Weiss Associates Environmental and Geologic Services

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March 30, 1992

W. F. POSLUSZNY

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Walter F. Posluszny, Jr.
Chevron USA Products Company
P.O. Box 5004
San Ramon, CA 94583-0804

Re: Subsurface Investigation Workplan
Chevron Service Station #9-0260
21995 Foothill Boulevard
Hayward, California
WA Job #4-310-05

Dear Mr. Posluszny:

This letter presents Weiss Associates' (WA) proposed workplan to install one ground water monitoring well and one piezometer downgradient of the Chevron service station referenced above (Figure 1). The objectives of this work are to further assess the extent of hydrocarbons in ground water downgradient of the site and to evaluate what effects San Lorenzo Creek has on the underlying ground water flow direction and gradient. Below is an outline of our proposed scope of work and our estimated time schedule to complete the project.

PROPOSED SCOPE OF WORK

Our proposed scope of work is to:

1) Prepare a site safety plan;

2) Obtain all encroachment and well construction permits and drill two offsite soil borings. Collect soil samples for subsurface hydrogeologic description and for possible chemical analysis;

3) Complete the borings as a two-inch diameter ground water monitoring well and a one-inch diameter piezometer;

4) Develop the monitoring well and collect ground water samples for hydrocarbon analyses;

5) Survey the top-of-casing elevation and horizontal location of the new well and piezometer and determine the ground water flow direction and gradient beneath

the site vicinity;

6) Arrange for disposal of drill cuttings, steam cleaning rinsate and well purge water; and

7) Report the results.

Each of these tasks is described in detail below.

TASK 1 - PREPARE A SITE SAFETY PLAN

WA will prepare a site-specific safety plan based upon the site history, previous work and analytic results for soil and water samples collected at the site. The safety plan will identify potential site hazards and specify procedures to protect site workers and the public.

TASK 2 - SOIL BORING AND CHEMICAL ANALYSIS

WA will obtain the necessary encroachment permits from the Alameda County Flood Control and Water Conservation District (ACFCWCD) and the City of Hayward Public Works Department. We will obtain the well construction permits from the ACFCWCD - Zone 7. After locating offsite structures and underground and overhead utilities, we will drill one soil boring near the intersection of Main Street and Sunset Boulevard and one boring on the access road adjacent to San Lorenzo Creek as shown on Figure 2.

WA will describe the drill cuttings and soil samples according to the Unified Soil Classification System. We will collect soil samples for hydrogeologic description and possible chemical analysis from at least every five ft and from just above the water table. Samples will be collected with a washed split-barrel sampler lined with steam cleaned stainless steel tubes. We will screen the samples for the presence of volatile hydrocarbons with a portable photoionization detector. After removal from the sampler, the tubes will be immediately trimmed, capped with Teflon sheeting and plastic end caps, properly labeled, sealed in plastic bags and refrigerated for delivery under chain-of-custody to the analytical laboratory. We will steam clean drilling equipment prior to use, and we will wash sampling equipment with an Alconox solution between samples to prevent cross-contamination.

WA will submit the samples to a Chevron-approved state-certified laboratory under chain-of-custody procedures for the following analyses:

- Total petroleum hydrocarbons as gasoline (TPH-G) by modified EPA Method 8015/5030, gas chromatography with flame ionization detection (GC/FID), and
- Benzene, ethylbenzene, toluene and xylenes (BETX) by EPA Method 8020/5030, GC with photoionization detection (PID).

We will analyze one composite sample from each boring for TPH-G and BETX and for total and organic lead to characterize the cuttings for disposal.

TASK 3 - GROUND WATER MONITORING WELL AND PIEZOMETER

WA will install ground water monitoring well MW-17 in the boring on Main Street and piezometer P-1 in the boring near San Lorenzo Creek to monitor the first water bearing zone encountered. We will construct the monitoring well with two-inch and the piezometer with one-inch diameter Schedule 40 PVC well screen and blank casing. We will screen the well and piezometer using 0.010-inch slot openings and a #1/20 Monterey sand filter pack. In each, we will place the sand in the annular space between the casing and the borehole from the bottom of the boring to about two ft above the screened interval. About one ft of hydrated bentonite pellets will separate the sand from the sanitary seal. We will seal each borehole with Portland Type I,II cement mixed with 3-5% bentonite powder to prevent surface water infiltration.

TASK 4 - WELL DEVELOPMENT, SAMPLING AND GROUND WATER CHEMICAL ANALYSIS

WA will develop monitoring well MW-17 using surge block agitation and airlift or bailer evacuation. We will estimate the flow rate of the well. Evacuation will continue until at least ten well casing volumes of ground water have been removed and the water is free of as much fine sediment as possible.

WA will collect ground water samples from the monitoring well after development. Prior to sampling, we will check ground water in the well for the presence of floating hydrocarbons and purge at least four well casing volumes of ground water. Water samples will

be collected with a steam cleaned Teflon bailer and decanted into the proper sample containers. Each sample will be properly preserved, labeled, refrigerated, and transported under chain-of-custody to the analytic laboratory.

