

October 16, 1995 SCI 727.001

Ms. Susan Hugo Hazardous Materials Specialist Alameda County Health Care Services Agency 1131 Harbor Bay Parkway Alameda, California 94502

Request for Site Closure and Quarterly Groundwater Monitoring Former Diesel Fuel Tank Area 722 Folger Avenue Emeryville, California

Dear Ms. Hugo:

This letter records the results of the September 1995 monitoring event conducted by Subsurface Consultants, Inc. (SCI) for the groundwater monitoring program at the referenced site. Five monitoring wells have been periodically sampled in the vicinity of a former diesel fuel tank since May 1992. The previous tank area and well locations are shown on the attached Site Plan, Plate 1.

Groundwater Monitoring

The groundwater monitoring program for this site was modified by the ACHCSA in June 1994. As modified, the program requires the following:

- 1. Wells MW-4, MW-5 and MW-8 will be monitored for Total Extractable Hydrocarbons (TEH) and BTEX every quarter.
- If well MW-4 shows detectable levels of contaminants, then samples from well MW-6 must be analyzed.
- 3. MW-3 is to be monitored for TEH and BTEX biannually.

Subsurface Consultants, Inc.

Ms. Susan Hugo Alameda County Health Care Services Agency October 16, 1995 SCI 727.001 Page 2

A groundwater monitoring event was conducted on September 13 and 14, 1995. Initially, the depth to groundwater and the presence of free product were checked in all five wells with a steel tape, and water and petroleum product sensitive pastes. Groundwater level measurements are presented on Table 1.

Prior to sampling, the wells were purged of at least three well volumes of water. Measurements of water temperature, pH and conductivity were recorded at various intervals during the purge process until values were relatively stabilized. Well sampling forms are attached.

The depth to water in each well was checked, following purging and before sampling, to assure that the wells had recharged to at least 80 percent of their initial volume. The wells were then sampled using new disposable bailers. The samples were retained in containers pre-cleaned by the supplier in accordance with EPA protocol. The samples were placed in an ice filled cooler and transmitted to Curtis & Tompkins, Ltd. The testing program for this event included the following analyses:

- 1. Total Extractable Hydrocarbons as diesel (TEH) (EPA 5030/8015), and
- 2. Benzene, toluene, ethylbenzene and xylene (BTEX) (EPA 5030/602).

The results of all analytical testing events are presented on Table 2. Analytical test reports and Chain-of-Custody documents for the current event are attached.

Conclusions

Groundwater Gradient

The groundwater level data indicates the local groundwater flow direction remains toward the west. Groundwater contours for this event are presented on the site plan.

Diesel Contamination

In general, the data indicates that groundwater in a limited area around the previous tank site has been impacted by TEH within the diesel range. The upgradient and downgradient extent of the diesel plume have been well defined. During this event, the sample from the upgradient well MW-8 contained, 150 ug/l of TEH; however, the sample chromatograph did not resemble a typical diesel pattern. The chromatogram exhibited a single peak. While the source of the peak is unknown, it appears that it is not related to the previous diesel release at the site.

Ms. Susan Hugo Alameda County Health Care Services Agency October 16, 1995 SCI 727.001 Page 3

Request for Site Closure

Quarterly groundwater monitoring has occurred for 11 consecutive events, commencing in May 1992. During the study, TEH levels have fluctuated as water levels migrated through the discontinuous permeable zones. However, no free product has been observed during any groundwater monitoring event and benzene has only been detected in one well, MW-4, on two occasions (November 4, 1993 at 0.5 ug/l and June 14, 1995 at 1.1 ug/l). Since the source of contamination has been largely removed (880 cubic yards of impacted soil and 5600 gallons of impacted water), the primary contaminant of concern is a diesel range hydrocarbon, and the contaminant plume has not migrated over the last 3-1/2 years, Subsurface Consultants, Inc. requests, on behalf of the Coulter Steel and Forge Company, that this site be considered for closure.

If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.

Jeriann N. Alexander

Civil Engineer 40469 (expires 3/31/99)

FV:JNA:RWR:sld

2 copies submitted

Attachments: Table 1 - Groundwater Elevations

Table 2 - Summary of Contaminants in Groundwater

Site Plan - Plate 1 Analytical Test Reports

Chain-of-Custody Documents Groundwater Sampling Forms Ms. Susan Hugo Alameda County Health Care Services Agency October 16, 1995 SCI 727.001 Page 4

cc: Mr. Dante Sambajon
Plant Engineer
Coulter Steel and Forge Company
1494 - 67th Street
Emeryville, California 94662-0901

Mr. Rich Hiett Regional Water Quality Control Board 2101 Webster Street, Suite 500 Oakland, California 94612

