Public Comment Period for Remedial Investigation of Occidental Chemical Corporation

Remedial Investigation Available for Review

Occidental Chemical Corporation (Oxy) investigated contamination at their Tacoma site. The investigation was overseen by the Washington Department of Ecology (Ecology) and the US Environmental Protection Agency (EPA). The Site is located at 605 Alexander Avenue in Tacoma, WA. A draft report, called a Remedial Investigation (RI) is available for public review.

This Fact Sheet:

- Summarizes the report findings.
- Announces a public comment period for the report.
- Provides background information about the site.

Contamination at the Site

There are hazardous substances in the groundwater, soil, and sediment at the Site. The contamination is from historical operations and waste disposal practices on the property. Oxy and past owners and operators of the Site contributed to the contamination. Past owners and operators include Hooker Chemical, Pioneer Americas, the US Navy, US Defense Plant Corporation, and Todd Shipyards. Past activities at the site include chemical manufacturing, shipbuilding and dismantling, collecting and incinerating shipyard wastes, and land-filling of some of these wastes at the Site by the US Navy.

City-supplied drinking water is safe to drink. Site contamination doesn't affect public drinking water. If you have a private well nearby, please contact Tacoma-Pierce County Health Department at (253) 798-6470 for more information.

What's in the Report?

The purpose of the Remedial Investigation is to:

- Describe the contamination of soil, sediment, and groundwater at the Site.
- Evaluate the environmental risks posed by the contamination.
- Provide information to develop and evaluate remedial design alternatives to address those risks.

Contaminants

Oxy took over 8,200 samples from site groundwater, sediment, soil, and other environmental factors from about 1,300 locations. Oxy analyzed the samples to determine the impacts from historical operations and waste management practices to the environment. You can see the extent of contamination in Figure 1 on page five. The primary contaminants include:

- Chlorinated volatile organic compounds (CVOC) like PCE and TCE, and associated degradation products
- Sodium hydroxide
- Salt (sodium chloride)
- Metals (arsenic, chromium, copper, lead, mercury, nickel, zinc)
- By-products of chlorinated solvent production
- Poly-chlorinated Biphenyls (PCB)
- Hexachlorobenzene (HCB)
- Dioxins/furans

Soil contamination

CVOCs, hexachlorobenzene (HCB), PCBs, and metals are present in Site soil. CVOC and HCB are found on Site and beneath the Hylebos Waterway. There are PCBs and metals impacts primarily along the embankment.

Sediment contamination

The sediments in the Hylebos Waterway are contaminated with PCE, HCB, HCBD, PCBs, pesticides, and metals. Contaminants are found in sediments along the embankment near the western shore. PCE and HCB/HCBD are also found in sediment below the navigable channel.

Groundwater contamination

The groundwater is contaminated with CVOCs, dense non-aqueous phase liquid (DNAPL) consisting of concentrated PCE and TCE, and elevated pH. The CVOC plume extends to the north from below the Site to the northern end of the peninsula and under Commencement Bay, and to the east below the Hylebos Waterway. The plume gets deeper as it extends away from the Site. The depth of the CVOC plume extends to 160 ft below sea level. The pH plume is mostly below the Site, but does extend to the north under the peninsula and to the west under the Hylebos Waterway. The depth of the pH plume extends to 100 ft below sea level. Other contaminants including HCB, PCBs, and metals were found in groundwater, but in localized areas.

Past and Current Cleanup Work

Several cleanup activities have been done to address soil, groundwater, and sediment contamination at and near the Site. Activities include:

- Soil Removal after TCE/PCE Process Decommissioning
  - Oxy excavated and disposed of contaminated soils after decommissioning the former solvent plant in 1979. The area was backfilled with clean soil.
- Waste Management Units (WMUs)
  - Soils were removed at a number of WMUs to reduce continued contamination to Site groundwater.
- Groundwater Extraction and Treatment System
  - Groundwater has been removed and treated from 25 extraction wells since 1996. The groundwater is treated by the on-Site groundwater treatment plant and then discharged to the Hylebos Waterway under permit.
- Area 5106 Sediment Removal Action
  - Sediment from the Hylebos Waterway near the Oxy site containing elevated chlorinated organic chemicals were dredged, treated, and dewatered from 2002 to 2003. Oxy removed over 36,000 cubic yards of contaminated sediments from the Waterway. These soils were then treated to reduce organic contaminant mass. Treated sediments were disposed in the Slip 1 Confined Disposal Facility west of the Blair Waterway.
- Hylebos Sediment Cleanup
  - Following the Area 5106 Removal Action, Oxy and the Port of Tacoma jointly completed additional dredging in parts of the Hylebos Waterway. Sediment cleanup work was generally completed within the navigation channel.

