

ENVIRONMENTAL



Chevron

95 AUG 23 PM 2:31

August 21, 1995

Chevron U.S.A. Products Company
6001 Bollinger Canyon Rd., Bldg. L
P.O. Box 5004
San Ramon, CA 94583-0804

Site Assessment & Remediation Group
Phone (510) 842-9500

0.3

Ms. Eva Chu
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

9/12/95

DI says we add'l NW of A-1,
but words storage not tank
done w. o. combustibles also be analyzed
in the add'l MAT? check file.

Re: Chevron Service Station #9-0290
1802 Webster Street, Alameda, CA

Dear Ms. Chu:

9/18/95 Yes M Miller will send amended site
plan for B-13.

Enclosed is the Well Installation work plan dated August 11, 1995, prepared by our consultant
Gettler-Ryan, Inc. for the above referenced site.

The work plan includes advancing three soil borings, completing the soil borings as ground water
monitor wells, and collecting and analyzing soil samples. Collection and analysis of ground
water samples will be coordinated during the next regularly scheduled quarterly monitoring
event. This work will be done to characterize dissolved ground water concentrations down
gradient of the underground storage tanks and pump islands. This investigation will also provide
additional information regarding whether dissolved hydrocarbons could have migrated through
ground water to nearby off-site utility trenches.

As we discussed in our January 26, 1995, meeting, the results of this investigation will assist in
determining whether establishing a non attainment area for ground water is warranted. If you
have any questions or comments, please feel free to contact me at (510) 842-8134.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Ms. Y.M. Byeman

Ms. Louise Van De Deere
Housing Authority of the City of Alameda
701 Atlantic Avenue
Alameda, CA 94501



GETTLER-RYAN INC.

WELL INSTALLATION
at
Chevron Service Station #9-0290
1802 Webster Street
Alameda, California

5280.01

Prepared for

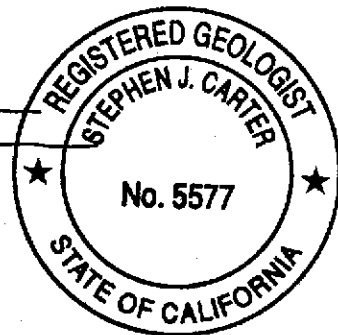
Chevron USA Products Company
P.O. Box 5004
San Ramon, California 94583

Prepared by

Gettler-Ryan, Inc.
6747 Sierra Court, Suite J
Dublin, California 94568

Argy Leyton
Environmental Project Manager

Stephen J. Carter
Senior Geologist
R.G. #5577



August 11, 1995

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WELL INSTALLATION WORKPLAN
for
Chevron Service Station #9-0290
1802 Webster Street
Alameda, California

INTRODUCTION

Gettler-Ryan, Inc. (G-R) is pleased to present this workplan for the installation of three on-site groundwater monitoring wells at the above-referenced location (Figure 1). The groundwater monitoring wells will be installed to assess the absence or presence of dissolved hydrocarbons in groundwater and to verify the groundwater flow direction and gradient beneath the site.

SITE HISTORY

The site is a Chevron service station located at 1802 Webster Street in Alameda, California.

The following site history was obtained from Chevron project files supplied to Gettler-Ryan, Inc.

As a result of an apparent 50 gallon regular gasoline leak from a 10,000-gallon underground storage tank (UST), six monitoring wells (B-1 through B-6) were installed at the site in January 1982 by J.H. Kleinfelder and Associates (K&A) of Walnut Creek, California under the direction of I.T. Enviroscience (ITE) of Concord, California. The tank was removed from service after a hole was found in the tank near the tank fill pipe. Although groundwater samples were collected from all six wells for visual analysis on January 21, 1982, no soil or groundwater samples were collected for chemical analysis. However, each well was analyzed for combustible gas concentration and percent of lower explosive limit (LEL). No sheen was observed in any of the samples during the visual analysis.

The tank system was removed and replaced in early 1982. A gauge stick hole was observed in the bottom of the regular tank during removal. A new diesel tank and new waste oil tank were also installed in the same tank complex as the product tanks. During tank replacement, monitoring well B-2 was destroyed to accommodate the new tanks and tank backfill wells A-1 and A-2 were installed with the new tanks.

