STATE OF ALASKA / SEAN PARNELL, GOVERNOR

DEPT. OF ENVIRONMENTAL CONSERVATION

DIVISION OF SPILL PREVENTION AND RESPONSE
CONTAMINATED SITES PROGRAM

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http://www.state.ak.us/dec/

File: 2100.26.083

May 3, 2012

Anastasia E. Duarte
Retail Environmental Remediation Administrator
Tesoro Refining and Marketing Company
2450 South 344th Way, Suite 100
Auburn, WA 98001-5931

Re: ADEC Decision Document; Tesoro Northstore #9
Corrective Action Complete Determination

Dear Ms. Duarte:

The Alaska Department of Environmental Conservation, Contaminated Sites Program (ADEC) has completed a review of the environmental records associated with the Tesoro Northstore #9 located at 2401 Spenard Road, Anchorage, 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 at this time.

Our determination is based on the administrative record for the Tesoro Northstore #9 which is located in the offices of the ADEC in Soldotna, 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 this Corrective Action Complete Determination.

Introduction

Site Name and Location:
Tesoro Northstore #9
2401 Spenard Road
Anchorage, Alaska 99503

Name and Mailing Address of Contact Party:
Anastasia E. Duarte, RS
Retail Environmental Remediation Administrator
Tesoro Refining and Marketing Company
3450 South 344th Way, Suite 100
Auburn, WA 98001-5931

Current Property Owner and Legal Description:
Kinta Corporation, Incorporated

Tract "A", Lot One "B", Hillstrand Subdivision, according to Plat No. 63-57, recorded in the Anchorage Recording District, Third Judicial District, State of Alaska.

ADEC Site Identifiers:

File No.:	2100.26.083
Hazard ID No.:	23720
Reckey No.:	1996210033201

Regulatory authority under which the site is being cleaned up:
18 AAC 75 and 18 AAC 78

Background
Underground fuel storage tank systems (USTs) were installed at this property in 1985. These systems consisted of two 10,000-gallon gasoline and one 5,000-gallon diesel tanks, one dispenser island with a canopy, and associated piping. The site was used as a retail fuel sales station until August of 2000, when the UST systems were removed. Petroleum impacted soil and groundwater were encountered during a cathodic protection upgrade and the UST removals. Soil and groundwater samples collected at this site have been tested for: diesel range organics (DRO); gasoline range organics (GRO); benzene, toluene, ethylbenzene and xylenes (BTEX); and polynuclear aromatic hydrocarbons (PAH).

The site currently consists of a single-story building used as a mini-mart and an asphalt pavement parking lot. The property is connected to the City of Anchorage community water and sewer service; however a water well search was performed, and concluded that there were three drinking water wells located between 500 and 900 feet from this property.

A more detailed history of this site is contained within ADEC's project file for this site, which is available for public review.

Site Characterization and Cleanup Activities
In October of 1996 subsurface soil samples were collected to obtain information for the design of a cathodic protection system. Benzene soil contamination was encountered at twelve feet below ground surface (bgs) along the northwestern property boundary.

In September of 1998 during the cathodic protection system upgrade, a site assessment was performed to determine the presence or absence of petroleum contamination. Approximately 14 tons of contaminated soil was excavated and transported off-site for thermal remediation and disposal. Benzene was detected at 0.029 to 0.11 mg/kg at 10 feet bgs in the anode borings. Xylenes were detected at 440 mg/kg, GRO at 1,900 mg/kg and DRO at 390 mg/kg at 3.5 feet bgs adjacent to the premium UST fill pipe, and benzene at 0.095 mg/kg beneath the dispenser island at 4.5 feet bgs. A soil vapor extraction system was installed for future soil remediation.

In March of 1999 three soil borings were advanced and made into monitoring wells to characterize the groundwater at the site. Soil contamination was encountered, with benzene detected at 0.139 and 0.527 mg/kg at 17 feet bgs, GRO at 432 mg/kg at 17.5 feet bgs, and DRO at 459 to 2,300 mg/kg at 17 and 17.5 feet bgs. Groundwater contamination was detected with benzene at 0.026 to 1.80 mg/L, ethylbenzene at 1.3 mg/L, GRO at 18 to 36 mg/L and DRO at 6.5 to 11 mg/L.

In October of 1999 additional assessment was conducted to investigate the extent of soil and groundwater contamination. Three additional monitoring wells were installed, with soil and groundwater samples collected. Only one field duplicate soil sample collected at 16 feet bgs exceeded the soil cleanup levels with benzene detected at 0.039 mg/kg. No groundwater contamination was encountered in the new monitoring wells.

