DEQ SITE ASSESSMENT PROGRAM - STRATEGY RECOMMENDATION

Site Name:	Texaco Bulk Plant – Klamath Falls
Site CERCLIS Number:	N/A
DEQ ECSI Number:	2931
SAPS Score/Priority:	87/High
Site Address:	2450 Altamont Drive, Klamath Falls, OR NE ¼ of the SW ¼ of Section 3, T39S, R9E
Recommendation By:	Dan Crouse, Project Manager, Site Assessment Section, DEQ Eastern Region
Approved By:	Sheila Monroe, Cleanup Program Manager
Date:	October 31, 2006

Background:

The Texaco Bulk Plant – Klamath Falls site is located at 2450 Altamont Drive in Klamath Falls, Oregon (see Figure 1). The Klamath County site is a former bulk petroleum plant and card-lock

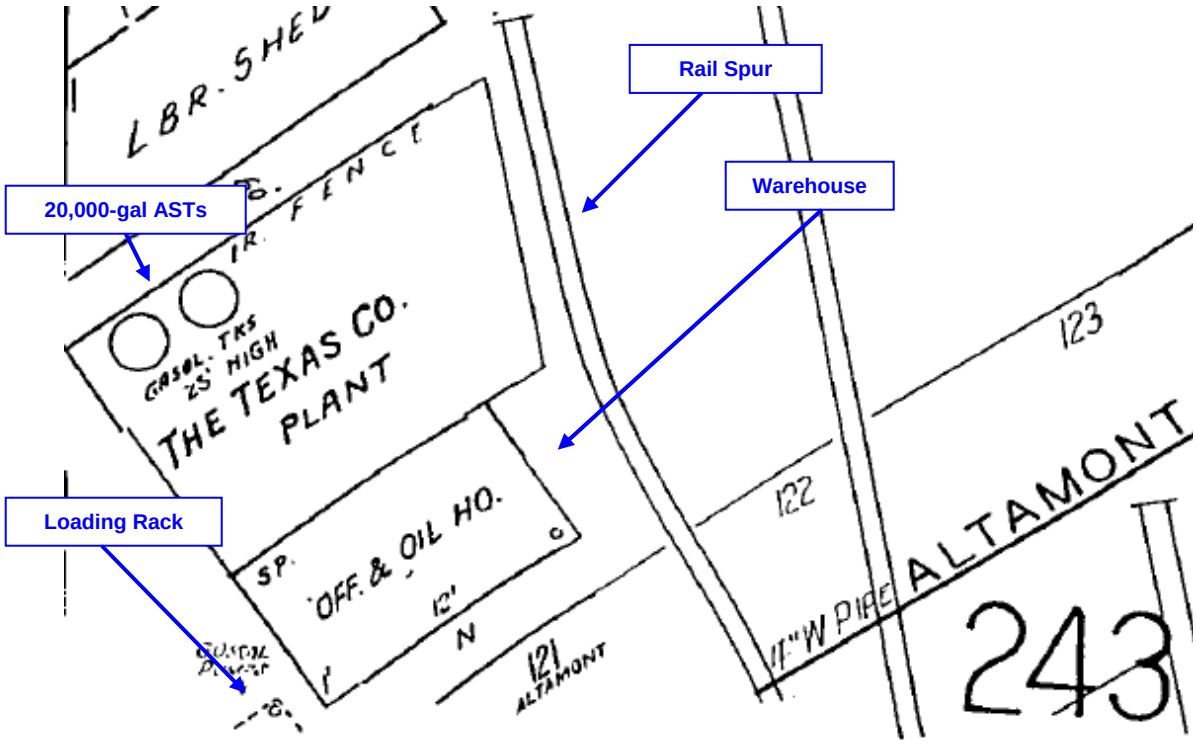
August 8, 2000 photo of the petroleum bulk plant and card-lock fueling facility.

facility that operated for more than 70 years. The bulk plant has been mostly inactive since being damaged by fire during 1999 and the card-lock facility was closed during 2002.

