Groundwater Monitoring Report
Second Quarter 2000
Former Glovatorium
3815 Broadway, Oakland, California

6895.00-029
July 7, 2000

Prepared for
Smiland & Khachigian
601 West Fifth Street, 7th Floor
Los Angeles, California 90071-2004

LFR
LEVINE • FRICKE

LFR
LEVINE • FRICKE

July 7, 2000 6895.00-029

Mr. Scott Seery, CHMM
Hazardous Materials Specialist
Alameda County Health Care Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, California 94502

Subject: Second Quarter 2000 Groundwater Monitoring Report, Former Glovatorium, 3815 Broadway, Oakland, California

Dear Mr. Seery:

LFR Levine·Fricke is submitting the enclosed quarterly groundwater monitoring report for the subject site, which covers the period from March 1 through May 31, 2000. The report discusses groundwater sampling results from the second quarter 2000 sampling event and presents a summary and recommendations.

If you have any questions or comments regarding the enclosed report, please call either of the undersigned.

Sincerely,

Julie C. Sharp, P.E.
Senior Engineer

Charles H. Pardini, R.G.
Principal Geologist,
Assistant Operations Manager

Enclosure

cc: Stuart Depper, Clean Tech Machinery
Albert M. Cohen, Smiland & Khachigian
Betty Graham, Regional Water Quality Control Board
Bruce Page, Bruce W. Page Consultants

CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

This quarterly groundwater monitoring report presents the results of groundwater monitoring conducted during the second quarter 2000, which covers the period from March 1 through May 31, 2000, at the former Glovatorium, a dry cleaning business located at 3815 Broadway in Oakland, California ("the Site"; Figure 1). This report was prepared by LFR Levine · Fricke (LFR) on behalf of Smiland & Khachigian. The report was prepared pursuant to a letter from the Alameda County Health Care Services Agency (ACHCSA) dated January 5, 2000, and discussions on May 10, 2000, between Mr. Scott Seery of ACHCSA, Ms. Betty Graham of the Regional Water Quality Control Board (RWQCB), and representatives of LFR and Bruce W. Page Consulting, Inc.

The report is organized into the following sections:

- Section 1.0 is an introduction and summarizes recent regulatory correspondence and meetings.
- Section 2.0 discusses the status of investigations.
- Section 3.0 provides a description of the Site and background information.
- Section 4.0 presents groundwater monitoring results, including groundwater-level measurements and laboratory analysis results of groundwater samples.
- Section 5.0 presents a summary and recommendations.

2.0 STATUS OF INVESTIGATIONS

The following activities were conducted during the second quarter 2000 monitoring period (March 1 through May 31, 2000):

- Information regarding groundwater gradients was obtained by measuring groundwater levels in temporary sampling points previously installed by LFR and in well MW-11.
- Preliminary information regarding groundwater quality was obtained by collecting and analyzing groundwater samples from the temporary sampling points and from well MW-11.

The following activities have been, or are planned to be, conducted during the third quarter 2000 monitoring period (June 1 through August 31, 2000):

- A work plan for the installation of four groundwater monitoring wells was submitted to the ACHCSA on June 14, 2000.
- Temporary grab groundwater sampling points GW-6 and GW-8 will be abandoned and sealed, in accordance with County of Alameda and City of Oakland ordinances.

- Proposed groundwater monitoring wells LFR-1 through LFR-4 will be installed, contingent on approval of the June 14, 2000, work plan by the ACHCSA.
- A sampling and analysis plan for natural bioattenuation parameters will be established through discussion with representatives of ACHCSA and the RWQCB.
- Groundwater monitoring will be conducted.

3.0 SITE DESCRIPTION AND BACKGROUND

The following sections describe the Site and briefly summarize previous Site investigations. Site history, land uses, geology, and previous soil and groundwater investigations were described in detail in the following LFR reports:

- Results of Utility Survey and Work Plan for Soil and Grab Groundwater Investigation, dated May 6, 1999 ("the LFR May 1999 Work Plan")
- Soil and Groundwater Investigation Report, dated March 20, 2000 ("the LFR March 2000 Report")

3.1 Site Description

The Site is located between Manila Avenue and Broadway, near the intersection with 38th Street, in Oakland, California. The ground surface at the Site slopes gently southwest, with surface elevations ranging from approximately 84 to 78 feet above mean sea level (msl).

A 54-inch-inside-diameter masonry storm drain culvert passes under the property, from Manila Avenue on the west to 38th Street on the south (Figure 2). A 10-inch-diameter, cast iron sanitary sewer lateral extends from a manhole inside the building approximately 110 feet west to a connection with the sanitary sewer main that runs north-south down the middle of Manila Avenue.

Six underground storage tanks (USTs) are located at the Site. Two USTs are located under the sidewalk on 38th Street and four USTs are located inside the building (Figure 2). The volumes of the USTs have been variously reported as ranging from 800 up to 5,000 gallons. They reportedly contained Stoddard solvent, fuel oil, and possibly waste oil. The six USTs were closed in-place by backfilling with cement-sand slurry or pea gravel in August 1997.

In addition, there are three USTs owned by Earl Thompson, Sr. under the sidewalk on 38th Street (Figure 2).

3.2 Summary of Previous Investigations

Geosolv, LLC ("GeoSolv") performed a soil and grab groundwater investigation on August 18 through 22, 1997. The investigation consisted of advancing 14 soil borings to depths of between 10 and 24 feet below ground surface (bgs) using the direct-push drilling method. Seven of the soil borings (B-2, B-3, B-7, B-8, B-9, B-10, and B-13; Figure 2) were converted to temporary grab groundwater sampling points, from which grab groundwater samples were collected.

Geosolv performed an additional soil and grab groundwater investigation from September 9 through 15, 1998. The investigation consisted of advancing 12 direct-push soil borings to depths of 19 to 25 feet bgs. All 12 of the soil borings were converted to temporary grab groundwater sampling points (E-15 through E-26; Figure 2), from which grab groundwater samples were collected. All of the temporary grab groundwater sampling points were abandoned and sealed upon completing the investigation.

LFR performed the following soil and grab groundwater investigations:

- On July 15 and 16, 1999, LFR drilled 10 soil borings (GW-1 through GW-8, GW-5A, and GW-6A; Figure 2) using the direct-push method. LFR collected soil samples for laboratory analysis and lithologic description, and installed nine temporary groundwater sampling points in the borings.
- In July and August 1999, LFR collected grab groundwater samples from seven of the nine temporary groundwater sampling points (GW-2, GW-3, GW-4, GW-5, GW-6A, GW-7, and GW-8). Sampling point GW-1 has remained dry since it was installed and has not been sampled. Sampling point GW-6 was not measured or sampled because the adjacent sampling point, GW-6A, was sampled instead. Temporary grab groundwater sampling point GW-7 was abandoned and sealed with cement grout after a grab groundwater sample was collected on July 15, 1999, in accordance with the LFR May 1999 Work Plan.
- Since January 2000, LFR has performed quarterly groundwater monitoring at the Site. Groundwater monitoring includes measuring groundwater levels and collecting groundwater samples. Groundwater levels are measured in the temporary sampling points installed by LFR and GeoSolv and in off-site wells MW-8, MW-9, and MW-11 owned by TOSCO Marketing Company ("TOSCO"). Groundwater samples are collected from the temporary sampling points installed by LFR and from well MW-11. Groundwater samples collected from the temporary sampling points are considered grab samples.

Construction data for the temporary groundwater sampling points installed by GeoSolv and LFR are presented in Table 1. Construction data for the wells owned by TOSCO are not available.

3.3 Site Geology

Sediments encountered in soil borings at the Site are typical of those encountered in an alluvial fan depositional environment. The sediments are predominantly fine-grained, consisting of clay, silty clay, sandy clay, gravelly clay, and clayey silt. Discontinuous layers of coarse-grained sediments (clayey sand, silty sand, and clayey gravel) generally also contain relatively high percentages of silt and clay, which tend to reduce their permeability.

During investigations conducted by GeoSolv and LFR, a relatively coarse-grained layer of silty sand, clayey sand, and clayey gravel was encountered in soil borings E-23, E-25, E-26, GW-2, GW-3, GW-7, and GW-8 at depths between approximately 4.5 to 14 feet bgs (at elevations ranging from approximately 66 to 74 feet msl). A discontinuous layer of silty to clayey sand was encountered at depths from 17 to 21 feet bgs (60 to 64 feet msl) in borings B-11, E-23, E-25, GW-7, and GW-8.

4.0 RESULTS OF QUARTERLY GROUNDWATER MONITORING

This section presents the results of quarterly groundwater monitoring. Section 4.1 presents the results of groundwater level measurements. Section 4.2 presents quarterly groundwater analysis results. Field and laboratory methods used in groundwater sampling activities are presented in Appendix A. Water-quality sampling information forms and a water-level measurements log are presented in Appendix B. Laboratory certificates are presented in Appendix C.

4.1 Groundwater Elevations

Table 2 presents groundwater depths measured on April 27, 2000, and the corresponding elevations in temporary sampling points B-2, B-3, B-7 through B-10, B-13, GW-2, GW-3, GW-4, GW-5, GW-6A, and GW-8; and in monitoring wells MW-8, MW-9, and MW-11. Depth to groundwater ranged from 6.68 feet bgs in B-2 to 13.61 feet bgs in GW-6A. Groundwater elevations ranged from 68.00 feet msl in GW-6A to 79.15 feet msl in MW-8.

Groundwater elevations measured in several of the temporary sampling points could not be used in the groundwater contouring and groundwater gradient calculations. The reasons these measurements could not be are presented below.

- Temporary sampling points GW-1, GW-4, GW-5, GW-6, and GW-6A are constructed in backfill material adjacent to the storm drain culvert and have screened intervals higher (shallower) than those of most other points (Table 1).
- Temporary sampling points B-2, B-3, B-7, B-8, B-9, B-10, and B-13, located inside the building, have groundwater elevations that are both higher and lower than those outside the building, indicating that apparently both a groundwater mound and depression exist in close proximity. The groundwater elevations in these

points might be influenced by the presence of backfill material in the vicinity of the USTs and/or possibly by leaking floor drain lines inside the building.

- Light non-aqueous phase liquid (LNAPL) or product sheen was observed in all of the points inside the building, with the exception of B-13. The presence of LNAPL could have caused the apparent depression in some of the groundwater elevations.
- Groundwater elevations in the points inside the building were observed to increase by as much as 2.6 feet in the previous measurements taken between January 19 and January 24, 2000, when groundwater samples were collected from these points (Table 2). These groundwater-level fluctuations are not consistent with observed groundwater elevations in points outside the building.

Because of the considerations listed above, the only locations used to calculate the groundwater gradient were MW-9, MW-11, GW-3, and GW-8. LFR calculated the groundwater gradient in two ways:

- Using MW-9, MW-11, and GW-3, LFR estimated the gradient to be 0.020 foot per foot (ft/ft) towards the west.
- Using MW-9, MW-11, and GW-8, LFR estimated the gradient to be 0.023 ft/ft towards the southwest.

