THE STATE of ALASKA
GOVERNOR BILL WALKER

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

555 Cordova Street
Anchorage, AK 99501
Phone: 907-269-7556
Fax: 907-269-7687
www.dec.alaska.gov

File No.: 2265.26.015

Certified Mail, Return Receipt Requested
Article No.: 7015 1660 0000 0542 7202

June 20, 2016

Edward D. Hull
HC34 Box 207
Wasilla, AK 99654

Re: Decision Document - H & H Tesoro (formerly Wikes Service Station)
Cleanup Complete Determination

Dear Mr. Hull:

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program has completed a review of the environmental records associated with the H & H Tesoro (formerly Wikes Service Station) site, located at 1401 West Parks Highway (lot 17, block 3 of the Wasilla Heights addition). 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 unless new information becomes available that indicates residual contaminants may pose an unacceptable risk.

This Cleanup Complete determination is based on the administrative record for the H & H Tesoro (formerly Wikes Service Station), which is located in the offices of the ADEC in Anchorage, Alaska. This decision letter documents the site history, cleanup actions, regulatory decisions, and specific conditions required to effectively manage remaining contamination at this site.

Site Name and Location:
H & H Tesoro (formerly Wikes Service Station)
1401 West Parks Highway
Wasilla, Alaska 99687

Name and Mailing Address of Contact Party:
Edward D. Hull
HC34 Box 2071
Wasilla, Alaska 99654

DEC Site Identifiers:
File No.: 2265.26.015
Hazard ID: 23451

Regulatory Authority for Determination:
18 AAC 75 and 18 AAC 78

Site Description and Background

The site is at the location of the former Wike's gasoline station, which was comprised of two 2,000 gallon underground storage tanks (UST), product piping connecting the UST (16 inches below ground surface), and a gasoline dispensing island. The UST, piping, and island were removed in the summer of 1990.

In September of 1991, the site was inspected and characterized by Gilfilian Engineering Inc., wherein they found soil contamination ranging from 4.72 ppm to 1,410 ppm volatile petroleum hydrocarbon (VPH), 0.030 to 19.0 ppm benzene, and 1.978 ppm to 599.9 ppm Benzene, Toluene, Ethylbenzene, and Xylene (BTEX). In May of 1994, a groundwater monitoring well was installed and a groundwater sample was collected. Static water depth at the time of collection was 8.39 feet, benzene concentration was 3,120 ppb, and total BTEX concentration was 63,000 ppb.

The site was not fully delineated during the 1990 and 1994 field sampling events and therefore not eligible for closure at the time. In 2010, Shannon and Wilson began work to delineate the contamination by installing and sampling three groundwater monitoring wells, collecting soil samples at the boring locations, and sampling the local drinking water well. The groundwater monitoring wells were sampled for GRO and BTEX in 2010, 2011, and 2014. The drinking water well was non-detect for all analytes in 2010 and 2011. The ground water monitoring wells were decommissioned in May of 2016.

Contaminants of Concern

During the site investigation and cleanup activities at this site, samples were collected from soil, groundwater, and drinking water. Samples were analyzed for the following:

- GRO (roughly equivalent to the 1990 VPH analysis)
- Benzene
- Benzene, Toluene, Ethylbenzene, and Xylenes (BTEX)
- Lead
- Naphthalene

Based on these analyses, the following contaminants were detected above the applicable cleanup levels and are considered Contaminants of Concern (COC) at this site:

- Gasoline Range Organics (GRO)
- Benzene

Cleanup Levels

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)	Groundwater (mg/L)
GRO	300	2.2
Benzene	0.514[1]	0.005

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
[1] – site-specific alternative cleanup level

GRO and Benzene were detected in soil above the approved Method Two migration-to-groundwater cleanup levels for the under 40-inch precipitation zone, established in 18 AAC75.341(c), Table B1, and 18 AAC 75.341(d), Table B2. Benzene was detected in groundwater above the approved Method Two groundwater cleanup levels, established in 18 AAC 75.345, Table C.

An alternative migration-to-groundwater cleanup level of 0.514 benzene has been set for this site. Sufficient site characterization has been completed and the Contaminated Sites Program has determined thru the review of site specific analytical data that as of 2014, the benzene remaining in soil has achieved steady-state equilibrium and is not contributing to further contamination of the groundwater.

Characterization and Cleanup Activities

Characterization and cleanup activities conducted under the regulatory authority of the Contaminated Sites Program began in 1991. These activities are described below.

Underground storage tanks (UST), piping, and dispensing island were removed in fall of 1991. Analytical soil samples were collected from the north and south ends of the UST excavation, and from beneath the dispensing island. All soil samples were analyzed for GRO and BTEX. Concentrations of benzene were found at all three sample locations and ranged between 0.030 ppm to 19.0 ppm. GRO concentrations of 1,410 ppm were found at the southern UST excavation sample.

