Chevron

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

January 3, 1995

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

Re: Chevron Service Station #9-2506
2630 Broadway, Oakland, CA

Dear Ms. Eberle:

Enclosed is the Environmental Assessment Report dated December 1, 1994, prepared by our consultant RESNA Industries, Inc. for the above referenced site. Four soil borings were advanced and completed as ground water monitor wells (B-9, B-10, B-11, B-12). This work was done to delineate the extent of hydrocarbon impact to ground water.

Soil samples collected were submitted to Superior Precision Analytical (SPA) for analysis. Laboratory results indicate that concentrations of TPH-G and BTEX were below method detection limits with the exception of a sample collected from B-9 at 5 feet below grade and a sample collected from B-12 at 5 feet below grade. Trace concentrations of TPH-G and BTEX were found in these two samples only.

Ground water samples collected were also sent to SPA for analysis. Laboratory results indicate that concentrations of TPH-G and BTEX were below method detection limits with the exception of the sample collected from B-9. Low concentrations of TPH-G and BTEX were found in this sample. Depth to ground water was measured at approximately 6.4 to 11.5 feet below grade and the direction of flow is towards the north.

Based on this data, it appears that the down and cross gradient extent of the dissolved hydrocarbon plume has been sufficiently defined. At this time the source of hydrocarbons in soil and ground water in the vicinity of up gradient well B-9 remains in question. We are currently reviewing historic maps of the area to determine the past use of this portion of the site.

We will instruct our consultant to include the newly installed wells in the quarterly monitoring and sampling program. Based on data gathered at the site to date, we would like to modify the quarterly sampling program as follows.

Well	Current Frequency	Proposed Frequency	Rationale for Recommended Change
B-2	Quarterly	Suspend	Provides overlapping data to B-3
B-4	Quarterly	Suspend	Provides overlapping data to B-3
B-5	Quarterly	Suspend	Provides overlapping data to B-6

	B-7	Quarterly	Suspend	Provides overlapping data to B-8

All other monitor wells will be sampled for TPH-G and BTEX for a period of one year to develop a baseline trend of hydrocarbon concentrations in ground water. At the conclusion of one year of monitoring, we will evaluate appropriate next actions. We would appreciate your concurrence with these proposed modifications.

If you have any questions or comments, please do not hesitate to contact me at (510) 842-8134.

Sincerely,
CHEVRON U.S.A. PRODUCTS COMPANY

Mark A. Miller
Site Assessment and Remediation Engineer

Enclosure

cc: Mr. S.A. Willer

File: 9-2506 SA1

RESNA
Working to Restore Nature

42501 Albrae Street, Suite 100
Fremont, California 94538
Phone: (510) 440-3300
FAX: (510) 651-2233

ENVIRONMENTAL ASSESSMENT REPORT

Chevron Service Station No. 9-2506
2630 Broadway
Oakland, California.

Prepared for

Mr. Mark Miller
Chevron U.S.A. Products Company
6001 Bollinger Canyon Road, Building L
San Ramon, California 94583

12-1-94 459

Zbigniew L. Ignatowicz
Project Geologist

Reviewed by:

REGISTERED GEOLOGIST
GREGORY P. STAHL
No. 5023
STATE OF CALIFORNIA

Gregory P. Stahl
CA Registered Geologist 5023

December 1, 1994
RESNA Report 130069.01

RESNA
Working to Restore Nature

CONTENTS

PLATES

TABLES

APPENDICES

RESNA
Working to Restore Nature

42501 Albrae Street, Suite 100
Fremont, California 94538
Phone: (510) 440-3300
FAX: (510) 651-2233

ENVIRONMENTAL ASSESSMENT REPORT

Chevron Service Station No. 9-2506
2630 Broadway
Oakland, California.
for
Chevron U.S.A. Products Company

1.0 INTRODUCTION

At the request of Chevron USA Products Company (Chevron), RESNA Industries, Inc. (RESNA) performed an environmental assessment at the Chevron Service Station No. 9-2506 located at 2630 Broadway, Oakland, California (Plates 1 and 2). The purpose of this assessment was to evaluate the presence of gasoline-range petroleum hydrocarbons in soil and groundwater in the vicinity of the subject site. The work performed by RESNA included:

- Drilling four offsite soil borings (B-9 through B-12) into first encountered groundwater at locations selected by Chevron.

- Collecting soil samples from the borings at approximately 5-foot intervals, changes in lithology, where subjective evidence of petroleum hydrocarbons was observed, and just above first encountered groundwater.

- Constructing four 2-inch-diameter groundwater monitoring wells (B-9 through B-12) in the borings.

- Developing, purging, and sampling the new groundwater monitoring wells.

- Submitting selected soil and groundwater samples for analysis to Chevron's contracted laboratory for total petroleum hydrocarbons as gasoline (TPHg) with benzene, toluene, ethylbenzene, and total xylenes (BTEX) distinction.

- Contracting a licensed land surveyor to measure the top-of-casing elevation of the all on and off site wells relative to mean sea level (msl).

- Measuring groundwater elevations in all wells.

- Preparing this report.

2.0 BACKGROUND

The site is located at the southeast corner of Broadway and 27th Street as shown on the Site Vicinity Map (Plate 1). The site is occupied by a Chevron service station. In response to a tank leak that occurred early in 1982, previous work at the subject site included replacing the underground storage tank system with all new fiberglass tanks and lines (Chevron, October 1993).? To assess whether soil and groundwater were impacted by petroleum hydrocarbons, eight groundwater monitoring wells (B-1 through B-8) were installed by J.H. Kleinfelder & Associates under the supervision of IT Enviroscience in March 1982 (J.H. Kleinfelder & Associates, March 1982), (IT Enviroscience, April and August 1982). According to Chevron file notes, separate-phase hydrocarbons (SPH) were removed from well B-4 on a weekly basis from August 1982 to February 1983. SPH removal was

discontinued when it was no longer observed to recharge into the well. On September 8, 1993, a leak occurred in the mid-grade product line and was repaired on September 9, 1993. The location of the leak was just to the east of the underground storage tanks. According to the dealer's inventory records, the estimated loss was approximately 20 gallons or less (Chevron, October 1993). In September 1993, the groundwater from the eight groundwater monitoring wells and two tank backfill wells was sampled and analyzed for total petroleum hydrocarbons as gasoline (TPHg) with benzene, toluene, ethyl benzene, and total xylenes (BTEX) distinction (Sierra Environmental, October 1993). Analytical results of groundwater samples collected from wells B-1 through B-8 and two tank backfill wells (TP-1 and TP-2) during the September 9, 1993 sampling indicated TPHg at concentrations ranging from less than the detection limit to 110,000 parts per billion (ppb) and benzene ranging from less than the detection limit to 3,200 ppb (Sierra Environmental, October 1993). The approximate locations of the station facilities, USTs, and other pertinent site features are shown on the Generalized Site Plan (Plate 2).

In a letter dated December 23, 1993, Alameda County Health Care Services Agency (ACHCSA) approved Chevron to install four offsite groundwater monitoring wells to evaluate the extent of the petroleum hydrocarbons in the subsurface.

3.0 FIELD INVESTIGATION

3.1 Work Plan / Site-Specific Health and Safety Plan / Permitting

RESNA prepared a workplan dated November 18, 1993 as requested by the ACHCSA. The workplan was approved by the ACHCSA on December 23, 1993. RESNA prepared a Site-Specific Health and Safety Plan as required by the Occupational Safety and Health Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120). The Health and Safety Plan was prepared by RESNA

personnel, following a review of site conditions and specific health and safety concerns of the project manager. The document was reviewed by RESNA personnel and subcontractor personnel performing the work. All applicable permits pertaining to drilling soil boring and installing groundwater monitoring wells were obtained from the ACHCSA, Zone 7 Water Agency and City of Oakland prior to the start of drilling (Appendix A).

3.2 Exploratory Drilling and Soil Sampling

On July 26 and 27, 1994, under the observation of RESNA, West Hazmat of Newark, California, drilled exploratory soil borings B-9 through B-12 into first encountered groundwater at the locations shown on Plate 2, using a truck-mounted drill-rig equipped with 8-inch- diameter hollow-stem augers. Borings B-9 through B-12 were drilled to approximately 20 feet below ground surface bgs.

RESNA's field geologist logged the soils encountered during drilling using the Unified Soil Classification System (Appendix B). During field operations, RESNA personnel followed RESNA's Field Protocol for drilling soil borings and installing groundwater monitoring wells (Appendix C). Soil cuttings from the boring were placed on and covered by plastic sheeting pending analytical characterization and were subsequently removed from the site for disposal by Chevron's contractor, Integrated Waste Management of Milpitas, California. Water generated during steam cleaning the augers and equipment was stored in sealed and properly labeled 17E Department of Transportation (DOT) 55-gallon drums on site. On August 4, 1994 the steam clean water was transported by RESNA to the Chevron refinery in Richmond, California for treatment.

During drilling of borings B-9 through B-12, soil samples were collected at approximately 5-foot intervals, at noticeable lithologic changes and where subjective evidence of petroleum hydrocarbons were noted using a 2½ inch outside diameter (OD) split-spoon sampler, lined

with three 2-inch-diameter by 6-inch long brass sample tubes. The sampler was driven, if possible, 18 inches ahead of the augers at each sample point. Soil samples were field screened using a photoionization detector (PID). The soil samples selected for laboratory analyses were sealed with aluminum foil, capped, labeled, and placed on ice in an insulated container. The samples were accompanied by chain-of-custody documents and delivered to Superior Precision Analytical, Inc. (Superior) a Chevron-approved, state-certified laboratory in Martinez, California.

3.3 Monitoring Well Installation

After drilling was completed, the soil borings were converted to groundwater monitoring wells on July 26 and 27, 1994 using 2-inch diameter, schedule 40 polyvinyl chloride (PVC) flush threaded blank casing and 0.020-inch-slot well screen. The well screen was installed from approximately 4.5 to 19.5 feet bgs in all four wells. A sand filter pack (#3 RMC Lonestar) was placed around the well screen to a height of approximately 1 foot above the top of the screen. A 6 to 8 inches thick bentonite pellet seal was placed above the sand pack and was hydrated in place with clean water. The wells were completed with a grout seal and concrete to grade. The wellheads were protected by locking caps and traffic-rated street boxes set in concrete with a water-tight bolted lids. Boring logs and well construction details are included in Appendix B.

3.4 Monitoring Well Development and Sampling

On August 1, 1994, RESNA developed wells B-9 through B-12 using a combination of surging and bailing to remove water and fine-grained sediments from the wells and sand pack, and produce a relatively evenly distributed sand filter pack, improving well efficiency. A RESNA field technician measured the depth to groundwater and collected groundwater samples from monitoring wells B-9 through B-12 on August 4, 1994 following RESNA's

Field Protocol (Appendix C). Depth to groundwater ranged, in all four wells, from approximately 6.5 to 11.5 feet. Prior to sampling, the wells were purged of approximately three well casing volumes and the groundwater level allowed to recover to static conditions. Groundwater samples were then collected using clean disposable bailers and placed in containers appropriate for the analysis required. The samples were acidified, labeled, and placed on ice in an insulated container for delivery to Superior environmental laboratory accompanied by chain-of-custody documents. On August 4, 1994 the purge water from well development and purging activities was transported, in water trailer, by RESNA to the Chevron Refinery in Richmond, California for treatment.

3.5 Surveying

The four new monitoring wells B-9 through B-12 were surveyed on August 5, 1994 and all the on and off site wells (B-1 through B-12) we resurveyed on October 19, 1994 by Ron Archer Civil Engineer Inc., of Pleasanton, California, a licensed land surveyor. The elevation of each wellhead was surveyed to within 0.01 foot with respect to mean sea level. The survey data are presented in Appendix D.

