McColl Superfund Site

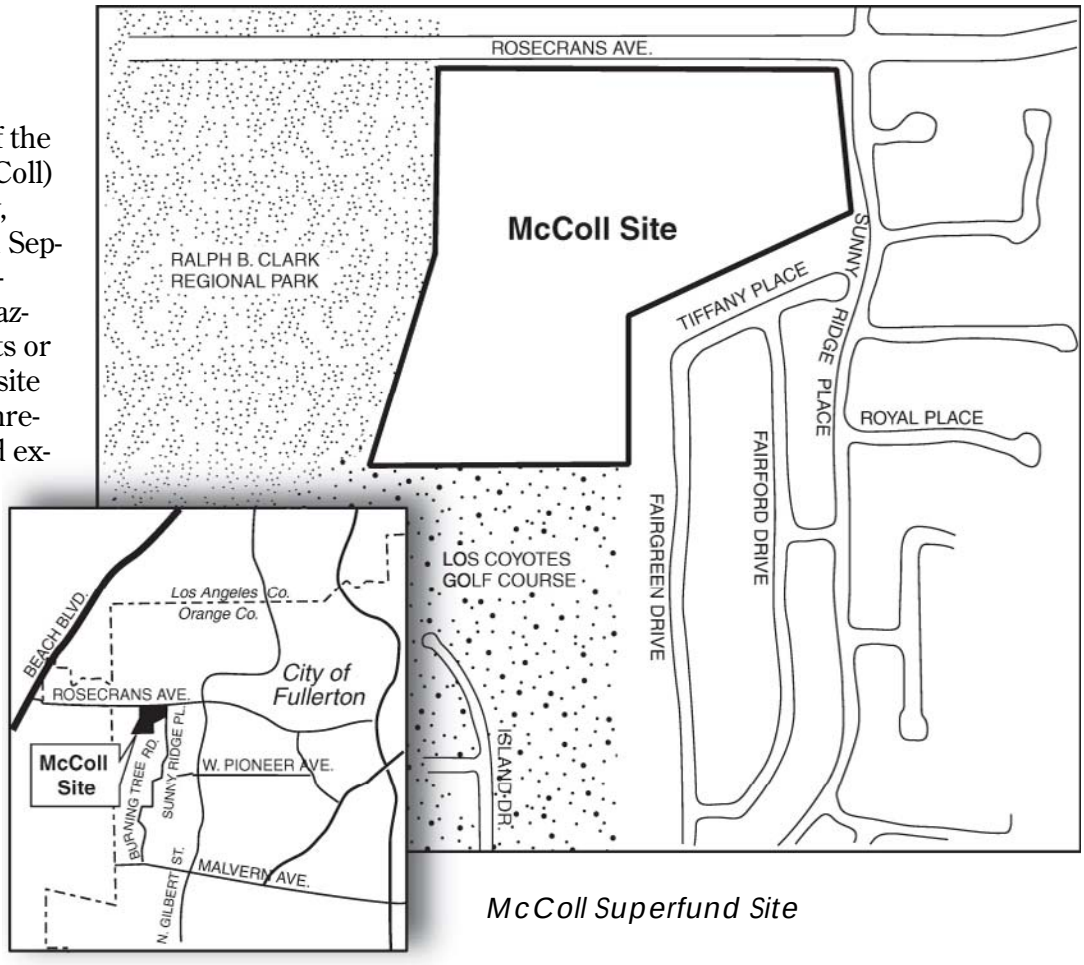
U.S. Environmental Protection Agency $ Region 9 $ San Francisco, CA $ June 2008

FIVE-YEAR REVIEW COMPLETE

The United States Environmental Protection Agency (EPA) announces the completion of a Five-Year Review for the McColl Superfund Site located in Fullerton, Orange County, California. This fact sheet presents the Five-Year Review process; the Review findings, conclusions and recommendations; and additional information, including site contacts.

Five-year Review Process

A Five-Year Review (FYR) of the McColl Superfund Site (McColl) in Fullerton, Orange County, California, was completed in September 2007. The FYR is required due to the fact that hazardous substances, pollutants or contaminants remain at the site above levels allowable for unrestricted use and unrestricted exposure. The purpose of the FYR was to evaluate whether the remedial actions implemented at the site remain protective of human health and the environment.



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From March 2007 through September 2007 the following components of the FYR Process were performed:

Document Review

The types of documents reviewed included decision documents; risk assessment documents; operation, maintenance and monitoring annual data reports; routine site inspection forms; technical memoranda; and other supporting materials.

Data Review/Analysis

The following data were reviewed and evaluated for the period since the first FYR, which was completed in 2002: cap settlement, gas collection and treatment system (GCTS) operation, and groundwater levels, gradients, and chemistry. The principal contaminants of concern are: benzene, tetrahydrothiophenes (THTs), and metals.

Site Background

From 1942-1946, the 22 acres comprising what was to become the McColl Superfund Site were a disposal area for petroleum refinery waste. During that period, 12 unlined pits or sumps were dug and filled with an estimated total of 72,600 cubic yards of waste.

At the time that the waste pits were created, the local area was sparsely populated, but development from the late 1950s to the 1970s encroached on the site. Over time, some of the waste constituents leached from the sumps into underlying shallow groundwater and moved downgradient from the sumps. Other waste constituents moved to the surface in minor seeps.

