

# STATE OF ALASKA

SARAH PALIN, GOVERNOR

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

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File: # 300.38.192  
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Article No: 7007 3020 0000 1948 7592

June 8, 2009

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

Re: West Sak River State B-10  
Cleanup Complete Determination- Institutional Controls

Dear Ms. Kenshalo:

The Alaska Department of Environmental Conservation (ADEC), Contaminated Sites Program, has reviewed the environmental records associated with West Sak River State B-10. 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 no further remedial action will be required as long as the site is in compliance with established institutional controls.

This decision is based on the administrative record for West Sak River State B-10, 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 Institutional Controls Determination.

## **Introduction**

### Site Name and Location

West Sak River State B-10  
Kuparuk River Unit  
Prudhoe Bay, AK

### Name and Mailing Address of Contact Party:

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

**ADEC Site Identifiers:**

ADEC Reckey: 1978360107401

File #: 300.38.192

Hazard ID: 4582

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

18 AAC 75

**Background**

On February 1, 1978, a gravel pad at West Sak River State B-10 was installed for petroleum exploration activities. Well drilling activities were suspended on March 30, 1978 and the well was plugged and abandoned in March 1986. Petroleum impacted soil was discovered at the pad in 2000.

**Contaminants of Concern**

During the investigation at this site soil samples were analyzed for diesel range organics (DRO); residual range organics (RRO); volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, and xylene (BTEX); and polynuclear hydrocarbons (PAHs). Based on these analyses and knowledge of the source area, the following Contaminant of Concern was identified:

- Diesel Range Organics (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 Actions**

Soil samples collected around the historic well head in 2000 contained DRO up to 1,230 mg/kg at 4 feet below ground surface (bgs) near the bottom of the pad. The entire pad was removed in March 2002. Approximately 2,030 cubic yards of petroleum impacted gravel was removed from the pad and the well head area. This “restricted use” gravel was ultimately used as backfill in the on-site reserve pit. Approximately 13,420 cubic yards of clean gravel was hauled to Mine Site C for reuse. Fertilizer and native grass seed were then applied to the pad to promote rehabilitation. Confirmation soil samples were not collected following removal of the pad

Further site evaluation occurred in August 2002 after iron staining and hydrocarbon sheen were noted on the northern end of the pad during a rehabilitation inspection. Four soil samples collected from the areas of suspected contamination at a depth of 2 to 6 inches bgs contained DRO up to 986 mg/kg.

Progress of rehabilitation was evaluated in 2003 and 2004. A soil sample was collected in 2003 from the area of suspected contamination on the northern end of the pad with hydrocarbon odor and heaviest sheen. The sample contained a DRO concentration of 147 mg/kg. The area, sampled again in 2004, contained a DRO concentration of 14.9 mg/kg. Vegetation was observed growing on the pad and the thermal regime appeared to be stabilizing. In addition 162 tundra plugs were transplanted within the area of the gravel pad to further promote rehabilitation.

### **Pathway Evaluation**

The human health (HH) exposure pathways that were evaluated for this decision document included: inhalation of outdoor air, ingestion of soil, and ingestion of surface water. The inhalation and ingestion pathways may be complete but contaminant concentrations do not exceed 18 AAC 75.341 Table B2, Method Two risk based cleanup levels for inhalation or ingestion. Therefore, the HH exposure risk is considered acceptable.

In the Arctic Zone, 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). Any surface water adjacent to this pad is not a drinking water source; therefore, the human exposure pathway is not considered complete.

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. The migration to surface water pathway may be complete but the distance from the spill to the nearest surface water body and the amount of contaminated soil remaining does not pose a risk to ecological receptors via this pathway. Furthermore, the benefit of removing potentially remaining contaminated soil is negligible because it would likely disrupt the surrounding tundra ecosystem.

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 either De Minimis Exposure or Pathway Incomplete.

### **ADEC Decision**

There may be contamination remaining above established cleanup levels at West Sak River State B-10, but ADEC has determined there is no unacceptable risk to human health or the environment, and this site will be granted a Cleanup Complete- Institutional Controls 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 ConocoPhillips shall report to ADEC concurrent with the reporting schedule for rehabilitation outlined in the Rehabilitation Plan dated July 2001 (with subsequent updates) or as soon as ConocoPhillips becomes aware of any change in land ownership and/or use, if earlier. The report should include any changes in land use and visual observations of sheen, thermokarsting, or other disturbances. The report can be sent to the ADEC project manager or electronically to [DEC.ICUnit@alaska.gov](mailto:DEC.ICUnit@alaska.gov).
2. A Notice of Residual Contamination will be recorded on the ADEC database to document that there is contamination remaining on site above the most stringent ADEC cleanup levels.
3. Any proposal to transport soil or groundwater off site requires ADEC approval in accordance with 18 AAC 75.325(i).
4. 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 Grant Lidren at (907) 269-8685.

Sincerely,

A handwritten signature in blue ink, appearing to read "Linda Nuechterlein".

Linda Nuechterlein  
Environmental Manager

Sincerely,

A handwritten signature in blue ink, appearing to read "Grant Lidren".

Grant Lidren  
Environmental Specialist

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

ConocoPhillips Alaska Inc. agrees to the terms of this Cleanup Complete with Institutional Controls determination as stated in this Record of Decision (ROD) document dated **June 8, 2009** for the West Sak River State B-10, Hazard ID: 4582. 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 Company

**Sarah M Kenshalo**  
\_\_\_\_\_  
Printed Name of Authorized Representative, Title  
ConocoPhillips Company

**Note to Responsible Person (RP):**

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

**Attachment B: Site Figure**

