

San Francisco Regional Office

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Clayton
ENVIRONMENTAL
CONSULTANTS

March 8, 1999

6070

Mr. Barney M. Chan
Alameda County Environmental
Health Care Service Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Clayton Project No.70-97066.00

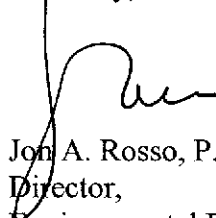
Subject: Limited Groundwater Investigation Report for 630 29th Avenue, Oakland,
California

Dear Mr. Chan:

Clayton Environmental Consultants, a division of Clayton Group Services, Inc. is pleased to present the enclosed report on behalf of Bank of America. The report documents the limited subsurface investigation performed at the above-referenced property in January/February 1999.

We look forward to meeting with you to discuss the findings of the investigation and the future actions at the property. If you have any questions, please contact me at (925) 426-2600.

Sincerely,



Jon A. Rosso, P.E.
Director,
Environmental Risk Management and
Remediation
San Francisco Regional Office

JAR/mwh

cc: Donna Proffitt, BofA Environmental Services (4 copies)

ENVIRONMENTAL
PROTECTION
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CLAYTON

**Limited Groundwater Investigation
At
Former Lemoine Sausage Facility
Oakland, California**

Clayton Project No. 70-97066

March 1999



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ELECTRONIC
PRODUCTION

San Francisco Regional Office

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**Limited Groundwater Investigation
At
Former Lemoine Sausage Facility
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Clayton Project No. 70-97066

March 1999

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- A Boring Logs and Well Construction Details
- B Well Survey Report
- C Well Development and Sampling Field Sheets

Department. The scope of work consisted of the following components:

- Locate underground utilities,
- Core six holes through the warehouse floor and suspended concrete slab,
- Advance nine soil borings,
- Construct five groundwater monitoring wells and construct four temporary well points,
- Develop groundwater monitoring wells and purge temporary well points,
- Purge and sample groundwater monitoring wells and temporary well points,
- Survey monitoring well top of casing elevations relative to mean sea level,
- Analyze nine groundwater samples, and
- Prepare this report

2.1. LOCATE UTILITIES

At least 48 hours prior to drilling, Clayton contacted Underground Service Alert (USA) to report our proposed drilling schedule and request the location of publicly owned utilities to be marked in the vicinity of the boring locations. Norcal Underground of San Jose, California performed an underground utility survey in the vicinity of the borings located in 7th Street.

2.2. CONCRETE CORING

Del Secco Diamond Core & Saw, Inc. was on site January 26 and 27, 1999 to core holes through concrete floors and asphalt in 7th Street. The suspended concrete floor in the warehouse was approximately 3.5 feet thick and had structural features as follows:

- 6-inch thick suspended concrete slab over
- 8-inches of void space over
- 10-inches of a broken concrete slab over
- a 2-inch thick wood plank floor over
- a ¼-inch thick steel plate over
- 10-inches of cork over a 6-inch concrete slab.

Concrete Wall Sawing Co., Inc. mobilized to the site on January 28, 1999 to complete two additional core holes for additional boring locations.

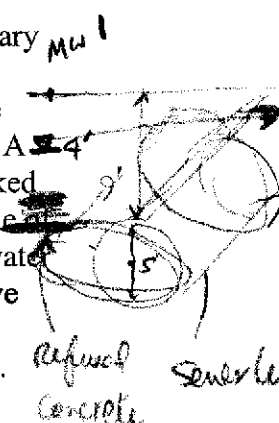
2.3. ADVANCE SOIL BORINGS/WELL CONSTRUCTION

A total of nine soil borings were advanced. Of the nine borings, five were converted to groundwater monitoring wells (MW-1 through MW-5) and four converted to temporary well points (B-7 through B-10). Temporary well points are similar to monitoring wells except annular space between the well point and boring is not filled with filter sand or grout backfill. The on-site building has some unique access and structural issues. To overcome the building access and structural issues, the groundwater monitoring wells were completed as 3/4-inch diameter groundwater monitoring wells with pre-packed filter sand material around the screen. The rationale for the less than conventionally sized wells is that access with drilling equipment that can install conventionally sized well is extremely limited. Furthermore, the drilling surface is a 6-inch thick suspended concrete slab floor of old construction over multiple layers of former slabs, debris, void spaces, wood planking, steel plate, and cork. The groundwater monitoring wells and temporary well point locations are presented on Figure 2.

Clayton discussed the use of 1-inch diameter wells with Mr. Chan of the ACHCS. Mr. Chan and Mr. Chuck Hedley of the San Francisco Region Water Quality Control Board (RWQCB) conditionally approved the use of 3/4-inch diameter wells for this phase of the investigation. The conditions of installing the one-inch diameter wells are that all wells proposed in this workplan (inside or outside the building) will be of the same size.

Monitoring well MW-1 was constructed above the East Bay Municipal Utility District main sewer line and completed to a total depth of 9 feet below grade, monitoring wells MW-2 and MW-3 are located in the suspended concrete floor portion of the warehouse and completed to a total depth of approximately 16 feet below street grade level, well MW-5 was completed to approximately 10 feet below street grade level, and MW-4 was completed at 15 feet below street grade level. Well construction details and boring logs are presented in Appendix A.

All borings were advanced using Geoprobe boring and sampling techniques. Temporary well points B-7 and B-8 were located inside the portion of the warehouse with the suspended concrete floor (the suspended concrete floor is approximately 4 feet above grade at street level) and were advanced to approximately 12 feet below street grade. A 3/4-inch screened PVC casing was inserted into each boring and each boring was checked for the presence of groundwater. No groundwater was present either boring at the time of drilling. Each borehole was covered with a steel plate and left open to allow groundwater to enter the borehole. Borings B-9 and B-10 were advanced in 7th Street directly above East Bay Municipal Utility District main sanitary sewer pipeline. Reportedly, the sanitary sewer pipeline is 5-feet in diameter and constructed of 12-inch thick concrete. The top of the pipeline was encountered at approximately 9 feet below grade. Thus, borings (B-8 and B-9) were terminated at 9 feet below grade. Temporary 3/4-inch PVC screened casing was placed inside borings B-9 and B-10 and groundwater samples were collected and submitted for analysis. Borings B-9 and B-10 were abandoned by removing the temporary well screen and grouting the borings with neat cement.



Upon completion, the monitoring wells were surveyed by Virgil Chavez Surveyors for top of casing elevations relative to mean sea level on March 2, 1999. The well survey report is included in Appendix B.

2.4. DEVELOPMENT, SAMPLING, AND ANALYSIS

On February 2, 1999 the groundwater monitoring wells and temporary well points were developed and/or purged. Each monitoring well and temporary well point was purged dry (less than one gallon) with the exception of well MW-3 and MW-4. In the case where the monitoring well/well point was purged dry, water was added to aid in the development process. In each monitoring well/temporary well point where water was added, the full amount added was recovered and purged dry again. Purging was accomplished by using a peristaltic pump.

On February 8, 1999 groundwater levels were measured in each monitoring well and well point. Additionally, the monitoring wells/temporary well points were purged dry using a peristaltic pump and allowed to recover prior to sampling with the exception of MW-3 and MW-4. Approximately three casing volumes were purged from wells MW-3 and MW-4 prior to sampling. Groundwater samples were collected using a peristaltic pump. Clean tubing was used for each purging and sampling event. Well development and sampling field work sheets are included in Appendix C.

Groundwater samples were extracted using a peristaltic pump and placed into the appropriate laboratory containers. The sample containers were labeled, placed into a chilled cooler, and logged on chain-of-custody forms. The samples were transported to Clayton's State Certified analytical laboratory in Pleasanton, California for analysis.

The groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) benzene, toluene, ethylbenzene, and xylenes (BTEX), and chlorinated solvents (VOCs) by U.S. EPA Method 8010.

3. FINDINGS

The findings of the investigation are presented in the following sections.

3.1. LITHOLOGY

The lithology within the subject property building (B-7, B-8, and MW-3 through MW-5) was different than the borings completed outside the building (MW-1, B-9, and B-10). As previously discussed, MW-1, B-9, and B-10 were constructed above the sanitary sewer pipeline and most likely represent fill materials placed during construction. The lithology inside the building consisted of slightly moist dark gray clayey silt extending from grade (street level) to approximately three feet below grade. The clayey silt was underlain by approximately three feet of a low permeable and moist soil mixture of clayey sand/silty sand layer with occasional gravel. During drilling, saturation was encountered in the layer clayey sand/silty sand layer in borings MW-3, MW-4, and MW-5 only. No saturation was encountered during drilling of borings B-7, B-8, and MW-2.

A stiff, slightly moist silty clay was encountered below the clayey sand/silty sand layer and extended to the termination of each respective borehole. The maximum explored depth was approximately 16 feet below grade. For borings B-7, B-8, and MW-2, no appreciable groundwater was observed in the borings when left open overnight. The lithology encountered outside the building was fill material in the EBMUD main sewer line trench. The fill consisted of a sandy clay with gravel backfill from just below the asphalt and base material to approximately 8 feet below grade above approximately one-foot of saturated utility sand over the concrete sanitary sewer main utility pipeline.

3.2. HYDROLOGY

The potentiometric groundwater surface was calculated based on the surveyed elevations of the well casings less the depth to groundwater in each respective well. The groundwater elevation data indicated that groundwater was flowing north-northeast toward the sanitary sewer pipeline trench at a gradient of 0.09 ft/ft. The top of casing elevations and potentiometric groundwater surface elevations are presented in Table 3. The potentiometric surface elevation contours and groundwater flow direction are presented on Figure 3. Due to the very low permeability encountered, the groundwater surface in monitoring well MW-2 does not appear to have recovered prior to the water level measurement.

*preferential
flow*

3.3. ANALYTICAL RESULTS

Table 2 presents the analytical results for groundwater samples collected from the four temporary well points and five groundwater monitoring wells as well as all historic groundwater data. Additionally, TPH-G and benzene concentrations are presented on Figure 4.

Petroleum hydrocarbons and associated volatile organic compounds were detected groundwater samples collected from each temporary well point and monitoring well. TPH-G concentrations ranged from 210 ug/L (B-10) to 63,000 ug/L (B-7) and benzene concentrations ranged from 1.4 ug/L (B-10) to 11,000 ug/L (MW-2). The laboratory analytical data sheets and chain-of-custody documents is included in Appendix C.

4. CONCLUSIONS

Based on the analytical data for groundwater samples collected from recently installed monitoring wells and temporary well points, the extent of groundwater contamination from TPH-G and BTEX compounds has not been fully defined. Additional investigation is warranted.

Following the review of this report by the ACHCS, Clayton would like to arrange a meeting with ACHCS to discuss future investigation needs, potential remedial solutions, and case closure issues. As a result of the meeting, Clayton will prepare a workplan. The workplan will be submitted to ACHCS for comment and approval.

