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September 4, 1996
Project No. 04-40-0086

Ms. Florence Ann Connors
Executor for the Estate of Josephine A. Dibble
1658 Del Dayo Drive
Carmichael, California 95608

**Subject: SUPPLEMENTAL INVESTIGATION AND TIER 2 RISK ASSESSMENT
WORK PLAN**
Joe Sio Chevrolet
914-916 San Pablo Avenue
Albany, California

Dear Ms. Connors:

BSK & Associates is pleased to submit the following *Supplemental Investigation and Tier 2 Risk Assessment Work Plan* (work plan) for the Joe Sio Chevrolet site located at 914-916 San Pablo Avenue in Albany, California. In order to expedite case closure, this supplemental investigation and risk assessment were requested by the Alameda County Health Care Services (ACHCS) during a meeting between Ms. Juliet Shin and Mr. Tom Peacock of ACHCS and Ms. Flo Ann Connors and Mr. Michael Olden. This work plan was requested during a July 30, 1996 telephone conversation between Juliet Shin and Mr. Khaled Rahman (BSK & Associates).

BACKGROUND

Documents

The following site-specific documents were reviewed during preparation of this work plan.

Burlington Environmental Inc., 1994. *Quarterly Groundwater Monitoring Report, Second Quarter 1994*. Joe Sio Chevrolet, 914-916 San Pablo Avenue, Albany, California. STID-3808. May 31, 1994.

Philip Environmental Services Corp., 1995. *Quarterly Groundwater Monitoring Report, Second Quarter 1995*. Joe Sio Chevrolet, 914-916 San Pablo Avenue, Albany, California. STID-3808. May 15, 1995.

Philip Environmental Services Corporation, 1996. *Semi-Annual Groundwater Monitoring Report - March 1996*. Joe Sio Chevrolet, 914-916 San Pablo Avenue, Albany, California. STID-3808. May 2, 1996.

Site Description and Previous Work

This site is an operating car dealership located on San Pablo Avenue, near the Solano Avenue intersection in Albany, California. Two 550-gallon underground storage tanks were removed from the site on March 20, 1989 by Petroleum Engineering, Inc. One underground storage tank contained gasoline and was located beneath the sidewalk between a former building and San Pablo Avenue (see Figure 1). The other underground storage tank contained used oil and was located adjacent to the southwestern corner of the former building (see Figure 1). Soil samples collected from beneath the former gasoline tank and the excavated soil stockpile contained concentrations of total petroleum hydrocarbons as gasoline (TPHg) of 1,300 milligrams per kilogram (mg/kg) and 370 mg/kg, respectively. Soil samples collected from beneath the former used oil tank and the excavated soil stockpile did not contain detectable petroleum hydrocarbons, except for trace concentrations of toluene and total xylenes (Aqua Terra Technologies [ATT], August 22, 1990). As a result of the petroleum hydrocarbons encountered beneath the former gasoline tank, ACHCS requested additional investigation and remediation at the site.

In 1991, three groundwater monitoring wells were installed at the site by ATT (see Figure 1). During well installation, groundwater was first encountered at depths between 15 and 23 feet below ground surface (BGS). During subsequent monitoring events the depth to water has been between 5 and 12 feet BGS. In March 1996, groundwater flowed toward the south-southwest.

Previous groundwater analytical results have indicated, (1) moderate concentrations of TPHg, benzene, toluene, ethylbenzene, and total xylenes (BTEX) in samples collected from well MW-1, (2) low and generally decreasing concentrations of several chlorinated hydrocarbons in samples from well MW-2, and (3) no detectable petroleum or chlorinated hydrocarbon concentrations in samples from well MW-3. Unfiltered groundwater samples from each well have contained concentrations of lead, and well MW-3 has also contained concentrations of cadmium, chromium, nickel and zinc. Analysis of filtered groundwater samples indicates that where detected the dissolved concentrations of these five metals are well below drinking water standards.

In correspondence dated November 9, 1993, ACHCS requested quarterly monitoring and sampling of site wells. In correspondence dated February 27, 1996, ACHCS approved modification of the schedule to quarterly water-level surveys with semi-annual groundwater sampling.

