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PROJECT DESCRIPTION

IN-SITU CHEMICAL OXIDATION

Activated Persulfate Treatment of Methylene Chloride Plume Chemical Plant in Los Angeles County, CA

INTRODUCTION

MEC^X, LLC (MECX) recently performed an in-situ chemical oxidation (ISCO) application at a former chemical plant located in Los Angeles County, CA. Release of methylene chloride from a leaking UST caused extensive soil and groundwater contamination at the site. After six years of operating a soil vapor extraction and pump and treat system, the soil and groundwater was close to attaining closure from the Los Angeles RWQCB. However, the discovery of additional contamination under the building led to an evaluation for a technology that could quickly attain closure of the site. ISCO was chosen because of its rapid cleanup timeframe and its cost effectiveness. Catalyzed hydrogen peroxide followed by activated sodium persulfate was selected as the ISCO technology of choice.



SITE CONDITIONS

The target groundwater remediation zone was located beneath the building at depths from 40 to 48 feet below grade surface (bgs). The groundwater dissolved plume included about 1,600 square feet under the building and another 800 square feet outside the building footprint. Lithology of the impacted zone consisted primarily of silty clays interbedded with narrow stringers of silty sand. A total of 23 application wells were installed at the site (16 inside the building) with an estimated radius of influence of 8-12 feet. Logistical challenges included use of angle wells to minimize disruption of business activities and working inside an active facility.

REMEDIATION EFFECTIVENESS

Early results indicate that ISCO reduced methylene chloride levels by 94% to 97% within 61 days following treatment. The most significant reduction was observed in well MW-9A, with a decrease from 15,000 ug/l to 18 ug/l. Based on these successful results, closure of the site is being pursued from the Los Angeles RWQCB.