Table 1.
Groundwater Elevation Data

<u>Well</u>	TOC Elevation (feet)	<u>Date</u>	Groundwater Depth <u>(feet)</u>	Groundwater Elevation (feet)
MW-3	24.70	5/15/92	11.15	13.55
		7/1/92	11.60	13.10
		8/18/92	12.00	12.70
		3/4/93	9.97	14.91
		6/8/93	10.47	14.23
		11/4/93	12.05	12.65
		12/6/93	11.62	13.08
		2/23/94	10.12	14.58
		6/9/94	10.98	13.72
		9/7/94	11.83	12.87
		12/16/94	9.96	14.74
		3/9/95	8.86	15.84
		6/14/95	10.40	14.30
		9/13/95	11,19	(13.51) (A)
MW-4	23.92	5/15/92	10.00	13.92
		7/1/92	11.26	12.66
		8/18/92	11.58	12.34
		3/4/93	9.39	14.53
		6/8/93	10.01	13.91
		11/4/93	11.53	12.39
		12/6/93	11.11	12.81
		2/23/94	9.63	14.29
		6/9/94	10.47	13.45
		9/7/94	11.31	12.61
		12/16/94	9.48	14.44
		3/9/95	8.72	15.20
		6/14/95	9.85	14.07
		9/13/95	10.60	13.32
MW-5	23.85	5/15/92	10.52	13.33
		7/1/92	9.93	13.92
		8/18/92	9.24	14.61
		3/5/93	7.72	16.15
		6/8/93	8.31	15.54
		11/4/93	10.33	13.52
		12/6/93	9.91	13.94
		2/23/94	8.23	15.62
		6/9/94	9.09	14.76
		9/7/94	9.95	13.90
		12/16/94	7.98	15.87
		3/9/95	7.33	16.52
		6/14/95	8.40	15.45
		9/13/95	9.34	14.51

Table 1.
Groundwater Elevation Data

<u>Well</u>	TOC Elevation (feet)	<u>Date</u>	Groundwater Depth (feet)	Groundwater Elevation (feet)
MW-6	22.98	5/15/92	12.46	10.52
	22.00	7/1/92	12.96	10.02
		8/18/92	13.42	9.56
		3/4/93	11,60	11.38
		6/8/93	12.34	10.64
		11/4/93	(13.62\	9.36
		12/6/93	13.08	9.90
		2/23/94		
			11.78	11.20
		6/9/94	12.73	10.25
		9/7/94	13.52	9.46
		12/16/94	11.69	11.29
		3/9/95	11.02	11.96
		6/14/95	11.95	11.03
		9/13/95	12.69	10.29
MW-8	23.85	12/6/93	9.07	14.15
		2/23/94	7.93	15.92
		6/9/94	8.60	15.25
		9/7/94	9.39	14.46
		12/16/94	7.78	16.07
		3/9/95	7.82	16.03
		6/14/95	8.30	15.55
		9/13/95	9.12	14.73

TOC = Top of casing

Elevation reference = City of Berkeley Survey Monument of Folger Avenue at the Location Shown on the Site Plan

Table 2.
TEH and BTEX Concentrations in Groundwater

<u>Sample</u>	<u>Date</u>	TEH <u>ug/l</u>	B <u>ug/l</u>	T <u>ug/l</u>	E <u>ug/l</u>	X <u>uq/l</u>
						