In August of 2000 the two 10,000-gallon tanks, one 5,000-gallon tank, associated piping and the dispenser island with overhead canopy were removed. Approximately 908 tons of petroleum impacted soil was excavated and transported off-site for thermal remediation and disposal. The west end of the excavation could not be sampled due to the instability of the west sidewall, but visual evidence of petroleum contamination was observed. Benzene was detected between the two 10,000-gallon USTs at 0.047 mg/kg at 16.5 feet bgs. Benzene at 0.75 mg/kg, toluene at 13 mg/kg, ethylbenzene at 7.1 mg/kg and GRO at 810 mg/kg were detected along the north sidewall at 16 feet bgs. The soil vapor extraction system was reinstalled since the prior system was removed during the UST system excavation and removal.

In November of 2000, the three on-site monitoring wells originally installed in March of 1999 were re-installed. Soil contamination was encountered during installation of the well along the north property boundary, with benzene at 1.3 mg/kg, toluene at 18 mg/kg, ethylbenzene at 29 mg/kg, xylenes at 140 mg/kg and GRO at 1,300 mg/kg at 17.5 feet bgs. During installation of the well along the west property boundary, benzene was detected at 0.026 and 0.18 mg/kg at 17 and 19 feet bgs, respectively. Groundwater contamination was detected with benzene at 0.072 and 0.240 mg/L, ethylbenzene at 0.750 mg/L, GRO at 7.8 and 17 mg/L and DRO at 3.8 mg/L.

In October of 2002 an air sparge well was installed in the effort to enhance treatment of the subsurface soil contamination. Soil samples collected while drilling to install the air sparge well detected benzene at 9.17 mg/kg, ethylbenzene at 13.2 mg/kg, and DRO at 2,110 mg/kg at 18 feet bgs; and benzene at 0.217 mg/kg at 21 feet bgs.

In August of 2007 confirmation soil samples were collected along the northern and western edges of the property boundary to investigate the extent of any remaining soil contamination. Laboratory analyses detected benzene at 0.049 to 0.594 mg/kg at 18 to 21 feet bgs, toluene at 6.95 mg/kg at 18.5 feet bgs, ethylbenzene at 5.77 to 12.7 mg/kg at 18 to 19 feet bgs, xylenes at 112 mg/kg at 18 feet bgs, GRO at 432 to 1,410 mg/kg at 18 to 19 feet bgs, and DRO at 1,340 to 2,290 mg/kg at 18 to 20 feet bgs.

In November of 2008 an additional groundwater monitoring well was installed down-gradient of the site on the northern side of West Fireweed Lane. Benzene was detected in soil at 0.0651

mg/kg at 18 feet bgs during installation of the monitoring well. No groundwater contamination was detected.

Two rounds of in situ chemical oxidation treatments were conducted injecting potassium permanganate into the subsurface soil along the site perimeter adjacent to West Fireweed Lane and Spenard Road in October of 2009 and April of 2010. Following the in situ chemical oxidation treatments, soil borings were drilled and soil samples collected to evaluate the effectiveness of the treatments. In February of 2010 GRO was detected at 345 to 510 mg/kg at 18.5 to 19 feet bgs, benzene at 0.0549 mg/kg at 18.5 feet bgs, and DRO at 1,210 and 1,540 mg/kg at 18.5 feet bgs. In October of 2010 one soil boring detected toluene at 6.68 mg/kg, ethylbenzene at 31.7 mg/kg, xylenes at 137 mg/kg, GRO at 1,170 mg/kg, and DRO at 1,030 mg/kg at 18.5 feet bgs.

In June of 2011 an in-situ chemical oxidation treatment pilot study was performed, injecting sodium persulfate in the area of the remaining residual soil contamination. Follow-up soil borings were drilled and soil samples were collected and analyzed, resulting in the detection of ethylbenzene at 19.6 mg/kg, xylenes at 107 mg/kg, GRO at 1,560 mg/kg, and DRO at 368 mg/kg at 20 feet bgs.

Following the completion of remedial action performed at this site from 1996 to 2011, residual soil contamination remains in the subsurface soil exceeding the ADEC's Method Two 'Migration to Groundwater' soil cleanup levels in the area along the northern and western property boundaries along West Fireweed Land and Spenard Road. Residual groundwater contamination remains on site exceeding the ADEC's Table C Groundwater Cleanup Levels. The affected groundwater is not currently used as a drinking water source, and the site is serviced by the City of Anchorage public water and sewer systems.