Table 1

Summary of Historical Soil Analytical Data
Former Lemoine Sausage Facility
Oakland, California

Sample Location	Sample Depth (feet)	Date Sampled	TPHG	MTBE	Benzene	Ethyl benzene	Toluene	Total Xylenes
B-1	2.5	8/29/97	<0.3	NA	<0.005	<0.005	<0.005	<0.005
B-1	5.5	8/29/97	30	NA	<0.03	<0.03	<0.03	<0.04
B-2	2.5	8/29/97	<0.3	NA	<0.005	<0.005	<0.005	<0.005
B-2	6	8/29/97	660	NA	<0.5	6	<0.5	10
B-3	2.5	8/29/97	27	NA	<0.1	<0.3	<0.1	<0.1
B-3	5	8/29/97	170	NA	<0.1	<0.1	<0.1	<0.1
B-4	2.5	8/29/97	<0.3	NA	<0.005	<0.005	<0.005	<0.005
B-4	6	8/29/97	25	NA	<0.1	<0.1	<0.2	<0.1
B-4	9.5	8/29/97	0.3	NA	<0.005	<0.005	<0.005	0.008
B-5	2.5	9/2/97	1.6	NA	0.009	0.012	0.005	0.045
B-5	6	9/2/97	<0.3	NA	<0.005	<0.005	<0.005	0.005

Notes:

1. All results in milligrams per kilogram (mg/kg)
2. NA = Not Analyzed

Table 2
Summary of Groundwater and Grab Groundwater Analytical Data
Former Lemoine Sausage Facility
Oakland, California

Sample Location	Date Sampled	TPHG	MTBE	Benzene	Ethyl benzene	Toluene	Total Xylenes	1,2-DCA
B-1	8/29/97	34,000	NA	430	2,400	54	4,649	NA
B-2	9/3/99	5,100	NA	2,800	43	120	140	NA
B-3	9/10/97	51,000	<5	14,000	290	5,900	7,100	410
B-4	9/3/97	100	NA	<0.4	<0.3	<0.3	<0.4	NA
B-5	9/10/97	78,000	<5	16,000	1,100	22,000	6,000	910
B-7	2/8/99	63,000	NA	5,900	2,700	4,100	9,600	160
B-8	2/8/99	140	NA	5.4	2.6	3.2	4.6	2.9
B-9	1/28/99	51,000	NA	240	640	5,600	3,150	<0.3
B-10	1/28/99	210	NA	1.4	1.9	16.0	100.8	<0.3
MW-1	2/8/99	48,000	NA	3,900	970	6,300	4,300	<30
MW-2	2/8/99	41,000	NA	11,000	650	4,900	1,720	60
MW-3	2/8/99	35,000	NA	1,200	1,400	3,400	4,900	<30
MW-4	2/8/99	15,000	NA	670	780	90	940	<30
MW-5	2/8/99	4,900	NA	780	230	440	370	<0.3

Notes:

All results in micrograms per liter (mg/L)

NA = Not Analyzed

1,2-DCA = 1,2-dichloroethane

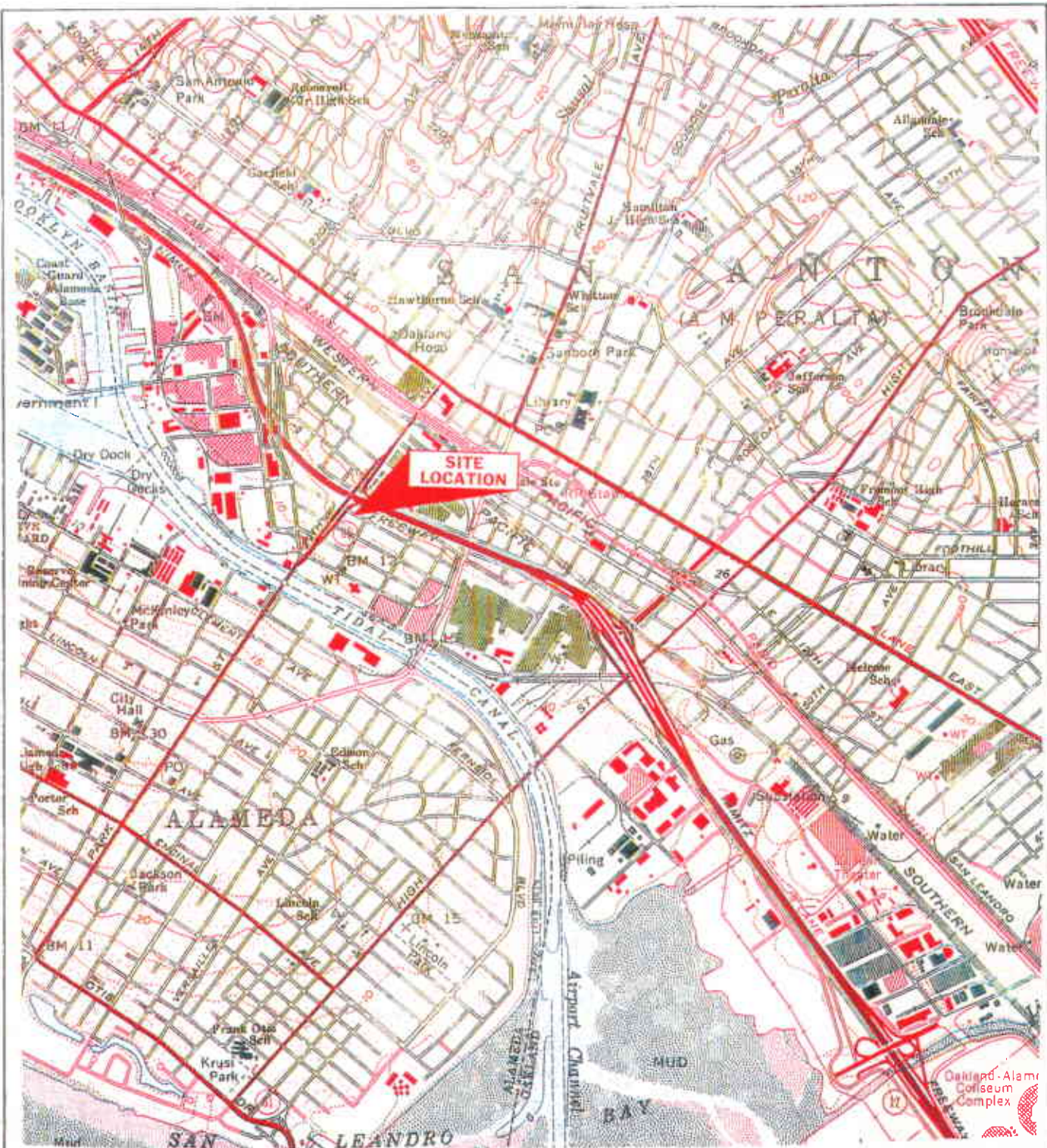
TPHG = Total Petroleum Hydrocarbons as Gasoline

MTBE = methyl tert-butyl ether

Table 3

Potentiometric Surface Groundwater Elevations
Former Lemoine Sausage Facility
Oakland, California

Well Identification	Date Measured	Top of Casing Elevation (ft,msl)	Depth to Water (feet)	Groundwater Elevation (feet,msl)
MW-1	2/8/99	16.69	3.6	13.09
MW-2	2/8/99	20.79	14.2	6.59 ?
MW-3	2/8/99	21.10	7.45	13.65
MW-4	2/8/99	17.78	4.13	13.65
MW-5	2/8/99	21.12	7.62	13.50



0 2,000

SCALE: FEET

Source: U.S.G.S. OAKLAND EAST, CALIF.,
7.5 Minute Quadrangle, 1959,
(photorevised 1980).

SITE LOCATION

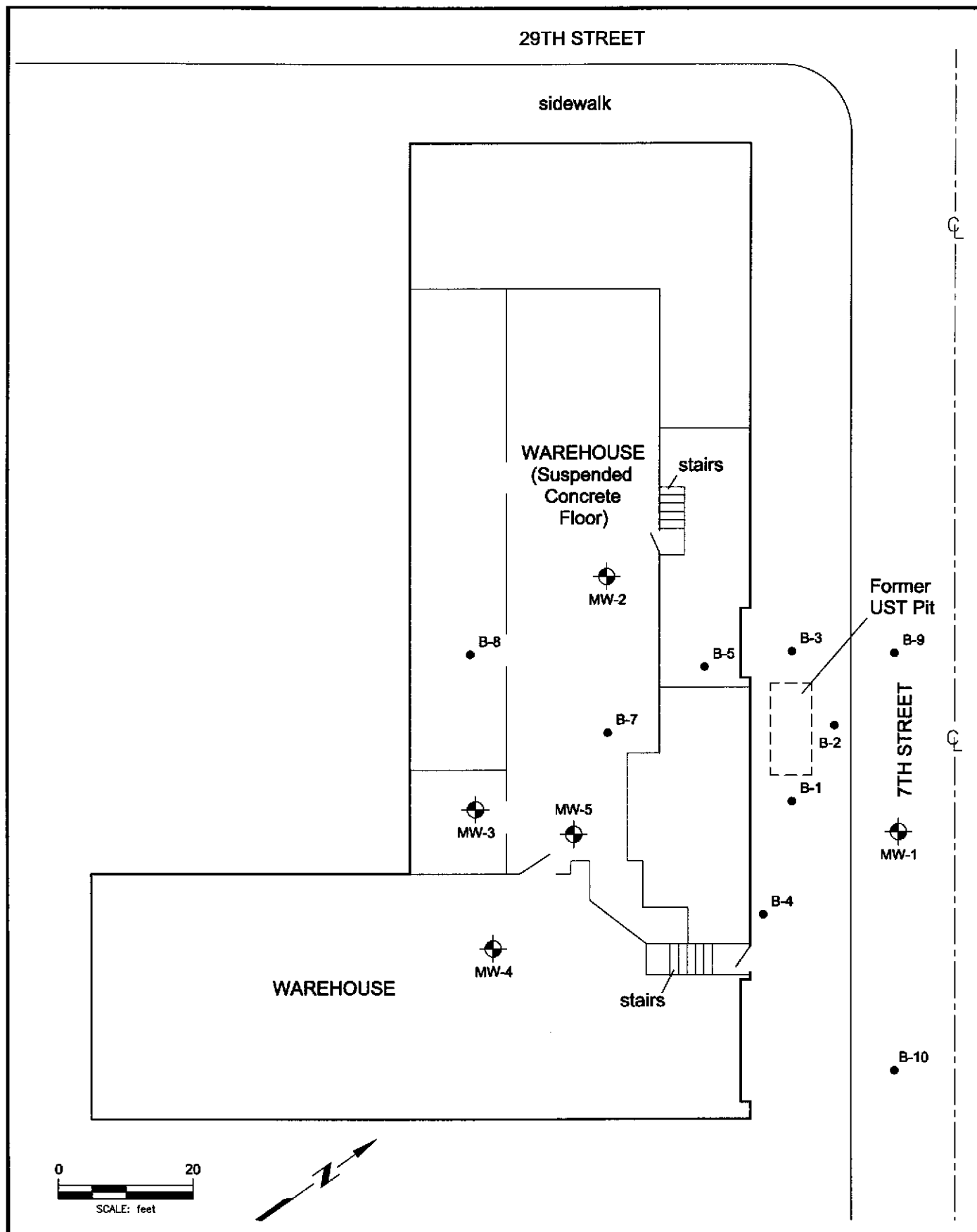
FORMER LEMOINE SAUSAGE FACTORY
630 29th AVENUE
OAKLAND, CALIFORNIA
Clayton Project No. 70-97066.00.002

Figure

1

03/20/90
LSF-0396.CDR

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LEGEND	
MW-1	Monitoring Well Location
B-1	Soil Boring/Temporary Monitoring Well Location

