RO-402

AC Transit

Alameda Contra Costa Transit District

Suzanne Patton, P.E.
Environmental Engineer
(510) 577-8869
February 4, 2003

Ms. eva chu
Alameda County Health Division
Division of Environmental Protection
Department of Environmental Health
1131 Harbor Bay Parkway, Second Floor
Alameda, CA 94502

Dear Ms. chu:

Subject: Workplan for Subsurface Investigation – Define Extent of Hydraulic Oil
AC Transit, 1177 47th Street, Emeryville

AC Transit hereby submits the enclosed investigation workplan for the AC Transit facility located at 1177 47th Street in Emeryville. The workplan was prepared by our consultant, Cameron-Cole, LLC, and presents a summary of interim remedial measures conducted at monitoring well MW-13. The workplan also contains proposed scope of work to further define the extent of hydraulic oil in the ground as a result of an apparent leak from a hydraulic hoist in the facility's Tire Shop.

add BTEX

The field work will consist of drilling six soil borings, four of which will be located along Doyle Street, just outside the yard's west wall. A fifth soil boring will drilled in the Tire Shop and a sixth boring will be drilled near the 550-gallon emergency generator diesel fuel underground storage tank. All field work should be completed in one day. The soil sample collected from the boring near the tank will be analyzed for total petroleum hydrocarbons ad diesel and gasoline. All other samples will be analyzed for total petroleum hydrocarbons as hydraulic oil.

The results of the field work (soil boring logs, monitoring well logs and the laboratory results) will be included in the next quarterly groundwater monitoring report for the site. If you have any questions regarding this workplan, please call me at (510) 577-8869.

Sincerely,

Suzanne Patton

Suzanne Patton, P.E.
Environmental Engineer

enclosure

RG-402

WORKPLAN
FOR SUBSURFACE INVESTIGATION
AT THE AC TRANSIT 1177 47TH STREET FACILITY
EMERYVILLE CALIFORNIA

Prepared For:
Ms. Suzanne Patton
AC Transit-Environmental
10626 E. 14th Street
Oakland, California 94603

Prepared By:
Cameron-Cole LLC
101 West Atlantic Blvd.
Alameda, California 94501

January 2003

Brad Wright, RG, CHG
Principal Hydrogeologist
West Coast Regional Manager
510/769-3563

STATE OF CALIFORNIA
REGISTERED GEOLOGIST
#6276
Exp. 9/04
BRADLEY D. WRIGHT
REGISTERED GEOLOGIST

CAMERON-COLE

Introduction

On behalf of AC Transit, Cameron-Cole prepared this workplan to further define the extent of hydraulic oil recently detected in a groundwater monitor well at the AC Transit facility located at 1177 47th Street in Emeryville, California (the site). Alameda County Health Division of Environmental Protection Department of Environmental Health was notified of a release to groundwater by AC Transit in a letter dated November 6, 2002. This workplan presents a summary of interim remedial measures conducted at monitor well MW-13 and includes a proposed scope of work designed to further define the extent of the hydraulic oil leak.

Background

On November 6, 2002, AC Transit submitted a Notification of Release to Groundwater to the Alameda County Health Division of Environmental Protection Department of Environmental Health (Alameda County). During third quarter 2002 groundwater monitoring conducted at the site, an approximate seven-foot free phase product layer was measured in monitor well MW-13. This was the first measurable product layer recorded in this monitor well. Subsequent testing conducted by AC Transit on the hydraulic lift system located in the Tire Shop located near monitor well MW-13, confirmed that one of the hydraulic hoists had leaked. The lift was immediately taken out of service.

On November 13, 2002, Cameron-Cole implemented free product removal in monitor well MW-13. Initially product layer removal consisted of pumping the free phase layer from the well on a daily basis. By November 20, 2002 the layer had been reduced to a sheen (< 0.01 feet). On November 22, 2002 overpurging of the well was initiated in an attempt to depress the water table in the vicinity of the well. The measured product layer has increased slightly since overpurging ranging from 0.01 to 0.36 feet.

