TERRA VAC
1651 Alvarado Street, San Leandro, CA 94577-2636
Tel (510) 351-8900 ❑ Fax (510) 351-0221

May 23, 1997

Ms. Madhulla Logan
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Way Parkway, Suite 250
Alameda, CA 94502-6577

Subject: Former Chevron Service Station #9-4587
609 Oak Street
Oakland, CA

Dear Ms. Logan:

As per our discussion, due to the limited number of vadose zone samples and the one ten year old sample that skews the data, we will obtain two more soil samples for analyses from the site. We expect that biodegradation and remediation will have reduced any residual benzene significantly. The new data will be utilized to replace the ten year old sample datum and averaged with other vadose zone samples to recalculate the risk levels. The samples will be collected by hand augering down to five feet at the locations shown and collecting a sample for TPH-g and BTEX analysis.

I also include a printout of evaluation of construction worker risk. The sample data used are that of samples P-1 through P-6, surface samples taken during removal of fuel lines and dispenser islands. This soil was excavated and aerated on site, presumably removing any risk to construction workers from surface soils to three feet, which was why the risk data had not been included with the report. If we do use the pre-aeration data from the surface soils, the representative benzene concentration is 0.54 mg/kg, well below the risk based screening level of 33 mg/kg for onsite construction workers.

If you have any questions or comments, please call me at (510) 351-8900.

Sincerely,
Terra Vac Corporation

Robert A. Dahl
Project Manager

cc: Phil Briggs, Chevron
Jennifer Eberle, ACHCS
30-0219.10

RBCA SITE ASSESSMENT

Tier 2 Worksheet 9.1

Site Name: Chevron 9-4587
Site Location: Oak Street, Oakland

Completed By: R.A. Dahl
Date Completed: 5/22/1997

SURFACE SOIL SSTL VALUES (< 3 FT BGS)

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

■ MCL exposure limit?
☐ PEL exposure limit?