SOIL BORING AND MONITORING WELL LOCATION MAP

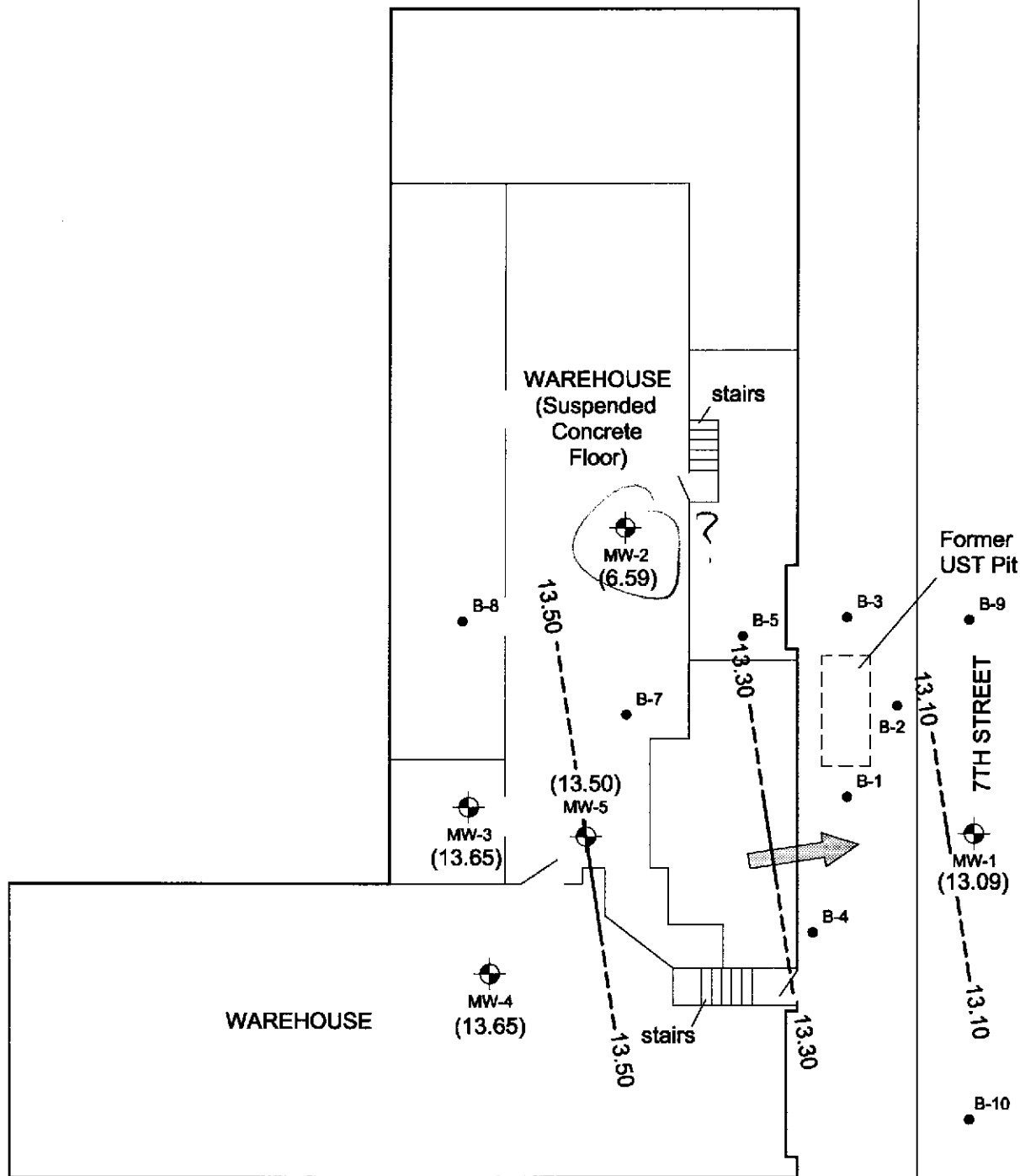
FORMER LEMOINE SAUSAGE FACTORY
 630 29TH AVENUE
 OAKLAND, CALIFORNIA
 Clayton Project No. 70-97066.00

Figure
2
 03/04/99
 SITE0299.DWG

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29TH STREET

sidewalk



LEGEND

- MW-1 Monitoring Well Location
- B-1 Soil Boring/Temporary Monitoring Well Location
- Groundwater Surface Contour and Groundwater Elevation

POTENTIOMETRIC GROUNDWATER SURFACE CONTOURS AND GROUNDWATER FLOW DIRECTION

FORMER LEMOINE SAUSAGE FACTORY
 630 29TH AVENUE
 OAKLAND, CALIFORNIA
 Clayton Project No. 70-97068.00

Figure

3

03/04/99
 SITE0299.DWG

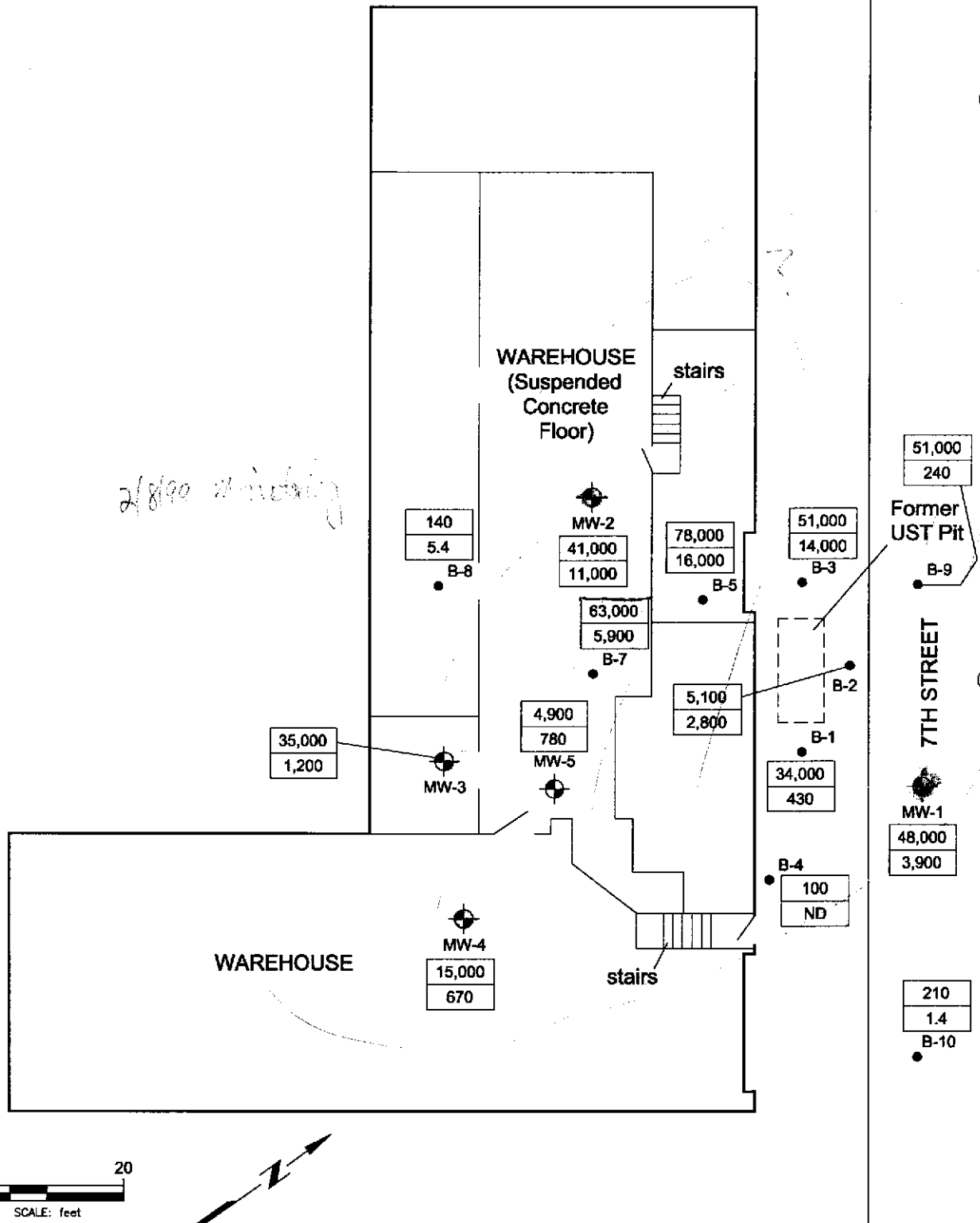
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29TH STREET

Note:
ND Not detected above laboratory reporting limits.

sidewalk

2/8/99 re-investing



LEGEND

- MW-1 Monitoring Well Location
- B-1 Soil Boring/Temporary Monitoring Well Location
- 35,000 TPH-G Concentration (micrograms per liter)
- 12,000 Benzene Concentration (micrograms per liter)

TPH-G AND BENZENE CONCENTRATIONS IN GROUNDWATER

FORMER LEMOINE SAUSAGE FACTORY
630 29TH AVENUE
OAKLAND, CALIFORNIA
Clayton Project No. 70-97068.00

Figure

4

03/04/99
SITE0299.DWG

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APPENDIX A

BORING LOGS AND WELL CONSTRUCTION DETAILS

AND

WELL DEVELOPMENT AND SAMPLING FIELD SHEETS

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LOG OF BORING MW_1


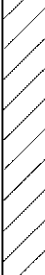


(Page 1 of 1)

SITE INVESTIGATION
 FORMER LEMOINE SAUSAGE FACTORY
 630 29TH AVENUE
 OAKLAND, CALIFORNIA

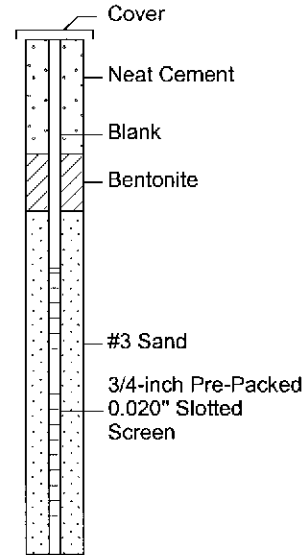
Clayton Project No.: 70-97066.00

Date Started : 1-28-99
 Date Completed : 1-28-99
 Hole Diameter : 2 in.
 Drilling Method : Geoprobe
 Sampling Method :

Driller : Vironex
 Logged By : M. Hanko
 Surface (Rim) Elevation: 16.99 ft,msl
 Top of Well Casing : 16.69 ft,msl
 Survey By : V. Chavez

Depth in Feet	Surf. Elev. 16.99	USCS	GRAPHIC	DESCRIPTION
0		AS/FL		Asphalt and Base Material
16		CL		Sandy CLAY (CL) with gravel (10,30,25,35), dark brown (10YR 4/2), very stiff, <1/4" angular gravel, saturated gravel lens at 5.5-6.0 feet bgs
5		CL		Silty CLAY (CL) with gravel (10,10,35,45), dark gray (10YR 3/1), very stiff, 1-inch gravel, strong HC odor
11		SP		SAND (SP) (0,100,0,0), dark gray (10YR 3/1), loose, saturated, strong HC odor
10		Refusal at 9 feet bgs due to concrete.		
6				
15				
1				
20				

Well1: MW-1
 Elev.: 16.99



Notes:

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LOG OF BORING MW_2

(Page 1 of 1)

