IX

Chevron U.S.A. Inc.
2410 Camino Ramon, San Ramon, California • Phone (415) 842-9500
Mail Address: P.O. Box 5004, San Ramon, CA 94583-0804

90 MAY 10 PM 12:08

Marketing Operations

D. Moller
Manager, Operations
S. L. Patterson
Area Manager, Operations
C. G. Trimbach
Manager, Engineering

May 9, 1990

Mr. Rafat Shahid
Alameda County
Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Re: Former Chevron SS #9-1153
3126 Fernside Boulevard
Alameda, CA

Dear Mr. Shahid:

Enclosed we are forwarding the Quarterly Groundwater Sampling report dated May 4, 1990, conducted by our consultant EA Engineering, at the above referenced site.

Chevron is proceeding with the design, permitting, and installation of our previously proposed groundwater extraction and treatment system.

I declare under penalty of perjury that the information contained in the attached report is true and correct, and that any recommended actions are appropriate under the circumstances, to the best of my knowledge.

If you have any questions or comments please do not hesitate to call me at (415) 842 - 9625.

Very truly yours,

C. G. Trimbach

By John Randall

JMR/jmr
Enclosure

cc: Mr. Lester Feldman
RWQCB-Bay Area
1800 Harrison Street
Suite # 700
Oakland, CA 94612

REPORT OF QUARTERLY ACTIVITIES
CHEVRON SS 9-1153
3126 FERNSIDE BOULEVARD
ALAMEDA, CALIFORNIA

Prepared for

Chevron U.S.A. Inc.

Prepared by

EA Engineering, Science, and Technology
Western Division

May 1990
80201.04

REPORT OF QUARTERLY ACTIVITIES
CHEVRON SS 9-1153
3126 FERNSIDE BOULEVARD
ALAMEDA, CALIFORNIA

Prepared for

Chevron U.S.A. Inc.

Prepared by

EA Engineering, Science, and Technology
Western Division

May 1990
80201.04

80201.04

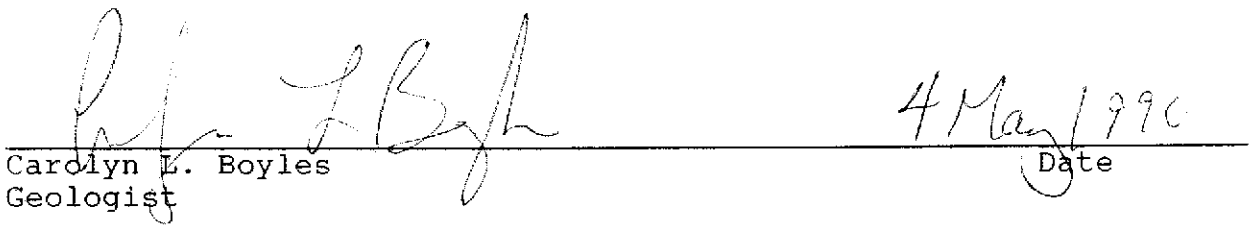
REPORT OF QUARTERLY ACTIVITIES
CHEVRON SS 9-1153
3126 FERNSIDE BOULEVARD
ALAMEDA, CALIFORNIA

Prepared for

Chevron U.S.A. Inc.
2410 Camino Ramon
San Ramon, California 94583

Prepared by

EA Engineering, Science, and Technology
41 Lafayette Circle
Lafayette, California 94549



Carolyn L. Boyles
Geologist

4 May 1990
Date

May 1990

1. SITE CONTACTS

Station Number: SS 9-1153

Station Address: 3126 Fernside Boulevard
Alameda, California

Chevron's Project Manager:
John Randall
Chevron U.S.A. Inc.
P.O. Box 5004
San Ramon, California 94583-0804
415-842-9625

Consultant to Chevron:
EA Engineering, Science, and Technology
41A Lafayette Circle
Lafayette, California 94549
415-283-7077

EA Project Geologist: Carolyn Boyles

2. ACTIVITIES DECEMBER 1989 THROUGH MARCH 1990

02/14/90 EA sampled monitoring wells C-1 and C-3 (Figure 1). Samples were submitted under chain of custody to Pace Laboratories, Inc., where they were analyzed for total petroleum hydrocarbons (TPH) by DHS-modified EPA Method 8015 and for the aromatic hydrocarbons benzene, toluene, xylenes, and ethylbenzene (BTXE) by EPA Method 8020.

03/08/90 EA sampled monitoring wells C-1 and C-3. Samples were submitted under chain of custody to Pace Laboratories for analysis for purgeable hydrocarbons by EPA Method 624 and for priority pollutant metals by EPA Methods 7060, 6010/200.7, 7470, and 7740.

3. PLANNED ACTIVITIES, APRIL 1990

A groundwater remediation work plan is currently in the first stages of implementation. Steps are being taken toward acquiring the appropriate permits.

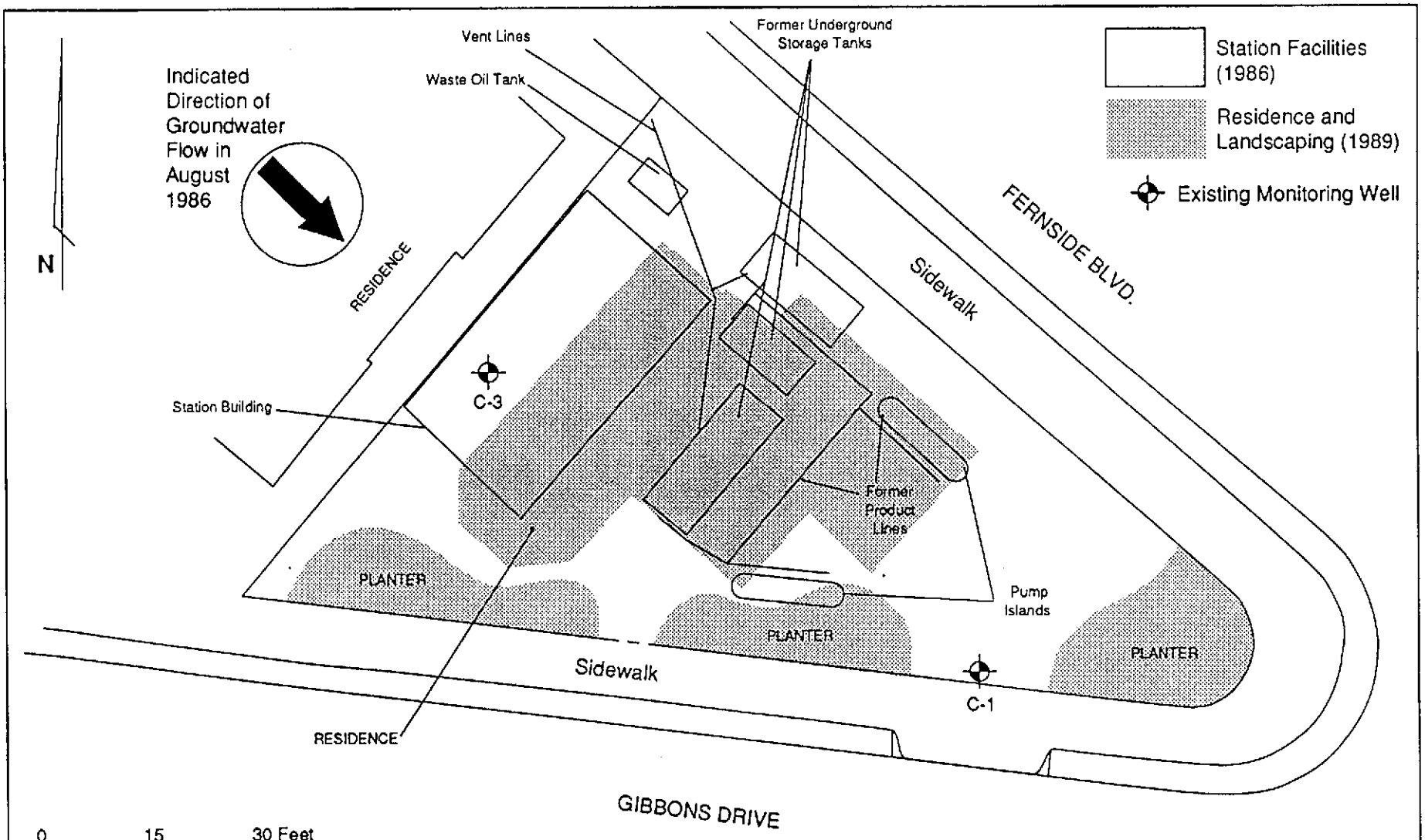


Figure 1. Groundwater monitoring wells with direction of groundwater flow, former Chevron SS 9-1153, Alameda, California.

