

James P. Bowers, PE  
R. William Rudolph, Jr., PE

RO 709-c

93 OCT 29 AM 11:43

October 26, 1993  
SCI 828.001

Melfort Properties  
c/o Mr. Dennis Welch  
Ranch Hand Foods-Cal  
30593 Union City Boulevard  
Union City, California 94587

Quarterly Groundwater Monitoring  
Sampling Event #3 - October 1993  
Chip Steak Facility  
958 77th Avenue  
Oakland, California

3803

Dear Mr. Welch:

This letter presents quarterly groundwater monitoring results for the referenced site. Monitoring services were provided by Subsurface Consultants, Inc. (SCI) on behalf of the owner, Melfort Properties. Groundwater monitoring has been performed at the request of the Alameda County Health Care Services Agency (ACHCSA), due to an underground gasoline tank release. The location of the site is presented on Plate 1.

Groundwater Sampling

On October 14, 1993, Wells MW-1, MW-2 and MW-3 were purged and sampled. In general, the groundwater monitoring event consisted of (1) measuring groundwater levels using an electric well sounder, (2) measuring free product thicknesses, (3) purging water from each well until Ph, conductivity and temperature have stabilized (approximately 3 well volumes), and (4) after the wells have recovered to at least 80 percent of their initial level, sampling the wells with new disposable samplers. The samples were retained in containers pre-cleaned by the supplier in accordance with EPA protocol. The containers were placed in an ice filled cooler and remained iced until delivery to the analytical laboratory. Chain-of-custody documents accompanied the samples to the laboratory.

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### Analytical Testing

Analytical testing was performed by Curtis and Tompkins, Ltd., a laboratory certified by the State of California Department of Health Services for hazardous waste and water testing. A sample from each well was analyzed for the following:

1. Total volatile hydrocarbons (TVH), sample preparation and analysis using EPA Methods 5030 (purge and trap) and 8015 modified (gas chromatograph coupled to a flame ionization detector), and
2. Aromatic volatile organics, sample preparation and analysis using EPA Methods 5030 and 8020 (gas chromatograph coupled to a photoionization detector).

A summary of the current and previous analytical test results are presented in Table 1. The groundwater level data generated by SCI are presented in Table 2. Well sampling forms, analytical test reports, and chain-of-custody documents are attached. All sampling events prior to March 16, 1993 were conducted by Clayton Environmental Consultants, Inc.

### Conclusions

The groundwater level data indicate that the regional groundwater flow direction is toward the northwest at a gradient of approximately 1.6 percent. This groundwater flow direction and gradient generally remain consistent with previous measurements.

In general, the analytical results indicate that gasoline and its constituents benzene, toluene, xylenes and ethylbenzene (BTXE) are present at low concentrations in groundwater. The highest concentrations have been detected in MW-3, the downgradient well. Neither gasoline nor BTXE, were detected at concentrations in excess of laboratory reporting limits in MW-2.

Chlorobenzene was detected in MW-3 at a concentration of 90 ug/L. Chlorobenzene concentrations in MW-2 have decreased to nondetectable levels.

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In accordance with our monitoring plan, the next monitoring event will occur during December 1993. If you have any questions, please call.

Yours very truly,

Subsurface Consultants, Inc.



James P. Bowers  
Geotechnical Engineer 157 (expires 3/31/95)

MFW:JPB:sld

Attachments: Table 1. - Contaminant Concentrations in Groundwater  
Table 2. - Groundwater Elevation Data  
Plate 1. - Site Plan  
Well Sampling Forms  
Analytical Test Reports  
Chain-of-Custody Record

4 copies submitted

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

✓ Mr. Barney Chan  
Alameda County Health Care Services Agency  
80 Swan Way, Room 200  
Oakland, California 94621