SITE INVESTIGATION
 FORMER LEMOINE SAUSAGE FACTORY
 630 29TH AVENUE
 OAKLAND, CALIFORNIA

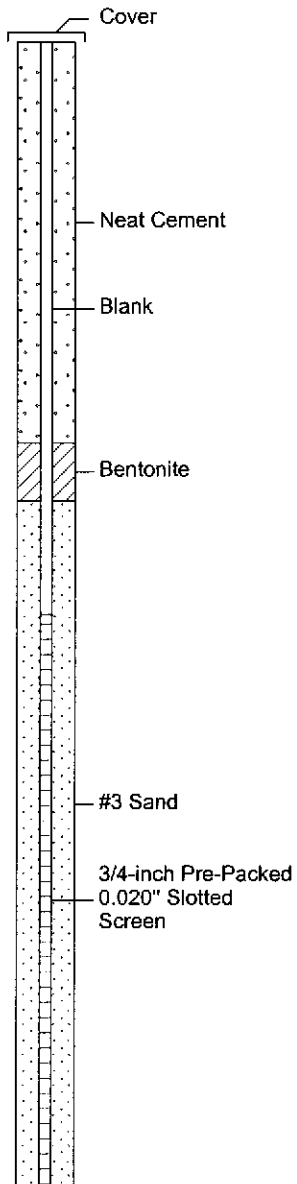
Date Started : 1-27-99
 Date Completed : 1-27-99
 Hole Diameter : 2 in.
 Drilling Method : Geoprobe
 Sampling Method :

Driller : Vironex
 Logged By : M. Hanko
 Surface (Rim) Elevation : 21.24 ft,msl
 Top of Well Casing : 20.79 ft,msl
 Survey By : V. Chavez

Clayton Project No.: 70-97066.00

Depth in Feet	Surf. Elev. 21.24	USCS	GRAPHIC	DESCRIPTION
0	21	CC		Suspended Slab, various layers of concrete slabs, wood slabs, steel slabs, and rubble
5	16	ML		Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic
10	11	SM		Silty SAND (SM) with gravel (5,60,30,5), brown (10YR 5/3), moist, dense, angular 1/4" gravel, fine sand
15	6	ML		Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic
20				

Well1: MW-2
 Elev.: 21.24



Notes: Petroleum odor @13' bgs, retained sample @ 13'.

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LOG OF BORING MW_3

(Page 1 of 1)

SITE INVESTIGATION
 FORMER LEMOINE SAUSAGE FACTORY
 630 29TH AVENUE
 OAKLAND, CALIFORNIA

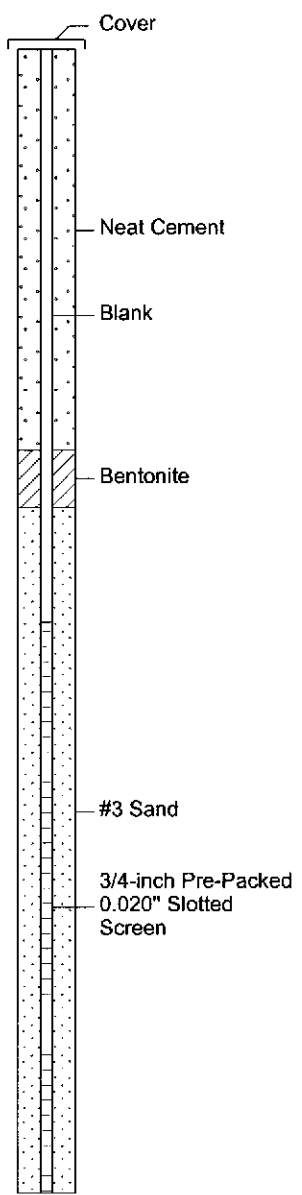
Clayton Project No.: 70-97066.00

Date Started : 1-27-99
 Date Completed : 1-27-99
 Hole Diameter : 2 in.
 Drilling Method : Geoprobe
 Sampling Method :

Driller : Vironex
 Logged By : M. Hanko
 Surface (Rim) Elevation: 21.30 ft,msl
 Top of Well Casing : 21.10 ft,msl
 Survey By : V. Chavez

Depth in Feet	Surf. Elev. 21.30	USCS	GRAPHIC	DESCRIPTION
0	21	CC	+	Suspended Slab, various layers of concrete slabs, wood slabs, steel slabs, and rubble
5	16	ML		Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic
10	11	SC	▨	Clayey SAND (SC) with gravel, brown (10YR 5/3), slightly moist, saturated at 11.5 - 12.5 feet below the warehouse floor <i>~12-5 ft DTW</i>
15	6	ML		Silty CLAY (CL) (0,5,45,50), light brown (10YR5/3), very stiff to hard, slightly moist
20				

Well1: MW-3
 Elev.: 21.3



Notes:

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LOG OF BORING MW_4

(Page 1 of 1)

SITE INVESTIGATION
FORMER LEMOINE SAUSAGE FACTORY
 630 29TH AVENUE
 OAKLAND, CALIFORNIA

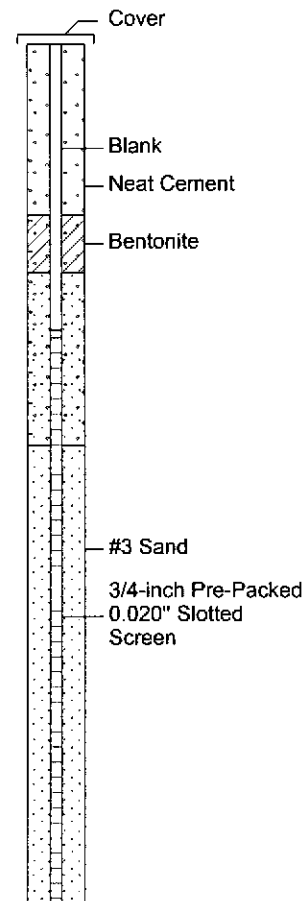
Clayton Project No.: 70-97066.00

Date Started : 1-28-99
 Date Completed : 1-28-99
 Hole Diameter : 2 in.
 Drilling Method : Geoprobe
 Sampling Method :

Driller : Vironex
 Logged By : M. Hanko
 Surface (Rim) Elevation : 17.92 ft,msl
 Top of Well Casing : 17.78 ft,msl
 Survey By : V. Chavez

Depth in Feet	Surf. Elev. 17.92	USCS	GRAPHIC	DESCRIPTION
0		CC	+	CONCRETE Floor
17		ML		Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic
5		SC		Clayey SAND (SC) with gravel, brown (10YR 5/3), slightly moist, saturated at 8.5 - 9.5 feet bgs
12		CL		Silty CLAY (CL) (0,5,45,50), light brown (10YR5/3), very stiff to hard, slightly moist
10	7			
15				
20	2			

Well1: MW-4
 Elev.: 17.92



Notes:

SITE INVESTIGATION
FORMER LEMOINE SAUSAGE FACTORY
630 29TH AVENUE
OAKLAND, CALIFORNIA

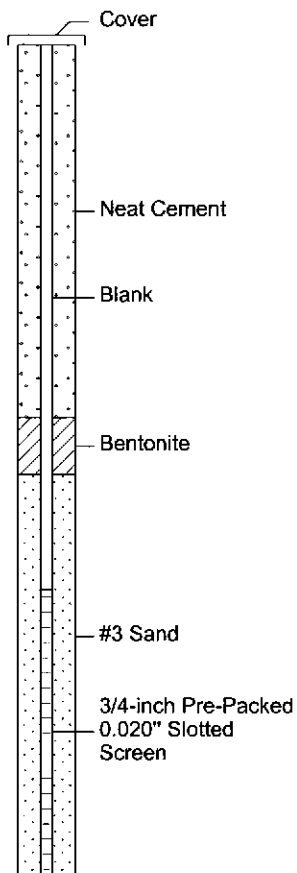
Clayton Project No.: 70-97066.00

Date Started : 1-27-99
Date Completed : 1-27-99
Hole Diameter : 2 in.
Drilling Method : Geoprobe
Sampling Method :

Driller : Vironex
Logged By : M. Hanko
Surface (Rim) Elevation not determined
Top of Well Casing : 21.12 ft.msl
Survey By : V. Chavez

Depth in Feet	Surf. Elev. 21.5	USCS	GRAPHIC	DESCRIPTION
0	21	CC	+	Suspended Slab, various layers of concrete slabs, wood slabs, steel slabs, and rubble
5	16	ML		Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic
10	11	SM		Silty SAND (SM) with gravel (5,60,30,5), brown (10YR 5/3), moist, dense, angular 1/4" gravel, fine sand
15	6	ML		Clayey SILT (ML) (5,10,50,35), stiff, slightly moist, very plastic
15	6			Borehole collapsed from 16 to 14.5 feet bgs prior to installation of casing.
20				

Well1: MW-5
Elev.: 21.5



Notes: Arbitrary surface datum set at 21.5 feet.

Clayton

Environmental Consultants

LOG OF BORING B-7

(Page 1 of 1)

SITE INVESTIGATION
 FORMER LEMOINE SAUSAGE FACTORY
 630 29TH AVENUE
 OAKLAND, CALIFORNIA

Date Started : 1-27-99
 Date Completed : 1-27-99
 Hole Diameter : 2 in.
 Drilling Method : Geoprobe
 Sampling Method :

Driller : Vironex
 Logged By : M. Hanko

Clayton Project No.: 70-97066.00

Depth in Feet	Surf. Elev. 18	USCS	GRAPHIC	DESCRIPTION
0	18			CONCRETE Floor
		CC	+	
			+	
			+	
			+	
			+	
			+	
			+	
			+	
			+	
			+	
5	13	ML		Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic
		SM		Silty SAND (SM) with gravel (5,60,30,5), brown (10YR 5/3), moist, dense, angular 1/4" gravel, fine sand
10	8	ML		Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic, HC odor in soil
15	3			
20				

Notes: Arbitrary surface datum set at 18 feet.

Clayton

Environmental Consultants

LOG OF BORING B-8




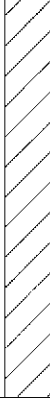
(Page 1 of 1)

SITE INVESTIGATION
 FORMER LEMOINE SAUSAGE FACTORY
 630 29TH AVENUE
 OAKLAND, CALIFORNIA

Date Started : 1-27-99
 Date Completed : 1-27-99
 Hole Diameter : 2 in.
 Drilling Method : Geoprobe
 Sampling Method :

Driller : Vironex
 Logged By : M. Hanko

Clayton Project No.: 70-97066.00

Depth in Feet	Surf. Elev. 18	USCS	GRAPHIC	DESCRIPTION
0	18			CONCRETE Floor
		CC		
5	13	ML		Clayey SILT (ML) (0,0,70,30), dark gray (10YR 3/1), medium stiff, slightly moist, plastic
		ML		Sandy SILT (ML) (0,20,60,20), grayish brown (10YR 4/2), slightly moist, stiff
10	8	CL		Silty CLAY (CL) (0,25,35,40), yellowish brown (10YR 4/3), very stiff, slightly moist
15	3			
20				

Notes: Arbitrary surface datum set a t 18 feet.

