GETTLER-RYAN INC.

January 14, 1997

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

Subject: Letter Work Plan for Subsurface Environmental Investigation Near the Former Product Piping and Dispenser Islands at Former Chevron Service Station #9-2960, 2416 Grove Way, Castro Valley, California.

Mr. Briggs:

At the request of Chevron Products Company (Chevron), Gettler-Ryan Inc. (GR) has prepared this letter work plan for performing a subsurface environmental investigation near the former product piping and dispenser islands at the subject site (Figure 1). The proposed scope of work includes: obtaining the necessary soil boring permits from the Zone 7 Water Agency; preparing a site safety plan; drilling five exploratory soil borings; collecting and submitting selected soil samples for analyses; and preparing a report which presents the findings of the investigation.

BACKGROUND

In June 1986, four underground storage tanks (USTs) were removed from the subject site. The former USTs consisted of one 550-gallon waste oil UST, one 2,000-gallon gasoline UST, and two 7,500-gallon gasoline USTs (Figure 2). Blaine Tech Services collected from the native soil at approximately 18 feet below surface grade (bsg) from each end of the former gasoline USTs. Concentrations of total petroleum hydrocarbons as gasoline (TPHg) ranged from 8.8 to 14,000 parts per million (ppm). The soil sample collected from approximately 9 feet bsg beneath the former waste-oil UST did not contain concentrations of waste oil (less than 10 ppm).

In August 1986, the gasoline UST pit was overexcavated vertically from approximately 18 feet bsg to 20 and 23 feet bsg. The base sample collected from the center of the UST pit at approximately 23 feet bsg contained 1.2 ppm of TPHg. The base samples collected from the northwestern corner of the UST pit at approximately 20 feet bsg contained 170 ppm of TPHg. The northwestern sidewall of the UST pit was excavated laterally approximately 4 feet to the west. The northwestern sidewall sample collected from approximately 19 feet bsg contained a TPHg concentration of 30 ppm. A sample was also collected from the northeastern sidewall at approximately 16 to 18 feet bsg. This sample did not contain a concentration of TPHg (less than 1 ppm).

6747 Sierra Court, Suite J • Dublin, California 94568 • (510) 551-7555

In October 1986, Emcon Associates installed four groundwater monitoring wells (C-1 through C-4). Groundwater was encountered at approximately 17 feet bsg. Soil samples from the borings were not analyzed. Concentrations of dissolved gasoline ranged from 570 to 37,000 parts per billion (ppb) and benzene concentrations ranged from 3 to 6,400 ppb.

In August 1990, GeoStrategies Inc. installed three offsite wells (C-5 through C-7). Groundwater was recorded between 18 and 21 feet bsg with a flow direction to the southwest at a gradient of 0.006. Soil samples submitted for analyses and the groundwater samples did not contain detectable concentrations of TPHg or BTEX. Quarterly groundwater monitoring and sampling was initiated in October 1990. Well C-1 contained free-phase hydrocarbons from October 1990 through January 1995.

In October 1993, Weiss Associates began groundwater extraction from well EW-1 (installed adjacent to well C-1). The extracted groundwater is pumped through and treated with two 1,000-pound liquid phase carbon vessels in series before discharge to the sanitary sewer.

In June 1994, Weiss Associates initiated a soil vapor extraction system which extracts vapors from well C-1. The vapor extraction system abates the vapors with a thermal oxidizer prior to discharge to the atmosphere.

Quarterly monitoring and sampling data indicates that well C-1 has not contained free-phase hydrocarbons since January 1995. The concentrations of TPHg or BTEX in the offsite wells C-5 (upgradient) and C-6 and C-7 (downgradient) have remained near or below the laboratory reporting limits since their installation in August 1990. TPHg and BTEX concentrations in wells C-3 and C-4 have also been reported as non-detectable or near laboratory reporting limits since October 1994 and March 1992, respectively. Well C-2 has contained dissolved hydrocarbons since October 1986.

SCOPE OF WORK

Upon removal of the USTs and product piping in June 1986, soil samples were not collected beneath the former dispenser islands or product piping. To evaluate soil conditions near the former dispensers and product piping, GR proposes to drill five soil borings at the locations shown on Figure 2. Gettler-Ryan's Field Methods and Procedures are included in Appendix A.