**Table 1. CONTAMINANT CONCENTRATIONS IN GROUNDWATER**

<u>Well</u>	<u>Sample Date</u>	<u>TVH<sup>1</sup> (ug/L)<sup>3</sup></u>	<u>B<sup>2</sup> (ug/L)</u>	<u>T<sup>2</sup> (ug/L)</u>	<u>X<sup>2</sup> (ug/L)</u>	<u>E<sup>2</sup> (ug/L)</u>	<u>Chloro- benzene (ug/L)</u>
MW-1	9/89	560	5.4	<0.3	15	1.2	<0.3
	10/90	350	0.8	<0.3	0.5	4.1	<0.3
	1/91	80	0.6	<0.3	<0.4	0.3	<0.3
	4/91	170	17	7.3	<0.4	<0.3	<0.3
	3/16/93	90	<0.5	<0.5	<0.5	<0.5	-- <sup>4</sup>
	6/16/93	60	<1	<1	<1	<1	<1
	10/14/93	63	<1	<1	<1	<1	<1
	MW-2	9/89	<50	<0.4	<0.3	<0.5	<0.3
10/90		<50	<0.4	<0.3	<0.4	<0.3	11
1/91		<50	<0.4	<0.3	<0.4	<0.3	3.9
4/91		<50	<0.4	<0.3	<0.4	<0.3	10
3/16/93		<50	<0.5	<0.5	<0.5	2.3	--
6/16/93		<50	<1	<1	<1	<1	3
10/14/93		<50	<1	<1	<1	<1	<1
MW-3		9/89	120	16	<0.3	9	<0.3
	10/90	230	13	1.5	19	8.5	95
	1/91	220	5	3	18	5	75
	4/91	300	16	5.5	41	14	79
	3/16/93	170	28	<0.5	<0.5	1.6	--
	6/16/93	180	24	<1	<1	<1	62
	10/14/93	140	3	<1	1	<1	90

1 TVH = Total Volatile Hydrocarbons, as gasoline  
 2 BTXE= Benzene, Toluene, Xylenes, and Ethylbenzene  
 3 ug/L= micrograms per liter  
 4 -- = Test not requested

**Table 2. GROUNDWATER ELEVATION DATA**

<u>Well</u>	<u>TOC Elev<sup>1</sup> (feet)</u>	<u>Date</u>	<u>Groundwater Depth (feet)</u>	<u>Groundwater Elevation (feet)</u>
MW-1	99.66	3/16/93	5.77	93.89
		6/16/93	6.06	93.60
		10/14/93	6.55	93.11
MW-2	99.67	3/16/93	5.90	93.77
		6/16/93	6.25	93.42
		10/14/93	6.85	92.82
MW-3	99.35	3/16/93	5.90	93.45
		6/16/93	6.30	93.05
		10/14/93	6.73	92.62

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<sup>1</sup> Elevation reference: Water utility manhole approximately 20 feet east of MW-1 assumed to be 100.00 feet  
 TOC = Top of casing





## WELL SAMPLING FORM

Project Name: CHIP STEAK FACILITY Well Number: 2  
 Job No.: 828.001 Well Casing Diameter: 2 inch  
 Sampled By: John Wolfe Date: 10/14/93  
 TOC Elevation: 6.85' Weather: cloudy / warm

Depth to Casing Bottom (below TOC) 22.68' feet  
 Depth to Groundwater (below TOC) 6.85 feet  
 Feet of Water in Well 15.83 feet  
 Depth to Groundwater When 80% Recovered 10.02 feet  
 Casing Volume (feet of water x Casing DIA<sup>2</sup> x 0.0408) 2.58 x 3 = 7.75 gallons  
 Depth Measurement Method Tape & Paste / **Electronic Sounder** / Other  
 Free Product N/A  
 Purge Method Teflon bailer

### FIELD MEASUREMENTS

Gallons Removed	pH	Temp (°c)	Conductivity (micromhos/cm)	Salinity S%	Comments
<u>0</u>	<u>7.32</u>	<u>21.0</u>	<u>3.25</u>		
<u>3</u>	<u>6.64</u>	<u>19.6</u>	<u>3.18</u>		
<u>6</u>	<u>6.25</u>	<u>19.3</u>	<u>3.70</u>		
<u>9</u>	<u>6.35</u>	<u>19.5</u>	<u>3.65</u>		
<u>12</u>	<u>6.35</u>	<u>19.6</u>	<u>3.56</u>		

Total Gallons Purged 12 gallons  
 Depth to Groundwater Before Sampling (below TOC) 9.02' feet  
 Sampling Method Teflon bailer  
 Containers Used 3 40 ml        liter        pint

**Subsurface Consultants**

CHIP STEAK FACILITY-OAKLAND, CALIFORNIA

PLATE

JOB NUMBER  
828.001

DATE

APPROVED







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: 22-OCT-93  
Lab Job Number: 112756  
Project ID: 828.001  
Location: Chip Steak Facility