SCOPE OF WORK

The following scope of work is based on discussions with ACHCS and Ms. Flo Ann Connors.

Task 1 - Project Preparation

Necessary permits will be obtained from Alameda County Flood Control District 7. Materials and equipments will be acquired and subcontractors will be retained to perform the sampling activities. This task includes the preparation of this work plan and a site-specific health and safety plan. Site activities will be scheduled and coordinated to reasonably minimize the impact on business activities at Joe Sio Chevrolet.

Task 2 - Utility Clearance

Prior to sampling activities, the three boring locations will be marked with white paint. Underground Service Alert will be contacted to mark utility lines in the vicinity of the site. In addition, a geophysical services subcontractor will survey the locations for underground obstructions.

Task 3 - Field Investigation

Soil and groundwater samples will be collected from three locations using a Geoprobe rig. The three borings will be located (1) between well MW-1 and the showroom building, (2) between well MW-1 and the southern property boundary, and (3) adjacent to well MW-2 (see Figure 1). Due to access restrictions, Geoprobe hand tools will be used to sample the boring adjacent to well MW-2.

In each boring, soil samples will be collected at five foot intervals until groundwater is encountered. Upon encountering groundwater, a section of slotted polyvinyl chloride will be placed in the boring and groundwater samples will be collected. During sampling activities, total volatile organic compounds will be field screened using a photoionization detector or flame ionization detector.

Prior to and following use, equipment entering each boring will be decontaminated by steam cleaning or detergent wash/tap-water rinses. Soil and water produced during site activities will be temporarily stored onsite in Department of Transportation approved containers.

Task 4 - Sample Analysis

The soil sample with the highest field screen reading from each boring will be submitted for analysis. Selected soil samples will be analyzed for TPHg using United States Environmental Protection Agency (EPA) Method modified 8015, and BTEX using EPA Method 8020. In addition, the selected soil sample from the boring adjacent to well MW-2 will be analyzed for chlorinated hydrocarbons using EPA Method 8010. Similarly, groundwater samples from each

boring will be analyzed for TPHg using EPA Method modified 8015 and BTEX using EPA Method 602, and the groundwater sample from the boring adjacent to well MW-2 will be analyzed for chlorinated hydrocarbons using EPA Method 601. Samples will be analyzed at BSK & Associates' California-certified hazardous materials testing laboratory in Fresno, California.

Task 5 - Tier 2 ASTM Risk Assessment

Following supplemental investigation activities, BSK & Associates will conduct a Tier 2 health risk assessment. Risk assessment activities will include (1) reviewing background reports, supplemental investigation data, and published data to estimate site-specific parameters (e.g., concentrations of constituents of concern, moisture content, organic carbon content, annual rainfall, points of exposure), (2) conducting risk assessment using available analytical data set for benzene, toluene, ethylbenzene, and total xylenes using the RBCA Toolkit prepared by Groundwater Services Inc., of Houston, Texas. The RBCA Toolkit is based on ASTM guidance document E-1739-95. Health risk will be evaluated for commercial/industrial exposure with an excess cancer risk target levels of 1×10^{-5} and a hazard quotient of 1.

Task 6 - Supplemental Investigation and Tier 2 Risk Assessment Report

The supplemental investigation and risk assessment findings will be combined into one document. The report will be signed, and stamped by a California-registered geologist.

PROJECT SCHEDULE


Barring changes in scope and unforeseen circumstances, BSK & Associates anticipates conducting field investigation activities within two weeks of approval of this work plan. BSK & Associates anticipates submittal of the final report to Alameda County Health Care Services within six weeks of completion of the field investigation activities.

CLOSURE

BSK & Associates looks forward to working with you on this project. If you have any questions or comments, please do not hesitate to call me at (510) 462-4000.

