

STATE OF ALASKA

**DEPT. OF ENVIRONMENTAL CONSERVATION
DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM**

SEAN PARNELL, GOVERNOR

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File: # 300.38.285
Return Receipt Requested
Article No. 7008 1830 0002 6349 3299

November 25, 2009

Sarah Kenshalo
ConocoPhillips Alaska, Inc.
P.O. Box 100360
Anchorage, AK 99510-0360

Re: Record of Decision; ConocoPhillips Delta State 2
Cleanup Complete-Institutional Controls Determination

Dear Ms. Kenshalo:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with ConocoPhillips Delta State 2 site located east of Prudhoe Bay, 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. No further remedial action will be required as long as the site is in compliance with established institutional controls (ICs).

This decision is based on the administrative record for ConocoPhillips Delta State 2, which is located in the offices of the ADEC in Anchorage, Alaska. This letter summarizes the decision process used to determine the environmental status of this site, and provides a summary of the regulatory issues considered in this Cleanup Complete with ICs determination.

Introduction

Site Name and Location

ConocoPhillips Delta State 2
East of Prudhoe Bay, Alaska

Name and Mailing Address of Contact Party:

Sarah Kenshalo
ConocoPhillips Alaska, Inc.
P.O. Box 100360
Anchorage, AK 99510-0360

ADEC Site Identifiers:

Hazard ID #25463

CS file # 300.38.285

Regulatory authority under which the site is being cleaned up:

18 AAC 75

Background

One well was drilled at this exploration site in 1975 which was later suspended that year. Due to the remote location of the site, characterization data was not available prior to pad removal, so the removal effort was conducted in a manner such that contaminated gravel was identified and segregated during removal. Diesel contamination at the site is likely the result of well drilling activities.

Contaminants of Concern

During the various investigations at this site, soil samples were analyzed for diesel range organics (DRO); residual range organics (RRO); gasoline range organics (GRO); benzene, toluene, ethylbenzene, and xylenes (BTEX); and polynuclear aromatic hydrocarbons (PAHs). Based on the results of these investigations, the following contaminant of concern was identified:

- DRO

Cleanup Levels

The cleanup levels for petroleum hydrocarbon-contaminated soil on manmade gravel pads and roads in the Arctic Zone are established in 18 AAC 75.341 Method One, Table A2 and 18 AAC 75.341 Method Two Tables B1 and B2.

A number of factors are considered by ADEC when evaluating site specific cleanup levels in the Arctic Zone including:

- human health (ingestion/inhalation);
- ecological impacts (contamination impacting ecological species other than humans);
- groundwater and surface water quality;
- presence of free phase product; and
- any other factors that might cause a deleterious impact to the environment.

In the Arctic Zone, the migration to surface water pathway is evaluated as the primary migration pathway because the migration to groundwater pathway is not considered applicable due to the presence of continuous permafrost. Impacted surface water can adversely affect both human and ecological receptors, depending on the location of the contaminant source, its proximity to surface waters, and water usage in the impacted area. Therefore the migration to surface water pathway is evaluated as a possible risk to human health (drinking water source) and/or for compliance with Alaska Water Quality standards (18 AAC 70).

In addition, the migration to surface water is evaluated as a possible exposure pathway for ecological receptors because of the tundra wetland ecosystem that exists throughout the Arctic

region. Potential future use of the property must also be taken into account when determining closure status. Differentiating between a “Cleanup Complete” and a “Cleanup Complete with Institutional Controls” determination will be based on site specific conditions and exposure pathways as determined by ADEC.

Site Characterization and Cleanup

Corrective action was conducted at this site in 2009 and included removal of the entire gravel pad and the backfilling of the reserve pit. Hydrocarbon contaminated soil was identified and segregated in the following manner. The pad was divided into removal cells which were excavated and placed into approximately 400 cubic yard (cy) stockpiles on an ice pad adjacent to the site. Excavation was guided by field screening and extended into the native tundra in areas where field screening indicated the presence of hydrocarbon contamination. After the stockpiles were created, composite soil samples were collected from each stockpile to characterize it for reuse. Five of the stockpiles were characterized as conditional use, with DRO between 200 mg/kg and 500 mg/kg. Two other stockpiles were characterized as restricted use, with DRO between 500 mg/kg and 2,000 mg/kg. The rest of the stockpiles were clean. Clean, restricted use, and conditional use gravel were then used as backfill in the reserve pit, with the excess restricted and conditional use gravel disposed of “down-hole” at the Drill Site 4 grind and inject facility.

Following characterization of the stockpiles, excavation confirmation samples were collected from the floor of the excavation in areas where contaminated gravel had been identified. Confirmation samples contained DRO up to 7,280 mg/kg. In all, three samples contained DRO above the 2,000 mg/kg target level in areas where excavation extended to the maximum allowable depth of 1.5 feet below tundra grade.

Following excavation, the former pad area was backfilled with clean gravel and tundra overburden to an elevation above tundra grade, and will be rehabilitated in accordance with the approved Rehabilitation Plan.

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.