Drawn	Date
Reviewed	Date 9-16-90

EA ENGINEERING, SCIENCE, AND TECHNOLOGY
41 Lafayette Circle
Lafayette, CA. 94549

Quarterly sampling is planned for mid-May 1990. The samples will be analyzed for TPH as gasoline by modified EPA Method 8015 and for BTXE by EPA Method 8020.

4. STATUS OF SOIL CONTAMINATION DEFINITION

Soil samples have not been collected since the installation of eight soil borings both on and off the site in June 1989.

5. STATUS OF SOIL REMEDIATION

Soil contaminant remediation is not currently being conducted. Soil remediation will be initiated through groundwater remediation, as proposed in EA's remediation work plan (March 1990). As stated in the work plan, soil borings will be installed for the collection of soil samples six months after the groundwater remediation system has been in operation. It is hoped that the groundwater remediation will lower the levels of hydrocarbons in the soil. Alternative treatments will be pursued if the soil hydrocarbon levels have not dropped substantially.

6. STATUS OF FREE PRODUCT PLUME DEFINITION

Free product has not been measured in the wells or in the water collected from the boreholes. Although high, the levels of dissolved petroleum hydrocarbons in the wells are not indicative of free product.

7. STATUS OF FREE PRODUCT REMEDIATION

Free product remediation is not required.

8. STATUS OF DISSOLVED CONSTITUENT PLUME DEFINITION

The results of analyses for TPH and BTXE performed on groundwater samples collected on 14 February 1990 are summarized in Table 1, and the laboratory report is provided as Appendix A. Well sampling field forms are included as Appendix B. No detectable hydrocarbons were found in groundwater from C-3, but at C-1 hydrocarbon concentrations were high; benzene was measured at 12,000 ug/L and TPH was measured at 19,000 ug/L. Since 1987 there has been a steady increase in hydrocarbon constituents measured in the groundwater at C-1. This can be seen in Table 2, which shows the cumulative history of analytical results. This rise is probably due to the downgradient migration of hydrocarbons from beneath the site. This migration is probably enhanced by the intense watering of the landscaping on the site. The watering steepens the gradient, driving contaminants from the source, beneath the site, at a faster rate.

9. STATUS OF DISSOLVED CONSTITUENT REMEDIATION

A work plan for the extraction and treatment of groundwater has been submitted to and approved by Chevron. This extraction and treatment system has been designed to begin reducing the amount of dissolved hydrocarbons currently found in groundwater at Chevron SS 9-1153.

At the request of the Regional Water Quality Control Board, samples of groundwater were taken on 7 March 1990 and analyzed for priority metals and purgeable organics. The results will be used to determine the possibility of discharging treated wastewater into the city storm drain. The constituents that were found above detection limits are listed in Table 3. High concentrations of benzene (4,260 ug/L), toluene (261 ug/L), and xylenes (430 ug/L) were measured in the groundwater at C-1, and no detectable

TABLE 1 CONCENTRATIONS (ug/L) OF PETROLEUM HYDROCARBONS IN GROUNDWATER SAMPLES, FORMER CHEVRON SS 9-1153, ALAMEDA, CALIFORNIA, 14 FEBRUARY 1990

Well No.	Benzene	Toluene	Ethyl-benzene	Xylenes	Total Petroleum Hydrocarbons
C-1	12,000	990	390	660	19,000
C-3	<0.5	<0.5	<0.5	<0.5	<50
Rinse Blank	<0.5	0.5	<0.5	0.5	<50
Travel Blank	<0.5	1.1	<0.5	<0.5	<50

TABLE 2 CONCENTRATIONS (ug/L [ppb]) OF PETROLEUM HYDROCARBONS IN GROUNDWATER SAMPLES, FORMER CHEVRON SS 9-1153, ALAMEDA, CALIFORNIA, 1986, 1987, 1989, 1990

Well No.	Date	Benzene	Toluene	Ethylbenzene and Xylenes	Total Petroleum Hydrocarbons
C-1	09/04/86	760	820	1,500	15,000
	07/22/87	250	7	40	1,100
	05/03/89	3,800	190	229	6,900
	12/04/89	8,000	490	470	17,000
	02/14/90	12,000	990	1,050	19,000
C-2	09/04/86	49	18	84	1,100
	07/22/87	1.8	<1.0	<4.0	<50
	05/03/89	well not found			
	12/04/89	well not found			
	02/14/90	well not found			
C-3	09/04/86	3.2	5.4	5.8	50
	07/22/87	<0.5	<1.0	<4.0	<50
	05/03/89	<0.5	<1.0	<2.0	<50
	12/04/89	<0.5	<0.5	<0.5	<250
	02/14/90	<0.5	<0.5	<0.5	<50
5[1]	06/04/86	--	--	--	130

1. Surface water sample collected during tank pull.

TABLE 3 CONCENTRATIONS[a] (ug/L) OF CHEMICAL CONSTITUENTS IN GROUNDWATER SAMPLES, FORMER CHEVRON SS 9-1153, ALAMEDA, CALIFORNIA, 7 MARCH 1990

	Monitoring Well C-1	Monitoring Well C-3
Priority Metals		
Arsenic	30	<5
Chromium	20	20
Copper	20	10
Nickel	30	40
Zinc	40	30
Purgeable Organics		
Benzene	4,260	<5
Toluene	261	<5
Xylenes	430	<5

a. Listing includes only constituents with concentrations greater than detection limits in one well or the other. See Appendix C for complete analytical results.

purgeable hydrocarbons were measured in groundwater from C-3. The laboratory report detailing the complete analyses results is included as Appendix C, and the well data forms are included as Appendix D.

10. WATER LEVEL RECORDS AND GRADIENT DETERMINATIONS

The depth to groundwater was measured in each well using an optical interface probe. Groundwater elevations were calculated using this data and previously determined top-of-casing elevations. The results are summarized in Table 4. Three wells are needed to provide data to determine the local groundwater direction and gradient, and only two wells exist at present. The horizontal and vertical components of the groundwater gradient have probably been affected by the watering of the landscaping, as was mentioned above. The mounding of the groundwater beneath the site may result in a radial direction of flow as well as steepening the gradient. The primary direction of flow, however, is probably still to the southeast.

TABLE 4 DEPTH TO GROUNDWATER IN MONITORING WELLS, FORMER CHEVRON SS 9-1153, ALAMEDA, CALIFORNIA, 1986 THROUGH 1990

Well No.	Date	Depth to Water (feet)
C-1	08/18/86	4.10
	05/03/89	4.46
	12/04/89	4.16
	02/14/90	3.64
	03/07/90	3.36
C-3	08/18/86	4.00
	05/03/89	4.15
	12/04/89	4.24
	02/14/90	3.57
	03/07/90	3.31

APPENDIX A

Laboratory Analytical Report

Pace Laboratories Inc.

14 February 1990

pace laboratories, inc.

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheboro, North Carolina

March 02, 1990

Ms. Carolyn Boyles
EA Engineering
41A Lafayette Circle
Lafayette, CA 94549

RE: PACE Project No. 400215.506
CH SS9-1153/80201.04

Dear Ms. Boyles:

Enclosed is the report of laboratory analyses for samples received February 15, 1990.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Stephen Nackord

Stephen F. Nackord
Director, Sampling and Analytical Services

Enclosures

pace laboratories, inc.

