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July and November, 1995
Quarterly Groundwater Sampling Report
at
Keep on Trucking
Former Aboveground Storage Tank Facility
Building H-213
370 8th Avenue
Oakland, California

Clayton Project No. 66258.01
February 22, 1996

✓ *pc 2/24/96*

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SUMMARY OF GROUNDWATER ANALYTICAL RESULTS

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- A SUMMARY OF SKIMMER OPERATIONS
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1.0 INTRODUCTION

Clayton Environmental Consultants, Inc. was retained by Port of Oakland to perform quarterly groundwater sampling and analysis at the Keep On Trucking near the former aboveground storage tank (AST) Facility located near the former Building H-213 at 370 8th Avenue in Oakland, California (Figure 1). On July 24 and November 10, 1995 Clayton collected groundwater samples from monitoring wells MW-1 through MW-6. The monitoring well locations are shown on Figure 2.

2.0 BACKGROUND

In October 1992 the United States Coast Guard (USCG) noted diesel in Clinton Basin. A subsequent investigation by the Port of Oakland identified diesel in the storm drains at the Ninth Avenue Terminal. Further investigations by the Port of Oakland indicated that the source of diesel to be a leaking underground piping system associated with a diesel AST at the subject site. The diesel AST was operated by Keep On Trucking Company.

During the period from December 1992 to February 1993, the fuel system was disconnected and removed. In September 1993, Uribe and Associates conducted a subsurface investigation. The investigation included installation and sampling of four monitoring wells (MW-1 through MW-4). The location of these monitoring wells is shown in Figure 2.

During the monitoring well development activities in September 1993, four to twelve inches of separate phase product was observed in monitoring well MW-4. The monitoring well MW-4 was purged once per week from September to November 1993. According to the Uribe and Associate report dated December 2, 1993, the bailing activities ceased on November 1, 1993, after all the diesel had apparently been removed. However, during the quarterly groundwater monitoring and sampling in June and September 1994, six to 10 inches of floating product was noted in monitoring well MW-4. No bailing of the floating product was performed until April 1995, when the passive skimmer was installed in monitoring well MW-4. A summary of the skimmer system is included in Appendix A.

During the subsequent subsurface investigations by Clayton in March 1995, two additional monitoring wells MW-5 and MW-6 were installed at the site (Figure 2). In April 1995, the identified floating product was identified in monitoring well MW-6 and dissolved petroleum hydrocarbons in monitoring well MW-5.

Table 1 is the analytical summary of the floating product thickness and groundwater elevations observed during the collection of samples from the monitoring wells.

- Time purged
- Time of sample collection
- Sampling method
- Name of sampler
- Climatic conditions

The water sample was collected using a new disposable bailer. All other equipment coming into contact with groundwater was thoroughly cleaned and decontaminated before use at the site. Detail of the groundwater sampling event is provided in the water sampling field survey forms (Appendix B).

Because of the passive skimmers in the monitoring wells MW-4 and MW-6 the depth to groundwater levels could not be measured during the November quarterly sampling event. However, these wells were monitored monthly to determine the thickness of the floating product and the amount of product removed by the skimmers from each well. The monthly field notes for the skimmers maintenance and operation is included in Appendix A.

Groundwater samples were transferred into clean laboratory-supplied containers that were closed, labeled, placed immediately into an ice chest, and transported to Clayton's state-certified laboratory for analysis. One trip blank was furnished in accordance with Clayton's quality assurance/quality control (QA/QC) program.

Groundwater samples were collected in such a manner to minimize the volatilization of a sample due to agitation and/or transfer from bailer to sample container. To document and trace samples from time of collection, a signed chain-of-custody record was completed by the sampler and accompanied the samples through the laboratory analyses. The completed chain-of-custody was included with the analytical report from the laboratory.

4.0 ANALYTICAL RESULTS

The groundwater samples from MW-1 through MW-6 were analyzed using the following United States Environmental Protection Agency (USEPA) Methods:

- Method 8015 (modified) for total petroleum hydrocarbons as diesel (TPH-D)
- Method 8015 (modified) for total petroleum hydrocarbons as gasoline (TPH-G)
- Method 8020 for benzene, toluene, ethylbenzene, and xylenes (BTEX)

The analytical results for the groundwater samples collected from monitoring wells MW-1 through MW-6 from October 1993 through November 1995 are also summarized in Table 1. The analytical reports for the groundwater samples collected in July and November 1995 are included in Appendix C.

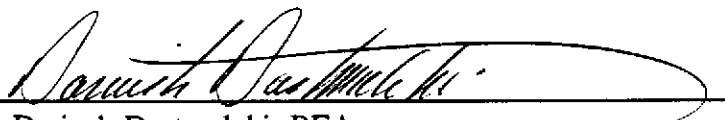
5.0 FINDINGS

Based on the analytical reports and our field observations our findings follow:

- TPH-D, TPH-G and BTEX were detected in the July 24, and November 10, 1995 groundwater samples collected from MW-5.
- TPH-D, TPH-G and BTEX were detected in the July 24, 1995 groundwater samples collected from MW-4. Because of the floating product in monitoring well MW-4 on November, 10, 1995 no groundwater sample was collected from this well during the November 1995 sampling activities.
- Floating product was noted in monitoring well MW-6 on July 24, 1995 and in MW-4 and MW-6 on November 10, 1995. No groundwater samples was collected from the monitoring wells which contained floating product.
- TPH-D was detected in the groundwater samples collected in July and November, 1995 from MW-1, MW-2, MW-3, and MW-5.
- Toluene was detected a concentration of 0.7 $\mu\text{g/L}$ in the groundwater sample collected from monitoring well MW-3 on November 10, 1995. Toluene was not detected in the groundwater sample collected from MW-3 on July 24, 1995.
- TPH-G was detected in the groundwater sample collected from MW-2 on July 24, 1995 at a concentration of 70 $\mu\text{g/L}$. TPH-G was not detected in the groundwater sample collected from MW-2 on November 10, 1995.

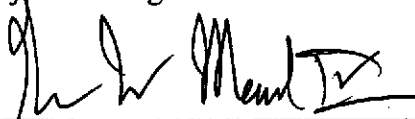
The next quarterly sampling event is scheduled for February 1996.

This report prepared by:



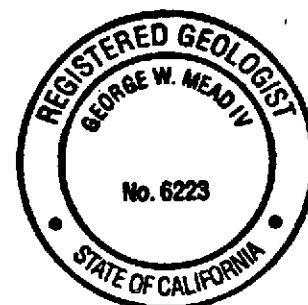
Dariush Dastmalchi, REA
Project Geologist