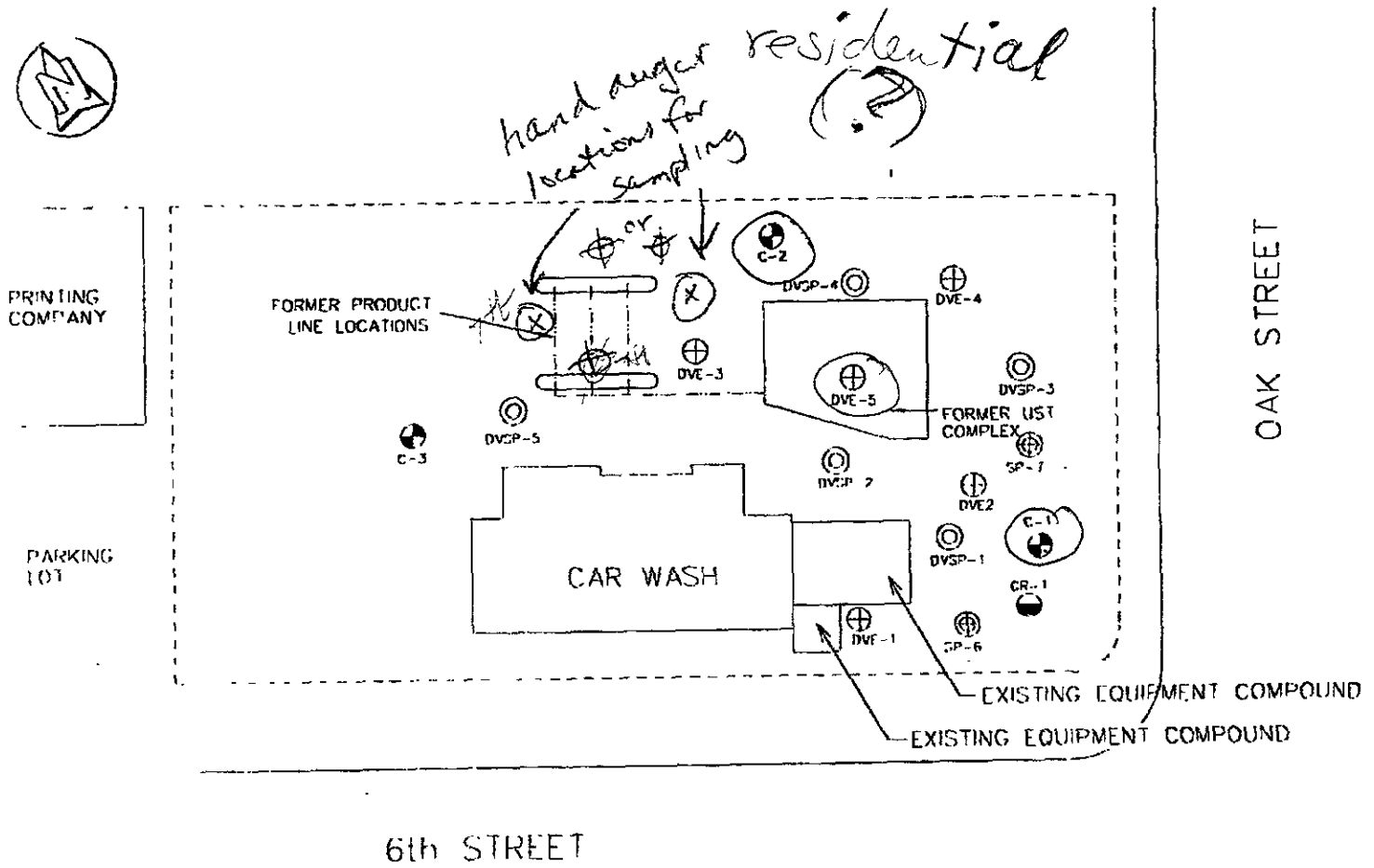
Calculation Option: 2

SSTL Results For Complete Exposure Pathways ("x" If Complete)

CONSTITUENTS OF CONCERN		Representative Concentration		Soil Leaching to Groundwater			X	Ingestion, Inhalation and Dermal Contact		X	Construction Worker	Applicable SSTL	SSTL Exceeded ?	Required CRF
CAS No.	Name	(mg/kg)		Residential: (on-site)	Commercial: (on-site)	Regulatory(MCL): (on-site)		Residential: (on-site)	Commercial: (on-site)		Commercial: (on-site)	(mg/kg)	"■" If yes	Only if "yes" left
71-43-2	Benzene	5.4E-1		NA	NA	NA		NA	3.0E+1		5.1E+2	3.0E+1	☐	<1