On September 19, 1991, approximately 1,400 gallons of diesel fuel were inadvertently pumped into tank backfill monitoring well A-1 during tank testing activities. 1,600 gallons of separate-phase hydrocarbons (SPH)

were removed from the well immediately after the release was discovered. A weekly SPH recovery program established by Pacific Environmental Group, Inc. (PEG) of Santa Clara, California removed an additional 346 gallons of diesel SPH from well A-1 between September 1991 and July 1992. Since more SPH was recovered than apparently spilled, the SPH was analyzed to identify the various constituents. Laboratory analysis showed that the SPH consisted of 95.9 percent lube oil, 2.5 percent diesel fuel and 1.6 percent gasoline. A July 1992 letter from Chevron to Ms. Juliet Shin of the Alameda County Department of Environmental Health (ACDEH) noted that the bulk of the diesel fuel had apparently been recovered. Laboratory results suggested that waste oil had also been inadvertently disposed into well A-1 because waste oil was also being recovered during weekly bailing. Since very small volumes of SPHs were being recovered during bailing events in early 1992, the bailing frequency was reduced to biweekly in January 1992, and then to monthly in February 1992. A groundwater sampling program was initiated for wells B-1, B-3, B-4, B-5, B-6, A-1, and A-2 in September 1991.

Between March 29 and 30, 1993, Groundwater Technology of Concord, California (GTI) supervised the installation of groundwater monitoring wells B-7, B-8 and B-9. Analytic results of soil samples collected during drilling activities showed total petroleum hydrocarbons as gasoline [TPH(G)] and benzene, toluene, ethylbenzene, and xylenes (BTEX) concentrations below detection limits. Groundwater samples collected on April 23, 1993 from eight site monitoring wells, including B-7, B-8 and B-9, were analyzed for TPH(G), total petroleum hydrocarbons as diesel [TPH(D)] and BTEX. TPH(G) was detected in wells B-1, B-3 and B-4 at 13,000, 18,000 and 5,700 parts per billion (ppb), respectively. A-1 and A-2 had SPH thicknesses of 0.6 and 0.18 feet, respectively.

SPHs were being removed on a weekly basis from both monitoring wells A-1 and A-2 until April 1994 when well A-2 was abandoned. Weekly SPH removal is still being conducted in well A-1. Due to the SPH viscosity, the use of absorbent pads to remove the SPH in wells A-1 and A-2 began in June 1993. Concentrations of TPH(G), TPH(D) and BTEX have been consistently low or non-detect in all site wells for the last four quarters except for source area wells.

GEOLOGIC SETTING

The site is located in Alameda County, in the City of Alameda. The topography in the site vicinity slopes gently to the north. The closest surface waters are Oakland Inner Harbor approximately 3/4 mile to the north and the San Francisco Bay which lies approximately 2/3 mile to the south.

The site is located within the California Coast Ranges. The Coast Ranges have a Franciscan basement composed of graywackes, limestone, shale and radiolarian chert¹. Locally, the site is generally underlain by sand and silty sand. Based on previous groundwater sampling events, groundwater is encountered 4 to 8 feet below

¹ Norris, Robert M. and Webb, Robert W., 1990, *Geology of California*, John Wiley and Sons, 537 pages.

existing grade. Previous sampling events indicate that the groundwater flow direction beneath the subject site is northwesterly.

PROPOSED WORK

To further evaluate the absence or presence of hydrocarbons and to verify the groundwater flow direction beneath the site Gettler-Ryan proposes the following scope of work:

1. Prepare a site-specific health safety plan for the proposed work.
2. Drill three on-site soil borings to a depth of approximately 15 feet below ground surface. The soil samples from the boring will be surveyed in the field with an organic vapor meter (OVM) to determine whether volatile hydrocarbons are present in the samples. OVM readings and field observations will be used to select soil samples from the monitoring well borings for analysis. At a minimum, one soil sample for chemical analysis will be collected from above the capillary fringe. Selected sample(s) will be analyzed for total purgeable petroleum hydrocarbons as gasoline [TPPH(G)], total petroleum hydrocarbons as diesel [TPH(D)] and benzene, toluene, ethylbenzene, and xylenes (BTEX).
3. Install one 2-inch diameter monitoring well in each boring.
4. Develop the newly installed wells.
5. Survey the top of casing elevation of the newly installed wells. Measure depth to groundwater and product thickness (if present) in all wells. The survey and water level data will be used to verify the groundwater flow direction and gradient beneath the site.
6. Arrange for disposal of the drill cuttings from the borings, the steam-cleaning rinseate and the monitoring well purge water.
7. Report the results.