Clayton

Environmental Consultants

LOG OF BORING B-9


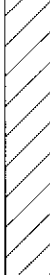


(Page 1 of 1)

SITE INVESTIGATION
 FORMER LEMOINE SAUSAGE FACTORY
 630 29TH AVENUE
 OAKLAND, CALIFORNIA

Clayton Project No.: 70-97066.00

Date Started : 1-28-99
 Date Completed : 1-28-99
 Hole Diameter : 2 in.
 Drilling Method : Geoprobe
 Sampling Method :

Driller : Vironex
 Logged By : M. Hanko

Depth in Feet	Surf. Elev. 18	USCS	GRAPHIC	DESCRIPTION
0	18	AS/FL		Asphalt and Base Material
		CL		Sandy CLAY (CL) with gravel (10,30,25,35), dark brown (10YR 4/2), very stiff, <1/4" angular gravel
				Static water at 3.6 feet bgs
5	13			saturated gravel lens at 5.5-6.0 feet bgs
		CL		Silty CLAY (CL) with gravel (10,10,35,45), dark gray (10YR 3/1), very stiff, 1-inch gravel, strong HC odor
		SP		SAND (SP) (0,100,0,0), dark gray (10YR 3/1), very stiff, saturated, strong HC odor
10	8			Refusal at 9 feet bgs due to sanitary sewer pipeline .
15	3			
20				

Notes: Arbitrary surface datum set at 18 feet.

Clayton

Environmental Consultants

LOG OF BORING B-10


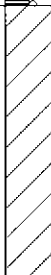


(Page 1 of 1)

SITE INVESTIGATION
 FORMER LEMOINE SAUSAGE FACTORY
 630 29TH AVENUE
 OAKLAND, CALIFORNIA

Clayton Project No.: 70-97066.00

Date Started : 1-28-99
 Date Completed : 1-28-99
 Hole Diameter : 2 in.
 Drilling Method : Geoprobe
 Sampling Method :

Driller : Vironex
 Logged By : M. Hanko

Depth in Feet	Surf. Elev. 18	USCS	GRAPHIC	DESCRIPTION
0	18	AS/FL		Asphalt and Base Material
		CL		Sandy CLAY (CL) with gravel (10,30,25,35), dark brown (10YR 4/2), very stiff, <1/4" angular gravel Static water at 3.6 feet bgs
5	13			saturated gravel lens at 5.5-6.0 feet bgs
		CL		Silty CLAY (CL) with gravel (10,10,35,45), dark gray (10YR 3/1), very stiff, 1-inch gravel, strong HC odor
		SP		SAND (SP) (0,100,0,0), dark gray (10YR 3/1), very stiff, saturated, strong HC odor
10	8			Refusal at 9 feet bgs due to sanitary sewer pipeline.
15	3			
20				

Notes: Arbitrary surface datum set at 18 feet.

MONITORING WELL DATA SHEET

DATE: 2/2/99
 CLIENT: STURGE FACTORY
 FACILITY: 630 29TH AVE
OAKLAND, CA

PROJECT #: 70-97066,00,000
 MILEAGE: _____
 FIELD TECH: MAM
 PAGE: 1 OF 1

WELL #	B-8	MW-1 ³	MW-2	B-7	B-6 ^{MW-5}	MW-4	MW-1
TIME OPENED (24 hr)	1254	1257	1256	1255	1255	1258	B00
TIME (24 hr)	1308	1311	1305	1303	1313	1315	1317
WATER DEPTH (ft)	<u>5' TAPE</u> 16.66	12.99	21.98	13.85	12.72	9.81	8.96
WELL DEPTH (ft)	19.94	24.59	24.78	18.92	19.04	18.53	13.39
WELL DIAMETER (in)	3/4"	3/4"	3/4"	.75"	3/4"	3/4"	3/4"
WELL VOLUME (gal)	^{0.0259/ft} 0.082	0.29	0.07	0.12	0.16	0.22	0.22
SHEEN OR FILM							
PRODUCT THICKNESS (ft)							
FIELD SAMPLE COLOR							
PURGE							
DEVELOP							
SAMPLE							
METHOD							
PURGED WATER VOL. (gal)							
PURGED COLOR							
PURGED PROD. VOL. (gal)							
PURGE SEQUENCE							
PROD DETECT METHOD							

COMMENTS:
 0.44 5.29 6.72/ft

SAMPLING DATA SHEET

JOB LOCATION: 630 29TH AVE
OAKLAND, CA

DATE PURGED: 2/2/99
PURGE METHOD: PERISTALTIC PUMP

SAMPLING LOCATION: B-7

DATE & TIME SAMPLED: N/A
SAMPLING METHOD: N/A

DEPTH TO WATER: 8 8.85

SAMPLE TYPE: GRAB COMPOSITE

WELL BOTTOM DEPTH: 13.92

PRESERVATIVES: N/A

WELL CASING VOLUME: 0.12

OF CONTAINERS: N/A

CASING VOLUMES PURGED:

FIELD TECH: MRM

PURGE RATE: WEATHER CONDITIONS: WINDY/COOL

TIME (24 hr)	VOLUME REMOVED (gal)	ELECTRICAL CONDUCTIVITY (µmhos/cm)	PH	TEMPERATURE (°F)	TURBIDITY (ntu)
1405	0	5.77 x1000	6.56	55.7	DK BRN
1407	2 QTS	6.46 "	6.47	57.2	"
	BAILED DRY ADDED 1/2 GHA				
1415	2.2 QTS	RECOVERED			BRN

NOTES:

SAMPLING DATA SHEET

JOB LOCATION: 630 29TH AVE
OAKLAND, CA

DATE PURGED: 2/2/99
PURGE METHOD: PERISTALTIC PUMP

SAMPLING LOCATION: MW-1

DATE & TIME SAMPLED: N/A
SAMPLING METHOD: N/A

DEPTH TO WATER: 38.96

SAMPLE TYPE: GRAB COMPOSITE

WELL BOTTOM DEPTH: 83.39

PRESERVATIVES: N/A

WELL CASING VOLUME: 0.22 GAL

OF CONTAINERS: N/A

CASING VOLUMES PURGED:

FIELD TECH: MRM

PURGE RATE:

WEATHER CONDITIONS: SUNNY/COOL

TIME (24 hr)	VOLUME REMOVED (gal)	ELECTRICAL CONDUCTIVITY (µmhos/cm)	PH	TEMPERATURE (°f)	TURBIDITY (ntu)
1658	0	1.61 x1002	7.05	53.4	DK GREY
1600	BALLED	DRY 1 RT			
		1.54 x1000	7.05	52.7	GREY
1602	ADDED 2 GTS & FILLED CASING				
1620	RECOVERED 3.5 RTS				

NOTES: OODR/SHEEN

SAMPLING DATA SHEET

JOB LOCATION: 630 29th AVE
OAKLAND, CA

DATE PURGED: 2/2/99
PURGE METHOD: PERISTALTIC PUMP

SAMPLING LOCATION: MW-2

DATE & TIME SAMPLED: N/A

DEPTH TO WATER: 7.99

SAMPLING METHOD: N/A

WELL BOTTOM DEPTH: 19.59

SAMPLE TYPE: GRAB COMPOSITE

WELL CASING VOLUME: 0.29 GAL

PRESERVATIVES: N/A

CASING VOLUMES PURGED:

OF CONTAINERS: N/A

PURGE RATE:

FIELD TECH: MRM

WEATHER CONDITIONS: IMPROV/COOL

TIME (24 hr)	VOLUME REMOVED (gal)	ELECTRICAL CONDUCTIVITY (μ mhos/cm)	PH	TEMPERATURE ($^{\circ}$ f)	TURBIDITY (ntu)
1420	0	2.58 x 1000	6.47	57.7	LT. BRN
1424	1/2 QT	7.42 "	6.56	57.2	"
1433	ADDED	1/2 GAL	RECOVERED		

NOTES:

SAMPLING DATA SHEET

JOB LOCATION: 630 29TH AVE
OAKLAND, CA

DATE PURGED: 2/2/99
PURGE METHOD: PERRY PUMP

SAMPLING LOCATION: MW-3

DATE & TIME SAMPLED: N/A
SAMPLING METHOD: N/A

DEPTH TO WATER: 8.99

SAMPLE TYPE: GRAB COMPOSITE

WELL BOTTOM DEPTH: 19.59

PRESERVATIVES: N/A

WELL CASING VOLUME: 0.0929

OF CONTAINERS: N/A

CASING VOLUMES PURGED:

FIELD TECH: MRN

PURGE RATE:

WEATHER CONDITIONS: ELDORADO COOL

TIME (24 hr)	VOLUME REMOVED (gal)	ELECTRICAL CONDUCTIVITY (µmhos/cm)	PH	TEMPERATURE F. (°F)	TURBIDITY (ntu)
1337	0	11.14 x1000	6.48	61.0	DK GRY
1341	3 QTS	10.19 "	6.30	60.0	GRY
1344	+3 QTS	9.63 "	6.24	59.2	LT. GRY

NOTES: ODOR/SHEEN

SAMPLING DATA SHEET

JOB LOCATION: 630 29TH AVE.
OAKLAND, CA

DATE PURGED: 2/2/99

PURGE METHOD: PERISTALTIC PUMP

SAMPLING LOCATION: MW-4

DATE & TIME SAMPLED: N/A

SAMPLING METHOD: N/A

DEPTH TO WATER: 48.81

SAMPLE TYPE: GRAB COMPOSITE

WELL BOTTOM DEPTH: 13.58

PRESERVATIVES: N/A

WELL CASING VOLUME: 0.22 GAL

OF CONTAINERS: N/A

CASING VOLUMES PURGED:

FIELD TECH: MRM

PURGE RATE:

WEATHER CONDITIONS: 100% / 60.1

TIME (24 hr)	VOLUME REMOVED (gal)	ELECTRICAL CONDUCTIVITY (µmhos/cm)	PH	TEMPERATURE (°F)	TURBIDITY (ntu)
1548	0	2.32	7.42	56.3	DK BRN
1549	2 GTS	1.69 "	7.37	56.2	BRN
1551	1 gal	1.81 "	7.21	56.8	LT. BRN

NOTES: GAS ODER

MONITORING WELL DATA SHEET

DATE: 2/8/99
 CLIENT: PAUSAGE FACTORY
 FACILITY: _____

PROJECT #: _____
 MILEAGE: _____
 FIELD TECH: _____
 PAGE: OF: _____

WELL #	MW-1	MW-2	MW-3	MW-4	B-6 MW-5	B-7	B-8
TIME OPENED (24 hr)	OPEN						
TIME (24 hr)	1121	1126	1129	1133	1136	1138	1141
WATER DEPTH (ft) ^{-5" TAP}	8.60	19.20	12.45	9.13	12.62	13.24	15.10
WELL DEPTH (ft)	24.78 24.39	24.78	24.59	9.81	19.04	18.92	19.74
WELL DIAMETER (in)	0.22						
WELL VOLUME (gal)							
SHEEN OR FILM ^{80%}	9.56	19.56			13.90	14.38	16.09
PRODUCT THICKNESS (ft)							
FIELD SAMPLE COLOR							
PURGE							
DEVELOP							
SAMPLE							
METHOD							
PURGED WATER VOL. (gal)							
PURGED COLOR							
PURGED PROD. VOL. (gal)							
PURGE SEQUENCE							
ROD DETECT METHOD							

COMMENTS:

APPENDIX B
WELL SURVEY REPORT

Virgil Chavez Land Surveying

312 Georgia Street, Suite 200
Vallejo, California 94590
(707) 553-2476 • Fax (707) 553-8698

March 2, 1999
Project No. 1605-01

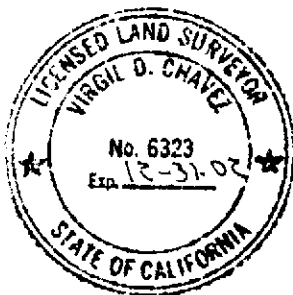
Matt Hanko
Clayton Environmental Consultants
1252 Quarry Lane
Pleasanton, Ca. 94566

Subject: Monitoring Well Survey
630 29th Ave.
Oakland, Ca.

