

ENVIRONMENTAL  
PROTECTION

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*Part of  
original  
work plan*

We're gaining new ground.

February 16, 1999

Ms. Madhulla Logan  
Alameda County Health Care Services  
Department of Environmental Health  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

Subject: Letter Work Plan, Interim/Confirmatory Borings  
Former Chevron Station 9-0260  
21995 Foothill Blvd, Hayward

Dear Ms. Logan:

The following is a letter work plan outlining proposed work for interim/confirmatory borings to ascertain remediation progress at the site.

#### *Background*

Terra Vac was contracted by Chevron U.S.A. to perform soil and groundwater remediation at Chevron Station 9-0260, located at 21995 Foothill Boulevard in Hayward, California. A dual soil vapor and groundwater extraction (DVE) system was installed and operations began in October of 1997. Through November of 1998, approximately 30,000 pounds of hydrocarbons have been removed in the vapor stream; wellhead concentrations have decreased 70-99%; and removal rates have approached asymptotic.

#### *Introduction*

To confirm progress of remediation activities, Terra Vac proposes the installation of three borings/wells at the site. Site lithology generally consists of clayey silts and silty clay to about 15 feet bgs with a 3-5 foot sand unit below that. The DVE wells were installed to

*(925) 858-5146*

target the tight soils above the sand unit, while utilizing existing monitoring wells to remediate the more permeable sand unit.

DVE-17 will be installed midway between MW-6 and MW-4, adjacent to the last location of the underground storage tanks, and screened from about 8-20 feet. DVE-18 is to be located midway between DVE-8 and DVE-9, approximately equidistant from MW-4, MW-7 and MW-5. It will be screened similarly to MW-5 and MW-7, from about 9 to 19 feet bgs through the permeable sand layer. DVE-19 will be installed close to the property line between DVE-8 and Rex Road, approximately midway between MW-7 and MW-8, and screened from about 8 to 18 feet bgs, to the bottom of the more permeable sand zone. Besides evaluating system progress, these locations will provide more complete coverage in areas that had relatively higher concentrations of hydrocarbons.

### *Drilling Protocol*

The boring will be drilled to a minimum depth of 18 feet below grade, to the bottom of the sandy layer, using a truck mounted drilling rig and 8-inch hollow stem augers. A Terra Vac geologist will collect and log soil samples every five foot of depth.

Soil cuttings will be placed on visqueen and disposed of by another Chevron contractor. Decon water will be drummed, labelled, and left onsite to be properly disposed of by a Chevron subcontractor.

### *Soil Samples*

Soil samples are collected through the hollow stem of the auger. A California modified split spoon sample barrel, lined with three two-inch diameter brass sleeves, is lowered to the bottom of the borehole and advanced 18 inches into undisturbed sediments. Driving is accomplished with a 140 pound hydraulic hammer and the blows required are recorded.

Upon retrieval of the split spoon, the sample barrel is opened and any unusual conditions are noted. A field photoionization detector is used to take readings between the sleeves immediately. Both ends of the middle and third sleeve are sealed with teflon film, capped and further sealed with tape. The two sleeves are then labelled, stored in a zip-loc bag, and placed on ice in a cooler for delivery under chain-of-custody protocol to Sequoia Analytical Laboratory. Each primary sample (middle sleeve) will be analyzed for TPH-g and BTEX and the secondary sample (third sleeve) will be placed on hold.

Soil from the remaining sleeve is then used to characterize lithology at the depth from which the sample was obtained.

*Permits*

Terra Vac will obtain the necessary wells from Alameda County Public Works.

*Reporting*

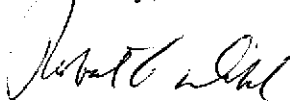
Within thirty days of completion of field work, Terra Vac will produce a report providing well logs, results of soil analyses, and a recommendation for future work.

*Schedule*

We have this work tentatively scheduled for the week of March 8, 1999.

If you have any questions or comments, please call me at (925) 363-7322.