Each of these tasks is described below.

Task 1 - Site Safety Plan

Using available site history information, G-R has prepared a site-specific safety plan. The safety plan identifies potential site hazards and specifies procedures to protect site workers and the surrounding community. The safety plan will be on-site during field operations. The site safety plan is presented in the appendix.

Tasks 2 and 3 - Drilling and Monitoring Well Installation

Three on-site soil borings will be drilled at the locations shown on Figure 2 and a monitoring well will be installed in each of the borings.

The wells will be drilled by Bay Area Exploration, Inc. of Cordelia, California, C57 license #522125. Prior to drilling, Underground Service Alert (USA) will be notified and non-USA member utilities will be located by a private underground utility locator.

All drilling equipment will be steam-cleaned prior to use and all sampling equipment will be washed between samples using an EPA-approved detergent such as Alconox and rinsed with potable water.

The boring logs will be logged in accordance with Gettler-Ryan standard operating procedures.

Soil samples will be collected at 5 foot intervals, at a minimum, or at changes of soil type or if hydrocarbon staining is present. Soil samples will be collected in clean or new stainless steel or brass sleeves. A soil sample will be collected from the capillary fringe in the borings.

The soil samples will be screened in the field with an OVM. If hydrocarbons are detected with the OVM or product odor is noted by the field geologist in the soil sample from the bottom of the proposed well/borings, G-R personnel will attempt to collect sufficient samples to define the vertical extent of hydrocarbons in the boring.

Drill cuttings will be stored on-site on visqueen sheeting and covered with visqueen pending disposal by Integrated Waste Management of Milpitas, California.

The soil samples from the borings will be analyzed for TPPH(G) TPH(D) and BTEX by EPA Methods 5030/8015, 8015/3550 and 8020, respectively. All quality assurance/quality control (QA/QC) data from the laboratory will be included in the well installation report.

Information from the previous well installation work performed at the site indicate that the soils in the site vicinity are relatively fine-grained. The wells will be constructed with 0.010-inch machine-slotted well screen for the monitoring well and #2/12 sand for gravel pack around the well screen.

Task 4 - Well Development

The monitoring wells will be developed no sooner than 72 hours after drilling with a vented surge block and bailing. Groundwater will be removed using steam-cleaned polyvinyl-chloride (PVC) bailers. Groundwater removed from the wells will be transported to the Chevron Refinery in Richmond, California.

Task 5 - Surveying and Groundwater Gradient

The top of casing elevation of the new wells will be surveyed by a licensed land-surveyor. The casing will be surveyed relative to mean sea level.

Water and product (if present) levels will be measured in all site wells using an MMC flexi-dip interface probe. Water and product (if present) levels will be reported to the nearest 1/100th of a foot.

A potentiometric map will be prepared using survey and water level data.

Task 6 - Drill Cuttings, Steam-cleaning Rinseate and Monitoring Well Purge Water Disposal

The soil cuttings will be stored on-site on visqueen sheeting and covered with visqueen pending disposal by Integrated Waste Management of Milpitas, California.

The steam-cleaning rinseate and well development and purge water will be transported to the Chevron Refinery in Richmond, California.

Task 7 - Report

The report will be prepared and the field work conducted under the supervision of Stephen J. Carter, a California Registered Geologist (R.G. #5577).

