



# Department of Environmental Conservation

DIVISION OF SPILL PREVENTION & RESPONSE Contaminated Sites Program

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File No: 1516.26.037

October 9, 2013

Morgan Barry City of Ketchikan Public Works Engineering Department 2930 Tongass Avenue Ketchikan, AK 99901-5742

Re: Decision Document: City of Ketchikan Pump Station 5 Corrective Action Complete Determination

Dear Mr. Barry:

The Alaska Department of Environmental Conservation (ADEC) has reviewed the environmental records for the referenced site. This decision letter memorializes the site history, cleanup actions, and standard conditions for long-term site management. No further remedial action is required.

### Site Name and Location:

City of Ketchikan Pump Station 5 2959 Tongass Ave. (approximate) Ketchikan, AK 99801

## **DEC Site Identifiers**

File: 1516.26.037 LUST Facility I.D. 1169 Hazard ID: 26121 Name and Mailing Address of Contact Party: Morgan Barry City of Ketchikan, Public Works Eng. Dept 2930 Tongass Avenue Ketchikan, AK 99901-5742

Regulatory authority for determination: 18 AAC 78 and 18 AAC 75

## Site Description and Background

A regulated 550-gallon diesel underground storage tank (UST) located at the City of Ketchikan Wastewater Pump Station 5 was removed in September 2010. The UST, installed in 1981 and used to fuel an emergency backup generator, was located beneath a driveway adjacent to the pump station. Two post-closure investigations took place; the first, done on January 18, 2011 by R&M Engineering, was incomplete. The second investigation was done by consultant BGES on May 1, 2013. Contaminants present in site soil did not exceed applicable ADEC cleanup levels under 18 AAC 75.341. (See Attachment A, UST investigation photograph and Google Earth location figure).

## Contaminants of Concern

No contaminants of concern (that is, contaminants detected above approved cleanup levels) were identified at the former UST location.

Because federal Underground Storage Tank regulations require that any detectable contamination associated with a regulated UST be reported, the type and concentrations of detected contaminants are recorded and discussed herein.

Five soil samples were collected during the 2011 R&M investigation and analyzed for diesel range organics (DRO) only; all results were non-detect. Seven soil samples were collected during the 2013 BGES investigation and analyzed for DRO, gasoline range organics (GRO), benzene, toluene, ethylbenzene, and xylenes (BTEX), and polynuclear aromatic hydrocarbons (PAHs). Soil samples contained a maximum of 110 mg/kg DRO, below the applicable cleanup level of 230 mg/kg, and contained detectable concentrations of nine PAHs, all at concentrations below the applicable cleanup levels under 18 AAC 75.341, *Soil cleanup levels, tables.* 

A single decontamination water sample was collected and analyzed for DRO, GRO and BTEX with results of detectable GRO, toluene, ethylbenzene and total xylenes below ADEC water cleanup criteria, and a DRO concentration of 2.21 mg/L, which would exceed the cleanup level for groundwater and surface water if it were representative of either of those. Because dilution and other factors are unknowns with respect to decontamination water samples, the detection of these contaminants are qualitative rather than a quantitative findings, indicating the presence of the contaminant but not the concentration. Available site information indicates that contaminants in soil do not exceed ADEC's most stringent cleanup levels.

#### **Characterization and Cleanup Activities**

A regulated 550-gallon diesel underground storage tank (UST) located at the City of Ketchikan Wastewater Pump Station 5 was removed in September 2010 by Ketchikan Mechanical. The UST, installed in 1981 and used to fuel an emergency backup generator, was located beneath a driveway adjacent to the pump station.

The UST removal was reported to ADEC in September 2011 with the submittal of a post-closure sampling report prepared by R&M Engineering. R&M collected five samples at the former tank location on January 18, 2011, four months after the UST was removed.<sup>1</sup> Samples were analyzed for DRO only, with all results non-detect. ADEC's review found that the post-closure sampling did not meet the requirements of 18 AAC 78, *Underground Storage Tanks* including the requirements to 1) collect piping and tank samples at the appropriate location and depth; 2) assess all of the product and vent piping; 3) collect a soil sample at the soil/water interfaces as required when groundwater is suspected to be within five feet below the bottom of the tank *or* demonstrate that seasonal high groundwater or high tide water does not come within five feet of the bottom of the tank; 4) analyze soil samples for all compounds required for diesel which are BTEX, DRO, GRO and PAHs; 5) collect duplicate QA/QC samples; and 6) collect analytical samples from the excavated soil to determine whether it is contaminated.<sup>2</sup>

<sup>&</sup>lt;sup>1</sup>See Comprehensive Report for UST Removal at Pump Station 5, Tank ID 1178...9/21/2011 prepared by William Schulz of R&M Engineering, with cover letter from the City of Ketchikan dated 9/26/2011.

<sup>&</sup>lt;sup>2</sup> See ADEC Industry Preparedness Program letter dated February 21, 2013 with subject line "Request for Corrective Action Work Plan, ADEC Facilities #1169 and #1178."