Ground water monitoring began in 1994, with a single monitoring well located south east of the UST excavation. A single water sample was taken in 1994 and had a benzene concentration of 3,120 ppb, and total BTEX concentration of 63,000 ppb.

In 2010, three new ground water monitoring wells (B1MW, B2MW, and B3MW) were installed in triangulation around the UST excavation, former piping, and former dispensing island (the 1994 groundwater monitoring well could not be located). The down gradient monitoring well (B3MW) exhibited concentrations of benzene levels at 0.00916 mg/L.

Soil samples were collected from the soil borings advanced in 2010. All three soil borings were below cleanup levels for GRO. The boring located near the former dispensing island (B2) and the downgradient boring (B3) had benzene concentrations of 0.0816 mg/kg and 0.514 mg/kg, respectively. A local up-gradient drinking water well was also monitored at this time and reported non-detect for all analytes.

Another ground water monitoring event was completed in 2011. B2MW and B3MW were below cleanup levels for GRO and benzene. B3MW had benzene concentration of 0.00916 mg/L, which exceeds the ADEC cleanup levels. The drinking water well was sampled and reported non-detect.

A final monitoring event was completed in 2014. B2MW and B3MW were below cleanup levels for GRO and benzene, indicating that remaining soil contamination is not contributing to further impacts to the groundwater.

Table 2 –Summary of most recent sample results

Sample ID	Last Date Sampled	GRO	Benzene
Boring 2 (soil)	6/1/2010	56.1 (mg/kg)	0.0816 (mg/kg)
Boring 3 (soil)	6/1/2010	225 (mg/kg)	0.514 (mg/kg)
B2MW (groundwater)	5/30/2014	0.0393 J (mg/L)	0.0002700 J (mg/L)
B3MW (groundwater)	5/30/2014	0.0574 J (mg/L)	ND

J- Values are below laboratory limit of quantitation and considered an estimate
ND-non detect
mg/kg = milligrams per kilogram
mg/L = milligrams per liter

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.

Cumulative risk at this site was calculated assuming a residential land use and using the highest detected concentrations of contaminants in all of the samples collected following the cleanup action. The results indicate a cumulative carcinogenic cancer risk of 0.09 in 100,000 and a non-carcinogenic hazard index of 0.02. The potential cumulative risk is via a combination of the direct contact, inhalation, and groundwater ingestion pathways.

Based on a review of the environmental record, ADEC 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, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 3.

Table 3 – Exposure Tracking Model Results and Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contamination is not present in surface soil (0 to 2 feet below ground surface).
Sub-Surface Soil Contact	De Minimis Exposure	Contamination remains in the subsurface soils, but is below direct contact cleanup levels.
Inhalation – Outdoor Air	De Minimis Exposure	Contamination remains in the sub-surface, but is below inhalation cleanup levels.
Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Residual contamination is below the Table C groundwater cleanup levels and there are no buildings directly above the site.
Groundwater Ingestion	De Minimis Exposure	Residual groundwater contamination is present, but is below the Table C groundwater cleanup levels.

Surface Water Ingestion	Pathway Incomplete	Surface water is not used as a drinking water source in the vicinity of the site. Surface water has not been impacted by contamination from this 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	Contamination is only present in the sub-surface and there are not aquatic or terrestrial routes.

Notes to Table 3: "De-Minimis Exposure" means that in ADEC's judgment receptors are unlikely to be adversely 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

Benzene contamination remains in the subsurface soil above the most stringent migration-to-groundwater cleanup levels outlined in Table B2 of 18AAC 75.341; however, ADEC has determined the benzene soil contamination does not pose an unacceptable migration to groundwater concern, and ADEC has set an alternative cleanup level for the benzene migration to groundwater pathway. GRO in soil is below the cleanup up level in 18AAC 75.341. The groundwater samples from 2011 and 2014 met the applicable cleanup levels for all contaminants analyzed for (18 AAC 75.345, Table C), the groundwater contaminant plume has been demonstrated to be shrinking, and the contaminant concentrations are decreasing. This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

1. Any proposal to transport soil or groundwater off-site requires ADEC approval in accordance with 18 AAC 78.600(h). A "site" as defined by 18 AAC 78.995(134) means an area that is contaminated, including areas contaminated by the migration of hazardous substances from a source area, regardless of property ownership.

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.

This determination is in accordance with 18 AAC 75.380 and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that contaminants at this site may pose an unacceptable risk to human health, safety, or welfare or to 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 99811-1800, 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 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) 269-7556 or email erin.gleason@alaska.gov.

Sincerely,

Erin Gleason
Project Manager

cc: Spill Prevention and Response, Cost Recovery Unit
Terry Spessard, via email safeandsound@alaska.com