A report presenting the results of the well installation and groundwater sampling will be prepared. The report will include:

TEXT:

- Executive Summary
- Site Background and History
- Geologic Setting
- Description of Soil Sampling and Subsurface Sediments
- Monitoring Well Installation Details
- Depth to Groundwater and Groundwater Flow Direction and Gradient
- Soil and Groundwater Analytical Data
- Conclusions

TABLES:

- Tabulated Soil Analytic Results
- Groundwater Elevation Data and Well Construction Data

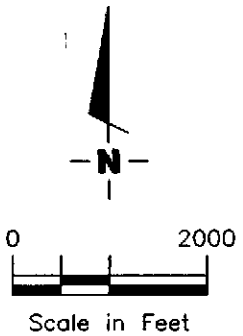
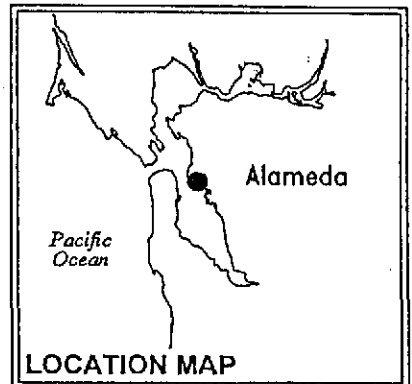
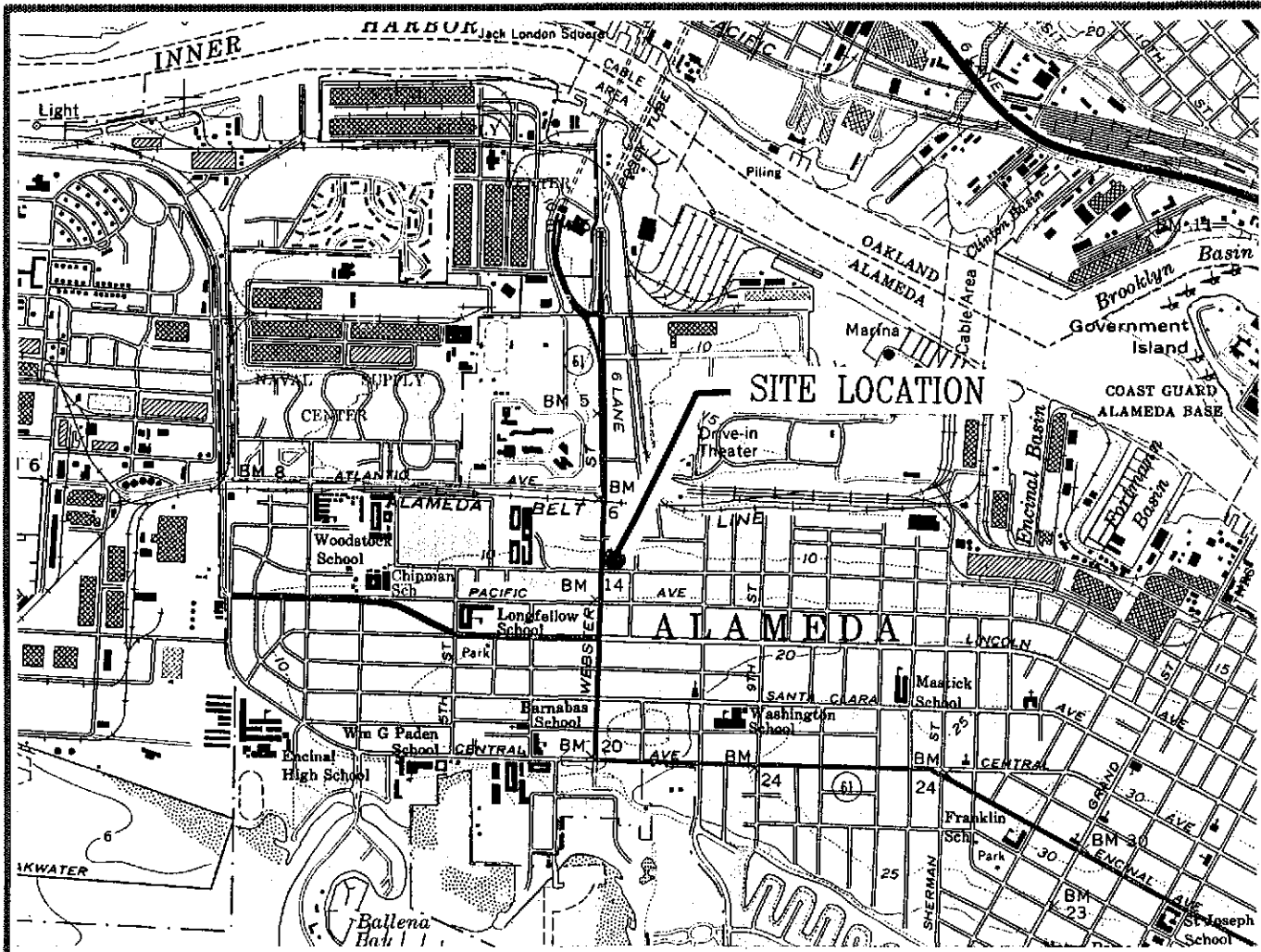
FIGURES:

- Site Vicinity Map
- Monitoring Well Location and Potentiometric Map

APPENDIX:

- Boring Logs and Well Construction Details
- Chain-of-Custody Documents and Laboratory Analytic Results
- Field Methods and Procedures
- G-R Field Data Sheets
- Well Drilling Permits
- Well Head Survey Data

FIGURES



Base Map: USGS Topographic Map



Gettler - Ryan Inc.

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

VICINITY MAP
Chevron Service Station No. 9-0290
1802 Webster Street
Alameda, California

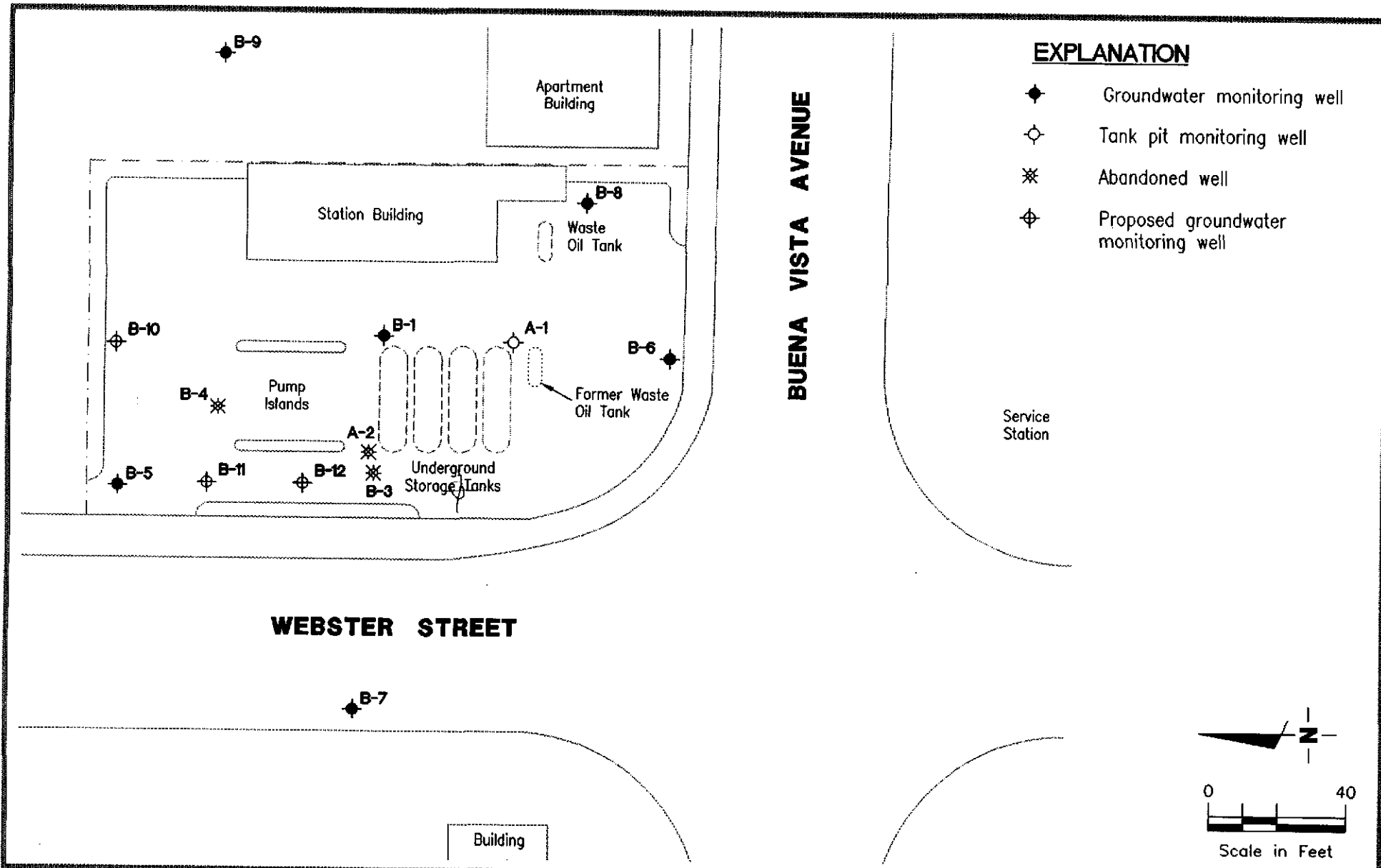
FIGURE
1

JOB NUMBER
5280

REVIEWED BY

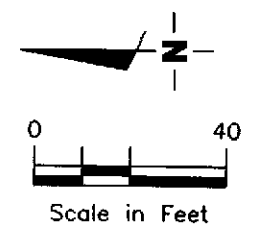
DATE
August, 1995

REVISED DATE



EXPLANATION

- ◆ Groundwater monitoring well
- ◊ Tank pit monitoring well
- ✱ Abandoned well
- ⊕ Proposed groundwater monitoring well



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

EXISTING & PROPOSED MONITORING WELL LOCATION MAP

Chevron Service Station No. 9-0290
1802 Webster Street
Alameda, California

FIGURE
2

JOB NUMBER
5280.01

REVIEWED BY

DATE
August, 1995

REVISED DATE

APPENDIX

GETTLER - RYAN

FIELD METHODS AND PROCEDURES

Site Safety Plan

Field work performed by Gettler-Ryan, Inc. (G-R) is conducted in accordance with G-R's Health and Safety Plan and the Site Safety Plan. G-R personnel and subcontractors who perform work at the site are briefed on the contents of these plans prior to initiating site work. The G-R geologist or engineer at the site when the work is performed acts as the Site Safety Officer. G-R utilizes a organic vapor meter (OVM) 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 G-R 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 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 (ASTM2488-84) 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, capped, labeled, and placed in a cooler and maintained at 4 C for preservation. A chain-of-custody document is initiated in the field and accompanies the selected soil samples to analytical laboratory. Samples are selected for chemical analysis based on:

- a. depth relative to underground storage tanks and existing surface
- b. depth relative to known or suspected groundwater
- c. presence or absence of contaminant 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

An OVM is used to perform head-space analysis in the field for the presence of organic vapors from the soil sample. This test procedure involves removing soil from the tip of the sampling device sample or sample liner into a clean glass jar, and immediately covering the jar with aluminum foil secured under a ring-type threaded lid. After approximately twenty minutes, the foil is pierced and the atmosphere within the jar is tested using an OVM. Headspace screening results are recorded on the boring log. Head-space screening procedures are performed and results recorded as reconnaissance data. G-R 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 extends from the total well depth to a point above the groundwater. An appropriately-sized sorted sand 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 separate-phase hydrocarbons and the depth-to-water is recorded. Wells are then developed by alternately surging the well with a bailer, then purging the well with a pump to remove accumulated sediments and draw groundwater into the well. Development continues until the groundwater parameters (temperature, pH, and conductivity) have stabilized. Wells are monitored and sampled on a quarterly basis by Chevron's monitoring and sampling contractor.

Site Safety Plan
Job #5280.01

1.0 GENERAL INFORMATION

Company: Chevron USA Products Company
Location: Service Station #9-0290, 1802 Webster Street, Alameda

Client Contact: Mark Miller 510-842-8134
Gettler-Ryan Contact: Argy Leyton 510-551-7555

Date Prepared: August 17, 1995

Proposed Work Date(s): August - September 1995

Work Objective: Install three groundwater monitoring wells
Develop the new wells

Site History: Site is currently used as a service station.