Groundwater elevations in wells MW-8, MW-9, MW-11, and in temporary sampling points GW-2, GW-3, and GW-8 were used to construct a groundwater-elevation contour map (Figure 3).

4.2 Groundwater Analyses and Results

Groundwater samples were collected for analysis on April 27 and April 28, 2000, from temporary sampling points GW-2, GW-3, GW-4, GW-5, GW-6A, and GW-8; and from well MW-11. The groundwater samples were submitted to Curtis & Tompkins, of Berkeley, California, a state-certified laboratory, for analysis.

Groundwater samples were analyzed for total petroleum hydrocarbons as Stoddard solvent (TPHss) using modified EPA method 8015; for volatile organic compounds (VOCs) using EPA method 8010 and/or EPA method 8260; and for benzene, toluene, ethylbenzene, total xylenes (BTEX), and MTBE using EPA method 8020 and/or EPA method 8260.

Laboratory analysis results are summarized in Tables 3 and 4. Results for Stoddard solvent (TPHss), benzene, tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride are illustrated on Figures 4 through 9.

Groundwater samples collected from the temporary sampling points are considered grab samples; therefore, the results should be considered estimates of groundwater quality. Groundwater analysis results for the April 2000 sampling event are summarized as follows:

- TPHss was not detected in GW-2, GW-6A, or well MW-11. TPHss was detected in GW-3, GW-4, GW-5, and GW-8 at concentrations up to 0.31 mg/l (GW-4). These results are shown on Figure 4.
- Benzene was not detected in grab groundwater samples collected from any of the sampling points GW-2, GW-3, GW-4, GW-5, GW-6A, or GW-8, or from well MW-11. These results are shown on Figure 5.
- PCE was not detected in GW-5, GW-6A, or from MW-11. PCE was detected in GW-2, GW-3, GW-4, and GW-8 at concentrations up to 0.35 mg/l (GW-3). These results are shown on Figure 6.
- TCE was not detected in GW-4, GW-5, GW-6A, or from MW-11. TCE was detected in GW-2, GW-3, and GW-8 at concentrations up to 0.11 mg/l (GW-8). These results are shown on Figure 7.
- cis-1,2-DCE was not detected in GW-5, GW-6A, or in MW-11. cis-1,2-DCE was detected in GW-2, GW-3, GW-4, and GW-8 at concentrations up to 0.029 mg/l (GW-8). These results are shown on Figure 8.
- Vinyl chloride was only detected in GW-8 at a concentration of 0.0023 mg/l. These results are shown on Figure 9.

In addition to the chemicals discussed above, the following chemicals were detected:

- 1,2-dichloropropane (0.0006 mg/l) in GW-4. This compound was previously detected at the Site by Geosolv at 0.031 mg/l.
- trans-1,2-dichloroethene (0.0053 mg/l) in GW-8. This compound was previously detected at the Site by Geosolv at 0.013 mg/l.
- 1,3-dichlorobenzene (0.0005 mg/l) in MW-11. This compound has not been reported previously at the Site.

The April 27, 2000, trip blank associated with samples with the laboratory sample delivery group (SDG) number 145327 (see Appendix C) contained MTBE at a concentration of 0.002 mg/l. Discussions with laboratory and field personnel indicate that this trip blank may have been issued before the start of this sampling event and may have picked up MTBE in vapor form from a source other than the Site. Nevertheless, in keeping with quality assurance/quality control (QA/QC) protocol, the MTBE result in the trip blank causes MTBE results for samples with the laboratory number SDG 145327 that are within 5 times of the trip blank result to be flagged as "not detected." This affected the results from samples collected from GW-2 and MW-11 and is reflected in Table 3.

5.0 SUMMARY AND RECOMMENDATIONS

Based on the groundwater investigation results presented in Section 4.0 of this report, the following summary is provided.

- Groundwater samples were collected in April 2000 from GW-2, GW-3, GW-4, GW-5, GW-6A, GW-8, and MW-11, and analyzed for TPHss, total petroleum hydrocarbons as gasoline (TPHg), MTBE, BTEX, and for other VOCs which include PCE, some of its breakdown products such as TCE and DCE, as well as other VOCs.
- Analytical results for each compound at each sampling location were within one order of magnitude of the previously collected samples from January 2000.
- The maximum concentrations of the following analytes were detected in the April 2000 sampling event: TPHss (up to 0.3 mg/l), TPHg (up to 0.57 mg/l), PCE (up to 0.35 mg/l), and TCE (up to 0.0023 mg/l) in GW-3; TPHss (0.05 mg/l) and TPHg (0.096 mg/l) in GW-5; and TPHg (0.087 mg/l) in GW-6A.
- In the April 2000 sampling event, the concentrations of the following compounds were less than in the January 2000 sampling event: TPHss, TPHg, MTBE, total xylenes, PCE, TCE, and cis-1,2-DCE in GW-2; ethylbenzene, total xylenes, and cis-1,2-DCE in GW-3; cis-1,2-DCE and 1,2-dichloropropane in GW-4; MTBE in GW-5; TPHss, TPHg, benzene, PCE, TCE, cis-1,2-DCE, trans-1,2-DCE, and vinyl chloride in GW-8; and MTBE in MW-11.
- Vinyl chloride was only detected in GW-8 (0.0023 mg/l) in the April 2000 sampling event.
- Benzene was not detected in the April 2000 sampling event.
- Preliminary estimates of the groundwater gradient range from 0.020 ft/ft to 0.023 ft/ft towards the west to southwest.

As described in Section 2.0 of this report, LFR's recommendations for future work at the Site are as follows:

- Establish a sampling and analysis plan for natural bioattenuation parameters through discussion with representatives of ACHCSA and the RWQCB.
- Install and develop four groundwater monitoring wells as described in Sections 3.3.3 and 3.3.4 of LFR's June 14, 2000, Work Plan, contingent on approval by ACHCSA.
- Begin quarterly monitoring of groundwater levels and quality in the four newly-installed wells.
- Continue quarterly monitoring of groundwater levels and quality. Groundwater levels will be measured in the temporary sampling points installed by LFR and GeoSolv and in wells MW-8, MW-9, and MW-11. Groundwater samples will be collected from well MW-11, and from the temporary sampling points installed by LFR. Groundwater from the temporary sampling points installed by GeoSolv may be sampled if such data is considered to provide additional information in the Site bioattenuation evaluation.

Table 1
Construction Data for Temporary Sampling Points
Former Glovatorium
3815 Broadway, Oakland, California

Location	Date Installed	Ground Surface Elevation (ft msl)	Top of Casing Elevation (ft msl)	Total Depth (ft	Screened Interval Depth (ft bgs)	Screened Interval Elevation (ft msl)	Notes
Temporary sampling points installed by GeoSolv, LLC:							
B-2	19-Aug-97	82.20	82.09	21	5 to 21	77.2 to 61.2	
B-3	19-Aug-97	82.60	82.57	18	5 to 18	77.6 to 64.6	(1)
B-7	20-Aug-97	77.33	76.96	17.5	5 to 17.5	72.3 to 59.8	
B-8	20-Aug-97	82.06	81.82	24	9 to 24	73.1 to 58.1	
B-9	21-Aug-97	77.57	77.37	19.5	4.5 to 19.5	73.1 to 58.1	
B-10	21-Aug-97	81.65	81.50	19	4 to 19	77.7 to 62.7	
B-13	22-Aug-97	85.12	84.58	20	5 to 20	80.1 to 65.1	
Temporary sampling points installed by LFR:							
GW-1	16-Jul-99	80.24	79.94	8	3 to 8	77.2 to 72.2	
GW-2	16-Jul-99	79.44	79.14	20	10 to 20	69.4 to 59.4	
GW-3	15-Jul-99	78.48	77.92	20	10 to 20	68.5 to 58.5	
GW-4	16-Jul-99	82.55	82.37	12	7 to 12	75.6 to 70.6	
GW-5	15-Jul-99	81.31	81.01	13	8 to 13	73.3 to 68.3	
GW-6	15-Jul-99	81.91	81.65	13.5	7.5 to 13.5	74.4 to 68.4	
GW-6A	16-Jul-99	81.93	81.61	15	5 to 15	76.9 to 66.9	
GW-7	15-Jul-99	81.3	NS	20	10 to 20	71.3 to 61.3	
GW-8	16-Jul-99	80.28	80.10	20	10 to 20	70.3 to 60.3	

Notes:

(1) Top of casing surveyed on south side on January 21, 2000, because the casing was broken.

ft msl = feet above mean sea level

ft bgs = feet below ground surface

NS = Not surveyed. Temporary sampling point GW-7 was not surveyed because the casing was removed and the boring was backfilled with cement grout after a grab groundwater sample was collected on July 15, 1999, in accordance with LFR's work plan dated May 6, 1999. Surface elevation estimated to be 81.3 feet msl.

Table 2
Groundwater Elevations
Former Glovatorium
3815 Broadway, Oakland, California

Location	Date Sampled	Top of Casing Elevation (ft msl)	Depth To Groundwater (feet)	Groundwater Elevation (ft msl)	Notes
Temporary sampling points installed by GeoSolv, LLC:					
B-2	26-Oct-97	82.20	9.54	72.66	(1)
	18-Feb-98	82.20	4.04	78.16	(1)
	19-Jan-00	82.09	8.12	73.97	(3, P)
	24-Jan-00	82.09	6.16	75.93	(3, P)
	27-Apr-00	82.09	6.68	75.41	(3, P)
B-3	26-Oct-97	82.60	8.93	73.67	(1)
	18-Feb-98	82.60	4.53	78.07	(1)
	19-Jan-00	82.57	9.35	73.22	(2)
	24-Jan-00	82.57	6.74	75.83	
	27-Apr-00	82.57	6.71	75.86	(P)
B-7	26-Oct-97	77.33	9.24	68.09	(1)
	18-Feb-98	77.33	5.76	71.57	(1)
	19-Jan-00	76.96	8.36	68.60	(3, P)
	24-Jan-00	76.96	7.3	69.66	(3, P)
	27-Apr-00	76.96	7.11	69.85	(3, P)
B-8	26-Oct-97	82.06	10.95	71.11	(1)
	18-Feb-98	82.06	5.42	76.64	(1)
	19-Jan-00	81.82	10.01	71.81	(3, P)
	24-Jan-00	81.82	8.98	72.84	(3, P)
	27-Apr-00	81.82	7.68	74.14	(3, P)
B-9	26-Oct-97	77.57	9.18	68.39	(1)
	18-Feb-98	77.57	6.13	71.44	(1)
	19-Jan-00	77.37	8.46	68.91	(3, P)
	24-Jan-00	77.37	7.12	70.25	(3, P)
	27-Apr-00	77.37	7.41	69.96	(3)
B-10	26-Oct-97	81.65	9.39	72.26	(1)
	18-Feb-98	81.65	6.52	75.13	(1)
	19-Jan-00	81.50	8.48	73.02	(3, P)
	24-Jan-00	81.50	7.35	74.15	(3, P)
	27-Apr-00	81.50	7.80	73.70	(3)
B-13	26-Oct-97	85.12	12.10	73.02	(1)
	18-Feb-98	85.12	6.61	78.51	(1)
	19-Jan-00	84.58	10.40	74.18	(3)
	24-Jan-00	84.58	8.26	76.32	(3)

