THE STATE of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of
Environmental Conservation

DIVISION OF SPILL PREVENTION AND RESPONSE
Contaminated Sites Program

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File: 2114.26.002

January 22, 2019

Karen Dempster
Begich Towers, Inc.
PO Box 734
Whittier, AK 99693

Re: Decision Document: Begich Towers
Cleanup Complete Determination

Dear Ms. Dempster:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Begich Towers site located in Whittier, Alaska. 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 Begich Towers site, which is located in the ADEC office in Anchorage, Alaska. This decision letter summarizes the site history, cleanup actions and levels, and standard site closure conditions that apply.

Site Name and Location:
Begich Towers
100 Kenai Street
Whittier, AK 99693

Name and Mailing Address of Contact Party:
Karen Dempster
Begich Towers, Inc.
PO Box 734
Whittier, AK 99693

DEC Site Identifiers:
File No.: 2114.26.002
Hazard ID.: 23228

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

Site Description and Background
Begich Towers is multi-level condominium and is home to many Whittier residents and seasonal visitors. The tower address is 100 Kenai Street. The tower and surrounding area is primarily residential in nature, and a school is located upgradient of the site, across Portage Street.

A 15,000-gallon diesel underground storage tank (UST) was removed from the northeast corner of the tower property on September 25, 1999. The UST was formely used to provide an emergency source of fuel to the backup generator for the condominumum. The UST Tank ID is 3308. During removal, the top of the tank was encountered 6-inches below the ground surface (bgs). The UST itself was measured to be roughly 25 feet long and 10 feet wide, and was encased in lumber. A visual inspection of the tank after removal did not reveal corrosion or pitting that would indicate a release. However, gray-petroleum contaminated soil was noted in the bottom pit of the excavation. An effort was made to remove the grossly contaminated soil. Roughly 300 cubic yards of soil were removed and the final excavation was about 38 feet long, 16 feet wide, and 17 feet deep. No water was observed during the excavation activities.

Field screening and analytical soil samples were collected from below the tank and piping runs in the excavation, and were submitted for laboratory analysis of diesel range organics (DRO) and benzene, toluene, ethylbenze, and xylenes (BTEX). Analytical results revealed that DRO remained in the subsurface soils at the bottom of the pit up to 4,080 mg/kg, which exceeds the ADEC migration to groundwater (MTG) cleanup level of 230 mg/kg. The source of the contamination was not discoved, although it was presumed to be from overfilling the tank.

The 300 cubic yards of impacted soils removed were ultimately returned to the excavation after sampling.

Based on the information in this report, and in accordance with 18 AAC 78, a release a investigation was required. The site was added to the Contamianted Sites Database on November 23, 1999.

Contaminants of Concern and Cleanup Levels
During the site characterization and cleanup activities at this site, samples were collected from soil and groundwater, and were analyzed for one or more of the following: gasoline range organics (GRO), DRO, residual range organics (RRO), volatile organic compounds (VOCs), and/or polycyclic aromatic hydrocarbons (PAHs). Based on these analyses, DRO and naphthalene are the only contaminants of concern in soil at this site.

Groundwater is not impacted. RRO and several PAHs were detected in groundwater above the Table C groundwater cleanup levels (GCLs) in 2016. However it was later determined that the elevated concentrations were baised high because of sedimentation in the sample; and therefore are not representative of actual concentrations in the groundwater. This is further described below in the Characterization and Cleanup Activities section of this letter.

The more restrictive of the inhalation, ingestion, or human health cleanup levels apply to this site. Petroleum contamination was detected in soil above MTG cleanup levels, but below the risk-based cleanup levels established in 18 AAC 75.341 (c) and (d), Tables B1 and B2. All contamination in groundwater is currently below the Table C GCLs.

Table 1 – Approved Cleanup Levels

Contaminant	Soil - MTG (mg/kg)	Soil – Ingestion (mg/kg)	Soil – Human Health (mg/kg)	Soil – Mazimum Remaining Onsite (mg/kg)
DRO	230	8,250	N/A	4,080
Naphthalene	0.038	N/A	20	0.0472

mg/kg = milligrams per kilogram
mg/L = milligrams per liter
N/A = not applicable

Characterization and Cleanup Activities

Additional corrective action was completed in August 2000. The purpose of the corrective action was to remove the impacted soils returned to the pit in 1999. The excavation was completed on August 8, 2000 and was roughly 30 feet long, 32 feet wide, and 11 feet deep. The excavation was limited by both the size of the excavator, which was unable to reach depths greater than 12 feet bgs; as well the contractual terms of the effort, which limited the soil removed to 100 cubic yards. The 100 cubic yards of material was transport to, and disposed of at Alaska Soil Recylcing in Anchorage. In addition to the removal effort, a trench was excavated perpendicular to the UST excavation in an effort to determine if soil contamination continued off property. Analytical sample results from the excavation and trench sampling were consistent with the 1999 results in that DRO exceeded MTG soil cleanup levels, but met human health clean up levels.