Scope of Work

As shown on Figure 1, monitor well MW-13 is located along the western property line of the facility. Well MW-13 monitors groundwater downgradient of the facility, additional subsurface borings installed to further define the extent of hydraulic oil associated with the Tire Shop leak, will be located to the West of the facility along Doyle Street. The investigation will be conducted under the supervision of a California registered geologist.

Prior to initiating subsurface sample collection, the following activities will be performed:

- The site specific Health and Safety Plan will be updated in accordance with California Occupational Health and Safety Administration requirements.
- Underground Service Alert (USA) will be notified of impending activities. Additionally, a professional underground utility locator will clear each boring location.
- Schedule drilling contractors.
- Required permits will be obtained from City of Emeryville and Alameda County Public Works Agency (ACPWA).
- Concrete at each required drilling location will be cored.

Figure 1 shows the location of five borings proposed to further define the extent of hydraulic oil associated with the Tire Shop leak. At the request of Alameda County, a sixth boring has been located downgradient of a previously uninvestigated 550-gallon underground storage tank. At each boring location a continuous soil core will be collected during drilling, selected soil intervals may be submitted for laboratory analysis. Additionally, the soil core will be logged by an onsite geologist in accordance with the Unified Soil Classification System.

If evidence of free phase product is observed in the soil boring, a temporary slotted PVC casing will be installed in the boring and the groundwater/product level will be allowed to stabilize over a few hours. An electronic oil/water interface probe will be used to measure the free phase product thickness accumulated in the temporary PVC casing. If there is no evidence of free

phase product observed during boring installation, a grab groundwater sample will be collected for laboratory analysis of dissolved concentrations of total petroleum hydrocarbons. Soil cuttings and water generated during boring installation will be placed in appropriate containers for storage and disposal in accordance with local, state and federal regulations.

If free phase product is detected in the proposed borings located along Doyle Street, additional soil borings may be installed at downgradient locations. Figure 1 displays three possible contingent downgradient locations. Preliminary findings and revisions to the scope of work (contingent soil borings) will be communicated to Alameda County at appropriate stages to obtain agency concurrence.

If determined appropriate after completing review of data collected during the soil boring investigation, monitor wells may be installed along Doyle Street. The wells will be constructed with two-inch diameter PVC casing. The screen interval will not exceed 15 feet of vertical length. To insure floating hydrocarbon interception, the screen will extend approximately two feet above first encountered groundwater. The sand filter-pack will be installed with tremie pipe from the bottom up and will extend approximately 1.5 feet above the screened interval. A one-foot thick bentonite bridge will be established on top of the filter-pack and the remaining annular space will be sealed with a mix of cement with 5% bentonite. Wells will be protected with a traffic rated vault box set to grade and locking cap. The top of casing elevation of the new monitor wells will be surveyed relative to existing monitor wells. Prior to sample collection, the new monitor wells will be developed by surging the screened interval to promote flow through the filterpack and purging of approximately ten casing volumes of groundwater.

Soil and groundwater samples collected for laboratory analysis will be submitted to a California certified laboratory under chain-of-custody documentation. The samples will be analyzed for total petroluem hydrocarbons as hydraulic oil (TPH_{HO}) using United States Environmental Protection Agency (USEPA) Method 8015 modified. Samples collected from the boring installed in the vicinity of the 550-gallon underground storage tank will also be analyzed for TPH as gasoline and diesel.

Reporting

Soil boring logs, monitor well logs and the laboratory results will be incorporated into the site's first quarter 2003 monitoring report. The report will include a description of the field activities, a site map denoting boring locations and summary table of laboratory analytical results. The results of the investigation will present the known extent of the hydraulic oil in soil and groundwater. If warranted, recommendations for additional data collection or remedial options will be proposed. Copies of laboratory analytical reports and soil boring logs will be provided as an appendix. The report will be reviewed and stamped by a California registered geologist.