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheboro, North Carolina

EA Engineering
41A Lafayette Circle
Lafayette, CA 94549

March 02, 1990
PACE Project
Number: 400215506

Attn: Ms. Carolyn Boyles

CH SS9-1153/80201.04

PACE Sample Number:			717050	
Date Collected:			02/14/90	
Date Received:			02/15/90	
			Rinse Blank	
Parameter	Units	MDL	(water)	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/20/90
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	ND	02/20/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	02/20/90
Benzene	ug/L	0.5	ND	02/20/90
Ethylbenzene	ug/L	0.5	ND	02/20/90
Toluene	ug/L	0.5	0.5	02/20/90
Xylenes, Total	ug/L	0.5	0.5	02/20/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

pace laboratories, inc.

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheboro, North Carolina

Ms. Carolyn Boyles
Page 2

March 02, 1990
PACE Project
Number: 400215506

CH SS9-1153/80201.04

Parameter	Units	MDL	PACE Sample Number: 717060 Date Collected: 02/14/90 Date Received: 02/15/90 C-1 (water)	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/22/90
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	19000	02/22/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	02/22/90
Benzene	ug/L	0.5	12000	02/22/90
Ethylbenzene	ug/L	0.5	390	02/22/90
Toluene	ug/L	0.5	990	02/22/90
Xylenes, Total	ug/L	0.5	660	02/22/90

MDL Method Detection Limit

pace laboratories, inc.

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheboro, North Carolina

REPORT OF LABORATORY ANALYSIS

Ms. Carolyn Boyles

March 02, 1990
PACE Project Number: 400215506

CH SS9-1153/80201.04

PACE Sample Number:			717070	
Date Collected:			02/14/90	
Date Received:			02/15/90	
			C-3	
Parameter	Units	MDL	(water)	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/21/90
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	ND	02/21/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	02/21/90
Benzene	ug/L	0.5	ND	02/21/90
Ethylbenzene	ug/L	0.5	ND	02/21/90
Toluene	ug/L	0.5	ND	02/21/90
Xylenes, Total	ug/L	0.5	ND	02/21/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

pace laboratories, inc.

REPORT OF LABORATORY ANALYSIS

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheboro, North Carolina

Ms. Carolyn Boyles
Page 4

March 02, 1990
PACE Project
Number: 400215506

CH SS9-1153/80201.04

PACE Sample Number:			717080	
Date Collected:			02/14/90	
Date Received:			02/15/90	
			Travel Blank	
Parameter	Units	MDL	(water)	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			-	02/26/90
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	ND	02/26/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	02/26/90
Benzene	ug/L	0.5	ND	02/26/90
Ethylbenzene	ug/L	0.5	ND	02/26/90
Toluene	ug/L	0.5	1.1	02/26/90
Xylenes, Total	ug/L	0.5	ND	02/26/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

pace laboratories, inc.

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheboro, North Carolina

REPORT OF LABORATORY ANALYSIS

Ms. Carolyn Boyles
Page 5

March 02, 1990
PACE Project
Number: 400215506

CH SS9-1153/80201.04

PACE Sample Number:	717090
Date Collected:	By Client
Date Received:	02/15/90

Parameter	Units	MDL	Q.C. Batch No. (water)	DATE ANALYZED
ORGANIC ANALYSIS				
PURGEABLE FUELS AND AROMATICS				
TOTAL FUEL HYDROCARBONS, (LIGHT):			Q2059	02/20/90
Purgeable Fuels, as Gasoline (EPA 8015)	ug/L	50	-	02/20/90
PURGEABLE AROMATICS (BTXE BY EPA 8020):			-	02/20/90
Benzene	ug/L	0.5	-	02/20/90
Ethylbenzene	ug/L	0.5	-	02/20/90
Toluene	ug/L	0.5	-	02/20/90
Xylenes, Total	ug/L	0.5	-	02/20/90

MDL Method Detection Limit

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my direct supervision.

Douglas E. Oram, Ph.D.
Organic Chemistry Manager

Chain-of-Custody Record

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

Chevron Facility Number: SS9-1153
Consultant Release Number:
Consultant Project Number: 80201.04
Consultant Name: EA Engineering
Address: 41A Lafayette circle lafayette ca.
Fax Number: 283-3894
Project Contact (Name): Carolyn Boyles
(Phone): (415) 283-7077

Chevron Contact (Name): John Randall
(Phone): 842-9625
Laboratory Name: Pace
Contract Number:
Samples Collected by (Name): J. Bullie
Collection Date: 2/14/90
Signature: J. Bullie

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Analyses To Be Performed: Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803				Remarks
Rinse Blank		3	W	G	1355	HCl	✓	✓			✓							71705
C-1		3	W	G	1400	HCl	✓	✓			✓							71706
C-3		3	W	G	1410	HCl	✓	✓			✓							71707
Trip Blank		2	W	G	—	none	✓	✓			✓							71708
																		71709 QC
GV on 6/3																		

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
J. Bullie	EA Engineering	2/14/90 1520		Pace	2/15 1:40
	Pace	2/15 4:57			
			Received For Laboratory By (Signature)	PACE	15FEB90 11:50

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

APPENDIX B

Well Sampling Field Forms

14 February 1990

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

MONITORING WELL DATA FORM

Pace Proj # 308.504

Project Number: 8020.04 | Station Number: SS 9-1153

Client: Chevron | Samplers: JE | Date: 2/14/90

Site Location: ALAMEDA

MONITORING WELL NUMBER	ELEVATION TOP OF CASING	DEPTH TO WATER	DEPTH TO PRODUCT	ELEVATION TOP OF GROUNDWATER	APPARENT PRODUCT THICKNESS	STICK UP (+) DOWN (-)	DEPTH TO BOTTOM
C-1		3.64					19.19
C-3		3.57					20.21

EA

Date: 2/14/90

GROUNDWATER PURGE AND SAMPLE FORM

PROJECT NAME: Chevron 9-1153 WELL NUMBER: C-7

PROJECT NUMBER: 8020.04 PERSONNEL: RB

STATIC WATER LEVEL: 3.64'

WATER LEVEL MEASUREMENT METHOD: Interface probe

TIME START PURGE: 1149

TIME END PURGE: 1227

TIME SAMPLED: 1400

MEASURING POINT DESCRIPTION: Top of casing

PURGE METHOD: Honda pump

PURGE DEPTH: Bottom

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (ft)	−	DEPTH TO WATER (ft)	=	WATER COLUMN (ft)	X	MULTIPLIER FOR CASING DIAMETER (in)	=	CASING VOLUME (gal)
	19.19		3.64		15.55		2 (3) 4 6 0.16 0.64 1.44		5.2 = 15.6 = 16

TIME	1150	1154	1158	1222	1224	1225	1227
VOLUME PURGED (gal)	0	5	8	10	13	15	17
PURGE RATE (gpm)	1.25						→
TEMPERATURE (°C)	15.0	18.0	18.0	18.5	19.0	19.0	19.5
pH	5.1	6.0	6.2	6.3	6.3	6.3	6.3
SPECIFIC CONDUCTIVITY (uncorrected) (µmhos)	1200	1300	1400	1300	1300	1350	1400
DISSOLVED OXYGEN (mg/l)	NOT Measured →						
eH (MV) Pt-AgCl ref.							
TURBIDITY / COLOR	low / cloudy	high / grey	high / grey	high / grey	high / grey	→	→
ODOR	HC	HC	HC	HC	HC	→	→
DEPTH TO WATER DURING PURGE (ft)	NOT MEASURED →						
NUMBER OF CASING VOLUMES REMOVED	0.0	0.96	1.53	1.92	2.5	2.9	3.3
DEWATERED?	NO	NO	yes	NO	no	NO	NO

Comments: None

EA

GROUNDWATER PURGE AND SAMPLE FORM

Date: 2/14/90

PROJECT NAME: Chevron 9-1153 WELL NUMBER: C-3

PROJECT NUMBER: 8020.04 PERSONNEL: JB

STATIC WATER LEVEL: 3.57'