To implement the proposed scope of work, GR proposes the following four tasks:

Task 1 Pre-field Activities

GR will prepare a site safety plan and obtain the soil boring permit from Zone 7 Water Agency. USA will be notified prior to any field activities.

Task 2 Soil Borings

GR will drill five exploratory soil borings at the locations shown on Figure 2. Drilling activities will be performed by Bay Area Exploration, Inc. (C57 #522125). A GR geologist will monitor the drilling activities and prepare a log of each boring. Soil samples for description and possible chemical analysis will be obtained from each boring at five-foot intervals, as a minimum. Sample handling procedures are described in Appendix A. Although the actual number of samples submitted for chemical analysis will depend on site conditions and field screening data, we anticipate a minimum of two soil samples collected from above groundwater in each boring will be submitted for chemical analysis as described in Task 3. Borings will be drilled with 8-inch-diameter hollow-stem augers to approximately 20 feet bsg and will be backfilled to ground surface with neat cement containing approximately 5% bentonite powder upon completion of drilling. The neat cement will be placed using a tremie pipe. Depths may vary if groundwater is not encountered at the anticipated depth of approximately 19 feet bgs.

Soil from each sampled interval will be screened in the field for the presence of volatile organic compounds using a photoionization detector (PID). These data will be collected for reconnaissance purposes only, and will not be used as verification of the presence or absence of petroleum hydrocarbons. Screening data will be recorded on the boring logs.

Drill cuttings will be stored at the site pending receipt of chemical analytical data for disposal. The drill cuttings will be stockpiled on and covered with plastic sheeting. Soil samples from the drill cuttings will be collected and analyzed for disposal characterization as described in Task 3. Steam cleaning rinsate waste water will transported by Integrated Wastestream Management (IWM) to McKittrick Waste Management in McKittrick, California.

Task 3 Laboratory Analyses

Soil samples from the borings will be submitted for chemical analysis by a California state-certified Hazardous Material Testing Laboratory. Selected soil samples will be analyzed for TPHg by Environmental Protection Agency (EPA) Method 8015 (Modified), and for gasoline constituents benzene, toluene, ethylbenzene, total xylenes (BTEX). The composite soil sample from the stockpiled drill cuttings will also be analyzed for TPHg and BTEX.

Task 4 Report Preparation

Following receipt and analysis of all data, a report will be prepared which summarizes the procedures and findings associated with this investigation. This report will be submitted to Chevron for their use and distribution.

PROJECT STAFF

Mr. Stephen J. Carter, a Registered Geologist in the State of California (R.G. No. 5577), will provide technical oversight and review of the work. Mr. Greg Gurss, Project Manager, will supervise implementation of field and office operations. GR employs a staff of geologists, engineers, and technicians who will assist with the project.

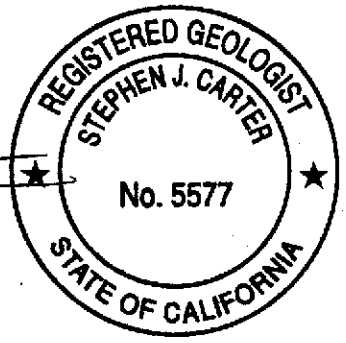
SCHEDULE

Implementation of the proposed scope of work will commence upon receipt of regulatory approval.

