

STATE OF ALASKA

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

SEAN PARNELL, GOVERNOR

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File: # 300.38.033

Return Receipt Requested
Article No: 7007 3020 0000 1948 3419

September 3, 2010

Mr. William Barstow
VC Sellers Reserve
200 West 34th Ave, Box 905
Anchorage, AK 99503

Re: Decision Document; VECO Drilling Pad Tracts 22, 23, and 24
Cleanup Complete Determination-Institutional Controls

Dear Mr. Barstow:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with VECO Drilling Pad Tracts 22, 23, and 24, located in Deadhorse, 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 VECO Drilling Pad Tracts 22, 23, and 24, 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

VECO Drilling Pad Tracts 22, 23, and 24
Spine Road
Deadhorse, Alaska

Name and Mailing Address of Contact Party:

Mr. William Barstow
VC Sellers Reserve
200 West 34th Ave, Box 905
Anchorage, AK 99503

ADEC Site Identifiers:

Hazard ID #587

CS file # 300.38.033

Regulatory authority under which the site is being cleaned up:

18 AAC 75

Background

This site is comprised of Tracts 22, 23, and 24. Tract 24 was closed on December 5, 2005 after contaminated soil was excavated to the satisfaction of ADEC (Attachment C). A Phase II investigation was conducted at Tracts 22 and 23 in 2008 to support a change in ownership. The Phase II investigation indicated petroleum hydrocarbon contamination was present in several areas of the pad resulting from spills, leaks, and fuel storage and handling.

Contaminants of Concern

During the investigations at this site, soil and/or surface water samples were analyzed for diesel range organics (DRO), residual range organics (RRO), gasoline range organics (GRO), polynuclear aromatic hydrocarbons (PAHs) and volatile organic compounds (VOCs) including benzene, ethylbenzene, toluene, and xylenes (BTEX). Based on the results of these investigations, the following contaminants of concern were identified:

- DRO
- RRO
- Benzene
- 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.

Site Characterization and Cleanup

The Phase II investigation conducted in 2008 found petroleum hydrocarbon contamination at five areas designated Areas C, D, E, F, and G on Tracts 22 and 23. Between 2008 and 2010, approximately 24,000 in place cubic yards of contaminated material were excavated from these areas and thermally treated at AIC in Deadhorse. Excavation activities were conducted across a significant portion of Tracts 22 and 23, but were limited in some areas due to the presence of buildings and underground utilities.

- At Area C on Tract 22, approximately 1,860 in place cubic yards of contaminated soil were excavated to a depth of approximately 7 feet bgs from an area 6,500 square feet in size. Confirmation samples contained DRO up to 16,200 mg/kg adjacent to the shop building.
- At Area D on Tract 22, approximately 9,450 in place cubic yards of contaminated soil were excavated from an area of 44,400 square feet to a depth of approximately 6 feet bgs. Confirmation samples contained DRO up to 3,260 mg/kg.
- At Area E spanning Tracts 22 and 23, approximately 12,000 in place cubic yards of contaminated soil were excavated from an area of 56,500 square feet to a depth of approximately 6 feet bgs. Confirmation samples contained DRO up to 7,880 mg/kg, benzene up to 26.7 mg/kg, and xylenes up to 118.1 mg/kg.
- At Area F on Tract 22, approximately 223 in place cubic yards of contaminated soil were excavated from an area 1,200 square feet in size to a depth of approximately 5 feet bgs. Confirmation samples contained DRO up to 9,040 mg/kg and RRO up to 24,700 mg/kg.
- At Area G on Tract 22, approximately 460 in place cubic yards of contaminated soil were excavated from an area of 2,060 square feet to a depth of approximately 6 feet bgs. Confirmation samples contained DRO up to 2,270 mg/kg.
- Surface water samples were collected from four separate locations adjacent to the pad in 2008 and 2009. Contaminant concentrations in surface water did not exceed Alaska Water Quality Standards for TAH and TAqH.

