GERAGHTY
& MILLER, INC.
Environmental Services

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April 22, 1996
Project No. RC0174.003

Mr. Bob Cochran
Chevron Products Company
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San Ramon, CA 94583-0804

(510) 842-9655

SUBJECT: Results of Quarterly Groundwater Monitoring, First Quarter 1996, Lonestar Facility, 333 – 23rd Avenue, Oakland, California.

Dear Mr. Cochran:

This report presents the results of the quarterly groundwater monitoring performed on March 24, 1996, at the facility referenced above (Figure 1). The scope of work for this project was originally presented to Chevron in Task 12 of the Geraghty & Miller, Inc. Budget Modification No. 2 dated May 21, 1993, and extended for quarterly monitoring from January through December 1996 in Tasks 14 and 15 of Budget Modification No. 5 dated December 19, 1995. The monitoring program includes collecting depth-to-water measurements and groundwater samples from all ten wells during the June and December monitoring events and from the downgradient wells only (MW-1, MW-4, MW-7, MW-11, MW-12, and MW-13) during the March and September quarterly monitoring events.

A groundwater extraction and treatment system extracted water from Extraction Wells A and R-2 through September 1, 1994. A product-removal system consisting of passive product skimmers installed in Extraction Wells A and R-2 began operation on September 1, 1994, and operated through October 12, 1995. Oxygen Release Compound (ORC), manufactured by Regenesis, was added to Monitor Wells MW-1, MW-7, MW-9, and MW-10 on March 24, 1996, to enhance biodegradation of petroleum hydrocarbons.

FIELD PROCEDURES

The quarterly groundwater monitoring was performed on March 24, 1996. Depth-to-water measurements were collected from Monitor Wells MW-1, MW-4, MW-7, MW-11, and

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MW-13. Groundwater samples were also collected from Monitor Wells MW-1, MW-4, MW-7, MW-11, and MW-13. The monitor-well locations are shown in Figure 2.

Prior to sampling, depth-to-water and total-well-depth measurements were obtained from each monitor well listed above. Additionally, the wells were checked for the presence of liquid-phase hydrocarbons with an oil/water interface probe. Each well to be sampled was purged of approximately three casing volumes of water, except Monitor Wells MW-7 and MW-11, which yielded less than three casing volumes of water. The equipment that entered the wells was washed in a solution of nonphosphate cleaner and water and then triple rinsed in deionized water prior to sampling each well. Following purging, groundwater samples were collected using a disposable polyethylene bailer, with a new bailer used for each well. The purged water was then treated using the on-site groundwater treatment system and discharged into the sanitary sewer.

Groundwater samples were put into the appropriate USEPA-approved containers, placed on ice, and transported to Sequoia Analytical, in Walnut Creek, California, along with appropriate chain-of-custody documentation. The water samples were analyzed for total petroleum hydrocarbons (TPH) as gasoline (USEPA Method 8015, modified), TPH as diesel (USEPA Method 8015, modified), and benzene, toluene, ethylbenzene, and total xylenes (BTEX; USEPA Method 8020).

A trip blank, consisting of a sample vial containing laboratory-grade water, accompanied the sample vials from the laboratory to the site and back to the laboratory, and was also submitted for analysis. The purpose of the trip blank is to assess whether any of the compounds analyzed for may have been imparted to the samples by air in the vicinity of the sample bottles during shipping, by the sample container, by the preservative, or by other exogenous sources.

RESULTS

SHALLOW GROUNDWATER FLOW

A summary of the depth-to-water data is presented in Table 1. Depth to water ranged from 7.41 feet (Monitor Well MW-4) to 8.46 feet (Monitor Well MW-11) below the ground surface. The well-casing elevations were surveyed on September 26, 1993, by Field Designs relative to City of Oakland Benchmark #3457.

GROUNDWATER ANALYTICAL RESULTS

A summary of the groundwater analytical results is presented in Table 1. Copies of the certified laboratory reports and chain-of-custody documentation are included in Attachment 1. TPH as diesel was reported in all the wells sampled except for Monitor Well MW-13, at concentrations ranging from 80 micrograms per liter [µg/L] (Well MW-11) to 59,000 µg/L (Well MW-1). TPH as gasoline and BTEX were not detected in any of the groundwater samples or the trip blank, with the exception of Monitor Well MW-1 (1,400 µg/L of TPH as gasoline). possibly from TPHd

Geraghty & Miller appreciates the opportunity to be of service to Chevron. If you have any questions regarding this report, please do not hesitate to call us.

Sincerely,
GERAGHTY & MILLER, INC.

Aaron O'Brien
Engineer/Project Manager

Jeffrey W. Hawkins, R.G.
Senior Scientist

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Principal Engineer/Associate
Richmond, California Office Manager

Attachments:

Table 1	Summary of Groundwater Sampling Results
Figure 1	Site Location Map
Figure 2	Site Plan
Attachment 1	Copies of Certified Laboratory Reports and Chain-of-Custody Documentation