Software: GSI RBCA Spreadsheet
Version: v 1.0

Serial: G-337-YAX-542



LEGEND

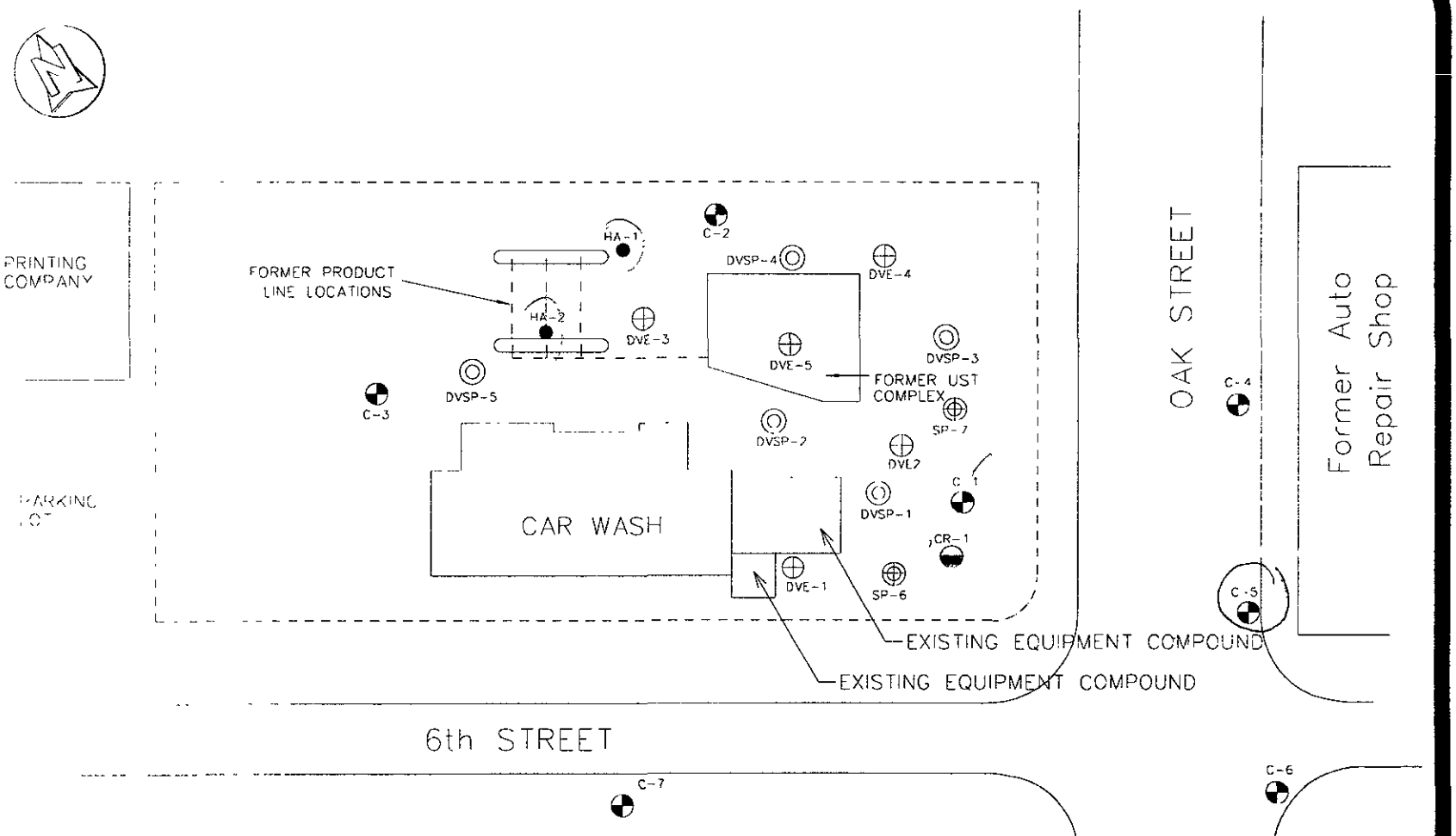
- = Groundwater Monitoring Well
- = Groundwater Recovery Well
- = Entrainment Extraction Well
- = Dual Completed Well
- = Sparge Well

SITE MAP
Former Chevron Station 9-4587
609 Oak Street
Oakland, California

Project	30-0219	Drawn	RJT
Date	8/28/96	Revision	
Scale	1" = 30'	Checked	

TERRA VAC 1651 Alvarado Street San Leandro, CA 94577 (510) 351-8900 Fax: -0221

Figure 2



LEGEND

- Groundwater Monitoring Well
- Groundwater Recovery Well
- Treatment Extraction Well
- Soil Vapor Completed Well
- Storage Well
- TP Product

Extended Site Plan
Former Chevron Station 9-4587
609 Oak Street
Oakland, California

Project	30-0219	Drawn	RJT
Date	9/12/96	Revision	
Scale	1" = 30'	Checked	

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Figure 3

$$\text{RISK} = \text{CDI} * \text{SF}$$

$$\text{CDI (mg/kg-day)} = \frac{C_{indoor} * IR_{air} * ET * EF * ED}{BW * AT_c}$$