We will analyze ground water samples for:

- TPH-G by modified EPA Method 8015/5030, GC/FID, and
- BETX by EPA Method 8020/5030, GC/PID.

TASK 5 - ELEVATION SURVEY

WA will coordinate a California-registered land surveyor to survey the top-of-casing elevation relative to mean sea level and horizontal location of the new well and piezometer. We will tabulate water table elevation data and will prepare a ground water elevation contour map.

TASK 6 - DISPOSAL

The drill cuttings will be temporarily stockpiled on and covered with plastic sheeting at the Chevron station. Pending the analytic results, the soil will be transported to an appropriate disposal facility by a licensed waste hauler, if necessary. Steam cleaning rinsate and well purge water will be transported to the Chevron Terminal in Richmond, California for recycling. We will report the disposal method of all soil and ground water transported from the site.

TASK 7 - SUBSURFACE INVESTIGATION REPORT

We will prepare a report presenting the results of the investigation. The report will include:

- Site background and history,
- Rationale for the well and piezometer placement and design, and description of the

well development and sampling,

- Tabulated soil and ground water analytic results, and all data collected during well development, purging and sampling,
- Analytic reports and chain-of-custody forms for the soil and ground water samples,
- Boring logs,
- Survey results, tabulated ground water elevation data and a water table elevation contour map, and
- Conclusions.

SCHEDULE

WA will install the monitoring well and piezometer within three weeks of obtaining all necessary permits. We will develop and sample the wells within two weeks after drilling. We will prepare a report presenting the results of the investigation within four weeks of receiving the ground water analytic results.

We appreciate the opportunity to provide hydrogeologic consulting services to Chevron and trust that this proposal meets your needs. Please call if you have any questions.

REGISTERED GEOLOGIST
JAMES W. CARMODY
No. EG 1576
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

Sincerely,
Weiss Associates

Thomas Fojut

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Staff Geologist

James W. Carmody

James W. Carmody, C.E.G.
Senior Project Hydrogeologist

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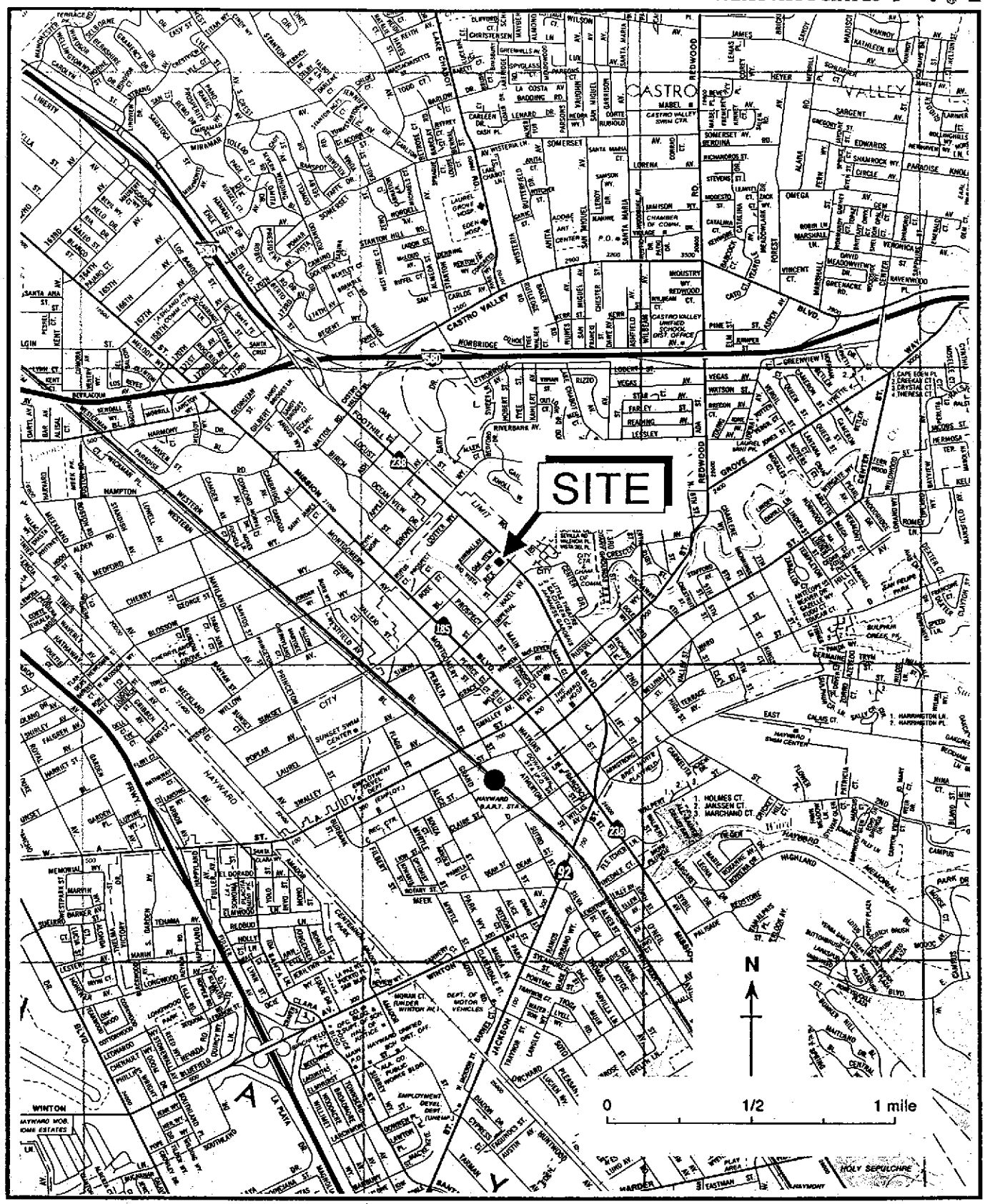