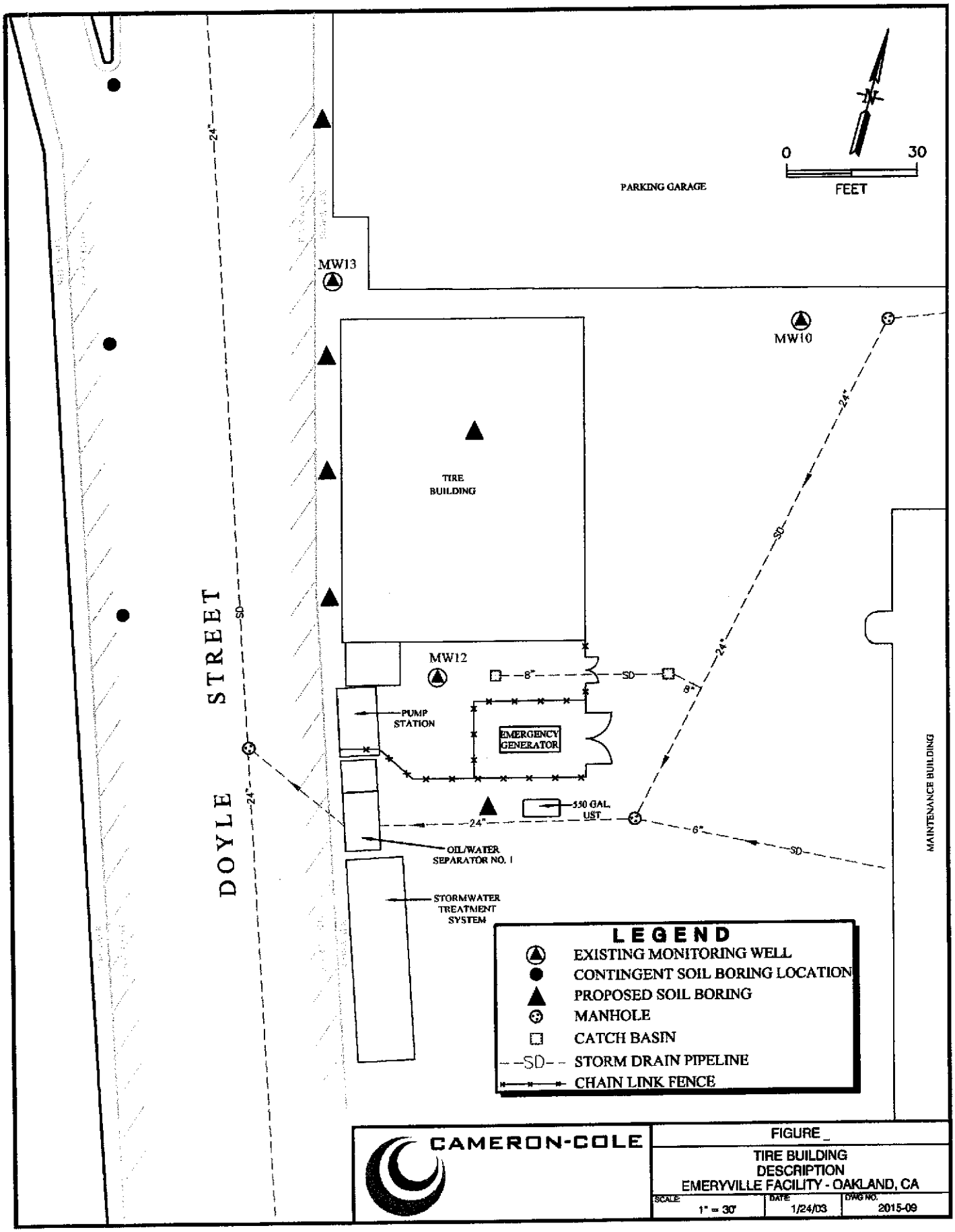

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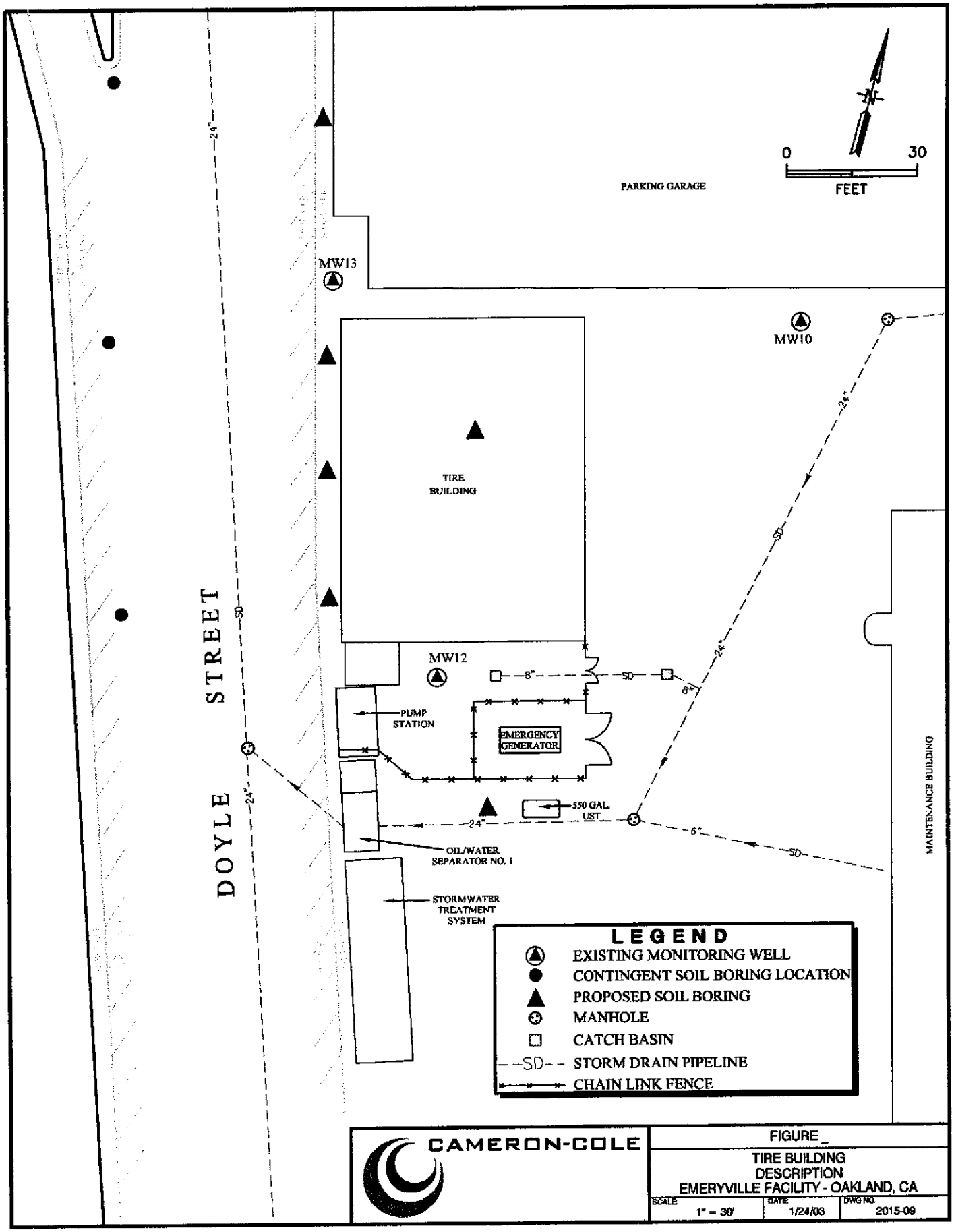
FIGURE _

TIRE BUILDING
DESCRIPTION
EMERYVILLE FACILITY - OAKLAND, CA

SCALE:	DATE:	DWG NO.
1" = 30'	1/24/03	2015-09



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