The site was discovered as part of DEQ's Eastern Region Site Assessment (ER/SAS) Bulk Plant Site Discovery project (see Attachment 1).

An Information Request was sent to two former operators on August 15, 2005. Before the evaluation could be completed, soil and groundwater contamination was discovered east and south of the site in the adjacent right-of-ways. The most recent former operator of the bulk plant had discussions with DEQ's Voluntary Cleanup Program (VCP) but decided not to join VCP and the site was reassigned to ER/SAS to complete the site evaluation and ranking.

Site Description/History:

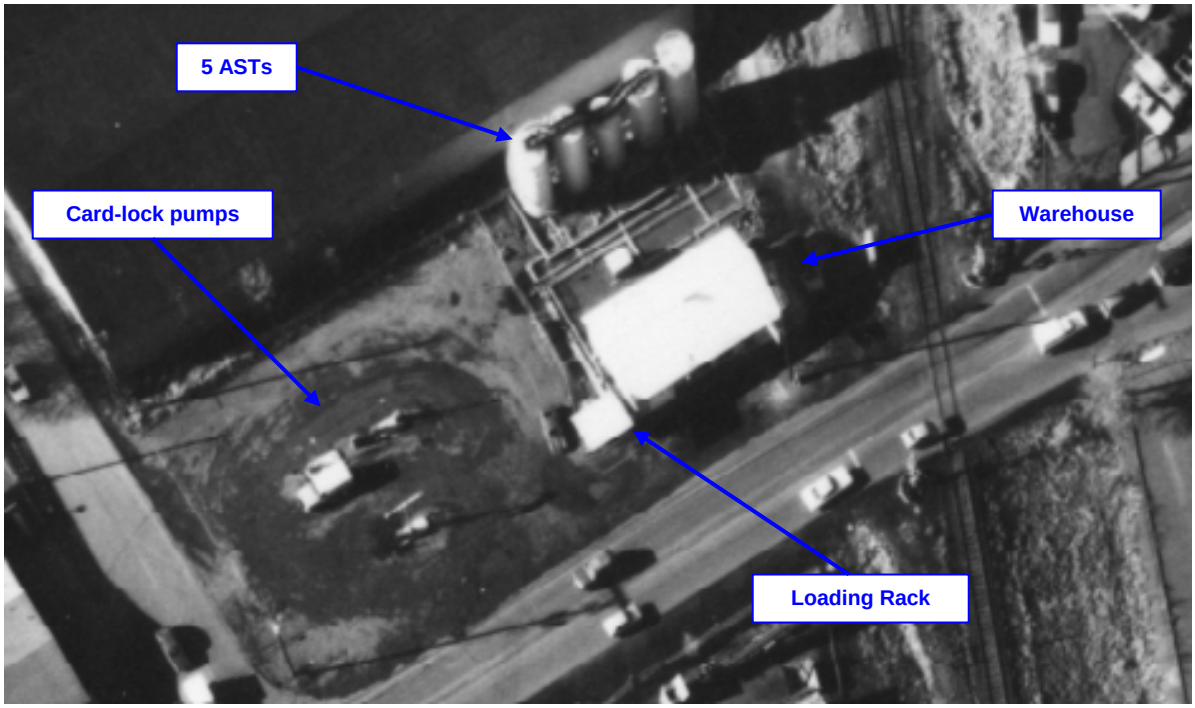


1949 Sanborn map.

The 0.46-acre site is in an area of mixed industrial, commercial, residential, and recreational use. The property is bordered by a former rail line that has been converted into a public hiking trail to the north, by Crosby Avenue and commercial/residential property to the south, by a former storage building to the west, and by Altamont Drive and a highway maintenance facility to the east. The site is relatively flat and mostly native vegetation or gravel surface.