4.0 SITE CONDITIONS

4.1 Geology and Hydrogeology

The soil underlying the site consists of approximately 20 feet of interbedded alluvial deposits of gravelly-silty sand, clayey sand, sandy-gravelly clay and silty clays. Detailed descriptions of the materials are shown on the boring logs (Appendix B). Groundwater was first encountered during the drilling of borings B-9 through B-12 at approximately 17-18 feet bgs. The static water levels measured during the sampling of the four new wells varied from approximately 6.5 feet to 11.5 feet below the top of the PVC casing. The static water levels

measured in all site wells on November 2, 1994 varied from approximately 8.0 feet to 11.5 feet below the top of the PVC casing. RESNA prepared a groundwater gradient map using groundwater elevation data from all wells at the site, obtained on November 2, 1994 (Table 2, Plate 3). The interpreted groundwater gradient and flow directions vary across the site vicinity area. A high, in the vicinity of well B-9 and two lows, around the wells B-10 and B-12 can be observed. The north corner of the site appears to occupy a minor groundwater divide where flow from the south is re-directed to the east and west.

5.0 LABORATORY ANALYSES AND RESULTS

Selected soil samples collected from each boring and groundwater samples collected after well purging were analyzed for TPHg with BTEX distinction using modified Environmental Protection Agency (EPA) methods 8015/8020.

5.1 Soil

Analytical results of soil samples collected from borings B-9 through B-12 are summarized in Table 1. The laboratory reports and chain-of-custody documents are included in Appendix E. Concentrations of total petroleum hydrocarbons as gasoline (TPHg) with benzene, toluene, ethylbenzene, and total xylenes (BTEX) distinction were not detected in the soil samples designated B10-2-10, B11-1-5, and B12-2-11. Only total xylenes at the concentration of 0.006 milligrams per kilogram (mg/kg) were detected in soil sample labeled B10-1-6. TPHg was detected in soil sample B9-1-5 and B12-1-5 at the concentration of 90 mg/kg and 7.9 mg/kg, respectively. Toluene and/or ethylbenzene and/or total xylenes (TEX) were detected in soil samples B9-1-5, B9-2-10, B11-2-11 and B12-1-5. Concentrations of TEX varied from less than laboratory detection limit to 2.2 mg/kg.

5.2 Groundwater

Analytical results of groundwater samples collected from wells B-9 through B-12 are summarized in Table 2. The laboratory reports and chain-of-custody documents are included in Appendix E. TPHg with BTEX distinction were not detected in the groundwater samples collected from wells B-10, B-11 and B-12 and analyzed during the course of this assessment. Concentrations of TPHg and BTEX were detected in groundwater sample from well B-9. Concentrations of TPHg were 650 micrograms per liter (μg/l) and concentrations of BTEX were 4.4 μg/l, 2.4 μg/l, 6.3 μg/l, and 14 μg/l, respectively.

6.0 LIMITATIONS

This report was prepared in accordance with generally accepted standards of environmental geological practice in California at the time the assessment was performed. This assessment was conducted solely for the purpose of evaluating environmental conditions of the soil and groundwater with respect to gasoline-range petroleum hydrocarbons at the site. No soil engineering or geotechnical references are implied or should be inferred. Evaluation of the geologic and hydrogeologic conditions at the site for the purpose of this assessment is made from a limited number of observation points. This report was prepared solely for Chevron, and any reliance on this report by a third party shall be at such party's sole risk.

7.0 REFERENCES CITED

Chevron, October 7, 1993, *Letter from Mark Miller of Chevron U.S.A. Products Company to Jennifer Eberle of the Alameda County Health Care Services regarding Chevron Service Station #9-2506, 2630 Broadway, Oakland, CA,.*

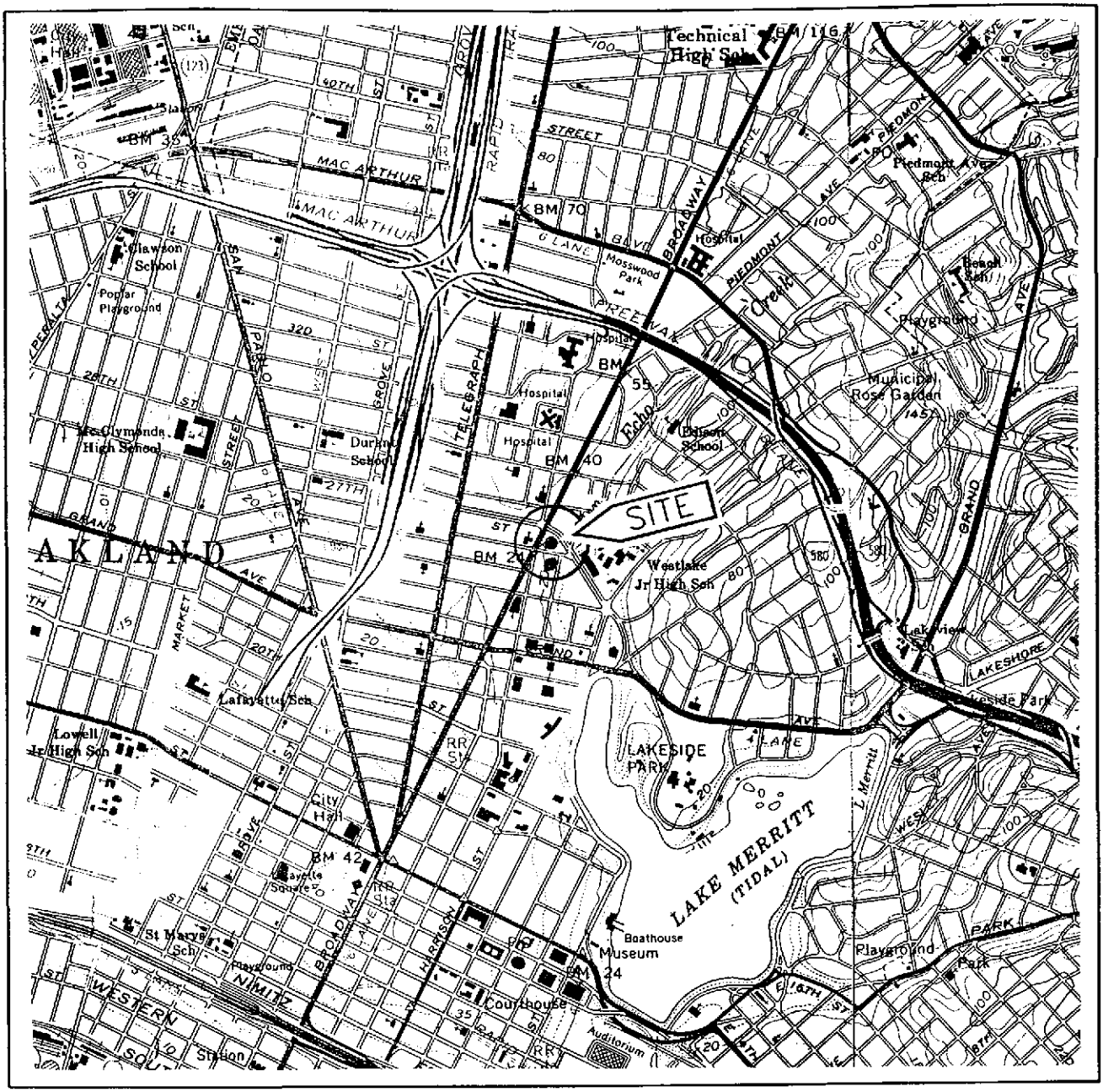
CRWQCB, August 19, 1990, *Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Storage Tank Sites.*

J.H. Kleinfelder & Associates, March 26, 1982, *Groundwater Monitoring Well Installation Report, Chevron Service Station, 2630 Broadway, Oakland, CA,* File B-1189-1.

IT Enviroscience, April 6, 1982, *Progress Report #1, Gasoline Leakage, Chevron Service Station # 2506, 2630 Broadway, Oakland, CA,94612*, WC58X34.

IT Enviroscience, August 2, 1982, *Progress Report #2 (Final), Gasoline Leakage, Chevron Service Station #2506, 2630 Broadway, Oakland, CA,94612*, WC58X34, ITE #1-3508.

Sierra Environmental, October 1, 1993, *Report, Chevron Service Station, 2630 Broadway, Oakland, California*, SES Project #1-364-04.



Source: U.S. Geological Survey
7.5–Minute Quadrangles
Oakland East/Oakland West, California
Photorevised 1980