Table 2
Groundwater Elevations
Former Glovatorium
3815 Broadway, Oakland, California

Location	Date Sampled	Top of Casing Elevation (ft msl)	Depth To Groundwater (feet)	Groundwater Elevation (ft msl)	Notes
B-13	27-Apr-00	84.58	8.71	75.87	(3)
Temporary sampling points installed by LFR:					
GW-1	27-Aug-99	79.94	DRY	DRY	
	19-Jan-00	79.94	DRY	DRY	
	27-Apr-00	79.94	DRY	DRY	
GW-2	27-Aug-99	79.14	10.68	68.46	
	19-Jan-00	79.14	10.90	68.24	
	21-Jan-00	79.14	10.82	68.32	
	27-Apr-00	79.14	8.55	70.59	
GW-3	27-Aug-99	77.92	10.26	67.66	
	19-Jan-00	77.92	10.06	67.86	
	20-Jan-00	77.92	9.99	67.93	
	27-Apr-00	77.92	9.76	68.16	
GW-4	27-Aug-99	82.37	NM	NM	
	19-Jan-00	82.37	7.66	74.71	
	21-Jan-00	82.37	8.04	74.33	
	27-Apr-00	82.37	8.40	73.97	
GW-5	27-Aug-99	81.01	12.30	68.71	
	19-Jan-00	81.01	12.40	68.61	
	20-Jan-00	81.01	12.40	68.61	
	27-Apr-00	81.01	12.31	68.70	
GW-6A	27-Aug-99	81.61	13.90	67.71	
	19-Jan-00	81.61	13.98	67.63	
	27-Apr-00	81.61	13.61	68.00	
GW-8	27-Aug-99	80.10	9.50	70.60	
	19-Jan-00	80.10	9.66	70.44	
	20-Jan-00	80.10	9.68	70.42	
	27-Apr-00	80.10	8.76	71.34	
Monitoring wells owned by TOSCO:					
MW-8	27-Apr-00	87.44	8.29	79.15	
MW-9	27-Apr-00	86.56	9.31	77.25	
MW-11	25-Jan-00	84.21	10.73	73.48	
	27-Apr-00	84.21	8.86	75.35	

Table 2
Groundwater Elevations
Former Glovatorium
3815 Broadway, Oakland, California

Location	Date Sampled	Top of Casing Elevation (ft msl)	Depth To Groundwater (feet)	Groundwater Elevation (ft msl)	Notes

Notes:

(1) Survey elevation and water level measurement taken at concrete surface.

(2) Top of casing was resurveyed because it was broken.

(3) Survey elevation and water level measured from top-of-casing.

ft msl = Feet above mean sea level

NM = Not measured

NS = Not surveyed

(P) = Floating product or sheen was observed

Table 3
Summary of Analytical Results For Total Petroleum Hydrocarbon, BTEX, and MTBE Analyses of Groundwater Samples
Former Glovatorium
3815 Broadway, Oakland, California

All results expressed in milligrams per liter (mg/l)

Location	Date Sampled	Screened Interval Depth (ft bgs)	TPH, ext., Stoddard	TPH, purge., Stoddard	TPH, ext., Diesel	TPH, purge., Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	Notes
Temporary sampling points installed by GeoSolv, LLC:												
B-2	24-Jan-00	5 to 21	NA	20	NA	31 Y	<0.05	<0.013	<0.013	0.11 C	0.22 C	(1)
B-3	24-Jan-00	5 to 18	NA	4.9	NA	8.8 Y	<0.01	0.0048	<0.0025	<0.0025	0.0714	(1)
B-7	24-Jan-00	5 to 17.5	NA	19	NA	30 Y	<0.05	<0.013	0.062	<0.013	0.207	
B-8	24-Jan-00	9 to 24	NA	11	NA	19 Y	<0.01	<0.0025	<0.0025	<0.0025	0.17 C	(1)
B-9	24-Jan-00	4.5 to 19.5	NA	1 Y	NA	1.8 YH	<0.002	<0.0005	<0.0005	0.01 C	0.0089 C	(1)
B-10	24-Jan-00	4 to 19	NA	2.4 Y	NA	4.2	0.014 C	0.0072	0.027	0.025 C	0.032	
B-13	24-Jan-00	5 to 20	NA	1.7	NA	3 Y	<0.01	<0.0025	<0.0025	<0.0025	0.02	(1)
Temporary sampling points installed by LFR:												
GW-2	19-Jul-99	10 to 20	NA	<0.05	NA	<0.05	0.0025	<0.0005	0.00071	<0.0005	0.00074	
GW-2	20-Jan-00		NA	0.15	NA	0.25 Y	0.0044	<0.0005	<0.0005	0.00097 C	0.0013	
GW-2	28-Apr-00		NA	<0.05	NA	0.095 YZ	<0.0021	<0.0005	<0.0005	<0.0005	<0.0005	(2)
GW-3	19-Jul-99	10 to 20	NA	0.07 Z	NA	0.1 Z	<0.002	<0.0005	<0.0005	<0.0005	0.00064	
GW-3	20-Jan-00		NA	0.15	NA	0.26 Y	<0.002	<0.0005	0.00051	<0.0005	0.0013 C	
GW-3	27-Apr-00		NA	0.2 YZ	NA	0.38 YZ	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	
Split	27-Apr-00		NA	0.3 Z	NA	0.57 YZ	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	
GW-4	21-Jul-99	7 to 12	NA	6.8	NA	10 YH	0.0022	<0.0005	<0.0005	<0.0005	0.0029	(3)
GW-4	20-Jan-00		NA	0.97	NA	1.6 Y	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	(4)

Table 3
Summary of Analytical Results For Total Petroleum Hydrocarbon, BTEX, and MTBE Analyses of Groundwater Samples
Former Glovatorium
3815 Broadway, Oakland, California

All results expressed in milligrams per liter (mg/l)

Location	Date Sampled	Screened Interval Depth (ft bgs)	TPH, ext., Stoddard	TPH, purge., Stoddard	TPH, ext., Diesel	TPH, purge., Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	Notes
Split	20-Jan-00		NA	0.85	NA	1.5 Y	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	(4)
GW-4	27-Apr-00		NA	0.31	NA	0.6 Y	<0.002	<0.0005	<0.0005	<0.0005	0.0027	
GW-5	27-Aug-99	8 to 13	NA	<0.05	NA	<0.05	<0.001	<0.001	<0.001	<0.001	<0.001	
GW-5	20-Jan-00		NA	<0.05	NA	0.057 Y	0.0007	<0.0005	<0.0005	<0.0005	<0.0005	
GW-5	27-Apr-00		NA	0.05 Y	NA	0.096 Y	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	
GW-6A	27-Aug-99	5 to 15	NA	NA	NA	NA	0.0057	<0.0005	<0.0005	<0.0005	<0.0005	
Split	27-Aug-99		NA	NA	NA	NA	0.0054	<0.0005	<0.0005	<0.0005	<0.0005	
GW-6A	27-Aug-99		NA	<0.05	NA	0.054 Y	0.0089	<0.0005	<0.0005	<0.0005	<0.0005	
Split	27-Aug-99		NA	<0.05	NA	0.057 Y	0.0087	<0.0005	<0.0005	<0.0005	<0.0005	
GW-6A	25-Jan-00		NA	<0.05	NA	<0.05	0.0022	<0.0005	<0.0005	<0.0005	<0.0005	
GW-6A	27-Apr-00		NA	<0.05	NA	0.087 Y	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	
GW-7	15-Jul-99	10 to 20	0.697 B	NA	1.79 A	NA	<0.0025	0.05	<0.0005	0.000727	0.00313	(5)
Split	15-Jul-99		1.42 B	NA	3.1 A	NA	NA	NA	NA	NA	NA	(5)
GW-7	15-Jul-99		NA	NA	NA	NA	NA	0.0567	<0.002	<0.002	<0.002	(6)
Split	15-Jul-99		NA	NA	NA	NA	NA	0.0755	<0.002	<0.002	<0.002	(6)
GW-8	19-Jul-99	10 to 20	NA	<0.05	NA	<0.05	0.0078	<0.0005	0.00064	<0.0005	0.00151	
GW-8	20-Jan-00		NA	0.19	NA	0.33 Y	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	
Split	20-Jan-00		NA	0.2	NA	0.37 Y	<0.002	0.00058	<0.0005	<0.0005	<0.0005	

Table 3
Summary of Analytical Results For Total Petroleum Hydrocarbon, BTEX, and MTBE Analyses of Groundwater Samples
Former Glovatorium
3815 Broadway, Oakland, California

All results expressed in milligrams per liter (mg/l)

Location	Date Sampled	Screened Interval Depth (ft bgs)	TPH, ext., Stoddard	TPH, purge., Stoddard	TPH, ext., Diesel	TPH, purge., Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	Notes
GW-8	28-Apr-00		NA	0.064 YZ	NA	0.12 YZ	0.013	<0.0005	<0.0005	<0.0005	<0.0005	
Monitoring wells owned by TOSCO:												
MW-11	25-Jan-00		NA	<0.05	NA	<0.05	0.009	<0.0005	<0.0005	<0.0005	<0.0005	
MW-11	28-Apr-00		NA	<0.05	NA	<0.05	<0.0087	<0.0005	<0.0005	<0.0005	<0.0005	(2)
Blanks												
Trip Blank	19-Jul-99		NA	<0.05	NA	<0.05	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	
Trip Blank	20-Jan-00		NA	<0.05	NA	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Trip Blank	27-Apr-00		NA	<0.05	NA	<0.05	0.0024	<0.0005	<0.0005	<0.0005	<0.0005	
Field Blank	27-Apr-00		NA	<0.05	NA	<0.05	<0.002	<0.0005	0.00054	<0.0005	<0.0005	

Notes:

(1) = TPH results are estimated due to high surrogate recoveries for bromofluorobenzene.

(2) = MTBE was considered not detected due to blank contamination.

(3) = Gasoline and Stoddard solvent results are estimated due to surrogate recovery of bromofluorobenzene above upper QC limit.

(4) = Gasoline and Stoddard solvent results estimated due to high surrogate recoveries above the upper QC limit.

(5) = TPH diesel results are estimated due to high RPD > 50%. BTEX results are estimated due to high surrogate recovery above upper QC limits.

(6) = Results are estimated because EPA-recommended hold time was exceeded.

