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DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM

File: 2314.26.009

July 5, 2006

Mr. Duane Parlow
Homer Electric Association, Inc.
3977 Lake Street
Homer, Alaska 99603-7680

Re: **Record of Decision** – Conditional Closure
Homer Electric Association (HEA) – Homer Facility
ADEC Spill No. 1990230026002, UST Facility I.D. No. 1261, Event ID No. 544

Dear Mr. Parlow:

On December 2, 2005, the Alaska Department of Environmental Conservation (ADEC) received your November 28, 2005 letter, which referenced the annual groundwater and surface water sampling report for the above referenced facility. Enclosed with your letter was HartCrowser's October 2005 Groundwater and Surface Water Sampling and ORC Point Abandonment letter report. The Hart Crowser Report was dated November 22, 2005.

Based on the information submitted to date, ADEC has determined that the Homer Electric Association (HEA) site shall be conditionally closed since the hazardous substance contamination has been adequately addressed and further cleanup action is not required at this time. Although groundwater contamination remains at the site above the most stringent 18 AAC 75 cleanup levels, the nature and extent of this residual contamination no longer poses an unacceptable risk to human health or the environment. Please note that this determination is contingent upon the site-specific conditions presented in this **ADEC Decision** document.

Introduction
This letter summarizes the regulatory issues associated with this facility and the decision process used to determine the environmental status of this site.

Site name and location:
Homer Electric Association (HEA) – Homer Facility located at 3977 Lake Street in Homer, Alaska

Legal Description:
Lot E, Heath Street Replat, Section 20, T06S, R13W, Seward Meridian and;

Lot 2, Waddell Park 2000, Section 20, T06S, R13W, Seward Meridian.

Regulatory authority:
This project was reviewed under the applicable regulatory authority in 18 AAC 75, Article 3, and 18 AAC 78, Articles 2 and 6, as amended through January 30, 2003.

Responsible Party: Homer Electric Association, Inc.
3977 Lake Street
Homer, Alaska 99603-7680

Background
The Homer Electric Association (HEA) has operated a facility on Lot E, Heath Street Replat, Section 20, T06S, R13W, Seward Meridian, for more than 55 years. This property has been used for power generation, utility support, and materials storage activities related to HEA's Kenai Peninsula operations. Two large above-ground storage tanks, one 1000-gallon lubricating oil underground storage tank (UST), two 2,000-gallon diesel USTs and one 4,000-gallon gasoline UST were formerly sited on this property.

In September 1990, the 2000 and 4000-gallon USTs and associated piping and dispensers were removed. Petroleum contamination was confirmed in soil at the site, and reported to ADEC.

Approximately 2000 cubic yards of contaminated soil were excavated in 1994, and placed in three separate onsite soil treatment cells. Not all contaminated soil was removed due to conflicts with existing utilities and improvements, including a warehouse building and pre-existing soil treatment cells.

In 1997, a warehouse building was relocated and the concrete floor slab removed. During the warehouse floor slab removal, a 1000-gallon UST was encountered, emptied and removed. Upon removal of the warehouse floor slab and other existing improvements, approximately 1700 yards of additional contaminated soil were excavated. Groundwater levels in the excavation areas varied from 1 to 5 feet below ground level, and impacted soil was excavated down to and beneath the water table. One-thousand pounds of oxygen release compound (ORC) were spread in the groundwater across the base of three excavation areas prior to backfilling.

From November 1997 until May 1998, approximately 3800 cubic yards of excavated contaminated soil was thermally treated on site using a rotary kiln.

Groundwater monitoring wells were installed both on and offsite beginning in 1991, and groundwater quality has been monitored at this site since 1991. Oxygen release compound was placed into the groundwater multiple times at numerous locations between 1994 and 2004, in the effort to reduce groundwater contaminant concentrations.

Groundwater contamination extended off site onto adjacent private property. In or about the year 2000, Homer Electric Association acquired the adjacent 4 acres of property from the neighboring landowner. Homer Electric Association now owns the two parcels of property affected with residual groundwater contamination.