The bulk plant portion of the site was active from at least 1926 to 1999 and has been inactive or used for storage from 1999 to present. The card-lock facility (consisting of three pump islands) was reportedly added in the 1980s. In general, bulk plants are wholesale distribution facilities for large volumes of liquid petroleum products usually stored on-site in aboveground storage tanks (ASTs) or smaller containers such as 55-gallon drums or 5 to 10 gallon cans.

The earliest Sanborn maps indicate the bulk plant consisted of a warehouse, two 20,000-gallon ASTs, a loading rack, and associated piping. Two more 20,000-gallon ASTs and a 12,000-gallon AST were added over time. The ASTs were most likely filled by rail cars during the early years and the Sanborn maps show a rail spur along the northern border of the site.



December 17, 1986 aerial.

The site, with an AST storage capacity ranging from 40,000 to 92,000 gallons, was likely to have handled well more than a million gallons of fuel during the course of the operation. Releases at bulk plants can occur when tanks are overfilled, hoses are allowed to drain onto the ground, piping joints or valves break or leak, or containers are punctured. In addition to the storage and distribution of petroleum products, other activities that may have resulted in releases include tank cleaning and sludge disposal, AST painting or sand-blasting, and vehicle maintenance (for the delivery vehicles). There are no registered underground storage tanks (USTs) on-site.

The bulk plant was originally owned by the Texas Company, which later became known as Texaco and eventually merged with Chevron. There have been at least two local distributors (also known as wholesalers or jobbers) who have owned and operated the bulk plant. Rod Slade, the most recent bulk plant operator, said he purchased the site from O.C. Webb-Bowen in the early 1990s. Mr. Slade also said the card-lock facility (consisting of three pump islands) was added by Mr. Webb-Bowens during the 1980s. Mr. Slade said he sold the operation to the Rogue Valley Oil Company (RVO) in April 2002 and RVO operated the card-lock facility for a couple months before shutting it down. More information is needed on the site's operational history.

The bulk plant was partially damaged by a fire during late September 1999. The fire was believed to have been started in an adjacent storage shed by a transient and quickly spread to the bulk plant.

According to a local newspaper article (see Attachment 2), the middle three ASTs were destroyed after one containing kerosene apparently exploded, blowing the lid off, and spreading fire to the adjacent diesel and oil ASTs.

Foam was applied to the area as part of the fire-fighting activities and no fuel was released according to Mr. Slade; however, confirmation sampling is recommended for this area. See Attachment 3 for additional site photos.

Right-of-Way Sampling:

Klamath County Public Works hired a local consultant to perform a soil and groundwater investigation during November 2005 after petroleum odors were encountered by City of Klamath Falls workers in a waterline excavation adjacent to the site during August 2005. The consultant used a push-probe to advance 11 borings in the utility trenches and right-of-way along the intersection of Altamont Drive and Crosby Avenue. This is also the approximate area of the eastern and southern borders of the site (the card-lock facility). The sample location map and summary tables are included in Attachment 4.

Petroleum contamination was discovered in soil at approximately 2 and 4 feet below ground surface (BGS) in three borings. Groundwater contamination in boring BH-6 included benzene at 8,230 micrograms per liter (ug/L). The report concluded benzene in groundwater was above risk-based concentrations for excavation workers and the former bulk plant was the most likely source of the contamination.

As a result of the County's findings, Mr. Slade hired a consultant to further investigate the impacted area. The sampling work plan (dated September 26, 2006) was not reviewed by DEQ's ER/VCP since Mr. Slade had not requested DEQ oversight or signed a cost-recovery agreement. The focus of the work plan was the contamination observed in the right-of-way and did not include a complete assessment of the former bulk plant facilities including along the former rail road spur where tanker cars would have filled the ASTs or along the western boundary of the ASTs to confirm no fuel was released as a result of the fire or from more than seven decades of previous use.

