



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. 2337.38.023

December 18, 2015

Ms. Sarah Kenshalo
Environmental Coordinator – Remediation Contractor
Conoco Phillips Alaska, Inc.
700 G Street
Anchorage Alaska 99519-6247

Re: Decision Document: Beluga River 232-4
Cleanup Complete Determination

Dear Ms. Kenshalo,

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program has reviewed the environmental records for the Beluga River 232-4 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:

Beluga River 232-4
West Cook Inlet
Tyonek, Alaska

Name and Mailing Address of Contact Party:

Sarah Kenshalo
ConocoPhillips
PO Box 300360
Anchorage, Alaska 99510-0360

DEC Site Identifiers:

File No: 2337.38.023
Hazard ID: 999

Regulatory Authority for Determination:

18 AAC 75

Site Description and Background

The Beluga River 232-4 site is located in a forested area within the southern portion of the Beluga River Unit (BRU), a natural gas production field, near Tyonek, Alaska. The pad is located approximately 2,200 feet southwest of the southern end of the Beluga Airstrip, on the west side of the road. The site is within 1,500 feet of the bluff adjacent to Cook Inlet, to the east. The well drilling pad and access road were constructed in 1962. Surface facilities (well house, heater building, contactor building and an electrical shed) were constructed in 1968 (OilRisk Consultants 2003).

Between 1989 and 1990, the contactor sump was removed and replaced with an above ground storage tank. During the removal of the contactor sump, hydrocarbon impacted surface and subsurface soil was encountered (ENSR 1991).

Contaminants of Concern

'Contaminants of Concern' include any hazardous substances that exceed ADEC's most stringent soil or groundwater cleanup levels. These cleanup levels are designed to be protective of human health exposure pathways in residential settings, where groundwater may be used as a source of drinking water. The following contaminants of concern were identified during the course of the site investigations, which are summarized in the **Characterization and Cleanup Activities** section of this decision letter.

- Diesel Range Organics (DRO)

Cleanup Levels

The "migration to groundwater" soil cleanup levels apply to this site. Diesel range organics were detected in soil above the "migration to groundwater" soil cleanup levels established in 18 AAC 75.341 (d), Table B2. Surface water was not impacted. The applicable soil and groundwater cleanup levels for DRO are provided in Table 1.

Table 1 – Approved Cleanup Levels

Contaminant	Soil (mg/kg)	Groundwater (mg/L)
DRO	250	1.5

mg/kg = milligrams per kilogram

mg/L = milligrams per liter

Characterization and Cleanup Activities

Characterization and cleanup activities conducted under the regulatory authority of the ADEC began in 1989-1990 with the removal of the contactor sump. No contaminated soil treatment or removal work occurred at this site, and DRO contamination remained in soil at concentrations exceeding the soil cleanup level for DRO.

In 1991, twelve soil borings were drilled to delineate hydrocarbon impacts associated with the contactor sump. Hydrocarbons were detected in six of the soil samples with concentrations of extractable petroleum hydrocarbons (EPH) ranging from 2,300 mg/kg at 2.5 to 4' below ground level (bgl) to 4,200 mg/kg in a sample collected from 7.5 to 9' bgl. EPH analytical concentrations are roughly equivalent to currently used DRO analysis concentrations, and these concentrations exceeded the ADEC soil cleanup level for DRO. Based on the results, it was determined that hydrocarbons had migrated approximately 50 feet southeast from the former contactor sump

location. The hydrocarbons were determined to be of a nature consistent with No. 1 diesel or artic grade diesel.

In 2000, one monitoring well (232-4-1) and two micro-wells (232-4-2 and 232-4-3) were installed in the vicinity of the former sump location. The monitoring well was installed with a ten foot well screen, between 4 and 14 feet bgl. Groundwater was encountered at approximately nine feet bgl.

Groundwater samples were collected in 2000 from the three wells and analyzed for DRO and PAH's. No contaminants were detected at levels above ADEC Table C groundwater cleanup levels.

The wells were sampled in 2012 for BTEX, GRO and DRO. Well 232-4-1 had no detectable hydrocarbons present. Micro-well 232-4-3 contained concentrations of DRO, toluene, ethylbenzene and xylene that were below ADEC Table C groundwater cleanup levels. Micro-well 232-4-2 was found to be damaged at the ground surface. The three monitoring wells were decommissioned on April 10, 2015.

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 non-carcinogenic 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 exceeding these standards.

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 2.

Table 2 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	De-Minimis Exposure	Contamination may remain in surface soil (0 to 2 feet below ground surface).
Sub-Surface Soil Contact	De-Minimis Exposure	Contamination may remain in the sub-surface, but does not exceed the direct contact cleanup level.
Inhalation – Outdoor Air	Pathway Incomplete	Contamination may remain in the sub-surface, but is below outdoor inhalation soil cleanup levels.

Inhalation – Indoor Air (vapor intrusion)	Pathway Incomplete	Inhabited structures are not present, and are not anticipated in the future.
Groundwater Ingestion	De-Minimis Exposure	Groundwater at this site was not impacted above the groundwater cleanup levels.
Surface Water Ingestion	Pathway Incomplete	Surface water is not impacted and is not used as a drinking water source in the vicinity of the 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 from known sources has not impacted ecological receptors.

Notes to Table 2: “De-Minimis Exposure” means that in ADEC’s judgment receptors are unlikely to be 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.

ADEC Decision

Remaining petroleum contamination in soil exceeds the ADEC approved migration to groundwater soil cleanup level for DRO, however ADEC has determined that the residual contamination doesn’t pose an unacceptable risk to human health or the environment. Therefore, we are issuing this Cleanup Complete determination, 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 75.325. 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.
2. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

The ADEC Contaminated Sites Database will be updated to reflect the change in site status as ‘*Cleanup Complete*’, and will include a description of the contamination remaining at the site.

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 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 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) 262-3412.

Sincerely,

A handwritten signature in black ink, appearing to read "Peter Campbell", with a stylized flourish at the end.

Peter Campbell
Project Manager