WATER LEVEL MEASUREMENT METHOD: Interface Probe

TIME START PURGE: 1251

TIME END PURGE: 1332

TIME SAMPLED: 1410

MEASURING POINT DESCRIPTION: Top of Casing

PURGE METHOD: Honda Pump

PURGE DEPTH: Bottom

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (ft)	−	DEPTH TO WATER (ft)	=	WATER COLUMN (ft)	X	MULTIPLIER FOR CASING DIAMETER (in)			=	CASING VOLUME (gal)
							2 (3)	4	6		
	20.21		3.57		16.64		0.16	0.64	1.44		5.4 = 16.2

TIME	1252	1255	1259	1302	1319	1332	
VOLUME PURGED (gal)	0	5	10	13	15	19	
PURGE RATE (gpm)	1.7	→	→	→	→	→	
TEMPERATURE (°C)	15.0	17.0	16.5	17.0	17.0	17.0	
pH	7.4	7.1	6.9	6.8	6.7	6.7	
SPECIFIC CONDUCTIVITY (uncorrected) (µmhos)	800	850	850	850	850	850	
DISSOLVED OXYGEN (mg/l)		NOT MEASURED					
eH (MV) Pt-AgCl ref.							
TURBIDITY / COLOR	low cloudy	low light Brn	→	→	med Brown	high Brown	
ODOR	none	none	→	→	none	none	
DEPTH TO WATER DURING PURGE (ft)	NOT	MEASURED	→	→	→	→	
NUMBER OF CASING VOLUMES REMOVED	0.0	0.92	1.85	2.4	2.8	3.5	
DEWATERED?	NO	NO	→	~~NO~~ yes	~~NO~~ yes	yes	

Comments:

Chevron 9-1153, Alameda
EA # 80201.04
2/14/90
JB

The two wells C-1, and C-3, were gauged, purged, and sampled. C-1 casing was filled with water - most likely from the rains; it's possible that this water may have leaked into well. There was a strong hydrocarbon odor emanating from well. Looking down well depth (about 3.6'), one could see a thin sheen layer. No ~~noticeable~~ noticeable odor was detected while purging and sampling C-3.

There are now two barrels on site - one full, and the other, halfway full.

Chain-of-Custody Record

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

Chevron Facility Number: SS9-1153
Consultant Release Number:
Consultant Project Number: 80201.04
Consultant Name: EA Engineering
Address: 41A Lafayette circle Lafayette Ca.
Fax Number: 283-3894
Project Contact (Name): Carolyn Boyles
(Phone): (415) 283-7077

Chevron Contact (Name): John Randall
(Phone): 842-9625
Laboratory Name: Pace
Contract Number:
Samples Collected by (Name): J. Bullie
Collection Date: 2/14/90
Signature: J Bullie

Sample Number	Lab Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite	Time	Sample Preservation	Iced	Analyses To Be Performed: Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline	Modified EPA 8015 Total Petro. Hydrocarb. as Gasoline + Diesel	503 Oil and Grease	Arom. Volatiles - BTXE Soil: 8020/Wtr.: 602	Arom. Volatiles - BTXE Soil: 8240/Wtr.: 624	Total Lead DHS-Luft	EDB DHS-AB 1803				Remarks
Rinse Blank		3	W	G	1355	HCl	✓	✓			✓							
C-1		3	W	G	1400	HCl	✓	✓			✓							
C-3		3	W	G	1410	HCl	✓	✓			✓							
Trip Blank		2	W	G	—	none	✓	✓			✓							

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
J Bullie	EA Engineering	2/14/90 1520			
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

Turn Around Time (Circle Choice)
24 Hrs
48 Hrs
5 Days

APPENDIX C

Laboratory Analytical Report

Pace Laboratories, Inc.

7 March 1990

ace laboratories, inc.

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheville, North Carolina
Charlotte, North Carolina

REPORT OF LABORATORY ANALYSIS

March 26, 1990

Mr. Terry Winsor
EA Engineering
41 A Lafayette Circle
Lafayette, CA 94549

RE: PACE Project No. 400308.504
Former Chev SS9-1153

Dear Mr. Winsor:

Enclosed is the report of laboratory analyses for samples received March 08, 1990.

If you have any questions concerning this report, please feel free to contact us.

Sincerely,

Stephen Nackord

Stephen F. Nackord
Director, Sampling and Analytical Services

Enclosures

PACE laboratories, inc.

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheville, North Carolina
Charlotte, North Carolina

REPORT OF LABORATORY ANALYSIS

EA Engineering
41 A Lafayette Circle
Lafayette, CA 94549

March 26, 1990
PACE Project
Number: 400308504

Attn: Mr. Terry Winsor

Former Chev SS9-1153

PACE Sample Number:			725320	
Date Collected:			03/07/90	
Date Received:			03/08/90	
			C-1	
Parameter	Units	MDL	(water)	DATE ANALYZED
INORGANIC ANALYSIS				
PRIORITY POLLUTANT METALS				
Antimony	mg/L	0.1	ND	03/23/90
Arsenic (EPA Method 7060, Furnace AAS)	mg/L	0.005	0.03	03/23/90
Beryllium (EPA Method 6010/200.7, ICP)	mg/L	0.01	ND	03/23/90
Cadmium (EPA 6010/200.7, ICP)	mg/L	0.01	ND	03/23/90
Chromium (EPA 6010/200.7)	mg/L	0.01	0.02	03/23/90
Copper	mg/L	0.01	0.02	03/23/90
Lead	mg/L	0.1	ND	03/23/90
Mercury (EPA Method 7470, Cold Vapor AA)	mg/L	0.0002	ND	03/23/90
Nickel	mg/L	0.02	0.03	03/23/90
Selenium (EPA Method 7740, Furnace AAS)	mg/L	0.01	ND	03/23/90
Silver (EPA 6010, ICP)	mg/L	0.01	ND	03/23/90
Thallium	mg/L	0.2	ND	03/23/90
Zinc (EPA Method 6010/200.7, ICP-AES)	mg/L	0.01	0.04	03/23/90
ORGANIC ANALYSIS				
VOLATILE ORGANICS, EPA METHOD 624 GC/MS				
Dichlorodifluoromethane	ug/L	10	ND	03/21/90
Chloromethane	ug/L	10	ND	03/21/90
Vinyl Chloride	ug/L	10	ND	03/21/90
Bromomethane	ug/L	10	ND	03/21/90
Chloroethane	ug/L	10	ND	03/21/90
Trichlorofluoromethane	ug/L	5	ND	03/21/90
Acrolein	ug/L	10	ND	03/21/90
2-Butanone (MEK)	ug/L	10	ND	03/21/90
Iodomethane	ug/L	5	ND	03/21/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

Pace Laboratories, Inc

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheville, North Carolina
Charlotte, North Carolina

REPORT OF LABORATORY ANALYSIS

Mr. Terry Winsor
Page 2

March 26, 1990
PACE Project Number: 400308504

Former Chev SS9-1153

Parameter	Units	MDL	PACE Sample Number: 725320 Date Collected: 03/07/90 Date Received: 03/08/90 C-1 (water)	DATE ANALYZED
ORGANIC ANALYSIS				
VOLATILE ORGANICS, EPA METHOD 624 GC/MS				
1,1-Dichloroethene	ug/L	5	ND	03/21/90
Carbon Disulfide	ug/L	5	ND	03/21/90
Acetone	ug/L	10	ND	03/21/90
Acrylonitrile	ug/L	5	ND	03/21/90
Methylene Chloride	ug/L	5	ND	03/21/90
trans-1,2-Dichloroethene	ug/L	5	ND	03/21/90
1,1-Dichloroethane	ug/L	5	ND	03/21/90
Vinyl Acetate	ug/L	10	ND	03/21/90
Chloroform	ug/L	5	ND	03/21/90
1,1,1-Trichloroethane	ug/L	5	ND	03/21/90
1,2-Dichloroethane	ug/L	5	ND	03/21/90
Carbon Tetrachloride	ug/L	5	ND	03/21/90
Benzene	ug/L	5	4260	03/21/90
1,2-Dichloropropane	ug/L	5	ND	03/21/90
Trichloroethene (TCE)	ug/L	5	ND	03/21/90
Dibromomethane	ug/L	5	ND	03/21/90
Bromodichloromethane	ug/L	5	ND	03/21/90
trans-1,3-Dichloropropene	ug/L	5	ND	03/21/90
4-Methyl-2-pentanone (MIBK)	ug/L	10	ND	03/21/90
Toluene	ug/L	5	261	03/21/90
cis-1,3-Dichloropropene	ug/L	5	ND	03/21/90
1,1,2-Trichloroethane	ug/L	5	ND	03/21/90
2-Chloroethylvinyl ether	ug/L	5	ND	03/21/90
Ethylmethacrylate	ug/L	5	ND	03/21/90
Dibromochloromethane	ug/L	5	ND	03/21/90
2-Hexanone	ug/L	10	ND	03/21/90
Tetrachloroethene	ug/L	5	ND	03/21/90
Chlorobenzene	ug/L	5	ND	03/21/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

Pace Laboratories, Inc.

