THE STATE of ALASKA
GOVERNOR SEAN PARNELL

Department of Environmental Conservation

DIVISION OF SPILL PREVENTION & RESPONSE
Contaminated Sites Program

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File: 300.38.299

May 1, 2013

Mr. Stephen Wilson
Crowley Maritime Corporation
1102 SW Massachusetts Street
Seattle, WA 98134

Re: Decision Document; CATCO Lease Tracts 40, 41, and 42
Cleanup Complete Determination-Institutional Controls

Dear Mr. Wilson;

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Crowley All Terrain Corporation (CATCO) Lease Tracts 40, 41, and 42 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.

This decision is based on the administrative record for CATCO Lease Tracts 40, 41, and 42 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:
CATCO Lease Tracts 40, 41, and 42
Deadhorse, Alaska

ADEC Site Identifiers
File: 300.38.299
Hazard ID: 25766

Name and Mailing Address of Contact Party:
Mr. Stephen Wilson
Crowley Maritime Corporation
1102 SW Massachusetts Street
Seattle, WA 98134

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

Background

This site includes Tracts 40, 41, and 42; however, Tract 42 is undeveloped and was not included in the investigations at this site. Tract 41 is only partially developed, and facilities at this site are located almost entirely on Tract 40.

The facilities at this site have been in operation for over 30 years and include an old shop/storage building, main shop, generator shack, fuel pump house, and fuel storage areas. Soil contamination at this site is attributed to spills and leaks from equipment and release to the gravel floor of the Old Shop Building.

Environmental investigations at this site were conducted in 2011 to support a lease transfer from CATCO to Peak Oilfield Services who also occupies the adjacent Tracts 34 and 39.

Contaminants of Concern

During the investigations at this site, soil and water samples were analyzed for diesel range organics (DRO), residual range organics (RRO), gasoline range organics, (GRO), and volatile organic compounds (VOCs) including benzene, toluene, ethylbenzene, and xylenes (BTEX). Based on these analyses and knowledge of the source area, the following Contaminants of Concern were identified in soil and/or groundwater:

- Gasoline Range Organics (GRO)
- Diesel Range Organics (DRO))
- Residual Range Organics (RRO))
- 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 Table B1 (Hazardous Substances) and B2 (Petroleum Hydrocarbons). If cleanup levels in Table A.2 Method One – "Petroleum Hydrocarbon Soil Cleanup Levels in the Arctic Zone" (Method One) are met, the site may be considered for unrestricted closure without institutional controls (ICs). If contaminant concentrations exceed Method One cleanup levels, then risk-based Method Two cleanup levels (See table below.) are utilized to evaluate the potential risk to human health via specific exposure pathways (such as inhalation and ingestion) and whether the site may be closed with ICs.

Table 1: Method Two - Soil Cleanup Levels – Arctic Zone

Table B2 - Petroleum Hydrocarbon Range	***Ingestion***	***Inhalation (mg/kg)***	***Migration to Groundwater (mg/kg)****	***Maximum Allowable Concentrations mg/kg***
GRO (C_6-C_{10}) using AK 101	1400	1400	n/a	1400
DRO (C_{10}-C_{25}) using AK 102	12500	12500	n/a	12500
RRO (C_{25}-C_{36}) using AD 103	13700	22000	n/a	22000
Table B1 - Hazardous Substance	***Direct Contact (mg/kg)***	***Outdoor Inhalation***	***Migration to Groundwater****	***Carcinogenic***
Xylenes (total)	27400	63	n/a	nc

Notes to Table 1. *Due to continuous permafrost in the Arctic Zone, the "Migration to Groundwater" pathway is considered incomplete or non applicable (na).

In addition to the human health exposure pathways, a number of other factors are considered by ADEC when evaluating site specific cleanup levels and the need for institutional controls in the Arctic Zone including:

- ecological impacts (contamination impacting ecological species other than humans);
- groundwater and surface water quality;
- presence of free phase product; and
- other factors that might cause a deleterious impact to the environment.

The department will determine the cleanup levels for undisturbed tundra and native vegetation on a site-specific basis, depending on whether a cleanup action would cause more severe or long-lasting damage than would the discharge or release alone.

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).

The migration to surface water is also 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 noted above as determined by ADEC.

Site Characterization Activities

A Phase II Environmental Site Assessment was conducted at this property after a Phase I identified several potential sources of contamination. Twenty-one (21) soil borings were advanced approximately 8-10 feet below ground surface (BGS) at the potential source areas identified in the Phase I including fuel storage areas, the pump house, and the gravel floor of the old shop building. The gravel pad was estimated at 2.5 to 5 feet thick.

Soil cores were screened in the field with a photo-ionization detector (PID) and samples were collected from the areas with the highest field screening results. DRO was detected up to 2,180 mg/kg in a sample from 1.5 feet bgs south of the main shop building and RRO was detected up to 3,230 mg/kg in a sample from 1.5 feet bgs in the old shop building. GRO was detected up to 876 mg/kg in a sample from 2 feet bgs near the pump house and xylenes were detected up to 105.3 mg/kg in the same sample. Field screening indicated that contaminated soil was generally encountered from near the surface to the pad/tundra interface.

In an effort to evaluate the potential migration of contaminants from the pad to the surrounding tundra, boreholes were advanced and sampled between the known source areas and the edges of the pad. Field screening results and analytical samples collected from these boreholes did not indicate that contaminants were migrating off of the pad.

Pathway Evaluation

Following investigation and cleanup at the site, exposure to the remaining contaminants was 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 2 - Exposure Pathway Evaluation

Pathway	Result	Explanation
Surface Soil Contact	De minimis exposure	Contaminant concentrations are below Method Two direct contact cleanup levels and the pad is covered with snow and ice for much of the year minimizing exposure to potentially contaminated surface soil
Sub-Surface Soil Contact	De minimis exposure	Contaminant concentrations are below Method Two direct contact cleanup levels and the pad is covered with snow and ice for much of the year minimizing exposure to potentially contaminated subsurface soil
Inhalation – Outdoor Air	De minimis exposure	Contaminant concentrations are below Method Two inhalation cleanup levels and the pad is covered with snow and ice for much of the year minimizing volatilization and potential exposure via this pathway.
Inhalation – Indoor Air (vapor intrusion)	De minimis exposure	Volatile contaminants are not located near occupied buildings, and contaminant concentrations are below Method Two inhalation cleanup levels.
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	Wild foods are not collected in this area.
Exposure to Ecological Receptors	Pathway Incomplete	There are no complete exposure pathways to ecological receptors at the site

Notes to Table 2: "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 default cleanup 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 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 North Slope Borough as owner of this property shall report to ADEC every five years to document land use, 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.**

2. Contaminated soil that remains on site must be addressed in accordance with an ADEC approved work plan and/or to the satisfaction of ADEC at the time the facility is decommissioned.

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.

Sincerely,

Bill O'Connell
Environmental Program Specialist

Cc: Margie Smith, NSB

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

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

The North Slope Borough agrees to the terms of this Cleanup Complete with ICs determination as stated in this Closure Decision Document dated **May 1, 2013** for the CATCO Lease Tracts 40, 41, and 42. 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 18 AAC 75.380(d).

_____

Signature of Authorized Representative, Title
RP/Company Name

_____

Printed Name of Authorized Representative, Title
RP/Company Name

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.	300.38.299
Hazard ID:	25766
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