Table 3
Summary of Analytical Results For Total Petroleum Hydrocarbon, BTEX, and MTBE Analyses of Groundwater Samples
Former Glovatorium
3815 Broadway, Oakland, California

All results expressed in milligrams per liter (mg/l)

Location	Date Sampled	Screened Interval Depth (ft bgs)	TPH, ext., Stoddard	TPH, purge., Stoddard	TPH, ext., Diesel	TPH, purge., Gasoline	MTBE	Benzene	Toluene	Ethyl-Benzene	Total Xylenes	Notes

A = Chromatogram pattern: unidentified hydrocarbons C9-C24

B = Chromatogram pattern: unidentified hydrocarbons C9-C13

C = Presence of this compound confirmed by second column, however, the confirmation concentration differed from the reported result by more than a factor of two.

Y = Sample exhibits fuel pattern which does not resemble standard.

H = Heavier hydrocarbons than the standard are present in the sample.

Z = Sample exhibits unknown single peak or peaks.

ft bgs = Feet below ground surface

NA = Not analyzed

TPH, ext. = Total petroleum hydrocarbons (extractable)

TPH, purge. = Total petroleum hydrocarbons (purgeable)

MTBE = Methyl tertiary-butyl ether

Groundwater samples collected from the temporary sampling points are considered grab samples; therefore, the results should be considered estimates of groundwater quality.

Table 4
Summary of Analytical Results For Volatile Organic Compound (VOC) Analyses of Groundwater Samples
Former Glovatorium
3815 Broadway, Oakland, California

All results expressed in milligrams per liter (mg/l)

Location	Date Sampled	Screened Interval Depth (ft bgs)	Acetone	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	1,2-Dichloro-propane	Notes
Temporary sampling points installed by GeoSolv, LLC:										
B-2	24-Jan-00	5 to 21	NA	<0.0013	<0.0013	0.27	0.0014	<0.0013	<0.0013	
B-3	24-Jan-00	5 to 18	NA	<0.002	<0.002	0.61	<0.002	<0.002	<0.002	
B-7	24-Jan-00	5 to 17.5	NA	<0.0036	<0.0036	0.92	0.0043	<0.0036	<0.0036	
B-8	24-Jan-00	9 to 24	NA	<0.0005	<0.0005	0.035	<0.0005	<0.0005	<0.0005	
B-9	24-Jan-00	4.5 to 19.5	NA	<0.0005	0.0006	0.0032	<0.0005	<0.0005	<0.0005	
B-10	24-Jan-00	4 to 19	NA	1.2	2.4	14	0.09	<0.063	<0.063	
B-13	24-Jan-00	5 to 20	NA	0.02	0.029	0.13	0.0049	<0.0005	<0.0005	
Temporary sampling points installed by LFR:										
GW-2	19-Jul-99	10 to 20	NA	0.014	0.0014	<0.0005	<0.0005	<0.0005	<0.0005	
GW-2	20-Jan-00		NA	0.13	0.019	0.0055	<0.0005	<0.0005	<0.0005	
GW-2	28-Apr-00		NA	0.12	0.016	0.0033	<0.0005	<0.0005	<0.0005	
GW-3	19-Jul-99	10 to 20	NA	0.22	<0.001	<0.001	<0.001	<0.001	<0.001	
GW-3	20-Jan-00		NA	0.055	0.001	0.02	<0.0005	<0.0005	<0.0005	
GW-3	27-Apr-00		NA	0.35	0.0023	0.0056	<0.0005	<0.0005	<0.0005	
Split	27-Apr-00		NA	0.27	0.0015	0.0023	<0.0013	<0.0013	<0.0013	
GW-4	19-Jul-99	7 to 12	NA	<0.0005	<0.0005	0.0035	<0.0005	<0.0005	0.0017	
GW-4	20-Jan-00		<0.01	0.0008	<0.0005	0.0036	<0.0005	<0.0005	0.0015	(1)
Split	20-Jan-00		<0.01	0.0006	<0.0005	0.0044	<0.0005	<0.0005	0.0021	(2)

Table 4
Summary of Analytical Results For Volatile Organic Compound (VOC) Analyses of Groundwater Samples
Former Glovatorium
3815 Broadway, Oakland, California

All results expressed in milligrams per liter (mg/l)

Location	Date Sampled	Screened Interval Depth (ft bgs)	Acetone	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	1,2-Dichloro-propane	Notes
GW-4	27-Apr-00		NA	0.0017	<0.0005	0.001	<0.0005	<0.0005	0.0006	
GW-5	27-Aug-99	8 to 13	0.24	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
GW-5	20-Jan-00		<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
GW-5	27-Apr-00		NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
GW-6A	27-Aug-99	5 to 15	0.19	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Split	27-Aug-99		0.11	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
GW-6A	25-Jan-00		<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
GW-6A	27-Apr-00		NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
GW-7	15-Jul-99	10 to 20	NA	<0.0005	<0.0005	0.00358	<0.0005	<0.0005	0.000632	
GW-7	15-Jul-99		NA	<0.002	<0.002	0.00398	<0.002	<0.002	<0.002	(3)
Split	15-Jul-99		NA	<0.002	<0.002	0.00383	<0.002	<0.002	<0.002	(4)
GW-8	19-Jul-99	10 to 20	NA	0.024	0.015	0.0038	0.0017	0.0012	<0.0005	
GW-8	20-Jan-00		NA	0.15	0.19	0.053	0.012	0.0045	<0.0007	
Split	20-Jan-00		NA	0.15	0.18	0.052	0.011	0.0046	<0.0005	
GW-8	28-Apr-00		NA	0.12	0.11	0.029	0.0053	0.0023	<0.0005	
Monitoring wells owned by TOSCO:										
MW-11	25-Jan-00	Unknown	<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
MW-11	28-Apr-00		NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	(5)
Blanks										

Table 4
Summary of Analytical Results For Volatile Organic Compound (VOC) Analyses of Groundwater Samples
Former Glovatorium
3815 Broadway, Oakland, California

All results expressed in milligrams per liter (mg/l)

Location	Date Sampled	Screened Interval Depth (ft bgs)	Acetone	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	1,2-Dichloro-propane	Notes
Trip Blank	19-Jul-99		NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Trip Blank	20-Jan-00		<0.01	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Trip Blank	27-Apr-00		NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Field Blank	27-Apr-00		NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	

Table 4
Summary of Analytical Results For Volatile Organic Compound (VOC) Analyses of Groundwater Samples
Former Glovatorium
3815 Broadway, Oakland, California

All results expressed in milligrams per liter (mg/l)

Location	Date Sampled	Screened Interval Depth (ft bgs)	Acetone	PCE	TCE	cis-1,2-DCE	trans-1,2-DCE	Vinyl Chloride	1,2-Dichloro-propane	Notes

Notes:

(1) = 1,2,4-Trimethylbenzene was detected at 0.0034 mg/l; 1,3,5-trimethylbenzene was detected at 0.0009 mg/l; isopropylbenzene was detected at 0.0055 mg/l; n-butylbenzene was detected at 0.0041 mg/l; para-isopropyl toluene was detected at 0.0009 mg/l; propylbenzene was detected at 0.0094 mg/l; sec-butylbenzene was detected at 0.017 mg/l; tert-butylbenzene was detected at 0.0027 mg/l; 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, para-isopropyl toluene, and n-butylbenzene results are estimated due to FD RPD > 50%.

(2) = 1,2,4-Trimethylbenzene was detected at 0.0083 mg/l; 1,3,5-trimethylbenzene was detected at 0.0022 mg/l; isopropylbenzene was detected at 0.0078 mg/l; n-butylbenzene was detected at 0.0067 mg/l; para-isopropyl toluene was detected at 0.0021 mg/l; propylbenzene was detected at 0.014 mg/l; sec-butylbenzene was detected at 0.024 mg/l; tert-butylbenzene was detected at 0.0034 mg/l.; 1,3,5-trimethylbenzene, 1,2,4-trimethylbenzene, para-isopropyl toluene, and n-butylbenzene results are estimated due to FD RPD > 50%

(3) = tert-Butylbenzene was detected at 0.00307 mg/l. Results are estimated because EPA-recommended hold time was exceeded.

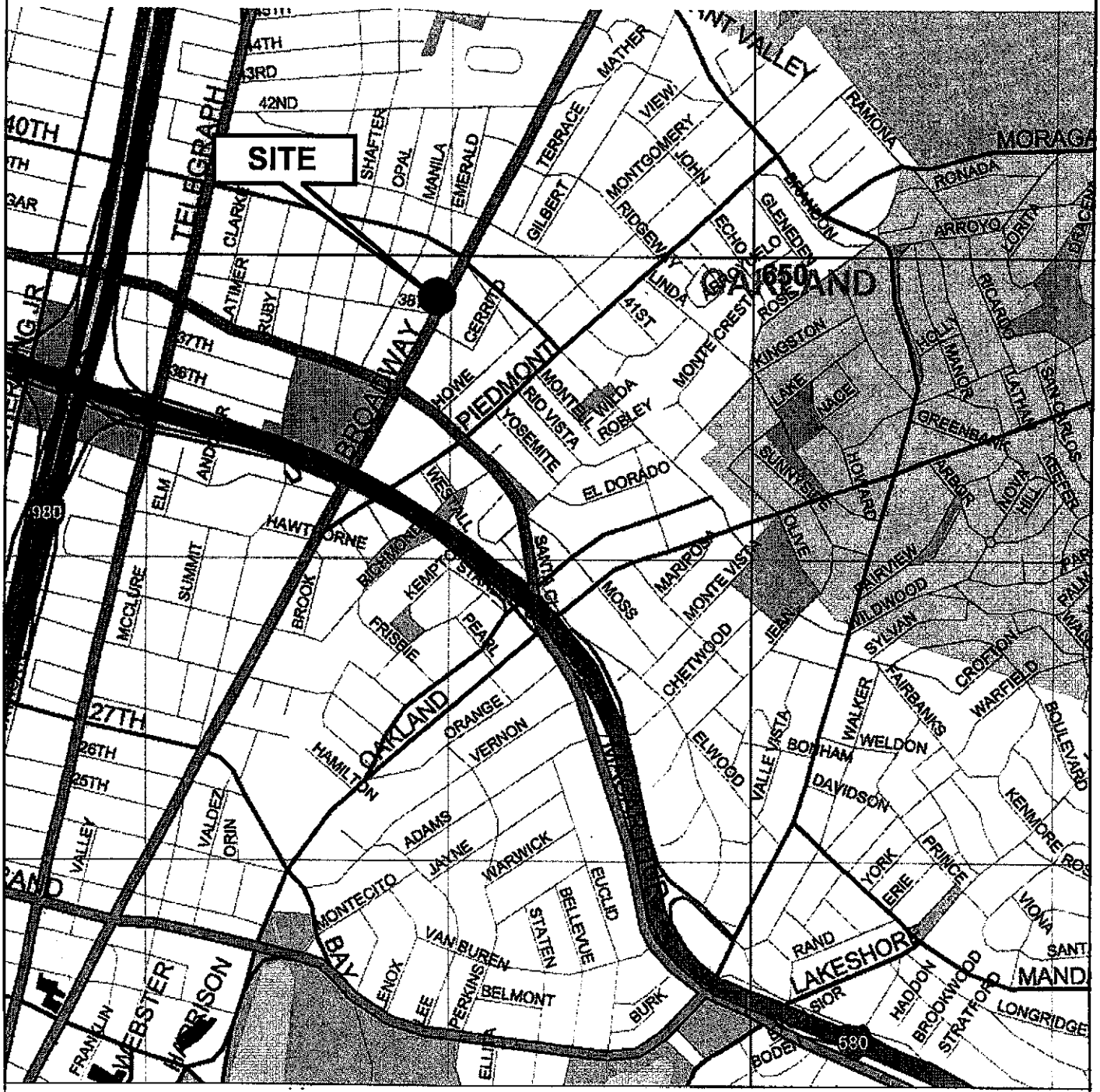
(4) = sec-Butylbenzene was detected at 0.00206 mg/l; tert-butylbenzene was detected at 0.0031 mg/l; carbon tetrachloride was detected at 0.00786 mg/l. Results are estimated because EPA-recommended hold time was exceeded.