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheville, North Carolina
Charlotte, North Carolina

REPORT OF LABORATORY ANALYSIS

Mr. Terry Winsor
Page 3

March 26, 1990
PACE Project
Number: 400308504

Former Chev SS9-1153

PACE Sample Number:	725320
Date Collected:	03/07/90
Date Received:	03/08/90
	C-1

Parameter	Units	MDL	(water)	DATE ANALYZED
ORGANIC ANALYSIS				
VOLATILE ORGANICS, EPA METHOD 624 GC/MS				
Ethylbenzene	ug/L	5	ND	03/21/90
Bromoform	ug/L	5	ND	03/21/90
Xylene(s) Total	ug/L	5	430	03/21/90
Styrene	ug/L	5	ND	03/21/90
1,1,2,2,-Tetrachloroethane	ug/L	5	ND	03/21/90
1,2,3-Trichloropropane	ug/L	5	ND	03/21/90
1,4-Dichloro-2-butene	ug/L	5	ND	03/21/90
1,3-Dichlorobenzene	ug/L	5	ND	03/21/90
1,4-Dichlorobenzene	ug/L	5	ND	03/21/90
1,2-Dichlorobenzene	ug/L	5	ND	03/21/90
1,2-Dichloroethane-d4 (Surrog. Recovery)			97%	03/21/90
Toluene-d8 (Surrogate Recovery)			95%	03/21/90
4-Bromofluorobenzene (Surrog.Recovery)			94%	03/21/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheville, North Carolina
Charlotte, North Carolina

REPORT OF LABORATORY ANALYSIS

Mr. Terry Winsor
Page 4

March 26, 1990
PACE Project
Number: 400308504

Former Chev SS9-1153

PACE Sample Number:	725330
Date Collected:	03/07/90
Date Received:	03/08/90
	C-3

Parameter	Units	MDL	(water)	DATE ANALYZED
INORGANIC ANALYSIS				
PRIORITY POLLUTANT METALS				
Antimony	mg/L	0.1	ND	03/23/90
Arsenic (EPA Method 7060, Furnace AAS)	mg/L	0.005	ND	03/23/90
Beryllium (EPA Method 6010/200.7, ICP)	mg/L	0.01	ND	03/23/90
Cadmium (EPA 6010/200.7, ICP)	mg/L	0.01	ND	03/23/90
Chromium (EPA 6010/200.7)	mg/L	0.01	0.02	03/23/90
Copper	mg/L	0.01	0.01	03/23/90
Lead	mg/L	0.1	ND	03/23/90
Mercury (EPA Method 7470, Cold Vapor AA)	mg/L	0.0002	ND	03/23/90
Nickel	mg/L	0.02	0.04	03/23/90
Selenium (EPA Method 7740, Furnace AAS)	mg/L	0.01	ND	03/23/90
Silver (EPA 6010, ICP)	mg/L	0.01	ND	03/23/90
Thallium	mg/L	0.2	ND	03/23/90
Zinc (EPA Method 6010/200.7, ICP-AES)	mg/L	0.01	0.03	03/23/90
ORGANIC ANALYSIS				
VOLATILE ORGANICS, EPA METHOD 624 GC/MS				
Dichlorodifluoromethane	ug/L	10	ND	03/20/90
Chloromethane	ug/L	10	ND	03/20/90
Vinyl Chloride	ug/L	10	ND	03/20/90
Bromomethane	ug/L	10	ND	03/20/90
Chloroethane	ug/L	10	ND	03/20/90
Trichlorofluoromethane	ug/L	5	ND	03/20/90
Acrolein	ug/L	10	ND	03/20/90
2-Butanone (MEK)	ug/L	10	ND	03/20/90
Iodomethane	ug/L	5	ND	03/20/90
1,1-Dichloroethene	ug/L	5	ND	03/20/90
Carbon Disulfide	ug/L	5	ND	03/20/90
Acetone	ug/L	10	ND	03/20/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

ace laboratories, inc.
Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheville, North Carolina
Charlotte, North Carolina

REPORT OF LABORATORY ANALYSIS

Mr. Terry Winsor
Page 5

March 26, 1990
PACE Project Number: 400308504

Former Chev SS9-1153

PACE Sample Number:			725330	
Date Collected:			03/07/90	
Date Received:			03/08/90	
			C-3	
Parameter	Units	MDL	(water)	DATE ANALYZED
ORGANIC ANALYSIS				
VOLATILE ORGANICS, EPA METHOD 624 GC/MS				
Acrylonitrile	ug/L	5	ND	03/20/90
Methylene Chloride	ug/L	5	ND	03/20/90
trans-1,2-Dichloroethene	ug/L	5	ND	03/20/90
1,1-Dichloroethane	ug/L	5	ND	03/20/90
Vinyl Acetate	ug/L	10	ND	03/20/90
Chloroform	ug/L	5	ND	03/20/90
1,1,1-Trichloroethane	ug/L	5	ND	03/20/90
1,2-Dichloroethane	ug/L	5	ND	03/20/90
Carbon Tetrachloride	ug/L	5	ND	03/20/90
Benzene	ug/L	5	ND	03/20/90
1,2-Dichloropropane	ug/L	5	ND	03/20/90
Trichloroethene (TCE)	ug/L	5	ND	03/20/90
Dibromomethane	ug/L	5	ND	03/20/90
Bromodichloromethane	ug/L	5	ND	03/20/90
trans-1,3-Dichloropropene	ug/L	5	ND	03/20/90
4-Methyl-2-pentanone (MIBK)	ug/L	10	ND	03/20/90
Toluene	ug/L	5	ND	03/20/90
cis-1,3-Dichloropropene	ug/L	5	ND	03/20/90
1,1,2-Trichloroethane	ug/L	5	ND	03/20/90
2-Chloroethylvinyl ether	ug/L	5	ND	03/20/90
Ethylmethacrylate	ug/L	5	ND	03/20/90
Dibromochloromethane	ug/L	5	ND	03/20/90
2-Hexanone	ug/L	10	ND	03/20/90
Tetrachloroethene	ug/L	5	ND	03/20/90
Chlorobenzene	ug/L	5	ND	03/20/90
Ethylbenzene	ug/L	5	ND	03/20/90
Bromoform	ug/L	5	ND	03/20/90
Xylene(s) Total	ug/L	5	ND	03/20/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

pace laboratories, inc

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheville, North Carolina
Charlotte, North Carolina

REPORT OF LABORATORY ANALYSIS

Mr. Terry Winsor
Page 6

March 26, 1990
PACE Project
Number: 400308504

Former Chev SS9-1153

PACE Sample Number:			725330	
Date Collected:			03/07/90	
Date Received:			03/08/90	
			C-3	
Parameter	Units	MDL	(water)	DATE ANALYZED
ORGANIC ANALYSIS				
VOLATILE ORGANICS, EPA METHOD 624 GC/MS				
Styrene	ug/L	5	ND	03/20/90
1,1,2,2,-Tetrachloroethane	ug/L	5	ND	03/20/90
1,2,3-Trichloropropane	ug/L	5	ND	03/20/90
1,4-Dichloro-2-butene	ug/L	5	ND	03/20/90
1,3-Dichlorobenzene	ug/L	5	ND	03/20/90
1,4-Dichlorobenzene	ug/L	5	ND	03/20/90
1,2-Dichlorobenzene	ug/L	5	ND	03/20/90
1,2-Dichloroethane-d4 (Surrog. Recovery)			91%	03/20/90
Toluene-d8 (Surrogate Recovery)			93%	03/20/90
4-Bromofluorobenzene (Surrog.Recovery)			96%	03/20/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

pace laboratories, inc

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheville, North Carolina
Charlotte, North Carolina