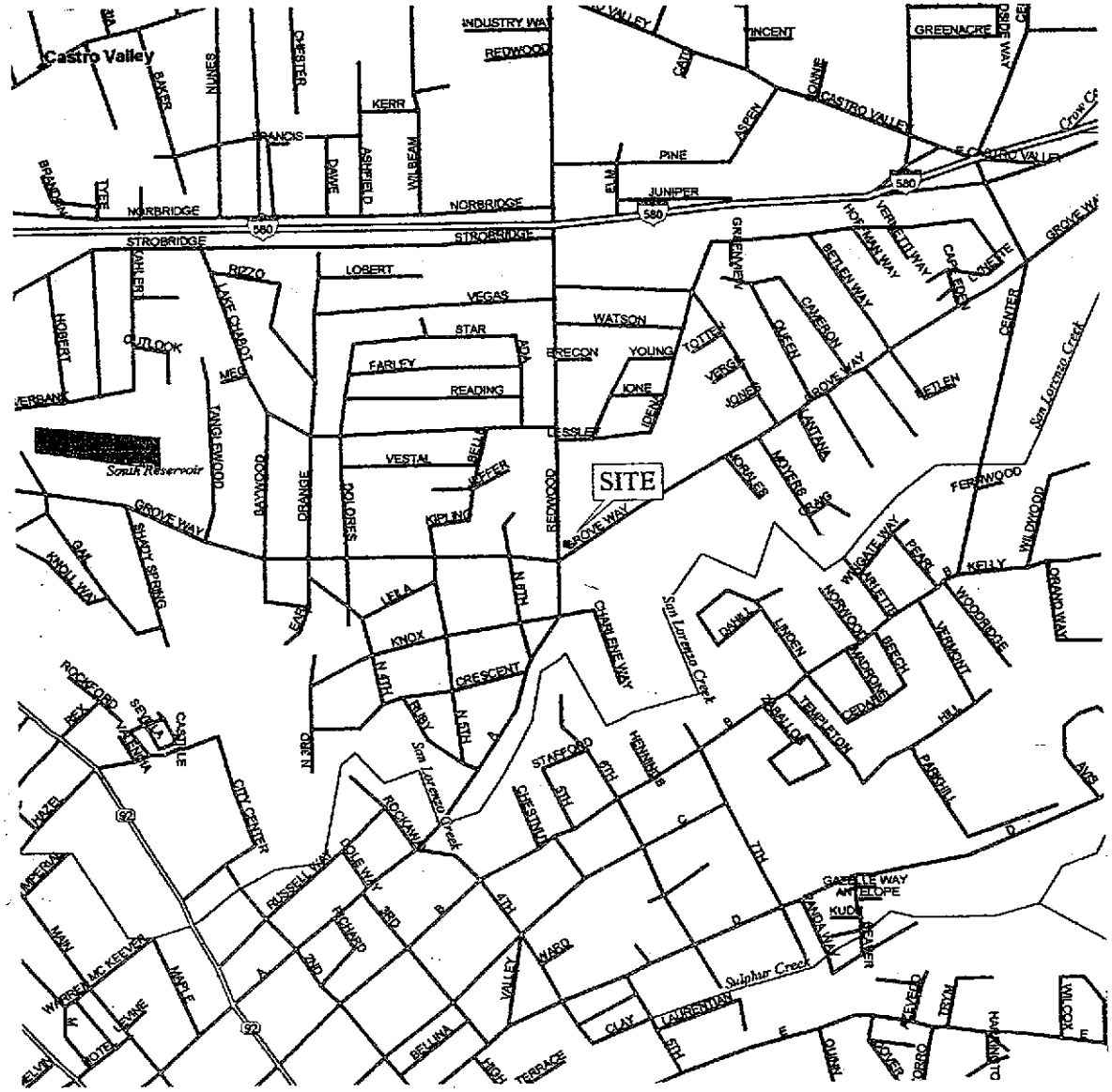
Sincerely,
Gettler-Ryan Inc.

Greg A. Gurss
Project Manager

Stephen J. Carter
Senior Geologist
R.G. 5577



Attachments: Figure 1 - Vicinity Map
Figure 2 - Site Plan
Gettler-Ryan Inc. Field Methods and Procedures



Source: Street Atlas USA, Delorme (1995).