N

Approximate Scale
2000 1000 0 2000
feet

RESNA
Working to Restore Nature

PROJECT 130069.01

SITE VICINITY MAP
Chevron Station 9-2506
2630 Broadway
Oakland, California

PLATE
1

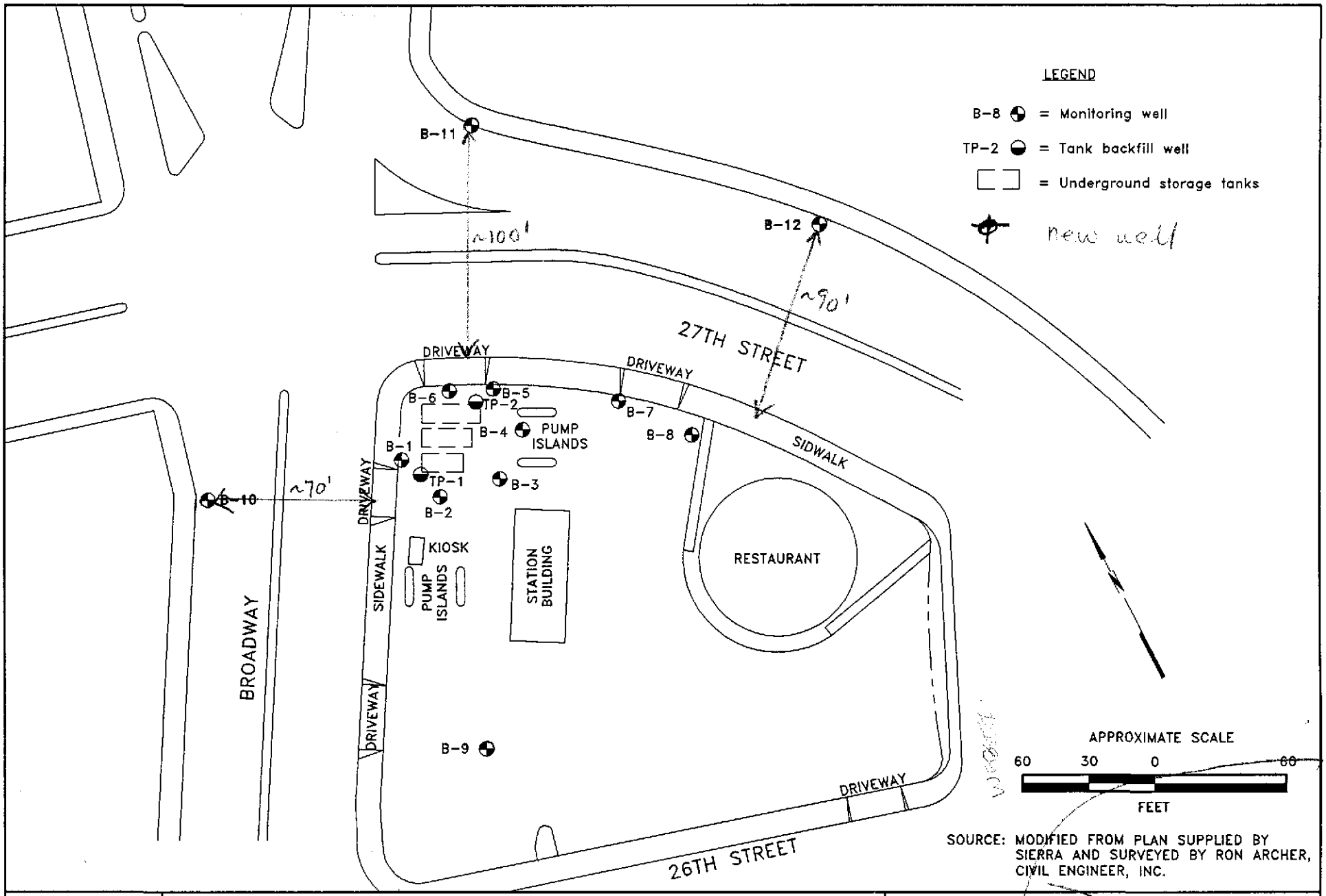


PLATE 2

GENERALIZED SITE PLAN
Chevron Station 9-2506
2630 Broadway
Oakland, California

RESNA

PROJECT 130069.01

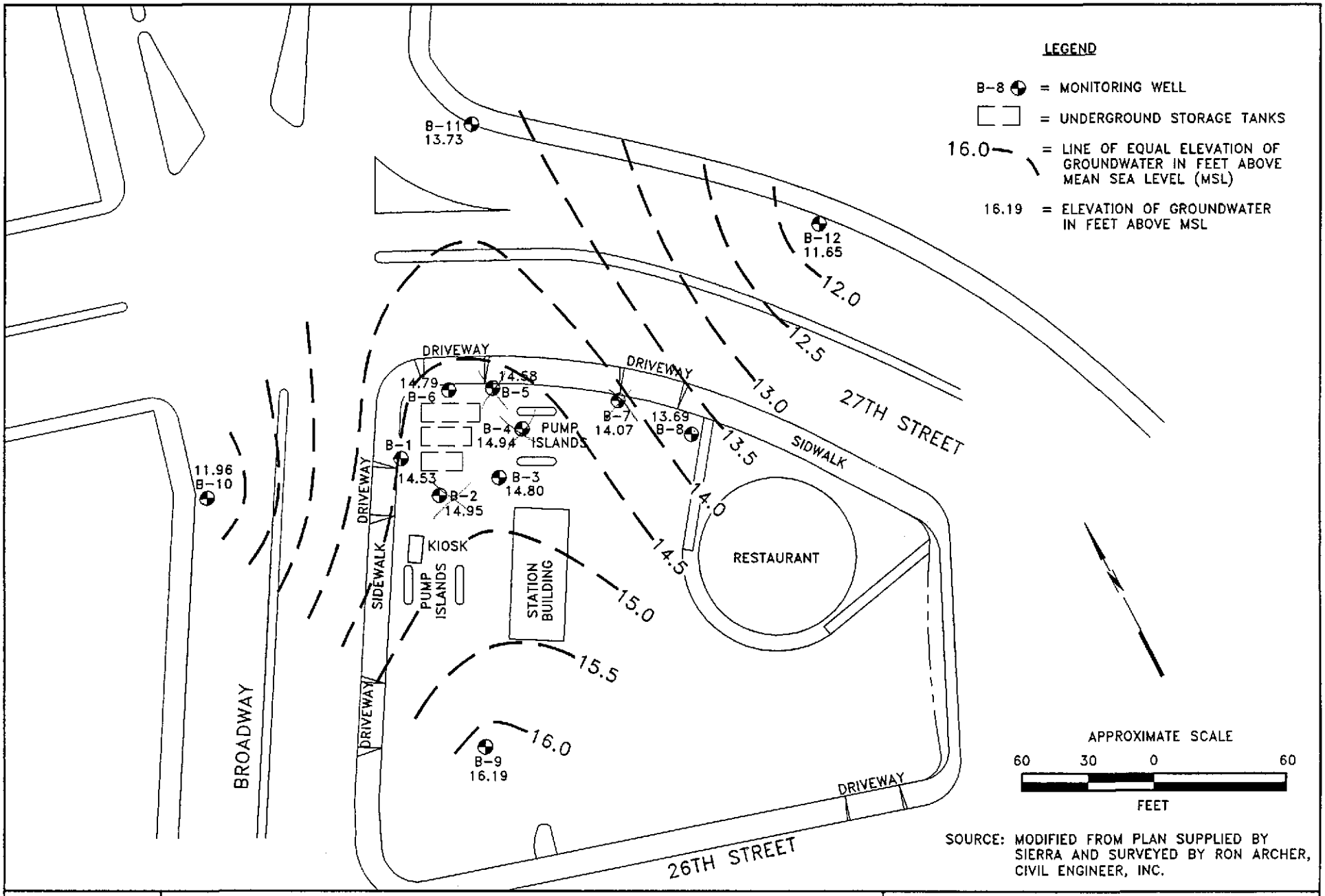


PLATE 3

GROUNDWATER GRADIENT MAP (NOVEMBER 2, 1994)
Chevron Station 9-2506
2630 Broadway
Oakland, California

RESNA

PROJECT 130069.01

RESNA
Working to Restore Nature

TABLE 1
SOIL ANALYTICAL RESULTS
Chevron Station No. 9-2506
2630 Broadway, Oakland, California
(page 1 of 1)

7-28-94

Sample Number	Date Sampled	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
B9-1-5 (S-5)	07/26/94	90	<0.025	0.76	0.75	2.2
B9-2-10 (S-10)	07/26/94	<1	<0.005	0.010	0.005	0.007
B10-1-6 (S-6)	07/27/94	<1	<0.005	<0.005	<0.005	0.006
B10-2-10 (S-10)	07/27/94	<1	<0.005	<0.005	<0.005	0.005
B11-1-5 (S-5)	07/26/94	<1	<0.005	<0.005	<0.005	<0.005
B11-2-11 (S-11)	07/26/94	<1	<0.005	0.007	<0.005	0.021
B12-1-5 (S-5)	07/26/94	7.9*	<0.5	0.13	0.16	0.70
B12-2-11 (S-11)	07/26/94	<1	<0.005	<0.005	<0.005	<0.005

All results in milligrams per kilogram (mg/kg) = parts per million (ppm)

TPHg	Total petroleum hydrocarbons as gasoline
<	Less than listed detection limit established by the laboratory
B12-2-11	Monitoring well identification, sample number and sample depth (feet below ground surface)
(S-11)	Sample designation on boring logs
*	Hydrocarbons were found in the range of gasoline which did not resemble a gasoline pattern.

M\Z\C\130069-1.ASD

RESNA
Working to Restore Nature

TABLE 2
GROUNDWATER MONITORING DATA AND ANALYTICAL RESULTS
Chevron Station No. 9-2506
2630 Broadway, Oakland, California

Well Number	Date Sampled	Depth to Water	Groundwater Elevation	TPHg	Benzene	Toluene	Ethyl-benzene	Total Xylenes
B-1	08/04/94	10.74	12.26	NA	NA	NA	NA	NA
(23.00)	11/02/94	11.14	14.53	NA	NA	NA	NA	NA
(25.67)*								
B-2	08/04/94	9.55	12.73	NA	NA	NA	NA	NA
(22.28)	11/02/94	10.18	14.95	NA	NA	NA	NA	NA
(25.13)*								
B-3	08/04/94	8.52	13.26	NA	NA	NA	NA	NA
(21.78)	11/02/94	9.55	14.80	NA	NA	NA	NA	NA
(24.35)*								
B-4	08/04/94	8.15	13.20	NA	NA	NA	NA	NA
(21.35)	11/02/94	9.17	14.94	NA	NA	NA	NA	NA
(24.11)*								
B-5	08/04/94	8.77	12.76	NA	NA	NA	NA	NA
(21.53)	11/02/94	9.65	14.58	NA	NA	NA	NA	NA
(24.23)*								
B-6	08/04/94	9.30	12.73	NA	NA	NA	NA	NA
(22.03)	11/02/94	9.93	14.79	NA	NA	NA	NA	NA
(24.72)*								
B-7	08/04/94	7.08	12.46	NA	NA	NA	NA	NA
(19.54)	11/02/94	8.15	14.07	NA	NA	NA	NA	NA
(22.22)*								
B-8	08/04/94	6.52	11.97	NA	NA	NA	NA	NA
(18.49)	11/02/94	7.32	13.69	NA	NA	NA	NA	NA
(21.01)*								
B-9	08/04/94	11.53	14.08	650	4.4	2.4	6.3	14
(25.61)*	11/02/94	9.42	16.19	NA	NA	NA	NA	NA
B-10	08/04/94	10.95	12.20	<50	<0.5	<0.5	<0.5	<0.5
(23.15)*	11/02/94	11.19	11.96	NA	NA	NA	NA	NA
B-11	08/04/94	10.39	14.84	<50	<0.5	<0.5	<0.5	<0.5
(25.23)*	11/02/94	11.50	13.73	NA	NA	NA	NA	NA
B-12	08/04/94	6.41	13.99	<50	<0.5	<0.5	<0.5	<0.5
(20.40)*	11/02/94	8.75	11.65	NA	NA	NA	NA	NA

Depth to water measured in feet below top of casing.
All results in micrograms per liter ($\mu g/L$) = parts per billion (ppb)

TPHg	Total petroleum hydrocarbons as gasoline
<	Less than listed detection limit established by laboratory
(20.40)	Surveyed elevation of the top of the PVC casing. Top of PVC casing elevation and groundwater elevation in feet above mean sea level.
(25.23)*	Re-surveyed elevation of the top of the PVC casing (October 19, 1994).
NA	Not analyzed

RESNA
Working to Restore Nature

APPENDIX A

WELL INSTALLATION PERMIT

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE   PLEASANTON, CALIFORNIA 94588   VOICE (510) 484-2600 EXT 235
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

CATION OF PROJECT 2630 Broadway, Oakland, CA

IENT
Name Chevron U.S.A. Products Co Attn: Mark Miller
dress P.O. Box 5004 Voice (510) 842-8134
y San Ramon, CA Zip 94583

PPLICANT
me RESNA Industries Inc.
3315 Almaden Expy. Fax (408) 264-2435
Address Suite 34 Voice (408) 264-7723
y San Jose, CA Zip 95118

YPE OF PROJECT
ll Construction
Cathodic Protection ___
Water Supply ___
Monitoring X
Geotechnical Investigation
General ___
Contamination ___
Well Destruction ___

OPOSED WATER SUPPLY WELL USE
omestic ___ Industrial ___ Other ___
nicipal ___ Irrigation ___

RILLING METHOD:
d Rotary ___ Air Rotary ___ Auger hollow-stem
ble ___ Other ___

RILLER'S LICENSE NO. 265556 SC-61, C-57

LL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 25 ft.
Surface Seal Depth 4 ft. Number 4
Groundwater at 5 feet on 9/9/93.

OTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft.

TIMATED STARTING DATE Mid-February, 1994 JULY 15, 1994 as per conversation with Mr. Wyman Hong on 6-30-94.
TIMATED COMPLETION DATE Mid-February, 1994

reby agree to comply with all requirements of this permit and Alameda
nty Ordinance No. 73-68.

RESNA for Chevron USA Products Co.

PLICANT'S
NATURE Cynthia R Vriostle Date 12/29/93

FOR OFFICE USE

PERMIT NUMBER 94015
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Permit verbaly extended by Mr. WYMAN HONG on 6-30-94. Extention granted for 90 days from July 15, 1994

Approved Wyman Hong Date 11 Jan 94
Wyman Hong

91992

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR
DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

December 23, 1993
STID 459

Mark Miller
Chevron USA Inc.
PO Box 5004
San Ramon CA 94583-0804

RE: Chevron Station #92506
2630 Broadway
Oakland CA 94612

Mark,

We have received the "Work Plan, Offsite Subsurface Environmental Assessment," prepared by Resna, dated 11/18/93. As you know, this workplan involves the installation of four groundwater monitoring wells, three of which are located offsite and downgradient.

This workplan is acceptable. Please note the typographic error on page 3, paragraph 4, which reads "monitoring wells B-1 through B-4;" it should read "monitoring wells B-9 through B-12."

Please note that with the exception of closure reports, routine reports and documents no longer need to be copied to the Regional Water Quality Control Board. Kindly submit a cover letter with your consultant's reports. If you have any questions, please contact me at 510-271-4530.

Please notify me at least 2 business days in advance of field activities so that I may arrange to be onsite.