Variable	Value	Unit	Description
C_{indoor}	442.0E-9	mg/m^3	Contaminant concentration in air
BW	70	kg	Adult body weight
AT_c	70	years	Averaging time for carcinogens
SF_i	0.1	(mg/kg-day)-1	Inhalation cancer slope factor
IR_{air}	0.83	m^3/hr	Daily indoor inhalation rate
EF	250	days/year	Exposure frequency
ED	25	year	Exposure duration,com.
ET	8.00	hours/day	Exposure time
SF	0.1	$(mg/kg-day)^{-1}$	slope factor for benzene (CA)
CDI	**3.74E-06**	**mg/kg-day**	**chronic daily intake**

RISK = 3.74E-07

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$$C_{indoor}\ (g/cm^3) = \frac{E_{max}}{V_B * E_B}$$

$$E_{max}\ (g/d) = \frac{Q_B * C_v^{eq} * (D_s^{eff} * A_B)/(Q_B * L_s) * \exp[(Q_{soil} * L_{crack})/(D_{crack}^{eff} * A_{crack})]}{\exp[(Q_{soil} * L_{crack})/(D_{crack}^{eff} * A_{crack})] + (D_s^{eff} * A_B)/(Q_B * L_s) + (D_s^{eff} * A_B)/(Q_B * L_s) * \exp[(Q_{soil} * L_{crack})/(D_{crack}^{eff} * A_{crack})]}$$

$$D_s^{eff}\ (cm^2/s) = D_{air} * (q_{as}^{3.33}/q_T^2) + D_{wat} * H^{-1} * (q_{ws}^{3.33}/q_T^2)$$

$$D_{crack}^{eff}\ (cm^2/s) = D_{air} * (q_{acrack}^{3.33}/q_T^2) + D_{wat} * H^{-1} * (q_{wcrack}^{3.33}/q_T^2)$$

$$C_v^{eq}\ (g/cm^3\text{-vapor}) = \frac{H * C_{soil} * r_s}{q_{ws} + k_s * r_s + H * q_{as}}$$

Variable	Value	Unit	Description
q_{ws}	0.12	cm^3-H_2O/cm^3-soil	volumetric water content in foundation/wall
k_s	0.38	cm^3-H_2O/g-soil	soil-water sorption coefficient (f_{oc} x k_{oc})
r_s	1.70	g-soil/cm^3-soil	soil bulk density
H	0.22	cm^3-H_2O/cm^3-vapor	Henry's Law Constant
q_{as}	0.26	cm^3-vapor/cm^3-soil	volumetric air content in vadose zone soils
L_s	76.20	cm	distance between foundation/walls and hydrocarbon vapor source
Q_B	0.60	cm^3/s	volumetric flowrate of air within enclosed space
h	426.72	cm	height of structure
L_{crack}	15.24	cm	enclosed space foundation or wall thickness
f_{oc}	0.01	g-C/g-soil	fraction of organic carbon in soil
$LOGk_{oc}$	1.58	cm^3-H_2O/g-C	carbon-water sorption coefficient
q_T	0.31	cm^3/cm^3-soil	total soil porosity, actual data from DVE3 sample at 5 ft depth
D_{air}	8,035.20	cm^2/d	diffusion coefficient in air
D_{wat}	0.95	cm^2/d	diffusion coefficient in water
q_{acrack}	0.26	cm^3-air/cm^3-total vol.	volumetric air content in foundation/wall cracks
A_B	8.36E+05	cm^2	total area of enclosed space exposed to vapor intrusion (area of foundation)
Q_{soil}	0.60	cm^3/s	volumetric infiltration flowrate of soil gas into enclosed space
A_{crack}	8.36E+03	cm^2	area of foundation through which vapors are transported (area of crack, open seams, etc.)
V_B	3.57E+08	cm^3	volume of enclosed space
E_B	19.87	l/d	enclosed space air exchange rate
C_{soil}	2.30E-05	g/g-soil	total soil hydrocarbon concentration (maximum recorded)
D_s^{eff}	**8.14E+07**	**cm^2/d**	**effective diffusion coefficient in soil based on vapor-phase concentration**
D_{crack}^{eff}	**8.14E+07**	**cm^2/d**	**effective diffusion coefficient through foundation cracks**
C_v^{eq}	**1.04E-05**	**g/cm^3-vapor**	**equilibrium vapor concentration**
E_{max}	**3.13E-06**	**g/day**	**vapor emission rate into enclosed space**