(5) = 1,3-Dichlorobenzene was detected at 0.0005 mg/l.

ft bgs = Feet below ground surface
NA = Not analyzed

cis-1,2-DCE = cis-1,2-dichloroethene
trans-1,2-DCE =trans-1,2-dichloroethene
PCE = Tetrachloroethene
TCE = Trichloroethene

Groundwater samples collected from the temporary sampling points are considered grab samples; therefore the results should be considered estimates of groundwater quality.



Source: The Thomas Guide Digital Edition
1999 Bay Area

0 .25 .50 MILES

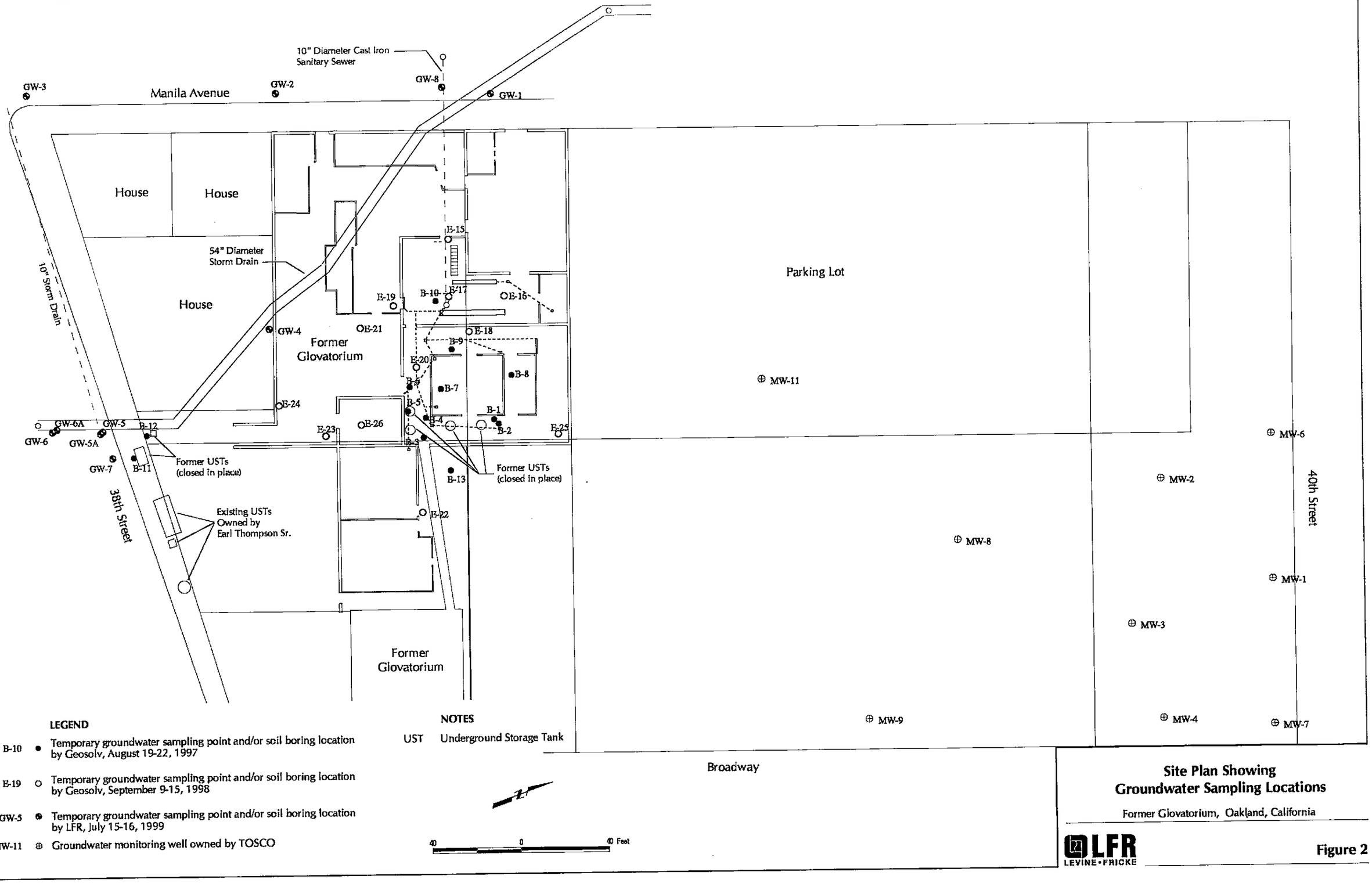
3815 BROADWAY, OAKLAND, CALIFORNIA

Site Location Map

LFR LEVINE • FRICKE

Figure 1

68955M101.CDR 050499



LEGEND

B-10	●	Temporary groundwater sampling point and/or soil boring location by Geosolv, August 19-22, 1997
E-19	○	Temporary groundwater sampling point and/or soil boring location by Geosolv, September 9-15, 1998
GW-5	⊛	Temporary groundwater sampling point and/or soil boring location by LFR, July 15-16, 1999
MW-11	⊕	Groundwater monitoring well owned by TOSCO

NOTES

UST Underground Storage Tank

40 0 40 Feet

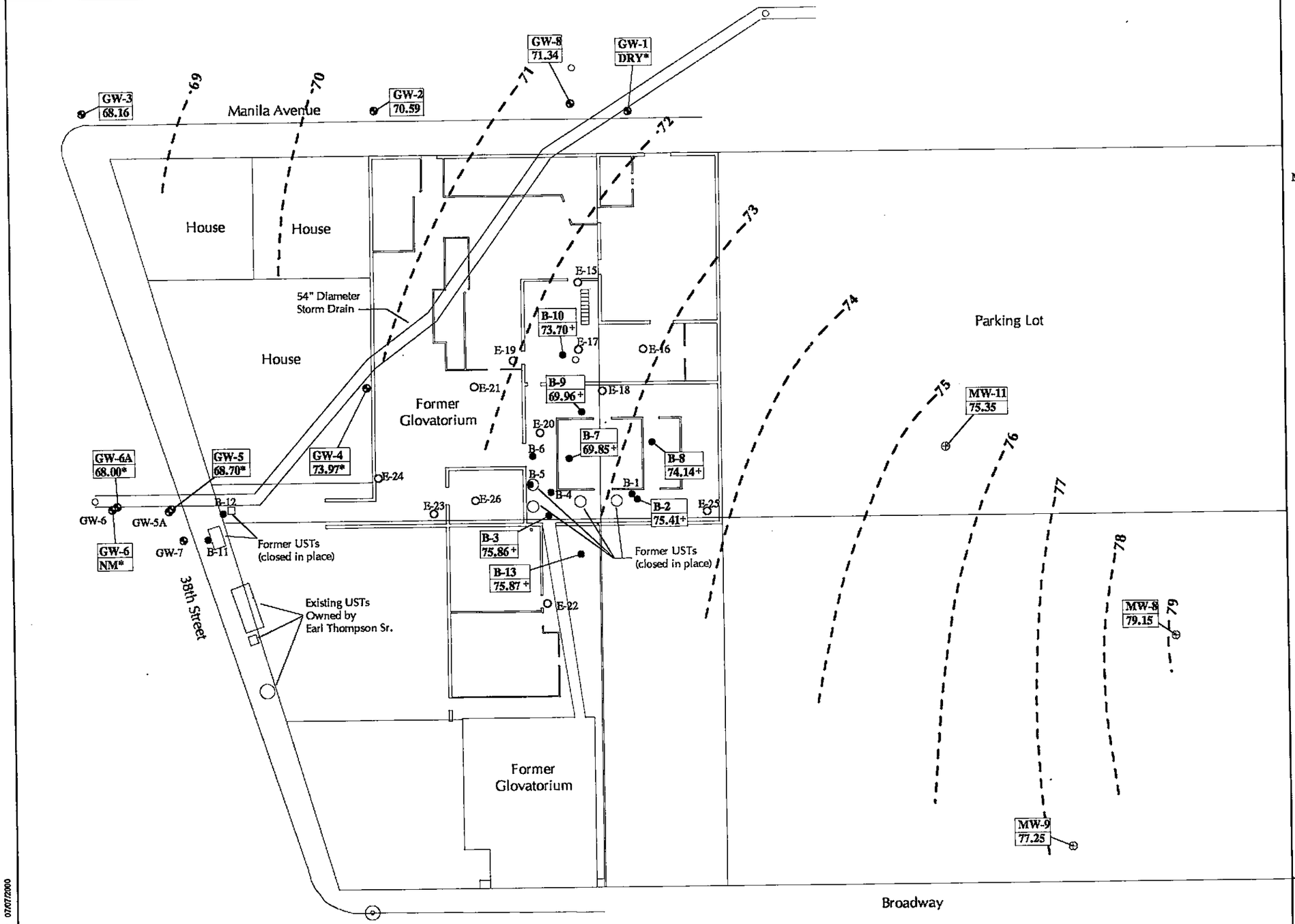
U:\Glovatorium\ym000c2.apr 07/07/2000

Site Plan Showing Groundwater Sampling Locations

Former Glovatorium, Oakland, California

LFR LEVINE•FRICKE

Figure 2



U:\Glovatorium\gw00q2.apr 07/07/2000

LEGEND

- B-10 • Temporary groundwater sampling point and/or soil boring location by Geosolv, August 19-22, 1997
- E-19 ○ Temporary groundwater sampling point and/or soil boring location by Geosolv, September 9-15, 1998
- GW-5 ⊗ Temporary groundwater sampling point and/or soil boring location by LFR, July 15-16, 1999
- MW-11 ⊕ Groundwater monitoring well owned by TOSCO
- – – – Groundwater elevation contour (feet above mean sea level)

MW-11 — Location ID
75.35 — Groundwater elevation (feet above mean sea level)

NOTES

- NM Not measured
- UST Underground Storage Tank
- * Groundwater elevation not used in contouring due to proximity of stormdrain backfill
- + Groundwater elevation not used in contouring due to possible proximity to UST backfill and/or leaking floordrain lines. In addition, LNAPL or product sheen was observed (except B-13).