Sincerely,

Jennifer Eberle
Hazardous Materials Specialist

cc: Cynthia Virotsko, Resna, 3315 Almaden Expressway, Suite 34, San Jose CA 95118
Ed Howell/file

je

350-2 (REV. 6/90)

RESNA CHECK # 50208

CITY OF OAKLAND

PERMIT TO EXCAVATE IN STREETS OR OTHER WORK AS SPECIFIED

7/14/94

195 + 40 = 235 00

LOCATION OF WORK: BROADWAY (Street or Address) BETWEEN 27th St (Street/Ave.) AND 26th St (Specify)

PERMISSION TO EXCAVATE IN THE PUBLIC RIGHT-OF-WAY IS HEREBY GRANTED TO:

APPLICANT WEST HAZMAT DRILLING CORP. / RESNA

ADDRESS 2621 ENTERPRISE DRIVE NEWARK, CA 94560 PHONE #: (510) 494-8111

TYPE OF WORK: GAS____ ELECTRIC____ WATER____ TELEPHONE____ CABLE TV____ SEWER____ OTHER Well installation (Specify)

NATURE OF WORK: Well B-10 will be installed on the street

INSPECTION COSTS FOR UTILITY COMPANIES & ADDITIONAL INSPECTION HOURS WILL BE CHARGED IN CONFORMANCE WITH THE MASTER FEE SCHEDULE.

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5. Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to it's issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License Law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

☐ I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 70044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

☐ I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale. (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption in this subdivision on more than two structures more than once during any three-year period. (Sec. 7044, Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License Law).

☐ I am exempt under Sec. _____, B&PC. for this reason _____

Signature _____ Date _____

PERMIT VOID 90 DAYS FROM DATE OF ISSUE UNLESS EXTENSION GRANTED BY DIRECTOR OF PUBLIC WORKS.

Approximate Starting Date	DATE	JULY 25, 1994
Approximate Completion Date	DATE	JULY 31, 1994
HOLIDAY RESTRICTION (1 NOV — 1 JAN)	YES X	NO ____
LIMITED OPERATION AREA (7AM – 9AM / 4PM – 6PM)	YES X	NO ____
DATE STREET LAST RESURFACED	DATE 1956	
SPECIAL PAVING DETAIL REQUIRED	YES ____	NO X

24-HOUR EMERGENCY PHONE NUMBER (510) 440-3300 EXT. 350

PERMIT NOT VALID WITHOUT 24 HOUR NUMBER.

Telephone 238-3651 Forty-eight (48) HOURS BEFORE ACTUAL CONSTRUCTION.

ATTENTION

State law requires that contractor/owner call Underground Service Alert two working days before excavating to have below-ground utilities located. This permit is not valid uness applicant has secured an Inquiry Identification number issued by Underground Service Alert.

Call Toll Free: 800-642-2444 USA ID Number 223407

WORKER'S COMPENSATION

I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Workers' Compensation Insurance, or a certified copy thereof (Sec. 3800, Lab. C).

Policy # CJ9590674 Company Name WEST HAZMAT DRILLING

☐ Certified copy is hereby furnished.

☒ Certified copy is filed with the city building inspection dept.

Signature _____ Date July 1, 94

(This section need not be completed if the permit is for one hundred dollars ($100) or less.)

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers' Compensation Laws of California.

Signature _____ Date _____

NOTICE TO APPLICANT. If, after making this Certificate of Exemption, you should become subject to the Workers' Compensation provisions of the Labor Code, you must forthwith imply with such provisions or this permit shall be deemed revoked.

This permit issued pursuant to all provisions of Chapter 6, Article 2 of the Oakland Municipal Code.

This permit is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance.

CONTRACTOR

I hereby affirm that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

LICENSE # AND CLASS: 457-554979 CITY BUSINESS TAX: 596620

X _____ Date July 1, 94

Signature of Contractor/Owner or Agent

☐ Agent for ☒ Contractor ☐ Owner

OFFICIAL USE ONLY

UTILITY COMPANY REPORT

Supervisor _____ Completion Date _____

CITY INSPECTOR'S REPORT

	BACKFILL	PAVING
Initials		
Hours		
Date		
Concrete		
Asphalt		
Sidewalk		

Size of Cut: Sq. Ft. ____ Inches ____

Paved by _____ Type _____

Bill No. _____

Charges Backfill _____ Paving _____ Paving Insp. _____

Traffic Striping Replaced _____ Date _____

APPROVED

Engineering Services _____ Date _____

Planning _____ Date _____

Field Services _____ Date _____

Construction _____ Date _____

Traffic Engineering _____ Date _____

Electrical Engineering _____ Date _____

DIRECTOR OF PUBLIC WORKS

APPROVED BY: Thomas M. Orsi

DATE: 7/14/94

EXTENSION GRANTED BY: _____

DATE: _____

350-2 (REV. 6/90)

CITY OF OAKLAND

PERMIT TO EXCAVATE IN STREETS OR OTHER WORK AS SPECIFIED

RESNA CHECK # 50212

LOCATION OF WORK: 27th STREET (Street or Address) BETWEEN BROADWAY (Street/Ave.) AND VALDEZ (Specify)

PERMISSION TO EXCAVATE IN THE PUBLIC RIGHT-OF-WAY IS HEREBY GRANTED TO:

APPLICANT WEST HAZMAT DRILLING CORP. / RESNA

ADDRESS 8261 ENTERPRISE DRIVE NEWARK CA 94560 PHONE # (510) 494-8111

TYPE OF WORK: GAS____ ELECTRIC____ WATER____ TELEPHONE____ CABLE TV____ SEWER____ OTHER WELL INSTALLATION (Specify)

NATURE OF WORK: Well B-11 will be installed on sidewalk / Well B12 on the street

INSPECTION COSTS FOR UTILITY COMPANIES & ADDITIONAL INSPECTION HOURS WILL BE CHARGED IN CONFORMANCE WITH THE MASTER FEE SCHEDULE.

7/14/94

195 + 40 = 235

OWNER/BUILDER

I hereby affirm that I am exempt from the Contractor's License Law for the following reason (Sec. 7031.5. Business and Professions Code: Any city or county which requires a permit to construct, alter, improve, demolish, or repair any structure, prior to it's issuance, also requires the applicant for such permit to file a signed statement that he is licensed pursuant to the provisions of the Contractor's License Law Chapter 9 (commencing with Sec. 7000) of Division 3 of the Business and Professions Code, or that he is exempt therefrom and the basis for the alleged exemption. Any violation of Section 7031.5 by any applicant for a permit subjects the applicant to a civil penalty of not more than $500):

☐ I, as owner of the property, or my employees with wages as their sole compensation, will do the work, and the structure is not intended or offered for sale (Sec. 70044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who does such work himself or through his own employees, provided that such improvements are not intended or offered for sale. If, however, the building or improvement is sold within one year of completion, the owner-builder will have the burden of proving that he did not build or improve for the purpose of sale).

☐ I, as owner of the property, am exempt from the sale requirements of the above due to: (1) I am improving my principal place of residence or appurtenances thereto, (2) the work will be performed prior to sale, (3) I have resided in the residence for the 12 months prior to completion of the work, and (4) I have not claimed exemption in this subdivision on more than two structures more than once during any three-year period. (Sec. 7044. Business and Professions Code).

☐ I, as owner of the property, am exclusively contracting with licensed contractors to construct the project (Sec. 7044, Business and Professions Code: The Contractor's License Law does not apply to an owner of property who builds or improves thereon, and who contracts for such projects with a contractor(s) licensed pursuant to the Contractor's License Law).

☐ I am exempt under Sec. _____, B&PC for this reason _____

Signature _____ Date _____

PERMIT VOID 90 DAYS FROM DATE OF ISSUE UNLESS EXTENSION GRANTED BY DIRECTOR OF PUBLIC WORKS.

Approximate Starting Date DATE JULY 25-94

Approximate Completion Date DATE JULY 31, 94

HOLIDAY RESTRICTION (1 NOV — 1 JAN) YES X NO ____

LIMITED OPERATION AREA (7AM – 9AM / 4PM – 6PM) YES X NO ____

DATE STREET LAST RESURFACED DATE 1956

SPECIAL PAVING DETAIL REQUIRED YES ____ NO X

24-HOUR EMERGENCY PHONE NUMBER (510) 440-3300 EXT. 350

PERMIT NOT VALID WITHOUT 24 HOUR NUMBER.

Telephone 238-3651 forty-eight (48) HOURS BEFORE ACTUAL CONSTRUCTION.

ATTENTION

State law requires that contractor/owner call Underground Service Alert two working days before excavating to have below-ground utilities located. This permit is not valid unless applicant has secured an Inquiry Identification number issued by Underground Service Alert.

Call Toll Free: 800-642-2444 USA ID Number: A23407

WORKER'S COMPENSATION

I hereby affirm that I have a certificate of consent to self-insure, or a certificate of Workers' Compensation Insurance, or a certified copy thereof (Sec. 3800, Lab C).

Policy # CJ9590674 Company Name WEST HAZMAT DRILLING

☐ Certified copy is hereby furnished.

☒ Certified copy is filed with the city building inspection dept.

Signature _____ Date July 1, 94

(This section need not be completed if the permit is for one hundred dollars ($100) or less.)

I certify that in the performance of the work for which this permit is issued, I shall not employ any person in any manner so as to become subject to the Workers' Compensation Laws of California.

Signature _____ Date _____

NOTICE TO APPLICANT: If, after making this Certificate of Exemption, you should become subject to the Workers' Compensation provisions of the Labor Code, you must forthwith imply with such provisions or this permit shall be deemed revoked.

This permit issued pursuant to all provisions of Chapter 6, Article 2 of the Oakland Municipal Code.

This permit is granted upon the express condition that the permittee shall be responsible for all claims and liabilities arising out of work performed under the permit or arising out of permittee's failure to perform the obligations with respect to street maintenance. The permittee shall, and by acceptance of the permit agrees to defend, indemnify, save and hold harmless the City, its officers and employees, from and against any and all suits, claims or actions brought by any person for or on account of any bodily injuries, disease or illness or damage to persons and/or property sustained or arising in the construction of the work performed under the permit or in consequence of permittee's failure to perform the obligations with respect to street maintenance.

CONTRACTOR

I hereby affirm that I am licensed under provisions of Chapter 9 (commencing with Section 7000) of Division 3 of the Business and Professions Code, and my license is in full force and effect.

LICENSE # AND CLASS A-57 554979 CITY BUSINESS TAX # 596620

X _____ Date July 1, 94

Signature of Contractor, Owner or Agent

☐ Agent for ☒ Contractor ☐ Owner

OFFICIAL USE ONLY

UTILITY COMPANY REPORT

Supervisor _____

Completion Date _____

CITY INSPECTOR'S REPORT

	BACKFILL	PAVING
Initials		
Hours		
Date		
Concrete		
Asphalt		
Sidewalk		

Size of Cut: Sq. Ft. _____ Inches _____

Paved by _____ Type _____

Bill No. _____

Charges Backfill _____

Paving _____

Paving Insp. _____

Traffic Striping Replaced _____ Date

APPROVED

Engineering Services _____ Date _____

Planning _____ Date _____

Field Services _____ Date _____

Construction _____ Date _____

Traffic Engineering _____ Date _____

Electrical Engineering _____ Date _____

DIRECTOR OF PUBLIC WORKS

APPROVED BY: _____

DATE: 7/14/94

EXTENSION GRANTED BY: _____

DATE: _____

Working to Res

APPENDIX B

BORING LOGS WITH WELL CONSTRUCTION DETAILS

UNIFIED SOIL CLASSIFICATION SYSTEM

MAJOR DIVISION		LTR	DESCRIPTION	MAJOR DIVISION		LTR	DESCRIPTION
COARSE-GRAINED SOILS	GRAVEL AND GRAVELLY SOILS	GW	Well-graded gravels or gravel-sand mixtures, little or no fines.	FINE-GRAINED SOILS	SILTS AND CLAYS LL<50	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, or clayey silts with slight plasticity.
		GP	Poorly-graded gravels or gravel-sand mixtures, little or no fines.			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays.
		GM	Silty gravels, gravel-sand-silt mixtures.			OL	Organic silts and organic silt-clays of low plasticity.
		GC	Clayey gravel, gravel-sand-clay mixtures.		SILTS AND CLAYS LL>50	MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
	SAND AND SANDY SOILS	SW	Well-graded sand or gravelly sands, little or no fines.			CH	Inorganic clays of high plasticity, fat clays.
		SP	Poorly-graded sands or gravelly sands, little or no fines.			OH	Organic clays of medium to high plasticity, organic silts.
		SM	Silty sands, sand-silt mixtures.	HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils.
		SC	Clayey sands, sand-clay mixtures.				