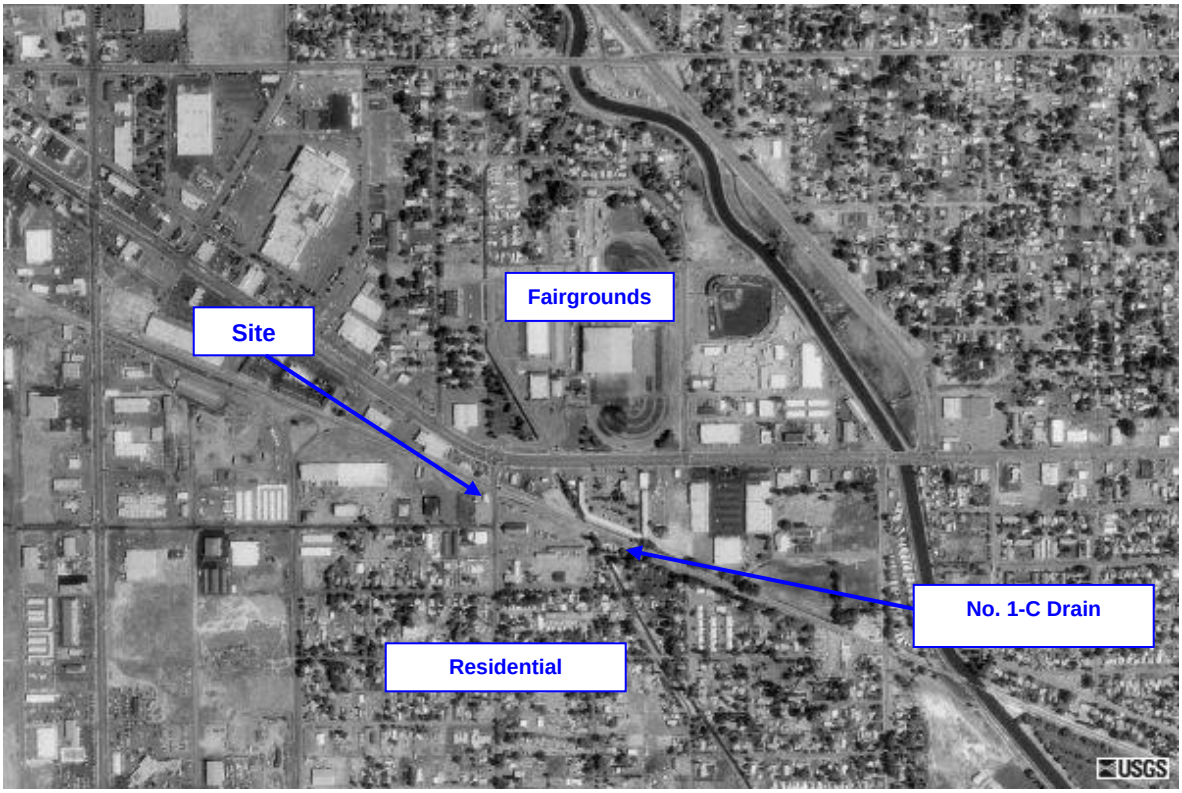
Other Potential Sources:

Mr. Slade did not enter the VCP based on the potential the right-of-way releases could be from a source or sources other than the former bulk plant. Area use was predominately industrial in the early years and there are still nearby facilities that handle or handled petroleum products.

Other potential sources for the right-of-way releases include an active ODOT maintenance facility on the east side of Altamont (ECSI site that had underground storage tanks decommissioned), the former Circle DE facility to the west (with an active cleanup that includes ASTs and USTs), a former service station to the north at the southwest corner of Altamont and 6th that is now a car dealership, an active service station to the north at the southeast corner of Altamont and 6th, or an additional unknown source.

The Klamath County Public Work's consultant estimates groundwater flows to the south/southwest in the vicinity of the site while the Mr. Slade's consultant estimates groundwater flows to the north/northeast or is following a preferential pathway such as a utility trench.

Pathways:



July 28, 2000 aerial courtesy of USGS.

