

Motorola 52nd Street Site Characterization, Groundwater Modeling, Vapor Intrusion Assessment, and Remedy Effectiveness Evaluation

Phoenix, Arizona

CLIENT

NXP USA, Inc.

HIGHLIGHTS

- EPA Superfund Site
- Contaminants of concern: VOCs, TCE, PCE, DNAPL
- Evaluated remedy effectiveness in achieving remedial objectives
- Reporting to ADEQ and EPA
- Soil-gas, sub-slab, and indoor air sampling for vapor intrusion

Motorola 52nd Street Superfund Site is an area of groundwater impacted with chlorinated solvents in east-central Phoenix, Arizona with a plume that extends westward along the north side of Phoenix Sky Harbor Airport. Contamination of volatile organic compounds (VOCs), including trichloroethylene (TCE) and tetrachloroethene (PCE) and dense non-aqueous phase liquid (DNAPL), is co-mingled from multiple sources, and the site has been divided into three Operable Unit segments. Clear Creek Associates, a wholly owned subsidiary of Geo-Logic Associates, is NXP's prime consultant overseeing multiple remediation activities throughout the Motorola 52nd Street Superfund Site, including the Operable Unit 1 (OU1) Area.

Clear Creek personnel conduct ongoing groundwater monitoring and sampling activities at numerous groundwater monitor well locations and use the available data to evaluate the effectiveness of the OU1 groundwater remedy in achieving remedial objectives. After evaluating the results, Clear Creek prepares an annual monitoring and effectiveness report for the Arizona Department of Environmental Quality and U.S. Environmental Protection Agency (EPA) that includes a description of groundwater monitoring and remediation activities conducted during the annual reporting period, results of water quality samples collected and water level elevations measured during the reporting period and historical trends, results of soil vapor monitoring, and an assessment of the overall effectiveness of the OU1 groundwater remedy with respect to hydraulic containment of contaminated groundwater. Work includes routine groundwater and soil vapor monitoring, remedial performance evaluations, and development of a Remedial Investigation/Feasibility Study (RI/FS) for a final groundwater remedy.

Clear Creek prepared an EPA-approved work plan and conducted a Soil Gas to Indoor Air Vapor Intrusion (SG-AVI) Evaluation in accordance with an Administrative Order on Consent with the EPA to determine the potential for vapor intrusion into facilities, evaluate the

potential pathways, and assess the indoor air concentration as to whether it posed a health risk to workers. Assessment included soil-gas, sub-slab, and indoor air sampling at residential, commercial, and school facilities throughout the area, in accordance with the work plan and guidelines established by the Department of Toxic Substances Control and EPA Office of Solid Waste and Emergency Response. Clear Creek also oversaw implementation of 16 vapor mitigation systems. Ongoing work includes indoor air testing to monitor the effectiveness of the vapor mitigation systems and SG-AVI evaluations at additional buildings at the former Motorola 52nd Street facility that are being sold off and re-developed, and regular reporting. We completed a field-scale pilot test of an in-situ remedy utilizing liquid activated carbon and bio-augmentation to reduce groundwater concentrations to potentially minimize the soil-gas to indoor air pathway in a residential area.



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