GETTLER-RYAN INC.

TRANSMITTAL

TO: Mr. Phil Briggs
Chevron Products Company
P. O. Box 6004
San Ramon, California 94583

DATE: March 8, 1999
PROJ. #: 346462.01
SUBJECT: Work Plan
Chevron Station #9-0121
3026 Lakeshore Ave
Oakland, California

FROM:
Todd A. Del Frate
Geologist
Gettler-Ryan Inc.
3164 Gold Camp Drive, Suite 240
Rancho Cordova, California 95670

WE ARE SENDING YOU:

COPIES	DATED	DESCRIPTION
1	March 8, 1999	Addendum to Work Plan

99 MAR 10 PM 3:04
ENVIRONMENTAL PROTECTION

THESE ARE TRANSMITTED as checked below:

[ ] For review and comment [ ] Approved as submitted [ ] Resubmit __ copies for approval

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[ ] For approval [ ] Return for corrections [ ] Return __ corrected prints

[ ] For Your Use and Distribution

[X] For Your Files

COMMENTS:

At Chevron's request, GR is sending one copy of the above referenced addendum to work plan for your files. If you have any questions, please call me in our Sacramento office at (916) 631-1300.

cc: Ms. Eva Chu, Alameda County Health Care Services

GETTLER-RYAN INC.

3/12/99 Verbal Approval of locations of wells and replacement of MW-2 to Stephen at GR

March 8, 1999

Mr. Phil Briggs
Chevron Products Company
P.O. Box 6004
San Ramon, California 94583

Subject: **Addendum to Work Plan For Monitoring Well Destruction And Installation At Chevron Station #9-0121, 3026 Lakeshore Avenue, Oakland, California.**

Mr. Briggs:

At the request of Chevron Products Company (Chevron), Gettler-Ryan Inc. (GR) has prepared this addendum to Work Plan For Monitoring Well Destruction and Installation at the above referenced site. As discussed in the work plan dated November 17, 1998, GR proposed to destroy three 3/4-inch diameter groundwater monitoring wells (MW-2 through MW-4) and replace these wells with three 2-inch diameter groundwater monitoring wells. Locations of the proposed wells are shown on Figure 2.

The work plan was sent to Alameda County Health Care Services (ACHCS) for approval. The work plan was approved in a letter issued by ACHCS dated February 26, 1999. ACHCS requested that well MW-2 not be destroyed, and that a new well be installed 40 feet downgradient (southwest) of well MW-2. Location of the proposed well (MW-9) downgradient of well MW-2 is shown on Figure 2. Well MW-9 will be constructed as shown on Figure 3. GR Field Methods and Procedures are attached. Per your conversation with ACHCS on March 3, 1999, ACHCS agreed that well MW-2 will be destroyed and replaced as originally proposed.

If you have any questions, please call our Sacramento office at (916)631-1300.

Sincerely,
Gettler-Ryan Inc.