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 Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	Pathway Incomplete	Contaminated soil is not located at the surface.
Sub-Surface Soil Contact	Exposure controlled	Contamination remains in the subsurface, but will be managed in accordance with institutional controls.
Inhalation – Outdoor Air	De Minimis exposure	Contamination remains in the subsurface, but is covered by up to 7 feet of clean fill therefore the exposure via this pathway is considered insignificant.
Inhalation – Indoor Air (vapor intrusion)	De Minimis exposure	Contamination remains in the subsurface below inhalation cleanup levels. Clean soil at the surface will mitigate the exposure potential via this pathway where buildings are in close proximity.
Groundwater Ingestion	Pathway Incomplete	Groundwater is not utilized as a drinking water source in this area.
Surface Water Ingestion	Pathway Incomplete	Surface water is not utilized as a drinking water source in this area.
Wild Foods Ingestion	Pathway Incomplete	Wild foods are not collected in this area
Exposure to Ecological Receptors	Pathway Incomplete	Surface water and soil sampling along the edge of the pad indicate exposure to ecological receptors is insignificant.

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

Contamination remains on site above established clean up levels, however ADEC has determined there is no unacceptable risk to human health or the environment. Therefore this site will be issued a Cleanup Complete-ICs Determination subject to the following:

1. Any change from the current land use, which includes oilfield support services, vehicle/equipment maintenance and storage, man camp facilities, and other industrial uses, 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, CH2MHill shall report to ADEC every 5 years to document land use, or report as soon as CH2MHill becomes aware of any change in land use or ownership if earlier. **The report can be sent to the local ADEC office or electronically to DEC.ICUnit@alaska.gov.**

2. When it becomes accessible, contaminated soil remaining adjacent to the Light Duty Maintenance Building, Building 23-740-1, Building 23-740-2, and Building 23-008 must be removed in accordance with an ADEC approved work plan.
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. (See attached site figure.)
4. 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, Institutional Controls will be terminated.

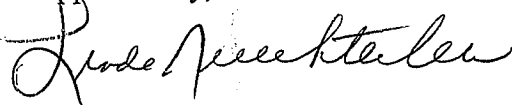
This determination is in accordance with 18 AAC 75.380(d) and does not preclude ADEC from requiring additional assessment and/or cleanup action if future information indicates that this site may pose an unacceptable risk to human health or the environment.

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.

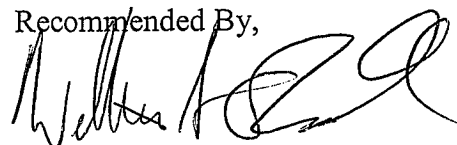
Please sign and return *Attachment A* to ADEC within 30 days of receipt of this letter. If you have questions about this closure decision, please contact the ADEC project manager, Bill O'Connell at (907) 269-3057

Approved By,



Linda Nuechterlein
Environmental Manager

Recommended By,

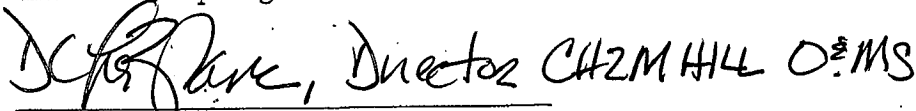


William O'Connell
Environmental Program Specialist

Cc: Gary Schultz, ADNR Fairbanks

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

CH2MHill agrees to the terms of this Cleanup Complete with ICs determination as stated in this Closure Decision Document dated September 3, 2010 for VECO Drilling Pad Tracts 22, 23, and 24. 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)

 Denis C. LeBlanc, Director CH2MHILL O&MS

Signature of Authorized Representative, Title
CH2MHill

DENIS C. LEBLANC, Director, CH2MHILL O&MS

Printed Name of Authorized Representative, Title
CH2MHill

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 at the address on this correspondence within 30 days of receipt of this letter.