MW-3	5/15/92	100	<0.5	<0.5	<0.5	2.5
	8/18/92	<50	<0.5	<1.0	<0.5	<0.5
	3/4/93	<50	<0.5	<0.5	<0.5	<0.5
	6/8/93	<50	<0.5	<0.5	<0.5	<0.5
	11/4/93	60	<0.5	0.6	<0.5	0.21
	2/23/94	1600	<0.5	<0.5	<0.5	<0.5
	9/7/94	900	<0.5	<2	<0.5	<0.5
	3/13/95	310	<0.5	<0.5	< 0.5	<0.5
	9/13/95	₹50	<0.5	≮0.5	<0.5	<0.5
MW-4	5/15/92	10,000	<0.5	<0.5	<0.5	5
	8/18/92	300	<0.5	<1.0	<0.5	<0.5
	3/4/93	<50	<0.5	<0.5	<0.5	<0.5
	6/8/93	190	<0.5	<0.5	<0.5	<0.5
	11/4/93	<50	0.5	0.5	<0.5	0.9
	2/23/94	<50	<0.5	<0.5	<0.5	<0.5
	6/9/94	530	<0.5	<0.5	<0.5	<0.5
	12/16/94	410	<0.5	<0.5	<0.5	<0.5
	3/13/95	750	<0.5	<0.5	<0.5	<0.5
	6/14/95	9000	1.1	<0.5	<0.5	0.9
	9/14/95	310	<0.5	≺0.5	<0.5	<0.5
MW-5	5/15/92	510	<0.5	<1.0	<0.5	<0.5
	3/5/93	1,400	<0.5	<0.5	<0.5	<0.5
	6/8/93	1,300	<0.5	<0.5	<0.5	<0.5
	11/4/94	930	<0.5	0.5	<0.5	0.9
	2/23/94	3,100	<0.5	<0.5	<0.5	<0.5
	6/9/94	310	<0.5	<0.5	<0.5	<0.5
	9/7/94	1100	<0.5	<2	<0.5	<0.5
	12/19/94	690	<0.5	<0.5	<0.5	<0.5
	3/14/95	590	<0.5	<0.5	<0.5	<0.5
	6/14/95	4600	<0.5	<0.5	<0.5	<0.5
	9/14/95	980	<0.5	<0.5	<0.5	<0.5
MW-6	5/15/92	<50	<0.5	<0.5	<0.5	2
	8/18/92	<50	<0.5	<1.0	<0.5	<0.5
	3/4/93	<50	<0.5	<0.5	<0.5	<0.5
	6/8/93	<50	<0.5	<0.5	<0.5	<0.5
	11/4/93	<50	<0.5	<0.5	<0.5	0.7
	2/23/94	<50	<0.5	<0.5	<0.5	<0.5
	6/9/94	<50	<0.5	<0.5	<0.5	<0.5
	9/7/94	<50	<0.5	<2	<0.5	<0.5
	12/16/94	<50	<0.5			
	3/13/95	<50	<0.5	<0.5	<0.5	<0.5
	6/14/95	<50	<0.5	<0.5	<0.5	<0.5
	9/13/95	<50	<0.5	<0.5	<0.5	<0.5

Table 2. **TEH and BTEX Concentrations in Groundwater**

	TEH	В	T	E	X
<u>Date</u>	<u>ug/l</u>	<u>ug/1</u>	<u>ug/l</u>	<u>ug/l</u>	<u>uq/l</u>
12/6/93	<50	<0.5	<0.5	<0.5	<0.5
2/23/94	<50	<0.5	<0.5	<0.5	<0.5
6/9/94	<50	<0.5	<0.5	<0.5	<0.5
9/7/94	<50	<0.5	<2	<0.5	<0.5
12/16/94	<0.5	<0.5	<0.5	<0.5	<0.5
3/13/95	84	<0.5	<0.5	<0.5	<0.5
6/14/95	81 ²	<0.5	<0.5	<0.5	<0.5
9/13/95	150 ¹	<0.5	<0.5	<0.5	<0.5
	12/6/93 2/23/94 6/9/94 9/7/94 12/16/94 3/13/95 6/14/95	Date ug/l 12/6/93 <50	Date ug/l ug/l 12/6/93 <50	Date ug/l ug/l ug/l 12/6/93 <50	Date ug/l ug/l ug/l ug/l 12/6/93 <50