BGES conducted additional post-closure investigation of the site on May 1, 2013 under an ADECapproved work plan, with a final report submitted in June 2013.<sup>3</sup> The investigation entailed advancing three borings; one to a depth of approximately five feet (approximately two feet beneath the former fuel piping) and two to depths of 14 feet (approximately seven feet below the former UST). Groundwater was encountered at a depth of approximately 11 feet. Additional samples were collected below piping runs using pick and shovel hand techniques. Seven soil samples were analyzed for DRO, GRO and BTEX, with one sample also analyzed for PAHs. Soil samples contained a maximum of 110 mg/kg DRO, below the applicable cleanup level of 230 mg/kg, and contained detectable concentrations of nine PAHs, all at concentrations below the applicable cleanup levels under 18 AAC 75.341, *Soil cleanup levels, tables*.

Groundwater was encountered at 11 feet below the ground surface. A soil sample collected at the soil-groundwater interface was analyzed for DRO, GRO and BTEX; all results were below detection limits.

As noted under Contaminants of Concern above, a single decontamination water sample was collected and analyzed for DRO, GRO and BTEX with results of detectable GRO, toluene, ethylbenzene and total xylenes below ADEC water cleanup criteria and a DRO concentration of 2.21 mg/L, which would exceed the cleanup level for groundwater and surface water if it were representative of either of those. Because dilution and other factors are unknowns with respect to decontamination water samples, the detection of these contaminants are qualitative rather than a quantitative findings, indicating the presence of the contaminant but not the concentration. Available site information indicates that contaminants in soil do not exceed ADEC's most stringent cleanup levels.

#### **Cleanup Levels**

The default soil cleanup levels for petroleum hydrocarbon contaminants in soil are established in 18 AAC 75.341, Method Two, Tables B1 and B2, Migration to Groundwater. Soil samples collected by BGES during the 2013 investigation were analyzed for DRO, GRO, BTEX and PAHs. All results were below ADEC cleanup levels.

The detection of contaminants in decontamination rinse water yielded a qualitative result of 2.21 mg/L DRO. Available site information, including field observations and analytical results, indicate that contaminant concentrations in soil within the vault that formerly housed the UST are below ADEC's most stringent cleanup levels.

#### **Cumulative Risk Evaluation**

Pursuant to 18 AAC 78.600(d), 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, ADEC has determined that residual contaminant concentrations do not pose a cumulative human health risk.

<sup>&</sup>lt;sup>3</sup> See Pump Station 2 (ADEC Facility ID No. 1169) and Pump Station 5 (ADEC Facility ID No. 1178)...June 2013 prepared by BGES.

## **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 1.

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contaminants in surface soil confirmation samples were not detected.
Sub-Surface Soil Contact	De Minimis Exposure	Contaminants in sub-surface soil were detected, but did not exceed applicable cleanup levels.
Inhalation – Outdoor Air	Pathway Incomplete	Contaminants in soil did not exceed applicable cleanup levels, and would not be expected to migrate to outdoor air
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Contaminants in sub-surface soil did not exceed applicable cleanup levels, and will not migrate to indoor air.
Groundwater Ingestion	Pathway Incomplete	Groundwater was encountered at the site and contaminant levels at the soil groundwater interface were not detected.
Surface Water Ingestion	Pathway Incomplete	Surface water is not used as a drinking water source in this area.
Wild Foods Ingestion	Pathway Incomplete	This area is not used for harvesting wild foods.
Exposure to Ecological Receptors	Pathway Incomplete	Ecological receptors would not be adversely impacted as no contaminants were present at levels exceeding applicable cleanup levels.

## Table 1 – Exposure Pathway Evaluation

Notes to Table 1: "De minimis exposure" means that in ADEC's judgment receptors are unlikely to be affected by the minimal volume of remaining contamination. "Pathway incomplete" means that in ADEC'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.

## ADEC Decision

Based on the information available, ADEC has determined no further assessment or cleanup action is required. There is no longer a risk to human health or the environment, and this site will be designated as closed on the Department's database.

Although a Corrective Action Complete determination has been granted, ADEC approval is required for off-site soil disposal in accordance with 18 AAC 78.274(b). It should be noted that movement or use of potentially contaminated soil in a manner that results in a violation of 18 AAC 70 water quality standards is unlawful.

This determination is in accordance with 18 AAC 78.276(f) and does not preclude ADEC 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.

5

If you have questions about this decision document, please contact the ADEC Project Manager, Eileen Olson at (907) 269-7527.

Sincerely,

Eileen Olson

Eileen Olson Environmental Program Specialist

Attachment as noted.

cc: Jayne Martin, BGES

City of Ketchikan Pump Station 5: UST investigation photograph and UST location figure from June 2013 BGES report.<sup>1</sup>





See Pump Station 2 (ADEC Facility ID No. 1169) and Pump Station 5 (ADEC Facility ID No. 1178)...June 2013 prepared by BGES.

Attachment A