$C_{indoor}\ (g/cm^3)$=	4.42E-16

Chevron 9-4587
609 Oak Street, Oakland

RBCA SITE ASSESSMENT

Tier 2 Worksheet 9.3

Site Name: Chevron 9-4587
Site Location: Oak Street, Oakland

Completed By. R.A Dahl
Date Completed. 6/20/1997

GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-5
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

■ MCL exposure limit?
☐ PEL exposure limit?

Calculation Option: 2

SSTL Results For Complete Exposure Pathways ("x" if Complete)

CONSTITUENTS OF CONCERN		Representative Concentration	X Groundwater Ingestion			X Groundwater Volatilization to Indoor Air		X Groundwater Volatilization to Outdoor Air		Applicable SSTL	SSTL Exceeded ?	Required CRF
CAS No.	Name	(mg/L)	Residential: 1000 feet	Commercial: (on-site)	Regulatory(MCL): 1000 feet	Residential: (on-site)	Commercial: (on-site)	Residential (on-site)	Commercial: (on-site)	(mg/L	"■" If yes	Only if "yes" left
71-43-2	Benzene	3.5E-3	>Sol	NA	>Sol	NA	4.2E-1	NA	4.2E+1	4.2E-1	☐	<1

Software GSI RBCA Spreadsheet Serial: G-337-YAX-542
Version: v 1.0

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RBCA TIER 1/TIER 2 EVALUATION

Output Table 1

Site Name: Chevron 9-4587 | Job Identification: 30-0219 | Software: GSI RBCA Spreadsheet
Site Location: Oak Street, Oakland | Date Completed: 6/20/97 | Version: v 1.0
Completed By: R A. Dahl

NOTE: values which differ from Tier 1 default values are shown in bold italics and underlined

DEFAULT PARAMETERS

Exposure Parameter	Definition (Units)	Residential Adult	Residential (1-6yrs)	Residential (1-16 yrs)	Commercial/Industrial Chronic	Commercial/Industrial Constrctn
ATc	Averaging time for carcinogens (yr)	70				
ATn	Averaging time for non-carcinogens (yr)	30	6	16	25	1
BW	Body Weight (kg)	70	15	35	70	
ED	Exposure Duration (yr)	30	6	16	25	1
EF	Exposure Frequency (days/yr)	350			250	180
EF Derm	Exposure Frequency for dermal exposure	350			250	
IRgw	Ingestion Rate of Water (l/day)	2			1	
IRs	Ingestion Rate of Soil (mg/day)	100	200		50	100
IRadj	Adjusted soil ing. rate (mg-yr/kg-d)	1.1E+02			9 4E+01	
IRa.in	Inhalation rate indoor (m^3/day)	15			20	
IRa.out	Inhalation rate outdoor (m^3/day)	20			20	10
SA	Skin surface area (dermal) (cm^2)	5.8E+03		2.0E+03	5 8E+03	5 8E+03
SAadj	Adjusted dermal area (cm^2-yr/kg)	2 1E+03			1 7E+03	
M	Soil to Skin adherence factor	1				
AAFs	Age adjustment on soil ingestion	FALSE			FALSE	
AAFd	Age adjustment on skin surface area	FALSE			FALSE	
tox	Use EPA tox data for air (or PEL based)	TRUE				
gwMCL?	Use MCL as exposure limit in groundwater?	TRUE				