T.C. Del Frate

Todd A. Del Frate
Geologist

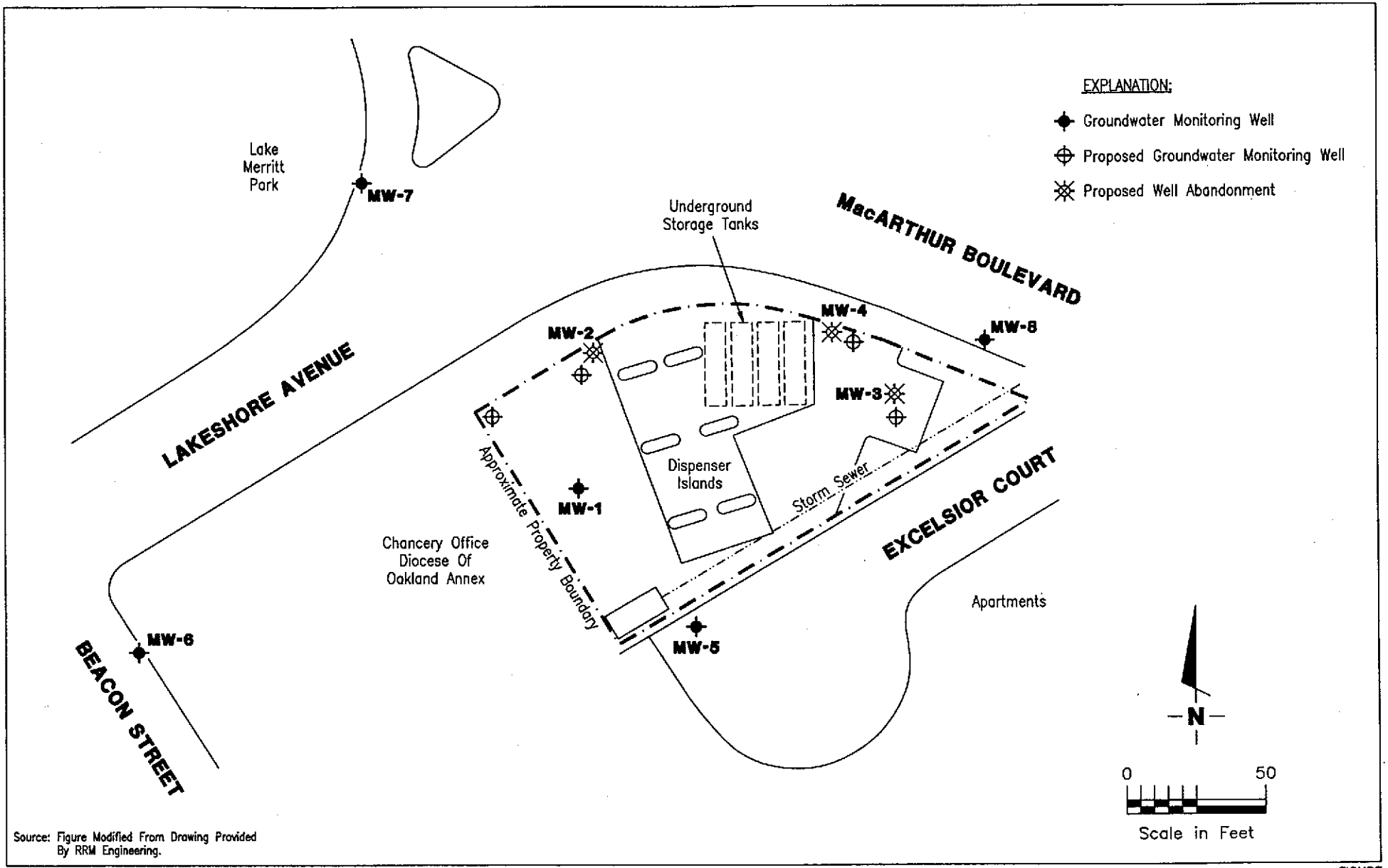
Stephen J. Carter

Stephen J. Carter
Senior Geologist
R.G. 5577

REGISTERED GEOLOGIST
STEPHEN J. CARTER
No. 5577
STATE OF CALIFORNIA

Attachments:
Figure 2. Site Plan
Figure 3. Well Construction Details
GR Field Methods and Procedures

346462.01



Source: Figure Modified From Drawing Provided By RRM Engineering.