ug/l = micrograms per liter, parts per billion

TEH = Total extractable hydrocarbons

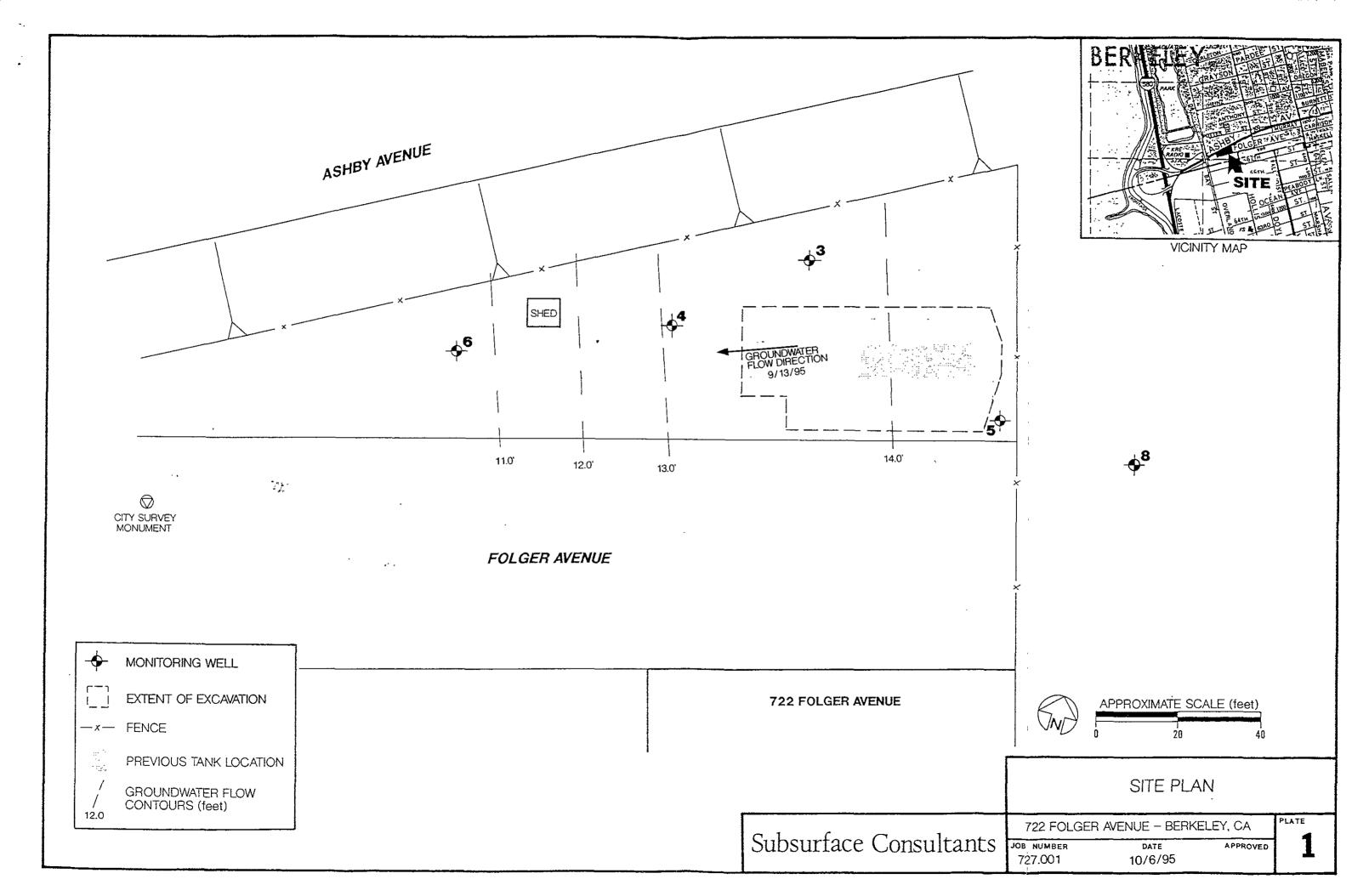
B = benzene

T = toluene

E = ethylbenzene

X = xylenes

¹ = Sample exhibits unknown single peak or peaks
² = Method blank contamination indicates high bias in sample result





Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Subsurface Consultants 171 12th Street Suite 201 Oakland, CA 94608

Date: 20-SEP-95
Lab Job Number: 122631

Project ID: 727.001

Location: Coulter Steel

Reviewed by:

Reviewed by:

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Berkeley Irvine



TEH-Tot Ext Hydrocarbons

Client: Subsurface Consultants

Project#: 727.001

Location: Coulter Steel

Analysis Method: CA LUFT (EPA 8015M)

Prep Method: LUFT

Sample #	Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
122631~001 122631-002		23266 23266	09/13/95 09/14/95	09/14/95 09/14/95	09/18/95 09/18/95	
122631-003 122631-005		23266 23266	09/14/95 09/13/95	09/14/95 09/14/95	09/18/95 09/18/95	

Analyte Diln Fac:	Units	122631-001	122631-002 1	122631-003 1	122631-005
Diesel Range Motor Oil Range	ug/L ug/L	<50 <1300	310 z <1300	980 <1300	150 Z <1300
Surrogate					
Hexacosane	%REC	124	128	127	115

Z: Sample exhibits unknown single peak or peaks



BATCH QC REPORT

Client: Subsurface Consultants Analysis Method: CA LUFT (EPA 8015M)
Project#: 727.001 Prep Method: 3520
Location: Coulter Steel

METHOD BLANK

Matrix: Water Prep Date: 09/14/95
Batch#: 23266 Analysis Date: 09/16/95
Units: ug/L
Diln Fac: 1

MB Lab ID: QC04104

Analyte	Result	
Diesel Range Motor Oil Range	<50 <1300	
Surrogate	%Rec	Recovery Limits
Hexacosane	124	60-140



BATCH QC REPORT

TEH-Tot Ext Hydrocarbons Analysis Method: CA LUFT (EPA 8015M) Client: Subsurface Consultants Prep Method: 3520 Project#: 727.001 Location: Coulter Steel BLANK SPIKE/BLANK SPIKE DUPLICATE Prep Date: 09/14/95 Matrix: Water Analysis Date: 09/16/95 Batch#: 23266

Units: ug/L Diln Fac: 1

BS Lab ID: QC04105

Analyte	Spike Added BS	%Rec #	Limits
Diesel Range	2565 1877	73	60-140
Surrogate	%Rec Limits	s	
Hexacosane	131 60-140	0	