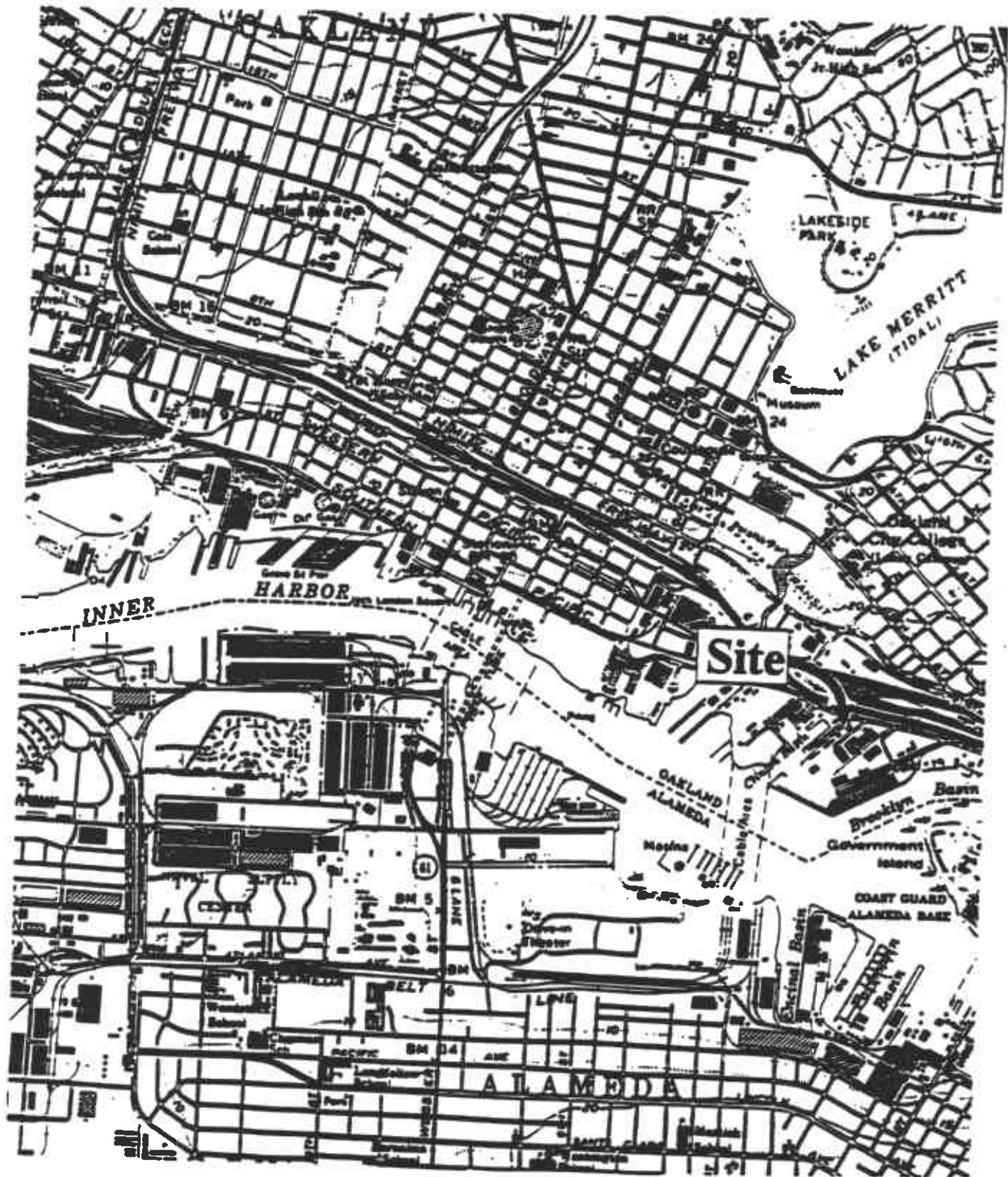
This report reviewed by:



George W. Mead IV, R.G., REA
Project Geologist

February 22, 1996

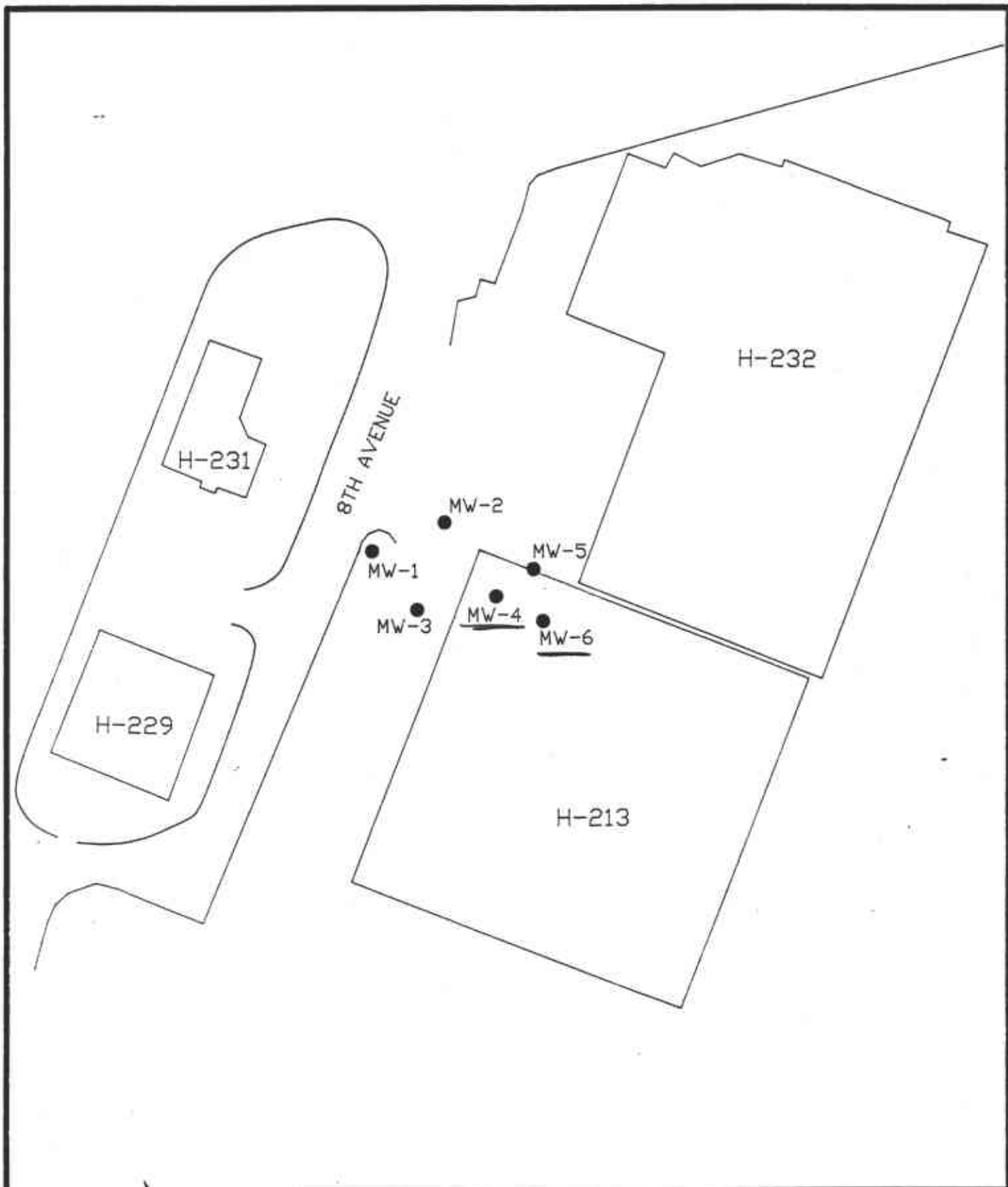




Site Location and Topographic Map
 KEEP ON TRUCKING FACILITY
 370 8th Street
 Oakland, California
 Clayton Project No. 58560.15

Figure
 1
 58560-15-16

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<p>LEGEND</p> <p>● MONITORING WELL</p>	<p>FORMER ABOVEGROUND STORAGE TANK FACILITY KEEP ON TRUCKING FACILITY 370 8TH AVENUE OAKLAND, CALIFORNIA Clayton Project No. 66258.01</p>	<p>Figure</p> <p>2</p> <p>02/08/96 66258006</p>	<p>Clayton ENVIRONMENTAL CONSULTANTS</p>
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Table 1
Analytical Summary for Groundwater Samples
Collected From October 1993 through November 1995
All Concentrations in Micrograms per Liter (ug/L)