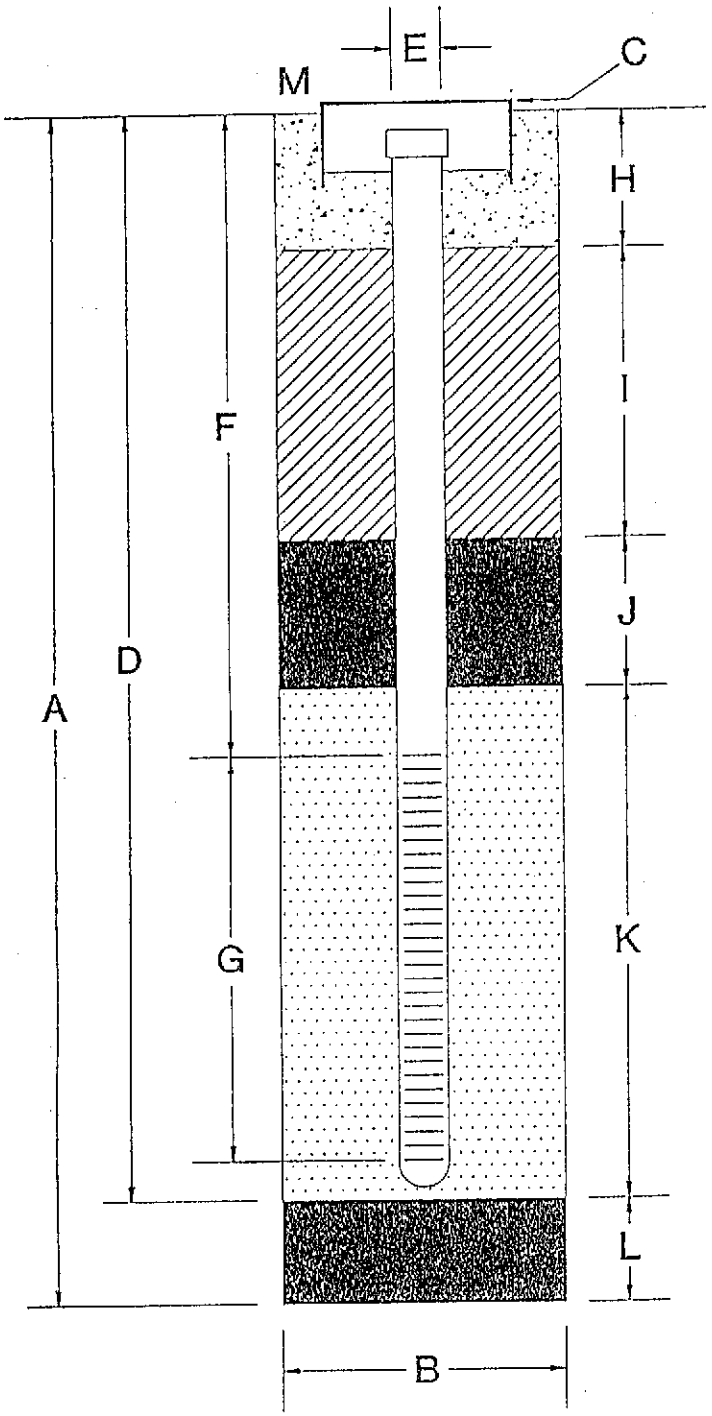
Gettler - Ryan Inc.
6747 Sierra Ct., Suite J (925) 551-7555
Dublin, CA 94568

SITE PLAN
Chevron Service Station No. 9-0121
3026 Lakeshore Avenue
Oakland, California

FIGURE
2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
346462		11/98	03/99

WELL CONSTRUCTION DETAIL



A Total Depth Of Boring 18 ft.

B Diameter Of Boring 8 in.
Drilling Method Hollow-stem auger

C Top Of Box Elevation ____ ft.
☐ Referenced To Mean Sea Level
☐ Referenced To Project Datum

D Casing Length 18 ft.
Material Schedule 40 PVC

E Casing Diameter 2 in.

F Depth To Top Perforations 3 ft.

G Perforated Length 15 ft.
Perforated Interval From 3 to 18 ft.
Perforation Type Machine slotted
Perforation Size 0.02 in.

H Surface Seal From 0 to 0.5 ft.
Seal Material Concrete

I Backfill From 0.5 to 2.5 ft.
Backfill Material Neat Cement

J Seal From 2.5 to 3.0 ft.
Seal Material Bentonite

K Gravel Pack From 3.0 to 18 ft.
Pack Material Lonestar #3 sand

L Bottom Seal None ft.
Seal Material ____

M Traffic rated vault box, locking cap and lock.

PROPOSED WELL CONSTRUCTION
Chevron Station #9-0121
3026 Lakeshore Avenue
Oakland, California

Note: Depths Measured From Initial Ground Surface.

Gettler - Ryan Inc.
3164 Gold Camp Drive, Suite 240
Rancho Cordova, CA 95670

FIGURE 3

JOB NUMBER	REVIEWED BY	DATE	REVISION DATE
346462		11/98	

GETTLER-RYAN INC.

FIELD METHODS AND PROCEDURES

Site Safety Plan

Field work performed by Gettler-Ryan Inc. (GR) is conducted in accordance with GR's Health and Safety Plan (revised January 16, 1995) and the Site Safety Plan. GR personnel and subcontractors who perform work at the site are briefed on the contents of these plans prior to initiating site work. The GR geologist or engineer at the site when the work is performed acts as the Site Safety Officer. GR utilizes a photoionization detector (PID) to monitor ambient conditions as part of the Health and Safety Plan.