Matrix of Exposed Persons to Complete Exposure Pathways		Residential	Commercial/Industrial Chronic	Commercial/Industrial Constrctn
Groundwater Pathways:				
GW.i	Groundwater Ingestion	TRUE	FALSE	
GW.v	Volatilization to Outdoor Air	FALSE	TRUE	
GW.b	Vapor Intrusion to Buildings	FALSE	TRUE	
Soil Pathways				
S.v	Volatiles from Subsurface Soils	FALSE	TRUE	
SS.v	Volatiles and Particulate Inhalation	FALSE	TRUE	FALSE
SS.d	Direct Ingestion and Dermal Contact	FALSE	TRUE	TRUE
S.l	Leaching to Groundwater from all Soils	FALSE	FALSE	
S.b	Intrusion to Buildings - Subsurface Soils	FALSE	TRUE	

Matrix of Receptor Distance and Location on- or off-site		Residential Distance	Residential On-Site	Commercial/Industrial Distance	Commercial/Industrial On-Site
GW	Groundwater receptor (cm)	3 0E+04	FALSE	3 0E+04	FALSE
S	Inhalation receptor (cm)		FALSE		TRUE

Matrix of Target Risks		Individual	Cumulative
TRab	Target Risk (class A&B carcinogens)	***1.0E-05***	
TRc	Target Risk (class C carcinogens)	1.0E-05	
THQ	Target Hazard Quotient	1 0E+00	
Opt	Calculation Option (1, 2, or 3)	2	
Tier	RBCA Tier	2	

Surface Parameters	Definition (Units)	Residential	Commercial/Industrial Chronic	Commercial/Industrial Construction
t	Exposure duration (yr)	30	25	1
A	Contaminated soil area (cm^2)	***1.9E+06***		1 0E+06
W	Length of affected soil parallel to wind (cm)	***1.2E+03***		1 0E+03
W.gw	Length of affected soil parallel to groundwater (c	***1.4E+03***		
Uair	Ambient air velocity in mixing zone (cm/s)	2 3E+02		
delta	Air mixing zone height (cm)	2.0E+02		
Lss	Definition of surficial soils (cm)	***9.1E+01***		
Pe	Particulate areal emission rate (g/cm^2/s)	2 2E-10		

Groundwater Definition (Units)		Value
delta gw	Groundwater mixing zone depth (cm)	2 0E+02
I	Groundwater infiltration rate (cm/yr)	3 0E+01
Ugw	Groundwater Darcy velocity (cm/yr)	***1.9E+02***
Ugw tr	Groundwater Transport velocity (cm/yr)	***5.0E+02***
Ks	Saturated Hydraulic Conductivity(cm/s)	
grad	Groundwater Gradient (cm/cm)	
Sw	Width of groundwater source zone (cm)	1 8E+03
Sd	Depth of groundwater source zone (cm)	3 0E+02
BC	Biodegradation Capacity (mg/L)	
BIO?	Is Bioattenuation Considered	TRUE
phi eff	Effective Porosity in Water-Bearing Unit	3 8E-01
foc sat	Fraction organic carbon in water-bearing unit	1 0E-03

Soil	Definition (Units)	Value		
hc	Capillary zone thickness (cm)	***3.0E+00***		
hv	Vadose zone thickness (cm)	***2.6E+02***		
rho	Soil density (g/cm^3)	***1.8***		
foc	Fraction of organic carbon in vadose zone	0 01		
phi	Soil porosity in vadose zone	0 38		
Lgw	Depth to groundwater (cm)	***2.6E+02***		
Ls	Depth to top of affected soil (cm)	***7.6E+01***		
Lsubs	Thickness of affected subsurface soils (cm)	***1.8E+02***		
pH	Soil/groundwater pH	6 5		
		capillary	vadose	foundation
phi.w	Volumetric water content	0 342	0 12	0 12
phi a	Volumetric air content	0 038	0 26	0 26

Building	Definition (Units)	Residential	Commercial
Lb	Building volume/area ratio (cm)	2 0E+02	3 0E+02
ER	Building air exchange rate (s^-1)	1 4E-04	***5.6E-04***
Lcrk	Foundation crack thickness (cm)	1 5E+01	
eta	Foundation crack fraction	0 01	