	Date	Depth to Water	Top of Casing	Groundwater	Depth to FP	FP Thickness	TPH-D	TPH-G	Benzene	Toluene	Ethybenzene	Xylenes
		(in feet)	Elevation	Elevation	(in feet)	(in feet)						
MW-1	9/20/93	5.20	6.79	1.59	NA	0.00	1600	ND	ND	ND	ND	ND
	12/1/93	5.15	6.79	1.64	NA	0.00	610	ND	ND	ND	ND	ND
	3/31/94	4.09	6.79	2.70	NA	0.00	510	ND	ND	ND	ND	ND
	6/2/94	4.82	6.79	1.97	NA	0.00	540	ND	ND	ND	ND	ND
	9/30/94	5.63	6.79	1.16	NA	0.00	390	ND	ND	ND	ND	ND
	12/22/94	5.00	6.79	1.79	NA	0.00	210	ND	ND	ND	ND	ND
	4/10/95	4.94	6.79	1.85	NA	0.00	330	ND	ND	ND	ND	ND
	7/24/95	5.02	6.79	1.77	NA	0.00	230	ND	ND	ND	ND	ND
	11/10/95	5.52	6.79	1.27	NA	0.00	430	ND	ND	ND	ND	ND
MW-2	9/20/93	4.40	7.12	2.72	NA	0.00	1900	ND	0.5	ND	ND	ND
	12/1/93	4.75	7.12	2.37	NA	0.00	1800	ND	ND	ND	ND	ND
	3/31/94	5.01	7.12	2.11	NA	0.00	1800	ND	ND	ND	ND	ND
	6/2/94	4.61	7.12	2.51	NA	0.00	870	ND	ND	ND	ND	ND
	9/30/94	4.93	7.12	2.19	NA	0.00	1200	ND	ND	ND	ND	ND
	12/22/94	4.43	7.12	2.69	NA	0.00	610	ND	ND	ND	ND	ND
	4/10/95	4.03	7.12	3.09	NA	0.00	550	ND	ND	ND	ND	ND
	7/24/95	4.41	7.12	2.71	NA	0.00	960	70	ND	ND	ND	ND
	11/10/95	4.59	7.12	2.53	NA	0.00	920	ND	ND	ND	ND	ND
MW-3	9/20/93	15.20	6.92	-8.28	NA	0.00	680	ND	ND	0.3	ND	ND
	12/1/93	5.70	6.92	1.22	NA	0.00	430	ND	ND	ND	ND	ND
	3/31/94	4.23	6.92	2.69	NA	0.00	690	ND	ND	ND	ND	ND
	6/2/94	3.86	6.92	3.06	NA	0.00	280	ND	ND	ND	ND	ND
	9/30/94	5.44	6.92	1.48	NA	0.00	480	ND	ND	ND	ND	ND
	12/22/94	4.87	6.92	2.05	NA	0.00	630	ND	ND	ND	ND	ND
	4/10/95	7.64	6.92	-0.72	NA	0.00	830	ND	ND	ND	ND	ND
	7/24/95	3.62	6.92	3.30	NA	0.00	460	ND	ND	ND	ND	ND
	11/10/95	5.11	6.92	1.81	NA	0.00	2100	ND	ND	0.7	ND	ND

Table 1
 Analytical Summary for Groundwater Samples
 Collected From October 1993 through November 1995
 All Concentrations in Micrograms per Liter (ug/L)

	Date	Depth to Water (in feet)	Top of Casing Elevation	Groundwater Elevation	Depth to FP (in feet)	FP Thickness (in feet)	TPH-D	TPH-G	Benzene	Toluene	Ethybenzene	Xylenes
MW-4	9/20/93	5.80	8.78	2.98	5.13	0.67	1300	ND	140	110	40	235
	12/1/93	4.10	8.78	4.68	sheen	sheen	32000	ND	71	41	20	150
	3/31/94	4.20	8.78	4.58	3.62	0.58	410000	ND	140	20	47	310
	6/2/94	3.88	8.78	4.90	3.38	0.50	NS	ND	NS	NS	NS	NS
	9/30/94	5.80	8.78	2.98	4.8	1.00	NS	ND	NS	NS	NS	NS
	12/22/94	3.47	8.78	5.31	2.63	0.84	NS	ND	NS	NS	NS	NS
	4/10/95	3.80	8.78	4.98	NA	0.00	NS	ND	NS	NS	NS	NS
	5/16/95	3.07	8.78	5.71	NA	NA	NS	ND	NS	NS	NS	NS
	7/24/95	3.65	8.78	5.13	NA	0.00	21000	2400	140	74	34	40
	11/10/95	NA	8.78	NA	NA	0.00	NS	NS	NS	NS	NS	NS
MW-5	4/10/95	4.64	8.64	4.00	NA	0.00	6200	1100	3.1	ND	2.9	11.3
	7/24/95	5.24	8.64	3.40	NA	0.00	4800	720	3.1	0.7	0.6	0.7
	11/10/95	5.38	8.64	3.26	NA	0.00	3700	260	0.8	0.5	0.6	1.9
MW-6	4/10/95	4.12	8.66	4.54	5.13	-1.01	10000	ND	1300	110	40	235
	7/24/95	5.19	8.66	3.47	4.09	1.10	NS	NS	NS	NS	NS	NS
	11/10/95	NA	8.66	NA	NA	NA	NS	NS	NS	NS	NS	NS

FP Floating product
 TPH-D Total petroleum hydrocarbons as diesel
 TPH-D Total petroleum hydrocarbons as gasoline
 NA Not applicable
 ND Not detected at or above analytical detection limits
 NS Not sampled

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APPENDIX A

SUMMARY OF SKIMMER OPERATIONS

FREE PHASE PRODUCT OBSERVATIONS/DOCUMENTATION: MW-6

DATE	PRODUCT THICKNESS (S)kimmer/(W)ell	PRODUCT VOLUME REMOVED(gal)	COMMENTS
7/24/95	-----	-----	Passive Skimmer installed
7/28/95	-----	0.10	(S) in place
8/17/95	12.5"(S)/0.6'(W)*	0.10	(S) in place
8/23/95	2.8(S)"/0.63'(W)*	0.10	Removed add. 10" with bailer
9/6/95	7"(S)/0.4'(W)*	0.05	Removed skimmer vol. only
9/28/95	3.5"(S)/0.4'(W)*	0.07	Removed add. 5.5" with bailer
11/10/95	2.0"(S)/0.06'(W)*	0.02	Removed add. 1" with bailer
12/18/95	10"(S)	0.10	Removed add. 4" with bailer
1/10/96	2"(S)/0.11'(W)*	0.03	Removed add. 2.5" with bailer
2/20/96	2.25"(S)	0.04	Removed add. 2.5" with bailer