Collection of Soil Samples

Soil borings are drilled by a California-licensed well driller. A GR geologist is present to observe the drilling, collect soil samples for description, physical testing, and chemical analysis, and prepare a log of the exploratory soil boring. Soil samples are collected from the soil boring with a split-barrel sampling device fitted with 2-inch-diameter, clean brass tube or stainless steel liners. The sampling device is driven approximately 18 inches with a 140-pound hammer falling 30 inches. The number of blows required to advance the sampler each successive 6 inches is recorded on the boring log. The encountered soils are described using the Unified Soil Classification System (ASTM 2488-84) and the Munsell Soil Color Chart.

After removal from the sampling device, soil samples for chemical analysis are covered on both ends with teflon sheeting or aluminum foil, capped, labeled, and place in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Samples are selected for chemical analysis based on:

a. depth relative to underground storage tanks and existing ground surface
b. depth relative to known or suspected groundwater
c. presence or absence of contaminant migration pathways
d. presence or absence of discoloration or staining
e. presence or absence of obvious gasoline hydrocarbon odors
f. presence or absence of organic vapors detected by headspace analysis

Field Screening of Soil Samples

A PID is used to perform head-space analysis in the field for the presence of organic vapors from the soil sample. A plastic cap is placed over the end of the sample tube that will not be saved for chemical analyses. The PID probe is placed through a hole in the cap, and the concentrations of organic vapors in the headspace between the plastic cap and the soil is recorded. PID screening results are recorded on the boring log as reconnaissance data. GR does not consider field screening techniques to be verification of the presence or absence of hydrocarbons.

Construction of Monitoring Wells

Monitoring wells are constructed in the exploratory soil borings with Schedule 40 polyvinyl chloride (PVC) casing. All joints are thread-joined; no glues, cements, or solvents are used in well construction. The screened interval is constructed of machine-slotted PVC well screen which generally extends from the total well depth to a point above the groundwater. An appropriately-sized sorted sand is placed in the annular adjacent to the entire screened interval. A bentonite seal is placed in the annular space above the sand, and the remaining annular space is sealed with neat cement or cement grout.

Wellheads are protected with water-resistant traffic-rated vault boxes placed flush with the ground surface. The top of the well casing is sealed with a locking waterproof cap. A lock is placed on the well cap to prevent vandalism and unintentional introduction of materials into the well.

Measurement of Water Levels

The top of the newly-installed well casing is surveyed by a California-licensed Land Surveyor to mean sea level (MSL). Depth-to-groundwater in the well is measured from the top of the well casing with an electronic water-level indicator. Depth-to-groundwater is measured to the nearest 0.01-foot, and referenced to MSL.

Well Development and Sampling

The purpose of well development is to improve hydraulic communication between the well and the surrounding aquifer. Prior to development, each well is monitored for the presence of floating product and the depth-to-water is recorded. Wells are then developed by alternately surging the well with a vented surge block, then purging the well with a pump or bailer to remove accumulated sediments and draw groundwater into the well. Development continues until the groundwater parameters (temperature, pH, and conductivity) have stabilized. After the wells have been developed, groundwater samples are collected. Well development and sampling is performed by Gettler-Ryan Inc. of Dublin, California.

Storing and Sampling of Drill Cuttings

Drill cuttings are stockpiled on plastic sheeting and samples are collected and analyzed on the basis of one composite sample per 100 cubic yards of soil. Stockpile samples are composed of four discrete soil samples, each collected from an arbitrary location on the stockpile. The four discrete samples are then composited in the laboratory prior to analysis.

Each discrete stockpile sample is collected by removing the upper 3 to 6 inches of soil, and them driving the stainless steel or brass sample tube into the stockpiled material with a hand, mallet, or drive sampler. The sample tubes are then covered on both ends with teflon sheeting or aluminum foil, capped, labeled, and placed in a cooler with blue ice for preservation. A chain-of-custody form is initiated in the field and accompanies the selected soil samples to the analytical laboratory. Stockpiled soils are covered with plastic sheeting after completion of sampling.