

## FACT SHEET

### DRAFT HAZARDOUS WASTE POST-CLOSURE PERMIT TESORO ALASKA PETROLEUM COMPANY EPA NO. AKD 04867 9682

The purpose of this fact sheet is to set forth the principal facts pertaining to a Resource Conservation and Recovery Act (RCRA) permit that the U.S. Environmental Protection Agency Region 10 (EPA) proposes to reissue to Tesoro Alaska Petroleum Company. The permit is to require Tesoro to administer post-closure care and corrective action at its facility located at Mile 22, Kenai Spur Road, Kenai, Alaska. This fact sheet was prepared by EPA in accordance with the requirements of 40 C.F.R. § 124.8. The draft permit is based on an administrative record which is available to the public for reviewing at the EPA Region 10 Office.

#### A. PURPOSE OF THE PERMITTING PROCESS

The purpose of the permitting process is to design specific administrative and operational requirements under which the Permittee must operate to comply with the hazardous waste management requirements promulgated under RCRA, as amended by the Hazardous and Solid Waste Amendments of 1984 (HSWA), and regulations adopted thereunder by EPA in 40 C.F.R. Parts 124 and 260 to 270.

EPA is required to prepare a draft permit which sets forth in one concise document all the applicable requirements with which EPA intends to require the Permittee to comply during the ten-year duration of the permit. The public is given forty-five (45) days to review and comment on the draft permit conditions prior to the Agency taking any final action on the permit.

#### B. PROCEDURES FOR REACHING A FINAL DECISION

Section 7004(b) of RCRA and 40 C.F.R. § 124.10 require that the public be given forty-five (45) days to comment on each draft RCRA permit. The comment period will begin on August 12, 2006 and will end September 26, 2006. Any person interested in commenting on this draft permit must do so within this forty-five (45) day comment period.

Comments on the permit or a request that a public hearing should be submitted in writing to:

Jan Palumbo (AWT-121)  
U.S. EPA Region 10  
1200 Sixth Avenue  
Seattle, Washington 98101

Comments should include all reasonable available references, factual grounds and supporting material.

If interest is expressed in holding a public hearing EPA will conduct a public hearing on September 21, 2006. If held, the hearing will begin at 7:00 p.m. at:

Nikiski Fire Station #1, Mile 17.9, Kenai Spur Hwy, Kenai, Alaska

There will not be a public hearing unless public interest in doing so is communicated to EPA by September 11, 2006. To inquire if a hearing will be held, contact Jan Palumbo of EPA at (206) 553-6702.

When making a determination regarding the issuance of this permit to Tesoro, EPA will consider all written comments received during the public comment period, comments received during the public hearing, the requirements of the hazardous waste regulations, and the Agency's permitting policies.

When EPA makes a final decision to either issue, deny, or modify the draft permit, if there have been comments on the draft permit, notice will be given to the applicant and each person who has submitted written comments or requested notice of the final decision. The final decision shall become effective no sooner than thirty (30) days after the notice unless a review is requested pursuant to 40 C.F.R. § 124.19.

### C. FACILITY DESCRIPTION

The Tesoro refinery is located in the northwest portion of the Kenai Peninsula, five miles north of the city limits of Kenai, Alaska. The refinery began operation at the site in 1969. The facility covers an area of approximately 250 acres and has the capacity to process crude petroleum at a rate of 80,000 barrels per day. Primary products of the refinery include gasoline and diesel fuels, jet fuel, residential heating oil, and liquified petroleum gas.

In the mid-1970s Tesoro constructed three unlined surface impoundments for the disposal of API separator sludges, tank bottoms, and miscellaneous oily wastes generated at the refinery. In 1980 Tesoro stopped using the impoundments for waste disposal. In 1981 two of the three impoundments were excavated and backfilled and the sludges transferred to the third impoundment during excavation. Each of the impoundments were then capped with two synthetic liners, covered with topsoil and reseeded. The units are being managed as hazardous waste landfills and are subject to post-closure monitoring and corrective action.

In February of 1987 an oil sheen was discovered on water distilled at Tesoro's on-site laboratory. Following this discovery Tesoro conducted an investigation to

determine the source and extent of the contamination. An extensive monitoring well network of more than 100 wells was installed to characterize the groundwater contamination. The primary sources were identified as leaks from the oily water sewer system seal boxes and hubs.

Contaminants in groundwater, in both the dissolved and liquid phase, extend underneath major portions of the facility and off-site to the southwest of the facility, in both the unconfined aquifer and upper confined aquifer. The primary constituents of concern are benzene, toluene, ethylbenzene and xylene. Highest levels of contamination are found in the groundwater beneath the central area of the refinery, south and west of the process area. However, the groundwater contamination extends west of Kenai Spur Highway and has migrated to the south and west of the facility toward Cook Inlet.

Tesoro, first under an EPA order and then under the 1995 post-closure and corrective action permit, further investigated the extent of the contamination both on-site and off-site, and installed six groundwater corrective measures systems, each addressing a portion of the contaminated groundwater at the facility. One corrective measures system is located near the closed landfills; a second to the southwest of the refinery and east of Kenai Spur Highway on Phillips Petroleum property; a third to the west of the Highway on Phillips Petroleum property; a fourth near the Cook Inlet beach; a fifth which addresses the B-aquifer plume; and a sixth which addresses the upper confined aquifer plume.

#### D. CONTENTS OF THE PERMIT

The draft permit requires long term monitoring and maintenance of the landfills, groundwater monitoring, and corrective action for contaminated groundwater. The required monitoring and maintenance period is a minimum of thirty (30) years after the date of closure of the units. Sixteen years have passed since the post closure monitoring period began, in 1989, so the minimum remaining post closure maintenance and monitoring period is now fourteen (14) years. EPA may extend the monitoring and maintenance period if necessary to protect human health or the environment.