Contaminants of Concern
Contaminants at the site included the following petroleum hydrocarbon compounds:

- Benzene, toluene, ethylbenzene, and xylenes (BTEX)
- Gasoline range organics (GRO)
- Diesel range organics (DRO)
- Residual range organics (RRO)

Soil Contamination
Soil contamination beneath the former USTs and warehouse exceeded the 18 AAC 75.341 'migration to groundwater' cleanup levels. Petroleum sheens and visible petroleum product were visible on the water table during soil cleanup excavation work. Soil contamination above the groundwater was largely removed by excavation, however not all contaminated soil could be removed due to the presence of a shallow groundwater table, a gravel road, and existing utilities and improvements. Remaining soil contamination is now associated with the residual groundwater contamination. When groundwater meets the applicable groundwater cleanup levels, soil contamination should also meet the soil cleanup levels.

Groundwater Contamination
The groundwater beneath this site ranges from 0 to 10 feet below ground surface (bgs) depending on the location and the season of the year. BTEX, GRO, and DRO contamination was documented in groundwater on the HEA warehouse property near the former UST systems, the warehouse building, and along a subsurface groundwater drainage structure which was installed across the original HEA property to improve drainage across the property. Groundwater contamination was historically detected for the following contaminants of concern in concentrations as high as:

Benzene	3.94	mg/L
GRO	25	mg/L
DRO	160	mg/L

Groundwater monitoring was conducted over a fifteen-year period and a declining trend in the groundwater contaminant plume has been documented. The only contaminant of concern that has exceeded the groundwater cleanup level in any groundwater monitoring wells since 2002 is benzene. In the most recent groundwater sampling event (October, 2005), benzene was detected above the cleanup level in three monitoring wells at the following concentrations:

Monitoring Well	Benzene
RWP-5	0.047 mg/L
MW-12	0.200 mg/L
TMW-1	0.059 mg/L

A well search was performed for drinking water wells located within a ¼ mile downgradient radius of the site. No drinking water wells were located within this radius.
Based on groundwater monitor data, there is no evidence of contaminant migration off of the two HEA properties.

Surface Water Contamination

Surface water samples have been collected adjacent to Waddell Way, a gravel road bordering the downgradient of the HEA warehouse property boundary, from November 2000 to May 2004. Total aromatic hydrocarbons (total sum of BTEX) have periodically been detected in concentrations exceeding the applicable Alaska water quality standard (10 ug/L), established in 18 AAC 70. The highest total aromatic hydrocarbon concentration detected in surface water was 0.103 mg/L, from a sample collected in November, 2000.

The source of these aromatic hydrocarbons is difficult to ascertain. Groundwater is very shallow and emerges at the ground surface in some areas at this site. Two possible sources include roadside runoff or contaminated groundwater emerging at the ground surface.

The last two surface water sampling events were conducted in October of 2004 and September of 2005. Water quality met the 10 ug/L total aromatic hydrocarbons standard during both sampling events. It also met the ADEC groundwater cleanup level and public drinking water standard for benzene (5 ug/L). This surface water is not used for drinking water, and isn't considered a source for contaminant migration to offsite surface waters.

Exposure Pathways Identified

The following exposure and/or migration pathways were considered in this decision document.

The exposure pathways for human health that were evaluated include: indoor and outdoor inhalation; ingestion of soil; dermal contact with soil; and ingestion of groundwater or surface water.

Soil contamination overlying groundwater has largely been removed from the site. Saturated soil beneath the groundwater table will contain very low contaminant concentrations in areas of residual groundwater contamination, but should not pose unacceptable ingestion, dermal contact, or inhalation exposure risks. However, there may be exposure issues if soil is excavated beneath the water table in areas of residual groundwater contamination and transported to sensitive receiving environments. To minimize and control this risk, any excavation of soil in areas of residual groundwater contamination will require prior notification and approval of ADEC, and the oversight of a qualified third-party environmental consultant.

The groundwater ingestion pathway is not complete since groundwater is not used for drinking water, and the affected properties are either connected to the City of Homer community water service, or have access to City of Homer water service. In addition, City of Homer Code requires the connection to the City's water service.

The indoor air exposure pathway is considered incomplete. Indoor air isn't affected due to the low remaining contaminant concentrations and the substantial separation distance from the residual contamination to existing buildings.

The surface water exposure pathway is potentially complete, however the affected surface water is not used for drinking water, and City of Homer Code requires that properties connect to the City's community water service. Additionally, surface water sampled at this site met the Alaska water quality standard for surface water and the ADEC groundwater cleanup level in each of the

last two sampling events, so exposures should not present an unacceptable risk to human health or the environment.

