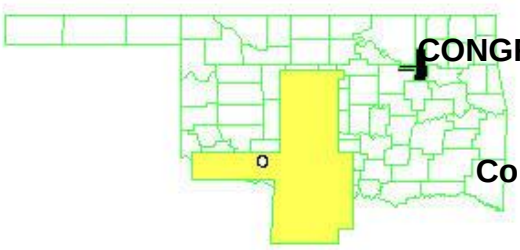
SAND SPRINGS PETROCHEMICAL COMPLEX (TULSA COUNTY) OKLAHOMA



EPA REGION 6
CONGRESSIONAL DISTRICT 01

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EPA ID# OKD980748446
Site ID: 0601357

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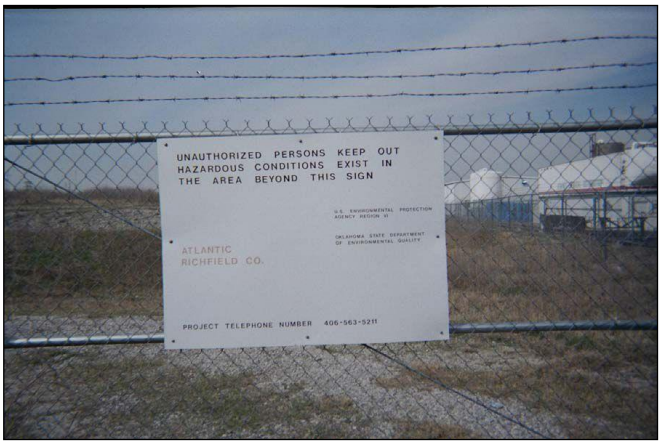
Background

The Sand Springs Petrochemical site is located approximately 1 mile south of downtown Sand Springs, Tulsa County, Oklahoma. The site is located on the north bank of the Arkansas River and covers approximately 235 acres.

The site was the operating location of the Pierce Petroleum Refinery from the early 1900's to 1930, and the Sinclair Refining Company from 1930 to 1948. In 1948, the refinery was shut down and was subsequently dismantled. All remaining operations ceased in 1952. By October of 1953, Sinclair had conveyed all but approximately 38 acres of the refinery property to the Sand Springs Home. Since 1953, a variety of industries leased or purchased property from Sand Springs Home. In 1969, Sinclair merged with ARCO and the 38-acre tract of land was absorbed in the merger.



Several solvent and oil recycling facilities operated on a 5.5-acre portion of the Sand Springs site from 1964 through 1983. This 5.5-acre area is referred to as the Glenn Wynn area. Two unlined pits, numerous tanks and drums, and contaminated soils from accidental spills remained on site from the previous recycling operations. In December 1980, EPA and state agencies became concerned about the possible contamination at the site. Over the next 3 years, water and soil samples were collected and analyzed to determine any potential risks to human health or the environment. The Sand Springs site was officially added to the NPL in June 1986.

In August 1984, EPA ordered the emergency removal of contained drums and tanks from the Glenn Wynn portion of the site. The removal action was completed in 1987. EPA subsequently divided the site into two operable units, the Source Control Operable Unit, OU 01, which included all waste pits and contaminated soils, and the Main Site Operable Unit, OU 02, which included ground water. The Record of Decision (ROD) for OU1 was published on September 29, 1987. The ROD for OU 02 was published on June 28, 1988.

For OU1, The Atlantic Richfield Petroleum Products Company, a division of Atlantic Richfield Company (ARCO), one of the potentially responsible parties (PRP) for the site, made written and oral proposals for a

privately financed remedy for the site. The EPA accepted this remedy provided that the effectiveness of the proposal was adequately assured or that ARCO would undertake the corrective actions deemed appropriate by the EPA if the ARCO proposed remedy failed. The ROD included the following in the description of the remedy:

- Excavation and off-site thermal destruction of sludges, from the portion of the site identified as the North and South Glenn Wynn Lagoons.
- Solidification and/or stabilization of all remaining sludges and containment of the resulting matrix in a hazardous waste cell to be constructed on-site;
- Repair or restoration of the landfill to ensure no migration from the unit or destruction or treatment of all or a portion of its contents, as EPA shall deem appropriate, if the monitoring should show that the solidification and/or stabilization remedy has failed.