The permit has general conditions for inspections, security, preparedness and prevention plans, contingency plans and emergency procedures, record keeping and reporting, training, financial assurance, and monitoring and maintenance of the landfills of the landfills. The main part of the permit specifies requirements that Tesoro must comply with for operating and monitoring the six corrective measures systems for contaminated groundwater which cover different portions of the groundwater contamination throughout the site. These six systems are described below:

The Surface Impoundment (SI) Corrective Measures System is located in the area of the closed surface impoundments. It consists of two air sparge treatment zones plus groundwater pumping and reinjection. The system is monitored by 24 monitoring wells.

The Phillips Marathon (PM) Corrective Measures System is located in the area of the refinery tank farms and adjacent off-site properties currently owned by ConocoPhillips and Agrium. The PM system consists of groundwater and light non-aqueous phase liquid (LNAPL) extraction using 14 recovery wells, treatment using an air stripper to remove the volatile organic compounds and carbon adsorption treatment of the air stripper off-gas, and reinjection of the treated groundwater via an equalization lagoon and infiltration trenches, or discharge to Cook Inlet in accordance with the facility's NPDES permit. The design capacity for the treatment system is 750 gallons per minute. The system is monitored by 80 monitoring wells.

The Phillips Interim Remedial Measures (PIRM) System is in the area of the Phillips Liquefied Natural Gas (LNG) facility west of Kenai Spur Highway. It consists of a groundwater and LNAPL extraction, treatment and reinjection system, and an air sparging system. The groundwater extraction and treatment system consists of eight recovery wells, treatment in the PM treatment system and five downgradient injection wells. The air sparging system, consists of 13-17 sparge wells. The system is monitored by 55 monitoring wells.

The Wharf Lobe Corrective Measures System is in the area of the Phillips wharf. It consists of a sheetpile barrier wall, a seepage collection system and associated piping and instrumentation. The collected water is pumped back to the PM treatment system. The system is monitored by 14 monitoring wells.

The B-Aquifer Corrective Measures System addresses a portion of the plume which is thought to be distinct from the main aquifer. It occurs throughout the site but in certain locations is separated from and below the main unconfined aquifer. The remediation system is a groundwater extraction, treatment and reinjection system which includes three recovery wells, treatment in the PM treatment system and four downgradient injection wells. The system is monitored by 40 monitoring wells.

The Upper Confined Aquifer (UCA) Corrective Measures Systems addresses the confined aquifer underlying the facility and the adjacent properties. This confined aquifer lies below the main unconfined aquifer which the other remediation systems address. The remediation for this aquifer consists of pumping of two industrial production wells and monitored natural attenuation. These two wells pump on average between 470 – 730 gallons per minute, sufficient to capture the plume. The system is monitored by 17 monitoring wells.

The EPA has proposed to remediate the worst areas of contamination first at this

site, and propose to defer remediation of contaminated soils which do not pose an immediate threat to human health and the environment to a second phase of corrective action which will begin after the free petroleum product has been recovered from the groundwater.

The list of constituents to be monitored consists of all contaminants that have been detected at the facility. The Groundwater Protection Standards listed in permit are based on the federal drinking water standards (MCLs), or, if MCLs do not exist, on EPA's human health based levels and the State of Alaska groundwater criteria for drinking water aquifers. The groundwater protection standards in the permit are targets and not final cleanup levels. The final cleanup levels will be determined at a time in the future when the determination is made that the cleanup has been completed, using the applicable agency guidelines and standards in effect at the time. The final cleanup standards will consider not only the health-based levels for each constituent, but will consider the additive effect of all constituents, and will be based on a level for the total mixture of contaminants that is protective of human health and the environment, according to the standards in effect at the time the determination is made that cleanup is complete.

The permit contains performance standards which will be used to measure the effectiveness of the corrective action program. These standards specify that all contaminated groundwater must be captured and that the corrective action program must demonstrate adequate progress. Adequate progress is defined as continuing declining levels of hazardous constituents in all wells designated in the permit as monitoring points. Capture is monitored at approximately 200 locations, and declining levels of constituents are monitored at 75 monitoring points. These monitoring wells are sampled and water quality and water levels determined on a quarterly schedule.

In addition to the quarterly monitoring for the known contaminants, the permit requires Tesoro to sample certain wells, located in areas where contamination is expected to be the highest and the most easily detected, for all constituents found in Appendix IX of 40 C.F.R. Part 264, a complete list of all hazardous constituents, as defined by federal hazardous waste regulations, found in groundwater. If any constituents are detected during this annual sampling and analysis that haven't previous been detected, they are required to be added to the quarterly monitoring program.

The corrective action requirements in this permit include a dispute resolution procedure. Under this procedure, changes to the corrective action programs are not processed as permit modifications, but are considered enforceable permit conditions after approval by the Agencies. This provision applies only to the corrective action specifications in Part III of this permit, and is meant to expedite the cleanup process by allowing the facility the latitude to do what is necessary to achieve the cleanup and performance standards. Modification to the cleanup

standards must be made through a permit modification, which will provide an opportunity for public comment.

#### E. PERMIT ORGANIZATION

The permit is divided into five parts and four attachments, as described below:

Part I	Standard Conditions
Part II	General Facility Standards
Part III	Corrective Action Program
Part IV	Corrective Action Monitoring Program
Part V	Compliance Monitoring Program

Attachment A	Part A Application (dated 5/10/2006)
Attachment B	Part B Application (dated 5/10/2006)
Attachment C	Sampling and Analysis Plan (dated 5/10/2006)
Attachment D	Corrective Action Program Plan (dated 5/10/2006)