REPORT OF LABORATORY ANALYSIS

Mr. Terry Winsor
Page 7

March 26, 1990
PACE Project
Number: 400308504

Former Chev SS9-1153

PACE Sample Number:	725340
Date Collected:	03/07/90
Date Received:	03/08/90
	Rinse Blank

Parameter	Units	MDL	(water)	DATE ANALYZED
INORGANIC ANALYSIS				
PRIORITY POLLUTANT METALS				
Antimony	mg/L	0.1	ND	03/23/90
Arsenic (EPA Method 7060, Furnace AAS)	mg/L	0.005	ND	03/23/90
Beryllium (EPA Method 6010/200.7, ICP)	mg/L	0.01	ND	03/23/90
Cadmium (EPA 6010/200.7, ICP)	mg/L	0.01	ND	03/23/90
Chromium (EPA 6010/200.7)	mg/L	0.01	ND	03/23/90
Copper	mg/L	0.01	ND	03/23/90
Lead	mg/L	0.1	ND	03/23/90
Mercury (EPA Method 7470, Cold Vapor AA)	mg/L	0.0002	ND	03/23/90
Nickel	mg/L	0.02	ND	03/23/90
Selenium (EPA Method 7740, Furnace AAS)	mg/L	0.01	ND	03/23/90
Silver (EPA 6010, ICP)	mg/L	0.01	ND	03/23/90
Thallium	mg/L	0.2	ND	03/23/90
Zinc (EPA Method 6010/200.7, ICP-AES)	mg/L	0.01	ND	03/23/90
ORGANIC ANALYSIS				
VOLATILE ORGANICS, EPA METHOD 624 GC/MS				
Dichlorodifluoromethane	ug/L	10	ND	03/21/90
Chloromethane	ug/L	10	ND	03/21/90
Vinyl Chloride	ug/L	10	ND	03/21/90
Bromomethane	ug/L	10	ND	03/21/90
Chloroethane	ug/L	10	ND	03/21/90
Trichlorofluoromethane	ug/L	5	ND	03/21/90
Acrolein	ug/L	10	ND	03/21/90
2-Butanone (MEK)	ug/L	10	ND	03/21/90
Iodomethane	ug/L	5	ND	03/21/90
1,1-Dichloroethene	ug/L	5	ND	03/21/90
Carbon Disulfide	ug/L	5	ND	03/21/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

Pace Laboratories, inc

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheville, North Carolina
Charlotte, North Carolina

REPORT OF LABORATORY ANALYSIS

Mr. Terry Winsor
Page 8

March 26, 1990
PACE Project
Number: 400308504

Former Chev SS9-1153

PACE Sample Number:	725340
Date Collected:	03/07/90
Date Received:	03/08/90
	Rinse Blank (water)

Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
VOLATILE ORGANICS, EPA METHOD 624 GC/MS				
Acetone	ug/L	10	ND	03/21/90
Acrylonitrile	ug/L	5	ND	03/21/90
Methylene Chloride	ug/L	5	ND	03/21/90
trans-1,2-Dichloroethene	ug/L	5	ND	03/21/90
1,1-Dichloroethane	ug/L	5	ND	03/21/90
Vinyl Acetate	ug/L	10	ND	03/21/90
Chloroform	ug/L	5	ND	03/21/90
1,1,1-Trichloroethane	ug/L	5	ND	03/21/90
1,2-Dichloroethane	ug/L	5	ND	03/21/90
Carbon Tetrachloride	ug/L	5	ND	03/21/90
Benzene	ug/L	5	ND	03/21/90
1,2-Dichloropropane	ug/L	5	ND	03/21/90
Trichloroethene (TCE)	ug/L	5	ND	03/21/90
Dibromomethane	ug/L	5	ND	03/21/90
Bromodichloromethane	ug/L	5	ND	03/21/90
trans-1,3-Dichloropropene	ug/L	10	ND	03/21/90
4-Methyl-2-pentanone (MIBK)	ug/L	5	ND	03/21/90
Toluene	ug/L	5	ND	03/21/90 —
cis-1,3-Dichloropropene	ug/L	5	ND	03/21/90
1,1,2-Trichloroethane	ug/L	5	ND	03/21/90
2-Chloroethylvinyl ether	ug/L	5	ND	03/21/90
Ethylmethacrylate	ug/L	5	ND	03/21/90
Dibromochloromethane	ug/L	10	ND	03/21/90
2-Hexanone	ug/L	5	ND	03/21/90
Tetrachloroethene	ug/L	5	ND	03/21/90
Chlorobenzene	ug/L	5	ND	03/21/90
Ethylbenzene	ug/L	5	ND	03/21/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

Pace laboratories, inc.
Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheville, North Carolina
Charlotte, North Carolina

REPORT OF LABORATORY ANALYSIS

Mr. Terry Winsor
Page 9

March 26, 1990
PACE Project
Number: 400308504

Former Chev SS9-1153

PACE Sample Number:	725340
Date Collected:	03/07/90
Date Received:	03/08/90
	Rinse Blank (water)

Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
VOLATILE ORGANICS, EPA METHOD 624 GC/MS				
Bromoform	ug/L	5	ND	03/21/90
Xylene(s) Total	ug/L	5	ND	03/21/90
Styrene	ug/L	5	ND	03/21/90
1,1,2,2,-Tetrachloroethane	ug/L	5	ND	03/21/90
1,2,3-Trichloropropane	ug/L	5	ND	03/21/90
1,4-Dichloro-2-butene	ug/L	5	ND	03/21/90
1,3-Dichlorobenzene	ug/L	5	ND	03/21/90
1,4-Dichlorobenzene	ug/L	5	ND	03/21/90
1,2-Dichlorobenzene	ug/L	5	ND	03/21/90
1,2-Dichloroethane-d4 (Surrog. Recovery)			97%	03/21/90
Toluene-d8 (Surrogate Recovery)			96%	03/21/90
4-Bromofluorobenzene (Surrog.Recovery)			89%	03/21/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

pace laboratories, inc.

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheville, North Carolina
Charlotte, North Carolina

REPORT OF LABORATORY ANALYSIS

Mr. Terry Winsor
Page 10

March 26, 1990
PACE Project
Number: 400308504

Former Chev SS9-1153

PACE Sample Number:	725350
Date Collected:	By Client
Date Received:	03/08/90
	Trip Blank (water)

Parameter	Units	MDL		DATE ANALYZED
ORGANIC ANALYSIS				
VOLATILE ORGANICS, EPA METHOD 624 GC/MS				
Dichlorodifluoromethane	ug/L	10	ND	03/21/90
Chloromethane	ug/L	10	ND	03/21/90
Vinyl Chloride	ug/L	10	ND	03/21/90
Bromomethane	ug/L	10	ND	03/21/90
Chloroethane	ug/L	10	ND	03/21/90
Trichlorofluoromethane	ug/L	5	ND	03/21/90
Acrolein	ug/L	10	ND	03/21/90
2-Butanone (MEK)	ug/L	10	ND	03/21/90
Iodomethane	ug/L	5	ND	03/21/90
1,1-Dichloroethene	ug/L	5	ND	03/21/90
Carbon Disulfide	ug/L	5	ND	03/21/90
Acetone	ug/L	10	ND	03/21/90
Acrylonitrile	ug/L	5	ND	03/21/90
Methylene Chloride	ug/L	5	ND	03/21/90
trans-1,2-Dichloroethene	ug/L	5	ND	03/21/90
1,1-Dichloroethane	ug/L	5	ND	03/21/90
Vinyl Acetate	ug/L	10	ND	03/21/90
Chloroform	ug/L	5	ND	03/21/90
1,1,1-Trichloroethane	ug/L	5	ND	03/21/90
1,2-Dichloroethane	ug/L	5	ND	03/21/90
Carbon Tetrachloride	ug/L	5	ND	03/21/90
Benzene	ug/L	5	ND	03/21/90
1,2-Dichloropropane	ug/L	5	ND	03/21/90
Trichloroethene (TCE)	ug/L	5	ND	03/21/90
Dibromomethane	ug/L	5	ND	03/21/90
Bromodichloromethane	ug/L	5	ND	03/21/90
trans-1,3-Dichloropropene	ug/L	5	ND	03/21/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

Pace laboratories, inc.