Contaminants of Concern

During the investigations at this site, soil and water samples were analyzed for diesel range organics (DRO); gasoline range organics (GRO); benzene, toluene, ethylbenzene, and xylenes (BTEX); and polynuclear aromatic hydrocarbons (PAH). Following the completion of the cleanup measures employed at this site, residual concentrations of the following Contaminants of Concern remained at this site in soil and/or groundwater, in excess of the ADEC Cleanup Levels:

- Gasoline Range Organics (GRO)
- Diesel Range Organics (DRO)
- BTEX

Cleanup Levels

The default **soil** cleanup levels for this site are established in 18 AAC 75.341, Method Two, Table B1 and B2 Under 40 inch Zone, Migration to Groundwater.

Contaminant	Soil Cleanup Level (mg/kg)
• Gasoline Range Organics	300
• Diesel Range Organics	250

- Benzene 0.025
- Toluene 6.5
- Ethylbenzene 6.9
- Xylenes 63

The default **groundwater** cleanup levels for this site are established in 18 AAC 75.345, Table C, Groundwater Cleanup Levels.

Contaminant	Groundwater Cleanup Level (mg/L)
• Diesel Range Organics	1.5

DRO was the only contaminant remaining above the groundwater cleanup levels.

Pathway Evaluation

Following investigation and cleanup at the site, exposures 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, 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	De-minimis Exposure	The contaminated surface soil was predominantly excavated and transported off site.
Sub-Surface Soil Contact	De-minimis Exposure	Contamination remains in the sub-surface soil exceeding the migration to groundwater cleanup levels at depths ranging from 18 to 21 feet bgs. This pathway evaluation is applicable from depths of 2 to 15 feet bgs.
Inhalation – Outdoor Air	De-minimis Exposure	Contamination remains in the subsurface starting at depths greater than 15 feet in depth. This pathway evaluation is applicable from depths of 2 to 15 feet bgs under current ADEC regulations.
Inhalation – Indoor Air (vapor intrusion)	De-minimis Exposure	Based on the distance from the building to the remaining contaminated soil, indoor air quality is unlikely to be affected.
Groundwater Ingestion	De-minimis Exposure	City of Anchorage Municipal sewer and water service is connected to this property. The risk that residual groundwater contamination could migrate to any drinking water wells is inconsequential.
Surface Water Ingestion	Pathway Incomplete	There is no surface contamination remaining at the site, and no surface waters located within the potential area of impact from this site.
Wild Foods Ingestion	Pathway Incomplete	Contaminants of concern do not have the potential to bioaccumulate in plants or animals.

Exposure to Ecological Receptors	Pathway Incomplete	The residual sub-surface contamination has no potential to contact ecological receptors.

Notes to Table 1: "De-minimis Exposure" means that in ADEC's judgment receptors are unlikely to be affected by the minimal mass of remaining contamination. "Pathway Incomplete" means that in ADEC's judgment contamination has no potential to contact receptors.

ADEC Decision

The cleanup actions to date have served to adequately remove contaminated soil from this site, and reduce soil and groundwater contaminant concentrations. 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, we are issuing this Corrective Action Complete determination, subject to the following conditions:

1. The most current soil sample analytical data reported BTEX, GRO, and DRO contamination exceeding the applicable soil cleanup levels, along the northern and western property boundary, along West Fireweed Lane and Spenard Road. This area is identified on the MWH Figure 5, **SITE PLAN WITH AREA OF CONCERN** (see Attachment). Any proposal to excavate, transport, move, treat, and/or dispose of residual contaminated soil at this "site" requires prior ADEC approval. This is consistent with the requirements of 18 AAC 78.274(b), and 18 AAC 78.600(h). 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.

2. Municipal public water service is currently provided to this property. Water wells may not be installed on this property without the prior notification, and approval, of ADEC.

3. All groundwater monitoring wells, treatment wells, and subsurface treatment piping associated with this project must now be properly decommissioned in accordance with ADEC's November 2011 Monitoring Well Guidance. Tesoro Refining and Marketing Company must now prepare and provide ADEC with a work plan which identifies proposed decommissioning procedures for ADEC review and approval, prior to implementation of those procedures. Decommissioning work should be completed when frost is not present in the soil. The decommissioning of these wells and any subsurface treatment piping should occur before August 30, 2012, and must be documented in a written report submitted to ADEC by November 30, 2012. This work must be performed or directly supervised by a 'qualified person', as defined in 18 AAC 78.995(118), and the report must be signed by a qualified person.

The ADEC Contaminated Sites Database will be updated to reflect the change in site status to 'Cleanup Complete', and will include a description of the contamination remaining at the site.

This determination is in accordance with 18 AAC 78.276(f) 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. The Tesoro Refining

and Marketing Company remains liable for any additional assessment and/or cleanup action, should ADEC impose such a requirement.