Groundwater elevations in wells MW-8, MW-9 and MW-11 and in temporary sampling points GW-3 and GW-8 were used to construct the groundwater elevation contours.
Locations used to calculate the groundwater gradient were MW-9, MW-11, GW-3, and GW-8.
Further discussion is provided in the text of the report).

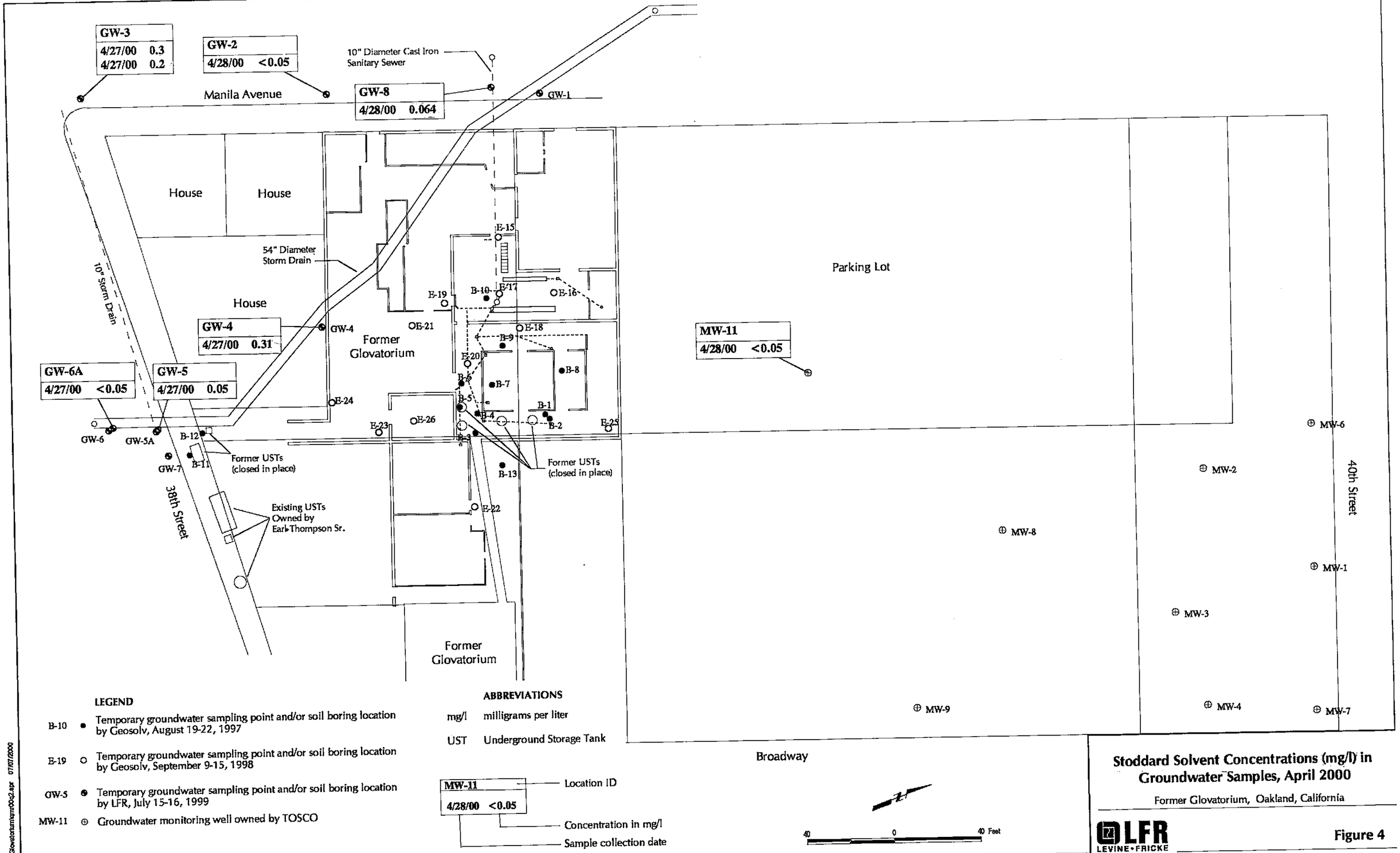
40 0 40 Feet

Groundwater Elevations
April 27, 2000

Former Glovatorium, Oakland, California

LFR LEVINE•FRICKE

Figure 3



LEGEND

B-10	●	Temporary groundwater sampling point and/or soil boring location by Geosolv, August 19-22, 1997
E-19	○	Temporary groundwater sampling point and/or soil boring location by Geosolv, September 9-15, 1998
GW-5	⊛	Temporary groundwater sampling point and/or soil boring location by LFR, July 15-16, 1999
MW-11	⊕	Groundwater monitoring well owned by TOSCO

ABBREVIATIONS

mg/l	milligrams per liter
UST	Underground Storage Tank

MW-11 — Location ID
4/28/00 <0.05
Concentration in mg/l
Sample collection date

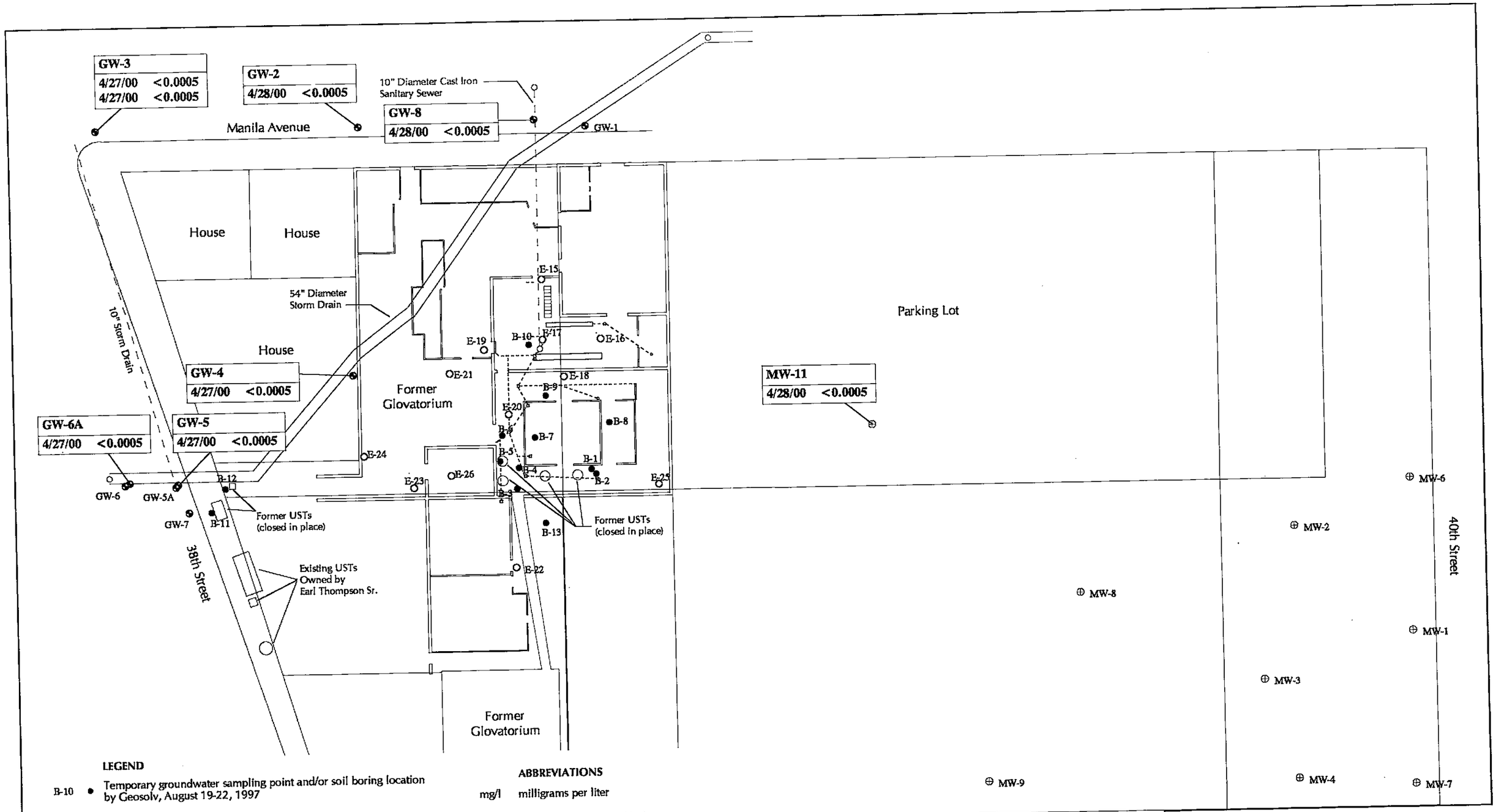
Stoddard Solvent Concentrations (mg/l) in Groundwater Samples, April 2000