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheville, North Carolina
Charlotte, North Carolina

REPORT OF LABORATORY ANALYSIS

Mr. Terry Winsor
Page 11

March 26, 1990
PACE Project
Number: 400308504

Former Chev SS9-1153

PACE Sample Number:			725350	
Date Collected:			By Client	
Date Received:			03/08/90	
			Trip Blank	
Parameter	Units	MDL	(water)	DATE ANALYZED
ORGANIC ANALYSIS				
VOLATILE ORGANICS, EPA METHOD 624 GC/MS				
4-Methyl-2-pentanone (MIBK)	ug/L	10	ND	03/21/90
Toluene	ug/L	5	ND	03/21/90
cis-1,3-Dichloropropene	ug/L	5	ND	03/21/90
1,1,2-Trichloroethane	ug/L	5	ND	03/21/90
2-Chloroethylvinyl ether	ug/L	5	ND	03/21/90
Ethylmethacrylate	ug/L	5	ND	03/21/90
Dibromochloromethane	ug/L	5	ND	03/21/90
2-Hexanone	ug/L	10	ND	03/21/90
Tetrachloroethene	ug/L	5	ND	03/21/90
Chlorobenzene	ug/L	5	ND	03/21/90
Ethylbenzene	ug/L	5	ND	03/21/90
Bromoform	ug/L	5	ND	03/21/90
Xylene(s) Total	ug/L	5	ND	03/21/90
Styrene	ug/L	5	ND	03/21/90
1,1,2,2,-Tetrachloroethane	ug/L	5	ND	03/21/90
1,2,3-Trichloropropane	ug/L	5	ND	03/21/90
1,4-Dichloro-2-butene	ug/L	5	ND	03/21/90
1,3-Dichlorobenzene	ug/L	5	ND	03/21/90
1,4-Dichlorobenzene	ug/L	5	ND	03/21/90
1,2-Dichlorobenzene	ug/L	5	ND	03/21/90
1,2-Dichloroethane-d4 (Surrog. Recovery)			89%	03/21/90
Toluene-d8 (Surrogate Recovery)			94%	03/21/90
4-Bromofluorobenzene (Surrog.Recovery)			85%	03/21/90

MDL Method Detection Limit
ND Not detected at or above the MDL.

pace laboratories, inc

Offices:
Minneapolis, Minnesota
Tampa, Florida
Coralville, Iowa
Novato, California
Leawood, Kansas
Irvine, California
Asheville, North Carolina
Charlotte, North Carolina

REPORT OF LABORATORY ANALYSIS

Mr. Terry Winsor
Page 12

March 26, 1990
PACE Project
Number: 400308504

Former Chev SS9-1153

The data contained in this report were obtained using EPA or other approved methodologies. All analyses were performed by me or under my supervision.

Stephen F. Nackord
Director, Sampling and Analytical Services

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

☑ Lafayette, Ca. 41 Lafayette Cir. (415) 283-7077

☐ Newport Beach, Ca. 5001 Birch Street Suite B (714) 852-0513

CHAIN OF CUSTODY - REQUEST FOR ANALYSIS

0501

RESULTS DUE DATE: _____ RUSH ☐ yes ☑ no

LABORATORY: Pace Labs

LAB. I.D. NUMBER: _____

LAB. CONTACT: S. Nackord

D style

PROJECT NAME/LOCATION: Former Chevron 9-1153 3122 Foothill Blvd. Alameda

PROJ. MGR./EA CONTACT: Jack Burton / TR Winton

PROJECT NUMBER: 8011.04

SAMPLING TEAM: Dowdakin / Anderson

CARRIER/WAYBILL NUMBER: _____

DATE SAMPLES SHIPPED: 3/8/90

SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE TYPE	COLLECTION DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES (METHODS)										
					TPH (8015 to DOHS modified) ☐ GAS ☐ DIESEL	VOLATILE AROMATICS ☐ ALL ☐ BTXE (8020/602)	GREASE and OIL (413.2/503E)	VHC (Halogen, 8010/601)	VOC GC/MS (8240/624)	ICP metals for metals					Samples Received in Good Condition
32 C-1	Chevron 9-1153	H2O Grab	3/7 13:50	HCl None					✓	✓					
33 C-3			14:10						✓	✓					
34 Trip blank			14:00						✓	✓					
35 Trip blank			—						✓						
46				plastic T VOA											

EXPECTED NORMAL REPORTING LIMITS:	BENZENE	TOLUENE	XYLENE	Et BENZENE	TPH
Water	0.5ppb	0.5ppb	0.5ppb	0.5ppb	0.5ppm ~~1.0ppm~~
Soil	0.5ppb	0.5ppb	0.15ppm	0.5ppb	10ppm

SPECIAL INSTRUCTIONS: Have a nice day!!

	NAME	COMPANY	DATE	TIME
Relinquished by:	[illegible]	EA Engineering	3-8	12:20
Received by:	[illegible]	Pace	3/8	12:20
Relinquished by:	[illegible]	Pace	3/8	1:15
Received by:				
Relinquished by:				
Received by:	Tina Tonne	Pace	3/8	1:15

APPENDIX D

Well Sampling Field Forms

7 March 1990

MONITORING WELL DATA FORM

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

Project Number: 80201.04 | Station Number: 9559-1153

Client: Chevron | Samplers: JO/SA | Date: 3/7/90

Site Location: Fernside Bl., Alameda

MONITORING WELL NUMBER	ELEVATION TOP OF CASING	DEPTH TO WATER	DEPTH TO PRODUCT	ELEVATION TOP OF GROUNDWATER	APPARENT PRODUCT THICKNESS	STICK UP (+) DOWN (-)	DEPTH TO BOTTOM
C1		3.36					16.31
C3		3.31					17.17

GROUNDWATER PURGE AND SAMPLE FORM

Date: 3/1/90

PROJECT NAME: Chevron 9-1153 WELL NUMBER: C-1

PROJECT NUMBER: 80201.04 PERSONNEL: JD/SA

STATIC WATER LEVEL: 3.36

WATER LEVEL MEASUREMENT METHOD: GWT Probe

TIME START PURGE: 13:03

TIME END PURGE: 13:19

TIME SAMPLED: 13:50

MEASURING POINT DESCRIPTION: TOC

PURGE METHOD: Honda Pump

PURGE DEPTH: ~19'

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (ft)	−	DEPTH TO WATER (ft)	=	WATER COLUMN (ft)	X	MULTIPLIER FOR CASING DIAMETER (in)	=	CASING VOLUME (gal)
	19.67		3.36		16.31		2 / (3) / 4 / 6 → 0.16 / 0.64 / 1.44		5.5

TIME	13:04	13:06	13:09	13:12	13:18	13:20	
VOLUME PURGED (gal)	0	4.5	9.5	14.5	17.5	20.5	
PURGE RATE (gpm)	1¼	→	→	→	→	→	
TEMPERATURE (°C)	17.0	17.5	19	18.5	19	19	
pH	5.3	5.6	6.1	6.2	6.2	6.2	
SPECIFIC CONDUCTIVITY (uncorrected) (µmhos)	1110	1100	1200	1200	1200	1200	
DISSOLVED OXYGEN (mg/l)	NOT MEASURED						
eH (MV) Pt-AgCl ref.							
TURBIDITY / COLOR	low / brown	→	med / grey	→	→	→	
ODOR	HC	→	→	→	→	→	
DEPTH TO WATER DURING PURGE (ft)	NOT MEASURED						
NUMBER OF CASING VOLUMES REMOVED	0	.8	1.7	2.6	3.2	3.7	
DEWATERED?	NO	→	→	yes	no	no	

Comments: ~~Ammon~~ H_2O fell below pump's suction level, well recharged for 4-5 min.