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.

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 ADEC Decision Document, or any other aspect of this project, please contact me at (907) 262-3422, or via e-mail at paul.horwath@alaska.gov

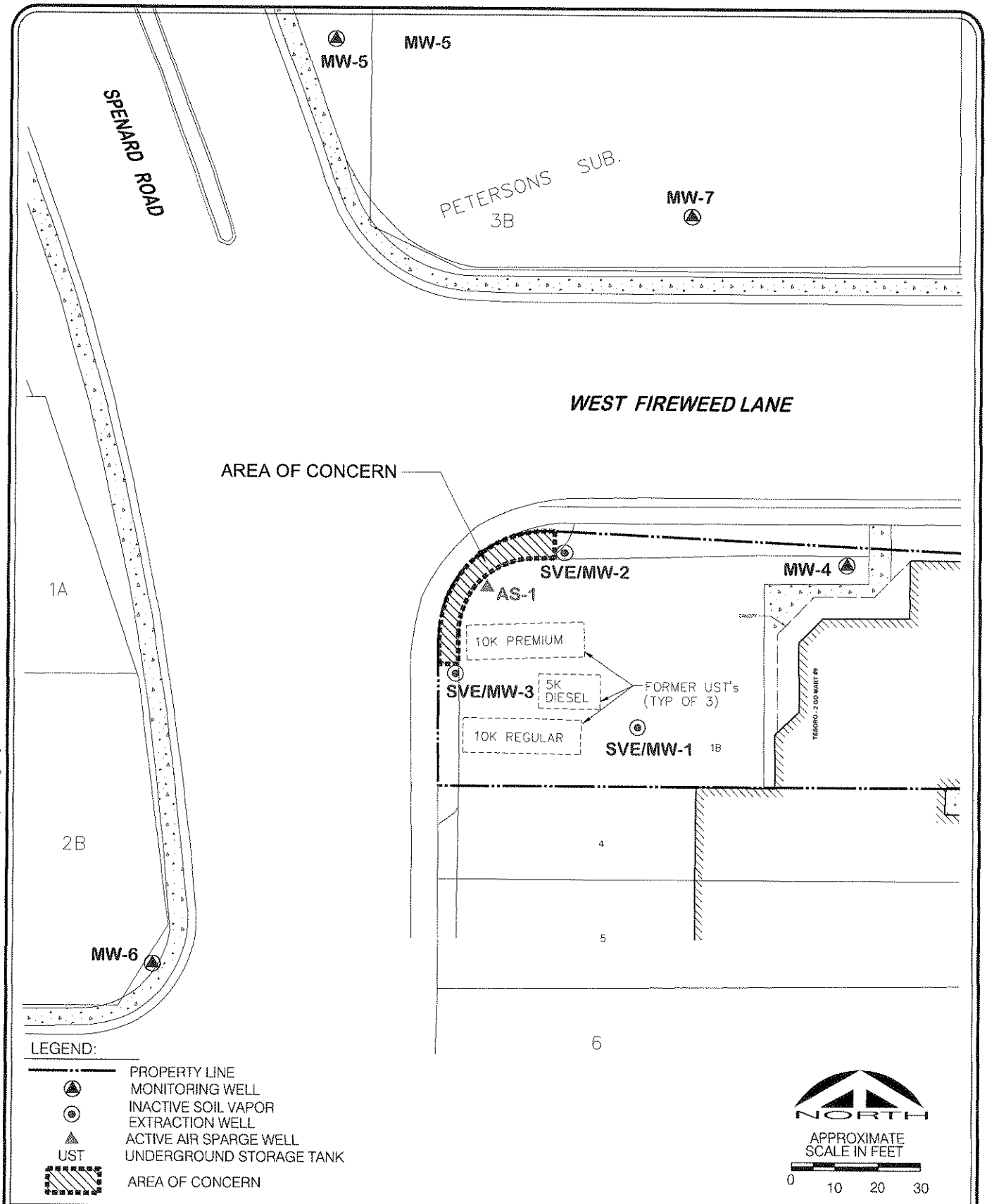
Sincerely,

Paul Horwath

Paul Horwath, PE
Engineer I, DEC

Attachment: MWH Figure 5, **SITE PLAN WITH AREA OF CONCERN**

Cc: Kinta Corporation, Inc., Property Owner, Anchorage
Robert Gilfilian, P.E. MWH, Anchorage
Michael Zidek, MWH, Anchorage



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MWH
Anchorage, Alaska

FIGURE 5

TESORO COMPANY - 2 GO MART #9
2011 CCIC REPORT

SITE PLAN WITH AREA OF CONCERN