* Measured with Interface Probe after removal of skimmer

FREE PHASE PRODUCT OBSERVATIONS/DOCUMENTATION: MW-4

DATE	PRODUCT THICKNESS (S)kimmer/(W)ell	PRODUCT VOLUME REMOVED(gal)	COMMENTS
4/17/95	-----	0.20	Skimmer in place
4/18/95	-----	0.10	Skimmer in place
4/26/95	0.17' (S)	0.30	Skimmer in place
5/12/95	0.13' (S)	0.01	Skimmer in place
5/16/95	None	None	Skimmer in place
6/12/95	None	None	Skimmer in place
6/22/95	None	None	Skimmer in place
7/14/95	None	None	Skimmer in place
7/19/95	None	None	Passive Skimmer removed
7/28/95	0.04' (W)	0.01	Measured with Interface Probe
8/17/95	0.08' (W)	None	Measured with Interface Probe
8/23/95	0.07' (W)	None	Measured with Interface Probe
9/6/95	0.08' (W)	None	Measured with Interface Probe
9/28/95	0.07' (W)	0.004	Measured with Interface Probe
11/10/95	0.23' (W)	0.03	Measured with Interface Probe
12/18/95	0.15' (W)	0.02	Passive skimmer installed
1/10/96	2" (S)/---- (W)	0.03	Skimmer in place
2/20/96	1.5" (S)	0.03	Skimmer in place

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APPENDIX B

WATER SAMPLING FIELD SURVEY FORMS

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: W02L8701 Site: P.O. - KEEP ON TRUCKING Date: Nov. 10, 1995
 Well #: MW-1 Sampling Team: R. SILVA
 Sampling Method: DISPOSABLE BAILER

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 15.01 feet Time: 1118 Depth to Water Before Pumping: 5.52 feet

Height of Water Column: 9.49 feet

<u>Diameter</u>							
<u>2-inch</u>	<u>4-inch</u>	=	<u>Volume</u>	•	<u>Purge Factor</u>	=	<u>Volume To Purge</u>
<u>.16</u>	<u>.65</u>		<u>1.52 gal</u>		<u>4</u>		<u>6.08 gal</u>

Depth Purging From: 14 feet Time Purging Begins: 1250

Notes on Initial Discharge: CLEAR

<u>Time</u>	<u>Volume Purged</u>	<u>pH</u>	<u>Conductivity</u>	<u>T</u>	<u>Notes</u>
<u>1252</u>	<u>2-GAL</u>	<u>7.1</u>	<u>2000+</u>	<u>22.7</u>	<u>CLEAR</u>
<u>1254</u>	<u>4-GAL</u>	<u>7.7</u>	<u>2000+</u>	<u>22.7</u>	<u>CLEAR, PURGED DRY</u>
<u>1301</u>	<u>5-GAL</u>	<u>7.1</u>	<u>2000+</u>	<u>22.7</u>	<u>CLEAR</u>
<u>1302</u>	<u>6-GAL</u>	<u>7.1</u>	<u>2000+</u>	<u>22.6</u>	<u>CLEAR, PURGED DRY</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1400

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>7.1</u>	<u>7.2</u>	<u>7.2</u>	<u>7.1</u>
Conductivity	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>
TC	<u>21.0</u>	<u>21.1</u>	<u>21.1</u>	<u>21.2</u>

Pre-sample Collection Gallons Purged: 6
Time Sample Collection Begins: 1405
Time Sample Collection Ends: 1410
Total Gallons Purged: 7

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: _____ Site: P.E.O. - KEEP ON TRUCKING Date: NOV. 10, 1995
 Well #: MW-2 Sampling Team: R. SILVA
 Sampling Method: DISPOSABLE BAUER

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 14.91 feet Time: 1121 Depth to Water Before Pumping: 4.59 feet

Height of Water Column: 10.32 feet

	Diameter					
	2-inch	4-inch	=	Volume	*	Purge Factor
	<u>.16</u>	.65	=	<u>1.65</u> gal	*	<u>4</u>
						= <u>6.60</u> gal

Depth Purging From: 14 feet Time Purging Begins: 1311

Notes on Initial Discharge: GRIEYISH, TURBID

Time	Volume Purged	pH	Conductivity	T	Notes
<u>1313</u>	<u>2-GAL</u>	<u>6.9</u>	<u>2000+</u>	<u>22.2</u>	<u>CLEAR</u>
<u>1315</u>	<u>4-GAL</u>	<u>6.9</u>	<u>2000+</u>	<u>22.1</u>	<u>CLEAR, PURGED DRY</u>
<u>1325</u>	<u>6-GAL</u>	<u>7.0</u>	<u>2000+</u>	<u>21.7</u>	<u>CLEAR</u>
<u>1326</u>	<u>7-GAL</u>	<u>7.0</u>	<u>2000+</u>	<u>21.5</u>	<u>CLEAR, PURGED DRY</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1420

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>7.2</u>	<u>7.1</u>	<u>7.1</u>	<u>7.1</u>
Conductivity	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>
T°C	<u>20.7</u>	<u>20.5</u>	<u>20.4</u>	<u>20.4</u>

Pre-sample Collection Gallons Purged: 7
Time Sample Collection Begins: 1425
Time Sample Collection Ends: 1430
Total Gallons Purged: 8

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: _____ Site: P.C.O. - KEEP ON TRUCKING Date: Nov. 10, 1995
 Well #: MLW-3 Sampling Team: R. SILVA
 Sampling Method: DISPOSABLE BAILER

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE; OIL FROM BIG RIGS WAS ON THE WELL COVERS.

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 19.50 feet Time: 11^{PS}24 Depth to Water Before Pumping: 5.11 feet

Height of Water Column: 14.39 feet

	<u>Diameter</u>						
	<u>2-inch</u>	<u>4-inch</u>	=	<u>Volume</u>	•	<u>Purge Factor</u>	=
	<u>.16</u>	<u>.65</u>		<u>2.30 gal</u>		<u>4</u>	=
							<u>9.20 gal</u>

Depth Purging From: 19 feet Time Purging Begins: 1140

Notes on Initial Discharge: BLACKISH, SILTY

<u>Time</u>	<u>Volume Purged</u>	<u>pH</u>	<u>Conductivity</u>	<u>T</u>	<u>Notes</u>
<u>1142</u>	<u>2-GAL</u>	<u>7.1</u>	<u>2000+</u>	<u>20.0</u>	<u>CLEAR</u>
<u>1144</u>	<u>4-GAL</u>	<u>7.1</u>	<u>2000+</u>	<u>19.5</u>	<u>CLEAR, PURGED DRY</u>
<u>1200</u>	<u>6-GAL</u>	<u>7.2</u>	<u>2000+</u>	<u>19.2</u>	<u>CLEAR</u>
<u>1202</u>	<u>8-GAL</u>	<u>7.2</u>	<u>2000+</u>	<u>19.2</u>	<u>CLEAR, PURGED DRY</u>
_____	<u>10-GAL</u>	_____	_____	_____	_____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1215

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>7.2</u>	<u>7.2</u>	<u>7.3</u>	<u>7.3</u>
Conductivity	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>
T°C	<u>18.7</u>	<u>18.9</u>	<u>18.9</u>	<u>18.9</u>

Pre-sample Collection Gallons Purged: 8
Time Sample Collection Begins: 1220
Time Sample Collection Ends: 1300
Total Gallons Purged: 9