Former Glovatorium, Oakland, California

LFR LEVINE•FRICKE

Figure 4

U:\Glovatorium\gm00q2.apr 07/07/2000



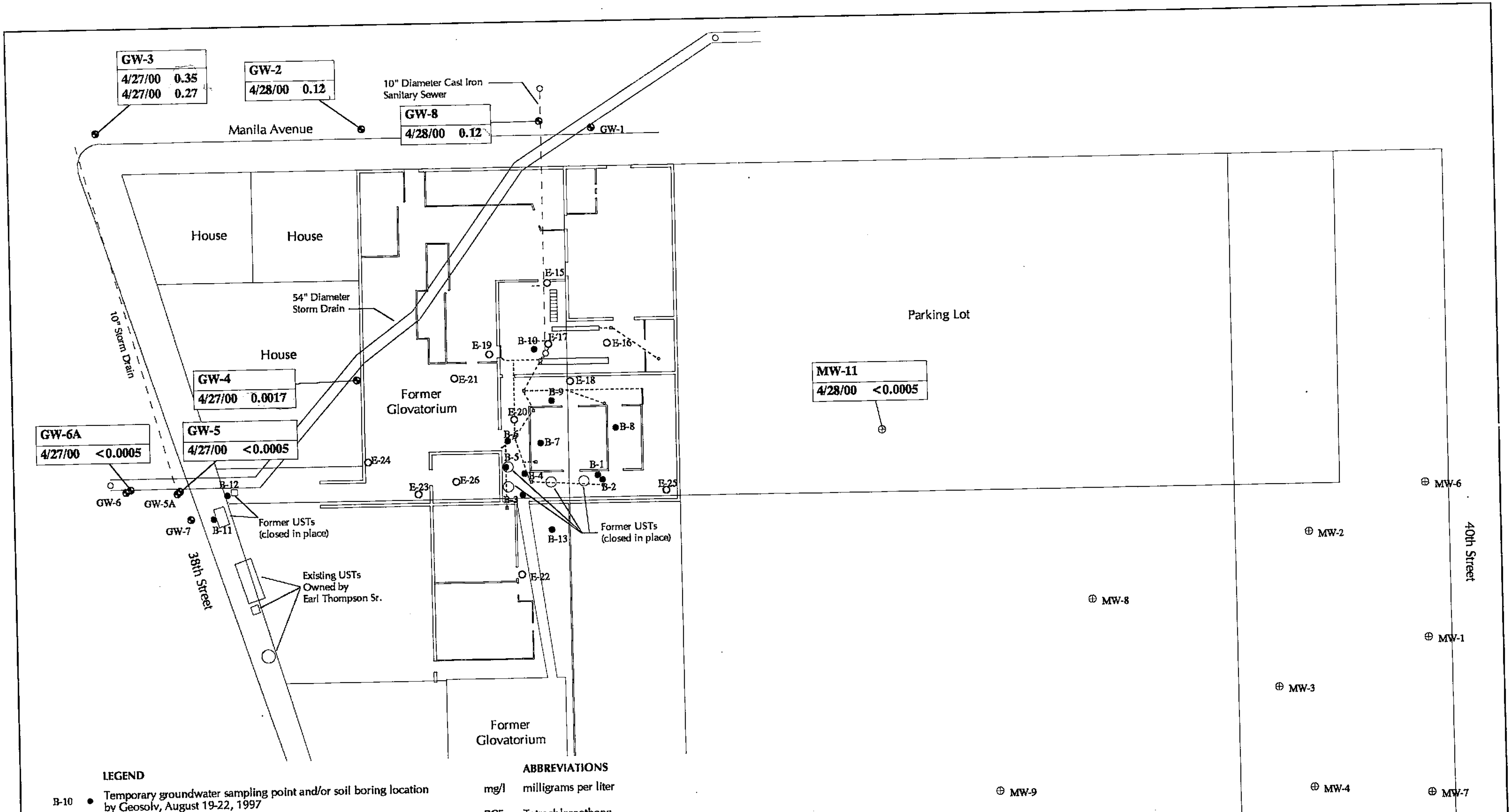
U:\Glovatorium\gmw00q2.spr 07/07/2000

Benzene Concentrations (mg/l) in Groundwater Samples, April 2000

Former Glovatorium, Oakland, California

LFR LEVINE•FRICKE

Figure 5



LEGEND

- B-10 ● Temporary groundwater sampling point and/or soil boring location by Geosolv, August 19-22, 1997
- E-19 ○ Temporary groundwater sampling point and/or soil boring location by Geosolv, September 9-15, 1998
- GW-5 ⊗ Temporary groundwater sampling point and/or soil boring location by LFR, July 15-16, 1999
- MW-11 ⊕ Groundwater monitoring well owned by TOSCO

ABBREVIATIONS

mg/l	milligrams per liter
PCE	Tetrachloroethene
UST	Underground Storage Tank

MW-11 — Location ID
4/28/00 <0.0005 — Concentration in mg/l; Sample collection date

40 0 40 Feet

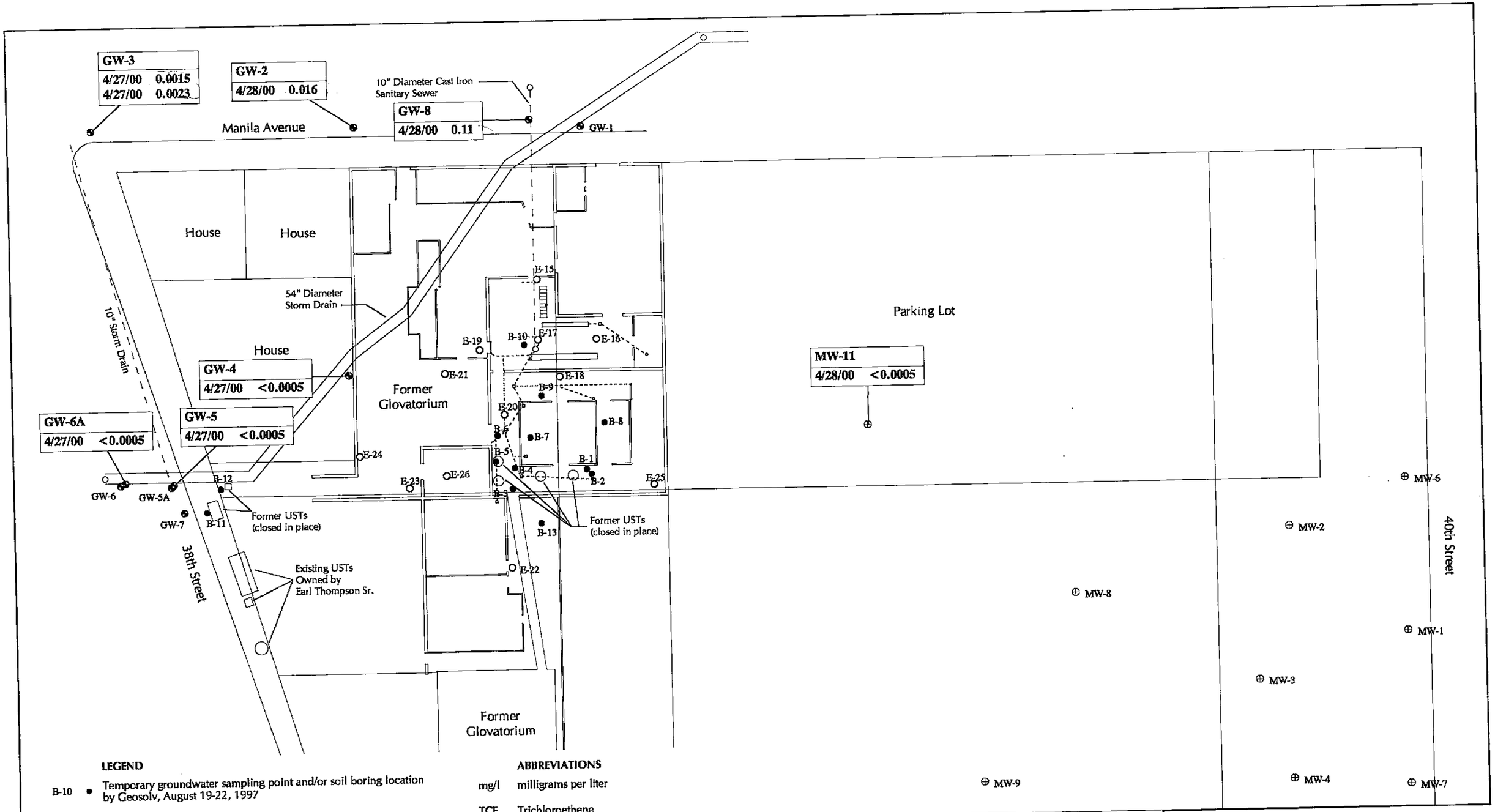
PCE Concentrations (mg/l) in Groundwater Samples, April 2000

