STATE OF ALASKA

SEAN PARNELL, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM

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File: 300.38.290
Return Receipt Requested
Article No: 7008 1830 0002 6349 4807

August 19, 2010

Chuck Stilwell
BP Exploration Alaska, Inc
P.O. Box 196612
Anchorage, AK 99519-6612

Re: Decision Document: BPX J Pad Well J-20
Cleanup Complete Determination

Dear Mr. Stilwell:

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program, has completed review of the environmental records associated with the BPX J Pad Well J-20. Based on the information provided to date, the ADEC has 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 site file and administrative record 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 the subject site and provides a summary of the regulatory issues considered in the Cleanup Complete Determination.

Introduction

Site Name and Location:
BPX J Pad Well J-20
GC2 J Pad; ~12.5 Miles NW of Deadhorse
Deadhorse, AK 99734

Name and Mailing Address of Contact Party:
Chuck Stilwell
BP Exploration Alaska, Inc
P.O. Box 196612
Anchorage, AK 99519-6612

ADEC Site Identifiers:
File #: 300.38.290
Hazard ID: 25520

Regulatory authority under which the site is being cleaned up:
18 AAC 75

Background
In 2008, approximately 60 gallons of crude oil/methanol mixture leaked onto the ground from the grease-fitting on the lateral valve of Well 20 on J Pad.

Contaminants of Concern
During the investigation at this site, soil samples were analyzed for: methanol; gasoline range organics (GRO); diesel range organics (DRO); residual range organics (RRO); and benzene, toluene, ethylbenzene, and xylenes (BTEX). The following Contaminants of Concern were identified:

- Diesel Range Organics (DRO)
- Benzene

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 Actions
In 2008, 439 cubic yards of contaminated soil were removed from the site. The west side of the excavation was limited due to the proximity of a vertical support member (VSM) and flow lines; therefore a 5-foot by 5-foot area of potentially impacted soil remained in place. Reportedly, at the east side of the excavation, a historic reserve pit was encountered at 8 feet below ground surface (bgs) as evidenced by apparent drilling mud at the tundra/gravel pad interface. It was speculated that the historic reserve pit could extend beyond the current pit walls and under the gravel pad. After

removal of contaminated soil, the eastern portion of the excavation was backfilled with clean fill, but the western portion of the excavation remained open.

In 2009, a Phase II site characterization was performed. Four bore holes were advanced east of the open excavation at the location of the recently backfilled area. One soil sample collected from each borehole down to the tundra/gravel interface at 7.6 to 8.8 feet bgs contained detectable concentrations of contaminants, but these levels were below ADEC cleanup levels.

In the open excavation, ten soil samples were collected around the perimeter down to pooled excavation water at 5.5 to 6.0 feet bgs. Only one soil sample, collected from the western portion of the excavation adjacent to the VSM and flow lines contained concentrations above cleanup levels with DRO up to 540 mg/kg and benzene up to 2.55 mg/kg. It was noted that the open excavation's pooled water developed a hydrocarbon sheen after some of the soil was disturbed. Pending the soil sampling activities, the excavation was backfilled with clean fill.

Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants were 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 Tracking Model Results

Pathway	Result	Explanation
Surface Soil Contact	De Minimis Exposure	The remaining contaminant concentrations in surface soil are below direct contact cleanup levels, and the remaining contaminated soil is considered de minimis in volume.
Sub-Surface Soil Contact	De Minimis Exposure	The remaining contaminant concentrations in the sub-surface are below direct contact cleanup levels, and the remaining contaminated soil is considered de minimis in volume.
Inhalation – Outdoor Air	De Minimis Exposure	The remaining soil contaminant concentrations are below inhalation cleanup levels. Therefore risk via this pathway is considered insignificant.
Inhalation – Indoor Air (vapor intrusion)	De Minimis Exposure	The remaining soil contaminant concentrations are well below inhalation cleanup levels, and were backfilled with clean fill. Therefore risk via this pathway is considered insignificant.
Groundwater Ingestion	Pathway Incomplete	Groundwater is not utilized as a drinking water source in the Arctic Zone.
Surface Water Ingestion	Pathway Incomplete	Surface water is not utilized as a drinking water source in this area
Wild Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals. Wild foods are not collected in this area

Exposure to Ecological Receptors	De Minimis Exposure	The remaining contamination is not in a location that is likely to affect ecological receptors

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 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 the site will be designated as Cleanup Complete 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 the ADEC Project Manager, Grant Lidren at (907) 269-8685.

Approved By,

Linda Nuechterlein
Environmental Manager

Recommended By,

Grant Lidren
Environmental Specialist