BSD Lab ID: QC04106

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Diesel Range	2565	2132	83	60-140	10	<35
Surrogate	%Rec	Limit	5 			<u>,,</u>
Hexacosane	133	60-140	0			

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits RPD: 0 out of 1 outside limits

Spike Recovery: 0 out of 2 outside limits



BTXE

Client: Subsurface Consultants

Project#: 727.001

Location: Coulter Steel

Analysis Method: BTXE

Prep Method: EPA 5030

Sample # Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
122631-001 MW-3	23279	09/13/95	09/15/95	09/15/95	
122631-002 MW-4	23279	09/14/95	09/15/95	09/15/95	
122631-003 MW-5	23279	09/14/95	09/15/95	09/15/95	
122631-005 MW-8	23279	09/13/95	09/15/95	09/15/95	

Analyte Diln Fac:	Units	122631-001	122631-002 1	122631-003 1	122631-005 1
Benzene	ug/L	<0.5	<0.5	<0.5	<0.5
Toluene	ug/L	<0.5	<0.5	<0.5	<0.5
Ethylbenzene	ug/L	<0.5	<0.5	<0.5	<0.5
m,p-Xylenes	ug/L	<0.5	<0.5	<0.5	<0.5
o-Xylene	ug/L	<0.5	<0.5	<0.5	<0.5
Surrogate			_		
Trifluorotoluene	%REC	106	108	101	106
Bromobenzene	%REC	102	104	77	101



BATCH QC REPORT

BTXE:

Client: Subsurface Consultants

Project#: 727.001

Location: Coulter Steel

Analysis Method: BTXE

Prep Method:

EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water

Batch#: 23279 Units: ug/L Diln Fac: 1

Prep Date:

09/15/95

Analysis Date: 09/15/95

BS Lab ID: QC04520

Analyte	Spike Added	BS	%Rec #	Limits
Benzene	20	21.1	106	85-115
Toluene	20 20	21.7 21	109 105	85-115 85-115
Ethylbenzene m,p-Xylenes	40	39.1	98	85-115
o-Xylene	20	21.4	107	85-115
Surrogate	%Rec	Limits		
Trifluorotoluene	110	75-125		
Bromobenzene	109	75-125		

BSD Lab ID: QC04521

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Benzene	20	20.7	104	85-115	2	<11
Toluene	20	21.3	107	85-115	2	<13
Ethylbenzene	20	20.7	104	85-115	1	<25
m,p-Xylenes	40	39.5	99	85-115	1	<25
o-Xylene	20	21	105	85-115	2	<25
Surrogate	%Rec	Limits				
Trifluorotoluene	109	75-12	25			
Bromobenzene	109	75-12	25			

[#] Column to be used to flag recovery and RPD values with an asterisk

^{*} Values outside of QC limits RPD: 0 out of 5 outside limits

Spike Recovery: 0 out of 10 outside limits



BATCH QC REPORT

BTXE

Subsurface Consultants Client:

Project#: 727.001

Location: Coulter Steel

Analysis Method: BTXE

Prep Method:

EPA 5030

LABORATORY CONTROL SAMPLE

Matrix: Water Batch#:

23279

Prep Date:

09/15/95

Analysis Date:

09/15/95

Units: ug/L Diln Fac: 1

LCS Lab ID: QCO4171

Analyte	Result	Spike Added	%Rec #	Limits
Benzene	19.2	20	96 99	85-115 85-115
Toluene Ethylbenzene	19.8 19.9	20 20	100	85-115
m,p-Xylenes o-Xylene	37.9 19.3	40 20	95 97	85-115 85-115
Surrogate	%Rec	Limits		
Trifluorotoluene Bromobenzene	102 80	75-125 75-125		

[#] Column to be used to flag recovery and RPD values with an asterisk

^{*} Values outside of QC limits

Spike Recovery: 0 out of 5 outside limits



BATCH QC REPORT

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	BTXE	
Project#:	Subsurface Consultants 727.001 Coulter Steel	Analysis Method: BTXE Prep Method: EPA 5030
	METHOD B	LANK
Matrix: Batch#: Units: Diln Fac:	Water 23279 ug/L 1	Prep Date: 09/15/95 Analysis Date: 09/15/95

MB Lab ID: QC04172

Analyte	Result	
Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	<0.5 <0.5 <0.5 <0.5 <0.5	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene Bromobenzene	103 77	75-125 75-125

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RELEASED BY: (Signalure)	DATE / TIME	RECEIVED BY: (Signature)	DATE/TIME	Subsurface Consultants, Inc
RELEASED BY: (Signaturo)	DATE / TIME	RECEIVED BY: (Signature)	OATE / TIME	171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607 (510) 268-0461 • FAX: 510-268-0137

Inc.