Table 1 – Exposure Pathway Evaluation

Pathway	Result	Explanation
Direct Contact with Surface or Sub-Surface Soil	Pathway Incomplete	Because this site is remote, few receptors are, or will be, present in the foreseeable future and the remaining contamination is below the surface.

Inhalation of Indoor and Outdoor Air	Pathway Incomplete	Because this site is remote, few receptors are, or will be, present in the foreseeable future and the remaining contamination is below the surface.
Groundwater Ingestion	Pathway Incomplete	Shallow groundwater in the Arctic Zone is not available in sufficient quantity to be used as a drinking water resource
Surface Water Ingestion	Pathway Incomplete	Surface water in the area is not used for drinking water purposes.
Wild Foods Ingestion	Pathway Incomplete	Caribou may graze in the area, but their exposure time is limited. The remaining contaminants are not bio-accumulative and are located in the subsurface.
Exposure to Ecological Receptors	De Minimis Exposure	Because of the interaction between surface water, active layer water, and the tundra ecosystem, this pathway is likely complete. However, the remaining contamination is below the surface, is not available to receptors, and will be monitored during the rehabilitation phase.

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

The ADEC has determined there is no unacceptable risk to human health or the environment, and this site will be granted a Cleanup Complete- ICs determination subject to the following.

1. Any future change in land use may impact the exposure assumptions cited in this document. If land use and/or ownership changes, current ICs may not be protective and ADEC may require additional remediation and/or ICs. Therefore Conoco Phillips Alaska Inc. (CPAI) or their designate shall report to ADEC concurrent with the reporting schedule in the Rehabilitation Plan; or as soon as CPAI becomes aware of any change in land ownership or use, if earlier. **The report can be sent to the ADEC project manager or electronically to DEC.ICUnit@alaska.gov.**
2. Visual observation must be conducted during site rehabilitation visits and the results reported to ADEC in 2010, 2011, 2013, and 2016, concurrent with the rehabilitation reporting schedule.

3. Any proposal to transport soil or groundwater off site requires ADEC approval in accordance with 18 AAC 75.325(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.
4. Movement or use of contaminated material in a manner that results in a violation of 18 AAC 70 water quality standards is prohibited.

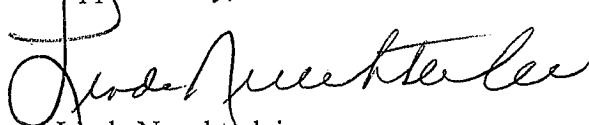
This determination is in accordance with 18 AAC 75.380(d) and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

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.

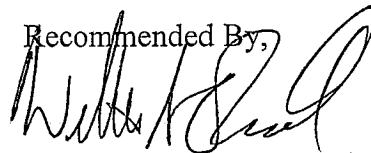
If you have questions about this closure decision, please contact ADEC Project Manager William O'Connell at (907) 269-3057.

Approved By,



Linda Nuechterlein
Environmental Manager

Recommended By,



William O'Connell
Environmental Program Specialist

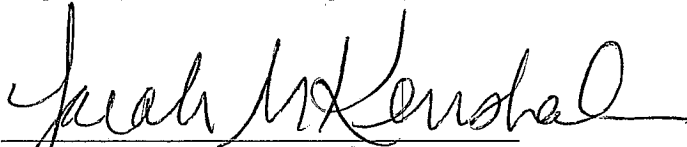
CC: Gary Schulz, ADNR NRO

Attachment A: Cleanup Complete- ICs Agreement Signature Page
Attachment B: Site Figure

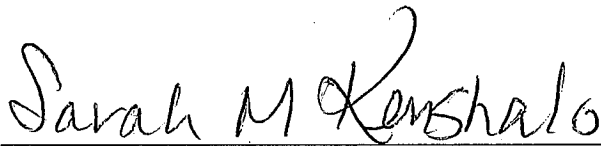
ADEC File No.

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

CPAI agrees to the terms of this Corrective Action Complete with Institutional Controls determination as stated in this Record of Decision (ROD) document dated **November 25, 2009** for Delta State 2. Failure to comply with the terms of this agreement may result in ADEC reopening this site and requiring further remedial action in accordance with 18 AAC 78.276(f).



Signature of Authorized Representative, Title
ConocoPhillips Alaska, Inc.



Printed Name of Authorized Representative, Title
ConocoPhillips Alaska,

RECEIVED
DEC 10 2009
DEPT. OF ENVIRONMENTAL
CONSERVATION

ADEC File No.: 300.38.285
Hazard ID: 25463
ADEC Project Manager: O'Connell

For Internal Use Only

***Attention ADEC Administration Staff:** Please follow the procedure below after Attachment A is signed/returned to ADEC.

1. Log-in and Date Stamp *Attachment A*
2. Scan and Save to the appropriate electronic folder on the network Drive
3. File the hard copy in the appropriate project/site file Correspondence Folder (blue in Anchorage).
4. Provide the Correspondence folder (with the filed *Attachment A* hard copy) to the ADEC Project Manager so that the PM can update the CS database.

Attachment B- Site Figure