Depth through which sampler is driven


Relatively undisturbed sample


No sample recovered


Static water level observed in well/boring


Initial water level observed in boring

S-10 Sample number

P.I.D. Photoionization detector


Sand pack


Bentonite

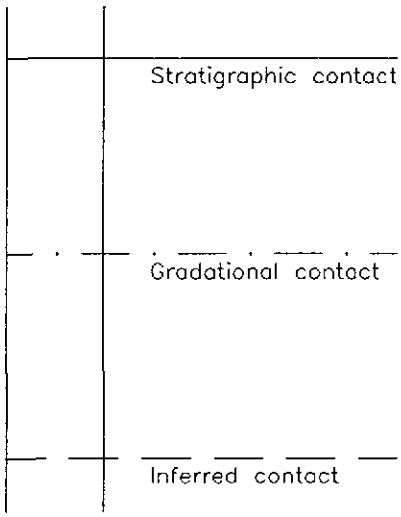

Neat cement


Caved native soil


Blank PVC


Machine-slotted PVC


Pea gravel



BLOWS REPRESENT THE NUMBER OF BLOWS OF A 140-POUND HAMMER FALLING 30 INCHES TO DRIVE THE SAMPLER THROUGH EACH 6 INCHES OF AN 18-INCH PENETRATION.

GRADATIONAL AND INFERRED CONTACT LINES SEPARATING UNITS ON THE LOG REPRESENT APPROXIMATE BOUNDARIES ONLY. ACTUAL BOUNDARIES MAY BE GRADUAL. LOGS REPRESENT SUBSURFACE CONDITIONS AT THE BORING LOCATION AT THE TIME OF DRILLING ONLY.

RESNA
Working to Restore Nature

PROJECT 130069.01

UNIFIED SOIL CLASSIFICATION SYSTEM AND SYMBOL KEY
Chevron Station 9-2506
2630 Broadway
Oakland, California

Total depth of boring: 20 feet
Diameter of boring: 8 inches
Date drilled: 7-26-94
Drilling Company: West Hazmat
Driller: Gene
Drilling method: Hollow-Stem Auger

Casing diameter: 2 inches
Casing material: Sch 40 PVC
Slot size: 0.020-inch
Sand size: No. 3 sand
Screen Interval: 4-1/2 feet to 19-1/2 feet
Field Geologist: Zbigniew Ignatowicz
Signature of Registered Professional:
Registration No.: 5023 State: CA

P.I.D.	Sample No.	Blows	Depth	USCS Code	Description	Well Const.
					Asphalt over base rock.	
			2	SC	Clayey sand, medium-grained, brown, medium dense, moist.	
			4			
2152	S-5	7 4 6	6	CL	Sandy clay, black and bluish-black, medium plasticity, stiff, moist.	
			8	SW	Gravelly sand, brown and olive-gray, very dense, damp.	
909	S-10	25 30 20	10	CL	Sandy-gravelly clay, brown-gray, medium plasticity, hard, moist.	
			12			
			14	SW/GW	Gravelly sand/sandy gravel, reddish-brown, very dense, damp.	
	S-15	50 50/3"	16			
			18	CL	Silty clay, black-brown, medium plasticity, hard, damp.	
14	S-19	12 20 35	20			
					Total Depth = 20 feet.	
			22			
			24			
			26			
			28		first water?	
			30			
			32			
			34			
			36			
			38			
			40			

RESNA
Working to Restore Nature

PROJECT: 130069.01

LOG OF BORING/MONITORING WELL B-9

Chevron Station 9-2506
2630 Broadway,
Oakland, California

Total depth of boring:	20 feet	Casing diameter:	2 inches
Diameter of boring:	8 inches	Casing material:	Sch 40 PVC
Date drilled:	7-27-94	Slot size:	0.020-inch
Drilling Company:	West Hazmat	Sand size:	No. 3 sand
Driller:	Gene	Screen Interval:	4-1/2 feet to 19-1/2 feet
Drilling method:	Hollow-Stem Auger	Field Geologist:	Zbigniew Ignatowicz

Signature of Registered Professional: [signature]

Registration No.: 5023 State: CA

P.I.D.	Sample No.	Blows	Depth	USCS Code	Description	Well Const.
					Asphalt over base rock.	
			2	CL	Silty clay, black, low plasticity, medium stiff, damp; pieces of concrete, backfill.	
			4	CL	Silty clay, dark and light brown, low plasticity, very stiff, moist.	
4.9	S-6	4 6 11	6			
			8	SW/GW	Gravelly sand/sandy gravel, medium-grained sand to medium gravel, brown, very dense, moist.	
13.3	S-10	40 50/6"	10			
			12			
			14	CL	Sandy clay, brown, low plasticity, hard, moist.	
12.4	S-15	12 15 20	16			
			18	SM	Silty sand, medium-grained sand, brown, dense, saturated.	
14.6	S-19	11 20 22	20			
					Total Depth = 20 feet.	
			22			
			24			
			26			
			28			
			30			
			32			
			34			
			36			
			38			
			40			

RESNA
Working to Restore Nature

PROJECT: 130069.01

LOG OF BORING/MONITORING WELL B-10

Chevron Station 9-2506
2630 Broadway,
Oakland, California

Total depth of boring:	20 feet	Casing diameter:	2 inches
Diameter of boring:	8 inches	Casing material:	Sch 40 PVC
Date drilled:	7-26-94	Slot size:	0.020-inch
Drilling Company:	West Hazmat	Sand size:	No. 3 sand
Driller:	Gene	Screen Interval:	4-1/2 feet to 19-1/2 feet
Drilling method:	Hollow-Stem Auger	Field Geologist:	Zbigniew Ignatowicz

Signature of Registered Professional: [signature]

Registration No.: 5923 State: CA

P.I.D.	Sample No.	Blows	Depth	USCS Code	Description	Well Const.
					Concrete over base rock.	
			2	SC	Clayey sand, fine-grained sand, light brown, medium dense, very moist.	
7.2	S-5	16 7 12	4 6			
			8	SW	Gravelly sand, fine-grained sand and fine gravel, brown, very dense, moist.	
3.7	S-11	17 30 35	10 12			
			14	CL	Silty clay, light brown, medium plasticity, very stiff, moist.	
2.2	S-16	12 20 22	16	SC	Clayey sand, brown, dense, saturated.	
4.9	S-20	15 25 22	18 20		Total Depth = 20 feet.	
			22 24 26 28 30 32 34 36 38 40			

RESNA
Working to Restore Nature

PROJECT: 130069.01

LOG OF BORING/MONITORING WELL B-11

Chevron Station 9-2506
2630 Broadway,
Oakland, California

Total depth of boring: 20 feet
Diameter of boring: 8 inches
Date drilled: 7-26-94
Drilling Company: West Hazmat
Driller: Gene
Drilling method: Hollow-Stem Auger

Casing diameter: 2 inches
Casing material: Sch 40 PVC
Slot size: 0.020-inch
Sand size: No. 3 sand
Screen Interval: 4-1/2 feet to 19-1/2 feet
Field Geologist: Zbigniew Ignatowicz

Signature of Registered Professional:
Registration No.: 5923 State: CA

P.I.D.	Sample No.	Blows	Depth	USCS Code	Description	Well Const.
					Concrete over base rock.	
548			2	CL	Sandy clay, greenish-gray, medium plasticity, very stiff, damp.	
14	S-5	20 16 12	4 6		Color change to dark brown.	
			8	CL	Silty clay, yellowish-brown, medium plasticity, hard, damp.	
7.8	S-11	10 20 30	10 12			
			14			
5.2	S-16	12 16 22	16		Very moist.	
			18			
1.7	S-20	14 20 35	20		Total Depth = 20 feet.	
			22			
			24			
			26			
			28			
			30			
			32			
			34			
			36			
			38			
			40			

RESNA
Working to Restore Nature

PROJECT: 130069.01

LOG OF BORING/MONITORING WELL B-12

Chevron Station 9-2506
2630 Broadway,
Oakland, California

APPENDIX C

FIELD PROTOCOL

RESNA
Working to Restore Nature

FIELD PROTOCOL

The following presents RESNA Industries' field protocol for a typical site investigation involving gasoline hydrocarbon-impacted soil and/or groundwater.

Site Safety Plan

The Site Safety Plan describes the safety requirements for the evaluation of gasoline hydrocarbons in soil, groundwater, and the vadose zone at the site. The site Safety Plan is applicable to personnel of RESNA Industries and its subcontractors. RESNA Industries personnel and subcontractors of RESNA Industries scheduled to perform the work at the site are briefed on the contents of the Site Safety Plan before work begins. A copy of the Site Safety Plan is available for reference by appropriate parties during the work. A site Safety Officer is assigned to the project.

Soil Borings

Prior to the drilling of borings and construction of monitoring wells, permits are acquired from the appropriate regulatory agency. In addition to the above-mentioned permits, encroachment permits from the City or State are acquired if drilling of borings offsite on City or State property is necessary. Copies of the permits are included in the appendix of the project report. Prior to drilling, Underground Service Alert (USA) is notified of our intent to drill, and known underground utility lines and structures are approximately marked.

The borings are drilled by a truck-mounted drill rig equipped with 8- or 10-inch-diameter, solid-stem or hollow-stem augers. Other methods such as rotary or casing hammer may be used if special conditions are encountered. The augers, sampling equipment and other equipment that comes into contact with the soil are steam-cleaned prior to drilling each boring to minimize the possibility of cross-contamination. Sampling equipment is cleaned with a trisodium phosphate solution and rinsed with clean water and distilled water between samples. After drilling the borings, monitoring wells are constructed in the borings, or neat-cement grout with bentonite is used to backfill the borings to the ground surface.

Borings for groundwater monitoring wells are drilled to a depth of no more than 20 feet below the depth at which a saturated zone is first encountered, or a short distance into a stratum beneath the saturated zone which is of sufficient texture, moisture, and consistency to be judged as a perching layer by the field geologist, whichever is shallower. Drilling into a deeper aquifer below the shallowest aquifer is begun only after a conductor casing is properly installed and allowed to set, to seal the shallow aquifer.

Drill Cuttings

Drill cuttings subjectively evaluated as containing gasoline hydrocarbons at levels greater than 100 parts per million (ppm) are separated from those subjectively evaluated as containing gasoline hydrocarbons at levels less than 100 ppm. Evaluation is based either on subjective evidence of soil discoloration, or on measurements made using a field calibrated OVM. Readings are taken by placing a soil sample into a ziploc-type plastic bag and allowing volatilization to occur. The intake probe of the OVM is then inserted into the headspace created in the plastic bag immediately after opening it. The drill cuttings from the borings are placed in labeled and sealed 55-gallon drums approved by the Department of Transportation, or on plastic at the site, and covered with plastic. The cuttings remain the responsibility of the client.

Soil Sampling in Borings

Soil samples are collected at no greater than 5-foot intervals from the ground surface to the total depth of the borings. The soil samples are collected by advancing the boring to a point immediately above the sampling depth, and then driving a California-modified, split-spoon sampler containing brass sleeves through the hollow center of the auger into the soil. (A standard penetrometer, which does not contain liners, may be used to collect samples when laboratory analysis for volatile components is not an issue. The sampler and brass sleeves are laboratory-cleaned, steam-cleaned, or washed thoroughly with Alconox®, tap water and distilled water prior to each use. The sampler is driven with a standard 140-pound hammer repeatedly dropped 30 inches. The number of blows to drive the sampler each successive six inches are counted and recorded to evaluate the relative consistency of the soil. When necessary, the sampler may be pushed by the drill rig hydraulics. In this case, the pressure exerted (in pounds per square inch) is recorded.

The samples selected for laboratory analysis are removed from the sampler and quickly sealed in their brass sleeves with aluminum foil, plastic caps, and plastic zip-lock bags or aluminized duct tape. The samples are then labeled, promptly placed in iced storage, and delivered under chain-of-custody protocol to a laboratory certified by the State of California to perform the analyses requested.

One of the samples in brass sleeves not selected for laboratory analysis at each sampling interval is tested in the field using an OVM that is field calibrated at the beginning of each day it is used. This testing is performed by inserting the intake probe of the OVM into the headspace in the plastic bag containing the soil sample as described in the Drill Cuttings section above. The OVM readings are presented in Logs of Borings included in the project report.