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: _____

Site: P.C.O. - KEEP ON TRUCKING

Date: Nov. 10, 1995

Well #: M10-5

Sampling Team: R. SILVA

Sampling Method: DISPOSABLE BAILER

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 19.45 feet

Time: 1127

Depth to Water Before Pumping: 5.36 feet

Height of Water Column: 4.07 feet

Diameter
2-inch 4-inch
.16 .65

Volume
 = 2.25 gal

Purge Factor
 = 4

Volume To Purge
 = 9.00 gal

Depth Purging From: 19 feet

Time Purging Begins: 1330

Notes on Initial Discharge: GRAYISH, SILTY, STRONG ODOOR

Time	Volume Purged	pH	Conductivity	T	Notes
<u>1332</u>	<u>2-GAL</u>	<u>7.0</u>	<u>2000+</u>	<u>19.3</u>	<u>TURBID</u>
<u>1334</u>	<u>4-GAL</u>	<u>7.1</u>	<u>2000+</u>	<u>20.3</u>	<u>TURBID</u>
<u>1336</u>	<u>6-GAL</u>	<u>7.1</u>	<u>2000+</u>	<u>20.3</u>	<u>TURBID</u>
<u>1338</u>	<u>8-GAL</u>	<u>7.0</u>	<u>2000+</u>	<u>19.5</u>	<u>SLIGHTLY TURBID</u>
<u>1339</u>	<u>9-GAL</u>	<u>7.0</u>	<u>2000+</u>	<u>19.4</u>	<u>SLIGHTLY TURBID</u> <u>PURGED DRY</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1435

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>7.7</u>	<u>7.6</u>	<u>7.5</u>	<u>7.5</u>
Conductivity	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>
°C	<u>18.7</u>	<u>18.6</u>	<u>18.5</u>	<u>18.6</u>

Pre-sample Collection Gallons Purged: 9
Time Sample Collection Begins: 1440
Time Sample Collection Ends: 1445
Total Gallons Purged: 10

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
WATER SAMPLING FIELD SURVEY FORM

Project #: 58560.15 Site: P.O.D. - KEEP ON TRACKING Date: JULY 24 1995

Well #: MW-1 Sampling Team: R. SILVA

Sampling Method: DISPOSABLE FILTER

Field Conditions: PARTLY CLOUDY, COOL, WINDY

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 14.94 feet Time: 1237 Depth to Water Before Pumping: 5.02 feet

Height of Water Column: 9.92 feet

	<u>Diameter</u>			<u>Volume</u>		<u>Purge Factor</u>		<u>Volume To Purge</u>
	<u>2-inch</u>	<u>4-inch</u>	=	<u>gal</u>	•	<u>4</u>	=	<u>gal</u>
	<u>16</u>	<u>.65</u>		<u>1.59</u>				<u>6.36</u>

Depth Purging From: 14 feet Time Purging Begins: 1258

Notes on Initial Discharge: CLEAR

<u>Time</u>	<u>Volume Purged</u>	<u>pH</u>	<u>Conductivity</u>	<u>T</u>	<u>Notes</u>
<u>1258</u>	<u>2-GAL</u>	<u>6.8</u>	<u>2000+</u>	<u>22.5</u>	<u>CLEAR</u>
<u>1300</u>	<u>3-GAL</u>	<u>6.7</u>	<u>2000+</u>	<u>21.8</u>	<u>CLEAR, PURGED DRY</u>
<u>1310</u>	<u>4-GAL</u>	<u>6.7</u>	<u>2000+</u>	<u>21.5</u>	<u>CLEAR</u>
<u>1311</u>	<u>6-GAL</u>	<u>6.7</u>	<u>2000+</u>	<u>21.1</u>	<u>CLEAR, PURGED T.C.N.</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1325

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>6.9</u>	<u>6.9</u>	<u>6.9</u>	<u>6.8</u>
Conductivity	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>
T°C	<u>20.1</u>	<u>20.0</u>	<u>19.9</u>	<u>19.9</u>

Pre-sample Collection Gallons Purged: 6

Time Sample Collection Begins: 1330

Time Sample Collection Ends: 1335

Total Gallons Purged: 7

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 58500.15 Site: P.O.D. - KEEP ON TRAIL Date: JULY 24 1995

Well #: M10-3 Sampling Team: R SILVA

Sampling Method: DISPOSABLE BAILED

Field Conditions: CLEAR SKIES, WARM, SLIGHT BREEZE

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 19.42 feet Time: 1239 Depth to Water Before Pumping: 4.41 feet

Height of Water Column: <u>1501</u> feet	Diameter		=	Volume		Purge Factor	=	Volume To Purge	
	2-inch <u>.16</u>	4-inch .65		2.40 gal	4			9.60 gal	

Depth Purging From: 19 feet Time Purging Begins: 1345

Notes on Initial Discharge: BLACKISH, SILTY

Time	Volume Purged	pH	Conductivity	T	Notes
<u>1346</u>	<u>2-GAL</u>	<u>12.9</u>	<u>2000+</u>	<u>22.4</u>	<u>CLEAR</u>
<u>1347</u>	<u>4-GAL</u>	<u>14.4</u>	<u>2000+</u>	<u>30.1</u>	<u>CLEAR, PURGED</u>
<u>1400</u>	<u>6-GAL</u>	<u>11.7</u>	<u>2000+</u>	<u>21.7</u>	<u>CLEAR</u>
<u>1401</u>	<u>2-GAL</u>	<u>12.9</u>	<u>2000+</u>	<u>22.3</u>	<u>CLEAR, PURGED DRY</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1440

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>10.7</u>	<u>11.0</u>	<u>11.1</u>	<u>11.2</u>
Conductivity	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>
T°C	<u>20.7</u>	<u>20.5</u>	<u>21.0</u>	<u>20.9</u>

Pre-sample Collection Gallons Purged: 8
Time Sample Collection Begins: 1445
Time Sample Collection Ends: 1450
Total Gallons Purged: 9

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: 58560.15 Site: P.O.O. - KEEP ON TRUCKING Date: JULY 24, 1965

Well #: M10-2 Sampling Team: R. SILVA

Sampling Method: DISPOSABLE FILTER

Field Conditions: CLEAR 15100 DEPTH, 11/24

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 14.85 feet Time: 1241 Depth to Water Before Pumping: 3.62 feet

Height of Water Column: 11.23 feet * $\frac{\text{Diameter}}{\text{2-inch} \quad \text{4-inch}}$ $\frac{.16}{.65} = \frac{\text{Volume}}{1.80 \text{ gal}} * \frac{\text{Purge Factor}}{4} = \frac{\text{Volume To Purge}}{7.20 \text{ gal}}$

Depth Purging From: 14 feet Time Purging Begins: 1412

Notes on Initial Discharge: BROWNISH TURBID

Time	Volume Purged	pH	Conductivity	T	Notes
<u>1413</u>	<u>2-GAL</u>	<u>11.4</u>	<u>2000+</u>	<u>17.7</u>	<u>CLEAR</u>
<u>1414</u>	<u>4-GAL</u>	<u>10.7</u>	<u>2000+</u>	<u>17.9</u>	<u>CLEAR</u> ^{PURGED} _{DRY}
<u>1430</u>	<u>6-GAL</u>	<u>9.7</u>	<u>2000+</u>	<u>17.5</u>	<u>CLEAR</u>
<u>1431</u>	<u>8-GAL</u>	<u>9.5</u>	<u>2000+</u>	<u>17.6</u>	<u>CLEAR</u> ^{PURGED} _{DRY}

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1500

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>9.5</u>	<u>9.5</u>	<u>9.6</u>	<u>9.4</u>
Conductivity	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>
T°C	<u>17.4</u>	<u>17.3</u>	<u>17.3</u>	<u>17.5</u>

Pre-sample Collection Gallons Purged: 8

Time Sample Collection Begins: 1505

Time Sample Collection Ends: 1510

Total Gallons Purged: 9

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: SB560.15 Site: P.O.C. - KEEP AWAY TRUCKING Date: JULY 24, 1995

Well #: MW-4 Sampling Team: R. SILVA

Sampling Method: DISPOSABLE FAUCET

Field Conditions: CLEAR SKY, WARM, WINDY

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 14.90 feet Time: 1241 Depth to Water Before Pumping: 3.65 feet

