GERAGHTY & MILLER, INC.
Environmental Services

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May 24, 1994
Project No. RC0069.007

Mr. Scott Seery
Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

SUBJECT: Scope of Work for Well Redevelopment
Former Chevron Service Station #9-5607
5269 Crow Canyon Road, Castro Valley, California.

Dear Mr. Seery:

Attached is a scope of work prepared by Geraghty & Miller, Inc. (Geraghty & Miller) and submitted on behalf of Chevron U.S.A. Products Company (Chevron) for the former Chevron service station referenced above. The objective of the work plan is to redevelop two existing groundwater monitor/extraction wells at this site to improve the potential extraction rates from these wells. Monitor/Extraction Well RW is currently being used as a groundwater extraction well, and it will be redeveloped to increase the current extraction rate. Monitor Well C-6 will be redeveloped to determine the rate at which this well will produce water during pumping, and then, based on the production rate, consider whether the addition of this well could be beneficial to the current groundwater extraction system. Brief extraction rate tests will be conducted before and after the redevelopment of each well to determine the changes in the potential pumping rates.

If you have any questions regarding this scope of work, please do not hesitate to call myself or Brett Hunter at Chevron.

Sincerely,
GERAGHTY & MILLER, INC.

Paul V. Hehn
Staff Geologist/Project Manager

cc: Mr. Brett Hunter, Chevron U.S.A. Products Company

Attachments: Copy of Scope of Work for Well Redevelopment

GERAGHTY & MILLER, INC.
Environmental Services

May 16, 1994
Project No. RC0069.007

Mr. Brett Hunter
Engineer, Environmental Projects
Chevron U.S.A. Products Company
2410 Camino Ramon
San Ramon, California 94583

SUBJECT: Scope of Work for Well Redevelopment
Former Chevron Service Station #9-5607
5269 Crow Canyon Road, Castro Valley, California.

Dear Mr. Hunter:

Geraghty & Miller, Inc. (Geraghty & Miller) presents this scope of work requested by Chevron U.S.A. Products Company (Chevron) for well redevelopment and extraction rate testing at the Chevron site referenced above. The objective of this work plan is to redevelop two existing groundwater monitor/extraction wells to improve the potential groundwater extraction rates from these wells. Prior to and after the redevelopment of each well, a brief extraction-rate test will be performed to evaluate the success of the well redevelopment efforts. This scope of work was prepared per our discussions and as requested by you during our meeting in the Geraghty & Miller Richmond, California office on April 7, 1994.

SCOPE OF WORK

TASK 1: PRE- AND POST-REDEVELOPMENT BRIEF EXTRACTION RATE TESTS

Prior to and after the redevelopment of groundwater Monitor/Extraction Wells RW and C-6, a brief extraction rate test will be performed on each well. An increase in the extraction rates tested as a result of the redevelopment will indicate if the current extraction rate for Well RW can be increased. The sustainable extraction rate over an approximate 20-minute period of pumping from Well C-6 will determine whether this well may be useful as a permanent addition to the current extraction system. The addition of Well C-6 to the permanent extraction

system may increase the removal of petroleum hydrocarbons from the groundwater and inhibit their downgradient migration.

The brief extraction-rate tests will be completed by inserting a submersible pump into each well to be tested. Groundwater will be pumped from each well at gradually increasing flow rates until either the well runs dry or a sustainable yield from the well is achieved. Each well will be pumped for approximately 20 minutes at each increasing flow rate to measure the sustainable pumping rate in each well. The depth to water in each well will be checked at regular intervals during the extraction process to determine the drawdown level during pumping.

All equipment that enters the wells will be washed in a solution of nonphosphate cleaner and water, and then triple-rinsed in deionized water prior to using it in each well. All water pumped from the wells during the extraction-rate tests will be temporarily stored in 55-gallon drums. After the completion of the tests, all extracted water will be disposed of by processing the water through Chevron's on-site groundwater remediation system.

TASK 2: REDEVELOPMENT OF WELLS

Both groundwater Monitor/Extraction Wells RW and C-6 will be redeveloped using a well redevelopment rig under the supervision of a Geraghty & Miller geologist. Accumulated sediment at the bottom of the wells will be removed using a well development bailer. After sediment is removed, each well will be repeatedly surged using a vented surge block. Following surging, approximately four casing volumes of water will be extracted from the well with the bailer to remove any sediment that may have accumulated in the well during the surging. Additional cycles of surging and bailing will be repeated until relatively clear water results from the redevelopment. The purged water will be monitored by a Geraghty & Miller geologist for temperature, specific conductance, pH, and turbidity. The purged water will be stored onsite in 55-gallon drums prior to disposal. After the completion of the redevelopment, all purged water will be disposed of by processing the water through Chevron's on-site groundwater remediation system.

TASK 3: PREPARATION OF LETTER REPORT

After completion of the well redevelopment and the extraction rate tests, a brief letter report of the activities will be prepared and presented to Chevron. The report will include the following:

- A description of the extraction-rate tests and the well redevelopment;
- A table of the results of the extraction-rate tests before and after redevelopment; and
- A brief discussion of the results of the well redevelopment, and the potential for using Well C-6 as an additional extraction well.

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

Sincerely,
GERAGHTY & MILLER, INC.

Paul V. Hehn
Staff Geologist/Project Manager

Gary W. Keyes, P.E.
Principal Engineer/Associate
Richmond, California Office Manager