A follow-on release investigation was completed on November 22, 2016. The effort consisted of advancing four soil borings (B1 through B4) in the vicinity of the former UST, three of which were completed as temporary groundwater monitoring wells (TWM1, TMW2, and TMW3), and collecting soil and water samples as appropriate. A temporary well was not installed at the location of Boring B4, the upgradient well, because groundwater was not encountered to a depth of 27 feet below ground surface (bgs). Groundwater was encountered in the other wells at about 18 feet bgs. Analytical soil and water samples were submitted for one or more of the following: GRO, DRO, RRO, VOCs, and/or PAHs.

The soil samples collected from borings B1 through B3 exhibited levels of DRO between 365 mg/kg and 1,940 mg/kg, all of which exceed the MTG cleanup level. Additionally, naphthalene was present in the sample collected from Boring B2 at 0.0472 mg/kg, which slightly exceeds the cleanup level of 0.038 mg/kg. The samples collected from Boring B4 did not exhibit contaminant concentrations in excess of ADEC cleanup levels.

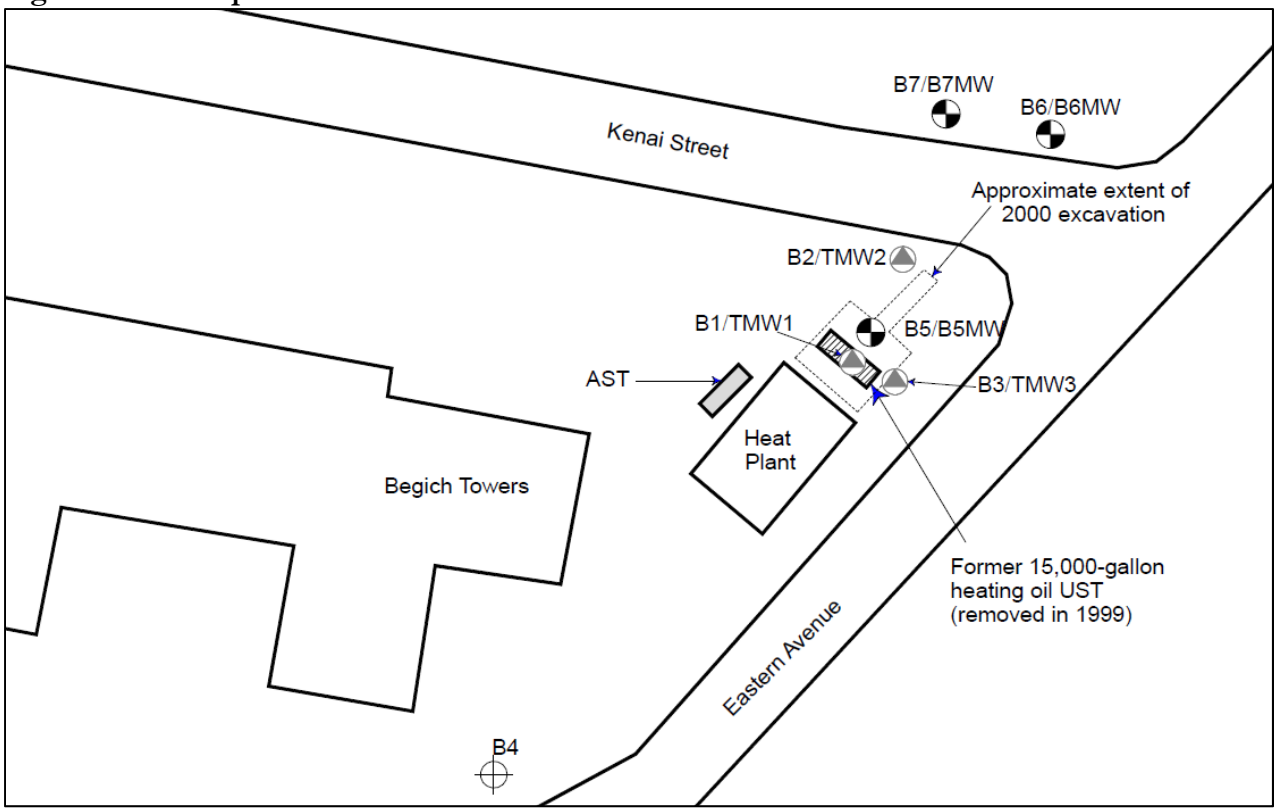
Levels of DRO were identified in all of the groundwater samples between 10.5 mg/l and 31.5 mg/l, all of which are above the Table C GCL of 1.5 mg/l. The sample collected from TMW3 exhibited a level RRO at 3.97 mg/l, above the GCL of 1.1 mg/l. The sample collected from TMW1 was analyzed for PAHs and exhibited levels of benzo(a)anthracene, benozo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, dibenzo(a,h)anthracene, indeno(1,2,3-c,d)pyrene, and naphthalene above the Table C GCL. Based on the results of the effort, ADEC requested that permanent wells be installed to monitor the groundwater over time.

