

# STATE OF ALASKA

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

SARAH PALIN, GOVERNOR

555 Cordova Street  
Anchorage, AK 99501  
PHONE: (907) 269-8685  
FAX: (907) 269-7649  
www.dec.state.ak.us

File: 300.38.271

Certified Return Receipt

Article No: 7007 3020 0000 1948 7523

June 10, 2009

Chuck Stilwell  
BP Exploration (Alaska) Inc.  
P.O. Box 196612  
900 East Benson Blvd  
Anchorage, AK 99519-6612

Re: Record of Decision (ROD); BPX South Hangar Pad  
Cleanup Complete Determination- Institutional Controls

Dear Mr. Stilwell:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with BPX South Hangar Pad located near 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 and 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 BPX South Hangar Pad 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 the Cleanup Complete with ICs Determination.

### **Introduction**

#### Site Name and Location:

BPX South Hangar Pad  
South side of Old ARCO Airstrip  
Prudhoe Bay, Alaska

#### Name and Mailing Address of Contact Party:

Chuck Stilwell  
BP Exploration (Alaska)  
P.O. Box 196612  
900 East Benson Blvd  
Anchorage, AK 99519-6612

**Database Record Key and File Number:**

ADEC Reckey: 2008360102701

File: 300.38.271

Hazard ID: 4594

**Regulatory authority under which the site is being cleaned up:**

18 AAC 75 and 18 AAC 70

**Background**

Free phase product was encountered in boreholes that were drilled at the South Hangar Pad operated by BP Exploration Alaska (BPX) for installation of supports for a temporary building. The product was encountered at about 18–20 feet below ground surface and was up to 2.7 feet in thickness. The source of the free product is believed to be a 45,000-gallon jet fuel spill that occurred in 1971 and migrated through frozen ground via preferential pathways to the subsurface.

**Contaminants of Concern**

During the course of the investigation and cleanup at this site, soil samples were analyzed for: diesel range organics (DRO); gasoline range organics (GRO); benzene, toluene, ethylbenzene and xylenes (BTEX); and polynuclear aromatic hydrocarbons (PAHs). Based on these analyses and knowledge of the contaminant source, the following Contaminants of Concern were identified:

- Diesel Range Organics (DRO)
- Gasoline Range Organics (GRO)
- Ethylbenzene
- Xylenes

**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.

### **Investigation and Cleanup Activities**

Site characterization was conducted in April 2008 following discovery of the free product in February. A bail down test was conducted; nine soil borings were advanced at the gravel pad; and seven soil borings were advanced on the tundra west and south of the free product area (Attachment B). Approximately 160 to 250 gallons of jet fuel were recovered from the existing boreholes. However the bail down test indicated a product recovery rate of approximately 0.002 gallons per day, making a prolonged product recovery effort unfeasible.

Sixteen boreholes were advanced on the pad and in the tundra. Petroleum impacts were found at seven boreholes located at the southwest corner of the pad and extending slightly into the surrounding tundra. Several boreholes found petroleum hydrocarbons along the pad/tundra interface. However this is most likely associated with more recent activities at the Drill Site Maintenance Shop (ADEC File# 300.38.045) and is not related to the 1971 spill. Generally, the impacts from the 1971 spill are limited to the 18-20 foot depth interval where product apparently migrated following the spill. Soil samples collected from boreholes in 2008 contained DRO up to 27,500 mg/kg at 18.5 to 20 feet below ground surface (bgs) in borehole SB-3; GRO up to 9,250 mg/kg at 18-18.5 feet bgs in borehole SB-17; ethylbenzene up to 394 mg/kg; and xylenes up to 1,730 mg/kg in the same sample from SB-17.

All boreholes were backfilled with bentonite and drill cuttings to ensure that surface water does not come into contact with the impacted area.

### **Pathway Evaluation**

The exposure pathways for human health that were evaluated include the following: migration to surface water, indoor and outdoor inhalation of vapors, and direct contact with soil. The migration to surface water and direct contact pathways are considered incomplete as the contamination is located at 18-20 feet bgs and is not available to receptors.

The inhalation pathways were evaluated in 2008 at the Drill Site Maintenance Shop, the building nearest the impacted area. Benzene was not detected above detection limits in any of the samples collected, so it is unlikely that the contamination in the subsurface poses a risk via this pathway.

Based on the results of the 2008 bail down test, free product has been recovered to the extent practicable. Exposure to product is unlikely considering the depth to contamination, which also makes excavation unfeasible.

The exposure pathway analysis above was supported by the most recent ADEC Exposure Tracking Model (ETM) ranking. The ETM results showed all pathways to be De Minimis Exposure, Exposure Controlled, or Pathway Incomplete.

### **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 the BP Exploration, Alaska Inc shall report to ADEC every five years or as soon as they become aware of any change in land ownership and/or use, if earlier. **The report can be sent to the local ADEC office or electronically to [DEC.ICUnit@alaska.gov](mailto:DEC.ICUnit@alaska.gov).**
2. 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. (See attached site figure.)
3. 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 detailed above, and will include a description of the contamination remaining at the site. When the site meets the requirements for a Cleanup Complete determination, then the Institutional Controls will be terminated.

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.

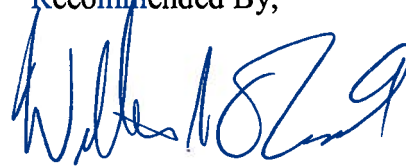
If you have questions about this closure decision, please contact the ADEC project manager, Bill O'Connell at (907) 269-3057.

Approved By,



Linda Nuechterlein  
Environmental Manager

Recommended By,



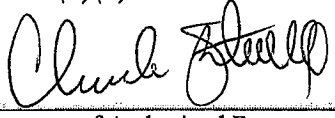
William O'Connell  
Environmental Program Specialist

CC: Gary Schultz, ADNR Fairbanks

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

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

*BP Exploration (Alaska), Inc. agrees to the terms of this Cleanup Complete-ICs determination as stated in this Record of Decision (ROD) document dated **June 10, 2009** for BPX South Hangar Pad. 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 75.380(d)(2).*



Signature of Authorized Representative  
BP Exploration (Alaska) Inc.

CHUCK STILWELL

Printed Name of Authorized Representative  
BP Exploration (Alaska) Inc.

**Note to Responsible Person:**

**After making a copy for your records, please return a signed copy of this form to the ADEC project manager, William O'Connell, at the address on this correspondence within 30 days of receipt of this letter.**

**Attachment B: Site Figure**