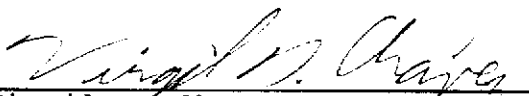
Dear Matt:

This is to confirm that we have proceeded at your request to survey the monitoring wells at the above referenced site. Our findings are shown in the tables below. The survey was performed on March 1, 1999. Measurement locations were marked at approximate north side of top of casing, and top of box. The face of building on 7th Street was used as reference line for top of casing locations. The benchmark for the survey was a cut square in the easterly curb return at the northerly corner of Peterson Street & East 7th Street. Benchmark Elevation = 17.91 feet, MSL.

<u>Well No.</u>	<u>Rim Elevation</u>	<u>TOC Elevation</u>	<u>Station</u>	<u>Offset</u>
MW - 1	16.99'	16.69'	1+02.87	-21.09(Lt.)
MW - 2	21.24'	20.79'	0+66.12	21.05(Rt.)
MW - 3	21.30'	21.10'	0+98.06	39.66(Rt.)
MW - 4	17.92'	17.78'	1+19.51	36.00(Rt.)
MW - 5	---	21.12'	1+01.43	24.83(Rt.)
N'ly Bldg Cor.			0+00	0.00
Bldg Face-7th Street			---	0.00



Sincerely,


Virgil D. Chavez, PLS 6323

APPENDIX C

**LABORATORY ANALYTICAL DATA REPORT AND CHAIN-OF-
CUSTODY DOCUMENTS**

San Francisco Regional Office

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(925) 426-2600
Fax (925) 426-0106

Clayton
LABORATORY
SERVICES

February 18, 1999

Mr. Matt Hanco
CLAYTON ENVIRONMENTAL CONS.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 70-97066.00
Clayton Project No.: 99012.52


Dear Mr. Hanco:

Attached is our analytical laboratory report for the samples received on January 28, 1999. 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 March 18, 1999, unless you have requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact Client Services at (925) 426-2657.

Sincerely,


Patricia Flynn
Client Services Representative
San Francisco Regional Office

PVF/pvf

Attachments

California DHS ELAP Certification Number 1196

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00
Clayton Project No. 99012.52

Sample Identification: B-9	Date Sampled: 01/28/99
Lab Number: 9901252-01C	Date Received: 01/28/99
Sample Matrix/Media: WATER	Date Analyzed: 02/03/99
Preparation Method: EPA 5030	Analyst: MSF
Method Reference: EPA 8010	

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons</u>			
Bromodichloromethane	75-27-4	ND	0.7
Bromoform	75-25-2	ND	0.7
Bromomethane	74-83-9	ND	0.7
Carbon tetrachloride	56-23-5	ND	0.6
Chlorobenzene	108-90-7	ND	0.7
Chloroethane	75-00-3	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.6
Dibromochloromethane	124-48-1	ND	0.6
1,2-Dibromoethane	106-93-4	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	1
1,1-Dichloroethane	75-34-3	ND	0.4
1,2-Dichloroethane	107-06-2	ND	0.3
1,1-Dichloroethene	75-35-4	ND	0.2
cis-1,2-Dichloroethene	156-59-2	ND	0.4
trans-1,2-Dichloroethene	156-60-5	ND	0.4
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.6
Freon 113	76-13-1	ND	0.6
Methylene chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trichloroethene	79-01-6	ND	0.3
Trichlorofluoromethane	75-69-4	ND	0.4

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00
Clayton Project No. 99012.52

Sample Identification: B-9	Date Sampled: 01/28/99
Lab Number: 9901252-01C	Date Received: 01/28/99
Sample Matrix/Media: WATER	Date Analyzed: 02/03/99
Preparation Method: EPA 5030	Analyst: MSF
Method Reference: EPA 8010	

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	0.5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	96	70 - 130

ND: Not detected at or above limit of detection

--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00
Clayton Project No. 99012.52

Sample Identification: B-10
Lab Number: 9901252-02C
Sample Matrix/Media: WATER
Preparation Method: EPA 5030
Method Reference: EPA 8010

Date Sampled: 01/28/99
Date Received: 01/28/99
Date Analyzed: 02/04/99
Analyst: MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons</u>			
Bromodichloromethane	75-27-4	ND	0.7
Bromoform	75-25-2	ND	0.7
Bromomethane	74-83-9	ND	0.7
Carbon tetrachloride	56-23-5	ND	0.6
Chlorobenzene	108-90-7	ND	0.7
Chloroethane	75-00-3	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.6
Dibromochloromethane	124-48-1	ND	0.6
1,2-Dibromoethane	106-93-4	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	1
1,1-Dichloroethane	75-34-3	ND	0.4
1,2-Dichloroethane	107-06-2	ND	0.3
1,1-Dichloroethene	75-35-4	ND	0.2
cis-1,2-Dichloroethene	156-59-2	ND	0.4
trans-1,2-Dichloroethene	156-60-5	ND	0.4
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.6
Freon 113	76-13-1	ND	0.6
Methylene chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trichloroethene	79-01-6	ND	0.3
Trichlorofluoromethane	75-69-4	ND	0.4

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00
Clayton Project No. 99012.52

Sample Identification:	B-10	Date Sampled:	01/28/99
Lab Number:	9901252-02C	Date Received:	01/28/99
Sample Matrix/Media:	WATER	Date Analyzed:	02/04/99
Preparation Method:	EPA 5030	Analyst:	MSF
Method Reference:	EPA 8010		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	0.5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	88	70 - 130

ND: Not detected at or above limit of detection

--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00
Clayton Project No. 99012.52

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9901252-05A	Date Received:	--
Sample Matrix/Media:	WATER	Date Analyzed:	02/03/99
Preparation Method:	EPA 5030	Analyst:	MSF
Method Reference:	EPA 8010		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons</u>			
Bromodichloromethane	75-27-4	ND	0.7
Bromoform	75-25-2	ND	0.7
Bromomethane	74-83-9	ND	0.7
Carbon tetrachloride	56-23-5	ND	0.6
Chlorobenzene	108-90-7	ND	0.7
Chloroethane	75-00-3	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.6
Dibromochloromethane	124-48-1	ND	0.6
1,2-Dibromoethane	106-93-4	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	1
1,1-Dichloroethane	75-34-3	ND	0.4
1,2-Dichloroethane	107-06-2	ND	0.3
1,1-Dichloroethene	75-35-4	ND	0.2
cis-1,2-Dichloroethene	156-59-2	ND	0.4
trans-1,2-Dichloroethene	156-60-5	ND	0.4
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.6
Freon 113	76-13-1	ND	0.6
Methylene chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trichloroethene	79-01-6	ND	0.3
Trichlorofluoromethane	75-69-4	ND	0.4

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00
Clayton Project No. 99012.52

Sample Identification: METHOD BLANK	Date Sampled: --
Lab Number: 9901252-05A	Date Received: --
Sample Matrix/Media: WATER	Date Analyzed: 02/03/99
Preparation Method: EPA 5030	Analyst: MSF
Method Reference: EPA 8010	

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	0.5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	85	70 - 130

ND: Not detected at or above limit of detection

--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00
Clayton Project No. 99012.52

Sample Identification: MW-2 @ 13'	Date Sampled: 01/27/99
Lab Number: 9901252-03A	Date Received: 01/28/99
Sample Matrix/Media: SOIL	Date Prepared: 01/29/99
Preparation Method: EPA 5030	Date Analyzed: 01/29/99
Method Reference: EPA 8015/8020	Analyst: ASC

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	0.085	0.005
Ethylbenzene	100-41-4	1.7	0.005
Toluene	108-88-3	0.18	0.005
o-Xylene	95-47-6	0.13	0.005
p,m-Xylenes	--	0.73	0.005
Gasoline	--	160	0.3
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	108	50 - 150

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

Results are reported on a wet-weight basis, as received.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00
Clayton Project No. 99012.52

Sample Identification: METHOD BLANK	Date Sampled: --
Lab Number: 9901252-06A	Date Received: --
Sample Matrix/Media: SOIL	Date Prepared: 01/29/99
Preparation Method: EPA 5030	Date Analyzed: 01/29/99
Method Reference: EPA 8015/8020	Analyst: ASC

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	119	50 - 150

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

Results are reported on a wet-weight basis, as received.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00
Clayton Project No. 99012.52

Sample Identification: B-9	Date Sampled: 01/28/99
Lab Number: 9901252-01A	Date Received: 01/28/99
Sample Matrix/Media: WATER	Date Prepared: 02/08/99
Preparation Method: EPA 5030	Date Analyzed: 02/08/99
Method Reference: EPA 8015/8020	Analyst: ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	240	20
Ethylbenzene	100-41-4	640	20
Toluene	108-88-3	5600	20
o-Xylene	95-47-6	950	20
p,m-Xylenes	--	2200	20
Gasoline	--	51000	3000
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	126	50 - 150

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00
Clayton Project No. 99012.52

Sample Identification: B-10	Date Sampled: 01/28/99
Lab Number: 9901252-02A	Date Received: 01/28/99
Sample Matrix/Media: WATER	Date Prepared: 02/08/99
Preparation Method: EPA 5030	Date Analyzed: 02/08/99
Method Reference: EPA 8015/8020	Analyst: ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	1.4	0.4
Ethylbenzene	100-41-4	1.9	0.3
Toluene	108-88-3	16	0.3
o-Xylene	95-47-6	3.2	0.4
p,m-Xylenes	--	7.6	0.4
Gasoline	--	210	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	111	50 - 150

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00
Clayton Project No. 99012.52

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9901252-05A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	02/08/99
Preparation Method:	EPA 5030	Date Analyzed:	02/08/99
Method Reference:	EPA 8015/8020	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (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	122	50 - 150

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

San Francisco Regional Office

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(925) 426-2600
Fax (925) 426-0106

Clayton
LABORATORY
SERVICES

February 19, 1999

Mr. Marc Mullaney
CLAYTON ENVIRONMENTAL CONS.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 70-97066.00.000
Clayton Project No.: 99020.84

Dear Mr. Mullaney:

Attached is our analytical laboratory report for the samples received on February 8, 1999. 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 March 21, 1999, unless you have requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact Client Services at (925) 426-2657.