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

Subsurface Consultants 171 12th Street Suite 201 Oakland, CA 94608

Date: 29-SEP-95

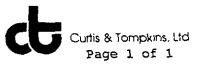
Lab Job Number: 122695 Project ID: 727.001 Location: Coulter Steel

Reviewed by:

Reviewed by:

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Irvine Berkeley



BTXE

Client: Subsurface Consultants

Project#: 727.001

Location: Coulter Steel

Analysis Method: BTXE

Prep Method: EPA 5030

Sample # Client ID	Batch #	Sampled	Extracted	Analyzed	Moisture
122695-001 MW-6	23453	09/13/95	09/23/95	09/23/95	

Analyte Diln Fac:	Units	122695-001	
Benzene	ug/L	<0.5	
Toluene	ug/L	<0.5	
Ethylbenzene	ug/L	<0.5	
m,p-Xylenes	ug/L	<0.5	
o-Xylene	ug/L	<0.5	
Surrogate			
Trifluorotoluene	%REC	102	
Bromobenzene	%REC	101	



Subsurface Consultants

Client:

BATCH QC REPORT

Page 1 of 1

 Analysis Method:	BTXE	
Prep Method:		

METHOD BLANK

Matrix: Water Prep Date: 09/22/95
Batch#: 23453 Analysis Date: 09/22/95
Units: ug/L
Diln Fac: 1

MB Lab ID: QC04938

Project#: 727.001

Location: Coulter Steel

Analyte	Result	
Benzene Toluene Ethylbenzene m,p-Xylenes o-Xylene	<0.5 <0.5 <0.5 <0.5 <0.5	
Surrogate	%Rec	Recovery Limits
Trifluorotoluene Bromobenzene	103 106	75-125 75-125



BATCH QC REPORT

Page 1 of 1

BTXE

Client: Subsurface Consultants

Project#: 727.001

Location: Coulter Steel

Analysis Method: BTXE

Prep Method:

EPA 5030

BLANK SPIKE/BLANK SPIKE DUPLICATE

Matrix: Water Batch#:

23453 ug/L

Prep Date: Analysis Date: 09/22/95

09/22/95

Diln Fac: 1

Units:

BS Lab ID: QC04939

Analyte	Spike Added	BS	%Rec #	Limits
Benzene	20	19.5	98	85-115
Toluene	20	18.6	93	85-115
Ethylbenzene	20	18.9	95	85-115
m,p-Xylenes	20	19.5	98	85-115
o-Xylene	20	18.4	92	85-115
Surrogate	%Rec	Limits		
Trifluorotoluene	99	75-125		
Bromobenzene	100	75-125		

BSD Lab ID: QC04940

Analyte	Spike Added	BSD	%Rec #	Limits	RPD #	Limit
Benzene	20	18.9	95	85-115	3	<11
Toluene	20	18.5	93	85-115	0	<13
Ethylbenzene	20	18.5	93	85-115	2	<25
m,p-Xylenes	20	18.8	94	85-115	2	<25
o-Xylene	20	18.4	94	85-115	4	<25
Surrogate	%Rec	Limit	s			
Trifluorotoluene	100	75-12				
Bromobenzene	100	75-12	5 			

[#] Column to be used to flag recovery and RPD values with an asterisk

Spike Recovery: 0 out of 10 outside limits

^{*} Values outside of QC limits RPD: 0 out of 5 outside limits



LABORATORY NUMBER: 122695

CLIENT: SUBSURFACE CONSULTANTS

PROJECT ID: 727.001 LOCATION: COULTER STEEL DATE SAMPLED: 09/13/95
DATE RECEIVED: 09/15/95
DATE REQUESTED: 09/20/95
DATE EXTRACTED: 09/25/95
DATE ANALYZED: 09/26/95
DATE REPORTED: 09/29/95

BATCH NO: BI261.02

Extractable Petroleum Hydrocarbons in Aqueous Solutions California DOHS Method LUFT Manual October 1989

LAB ID	CLIENT ID	DIESEL RANGE (ug/L)	REPORTING LIMIT (ug/L)
122695-001	MW-6	ND	50
METHOD BLANK	N/A	ND	50

ND = Not detected at or above reporting limit.

