

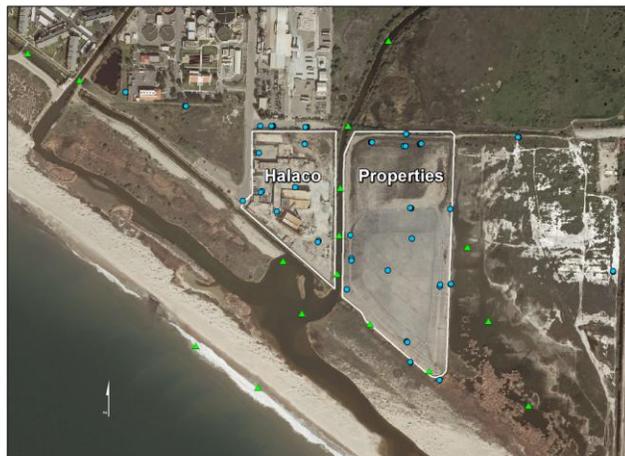


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
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March 15, 2012

Halaco Superfund Site: EPA testing results for groundwater and surface water at the Halaco Site in Oxnard, California

The attached report provides testing results for groundwater and surface water at the Halaco Superfund Site in Oxnard, California. The report includes a description of the testing effort, a tabular summary of results, and figures depicting selected results. The testing is part of the remedial investigation (RI) performed by the U.S. Environmental Protection Agency (EPA) for the Halaco Site. Halaco operated an aluminum and magnesium smelter from 1965 to 2004.



Testing

Between 2009 and 2011, EPA and its contractors installed groundwater monitoring wells and “piezometers” at 31 locations, collected groundwater samples for laboratory analysis at more than 40 locations (shown by blue dots in figure), and collected and analyzed water samples from the Oxnard Industrial Drain (OID), Ormond Beach lagoon, and other surface waters at 19 locations (see green triangles in figure). The information was needed to better understand the movement, nature, and extent of groundwater and surface water contamination at the Site.

All samples were analyzed for aluminum, magnesium, and other metals, and most samples were analyzed for radioactive thorium and radium. Some samples were analyzed for volatile and semi-volatile organic compounds, total petroleum hydrocarbons (TPH), and total organic carbon (TOC).

Findings - Groundwater

Based on the testing, and previous studies by EPA and others, EPA has concluded the following.

- Groundwater occurs beneath the Halaco properties in two distinct layers. The shallower layer, known as the “Semi-perched aquifer,” extends to a depth of about 90 feet below ground. The deeper layer, known as the “Oxnard aquifer,” is separated from the Semi-perched aquifer by a 30-foot thick layer of clay and silt (an “aquitar”) that limits the movement of groundwater between the two aquifers.
- Halaco discharged wastewater at the Site from about 1965 to 2002, contaminating shallow groundwater in the “Semi-perched aquifer.” The contamination extends to Perkins Road to the west, to the Nature Conservancy property to the east, and downward to the top of the aquitar.

The northern and southern extent of contamination has not been determined. The primary contaminants are metals, chlorides, and ammonia.

- Even without Halaco's impact, the quality of the groundwater in the Semi-perched aquifer is poor, making it unsuitable for drinking or irrigation.
- Halaco's operations have had little or no impact on the deeper Oxnard aquifer, which is used as a source of drinking in the region. Since the early 1990s, water in the Semi-perched aquifer has, on average, been at lower pressure than water in the underlying Oxnard aquifer, reducing the risk that groundwater in the Semi-perched aquifer has moved or will move downward and harm the Oxnard aquifer.
- Groundwater in the Semi-perched aquifer generally moves northward across the Site. Its movement is affected by surface water levels in the OID, Ormond Beach lagoon, and Nature Conservancy properties, and a groundwater "sink" to the north of the Halaco properties.

Findings – Surface Water

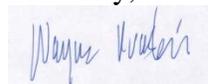
- The size and configuration of the OID and Ormond Beach lagoon have varied over the past century. The lagoon increased in size in the early 1990s after manual breaching of the naturally-occurring coastal sand berm ceased.
- During the summer dry season, water levels in the OID and lagoon are high and surface water slowly seeps through the coastal sand berm into the ocean. In winter months, the sand berm breaches, water levels decrease, and seawater moves in and out of the lagoon and OID.
- Halaco's wastes currently have little or no effect on water quality in the OID and lagoon, but degraded water quality in the past when Halaco discharged wastewater at the Site.

Next Steps

EPA will work with the California Regional Water Quality Control Board and the Department of Toxic Substances Control (DTSC) to determine whether contaminated groundwater at the Site requires remediation. EPA will also consider the need for additional groundwater testing to better define the northern extent of groundwater contamination, conduct a formal "feasibility study" comparing cleanup options and develop a proposal for any needed groundwater cleanup. EPA will seek and consider public input as it evaluates cleanup options and develops its cleanup proposal.

If you have comments or seek additional information, please contact me at 415-972-3181 or praskins.wayne@epa.gov. Additional information is also available at <http://www.epa.gov/region9/halaco>

Sincerely,



Wayne Praskins
EPA Project Manager

Enclosure ("Surface Water and Groundwater Sampling and Analysis Results, Halaco Superfund Site Remedial Investigation," March 2012)