Site Background

The Site is located in the Tacoma tide-flats. It is in an industrial area surrounded by properties owned and operated by Oxy and the Port of Tacoma (POT). The peninsula where the Site is located extends into Commencement Bay at the mouth of the Puyallup River Valley. The Hylebos Waterway forms the eastern boundary of the Site.

Site History

- Prior to1920: The Site was undeveloped tidal mudflats.
- 1920-1936: The Site area was filled with dredge material as part of an upland expansion project.
- 1929-2002: The Site was used by

Occidental Chemical Corporation and its predecessors to make chemicals. Other owners and operators on Site during this period include the US Navy, US Defense Plant Corporation, Todd Shipyards, and Pioneer Americas.
    - Primary products include: chlorine and chlorinated solvents (TCE and PCE), caustic soda, ammonia, calcium chloride, and muriatic acid. These chemicals were used for the paper industry.
    - Other activities on Site include: ship-building and dismantling and chemical manufacturing.
- 1988-2004: EPA conducted a RCRA Facility Investigation and later activities to investigate the Site.
- 2005: Ecology and the EPA issued a Statement of Work for the Administrative Order on Consent. These documents guide Site investigation activities.
- 2006-2008: OCC demolished former manufacturing facilities.
- 2005-Present: OCC conducted numerous investigations to assess impacts to on-Site and off-Site soil, groundwater, sediment, and soil vapor.

Impacts of Contamination

Occidental submitted a risk assessment that has not been formally approved by Ecology. The risk assessment predicts possible affects to the environment or people and is referred to in the draft RI. Ecology will work with a contractor, Ridolfi Environmental, to further evaluate risk as the cleanup process moves forward.

Chemicals could enter the body three ways: breathing, touching, or swallowing. This is referred to as exposure. See Figure 2 on page six for an illustration of potential exposure pathways.

Based on the current risk assessment, there is no direct risk of exposure to the public. Cleanup workers at the site follow a site safety plan developed and overseen by Oxy and its contractors. The plan limits the workers' direct contact with contaminated soil, groundwater, and sediment, or breathing in indoor air at the Site and at the neighboring Port of Tacoma property. Air samples taken in the buildings in and near the site showed CVOC levels below industrial standards. This means, in an industrial setting, potential exposure is below a level that would pose a risk to adult humans.

People that consume resident fish and shellfish from the Hylebos may have an indirect risk of exposure. Ecology is addressing this indirect risk and will keep the public updated. Find more information about healthy fish consumption at Washington Department of Health's webpage: http://www.doh.wa.gov/CommunityandEnvironment/Food/Fish. Shellfish harvesting is closed in Commencement Bay due to pollution. Find out more by visiting Tacoma-Pierce County Health Department's Safe Shellfish program: http://www.tpchd.org/environment/surface-water-lakes-beaches-shellfish/safe-shellfish-program/.

We'd Like to Hear From You

Ecology welcomes your comments on the draft RI. We will consider and respond to all comments before making the RI final. Send your comments to:

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The comment period on Oxy's RI runs from October 23, 2016 through February 1, 2016.

Informational Meeting

We invite you to learn more about the RI findings and the next steps in the cleanup process. Join us at:

Date: October 28, 2015
Time: 6:00-8:00 p.m.
Location: The Center at Norpoint, Room 102
4818 Nassau Ave NE
Tacoma, WA 98422

Public Hearing

Date: January 30, 2016
Time: Open house 9:30am, hearing begins 10:30am
Location: The Center at Norpoint
4818 Nassau Ave NE
Tacoma, WA 98422

Next Steps

Once the public comment period for the RI ends, we will review and respond to all comments. Based on the comments, we may modify the documents. If there are significant changes, we will hold another public comment period. If there are no significant changes, the document will be finalized. The completion of the RI is an important step. It allows work to begin on a Feasibility Study that will lead to the selection of the final cleanup actions for the Site.