Sincerely,



Patricia Flynn
Client Services Representative
San Francisco Regional Office

PVF/pvf

Attachments

California DHS ELAP Certification Number 1196

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: B-7 15:05	Date Sampled: 02/08/99
Lab Number: 9902084-04A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/19/99
Preparation Method: EPA 5030	Date Analyzed: 02/19/99
Method Reference: EPA 8010	Analyst: MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons</u>			
Bromodichloromethane	75-27-4	ND	70
Bromoform	75-25-2	ND	70
Bromomethane	74-83-9	ND	70
Carbon tetrachloride	56-23-5	ND	60
Chlorobenzene	108-90-7	ND	70
Chloroethane	75-00-3	ND	50
Chloroform	67-66-3	ND	50
Chloromethane	74-87-3	ND	60
Dibromochloromethane	124-48-1	ND	60
1,2-Dibromoethane	106-93-4	ND	50
1,2-Dichlorobenzene	95-50-1	ND	50
1,3-Dichlorobenzene	541-73-1	ND	50
1,4-Dichlorobenzene	106-46-7	ND	50
Dichlorodifluoromethane	75-71-8	ND	100
1,1-Dichloroethane	75-34-3	ND	40
1,2-Dichloroethane	107-06-2	160	30
1,1-Dichloroethene	75-35-4	ND	20
cis-1,2-Dichloroethene	156-59-2	ND	40
trans-1,2-Dichloroethene	156-60-5	ND	40
1,2-Dichloropropane	78-87-5	ND	50
cis-1,3-Dichloropropene	10061-01-5	ND	50
trans-1,3-Dichloropropene	10061-02-6	ND	60
Freon 113	76-13-1	ND	60
Methylene chloride	75-09-2	ND	200
1,1,2,2-Tetrachloroethane	79-34-5	ND	50
Tetrachloroethene	127-18-4	ND	50
1,1,1-Trichloroethane	71-55-6	ND	50
1,1,2-Trichloroethane	79-00-5	ND	60
Trichloroethene	79-01-6	ND	30
Trichlorofluoromethane	75-69-4	ND	40

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: B-7 15:05	Date Sampled: 02/08/99
Lab Number: 9902084-04A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/19/99
Preparation Method: EPA 5030	Date Analyzed: 02/19/99
Method Reference: EPA 8010	Analyst: MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	116	70 - 130

ND: Not detected at or above limit of detection

-: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: B-8 14:45	Date Sampled: 02/08/99
Lab Number: 9902084-05A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/19/99
Preparation Method: EPA 5030	Date Analyzed: 02/19/99
Method Reference: EPA 8010	Analyst: MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons</u>			
Bromodichloromethane	75-27-4	ND	0.7
Bromoform	75-25-2	ND	0.7
Bromomethane	74-83-9	ND	0.7
Carbon tetrachloride	56-23-5	ND	0.6
Chlorobenzene	108-90-7	ND	0.7
Chloroethane	75-00-3	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.6
Dibromochloromethane	124-48-1	ND	0.6
1,2-Dibromoethane	106-93-4	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	1
1,1-Dichloroethane	75-34-3	ND	0.4
1,2-Dichloroethane	107-06-2	2.9	0.3
1,1-Dichloroethene	75-35-4	ND	0.2
cis-1,2-Dichloroethene	156-59-2	ND	0.4
trans-1,2-Dichloroethene	156-60-5	ND	0.4
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.6
Freon 113	76-13-1	ND	0.6
Methylene chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trichloroethene	79-01-6	ND	0.3
Trichlorofluoromethane	75-69-4	ND	0.4

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: B-8 14:45	Date Sampled: 02/08/99
Lab Number: 9902084-05A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/19/99
Preparation Method: EPA 5030	Date Analyzed: 02/19/99
Method Reference: EPA 8010	Analyst: MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	0.5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	121	70 - 130

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification:	MW-1 15:30	Date Sampled:	02/08/99
Lab Number:	9902084-07A	Date Received:	02/08/99
Sample Matrix/Media:	WATER	Date Prepared:	02/19/99
Preparation Method:	EPA 5030	Date Analyzed:	02/19/99
Method Reference:	EPA 8010	Analyst:	MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons</u>			
Bromodichloromethane	75-27-4	ND	70
Bromoform	75-25-2	ND	70
Bromomethane	74-83-9	ND	70
Carbon tetrachloride	56-23-5	ND	60
Chlorobenzene	108-90-7	ND	70
Chloroethane	75-00-3	ND	50
Chloroform	67-66-3	ND	50
Chloromethane	74-87-3	ND	60
Dibromochloromethane	124-48-1	ND	60
1,2-Dibromoethane	106-93-4	ND	50
1,2-Dichlorobenzene	95-50-1	ND	50
1,3-Dichlorobenzene	541-73-1	ND	50
1,4-Dichlorobenzene	106-46-7	ND	50
Dichlorodifluoromethane	75-71-8	ND	100
1,1-Dichloroethane	75-34-3	ND	40
1,2-Dichloroethane	107-06-2	ND	30
1,1-Dichloroethene	75-35-4	ND	20
cis-1,2-Dichloroethene	156-59-2	ND	40
trans-1,2-Dichloroethene	156-60-5	ND	40
1,2-Dichloropropane	78-87-5	ND	50
cis-1,3-Dichloropropene	10061-01-5	ND	50
trans-1,3-Dichloropropene	10061-02-6	ND	60
Freon 113	76-13-1	ND	60
Methylene chloride	75-09-2	ND	200
1,1,2,2-Tetrachloroethane	79-34-5	ND	50
Tetrachloroethene	127-18-4	ND	50
1,1,1-Trichloroethane	71-55-6	ND	50
1,1,2-Trichloroethane	79-00-5	ND	60
Trichloroethene	79-01-6	ND	30
Trichlorofluoromethane	75-69-4	ND	40

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: MW-1 15:30	Date Sampled: 02/08/99
Lab Number: 9902084-07A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/19/99
Preparation Method: EPA 5030	Date Analyzed: 02/19/99
Method Reference: EPA 8010	Analyst: MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	117	70 - 130

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: MW-2 15:15	Date Sampled: 02/08/99
Lab Number: 9902084-08A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/19/99
Preparation Method: EPA 5030	Date Analyzed: 02/19/99
Method Reference: EPA 8010	Analyst: MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons</u>			
Bromodichloromethane	75-27-4	ND	70
Bromoform	75-25-2	ND	70
Bromomethane	74-83-9	ND	70
Carbon tetrachloride	56-23-5	ND	60
Chlorobenzene	108-90-7	ND	70
Chloroethane	75-00-3	ND	50
Chloroform	67-66-3	ND	50
Chloromethane	74-87-3	ND	60
Dibromochloromethane	124-48-1	ND	60
1,2-Dibromoethane	106-93-4	ND	50
1,2-Dichlorobenzene	95-50-1	ND	50
1,3-Dichlorobenzene	541-73-1	ND	50
1,4-Dichlorobenzene	106-46-7	ND	50
Dichlorodifluoromethane	75-71-8	ND	100
1,1-Dichloroethane	75-34-3	ND	40
1,2-Dichloroethane	107-06-2	60	30
1,1-Dichloroethene	75-35-4	ND	20
cis-1,2-Dichloroethene	156-59-2	ND	40
trans-1,2-Dichloroethene	156-60-5	ND	40
1,2-Dichloropropane	78-87-5	ND	50
cis-1,3-Dichloropropene	10061-01-5	ND	50
trans-1,3-Dichloropropene	10061-02-6	ND	60
Freon 113	76-13-1	ND	60
Methylene chloride	75-09-2	ND	200
1,1,2,2-Tetrachloroethane	79-34-5	ND	50
Tetrachloroethene	127-18-4	ND	50
1,1,1-Trichloroethane	71-55-6	ND	50
1,1,2-Trichloroethane	79-00-5	ND	60
Trichloroethene	79-01-6	ND	30
Trichlorofluoromethane	75-69-4	ND	40

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: MW-2 15:15	Date Sampled: 02/08/99
Lab Number: 9902084-08A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/19/99
Preparation Method: EPA 5030	Date Analyzed: 02/19/99
Method Reference: EPA 8010	Analyst: MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	109	70 - 130

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: MW-3 12:34	Date Sampled: 02/08/99
Lab Number: 9902084-09A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/19/99
Preparation Method: EPA 5030	Date Analyzed: 02/19/99
Method Reference: EPA 8010	Analyst: MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons</u>			
Bromodichloromethane	75-27-4	ND	40
Bromoform	75-25-2	ND	40
Bromomethane	74-83-9	ND	40
Carbon tetrachloride	56-23-5	ND	30
Chlorobenzene	108-90-7	ND	40
Chloroethane	75-00-3	ND	30
Chloroform	67-66-3	ND	30
Chloromethane	74-87-3	ND	30
Dibromochloromethane	124-48-1	ND	30
1,2-Dibromoethane	106-93-4	ND	30
1,2-Dichlorobenzene	95-50-1	ND	30
1,3-Dichlorobenzene	541-73-1	ND	30
1,4-Dichlorobenzene	106-46-7	ND	30
Dichlorodifluoromethane	75-71-8	ND	50
1,1-Dichloroethane	75-34-3	ND	20
1,2-Dichloroethane	107-06-2	ND	20
1,1-Dichloroethene	75-35-4	ND	10
cis-1,2-Dichloroethene	156-59-2	ND	20
trans-1,2-Dichloroethene	156-60-5	ND	20
1,2-Dichloropropane	78-87-5	ND	30
cis-1,3-Dichloropropene	10061-01-5	ND	30
trans-1,3-Dichloropropene	10061-02-6	ND	30
Freon 113	76-13-1	ND	30
Methylene chloride	75-09-2	ND	100
1,1,2,2-Tetrachloroethane	79-34-5	ND	30
Tetrachloroethene	127-18-4	ND	30
1,1,1-Trichloroethane	71-55-6	ND	30
1,1,2-Trichloroethane	79-00-5	ND	30
Trichloroethene	79-01-6	ND	20
Trichlorofluoromethane	75-69-4	ND	20

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: MW-3 12:34	Date Sampled: 02/08/99
Lab Number: 9902084-09A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/19/99
Preparation Method: EPA 5030	Date Analyzed: 02/19/99
Method Reference: EPA 8010	Analyst: MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	30
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	110	70 - 130

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification:	MW-4 12:58	Date Sampled:	02/08/99
Lab Number:	9902084-10A	Date Received:	02/08/99
Sample Matrix/Media:	WATER	Date Prepared:	02/19/99
Preparation Method:	EPA 5030	Date Analyzed:	02/19/99
Method Reference:	EPA 8010	Analyst:	MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons</u>			
Bromodichloromethane	75-27-4	ND	40
Bromoform	75-25-2	ND	40
Bromomethane	74-83-9	ND	40
Carbon tetrachloride	56-23-5	ND	30
Chlorobenzene	108-90-7	ND	40
Chloroethane	75-00-3	ND	30
Chloroform	67-66-3	ND	30
Chloromethane	74-87-3	ND	30
Dibromochloromethane	124-48-1	ND	30
1,2-Dibromoethane	106-93-4	ND	30
1,2-Dichlorobenzene	95-50-1	ND	30
1,3-Dichlorobenzene	541-73-1	ND	30
1,4-Dichlorobenzene	106-46-7	ND	30
Dichlorodifluoromethane	75-71-8	ND	50
1,1-Dichloroethane	75-34-3	ND	20
1,2-Dichloroethane	107-06-2	ND	20
1,1-Dichloroethene	75-35-4	ND	10
cis-1,2-Dichloroethene	156-59-2	ND	20
trans-1,2-Dichloroethene	156-60-5	ND	20
1,2-Dichloropropane	78-87-5	ND	30
cis-1,3-Dichloropropene	10061-01-5	ND	30
trans-1,3-Dichloropropene	10061-02-6	ND	30
Freon 113	76-13-1	ND	30
Methylene chloride	75-09-2	ND	100
1,1,2,2-Tetrachloroethane	79-34-5	ND	30
Tetrachloroethene	127-18-4	ND	30
1,1,1-Trichloroethane	71-55-6	ND	30
1,1,2-Trichloroethane	79-00-5	ND	30
Trichloroethene	79-01-6	ND	20
Trichlorofluoromethane	75-69-4	ND	20

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: MW-4 12:58	Date Sampled: 02/08/99
Lab Number: 9902084-10A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/19/99
Preparation Method: EPA 5030	Date Analyzed: 02/19/99
Method Reference: EPA 8010	Analyst: MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	30
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	108	70 - 130