(over..)

GROUNDWATER PURGE AND SAMPLE FORM (cont.)

Date: 3/7/90

PROJECT NAME: Chevron 9-1153 WELL NUMBER: C-1

PROJECT NUMBER: 80201.04 PERSONNEL: JD/SA

SAMPLE DATA:

TIME SAMPLED: 13:50

DEPTH SAMPLED (ft): ~4'

SAMPLING EQUIPMENT: Teflon bailer

COMMENTS: None

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or l)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN OF CUSTODY AT 4°C (Y/N)	ANALYSIS REQUEST (METHOD)	COMMENTS
C-1	3	VOA	None	/	40ml	Low	Grey	Y	624	/
"	1	1L plastic	HNO_3	/	1L	"	"	"	Metals	/

PURGE WATER DISPOSAL NOTES:

TOTAL DISCHARGE (gal): 20.5

DISPOSAL METHOD: Drum

DRUM DESIGNATION(S)/VOLUME: EA Label

COMMENTS: None

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: YES (NO)

INSIDE OF WELL HEAD AND OUTER CASING DRY?: YES (NO)

WELL CASING OK?: (YES) NO

COMMENTS: Lift-lid box. No lock on casing top. Well box wet above TOC - possible inflow

GENERAL

WEATHER CONDITIONS: Cloudy

TEMPERATURE (specify °C/°F): 65°

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? No

COMMENTS: None

c.c. Project Manager:

Job File:

Other:

GROUNDWATER PURGE AND SAMPLE FORM

Date: 3/7/90

PROJECT NAME: Chevron 9-1153 WELL NUMBER: C-3

PROJECT NUMBER: 80201.04 PERSONNEL: J.D/SA

STATIC WATER LEVEL: 3.31

WATER LEVEL MEASUREMENT METHOD: GWT Probe

TIME START PURGE: 13:24

TIME END PURGE: 13:39

TIME SAMPLED: 14:10

MEASURING POINT DESCRIPTION: TOC

PURGE METHOD: Honda Pump

PURGE DEPTH: ~19'

WELL VOLUME CALCULATION (FILL IN BEFORE PURGING)	TOTAL DEPTH (ft)	−	DEPTH TO WATER (ft)	=	WATER COLUMN (ft)	X	MULTIPLIER FOR CASING DIAMETER (in)			=	CASING VOLUME (gal)
							2	(3)	4	6	
	20.48		3.31		17.17		0.16	0.64	1.44		5.7

TIME	~~13:25~~ 13:25	13:29	13:34	13:36	13:40		
VOLUME PURGED (gal)	0	5	10	15	20		
PURGE RATE (gpm)	1 1/3	→	→	→	→		
TEMPERATURE (°C)	17	17	17	17	17		
pH	~~6~~ 5.5	~~6~~ 5.5	~~6~~ 5.5	~~6~~ 5.5	5.5		
SPECIFIC CONDUCTIVITY (uncorrected) (µmhos)	900	850	800	850	850		
DISSOLVED OXYGEN (mg/l)	NOT		MEASURED				
eH (MV) Pt-AgCl ref.							
TURBIDITY / COLOR	low brown	→	→	→	→	/	/
ODOR	None	→	→	→	→		
DEPTH TO WATER DURING PURGE (ft)	NOT		MEASURED				
NUMBER OF CASING VOLUMES REMOVED	0	.8	1.7	2.6	3.5		
DEWATERED?	no	no	no	no	no		

Comments: None

(over..)

GROUNDWATER PURGE AND SAMPLE FORM (cont.)

Date: 3/7/90

PROJECT NAME: Chevron 9-1153 WELL NUMBER: C-3

PROJECT NUMBER: 80201.04 PERSONNEL: JP/SA

SAMPLE DATA:

TIME SAMPLED: 14:10

DEPTH SAMPLED (ft): ~24'

SAMPLING EQUIPMENT: Teflon bailer

COMMENTS: None

SAMPLE NO.	NO. OF CONTAINERS	CONTAINER TYPE	PRESERVATIVE	FIELD FILTRATION	VOLUME FILLED (ml or l)	TURBIDITY	COLOR	SHIPPED UNDER CHAIN OF CUSTODY AT 4°C (Y/N)	ANALYSIS REQUEST (METHOD)	COMMENTS
C-3	3	VOA	None	/	40ml	Low	Grey	Y	624	/
"	"	1L plastic	HNO_3	/	1L	"	"	"	Metals	/

PURGE WATER DISPOSAL NOTES:

TOTAL DISCHARGE (gal): 20

DISPOSAL METHOD: Drum

DRUM DESIGNATION(S)/VOLUME: EA Label

COMMENTS: None

WELL HEAD CONDITIONS CHECKLIST (Circle YES or NO -- if NO, add comments)

WELL SECURITY DEVICES OK (BOLLARDS, CHRISTY LID, CASING LID AND LOCK)?: YES (NO)

INSIDE OF WELL HEAD AND OUTER CASING DRY?: (YES) NO

WELL CASING OK?: (YES) NO

COMMENTS: Lift-lid box, no lock on well cap

GENERAL

WEATHER CONDITIONS: Cloudy

TEMPERATURE (specify °C/°F): 65°

PROBLEMS ENCOUNTERED DURING PURGING OR SAMPLING? None

COMMENTS: None

c.c. Project Manager:

Job File:

Other:

EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

☒ Lafayette, Ca. 41 Lafayette Cir. (415) 283-7077

☐ Newport Beach, Ca. 5001 Birch Street Suite B (714) 852-0513

CHAIN OF CUSTODY - REQUEST FOR ANALYSIS

RESULTS DUE DATE: Norm Turn RUSH ☐ yes ☒ no

LABORATORY: Paco Labs

LAB. I.D. NUMBER:

LAB. CONTACT: S. Hackard

PROJECT NAME/LOCATION: former Chevron 9-1153 3126 Fruitvale Blvd. Alameda

PROJ. MGR./EA CONTACT: Jack Becker / TR Winner

PROJECT NUMBER: 80201 04

SAMPLING TEAM:

CARRIER/WAYBILL NUMBER:

DATE SAMPLES SHIPPED: 3/8/90

SAMPLE NUMBER	SAMPLE LOCATION	SAMPLE TYPE	COLLECTION DATE/TIME	PRESERVATIVE	REQUESTED ANALYSES (METHODS) TPH (8015 to DOHS modified) ☐ GAS ☐ DIESEL	VOLATILE AROMATICS ☐ ALL ☐ BTXE (8020/602)	GREASE and OIL (413.2/503E)	VHC (Halogen, 8010/601)	VOC GC/MS (8240/624)	ICP Metals (5 only)				Samples Received in Good Condition
C-1	Chevron 9-1153	H2O Grab	3/7 13:50	HCl / None					✓	✓				
C-2			14:10						✓	✓				
Trip Blank			14:00						✓	✓				
Trip Blank	↓	↓	—	↓					✓					
				metals / 624										

RECEIVED
MAR 07 1990
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.

RECEIVED
MAR 07 1990
EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC.
WESTERN REGION

EXPECTED NORMAL REPORTING LIMITS:	BENZENE	TOLUENE	XYLENE	Et BENZENE	TPH
Water	0.5ppb	0.5ppb	0.5ppb	0.5ppb	0.5ppm ~~ppb~~
Soil	0.5ppb	0.5ppb	0.15ppm	0.5ppb	10ppm

SPECIAL INSTRUCTIONS:

	NAME	COMPANY	DATE	TIME
Relinquished by:				
Received by:				
Relinquished by:				
Received by:				
Relinquished by:				
Received by:				

DISTRIBUTION: White - Accompany Shipment
Last - Shipper (to file)