QA/QC SUMMARY: BS/BSD

RPD, %

RECOVERY, %

95

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PROJECT CON	TACT: JERL A	nex	<u>1A:</u>	<u> </u>	> (TURN	FA1	OU	ND):		0		,	<u> </u>	<u>(,)</u>	<u>~</u>	• `		\overline{r}	0	-	İ	- [-					\ \
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-2	MW-4	X				3			<u> </u>		A			Χļ		0	7	4	7-	4	, ,	0	۲	_			(2)		\vdash	-	-	1	╁	
	MW-5		_	-		3	 		 				-	X		0	9	1 1	10	7 5	10	17	17	5		X	X							
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DATE / TIME

RECEIVED BY: (Signature)

DATE / TIME

RELEASED BY: (Signature)

171 12TH STREET, SUITE 201, OAKLAND, CALIFORNIA 94607 (510) 268-0461 • FAX: 510-268-0137

GROUNDWATER DEPTHS

Project Name:	Coulfur	5/20	 <u> </u>		
Job No.:	727.001			 <u>.</u>	
Measured by:	DUA	• •	 ·		

Well	Date	Time	Groundwater Depth (feet)	Comments
Mw-3	9/13/95	0805	11.19	
	1	0800	10.60	
MW-4 MW-5		0755	9.34	
MW-6.		0745	12.69	
MW-8	1	0750	9.12	
	<u> </u>			
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Project Name:	oulter 5	400	Well	Number:Mu	·N-3	
Job No.:				Casing Diameter:		
Sampled By:			Date:	: <u>9/13/99</u>		
TOC Elevation:				ther: <u>Coga</u>	Y	
Depth to Casing Bott	om (below TO	C)		%		
Depth to Groundwate	er (below TOC)	11.19	<u>9</u>		feet
Feet of Water in Wel			18.8			feet
Depth to Groundwate	er When 80%	Recovered _	14.9.	5		feet
Casing Volume (feet				3.1		_ gallons
Depth Measurement			,	ectronic Sounder	/ Other	
Free Product	none					
Purge Method		able bai	les			
	1			moderat	te nechanq	re
			EASUREMENT			
Gallons Removed	рН	<i>〒</i> Temp (%)	Conductivity (micromhos/cm)			mments
2	8.12	64.6			cleary	faint odu
4	7.74	63.2			4	
<u> </u>	7.57	623	770		<u>sem-ck</u> 1	°a1
8	7.45	62.0	<u> </u>		W. 100.	
	7.36	61.5	0/0		muchy	
Total Gallons Purged	i <u>10</u>			1100		gallons
Depth to Groundwate			(00)	14.95		feet
Sampling Method _	disp	posable.	bales			
Containers Used	3			pint		
	40 ml		liter	אוווע		
			T			PLATE
Subsurface	Consu	ıltants	JOS NUMBER	DATE	APPRO	Dave
	= /		1			1

Project Name: G	ulta Si	eel	Well Nun	nber: MW-	4	
Job No.: 7		•		sing Diameter: _		
Sampled By:				9/14/95		
TOC Elevation:				: Loggy		
				,,,		
Depth to Casing Bott	om (below To	DC)	22.00			feet
Depth to Groundwate			1060			feet
Feet of Water in Well			9.40			feet
Depth to Groundwate			14.48			feet
Casing Volume (feet	of water x C	asing DIA ² x 0.04	108)		gall	ions
				onic Sounder /		
Depth Measurement		<u> </u>				
Free Product		(1. 11		<u>-</u>		
Purge Method	ausp	ogable bails	<u> </u>	moderate	12/12/20	
		FIELD MEA	SUREMENTS	moderate	weavenge	
		F	Conductivity		•	
Gallons Removed	pH 7.06		(micromhos/cm) 690		Commen dear/sligh	
0	7.47	64.6	700		1 ′	
3	7.23	62.3	700		incheasing od	e/shee
5	7.18	61.8	100			
					n:	allons
Total Gallons Purgeo			c)	,	y	
Depth to Groundwate			r			feet
Sampling Method _	dispo	sable boule	1			<u> </u>
Containers Used	3 40 m		liter	pint		
	40 M	Į.	ufei	P-11-2		
		<u> </u>				PLATE
ubsurface	Cons	ultants	OO MILIDED	DATE	APPROVED	
uosurracc			NO RUMBER	<u></u>		