Logging of Borings

A geologist is present to log the soil cuttings and samples using the Unified Soil Classification System. Samples not selected for chemical analysis, and the soil in the sampler shoe, are extruded in the field for inspection. Logs include texture, color, moisture, plasticity, consistency, blow counts, and any other characteristics noted. Logs also include subjective evidence for the presence of gasoline hydrocarbons, such as soil staining, noticeable or obvious product odor, and OVM readings.

Monitoring Well Construction

Monitoring wells are constructed in selected borings using clean 2- or 4-inch-diameter, thread-jointed, Schedule 40 polyvinyl chloride (PVC) casing. No chemical cements, glues, or solvents are used in well construction. Each casing bottom is sealed with a threaded end-plug, and each casing top with a locking plug. The screened portions of the wells are constructed of machine-slotted PVC casing with 0.020-inch-wide (typical) slots for initial site wells. Slot size for subsequent wells may be based on sieve analysis and/or well development data. The screened sections in groundwater monitoring wells are placed to allow monitoring during seasonal fluctuations of groundwater levels.

The annular space of each well is backfilled with No. 2 by 12 sand or similar sorted sand (groundwater monitoring wells), or pea gravel (vadose wells) to approximately two feet above the top of the screened casing for initial site wells. The sand pack grain size for subsequent wells may be based on sieve analysis and/or well development data. A 1- to 2-foot-thick bentonite plug is placed above the sand as a seal against cement entering the filter pack. The remaining annulus is then backfilled with a slurry of water, neat cement, and bentonite to approximately one foot below the ground surface.

An aluminum utility box with a PVC apron is placed over each wellhead and set in concrete placed slightly above the surrounding ground surface. Each wellhead cover has a seal to protect the monitoring well against surface-water infiltration and requires a special wrench to open. The design discourages vandalism and reduces the possibility of accidental disturbance of the well.

Groundwater Monitoring Well Development

The monitoring wells are developed by bailing or over-pumping and surge-block techniques. The wells are either bailed or pumped, allowed to recharge, and bailed or pumped again until the water removed from the wells is evaluated to be clear. Turbidity measurements (in NTUs) are recorded during well development and are used in evaluating well development. The development method used, initial turbidity measurement, volume of

water removed, final turbidity measurement, and other pertinent field data and observations are recorded. The wells are allowed to equilibrate for at least 48 hours after development prior to sampling. Water generated by well development is stored in sealed 17E Department of Transportation (DOT) 55-gallon drums on site, and remains the responsibility of the client.

Groundwater Sampling

The static water level in each well is measured to the nearest 0.01-foot using a Solinst® electric water-level sounder or oil/water interface probe (if the wells contain floating product) cleaned with Alconox® and distilled water before use in each well. The depth of each well is also measured. The liquid in the wells is examined for visual evidence of gasoline hydrocarbons by gently lowering approximately half the length of a Teflon® bailer (cleaned with Alconox® and distilled water) past the air/water interface. The sample is then retrieved and inspected for floating product, sheen, emulsion, color, sediment, and clarity. Obvious product odor is recorded if noted. If floating product is present in the well, the thickness of floating product is measured using an oil/water interface probe and is recorded to the nearest 0.01 foot. Floating product is removed from wells on site visits.

Groundwater samples from the wells are collected in approximate order of increasing product concentration, as best known or estimated. Wells which do not contain floating product are purged using a submersible pump. Equipment which comes in contact with the interior of the well or the groundwater is cleaned with Alconox® and deionized or distilled water prior to use in each well. The wells are purged until withdrawal is of sufficient duration to result in stabilized pH, temperature, and electrical conductivity of the water if possible. These parameters are measured to the nearest 0.1 pH unit, 0.1 degree F, and 10 0 μmhos/cm, respectively, using portable meters calibrated daily to a buffer and conductivity standard, according to the manufacturer's specifications. A minimum of four well volumes are purged from each well. If the well becomes dewatered, the water level is allowed to recover to at least 80 percent of the initial water level. When recovery of the water level has not reached at least 80 percent of the static water level after two hours, a groundwater sample will be collected when sufficient volume is available to fill the sample container. Prior to the collection of each groundwater sample, the Teflon® bailer is cleaned with Alconox® and rinsed with tap water and deionized or distilled water, and the latex gloves worn by the sampler changed. Hydrochloric acid is added to the sample vials as a preservative (when applicable). Sample containers remain sealed until usage at the site. A sample method blank is collected by pouring distilled water into the bailer and then into sample vials. Method blanks are analyzed periodically to verify effective cleaning procedures. A sample of the formation water is then collected from the surface of the water in each of the wells using the Teflon® bailer. The water samples are then gently poured into laboratory-cleaned, 40-milliliter (ml) glass vials, 500 ml plastic bottles or 1-liter glass

bottles (as required for specific laboratory analysis), sealed with Teflon®-lined caps, and inspected for air bubbles to check for headspace, which would allow volatilization to occur. If a bubble is evident, the cap is removed, more sample is added, and the bottle resealed. The samples are then labeled and promptly placed in iced storage, and the wellhead is secured. A field log documenting sampling procedures and parameter monitoring is maintained. Water generated by the purging of wells is stored in sealed 17E DOT 55-gallon drums, and floating product bailed from the wells is stored in double containment onsite; this water and product remains the responsibility of the client.

Sample Labeling and Handling

Sample containers are labeled in the field with the job number, unique sample location, depth, and date, and promptly placed in iced storage for transport to the laboratory. A Chain of Custody Record is initiated by the field geologist and updated throughout handling of the samples, and accompanies the samples to a laboratory certified by the State of California for the analyses requested. Samples are transported to the laboratory promptly to help ensure that recommended sample holding times are not exceeded. Samples are properly disposed of after their useful life has expired.

Quality Assurance/Quality Control

The sampling and analysis procedures employed by RESNA for groundwater sampling and monitoring follow regulatory guidance for quality assurance/quality control (QA/QC). Quality control is maintained by site-specific field protocols and quality control checks performed by the laboratory. Laboratory and field handling of samples may be monitored by including QC samples for analysis. QC samples may include any combination of the following. The number and types of QC samples are selected and analyzed on a project-specific basis.

Trip blanks - Trip blanks are sent to the project site, and travel with project site samples. They are not opened, and are returned from a project site with the samples for analysis.

Field blank - Prepared in the field using organic-free water. Field blanks accompany project site samples to the laboratory and are analyzed periodically for specific chemical compounds present at the project site where they were prepared.

Duplicates - Duplicate samples are collected from a selected well and project site. They are analyzed at two different laboratories, or at the same laboratory under different labels.

Equipment blank - Periodic QC samples are collected from field equipment rinsate to verify adequate cleaning procedures.

Working

APPENDIX D

SURVEY DATA

RON ARCHER
CIVIL ENGINEER, INC.
CONSULTING • PLANNING • DESIGN • SURVEYING

4133 Mohr Ave., Suite E • Pleasanton, CA 94566
(510) 462-9372

AUGUST 5, 1994 JOB NO. 2169

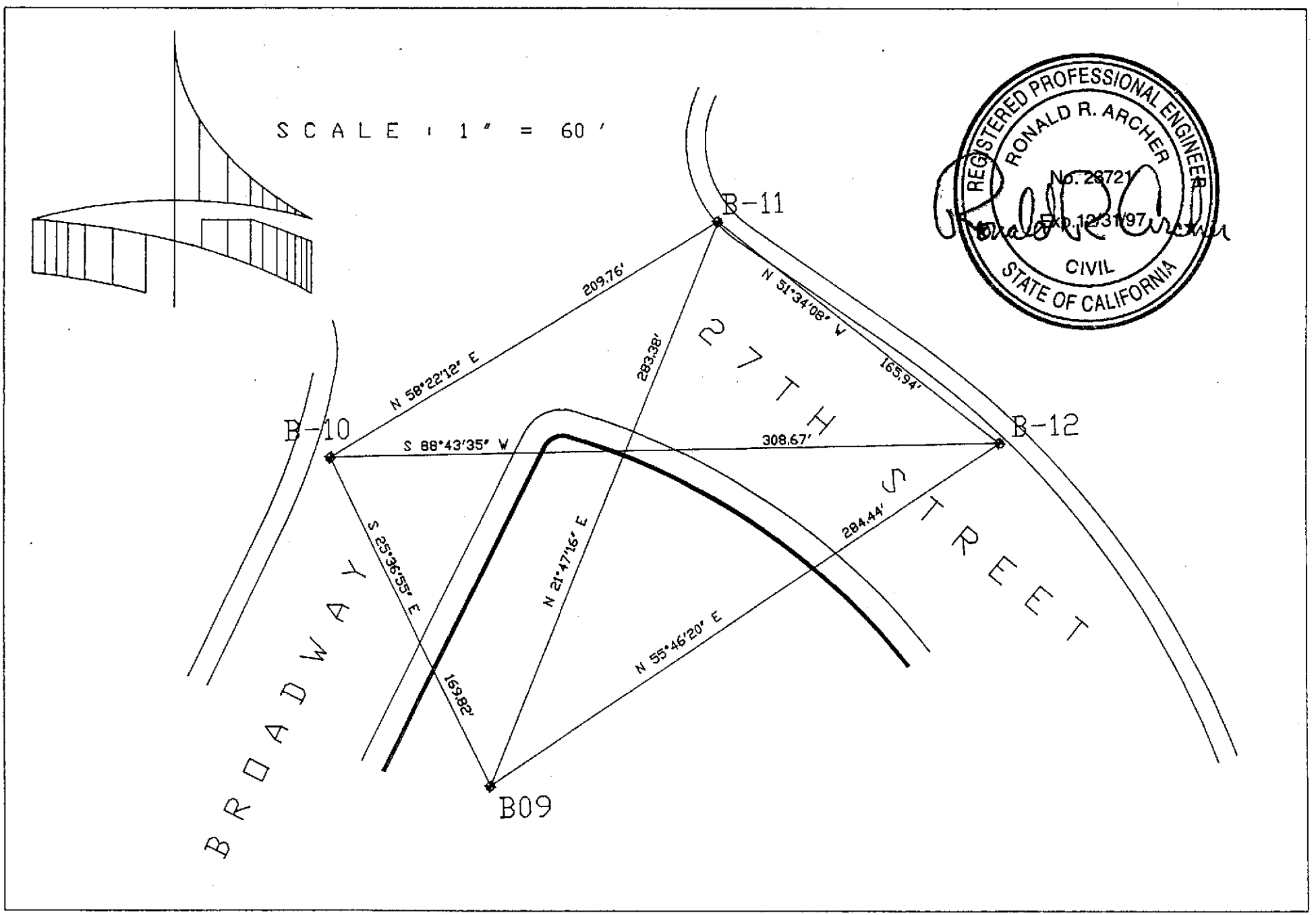
ELEVATION OF EXISTING MONITORING WELLS AT THE CHEVRON STATION NO. 9-2506, LOCATED AT 2630 BROADWAY AT 27TH STREET, CITY OF OAKLAND, ALAMEDA COUNTY, CALIFORNIA.

FOR: RESNA INDUSTRIES INC.

BENCHMARK: #3162
TOP OF DISK SET IN STANDARD CONCRETE MONUMENT IN THE MIDDLE OF THE SIDE WALK 82.6 FEET NORTH OF THE CENTERLINE OF 26TH STREET ON BROADWAY. ELEVATION TAKEN AS 24.182 M.S.L.

MONITORING WELL DATA TABLE

WELL NO.	ELEVATION	DESCRIPTION
B-9	25.61	TOP OF PVC CASING
	26.02	TOP OF BOX
B-10	23.15	TOP OF PVC CASING
	23.55	TOP OF BOX
B-11	25.23	TOP OF PVC CASING
	25.68	TOP OF BOX
B-12	20.40	TOP OF PVC CASING
	20.80	TOP OF BOX


SCALE : 1" = 60'
B-11
B-10
B-12
B09
N 58°22'12" E
209.76'
N 51°34'08" W
165.94'
283.38'
S 88°43'35" W
308.67'
S 25°36'55" E
169.82'
N 21°47'15" E
284.44'
N 55°46'20" E
27TH STREET
BROADWAY
REGISTERED PROFESSIONAL ENGINEER
RONALD R. ARCHER
No. 28721
Exp. 12/31/97
CIVIL
STATE OF CALIFORNIA

RON ARCHER
CIVIL ENGINEER, INC.