Klamath Falls is south central Oregon's most populated city with more than 30,000 residents and is part of the Klamath Basin, an area with several large lakes, numerous tributaries, and extensive wetlands and marshes. The city water supply comes from deep groundwater wells and the main well field is approximately 2.5 miles northwest of the site. The site is at an elevation of approximately 4,094 feet above sea level. The average annual precipitation for Klamath Falls is 13.47 inches and occurs mostly during the winter months.

Surface Water -The nearest surface water is the No. 1-C Drain, a canal that is approximately 600 feet east of the site and may be connected by storm drains or other piping. The site is subject to periodic flooding and surface water also collects periodically in the depressions along the public hiking trail that was created by construction of the former rail line. Surface water runoff from the site is a pathway of concern.

Soil - Monitoring wells at the nearby ODOT maintenance facility recorded upper layers of silts and sands to a depth of approximately 16 feet BGS (see Attachment 5). The site is mostly gravel or native vegetation. No release has been confirmed at the site, but the potential for direct contact with hazardous substances if a release has occurred, especially in the vicinity of the hiking trail, is a pathway of concern.

Groundwater - Recorded depth to groundwater in the vicinity of the site is very shallow, ranging from 5 to 14 feet BGS. Contaminated groundwater was encountered in the right-of-ways at approximately 7 feet BGS. Most of the area residents are on city water but there is a domestic well on the south side of Crosby Avenue in the Oregon Water Resources Department's GRID database (see Attachment 6). The regional groundwater flow is most likely to the west/southwest and serves as recharge to Lake Ewauna or the Klamath River, major surface water bodies located approximately 1.3 miles from the site.

Air – Releases to soil and groundwater have been confirmed in the right-of-ways adjacent to the site and the potential for inhalation of contaminated dust is a pathway of concern, particularly to users of the hiking trail as well as the potential for vapor intrusion in nearby buildings.

A public hiking trail is next to the site (8/10/00 photo).

<u>Recommendation/Action</u>:

The Site Assessment Program has reviewed the file information relating to this site, conducted limited interviews, and site drivebys. The site was used as a petroleum bulk plant for more than 70 years and was used a card-lock fueling facility for at least 10 to 15 years. The site is currently inactive since being partially damaged by a fire in 1999 but the warehouse may be used for storage. The bulk plant had an initial AST storage capacity in the range of 40,000 gallons and a final AST storage capacity in the range of 92,000 gallons. It is likely more than a million gallons of fuel were received and distributed during the decades of operation, most of which occurred prior to formal environmental rules. Other areas of concern include the loading rack, filler stems, indoor and outdoor drum storage areas, potential waste disposal areas (such as tank sludge), and the loading dock.

The site is a high priority for assessment based on the long-term use as a petroleum bulk plant in the close proximity of a public hiking trail and a registered drinking water well. Additional sampling is also required to determine if the confirmed release to soil and groundwater in the right-of-ways immediately east and south of the site is related to former operations at the site. ER/SAS recommends that the potentially responsible parties (PRP) be given the option to join DEQ's Voluntary Cleanup program (VCP) or wait for DEQ to complete the assessment under the authority of the Site Response Section, where work is conducted under an enforcement order.

The site is not recommended for DEQ's Confirmed Release List or Inventory at this time.

References:

Investigation of Subterranean Conditions in Area of Right of Way for Corner of Altamont Drive and Crosby Avenue prepared for Klamath County Public Works by Environmental Consulting & Assessment, Inc. (EC&A) dated 12/27/05.

Soil and Groundwater Assessment Work Plan, Altamont Bulk Plant by Environmental Management Services, Inc. (9/26/06).

DEQ databases (ECSI, HW, LUST, UST, SW, WQ, and AQ).

Oregon Water Resources Grid (http://apps2.wrd.state.or.us/apps/gw/well_log) database for well logs.

Klamath Falls Community Profile, prepared by Oregon Economic Development Department.

Referrals Within or Outside DEQ:

The site has not been referred outside of DEQ.