Height of Water Column: 11.25 feet

	<u>Diameter</u>						
	<u>2-inch</u>	<u>4-inch</u>	=	<u>Volume</u>	*	<u>Purge Factor</u>	
	<u>.16</u>	<u>.65</u>	=	<u>1.80 gal</u>	*	<u>4</u>	
						=	
							<u>7.20 gal</u>

Depth Purging From: 14 feet Time Purging Begins: 1536

Notes on Initial Discharge: BROWNISH, TURBID, STRONG PETROLEUM ODDOR

Time	Volume Purged	pH	Conductivity	T	Notes
<u>1527</u>	<u>2-GAL</u>	<u>8.1</u>	<u>2000+</u>	<u>19.4</u>	<u>CLEAR</u>
<u>1529</u>	<u>4-GAL</u>	<u>8.3</u>	<u>2000+</u>	<u>19.7</u>	<u>CLEAR PURGED TFW</u>
<u>1551</u>	<u>6-GAL</u>	<u>7.9</u>	<u>2000+</u>	<u>19.6</u>	<u>CLEAR</u>
<u>1552</u>	<u>8-GAL</u>	<u>7.8</u>	<u>2000+</u>	<u>19.4</u>	<u>CLEAR PURGED DRY</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1645

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>7.5</u>	<u>7.4</u>	<u>7.4</u>	<u>7.3</u>
Conductivity	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>
T°C	<u>19.7</u>	<u>19.6</u>	<u>19.5</u>	<u>19.5</u>

Pre-sample Collection Gallons Purged: 8

Time Sample Collection Begins: 1650

Time Sample Collection Ends: 1655

Total Gallons Purged: 9

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: CBS60.15 Site: P.O.O. - KEEP ON TRUCKS Date: JULY 24, 1995

Well #: MW-5 Sampling Team: R. SILVA

Sampling Method: DISPOSABLE BAILER

Field Conditions: CLEAR SKIES, WARM, WINDY

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 19.39 feet Time: 1245 Depth to Water Before Pumping: 5.24 feet

Height of Water Column: 14.15 feet

	<u>Diameter</u>					
	<u>2-inch</u>	<u>4-inch</u>		<u>Volume</u>	<u>Purge</u>	<u>Volume</u>
	<u>16</u>	<u>.65</u>	=	<u>2.26</u> gal	*	<u>4</u>
					=	<u>9.04</u> gal

Depth Purging From: 19 feet Time Purging Begins: 1605

Notes on Initial Discharge: GRAYISH, SILTY

Time	Volume Purged	pH	Conductivity	T	Notes
<u>1606</u>	<u>2-GAL</u>	<u>6.9</u>	<u>2000+</u>	<u>19.4</u>	<u>TURBID</u>
<u>1607</u>	<u>4-GAL</u>	<u>6.9</u>	<u>2000+</u>	<u>19.7</u>	<u>TURBID</u>
<u>1608</u>	<u>6-GAL</u>	<u>6.8</u>	<u>2000+</u>	<u>19.9</u>	<u>TURBID</u>
<u>1609</u>	<u>9-GAL</u>	<u>6.8</u>	<u>2000+</u>	<u>19.6</u>	<u>CLEAR</u>

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1700

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	<u>6.9</u>	<u>6.9</u>	<u>6.8</u>	<u>6.7</u>
Conductivity	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>	<u>2000+</u>
T°C	<u>19.4</u>	<u>19.3</u>	<u>19.3</u>	<u>19.1</u>

Pre-sample Collection Gallons Purged: 9

Time Sample Collection Begins: 1705

Time Sample Collection Ends: 1710

Total Gallons Purged: 10

Comments: _____

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: _____

	<u>Rep #1</u>	<u>Rep #2</u>	<u>Rep #3</u>	<u>Rep #4</u>
pH	_____	_____	_____	_____
Conductivity	_____	_____	_____	_____
T°C	_____	_____	_____	_____

Pre-sample Collection Gallons Purged: _____

Time Sample Collection Begins: _____

Time Sample Collection Ends: _____

Total Gallons Purged: _____

Comments: _____

ENVIRONMENTAL
PROTECTION

95 MAR 27 PM 1:41

APPENDIX C

**GROUNDWATER SAMPLING ANALYTICAL REPORTS FOR IN
JULY AND NOVEMBER 1995**

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

August 7, 1995

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 58560.18
Clayton Project No.: 95072.00A

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on July 25, 1995. Also enclosed is a copy of the Chain-of-Custody record acknowledging receipt of these samples.

Please note that any unused portion of the samples will be discarded after September 6, 1995, unless you have requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely,



Harriotte A. Hurley, CIH
Director, Laboratory Services
San Francisco Regional Office

HAH/caa

Attachments

Analytical Results
 for
 Port of Oakland
 Client Reference: 58560.18
 Clayton Project No. 95072.00

Sample Identification:	MW-1	Date Sampled:	07/24/95
Lab Number:	9507200-01A	Date Received:	07/24/95
Sample Matrix/Media:	WATER	Date Prepared:	07/26/95
Preparation Method:	EPA 5030	Date Analyzed:	07/26/95
Method Reference:	EPA 8015/8020	Analyst:	WAS

analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>TEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	96	50 - 150

ND: Not detected at or above limit of detection
 -: Information not available or not applicable

Analytical Results
for
Port of Oakland
Client Reference: 58560.18
Clayton Project No. 95072.00

Sample Identification:	MW-2	Date Sampled:	07/24/95
Lab Number:	9507200-02A	Date Received:	07/24/95
Sample Matrix/Media:	WATER	Date Prepared:	07/26/95
Preparation Method:	EPA 5030	Date Analyzed:	07/26/95
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>TEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	70	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>OC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	95	50 - 150

ND: Not detected at or above limit of detection
-: Information not available or not applicable

Gasoline result from presence of MTBE in sample

Analytical Results
for
Port of Oakland
Client Reference: 58560.18
Clayton Project No. 95072.00

Sample Identification:	MW-3	Date Sampled:	07/24/95
Lab Number:	9507200-03A	Date Received:	07/24/95
Sample Matrix/Media:	WATER	Date Prepared:	07/26/95
Preparation Method:	EPA 5030	Date Analyzed:	07/26/95
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>TEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	91	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Port of Oakland
Client Reference: 58560.18
Clayton Project No. 95072.00

Sample Identification: MW-4
Lab Number: 9507200-04A
Sample Matrix/Media: WATER
Preparation Method: EPA 5030
Method Reference: EPA 8015/8020

Date Sampled: 07/24/95
Date Received: 07/24/95
Date Prepared: 07/26/95
Date Analyzed: 07/26/95
Analyst: WAS

analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>TEX/Gasoline</u>			
Benzene	71-43-2	140	0.4
Ethylbenzene	100-41-4	34	0.3
Toluene	108-88-3	74	0.3
o-Xylene	95-47-6	12	0.4
p,m-Xylenes	--	28	0.4
Gasoline	--	2400	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	81	50 - 150

ND: Not detected at or above limit of detection
-: Information not available or not applicable

Analytical Results
for
Port of Oakland
Client Reference: 58560.18
Clayton Project No. 95072.00

Sample Identification:	MW-5	Date Sampled:	07/24/95
Lab Number:	9507200-05A	Date Received:	07/24/95
Sample Matrix/Media:	WATER	Date Prepared:	07/27/95
Preparation Method:	EPA 5030	Date Analyzed:	07/27/95
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>TEX/Gasoline</u>			
Benzene	71-43-2	3.1	0.4
Ethylbenzene	100-41-4	0.6	0.3
Toluene	108-88-3	0.7	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	0.7	0.4
Gasoline	--	720 a	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>OC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	99	50 - 150

ND: Not detected at or above limit of detection

-: Information not available or not applicable

a Sample appears to be weathered gasoline.