Three permanent monitoring wells were installed on July 27, 2017. Boring B5 (Well B5MW) was completed within the former UST excavation area. Borings B6 and B7 (Wells B6MW and B7MW, respectively) were installed downgradient of the former excavation, across Kenai Street.

Concentrations of DRO was present in Boring B5 up to 648 mg/kg, which exceeds the MTG soil cleanup level; however the water sample collected from Well B5MW had a concentration of DRO at 0.454 mg/l, which is below the GCL of 1.5 mg/l. None of the soil samples collected from Borings B6 or B7 exhibited contaminants in excess of applicable ADEC cleanup levels. There was not sufficient water in Wells B6MW or B7MW to collect a water sample.

Groundwater monitoring was completed again in July and in September 2018 at three planned wells (Wells B5MW, B6MW, and B7MW). Wells B6MW and B7MW could not be sampled because of the lack of water in the wells. Well B5MW, which is installed in the source area, was successfully sampled during both events. The samples were submitted for analysis of DRO, RRO, and PAHs. All results were below the Table C GCLs.

Figure 1: Site Map



Although the groundwater samples collected in 2016 from the temporary wells were grossly contaminated, the laboratory noted that the samples contained a high amount of sediment. This is likely because the samples were collected using a bailer and from temporary wells that were not developed or purged prior to sampling. It is likely that the soil fines baised the groundwater results. Subsequent groundwater monitoring in 2017 and 2018 indicates that dissolved contamination does not exist in the groundwater above Table C GCL.

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 meet the human health cumulative risk criteria for residential land use.

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, Exposure Controlled, or Pathway Incomplete. A summary of this pathway evaluation is included in Table 2.

Table 2 – Exposure Pathway 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 sub-surface, but is below ingestion 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	Contamination is not volatile.
Groundwater Ingestion	De-Minimis Exposure	Groundwater is not contaminated above Table C GCLs.
Surface Water Ingestion	Pathway Incomplete	Contamination is not impacting surface water.
Wild and Farmed Foods Ingestion	Pathway Incomplete	Contaminants remains in the subsurface at 6 feet bgs or deeper. Contamination is not present at a depth that could be uptaken by plants.
Exposure to Ecological Receptors	Pathway Incomplete	No aquatic or terrestrial routes are present.

Notes to Table 2: "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
Soil and groundwater contamination at the site have been cleaned up to concentrations below the approved cleanup levels suitable for residential land use. Soil contamination remains above MTG

cleanup levels, but the concentration of remaining contaminants are not impacting groundwater above Table C GCLs. This site will receive a "Cleanup Complete" designation on the Contaminated Sites Database, subject to the following standard conditions.

Standard Conditions

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

2. 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.

3. Any proposal to transport soil or groundwater from a site that is subject to the site cleanup rules or for which a written determination from the department has been made under 18 AAC 75.380(d)(1) that allows contamination to remain at the site above method two soil cleanup levels or groundwater cleanup levels listed in Table C requires DEC 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.

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 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, 555 Cordova Street, Anchorage, Alaska 99501-2617, within 20 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, P.O. Box 111800, 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) 269-7691 or email at joshua.barsis@alaska.gov.

Sincerely,

Joshua Barsis
Project Manager