors are not present at the downtown site or in the area. BTEX indicator compounds not present in concentrations in site media above soil and groundwater cleanup levels.

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.

Mr. Gareth Jones
Dimond Courthouse

December 15, 2014

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

The **State of Alaska Department of Administration Division of General Services (DGS)** agrees to the terms and Institutional Controls and Conditions of this Cleanup Complete Determination, as stated below and in decision letter for the **Dimond Courthouse**, dated December 12, 2014. 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 75.380.

_____ _____

Signature of Authorized Representative, Title Date

_____

Printed Name of Authorized Representative, Title

Institutional Controls and Conditions

1. 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 State of Alaska Department of Administration Division of General Services (DGS) shall report to DEC **every five years** to document land use is unchanged, or report as soon as DGS 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.

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

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.

Attachment C: Figure 1 Site Map