Reviewed by:

Reviewed by:

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Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 112756  
CLIENT: SUBSURFACE CONSULTANTS  
PROJECT ID: 828.001  
LOCATION: CHIP STEAK FACILITY

DATE SAMPLED: 10/14/93  
DATE RECEIVED: 10/15/93  
DATE ANALYZED: 10/21/93  
DATE REPORTED: 10/22/93

Total Volatile Hydrocarbons as Gasoline in Aqueous Solutions  
California DOHS Method  
LUFT Manual October 1989

LAB ID	CLIENT ID	TVH AS GASOLINE (ug/L)	REPORTING LIMIT (ug/L)
112756-1	MW-1		
112756-2	MW-2	63	50
112756-3	MW-3	ND	50
		140	50

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

RPD, %	<1
RECOVERY, %	100



Curtis & Tompkins, Ltd.

LABORATORY NUMBER: 112756-01  
CLIENT: SUBSURFACE CONSULTANTS  
PROJECT ID: 828.001  
LOCATION: CHIP STEAK FACILITY  
SAMPLE ID: MW-1

DATE SAMPLED: 10/14/93  
DATE RECEIVED: 10/15/93  
DATE ANALYZED: 10/21/93  
DATE REPORTED: 10/22/93

EPA 8020: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	REPORTING LIMIT ug/L
Benzene.....	ND	1
Toluene.....	ND	1
Ethyl Benzene.....	ND	1
Total Xylenes.....	ND	1
Chlorobenzene.....	ND	1
1,3-Dichlorobenzene.....	ND	1
1,4-Dichlorobenzene.....	ND	1
1,2-Dichlorobenzene.....	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	100
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LABORATORY NUMBER: 112756-02  
 CLIENT: SUBSURFACE CONSULTANTS  
 PROJECT ID: 828.001  
 LOCATION: CHIP STEAK FACILITY  
 SAMPLE ID: MW-2

DATE SAMPLED: 10/14/93  
 DATE RECEIVED: 10/15/93  
 DATE ANALYZED: 10/21/93  
 DATE REPORTED: 10/22/93

EPA 8020: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	REPORTING LIMIT ug/L
Benzene.....	ND	1
Toluene.....	ND	1
Ethyl Benzene.....	ND	1
Total Xylenes.....	ND	1
Chlorobenzene.....	ND	1
1,3-Dichlorobenzene.....	ND	1
1,4-Dichlorobenzene.....	ND	1
1,2-Dichlorobenzene.....	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	100
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LABORATORY NUMBER: 112756-03  
CLIENT: SUBSURFACE CONSULTANTS  
PROJECT ID: 828.001  
LOCATION: CHIP STEAK FACILITY  
SAMPLE ID: MW-3

DATE SAMPLED: 10/14/93  
DATE RECEIVED: 10/15/93  
DATE ANALYZED: 10/21/93  
DATE REPORTED: 10/22/93

EPA 8020: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	REPORTING LIMIT ug/L
Benzene.....	3	1
Toluene.....	ND	1
Ethyl Benzene.....	ND	1
Total Xylenes.....	1	1
Chlorobenzene.....	90	1
1,3-Dichlorobenzene.....	ND	1
1,4-Dichlorobenzene.....	ND	1
1,2-Dichlorobenzene.....	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

=====  
Surrogate Recovery, % 100  
=====



LABORATORY NUMBER: 112756  
CLIENT: SUBSURFACE CONSULTANTS  
PROJECT ID: 828.001  
LOCATION: CHIP STEAK FACILITY  
SAMPLE ID: METHOD BLANK

DATE ANALYZED: 10/20/93  
DATE REPORTED: 10/22/93

EPA 8020: Volatile Aromatic Hydrocarbons in Water

COMPOUND	RESULT ug/L	REPORTING LIMIT ug/L
Benzene.....	ND	1
Toluene.....	ND	1
Ethyl Benzene.....	ND	1
Total Xylenes.....	ND	1
Chlorobenzene.....	ND	1
1,3-Dichlorobenzene.....	ND	1
1,4-Dichlorobenzene.....	ND	1
1,2-Dichlorobenzene.....	ND	1

ND = Not detected at or above reporting limit.

QA/QC SUMMARY

Surrogate Recovery, %	100
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