Analytical Results
for
Port of Oakland
Client Reference: 58560.18
Clayton Project No. 95072.00

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9507200-08A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	07/26/95
Preparation Method:	EPA 5030	Date Analyzed:	07/26/95
Method Reference:	EPA 8015/8020	Analyst:	WAS

analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>TEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>OC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	90	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Clayton

ENVIRONMENTAL
CONSULTANTS

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only Page 1 of 2

Project No. _____

Batch No. **9507200**

Ind. Code _____ W.P. _____

Date Logged In 1/25 By KENW

RESULTS TO

Name DARIUSH DASTMALCHI Title _____

Company CLAYTON Dept. _____

Mailing Address _____

City, State, Zip _____

Telephone No. _____ Telefax No. _____

Purchase Order No. _____ Client Job No. 58560.18

Name _____

Company PORT OF OAKLAND - Dept. _____

Address KEEP ON TRUCKING Co

City, State, Zip _____

Date Results Req.: STANDARD Rush Charges Authorized? Yes No Phone / Fax Results

Special Instructions: (method, limit of detection, etc.) _____

Explanation of Preservative: P = HCL

Samples are: (check if applicable)
 Drinking Water
 Collected in the State of New York

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added.)

Number of Containers

Gas/BTEX
DIESEL

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/MEDIA	AIR VOLUME (specify units)	Number of Containers	ANALYSIS REQUESTED										FOR LAB USE ONLY			
MW-1	7-24-95	H ₂ O	40mLS	2	XP													01 AB
MW-1			LITER	2		XP												CD
MW-2			40mLS	2	XP													02 AB
MW-2			LITER	2		XP												CD
MW-3			40mLS	2	XP													03 AB
MW-3			LITER	2		XP												CD
MW-4			40mLS	2	XP													04 AB
MW-4			LITER	2		XP												CD
MW-5			40mLS	2	XP													05 AB
MW-5			LITER	2		XP												CD

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/MEDIA	AIR VOLUME (specify units)	Number of Containers	ANALYSIS REQUESTED										FOR LAB USE ONLY			
MW-1	7-24-95	H ₂ O	40mLS	2	XP													01 AB
MW-1			LITER	2		XP												CD
MW-2			40mLS	2	XP													02 AB
MW-2			LITER	2		XP												CD
MW-3			40mLS	2	XP													03 AB
MW-3			LITER	2		XP												CD
MW-4			40mLS	2	XP													04 AB
MW-4			LITER	2		XP												CD
MW-5			40mLS	2	XP													05 AB
MW-5			LITER	2		XP												CD

CHAIN OF CUSTODY

Collected by: RICHARD SILVA (print)

Relinquished by: Richard Silva Date/Time 7-24-95/6:32pm

Relinquished by: _____ Date/Time _____

Method of Shipment: _____

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Collector's Signature: Richard Silva

Received by: Carol Hammerberg Date/Time 7/24/95 6:32pm

Received at Lab by: ALAN WILSON Date/Time 7-25-95 6:10am

Sample Condition Upon Receipt: Acceptable Other (explain)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive Novi, MI 48375 (810) 344-1770	Raritan Center 160 Fieldcrest Ave. Edison, NJ 08837 (909) 225-5040	400 Chastain Center Blvd., N.W. Suite 490 Kennesaw, GA 30144 (404) 400-7500	1252 Quarry Lane Pleasanton, CA 94566 (510) 426-2657
---------------------------------------------------------	-----------------------------------------------------------------------------	--------------------------------------------------------------------------------------	------------------------------------------------------------

DISTRIBUTION:
 WHITE - Clayton Laboratory
 YELLOW - Clayton Accounting
 PINK - Client Retains

2/02

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

November 28, 1995

Mr. George Mead
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 66258.01
Clayton Project No.: 95111.60

Dear Mr. Mead:

Attached is our analytical laboratory report for the samples received on November 10, 1995. Following the cover letter is the Quality Control Narrative detailing sample information/problems and a summary of the quality control issues. Also enclosed is a copy of the Chain-of-Custody record acknowledging receipt of these samples.

Please note that any unused portion of the samples will be discarded after December 28, 1995, unless you have requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Michael Leginski for

Harriotte A. Hurley, CIH
Director, Laboratory Services
San Francisco Regional Office

HAH/tjb

Attachments

QUALITY CONTROL NARRATIVE
for
Port of Oakland
Client Reference: 66258.01
Clayton Project No. 95111.60

Sample Information/Problems:

There were no problems with sample receipt.

Analytical Problems:

No problems were encountered with the sample analyses.

Quality Control:

The quality control data is summarized in the Quality Assurance Data Package, which follows the analytical report.

- MS/MSD: A matrix spike and matrix spike duplicate were analyzed where applicable, and all results were acceptable.
- LCS/LCSD: A laboratory control spike and duplicate were analyzed where applicable, and all results were acceptable.
- ICV/CCV: Response for all analytes met Clayton acceptance criteria.
- Surrogate Recoveries: All surrogate recoveries were acceptable. The surrogate recoveries, where applicable, are listed on the sample result pages.

Analytical Results
for
Port of Oakland
Client Reference: 66258.01
Clayton Project No. 95111.60

Sample Identification:	MW-1	Date Sampled:	11/10/95
Lab Number:	9511160-01A	Date Received:	11/10/95
Sample Matrix/Media:	WATER	Date Prepared:	11/20/95
Preparation Method:	EPA 5030	Date Analyzed:	11/21/95
Method Reference:	EPA 8015/8020	Analyst:	FAK

analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>TEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>OC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	99	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Port of Oakland
Client Reference: 66258.01
Clayton Project No. 95111.60

Sample Identification: MW-2	Date Sampled: 11/10/95
Lab Number: 9511160-02A	Date Received: 11/10/95
Sample Matrix/Media: WATER	Date Prepared: 11/20/95
Preparation Method: EPA 5030	Date Analyzed: 11/21/95
Method Reference: EPA 8015/8020	Analyst: FAK

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	97	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Port of Oakland
Client Reference: 66258.01
Clayton Project No. 95111.60

Sample Identification:	MW-3	Date Sampled:	11/10/95
Lab Number:	9511160-03A	Date Received:	11/10/95
Sample Matrix/Media:	WATER	Date Prepared:	11/20/95
Preparation Method:	EPA 5030	Date Analyzed:	11/20/95
Method Reference:	EPA 8015/8020	Analyst:	FAK

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	0.7	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>OC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	94	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Port of Oakland
Client Reference: 66258.01
Clayton Project No. 95111.60

Sample Identification:	MW-5	Date Sampled:	11/10/95
Lab Number:	9511160-04A	Date Received:	11/10/95
Sample Matrix/Media:	WATER	Date Prepared:	11/20/95
Preparation Method:	EPA 5030	Date Analyzed:	11/20/95
Method Reference:	EPA 8015/8020	Analyst:	FAK

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>TEX/Gasoline</u>			
Benzene	71-43-2	0.8	0.4
Ethylbenzene	100-41-4	0.6	0.3
Toluene	108-88-3	0.5	0.3
o-Xylene	95-47-6	0.7	0.4
p,m-Xylenes	--	1.2	0.4
Gasoline	--	260	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>OC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	88	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Port of Oakland
Client Reference: 66258.01
Clayton Project No. 95111.60