Current Status: Site is currently an active service station

Underground utilities will located by: Private Locator USA

2.0 WASTE CHARACTERISTICS

Waste Types: Solid, Liquid, Vapor

Waste Characteristics: Volatile, Flammable, Toxic, Carcinogenic

Amount of Waste to be Generated: ~ 1 cy soil, ~ 55 gallons steam-cleaning rinseate

Waste Containment: Soil will be placed on visqueen sheeting and covered with visqueen, pending disposal by IWM. Steam-cleaning rinseate will be transported to the Chevron Refinery in Richmond

3.0 HAZARD EVALUATION

Physical:

Trip	Fall	Splash	Below Grade	Overhead	Traffic	Heavy Equipment
Other:						

Anticipated Chemicals:

Gasoline, BTEX

Routes of Exposure: Inhalation, Ingestion, Absorption, Injection

Overall Hazard evaluation: Low Moderate High Unknown

Basis for hazard evaluation: Previous Analytic Data
Site conditions

Chemical parameters:

Element	PEL(ppm)	Action Level(ppm)
Gasoline	—	150
Benzene	1	.5
Toluene	100	50
Ethylbenzene	100	50
Xylenes	100	50

Work will be conducted in level D modified conditions (hard hats, red vests and gloves) unless site conditions necessitate upgrading to level C conditions. Level B protection is not considered at this site.

4.0 SITE SAFETY WORKPLAN

Site Perimeter: Work zones will be defined around each boring location and secured. Contamination (hot zones) will be identified and public access will be prohibited.

Personal Protection: Work will be conducted at level D modified conditions. If odor is present, air monitoring will be implemented.

If air monitoring indicates concentration levels at or above the action levels, site personnel will upgrade to level C conditions. Air monitoring will be performed at intervals no greater than once every hour. Air monitoring will be conducted using an organic vapor meter calibrated to 100 ppm isobutyl. If ovm readings exceed 150 ppm, benzene air monitoring will be implemented with draeger tubes. Should off-site air monitoring exceed 100 ppm ovm readings or 0.5 ppm benzene, site work will cease immediately and site personnel will re-assess work conditions.

Decontamination: Personnel
Wash thoroughly with detergent solution and water

Equipment
Steam-clean all drilling and sampling equipment and tools.

Investigation-derived material disposal:

Soil generated during site work will be placed on visqueen sheeting and covered with visqueen pending removal. Steam-cleaning rinseate will be transported to the Chevron Refinery in Richmond.

Field Personnel:

_____	_____
_____	_____
_____	_____

Work Limitations: To minimize impact to the public, work will be conducted during the hours of 7:30 a.m. to 7:30 p.m.

5.0 EMERGENCY INFORMATION

Client Contact: Mark Miller, Chevron USA

Phone Number: 510-842-8134

Project Manager: Argy Leyton

Phone Number: 510-551-7555

Hospital: Alameda Hospital, 2070 Clinton Ave., Alameda, 510-523-4357

Ambulance: 911

Police Department: 911

Fire Department: 911

Directions to Hospital: Take Webster Avenue (south), turn left (east) on Central Avenue. Turn right (south) on Sherman Street. Turn left (south-east) on Clinton Avenue.