For the Main Site OU2, the ROD stated that in EPA's judgment, No Action (monitoring following the Source Control Remedial Action) met the statutory selection criteria. The ROD listed the following requirements in the description of the remedy:

- Place appropriate warning signs;
- Restrict access; and,
- Collecting and analyzing ground water for a period of at least 30 years.

A Superfund Remedial Action was implemented for the site and was completed in 1995. The site was delisted from the NPL in 2000. The remedial action involved excavation of petroleum waste material, stabilization/solidification of the waste, and placement of approximately 180,000 cubic yards of stabilized material in an on-site landfill.

In May 2001, a "tar-like" sludge material was observed on the north bank of the Arkansas River. This material appeared to be associated with the former Sinclair Refinery, and was exposed by erosion in a feature along the north bank of the Arkansas River. A work plan was prepared to conduct an investigation of the materials and was implemented in June 2002. A Work Plan was developed and a removal action was initiated in 2004 to excavate and remove observed sludge material along the banks of the Arkansas River. The removal action was competed in 2006.

Current Status

During routine O&M in June 2001, seeps of black sludge were observed near the former acid sludge disposal pit along the bank of the Arkansas River. An investigation of the seeps was conducted in June 2002 by ARCO, with EPA performing oversight. Several seeps were observed at the site; some seeps appeared to have flowed to the surface, while others were exposed as layers of contamination along the cut bank. Test pits excavated near the former sludge pit encountered significant sludge and contaminated soil at depths to approximately 14 feet below ground surface. ARCO estimates an additional 5,000 cu. yds of such material may be present. There is also some concern with the stability of the riverbank in this area. The shoreline is being eroded along this portion of the river, as significant erosional features were observed. In November 2002, ARCO submitted an assessment report and analytical results for the test pit investigation, along with a recommendation for cleanup. In August 2004, EPA and ARCO signed an agreement requiring ARCO to initiate removal activities for contaminated soils along the Arkansas River. Removal activities were initiated in October 2004 and were completed in January 2006. ARCO submitted a report to EPA on March 28, 2006, which documents all of the removal activities. EPA approved this

report on April 27, 2006.

EPA initiated a Third Five Year Review process in August 2009. The Third Five Year Review Report was completed on July 20, 2010, and the remedy was found to be protective of human health and the environment.

EPA completed a review of the current institutional controls at the site in May 2011. The current local city ordinances and state requirements are sufficient for protection of human health and the environment. Therefore, while no institutional controls were mentioned in the two Record of Decision documents for the site, no additional institutional controls are warranted. Changes in land use, city ordinances, and state requirements will be reviewed in each future Five Year Review to determine if they still provide adequate protection of human health and the environment.

Benefits

The cleanup at the Sand Springs Petrochemical Complex mitigated environmental risks from 208,000 cubic yards of contaminated soils, sludge, concrete and debris by placing it in a RCRA Title C on-site landfill, and made several miles of the Arkansas River safer for recreation uses.

The site is suitable for certain types of redevelopment.

National Priorities Listing (NPL) History

NPL LISTING HISTORY
Site HRS Score: 28.86
Proposed Date: 9/08/83
Final Date: 6/10/86
NPL Update: No. 1

Site Description

Location: The site is at the location of the Old Sinclair Refinery in Sand Springs, west of Tulsa, Tulsa County, Oklahoma, adjacent to the Arkansas River.

Population: The population of the greater Tulsa metropolitan area is 376,000; the population of Sand Springs is approximately 15,000.

Setting: Nearest residence is within 1/2 mile.
Drinking water wells in use are within 1/2-mile of site, although upgradient.
The site encompasses approximately 200 acres and includes 2 unlined acid sludge pits (about 10 feet deep), and an abandoned solvents and waste oil recycling facility.

Photos: **March 2005**

Geology: The Sand Springs Superfund site is underlain by approximately 30 feet of sand, which is underlain by shale.
Shale thickness appears to exceed 100 feet.
An alluvial aquifer beneath the site appears to flow toward the Arkansas River.

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