Contacts

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Project websites
www.ecy.wa.gov/programs/hwtr/cleanupsites/Occidental/index.html

Accessibility:

To request ADA accommodation including materials in a format for the visually impaired, call Ecology at 360-407-6700. Persons with impaired hearing may call Washington Relay Service at 711. Persons with speech disability may call TTY at 877-833-6341.

Figure 1: Extent of contamination at the Occidental Site.

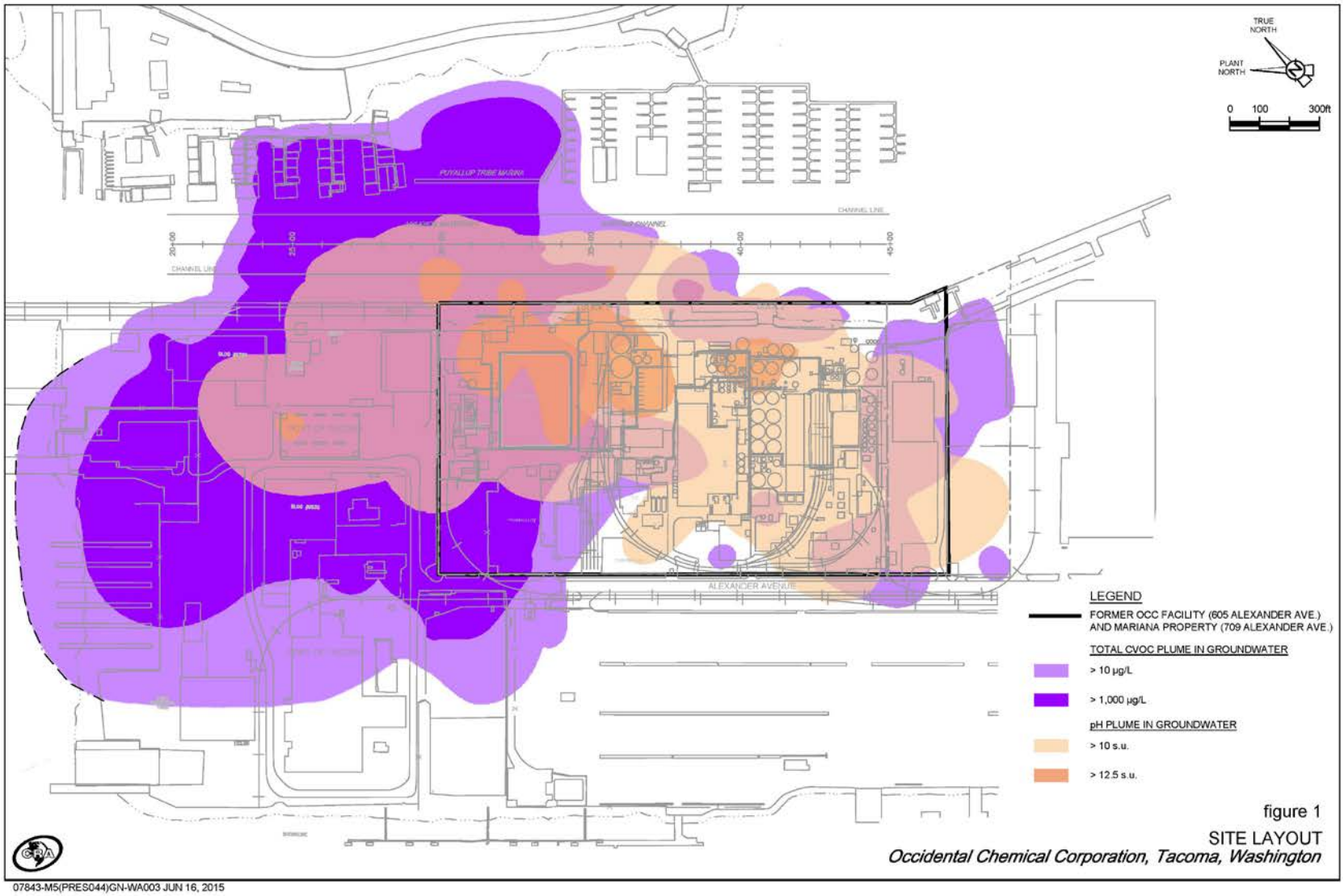

Figure 2: Potential exposure pathways of the Occidental Site.