Dispersive Transport Parameters	Definition (Units)	Residential	Commercial
Groundwater			
ax	Longitudinal dispersion coefficient (cm)	3 0E+03	
ay	Transverse dispersion coefficient (cm)	1.0E+03	
az	Vertical dispersion coefficient (cm)	1 5E+02	
Vapor			
dcy	Transverse dispersion coefficient (cm)		
dcz	Vertical dispersion coefficient (cm)		

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Table 2
Management PlanThreshold Limits
Former Chevron Station 9-4587
609 Oak Street
Oakland, CA

Well ID	Benzene Concentration Highest Observed (ppb)	Benzene Concentration 12/19/96 (ppb)	Benzene Concentration Threshold Limit (ppb)
C-1	11,000	<0.5	*420
C-2	8,200	<0.5	*420
C-5	330	4.2	100
CR-1	9400	0.9	*420
			*as average for onsite

APPENDIX A
LABORATORY REPORTS

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Terra Vac	Client Proj. ID: Chevron 9-4587/30-0219	Sampled: 06/12/97
1651 Alvarado St.	Sample Descript: HA-1-5	Received: 06/13/97
San Leandro, CA 94577	Matrix: SOLID	Extracted: 06/17/97
	Analysis Method: 8015Mod/8020	Analyzed: 06/17/97
Attention: Tony Dahl	Lab Number: 9706769-01	Reported: 06/20/97

QC Batch Number: GC061797BTEXEXA
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	83
4-Bromofluorobenzene	60	140	110

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Terra Vac	Client Proj. ID: Chevron 9-4587/30-0219	Sampled: 06/12/97
1651 Alvarado St.	Sample Descript: HA-1-7	Received: 06/13/97
San Leandro, CA 94577	Matrix: SOLID	Extracted: 06/17/97
	Analysis Method: 8015Mod/8020	Analyzed: 06/17/97
Attention: Tony Dahl	Lab Number: 9706769-02	Reported: 06/20/97

QC Batch Number: GC061797BTEXEXA
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	1.0	N.D.
Benzene	0.0050	N.D.
Toluene	0.0050	N.D.
Ethyl Benzene	0.0050	N.D.
Xylenes (Total)	0.0050	N.D.
Chromatogram Pattern:		

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	86
4-Bromofluorobenzene	60	140	105

Analytes reported as N.D. were not present above the stated limit of detection.

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Tod Granicher
Project Manager

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Terra Vac	Client Proj. ID: Chevron 9-4587/30-0219	Sampled: 06/12/97
1651 Alvarado St.	Sample Descript: HA-2-5	Received: 06/13/97
San Leandro, CA 94577	Matrix: SOLID	Extracted: 06/17/97
	Analysis Method: 8015Mod/8020	Analyzed: 06/19/97
Attention: Tony Dahl	Lab Number: 9706769-03	Reported: 06/20/97

QC Batch Number: GC061797BTEXEXA
Instrument ID: GCHP01

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	500	2800
Benzene	2.5	23
Toluene	2.5	210
Ethyl Benzene	2.5	60
Xylenes (Total)	2.5	330
Chromatogram Pattern:		Gas

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	121
4-Bromofluorobenzene	60	140	- Q

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

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Terra Vac	Client Proj. ID: Chevron 9-4587/30-0219	Sampled: 06/12/97
1651 Alvarado St.	Sample Descript: HA-2-7	Received: 06/13/97
San Leandro, CA 94577	Matrix: SOLID	Extracted: 06/17/97
	Analysis Method: 8015Mod/8020	Analyzed: 06/18/97
Attention: Tony Dahl	Lab Number: 9706769-04	Reported: 06/20/97

QC Batch Number: GC061797BTEXEXA
Instrument ID: GCHP07

Total Purgeable Petroleum Hydrocarbons (TPPH) with BTEX

Analyte	Detection Limit mg/Kg	Sample Results mg/Kg
TPPH as Gas	**100**	**310**
Benzene	**0.50**	**2.1**
Toluene	**0.50**	**21**
Ethyl Benzene	**0.50**	**7.5**
Xylenes (Total)	**0.50**	**52**
Chromatogram Pattern:		**Gas**

Surrogates	Control Limits %		% Recovery
Trifluorotoluene	70	130	85
4-Bromofluorobenzene	60	140	400 Q

Analytes reported as N.D. were not present above the stated limit of detection.