Sincerely,

BSK & ASSOCIATES


Khaled Rahman, R.G., C.H.G.
Senior Hydrogeologist

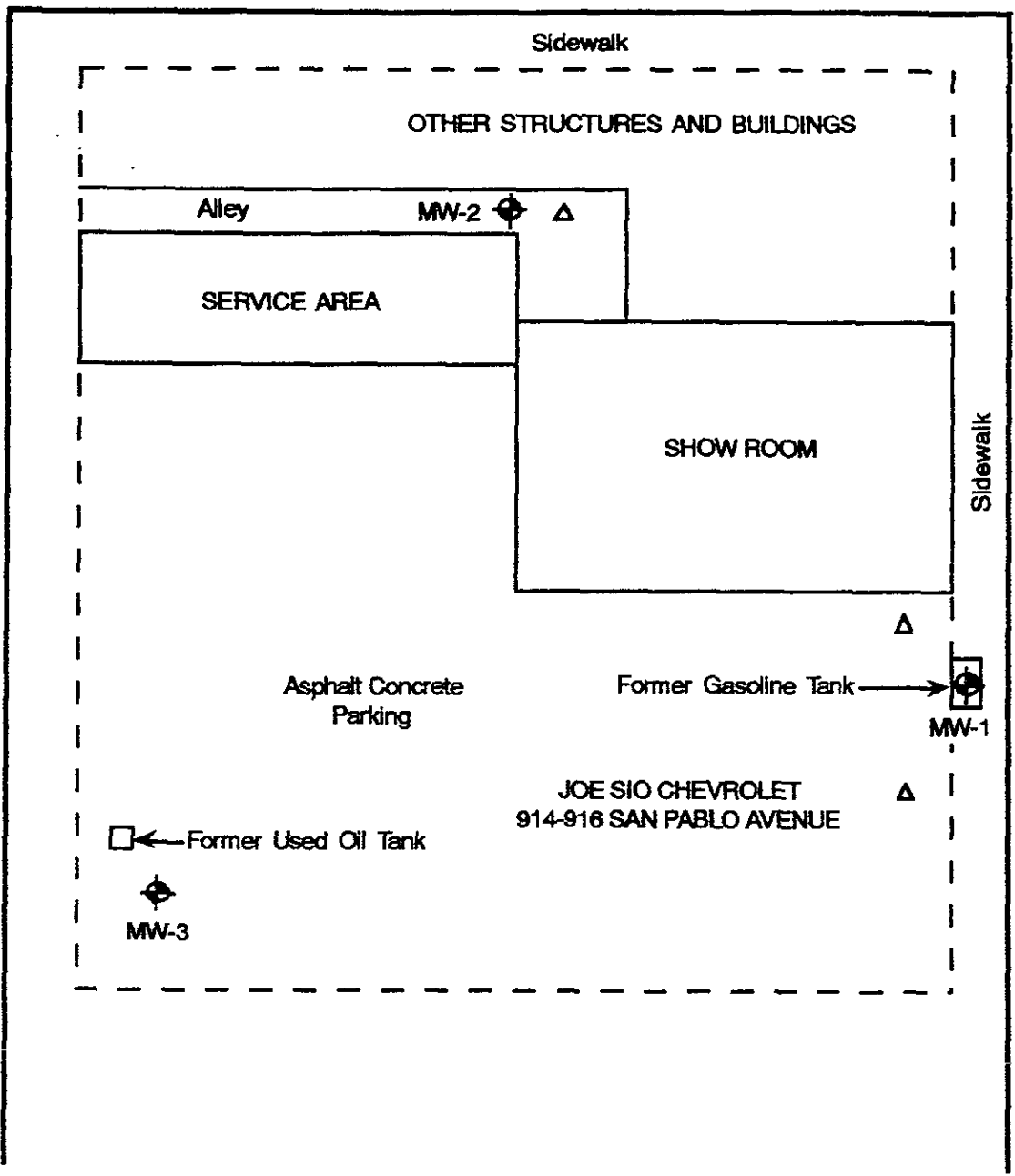
Attachment: Figure 1 - Site Plan

cc: Ms. Juliet Shin, ACHCS (via facsimile and U.S. Mail)
Jay Labadie

SOLANO AVENUE

ADAMS STREET

SAN PABLO AVENUE



⊕ Groundwater Monitoring Well Location

△ Proposed Soil and Groundwater Sampling Location



Joe Sio Chevrolet
914-916 San Pablo Avenue
Albany, California

SITE PLAN

Job No. 04400086

FIGURE: 1

BSK
& ASSOCIATES

ENVIRONMENTAL
PROTECTION
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