ADEC File No. 300.38.033
Hazard ID: 587
ADEC Project Manager: Bill 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

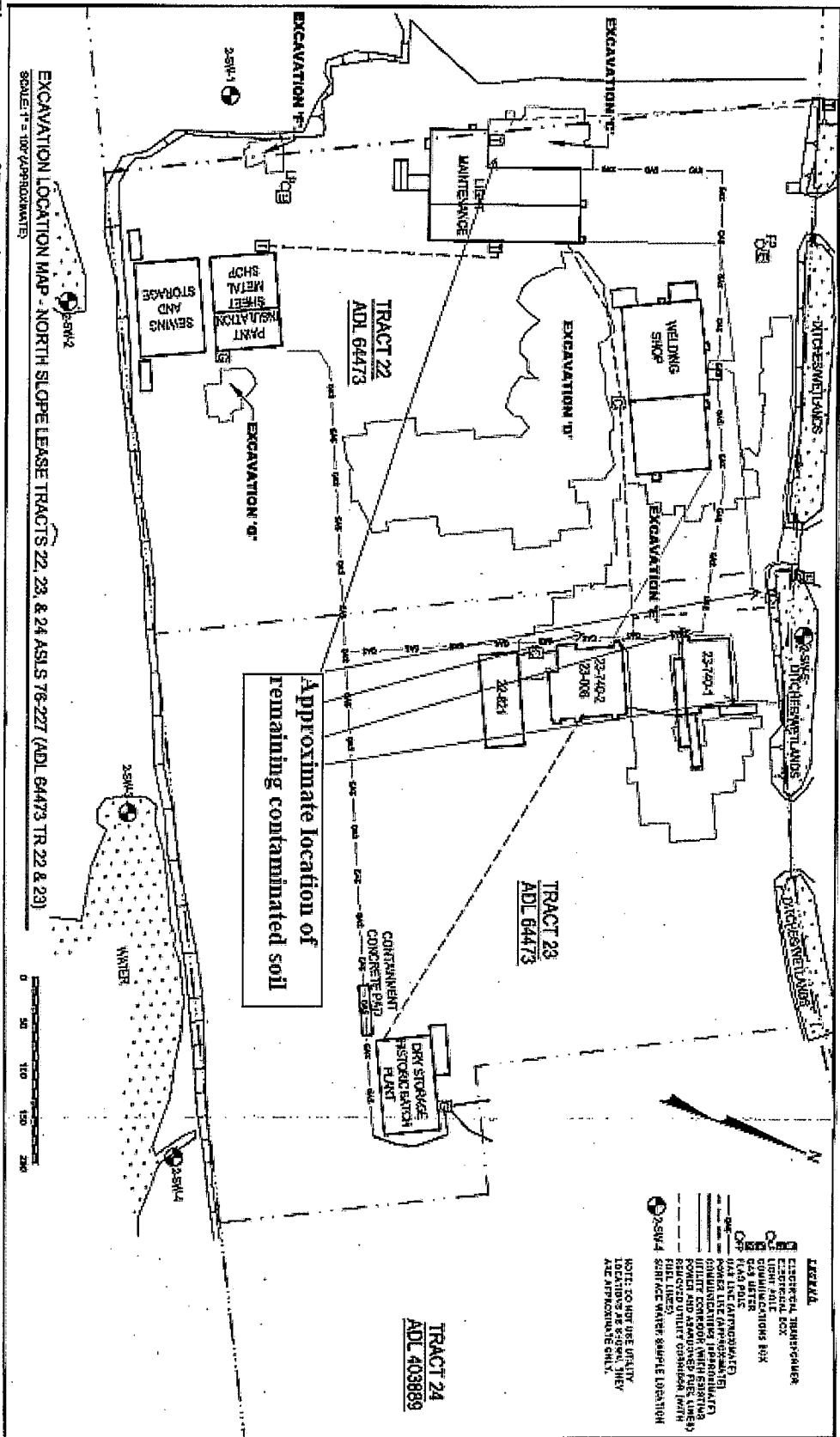


Figure courtesy of Restoration Science and Engineering