SEQUOIA ANALYTICAL - ELAP #1210

Tod Granicher
Project Manager

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Terra Vac
1651 Alvarado St.
San Leandro, CA 94577
Attention: Tony Dahl

Client Project ID: Chevron 9-4587 / 30-0219
Matrix: Solid
Work Order #: 9706769 -01-09
Reported: Jul 9, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gas
QC Batch#:	GC061797BTEXEXA	GC061797BTEXEXA	GC061797BTEXEXA	GC061797BTEXEXA	GC061797BTEXEXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	A. Porter	A. Porter	A. Porter	A. Porter	A. Porter
MS/MSD #:	970649501	970649501	970649501	970649501	970649501
Sample Conc.:	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	6/17/97	6/17/97	6/17/97	6/17/97	6/17/97
Analyzed Date:	6/17/97	6/17/97	6/17/97	6/17/97	6/17/97
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
Result:	0.18	0.18	0.18	0.54	1.1
MS % Recovery:	90	90	90	90	92
Dup. Result:	0.17	0.17	0.18	0.52	1.1
MSD % Recov.:	85	85	90	87	92
RPD:	5.7	5.7	0.0	3.8	0.0
RPD Limit:	0-25	0-25	0-25	0-25	0-25
LCS #:	BLK061797	BLK061797	BLK061797	BLK061797	BLK061797
Prepared Date:	6/17/97	6/17/97	6/17/97	6/17/97	6/17/97
Analyzed Date:	6/17/97	6/17/97	6/17/97	6/17/97	6/17/97
Instrument I.D.#:	GCHP7	GCHP7	GCHP7	GCHP7	GCHP7
Conc. Spiked:	0.20 mg/Kg	0.20 mg/Kg	0.20 mg/Kg	0.60 mg/Kg	1.2 mg/Kg
LCS Result:	0.20	0.20	0.20	0.61	1.3
LCS % Recov.:	100	100	100	102	108
MS/MSD Control Limits	60-140	60-140	60-140	60-140	60-140
LCS Control Limits	70-130	70-130	70-130	70-130	70-130

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, RPD = Relative % Difference

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Terra Vac
1651 Alvarado St.
San Leandro, CA 94577
Attention: Tony Dahl

Client Proj. ID: Chevron 9-4587/30-0219

Lab Proj. ID: 9706769

Received: 06/13/97

Reported: 06/20/97

LABORATORY NARRATIVE

In order to properly interpret this report, it must be reproduced in its entirety. This report contains a total of 9 pages including the laboratory narrative, sample results, quality control, and related documents as required (cover page, COC, raw data, etc.).

SEQUOIA ANALYTICAL

Tod Granicher
Project Manager

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: 9-4587
Facility Address: 609 Oak St., Oakland
Consultant Project Number: 30-0219
Consultant Name: TerraVac
Address: 1651 Alvarado St. San Leandro
Project Contact (Name): Tony Dahl
(Phone) (510) 351-8900 (Fax Number) 351-0221

Chevron Contact (Name): Phil Briggs
(Phone) (510) 842-8136
Laboratory Name: Sequoia
Laboratory Release Number: 9034807
Samples Collected by (Name): R. A. Dahl
Collection Date: 6/12/97
Signature:

Analyses To Be Performed: 9706769

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
HA-1-6	1	1	S	G	1105	None	Y	X					1							Take from A end.
HA-1-7	2	1	S	G	1120	"	Y	X												
HA-2-5	3	1	S	G	1155	"	Y	X												
HA-2-7	4	1	S	G	1215	"	Y	X												

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
	TV	6/13/97 9:00	Steve Te	SEQ.	6/13/97 9:00
Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
Steve Te	SEQ	6/13/97			
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time
					6-13-97 1525

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

JUN 13 3 25

COC-3.DWG/03 91/HCH