The site initially was brought to the attention of regulatory agencies as a result of odor and health complaints received from residents beginning in July 1978. The site was formally placed on the Superfund list in 1982.

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Regulatory Review

A review of applicable or relevant and appropriate requirements (ARARs) was conducted. Only those ARARS that address risks posed to human health or the environment were reviewed. Several changes in both State and Federal regulatory standards were noted. The only contaminant of potential concern with a change in regulatory standard is arsenic (the current MCL is 0.01 mg/l, reduced from 0.05 mg/l in January 2006). No changes to the existing ARARs affecting the protectiveness of the remedy were identified.

Site Inspection

A site inspection was conducted on March 29, 2007 in order to evaluate the ecological risks posed by the site. On May 15, 2007, the review team visually inspected and documented the conditions of the site, the remedy and the surrounding area for inclusion into the second FYR.

Interviews and Community Notification

Community interest in the site has waned since the completion of the construction of the remedy. Interviews conducted by EPA with the on-site remedy manager, the golf course maintenance manager, the State of California Department of Toxics Substances Control (DTSC) representative and the U.S. Army Corps of Engineers (USACE) site representative all indicated that there had been no inquiries regarding the site from community members. In addition, EPA has not received any inquiries from citizens regarding the site since the release of the Explanation of Significant Differences to the Record of Decision in 2005.

Site Remedy Elements Under Review

The McColl Superfund site remedy was constructed under the authority of two Records of Decision (ROD). The first ROD included:

1. constructing a multi-layer cap over the untreated sumps to prevent infiltration of water, and a gas collection and treatment system to prevent the release of hazardous air emissions
2. building subsurface cut-off slurry walls around the sumps to prevent migration of water into the waste and outward migration of contaminated water and gas
3. stabilizing steep slopes on the site with retaining walls
4. monitoring groundwater

The second ROD, for groundwater, was directly linked to the construction of the first ROD, and added a requirement that infiltration of water into the ground be reduced through:

1. redirecting surface water off the site
2. grading areas adjacent to the containment system
3. lining on-site drainage channels with low permeability materials

Additional components of the remedy beyond physical construction include institutional controls and long-term monitoring. McAuley LCX, the property owner, agreed to no further development of the site property, and to recording a deed restriction on the Los Coyotes and Ramparts sump areas. This deed restriction runs with the land and is binding on any potential future owner. Operations and maintenance of the cap and slurry wall, gas collection and treatment system, and site security are necessary in perpetuity.

Five-year Review Results

The second FYR evaluation indicated that the remedy is functioning as intended – a conclusion that was also reached in the first FYR (2002). The gas collection system is currently operating effectively in the passive-active mode. Vapor analytical results confirm that off-gas generation is well below regulatory-required levels for contaminants of concern. Cap settlement monitoring results have not been updated since 2002; however, there were no observable problems with settlement at the time of the May 15, 2007 site inspection.

Maintenance of the cap, cut-off slurry wall and slope retention components of the source remedy has generally been adequate, with minor exceptions such as inhibited grass cover growth over one sump in each of the Ramparts and Los Coyotes cap areas.

Groundwater monitoring results also indicate the remedies together are functioning as intended. The source remedy is an integral component of the groundwater remedy. Recent groundwater hydraulic data suggests a reversal of the infiltration and recharge conditions described in the first FYR.

Currently, measures to inhibit surface water recharge to perched groundwater outside the capped areas, particularly in the B zone (perched groundwater beneath the site that produces little water), appear to be working, as lower water levels have been observed in these shallower units. In the deeper units, the slightly higher groundwater elevations observed in late 2004 to 2005 are likely a result of increased infiltration caused by above average precipitation in 2004-2005.

Groundwater volatile organic compound chemical data indicate that no benzene has been detected off-site in any water-bearing zone. Additionally, THTs, which are no longer trigger chemicals for active groundwater remedial action or institutional control implementation, have only been detected at very low levels.

Protectiveness Statement

The overall remedy at the McColl Superfund Site for both the source area and groundwater is protective of human health and the environment, and exposure pathways that could result in unacceptable risks are being controlled. The remedy is expected to continue to be protective for the foreseeable future.

All immediate threats have been addressed adequately, and issues related to the operation and maintenance of remedial actions will and should continue to be addressed and resolved as they appear. Between finalization of this second FYR and the next scheduled review, routine operation and maintenance (O&M) will continue for components of both the source area and groundwater. Routine groundwater hydraulic and chemical monitoring will ensure that contaminants in excess of the MCLs do not migrate off-site to potentially threaten regional groundwater supplies.

No water supply wells are currently impacted by site-related contamination, nor are they likely to be impacted during the next review period, given the low concentrations of THTs and non-detections of benzene in off-site monitoring wells, and the large distance between the site and the closest regional water supply wells.

Site Background

(Continued)

Since 1982, various investigative and removal actions were conducted to characterize the nature and extent of source and groundwater contaminants, and to minimize or eliminate immediate threats to human health and the environment. A number of cleanup remedies were proposed and rejected, including excavation and removal, excavation and incineration, and in-ground solidification.

A contingency remedy for the waste pits source area was identified in the June 30, 1993 ROD. EPA added a separate groundwater ROD on May 15, 1996. After evaluating its 1997 inspection, on June 30, 1998, EPA signed the Superfund Closeout Report for the site, which officially ended the construction and testing phase and began operation and maintenance of the remedy in perpetuity.

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