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9902084-11A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	02/19/99
Preparation Method:	EPA 5030	Date Analyzed:	02/19/99
Method Reference:	EPA 8010	Analyst:	MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons</u>			
Bromodichloromethane	75-27-4	ND	0.7
Bromoform	75-25-2	ND	0.7
Bromomethane	74-83-9	ND	0.7
Carbon tetrachloride	56-23-5	ND	0.6
Chlorobenzene	108-90-7	ND	0.7
Chloroethane	75-00-3	ND	0.5
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.6
Dibromochloromethane	124-48-1	ND	0.6
1,2-Dibromoethane	106-93-4	ND	0.5
1,2-Dichlorobenzene	95-50-1	ND	0.5
1,3-Dichlorobenzene	541-73-1	ND	0.5
1,4-Dichlorobenzene	106-46-7	ND	0.5
Dichlorodifluoromethane	75-71-8	ND	1
1,1-Dichloroethane	75-34-3	ND	0.4
1,2-Dichloroethane	107-06-2	ND	0.3
1,1-Dichloroethene	75-35-4	ND	0.2
cis-1,2-Dichloroethene	156-59-2	ND	0.4
trans-1,2-Dichloroethene	156-60-5	ND	0.4
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-Dichloropropene	10061-02-6	ND	0.6
Freon 113	76-13-1	ND	0.6
Methylene chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trichloroethene	79-01-6	ND	0.3
Trichlorofluoromethane	75-69-4	ND	0.4

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: MW-5 14:55	Date Sampled: 02/08/99
Lab Number: 9902084-02A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/19/99
Preparation Method: EPA 5030	Date Analyzed: 02/19/99
Method Reference: EPA 8010	Analyst: MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons</u>			
Bromodichloromethane	75-27-4	ND	7
Bromoform	75-25-2	ND	7
Bromomethane	74-83-9	ND	7
Carbon tetrachloride	56-23-5	ND	6
Chlorobenzene	108-90-7	ND	7
Chloroethane	75-00-3	ND	5
Chloroform	67-66-3	ND	5
Chloromethane	74-87-3	ND	6
Dibromochloromethane	124-48-1	ND	6
1,2-Dibromoethane	106-93-4	ND	5
1,2-Dichlorobenzene	95-50-1	ND	5
1,3-Dichlorobenzene	541-73-1	ND	5
1,4-Dichlorobenzene	106-46-7	ND	5
Dichlorodifluoromethane	75-71-8	ND	10
1,1-Dichloroethane	75-34-3	ND	4
1,2-Dichloroethane	107-06-2	32	3
1,1-Dichloroethene	75-35-4	ND	2
cis-1,2-Dichloroethene	156-59-2	ND	4
trans-1,2-Dichloroethene	156-60-5	ND	4
1,2-Dichloropropane	78-87-5	ND	5
cis-1,3-Dichloropropene	10061-01-5	ND	5
trans-1,3-Dichloropropene	10061-02-6	ND	6
Freon 113	76-13-1	ND	6
Methylene chloride	75-09-2	ND	20
1,1,2,2-Tetrachloroethane	79-34-5	ND	5
Tetrachloroethene	127-18-4	ND	5
1,1,1-Trichloroethane	71-55-6	ND	5
1,1,2-Trichloroethane	79-00-5	ND	6
Trichloroethene	79-01-6	ND	3
Trichlorofluoromethane	75-69-4	ND	4

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: MW-5 14:55	Date Sampled: 02/08/99
Lab Number: 9902084-02A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/19/99
Preparation Method: EPA 5030	Date Analyzed: 02/19/99
Method Reference: EPA 8010	Analyst: MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	124	70 - 130

ND: Not detected at or above limit of detection

-: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9902084-11A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	02/19/99
Preparation Method:	EPA 5030	Date Analyzed:	02/19/99
Method Reference:	EPA 8010	Analyst:	MSF

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Purgeable Halocarbons (Continued)</u>			
Vinyl chloride	75-01-4	ND	0.5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
1-Chloro-2-methylpropene	513-37-1	124	70 - 130

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification:	B-7 15:05	Date Sampled:	02/08/99
Lab Number:	9902084-04A	Date Received:	02/08/99
Sample Matrix/Media:	WATER	Date Prepared:	02/17/99
Preparation Method:	EPA 5030	Date Analyzed:	02/17/99
Method Reference:	EPA 8015/8020	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	5900	40
Ethylbenzene	100-41-4	2700	30
Toluene	108-88-3	4100	30
o-Xylene	95-47-6	3300	40
p,m-Xylenes	--	6300	40
Gasoline	--	63000	5000
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	93	50 - 150

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

Note: Detection limits increased due to dilution necessary for quantitation.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: B-8 14:45	Date Sampled: 02/08/99
Lab Number: 9902084-05A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/17/99
Preparation Method: EPA 5030	Date Analyzed: 02/17/99
Method Reference: EPA 8015/8020	Analyst: ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	5.4	0.4
Ethylbenzene	100-41-4	2.6	0.3
Toluene	108-88-3	3.2	0.3
o-Xylene	95-47-6	1.7	0.4
p,m-Xylenes	--	2.9	0.4
Gasoline	--	140	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	103	50 - 150

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: MW-1 15:30	Date Sampled: 02/08/99
Lab Number: 9902084-07A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/17/99
Preparation Method: EPA 5030	Date Analyzed: 02/18/99
Method Reference: EPA 8015/8020	Analyst: ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	3900	20
Ethylbenzene	100-41-4	970	20
Toluene	108-88-3	6300	20
o-Xylene	95-47-6	1500	20
p,m-Xylenes	--	2800	20
Gasoline	--	48000	3000
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	86	50 - 150

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

Note: Detection limits increased due to dilution necessary for quantitation.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification:	MW-2 15:15	Date Sampled:	02/08/99
Lab Number:	9902084-08A	Date Received:	02/08/99
Sample Matrix/Media:	WATER	Date Prepared:	02/17/99
Preparation Method:	EPA 5030	Date Analyzed:	02/18/99
Method Reference:	EPA 8015/8020	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	11000	20
Ethylbenzene	100-41-4	650	20
Toluene	108-88-3	4900	20
o-Xylene	95-47-6	520	20
p,m-Xylenes	--	1200	20
Gasoline	--	41000	3000
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	92	50 - 150

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

Note: Detection limits increased due to dilution necessary for quantitation.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: MW-3 12:34	Date Sampled: 02/08/99
Lab Number: 9902084-09A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/17/99
Preparation Method: EPA 5030	Date Analyzed: 02/18/99
Method Reference: EPA 8015/8020	Analyst: ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	1200	20
Ethylbenzene	100-41-4	1400	20
Toluene	108-88-3	3400	20
o-Xylene	95-47-6	1300	20
p,m-Xylenes	--	3600	20
Gasoline	--	35000	3000
<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

Note: Detection limits increased due to dilution necessary for quantitation.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification:	MW-4 12:58	Date Sampled:	02/08/99
Lab Number:	9902084-10A	Date Received:	02/08/99
Sample Matrix/Media:	WATER	Date Prepared:	02/17/99
Preparation Method:	EPA 5030	Date Analyzed:	02/18/99
Method Reference:	EPA 8015/8020	Analyst:	ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	670	20
Ethylbenzene	100-41-4	780	20
Toluene	108-88-3	90	20
o-Xylene	95-47-6	80	20
p,m-Xylenes	--	860	20
Gasoline	--	15000	3000
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	107	50 - 150

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

Note: Detection limits increased due to dilution necessary for quantitation.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: MW-5 14:55	Date Sampled: 02/08/99
Lab Number: 9902084-02A	Date Received: 02/08/99
Sample Matrix/Media: WATER	Date Prepared: 02/17/99
Preparation Method: EPA 5030	Date Analyzed: 02/17/99
Method Reference: EPA 8015/8020	Analyst: ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	780	4
Ethylbenzene	100-41-4	230	3
Toluene	108-88-3	440	3
o-Xylene	95-47-6	140	4
p,m-Xylenes	--	230	4
Gasoline	--	4900	500
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	92	50 - 150

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

Note: Detection limits increased due to dilution necessary for quantitation.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 70-97066.00.000
Clayton Project No. 99020.84

Sample Identification: METHOD BLANK	Date Sampled: --
Lab Number: 9902084-11A	Date Received: --
Sample Matrix/Media: WATER	Date Prepared: 02/17/99
Preparation Method: EPA 5030	Date Analyzed: 02/17/99
Method Reference: EPA 8015/8020	Analyst: ASC

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (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	91	50 - 150

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

Clayton

LABORATORY SERVICES

REQUEST FOR LABORATORY ANALYTICAL SERVICES

IMPORTANT

Date Results Requested: 10 DAY

Rush Charges Authorized? Yes No

Phone or Fax Results

For Clayton Use Only
Clayton Lab Project No.

9902084

REPORT RESULTS TO

Name: MARC MULLANEY Client Job No.: 70-97066.00.0000 Order No. _____
 Company: _____ Dept.: _____
 Mailing Address: _____
 City, State, Zip: _____
 Telephone No.: _____ FAX No.: _____

SEND INVOICE TO

Name: _____
 Company: _____ Dept.: _____
 Address: _____
 City, State, Zip: _____

Special Instructions and/or specific regulatory requirements: (method, limit of detection, etc.)

Explanation of Preservative

Samples are: (check if applicable)

Drinking Water
 Groundwater
 Wastewater

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	TIME SAMPLED	MATRIX/MEDIA	AIR VOLUME (specify units)	Number of Containers	ANALYSIS REQUESTED										FOR LAB USE ONLY			
						(Enter an 'X' in the box below to indicate request. Enter a 'P' if Preservative added.)													
B-6	2/8/99	1209			2	X													-01
B-6		1455			3	X	X	X											-02
B-7		1202			3	X													-03
B-7		1505			3		X	X											-04
B-8		1445			2		X	X											-05
MW-1		1220			2	X													-06
MW-1		1530			3		X	X											-07
MW-2		1515			3		X	X											-08
MW-3		1234			3		X	X											-09
MW-4		1259			3		X	X											-10

Collected by: MARC MULLANEY (print) Collector's Signature: Marc Mullaney

Relinquished by: Marc Mullaney Date/Time: 2/8/99 17:15 Received by: _____ Date/Time: _____

Relinquished by: _____ Date/Time: _____ Received by: _____ Date/Time: _____

Method of Shipment: _____ Received at Lab by: Denise Harrington Date/Time: 2/8/99

Authorized by: _____ Date: _____ Sample Condition Upon Receipt: Acceptable Other (explain)

4.7 °C average water temp. - DS4

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

Detroit Regional Lab 22345 Roethel Drive Novi, MI 48375 (800) 806-5887 (248) 344-1770 FAX (248) 344-2655	Atlanta Regional Lab 400 Chastain Center Blvd., N.W., Suite 490 Kennesaw, GA 30144 (800) 252-9919 (770) 499-7500 FAX (770) 423-4990	San Francisco Regional Lab 1252 Quarry Lane Pleasanton, CA 94566 (800) 294-1755 (925) 426-2657 FAX (925) 426-0106	Seattle Regional Lab 4636 E. Marginal Way S., Suite 215 Seattle, WA 98134 (800) 568-7755 (206) 763-7364 FAX (206) 763-4189
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DISTRIBUTION:
 White = Clayton Laboratory
 Yellow = Clayton Accounting
 Pink = Client Copy

9/97 20K