CONSULTING • PLANNING • DESIGN • SURVEYING

4133 Mohr Ave., Suite E • Pleasanton, CA 94566
(510) 462-9372

AUGUST 5, 1994
REVISED OCTOBER 19, 1994

JOB NO. 2169.1

ELEVATIONS OF EXISTING MONITORING WELLS AT THE CHEVRON STATION NO. 9-2506, LOCATED AT 2630 BROADWAY AT 27TH STREET, CITY OF OAKLAND, ALAMEDA COUNTY, CALIFORNIA.

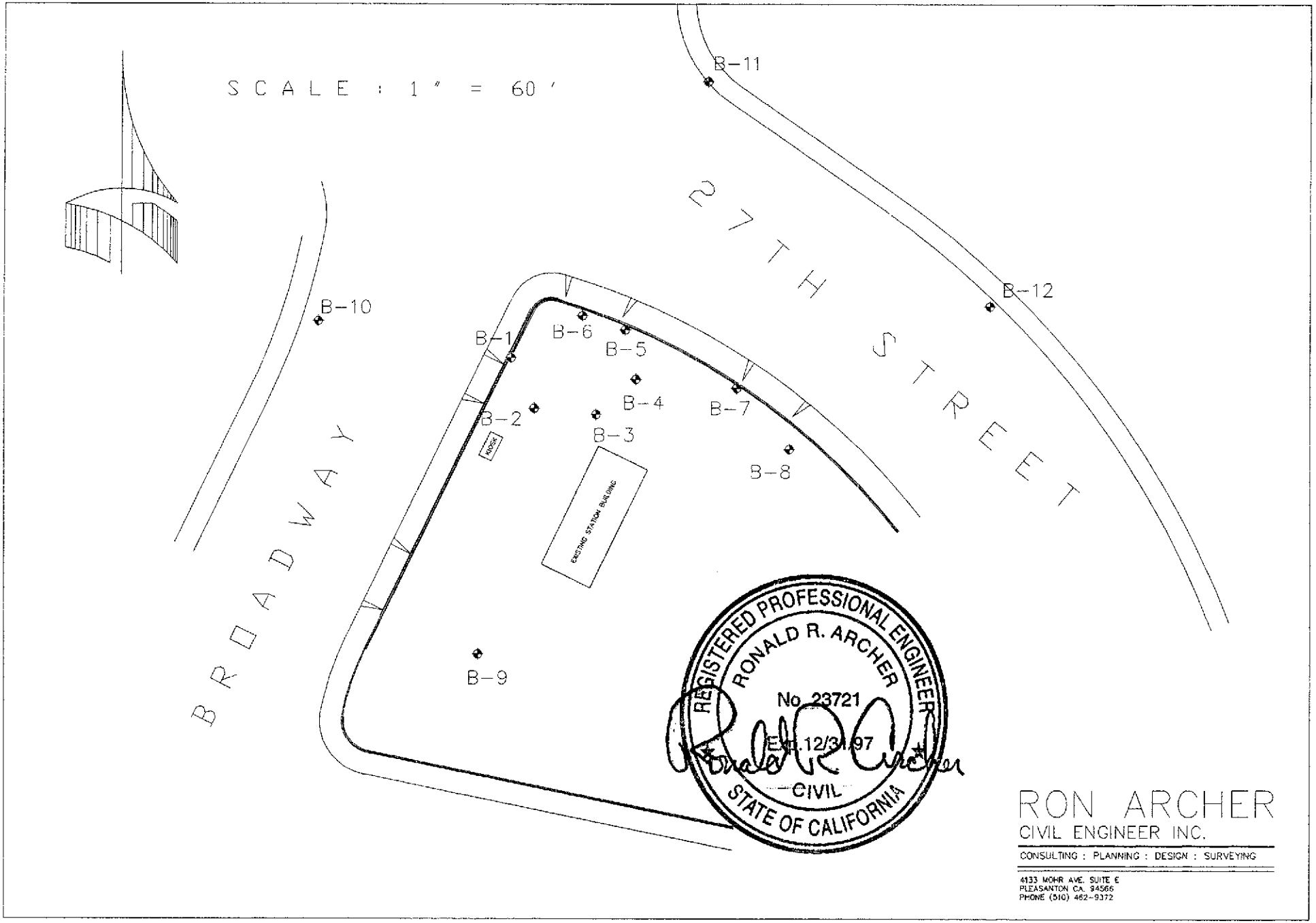
FOR: ***RESNA INDUSTRIES INC.***

BENCHMARK: # 3162

THE TOP OF A DISK SET IN A STANDARD CONCRETE MONUMENT IN THE MIDDLE OF THE SIDEWALK 82.6 FEET NORTH OF THE CENTERLINE OF 26TH STREET ON BROADWAY. ELEVATION TAKEN AS 24.182 M.S.L.

MONITORING WELL DATA TABLE

WELL DESIGNATION	TOP OF CASING ELEVATION	TOP OF IRON COLLAR ELEVATION	TOP OF BOX ELEVATION
B-1	25.67		26.11
B-2		25.13	25.48
B-3	24.35		24.78
B-4		24.11	24.27
B-5	24.23		24.60
B-6	24.72		25.25
B-7	22.22		22.60
B-8	21.01		21.42
B-9	25.61		26.02
B-10	23.15		23.55
B-11	25.23		25.68
B-12	20.40		20.80



RON ARCHER
CIVIL ENGINEER INC.
CONSULTING : PLANNING : DESIGN : SURVEYING
4133 MOHR AVE. SUITE E
PLEASANTON CA. 94566
PHONE (510) 462-9372

APPENDIX E

LABORATORY ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY DOCUMENTS

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

RESNA
Attn: CYNDI VIROSTKO

Project 130069.01
Reported 08/10/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
30678- 1	B9-1-5	07/26/94	08/04/94	Soil
30678- 2	B9-2-10	07/26/94	08/04/94	Soil
30678- 5	B11-1-5	07/26/94	08/04/94	Soil
30678- 6	B11-2-11	07/26/94	08/07/94	Soil
30678- 9	B12-1-05	07/26/94	08/04/94	Soil
30678-10	B12-2-11	07/26/94	08/04/94	Soil

RESULTS OF ANALYSIS

Laboratory Number:	30678- 1 (B9)	30678- 2	30678- 5 (B11)	30678- 6	30678- 9 (B12)
Gasoline:	90	ND<1	ND<1	ND<1	7.9*
Benzene:	ND<.025	ND<.005	ND<.005	ND<.005	ND<0.5
Toluene:	0.76	0.010	ND<.005	0.007	0.13
Ethyl Benzene:	0.75	0.005	ND<.005	ND<.005	0.16
Total Xylenes:	2.2	0.007	ND<.005	0.021	0.70
Concentration:	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg

Laboratory Number:	30678-10
Gasoline:	ND<1
Benzene:	ND<.005
Toluene:	ND<.005
Ethyl Benzene:	ND<.005
Total Xylenes:	ND<.005
Concentration:	mg/kg

* Hydrocarbons were found in the range of gasoline which did not resemble a gasoline pattern.

Certified Laboratories
825 Arnold Dr., Suite 114 ▪ Martinez, California 94553 ▪ (510) 313-0850 / fax (510) 229-1526

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 30678

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
mg/kg = parts per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Soil: 50mg/kg

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Soil: 1mg/kg

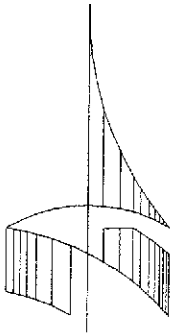
EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Soil: 0.005mg/kg

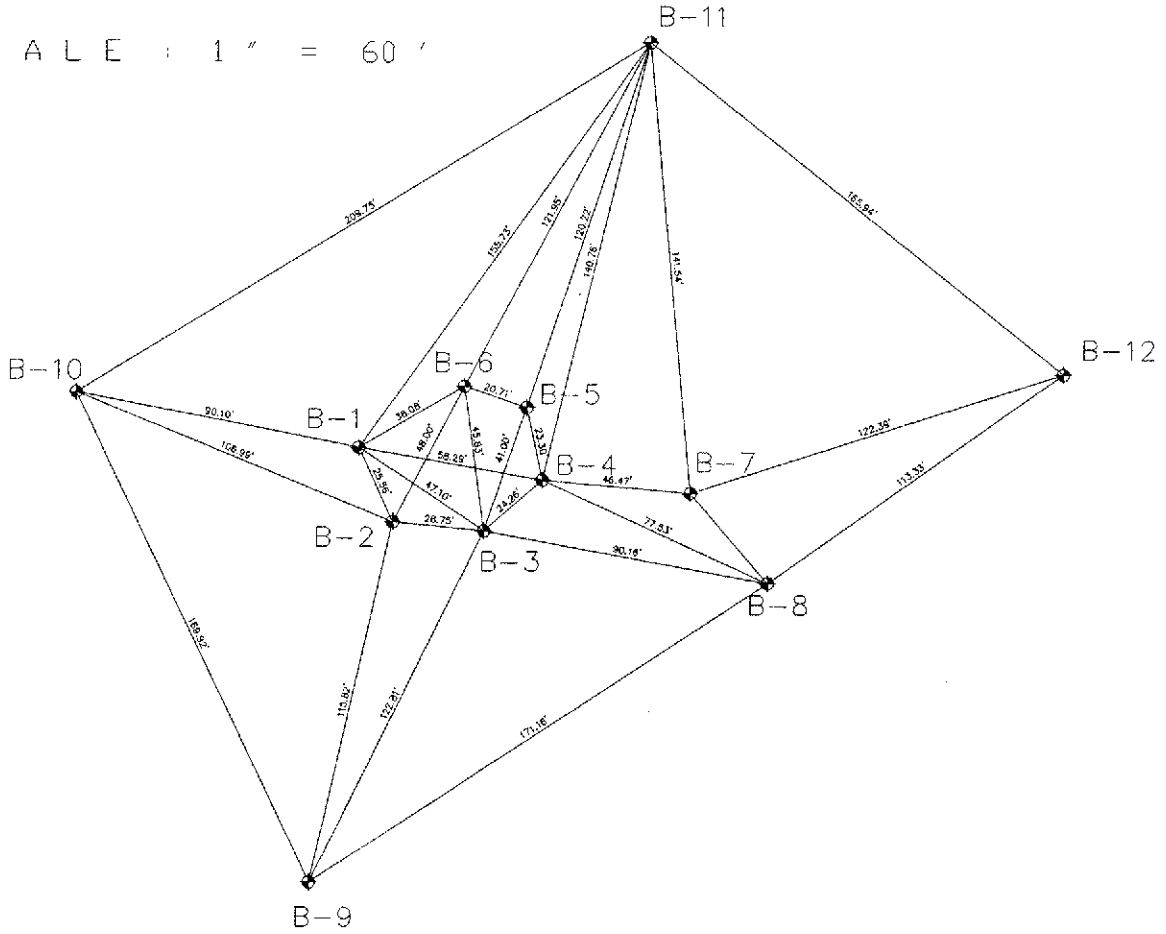
ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	129/127	2%	70-130
Benzene:	114/102	11%	70-130
Toluene:	120/105	13%	70-130
Ethyl Benzene:	106/92	14%	70-130
Total Xylenes:	119/105	13%	70-130

Michael R. Veron
Senior Chemist

Certified Laboratories
825 Arnold Dr., Suite 114 • Martinez, California 94553 • (510) 313-0850 / fax (510) 229-1526



S C A L E : 1 " = 60 '



RON ARCHER
CIVIL ENGINEER INC.
CONSULTING : PLANNING : DESIGN : SURVEYING
4133 MOHR AVE. SUITE E
PLEASANTON CA. 94566
PHONE (510) 462-9372