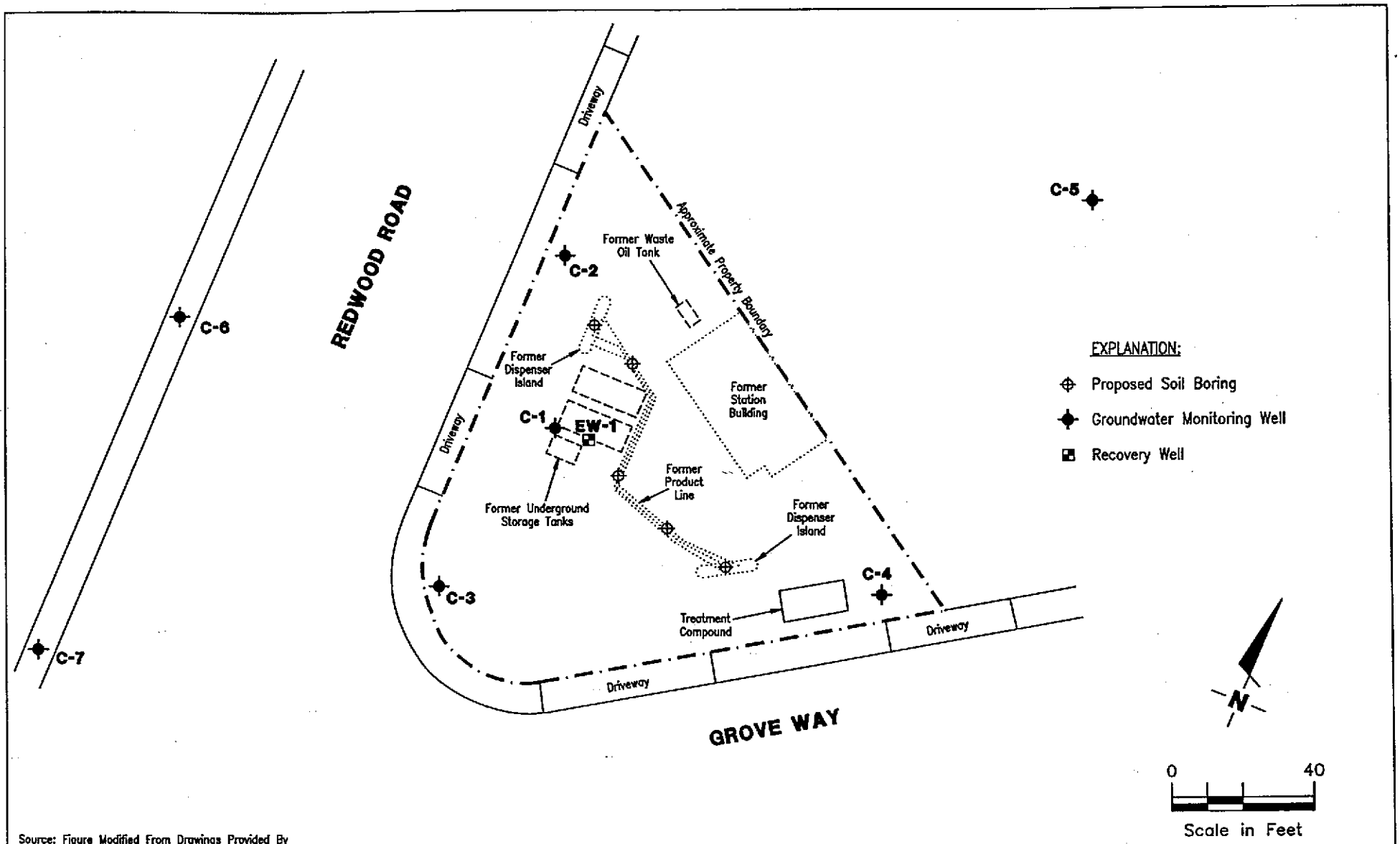
Gettler - Ryan Inc.

6747 Sierra Ct., Suite J
Dublin, CA 94568
(510) 551-7555

VICINITY MAP
Former Chevron Service Station No. 9-2960
2416 Grove Way
Castro Valley, California

FIGURE
1

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
6365		1/97	



Source: Figure Modified From Drawings Provided By Chevron And Cambria Environmental Technology, Inc.

Gettler - Ryan Inc.
6747 Sierra Ct., Suite J (510) 551-7555
Dublin, CA 94568

SITE PLAN
Former Chevron Service Station No. 9-2960
2416 Grove Way
Castro Valley, California

FIGURE
2

JOB NUMBER	REVIEWED BY	DATE	REVISED DATE
6365		1/97	

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 or stored in drums depending on site conditions and regulatory requirements. Stockpile 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.