Sample Identification: METHOD BLANK	Date Sampled: --
Lab Number: 9511160-06A	Date Received: --
Sample Matrix/Media: WATER	Date Prepared: 11/20/95
Preparation Method: EPA 5030	Date Analyzed: 11/20/95
Method Reference: EPA 8015/8020	Analyst: FAK

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>TEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	95	50 - 150

ND: Not detected at or above limit of detection

--: Information not available or not applicable

Analytical Results
for
Port of Oakland
Client Reference: 66258.01
Clayton Project No. 95111.60

Sample Identification:	See Below	Date Received:	11/10/95
Lab Number:	9511160	Date Extracted:	11/10/95
Sample Matrix/Media:	WATER	Date Analyzed:	11/14/95
Extraction Method:	EPA 3510		
Method Reference:	EPA 8015 (Modified)		

Lab Number	Sample Identification	Date Sampled	TPH-D (ug/L)		Method Detection Limit (ug/L)
-01	MW-1	11/10/95	430	a	50
02	MW-2	11/10/95	920	a	50
03	MW-3	11/10/95	2100	a	50
-04	MW-5	11/10/95	3700		50
-06	METHOD BLANK	--	ND		50

D: Not detected at or above limit of detection
-: Information not available or not applicable

PH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.
Unidentified hydrocarbons present in diesel and oil range; quantitation based on diesel.

Quality Assurance Results Summary
Matrix Spike/Matrix Spike Duplicate Results
for
Clayton Project No. 95111.60

Quality Assurance Results Summary - Matrix Spike/Matrix Spike Duplicate
for
Clayton Project No. 95111.60

Clayton Lab Number: 9511098-LCS
Ext./Prep. Method: EPA 3510
Date: 11/10/95
Analyst: MBN
Std. Source: E951025-01W
Sample Matrix/Media: WATER

Analytical Method: EPA 8015
Instrument ID: 02893
Date: 11/14/95
Time: 15:41
Analyst: GUD
Units: UG/L
QC Batch No: 95111068

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	ND	1,000	1,030	103	931	93	98	65	128	10	25

ND = Not detected at or above limit of detection
SOR = Spike out of range due to high sample concentration.

LCL = Lower Control Limit

UCL = Upper Control Limit

Quality Assurance Results Summary - Matrix Spike/Matrix Spike Duplicate
for
Clayton Project No. 95111.60

Clayton Lab Number: 9511124-01A
Ext./Prep. Method: EPA 5030
Date: 11/14/95
Analyst: FAK
Std. Source: V951109-01W
Sample Matrix/Media: WATER

Analytical Method: EPA 8015/8020
Instrument ID: 05587
Date: 11/15/95
Time: 20:29
Analyst: FAK
Units: ug/L
QC Batch No: 951114A1

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID) ND	3.97	4.03	102	3.95	99	101	79	125	2.0	20
ETHYLBENZENE	(PID) ND	5.54	5.53	100	5.51	99	100	91	123	0.4	20
GASOLINE	(FID) ND	500	530	106	510	102	104	80	120	3.8	25
TOLUENE	(PID) ND	24.7	24.5	99	25.1	102	100	84	118	2.4	20
TOTAL XYLENE	(PID) ND	36.1	36.2	100	36.0	100	100	85	115	0.6	20

ND = Not detected at or above limit of detection
SOR = Spike out of range due to high sample concentration.

LCL = Lower Control Limit

UCL = Upper Control Limit

Quality Assurance Results Summary - Matrix Spike/Matrix Spike Duplicate
for
Clayton Project No. 95111.60

Clayton Lab Number: 9511118-02B
Ext./Prep. Method: EPA 5030
Date: 11/20/95
Analyst: FAK
Std. Source: V951109-02W
Sample Matrix/Media: WATER

Analytical Method: EPA 8015/8020
Instrument ID: 05587
Date: 11/20/95
Time: 16:22
Analyst: FAK
Units: ug/L
QC Batch No: 951120A1

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID) ND	4.64	4.74	102	4.76	103	102	79	125	0.4	20
ETHYLBENZENE	(PID) ND	5.43	5.62	103	5.60	103	103	91	123	0.4	20
GASOLINE	(FID) ND	500	567	113	546	109	111	80	120	3.8	25
TOLUENE	(PID) ND	24.2	24.8	102	24.9	103	103	84	118	0.4	20
TOTAL XYLENE	(PID) ND	33.3	34.3	103	34.3	103	103	85	115	0.0	20

ND = Not detected at or above limit of detection
SOR = Spike out of range due to high sample concentration.

LCL = Lower Control Limit

UCL = Upper Control Limit

Clayton

ENVIRONMENTAL
CONSULTANTS

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only Page 1 of 2
 Project No. **9511162 (mwr)**
 Batch No. **9511160 (mwr-mws)**
 Ind. Code _____ W.P. _____
 Date Logged In 11/10 By lh

REPORT RESULTS TO
 Name GEORGE MEADE Title _____
 Company CLAYTON Dept. _____
 Mailing Address _____
 City, State, Zip _____
 Telephone No. _____ Telefax No. _____

Purchase Order No. _____ Client Job No. 66258.01
SEND INVOICE TO
 Name _____
 Company PORT OF OAKLAND Dept. _____
 Address KEEP ON TRUCKING
 City, State, Zip _____

Date Results Req.: STANDARD Rush Charges Authorized? Yes No Phone / Fax Results
 Samples are: (check if applicable)
 Drinking Water
 Collected in the State of New York
 Special Instructions: (method, limit of detection, etc.)
 * Explanation of Preservative: P=HCL

ANALYSIS REQUESTED
 (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added.)
 Number of Containers
BTEX
TPH-DIESEL

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/MEDIA	AIR VOLUME (specify units)	Number of Containers	ANALYSIS REQUESTED										FOR LAB USE ONLY			
M10-1	11-10-95	H2O	40MLs	2	XP													- 01A,B
M10-1			LITER	2		XP												↓ CD
M10-2			40MLs	2	XP													- 02A,B
M10-2			LITER	2		XP												↓ CD
M10-3			40MLs	2	XP													- 03A,B
M10-3			LITER	2		XP												↓ CD
M10-5			40MLs	2	XP													- 04A,B
M10-5			LITER	2		XP												↓ CD
M10-7			40MLs	2	XP													- 05A,B ch
M10-7			LITER	2		XP												↓ CD ch

CHAIN OF CUSTODY
 Collected by: RICHARD SILVA (print) Collector's Signature: Richard Silva
 Relinquished by: Richard Silva Date/Time 11-10-95/6:10pm Received by: _____ Date/Time _____
 Relinquished by: _____ Date/Time _____ Received at Lab by: Carel Hammerberg Date/Time 11/10/95 6:10pm
 Method of Shipment: _____ Sample Condition Upon Receipt: Acceptable Other (explain) _____
 Authorized by: _____ Date _____
 (Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive Novi, MI 48375 (810) 344-1770	Raritan Center 160 Fieldcrest Ave. Edison, NJ 08837 908) 3040	400 Chastain Center Blvd., N.W. Suite 490 Kennesaw, GA 30144 (404) 19-75	1252 Quarry Lane Pleasanton, CA 94566 (510) 426-2657
---------------------------------------------------------	------------------------------------------------------------------------	-----------------------------------------------------------------------------------	------------------------------------------------------------

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