☐ Yes
Fax copy of Lab Report and COC to Chevron Contact: ☐ No

Chain-of-Custody-Record

Chevron U.S.A. Inc. P.O. BOX 5004 San Ramon, CA 94583 FAX (415)842-9591 RESFR	Chevron Facility Number 9-2506 Facility Address 2630 BROADWAY, OAKLAND, CA Consultant Project Number 130069.01 Consultant Name RESNA Address 42501 ALBRAE ST. FREMONT, CA 94538 Project Contact (Name) ZBIGNIEW IGNATOWICZ (Phone) (510) 440-3350 (Fax Number) 651-8647	Chevron Contact (Name) MARK MILLER (Phone) (510) 842-8134 Laboratory Name SUPERIOR Laboratory Release Number 8842480 Samples Collected by (Name) ZBIGNIEW IGNATOWICZ Collection Date JULY 26, 1994 Signature Zbigniew Ignatowicz

Analyses To Be Performed

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)					Remarks
B9-1-5		1	SOIL			NONE	YES	X												
B9-2-10		1	↓			↓	↓	X												
B9-3-15		1	↓			↓	↓	X												HOLD
B9-4-19		1	↓			↓	↓	X												HOLD
B11-1-5		1	↓			↓	↓	X												
B11-2-11		1	↓			↓	↓	X												
B11-3-16		1	↓			↓	↓	X												HOLD
B11-4-20		1	↓			↓	↓	X												HOLD
B12-1-5		1	↓			↓	↓	X												
B12-2-11		1	↓			↓	↓	X												
B12-3-16		1	↓			↓	↓	X												HOLD
B12-4-20		1	↓			↓	↓	X												HOLD

Please Initial: SH
Samples Stored in ice. → SOC
Appropriate containers
Samples preserved
VOA's without headspace
Comments: GK

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Zbigniew Ignatowicz	RESNA	7-28-94 11:25	Enrique R. Rivera	AERO	7-28-94 11:25
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature) Suman	Organization Superior	Date/Time 7/28 12:15
Relinquished By (Signature)	Organization	Date/Time	Recieved For Laboratory By (Signature)		Date/Time

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
(As Contracted) — circled

COC-3.DWG/03 HCH

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

RESNA
Attn: CYNDI VIROSTKO

Project 130069.01
Reported 08/05/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
30679- 1	B-10-1-6	07/27/94	08/05/94	Soil
30679- 2	B-10-2-10	07/27/94	08/05/94	Soil

RESULTS OF ANALYSIS

Laboratory Number:	30679- 1	30679- 2
Gasoline:	ND<1	ND<1
Benzene:	ND<.005	ND<.005
Toluene:	ND<.005	ND<.005
Ethyl Benzene:	ND<.005	ND<.005
Total Xylenes:	0.006	0.005
Concentration:	mg/kg	mg/kg

Certified Laboratories
825 Arnold Dr., Suite 114 • Martinez, California 94553 • (510) 313-0850 / fax (510) 229-1526

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 30679

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
mg/kg = parts per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Soil: 50mg/kg

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Soil: 1mg/kg

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Soil: 0.005mg/kg

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	127/129	2%	70-130
Benzene:	102/114	11%	70-130
Toluene:	105/120	13%	70-130
Ethyl Benzene:	92/106	14%	70-130
Total Xylenes:	105/119	13%	70-130

Senior Chemist

Certified Laboratories
825 Arnold Dr., Suite 114 ▪ Martinez, California 94553 ▪ (510) 313-0850 / fax (510) 229-1526

Fax copy of Lab Report and COC to Chevron Contact: ☐ Yes ☐ No

Chain-of-Custody-Record

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number: 9-2506
Facility Address: 2630 BROADWAY, OAKLAND, CA
Consultant Project Number: 130069.01
Consultant Name: RESNA
Address: 42501 ALBRAE ST. FREMONT, CA 94538
Project Contact (Name): ZBIGNIEW IGNATOWICZ
(Phone): (510) 440-3350 (Fax Number): 651-8647

Chevron Contact (Name): MARK MILLER
(Phone): (510) 842-8134
Laboratory Name: SUPERIOR
Laboratory Release Number: 8842480
Samples Collected by (Name): ZBIGNIEW IGNATOWICZ
Collection Date: JULY 27 1994
Signature: Zbigniew Ignatowicz

30679.

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)					Remarks
B10-1-6		1	SOIL			NONE	YES	X												
B10-2-10		1	↓			↓	↓	X												
B10-3-15		1	↓			↓	↓	X												HOLD
B10-4-19		1	↓			↓	↓	X												HOLD

Please Initial:
Samples Stored in ice:
Appropriate containers
Samples preserved
VOA's without headspace
Comments:

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Zbigniew Ignatowicz	RESNA	7-28-94 11:25	Eugene R. Ames	AEnc	7-28-94 11:25
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
			Sumeun	Superior	7/28 12:15
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted

COC-3.DWG/03 HCH

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

RESNA
Attn: CYNDI VIROSTKO

Project 130069.01
Reported 08/01/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
30680- 1	SP1-A,B,C,D	07/27/94	08/01/94	Soil

RESULTS OF ANALYSIS

Laboratory Number: 30680- 1

Gasoline:	ND<1*
Benzene:	ND<.005
Toluene:	.006
Ethyl Benzene:	.005
Total Xylenes:	.013
Concentration:	mg/kg

* Hydrocarbons were found in the late range of gasoline which resembled a heavier hydrocarbon pattern such as mineral spirits or diesel.

Certified Laboratories
825 Arnold Dr., Suite 114 • Martinez, California 94553 • (510) 313-0850 / fax (510) 229-1526

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 30680

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
mg/kg = parts per million (ppm)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Soil: 50mg/kg

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Soil: 1mg/kg

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Soil: 1mg/kg

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Soil: 0.005mg/kg

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline:	103/101	2%	70-130
Benzene:	86/79	8%	70-130
Toluene:	91/89	2%	70-130
Ethyl Benzene:	86/83	4%	70-130
Total Xylenes:	101/96	5%	70-130

Senior Chemist

Fax copy of Lab Report and COC to Chevron Contact: ☐ Yes ☐ No

Chain-of-Custody-Record

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number: 9-2506
Facility Address: 2630 BROADWAY, OAKLAND, CA
Consultant Project Number: 130069.01
Consultant Name: RESNA
Address: 42501 ALBRAE ST. FREMONT, CA 94538
Project Contact (Name): ZBIGNIEW IGNATOWICZ
(Phone): (510) 440-3350 (Fax Number): 651-8647

Chevron Contact (Name): MARK MILLER
(Phone): (510) 842-8134
Laboratory Name: SUPERIOR
Laboratory Release Number: 8842480
Samples Collected by (Name): ZBIGNIEW IGNATOWICZ
Collection Date: JULY 26, 1994
Signature: [signature]

Analyses To Be Performed

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil A = Air W = Water C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)						Remarks
SP1-A		1	SOIL	C		NONE	YES	X	PLEASE COMPOSIT INTO ONE SAMPLE AND ANALYZE AS ONE.												
SP1-B		1	↓			↓	↓	X													
SP1-C		1	↓			↓	↓	X													
SP1-D		1	↓			↓	↓	X													

PLEASE PUT THE SITE NAME (STATION #) AND ADDRESS ON THE CERTIFIED ANALYTICAL REPORT AND SEND A FAX COPY TO LAB ATTN: SHEREE BITZER, FAX (408) 942-1499.

Please Initial:
Samples Stored in ...
Appropriate ...
Samples ...
VOA's without ...
Comments: O/C

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
[signature]	RESNA	7-28-94 11:25	[signature]	AEIO	7-28-94 11:25
Relinquished By (Signature) [signature]	Organization	Date/Time	Received By (Signature) [signature]	Superior	7/28 12:15
Relinquished By (Signature)	Organization	Date/Time	Recieved For Laboratory By (Signature)		Date/Time

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs. (circled)
5 Days
10 Days
As Contracted

HCH
COC-3.DWG/03

Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

RESNA INDUSTRIES
Attn: ZBIGNIEW IGNATOWICZ

Project 130069.01
Reported 08/10/94

TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed	Matrix
15719- 1	B-10	08/04/94	08/08/94	Water
15719- 2	B-11	08/04/94	08/09/94	Water
15719- 3	B-9	08/04/94	08/08/94	Water
15719- 4	B-12	08/04/94	08/08/94	Water
15719- 5	TB-LB	08/04/94	08/08/94	Water
15719- 6	BB-1	08/04/94	08/08/94	Water

RESULTS OF ANALYSIS

Laboratory Number:	15719- 1 (B10)	15719- 2 (B11)	15719- 3 (B9)	15719- 4 (B12)	15719- 5
Gasoline_Range:	ND<50	ND<50	650	ND<50	ND<50
Benzene:	ND<0.5	ND<0.5	4.4	ND<0.5	ND<0.5
Toluene:	ND<0.5	ND<0.5	2.4	ND<0.5	ND<0.5
Ethyl Benzene:	ND<0.5	ND<0.5	6.3	ND<0.5	ND<0.5
Total Xylenes:	ND<0.5	ND<0.5	14	ND<0.5	ND<0.5
Concentration:	ug/L	ug/L	ug/L	ug/L	ug/L

Laboratory Number:	15719- 6
Gasoline_Range:	ND<50
Benzene:	ND<0.5
Toluene:	ND<0.5
Ethyl Benzene:	ND<0.5
Total Xylenes:	ND<0.5
Concentration:	ug/L

Certified Laboratories

1555 Burke St., Unit 1 • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

C E R T I F I C A T E O F A N A L Y S I S

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

QA/QC INFORMATION
SET: 15719

NA = ANALYSIS NOT REQUESTED
ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT
ug/L = parts per billion (ppb)

OIL AND GREASE ANALYSIS By Standard Methods Method 5520F:
Minimum Detection Limit in Water: 5000ug/L

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons:
Minimum Quantitation Limit for Diesel in Water: 50ug/L

EPA SW-846 Method 8015/5030 Total Purgable Petroleum Hydrocarbons:
Minimum Quantitation Limit for Gasoline in Water: 50ug/L

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Water: 0.5ug/L

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Gasoline_Range:	117/115	2%	56-117
Benzene:	87/85	2%	60-135
Toluene:	90/89	1%	60-135
Ethyl Benzene:	83/82	1%	60-135
Total Xylenes:	92/91	1%	60-135

8/10/94

Senior Chemist
Account Manager

Certified Laboratories
1555 Burke St., Unit I ▪ San Francisco, California 94124 ▪ (415) 647-2081 / fax (415) 821-7123

Fax copy of Lab Report and COC to Chevron Contact: [X] Yes [ ] No

Chain-of-Custody-Record

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number: 9-2506
Facility Address: 2630 BROADWAY
Consultant Project Number: 130069.01
Consultant Name: RESNA INDUSTRIES
Address: 42501 ALBRAE STREET SUITE 100
Project Contact (Name): ZBIGNIEW IGNATOWICZ
(Phone): 510 440-3300 (Fax Number): 510 651-8647

Chevron Contact (Name): MARK MILLER
(Phone):
Laboratory Name: Superior
Laboratory Release Number: 8842480
Samples Collected by (Name): JEFFREY D. SALA
Collection Date: 8/4/94
Signature: Jeffrey D. Sala

Sample Number	Lab Sample Number	Number of Containers	Matrix: S = Soil W = Water A = Air C = Charcoal	Type: G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed: BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)	Remarks
B-10		3	W	G	1:30	HCL	Y	X								NOTE: DO NOT BILL TB:LB
B-11		3	W	G	1:55	HCL	Y	X								
B-9		3	W	G	2:15	HCL	Y	X								
B-12		3	W	G	2:35	HCL	Y	X								
TB:LB		3	W	G	8/4/94	HCL	Y	X								
BB-1		3	W	G	1:25	HCL	Y	X								

Please initial:
Samples Stored in Ice
Appropriate containers
Samples preserved
VOA's without headspace
Comments:

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Jeffrey D. Sala	RESNA	8/4/94		Cerco	8/4/94
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
			R. Romero Superior		8/5/94 1130am

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted

3/94-3.0WG/03 91/HCH