See Attached Map

SITE SAFETY MEETING

JOB #: _____ **DATE:** _____ **TIME:** _____

SITE LOCATION: _____

WORK DESCRIPTION: _____

PHYSICAL HAZARDS: _____

ANTICIPATED CONTAMINANTS: _____

PERSONAL PROTECTION LEVEL: _____

DECONTAMINATION PROCEDURES: _____

SPECIAL SITE CONDITIONS: _____

EQUIPMENT CALIBRATED THIS DAY _____ **MAP POSTED** _____

ALL MEMBERS FAMILIAR WITH EMERGENCY PROCEDURES _____

DIRECTIONS TO HOSPITAL _____

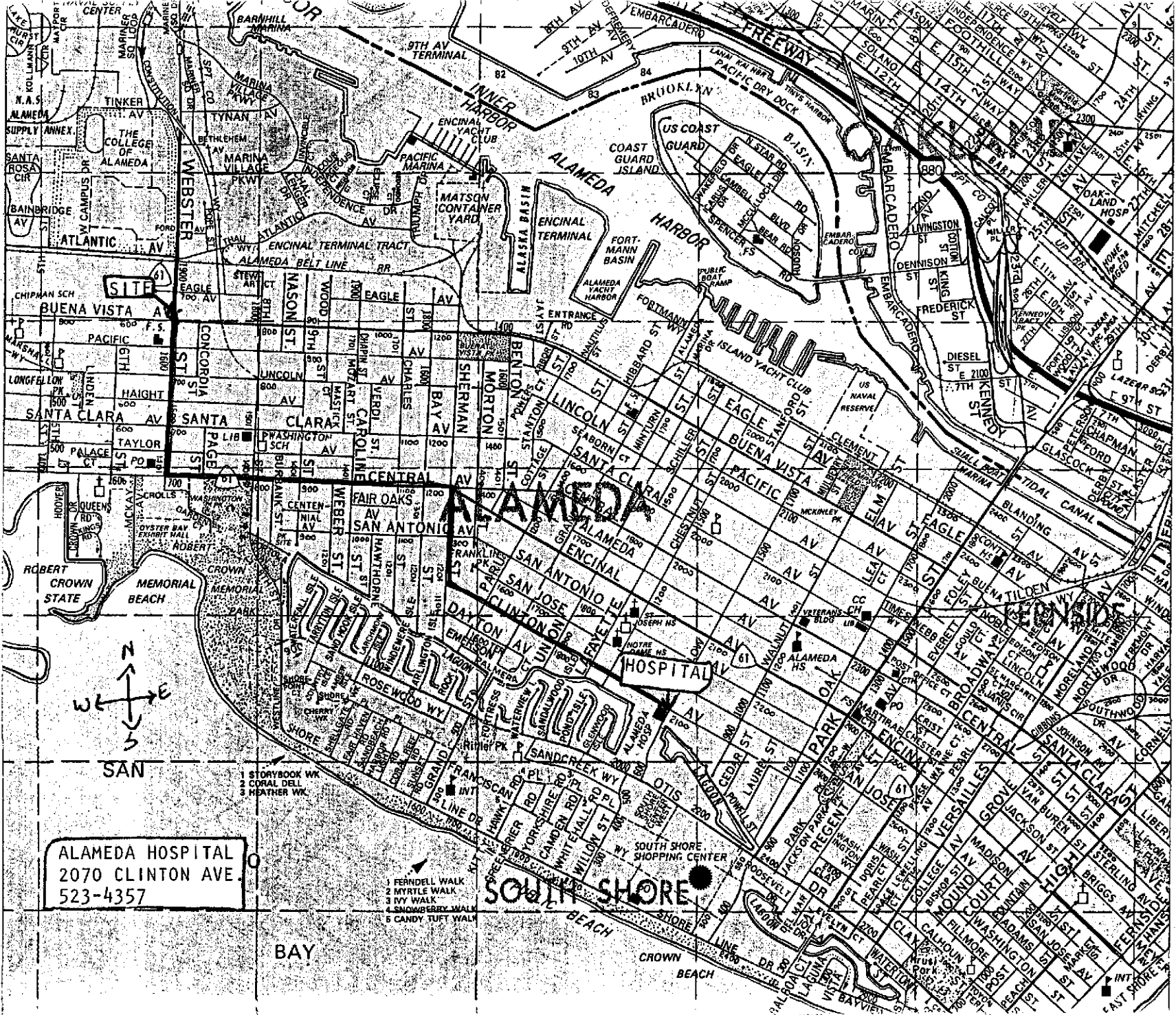
PERSONNEL PRESENT AT MEETING:

NAME

SIGNATURE

SITE SAFETY OFFICER: _____

MEETING CONDUCTED BY: _____



ALAMEDA HOSPITAL
 2070 CLINTON AVE.
 523-4357

- 1 STORYBOOK WY
- 2 CORAL DELL
- 3 HEATHER WY

- 1 FERNEDELL WALK
- 2 MYRTLE WALK
- 3 RY WALK
- 4 SNOWBERRY WALK
- 5 CANDY TUFT WALK