

# STATE OF ALASKA

## DEPT. OF ENVIRONMENTAL CONSERVATION

### DIVISION OF SPILL PREVENTION AND RESPONSE CONTAMINATED SITES PROGRAM

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File: # 300.38.283  
Certified Return Receipt

Article No: 7008 1830 0002 6349 3183

November 18, 2009

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

Re: Record of Decision; BPX SE Eileen State 1 & 2  
Cleanup Complete Determination

Dear Mr. Stilwell:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with BP Exploration (Alaska) Inc. (BPX) Southeast (SE) Eileen State 1 & 2 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 this site will be closed.

This decision is based on the administrative record for BPX SE Eileen State 1 & 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 the Cleanup Complete determination.

#### **Introduction**

##### Site Name and Location

BPX SE Eileen State 1 & 2  
Prudhoe Bay, Alaska

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

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

ADEC Site Identifiers:

Hazard ID #25389

CS file # 300.38.283

Regulatory authority under which the site is being cleaned up:

18 AAC 75

**Background**

Two wells were drilled at this site; Southeast Eileen State 1 was drilled in July 1969, then plugged and abandoned later that year. Southeast Eileen State 2 was drilled as a sidetrack well then plugged and abandoned in 1991. In spring 1970, approximately 20 barrels of oil-based drilling waste were spilled onto the gravel pad and tundra, resulting in the removal of approximately 25,000 cubic yards of impacted gravel and tundra in 1990. The area was re-vegetated in 1991 and 1992.

**Contaminants of Concern**

During the various investigations at this site, gravel pad and tundra samples were analyzed for diesel range organics (DRO) and residual range organics (RRO). 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

Cleanup activities conducted following the 1990 spill are not documented in ADEC files. Soil sampling conducted in 2000 found DRO up to 2,330 mg/kg in a sample collected from the surface in an area where the former gravel pad had been removed as part of the 1990 cleanup. A site visit to the same location in 2009 found minor sheen in the area sampled in 2000, and samples collected from adjacent areas did not contain contaminants above the most stringent cleanup levels. Additional sampling conducted in 2009 focused primarily on the reserve pits, however a tundra sample collected south of the former well contained DRO up to 617 mg/kg.

Because the site has significantly re-vegetated since the early 1990s, the removal of material outside of the reserve pits is not anticipated.

### Pathway Evaluation

Following investigation and cleanup at the site, human health exposure to the remaining contaminants in soil was evaluated using ADEC's Exposure Tracking Model. Exposure pathways are the conduits by which contamination may reach human or ecological receptors. The human health exposure pathways that were evaluated for this decision document included: inhalation of indoor and outdoor air; ingestion of soil; dermal contact with soil; and ingestion of surface water.

Potential exposure pathways summarized in Table 1, show all pathways to be one of the following: De Minimis Exposure, Exposure Controlled, or Pathway Incomplete. "De-minimis exposure" means that in ADEC's judgment receptors will be minimally affected by the small 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.

**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.
Inhalation of Indoor and Outdoor Air	Pathway Incomplete	Because this site is remote, few receptors are, or will be, present in the foreseeable future
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 present in de minimis quantities

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 contaminant concentrations remaining are de minimis in nature and not considered a source of risk to ecological receptors
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**ADEC Decision**

The cleanup actions to date have served to excavate and adequately remove contaminated soil from the site. Based on the information available, ADEC has determined no further assessment or cleanup action is required. There is no longer a risk to human health or the environment, and this site will be designated as closed on the Department's database.

Although a Cleanup Complete determination has been granted, ADEC approval is required for off-site soil disposal in accordance with 18 AAC 75.325(i). It should be noted that movement or use of potentially contaminated soil in a manner that results in a violation of 18 AAC 70 water quality standards is unlawful.

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.

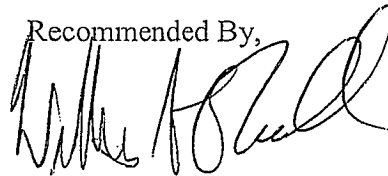
If you have questions about this closure decision, please contact ADEC Project Manager William O'Connell at (907) 269-3057.

Approved By,



Linda Nuechterlein  
Environmental Manager

Recommended By,



William O'Connell  
Environmental Program Specialist

CC: Gary Schulz, ADNR NRO