Sincerely,



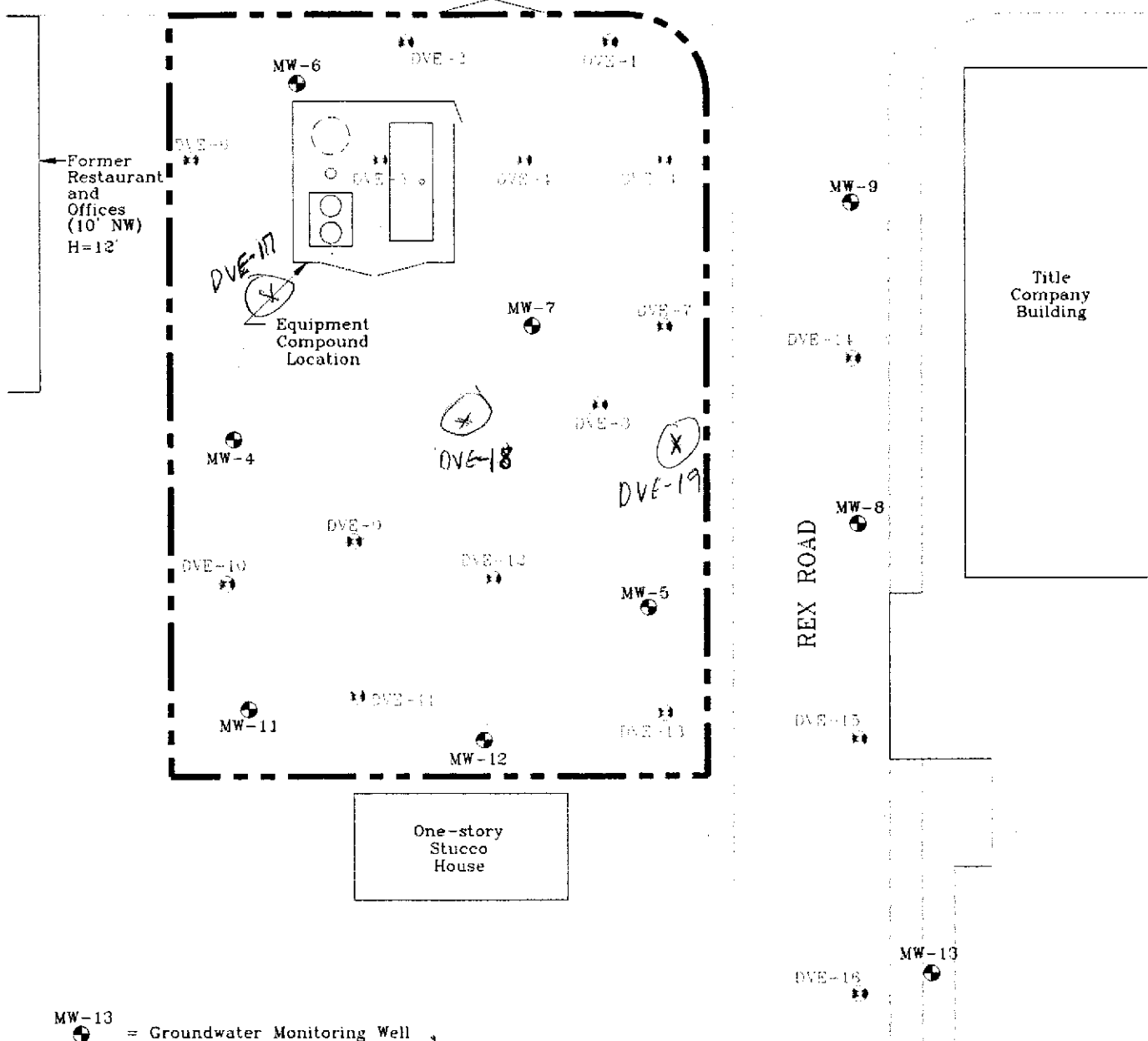
Robert A. Dahl  
Project Manager

cc: Phil Briggs  
Chevron Products Company  
6001 Bollinger Canyon Road  
P.O.Box 6004  
San Ramon, CA 94583-0904

Hugh Murphy  
City of Hayward Fire Department  
25151 Clawiter Road  
Hayward, CA 94545

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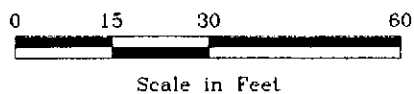
# FOOTHILL BOULEVARD



MW-13 = Groundwater Monitoring Well

(X) = Proposed interim/confirmatory wells

DVE-16 = Dual Vacuum Extraction Well



Site Map  
Former Chevron Station 9-0260  
21995 Foothill Boulevard  
Hayward, California

Project	30-0236	Drawn	JLN
Date	5/13/97	Revision	
Scale	1"=30'	Checked	

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