Figure 1. Site Location Map - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California

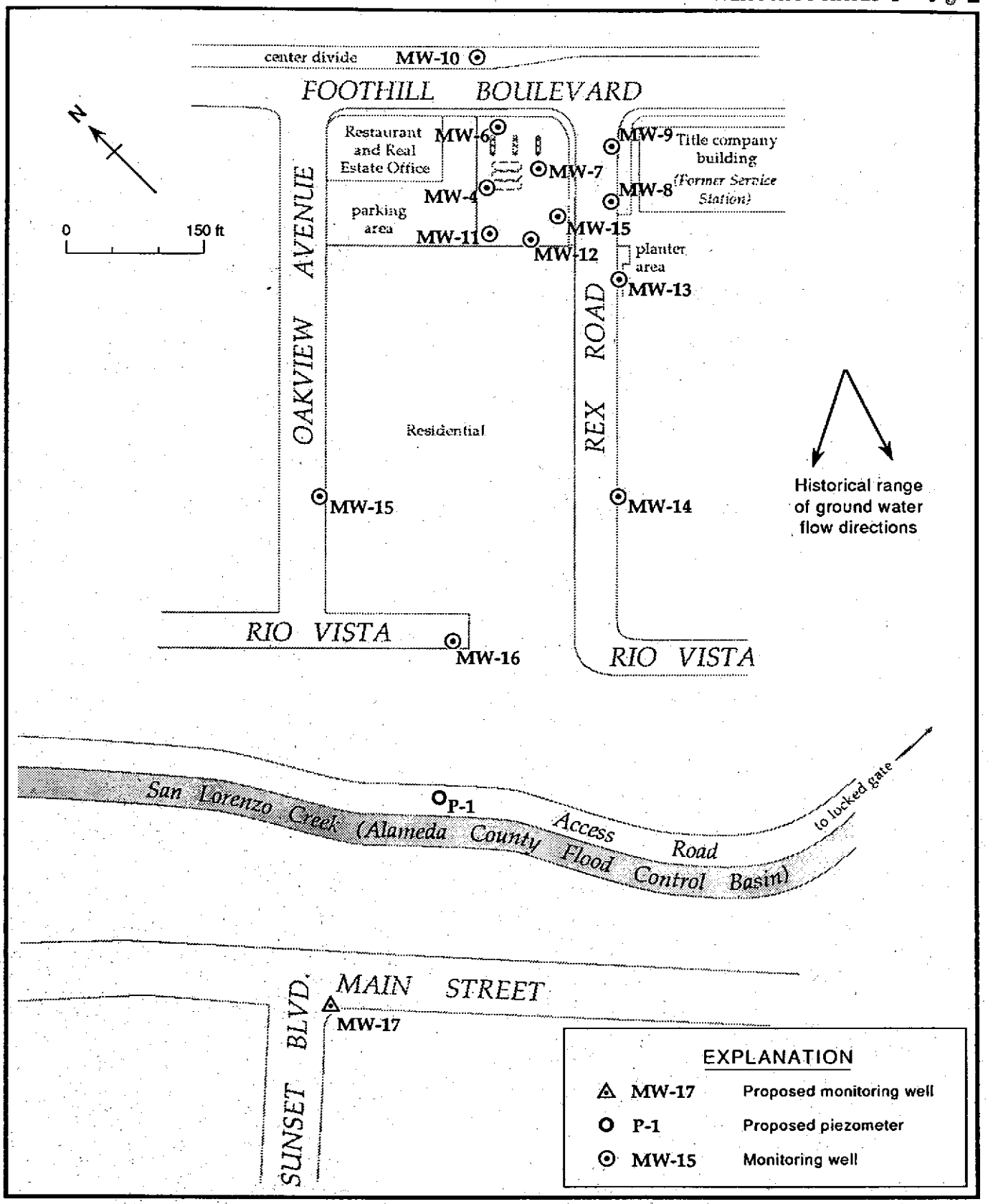

Figure 2. Proposed Monitoring Well and Piezometer Locations - Chevron Service Station #9-0260, 21995 Foothill Boulevard, Hayward, California

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