ojeot raine	<u> oulta</u> =	Heel	Weli Nu	mber: <u>MW</u>	<u></u>
Job No.:	727.001	<u> </u>		sing Diameter:	
Sampled By:				9/13/95	
TOC Elevation:				r: foggy	<u>) </u>
100 Lievation:					
Depth to Casing Bot	tom (below T	OC)	19.50		feet
Depth to Groundwat			9 24		feet
Fact of Water in Wa	ii	<u> </u>			feet
Depth to Groundwat					feet
Debtu to Gronnowat	er when our	o Heggyered			gallons
Depth Measurement	t Method	Tape &	Paste Electr	onic Sounder	/ Other
Free Product					
Purge Method	dispose	the baile	<u>'1</u>		
		FIELD MI	EASUREMENTS Conductivity	(o	o recharge vernight)
Gallons Removed	pН	Temp (°€)	(micromhos/cm)	Salinity S%	Comments
		1.7			-1 . $l_{-1}(z, +1)$
9	7.78	- 			deal slight od
3 3	7.43	62.9	820		clear/slight od
第 3	7.43 1.26	62.9 62.7	820 825		incheding odor/sh
3 3	7.43	62.9	820		
第 3	7.43 1.26	62.9 62.7	820 825		incheding odor/sh
多 3 参 5 多 7	7.43 1.26 6.96	62.9 62.7 62.4	820 825 840		incheding odor/sh vnucky and day@ gallons
多 3 参 5 多 7	7.43 1.26 6.96	62.9 62.7 62.4	820 825 840		incheding odor/sh vnucky and day@ gallons
タ3 第5 第7 Total Gallons Purged	7.43 1.26 6.96 i \$ 7	62.9 62.7 62.4	820 825 840 (FOC) 12.65 on		incheding odor/sh vnucky and day@ gallons
タ3 第5 第7 Total Gallons Purged Depth to Groundwate Sampling Method	7.43 1.26 6.96 i \$ 7	62.9 62.7 62.4	820 825 840 (FOC) 12.65 on	9/14/95 @ 7:15a.	incheding odor/sh vnucky and day@ gallons
多3 参5 多7	7.43 1.26 6.96 di \$7 er Before Sar	62.9 62.7 62.4 mpling (below 1	820 825 840 (FOC) 12.65 on		incheding odor/sh vnucky and day@ gallons
タ3 第5 第7 Total Gallons Purged Depth to Groundwate Sampling Method	7.43 1.26 6.96 di \$7 er Before San	62.9 62.7 62.4 mpling (below 1	820 825 840 100) 1265 on	9/14/95 @ 7:15a.	incheding odor/sh vnucky and dry@ gallons feet
える 第 5 第 7 Total Gallons Purged Depth to Groundwate Sampling Method _	7.43 1.26 6.96 di \$7 er Before Sar di \$40 m	62.9 62.4 62.4 mpling (below 1	820 825 840 FOC) 1265 on ideq	9/14/95 @ 7:15a.	incheding odor/sh vnucky and day@ gallons

Project Name:	ulter 5	teel		. Well Num	iber: MW-	.6	
Job No.:				Well Cas	ing Diameter:		
Sampled By:				Date:	9/13/95		
TOC Elevation:				. Weather:	- Enggy		
Depth to Casing Botto	m (below TC	oc)		28.50			feet
Depth to Groundwater							
Feet of Water in Well				15.81			feet
Depth to Groundwater				15.85			feet
Casing Volume (feet o							galions
Depth Measurement N					nic Sounder /		
Free Product	none						
Purge Method		sable bui	iles				
	•	FIELD MI			moderate	rectan	qe
Gallons Removed	рН	F Temp (%)	(micron		Salinity S%		nments
2	7.84	60.9		30	 .	Semi-Cle	an no a
4		61.4		<u>75</u>			
8	7.65	61.1		20			
						 	
Total Gallons Purged	-8	·					_ gallons
Depth to Groundwater	Before Sam	pling (below 7	roc)	15.6	r>	<u> </u>	feet
Sampling Method	disp	nosable bu	ailes_				
Containers Used	3 40 ml		liter		pint		
	40 nh		iitei		p		
	~	7.	T		<u></u>		PLATE
ubsurface	Consi	ultants	IOR MI MOS	R	DATE	APPRO	VED -

Project Name:	ulter 5	teel		_ Well Num	iber: Mw	-8	
Job No.:		•		-	ing Diameter: _		
Sampled By:					9/13/95		
TOC Elevation:					- foggy	<u>'</u>	
					•		
Depth to Casing Botto	m (below To	OC)		21.00			feet
Depth to Groundwater	(below TO	C)		9.12			feet
Feet of Water in Well				11.88			
Depth to Groundwater	When 80%	. Recovered -		11.50			feet
Casing Volume (feet o	funtar u M	seina DIA 2 v A	0408\	1.9			
					nic Sounder		•
Depth Measurement N							
Free Product						· · · · · · · · · · · · · · · · · · ·	
Purge Method	dispos	able banle	1				
Gallons Removed O 2	pH 7.74 7.50	63.8	(micro	ductivity mhos/cm) 55		Com clear / v semi-cle	
4	7-37	64.6		00			
4	7.27	62.9		10		musky	
Total Gallons Purged	4						. gallons
Depth to Groundwater				//.	<i>50</i>		feet
Sampling Method	dis	nosable b	ailes				
Containers Used	<u>3</u> 40 ml		liter		pint		
-							
<u></u>							PLATE
ubsurface	Cons	ultants	MUM BOL		DATE	APPROV	/ED -
		_	!				1