The contaminant migration pathways that were evaluated include: migration to groundwater; migration to surface water; and migration to indoor air.

The migration to groundwater pathway is considered complete because contamination is detected in groundwater, however contaminated groundwater hasn't migrated offsite, and the City of Homer community water service is the local source of drinking water.

The surface water migration pathway is potentially complete, since BTEX has been detected in surface water. The impacted surface water consists of localized ponded water, and isn't considered a source for contaminant migration to offsite surface waters. In addition, the impacted surface waters met the applicable Alaska surface water quality standard, and should no longer pose an unacceptable risk to the environment.

Migration to indoor air is incomplete due to the low residual contaminant concentrations and the absence of any nearby structures.

Cleanup Levels

The soil cleanup levels established for this site are in accordance with 18 AAC 75.341, Tables B1 and B2 migration to groundwater pathway (Under 40 inch zone). The 'migration to groundwater' pathway is the most stringent soil cleanup level and will allow unrestricted closure if the levels are achieved.

The groundwater cleanup levels established for the site are the 18 AAC 75.345, Table C levels.

Table 1: Cleanup Levels for HEA – Homer Facility

Contaminant	Soil Cleanup Level (mg/kg)	Groundwater Cleanup Level (mg/L)
Benzene	0.02	**0.005**
Ethylbenzene	5.5	0.7
Toluene	5.4	1.0
Xylenes (total)	78	10.0
GRO	300	1.3
DRO	250	1.5
RRO	10,000	1.1

Bolded values identify contaminants remaining on site which exceed cleanup level.

ADEC Decision

Based on the information provided to date, ADEC has determined that the cleanup actions employed at the HEA – Homer Facility in Homer, Alaska were effective in removing or treating a majority of impacted soil and groundwater resulting from the former UST systems and petroleum releases. ADEC evaluated the groundwater contaminant concentrations remaining on site and determined that, with the following conditions, it no longer poses an unacceptable risk to human health or the environment.

This decision will be noted as "Conditional Closure" on the ADEC database and is subject to the following conditions:

1. The six remaining groundwater monitoring wells (RWP-5, TMW-1, MW-11, MW-12, MW-14, and MW-15) shall not be damaged or disturbed. In the event any well is damaged, ADEC shall be notified, and will determine if the well(s) should be repaired (or replaced). Homer Electric Association shall repair or replace any damaged well(s) if ADEC determines they are required for future monitoring purposes.

2. Groundwater monitoring wells RWP-5, TMW-1, MW-11, MW-12, MW-14, and MW-15 shall continue to be sampled on an annual basis for BTEX, until ADEC revises or eliminates this long-term groundwater quality monitoring requirement.

3. In accordance with 18 AAC 78.274(b), contaminated soil or groundwater may not be transported or disposed without ADEC's prior written approval. The excavation of soil on this property in areas of residual groundwater contamination may expose contaminated soil and groundwater requiring proper safety, management, and disposal practices. Homer Electric Association shall notify ADEC, and obtain ADEC approval, prior to the excavation and/or transport of any soil or groundwater from these areas. Homer Electric Association shall provide the services of a qualified, impartial environmental professional as required in 18 AAC 78, in order to properly monitor, assess, manage, treat, and dispose of any contaminated soil or groundwater, in accordance with all applicable ADEC regulations.

These conditions remain in effect until a written determination from ADEC is issued stating that groundwater at the site has been shown to meet the applicable groundwater cleanup levels.

Homer Electric Association is liable for any residual soil or groundwater contamination. In accordance with 18 AAC 78.276(f)(2), ADEC may require additional assessment and/or cleanup action if future information leads to a revised determination that this site poses an unacceptable risk to human health or the environment.

ADEC will enter an institutional control on the Contaminated Sites database for this project, noting that residual groundwater contamination remains at this site and that long-term groundwater monitoring is required.

Site closure (without conditions) can be achieved when groundwater sampling over a multi-year period leads to an ADEC determination that the groundwater meets the 18 AAC 75.345, Table C groundwater cleanup levels.

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, or any of the conditions attached to this decision, please contact me at (907) 262-5210 extension 250.

Sincerely,

Paul Horwath, P.E.
Environmental Engineer

Cc: Herminio Muniz, Hart Crowser – Anchorage

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