Former Glovatorium, Oakland, California

LFR LEVINE•FRICKE

Figure 6

U:\Glovatorium\gmt00q2.apr 07/07/2000



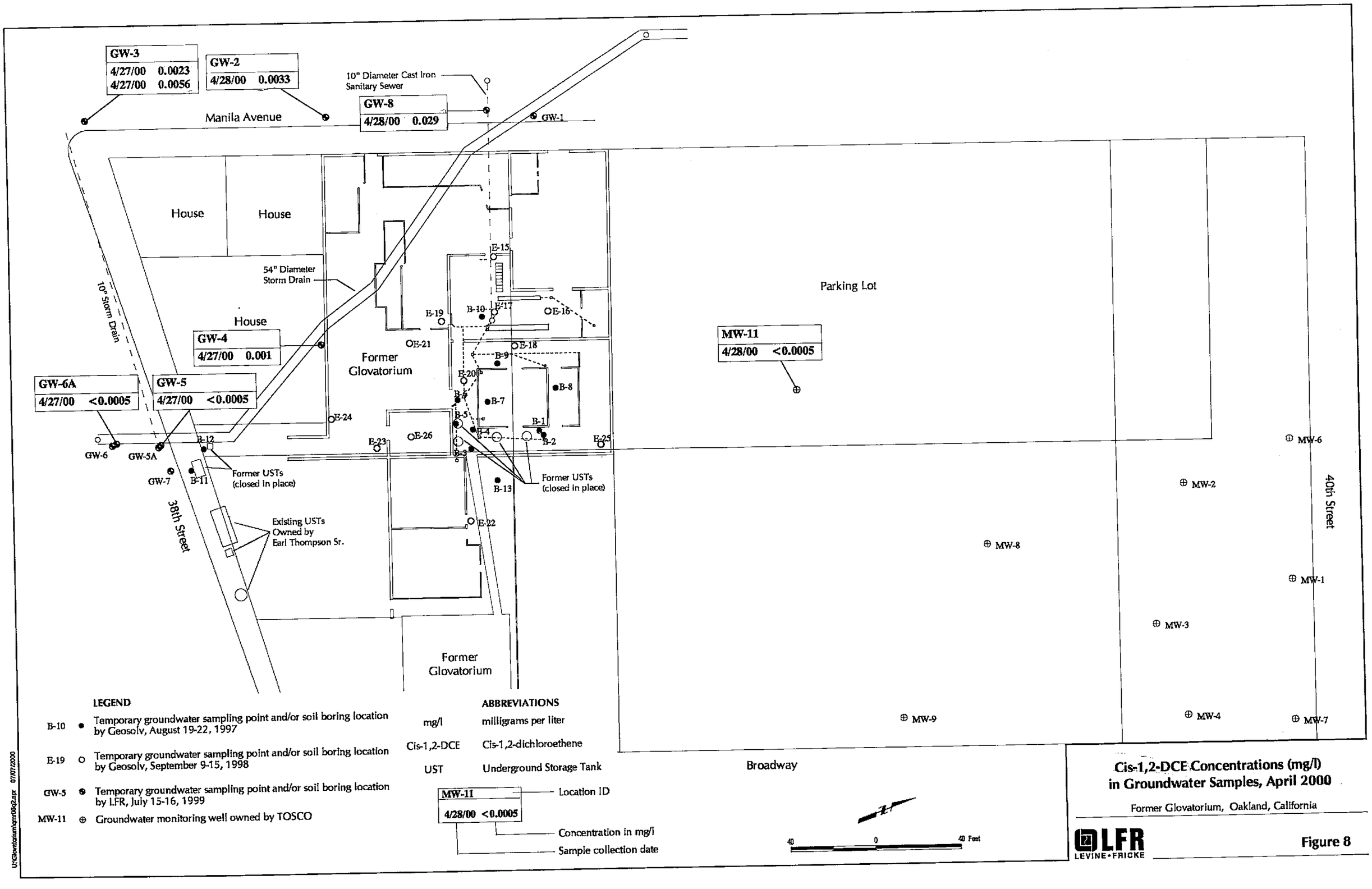
U:\Glovatorium\vgm00d2.apr 07/07/2000

TCE Concentrations (mg/l) in Groundwater Samples, April 2000

Former Glovatorium, Oakland, California

LFR LEVINE•FRICKE

Figure 7



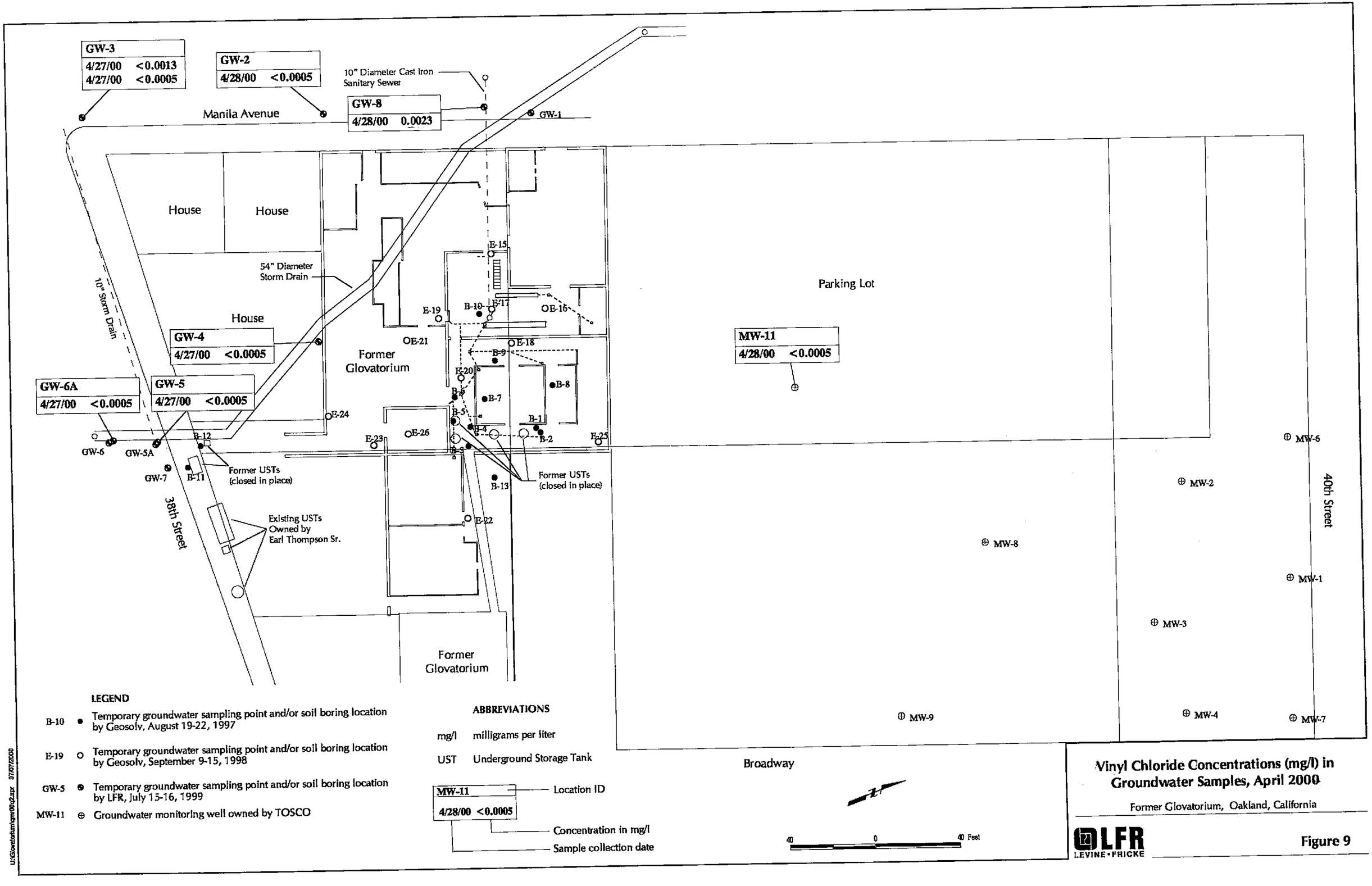
U:\Glovatorium\gm0002.apr 07/07/2000

Cis-1,2-DCE Concentrations (mg/l) in Groundwater Samples, April 2000

Former Glovatorium, Oakland, California

LFR LEVINE•FRICKE

Figure 8



Vinyl Chloride Concentrations (mg/l) in Groundwater Samples, April 2000

Former Glovatorium, Oakland, California

LFR LEVINE•FRICKE

Figure 9

Appendix A

Field Methods for Groundwater Sampling

FIELD METHODS FOR GROUNDWATER SAMPLING

Grab groundwater samples were collected using either a disposable polyethylene bailer or a peristaltic pump with polyethylene and Tygon™ tubing. For temporary sampling points that were sampled using a bailer, a new disposable polyethylene bailer fitted with a new nylon rope was lowered below the groundwater surface in the casing to retrieve grab groundwater samples. The grab groundwater samples were then slowly poured from the bailer into laboratory-supplied, 40-milliliter (ml) volatile organic analysis (VOA) vials with Teflon septa. Grab groundwater samples that were collected from temporary sampling points using the peristaltic pump were pumped directly through polyethylene and Tygon™ tubing into VOA vials. The VOA vials were filled to eliminate headspace after the vials were sealed.

A groundwater sample was collected from well MW-11, which is owned by TOSCO, by using a peristaltic pump to purge approximately 3 well volumes of groundwater from the casing to remove stagnant water so that a representative groundwater sample could be collected. Observations regarding the quantity and clarity of water withdrawn were recorded on a water-quality sampling information form (Appendix B) during this process. Specific conductance, pH, and temperature were measured during the purging process to help determine when to collect a sample. Sampling was conducted after measured indicator parameters had stabilized. The groundwater sample was pumped directly through polyethylene and Tygon™ tubing into VOA vials. The VOA vials were filled to eliminate headspace after the vials were sealed. Sampling equipment was cleaned with a solution of Alconox (a laboratory-grade detergent) and tap water and/or washed with high-pressure hot water before use.

The VOA vials were capped; labeled with the groundwater sampling point identification number, the time and date of sample collection, the analysis requested, and the name of the sampler; and placed in a cooler chilled with ice for transport to the analytical laboratory under standard chain-of-custody protocol. A laboratory-prepared trip blank was placed in the cooler with the samples to check for possible contamination of the samples during shipment. Duplicate and field blank (equipment rinse) samples were also submitted for analysis. These field QC samples were collected and analyzed in addition to the QA/QC procedures that are part of the standard program followed by certified laboratories.

Appendix B

Water-Quality Sampling Information Forms And Water-Level Measurements Log

WATER-QUALITY SAMPLING INFORMATION

Project No.: 6895.00.028

Project Name: Blaze - Oakland

Sample Location: Oakland, CA

Samplers Name: MXD

Sampling Plan Prepared By: THB

Sampling Method:

- ☐ Centrifugal Pump
- ☐ Submersible Pump
- ☒ Hand Bail
- ☐ Extraction Well Port
- ☒ Disposable Bailer
- ☐ Teflon Bailer
- ☐ _____ (Other)

Date: 4/27/00

Sample No.: GW-3

☒ FB: GW-3FB

☒ DUP: GW-103

19.94
9.76
10.18

Analyses Requested

EPA 8010

EPA 8020 + 8015 MTBE

Number and Types of Bottle used

3 x 40 VOAs w/HCl

Method of Shipment

C+T (Lab Name)

☐ Courier

☒ Hand Deliver: MXD

Well Number: GW-3

Depth to Water: 9.76

Well Depth: 19.94

Height of Water Column: 10.18

Volume in Well:

Well Diameter: 4"

- ☐ 2" (0.16 Gallon/Feet)
- ☐ 4" (0.65 Gallon/Feet)
- ☐ 5" (1.02 Gallon/Feet)
- ☐ 6" (1.47 Gallon/Feet)

80% DTW

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temperature °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
1340		NA						Field Blank
1345								Sample (Grab)
1350								DUP

Inlet Depth:

Comments: well not purged

(Recommended Method For Purging Well)

WATER-QUALITY SAMPLING INFORMATION

Project No.: 6895.00.028

Project Name: Blaze - Oakland

Sample Location: Oakland, CA

Samplers Name: MXD

Sampling Plan Prepared By: THR

Sampling Method:

Date: 4/27/00

Sample No.: GW-4

☐ FB: /

☐ DUP: /

11.87
8.40
3.47

☐ Centrifugal Pump ☒ Disposable Bailer

☐ Submersible Pump ☐ Teflon Bailer

☒ Hand Bail ☐ _____ (Other)

☐ Extraction Well Port

Analyses Requested

EPA Bold

EPA 8020 + 8015 MTBE

Number and Types of Bottle used

6 VOAs w/HCl

Method of Shipment

C+T (Lab Name)

☐ Courier

☒ Hand Deliver: MXD

Well Number: GW-4

Depth to Water: 8.40

Well Depth: 11.87

Height of Water Column: 3.47

Volume In Well: /

Well Diameter: 4"

☐ 2" (0.16 Gallon/Feet)

☐ 4" (0.65 Gallon/Foot

☐ 5" (1.02 Gallon/Feet)

☐ 6" (1.47 Gallon/Foot)

80% DTW _____

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temperature °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
1430		0						Grab Sample

Inlet Depth: _____

Comments: (Recommended Method For Purging Well)

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project No.: 6895.00.028
Project Name: Blow - Oakland
Sample Location: Oakland, CA
Samplers Name: MXD
Sampling Plan Prepared By: THG
Sampling Method:

Date: 4/27/00
Sample No.: GW-5
☐ FB:
☐ DUP:

13.00
12.31
.69

☐ Centrifugal Pump
☐ Submersible Pump
☒ Hand Bail
☐ Extraction Well Port

☒ Disposable Bailer
☐ Teflon Bailer
☐ _____ (Other)

Analyses Requested
EPA 8010
EPA 8020 + 8015 MTBE

Number and Types of Bottle used
6 VOAs W/HCl

Method of Shipment
C+T (Lab Name)
☐ Courier
☒ Hand Deliver: MXD

Well Number: GW-5
Depth to Water: 12.31
Well Depth: 13.00
Height of Water Column: 0.69 FT
Volume in Well: NA

Well Diameter: 1"
☐ 2" (0.16 Gallon/Foot)
☐ 4" (0.65 Gallon/Foot)
☐ 5" (1.02 Gallon/Foot)
☐ 6" (1.47 Gallon/Foot)

80% DTW _____

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temperature °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
1240		0						Collect Grab Sample only ≈ 3 VOAs collected
1300	ON	4/28/00	Additional	VOAs	are	collected		well is still DRY
1320	14/2000							

Inlet Depth: _____

Comments: _____
(Recommended Method For Purging Well)

WATER-QUALITY SAMPLING INFORMATION

Project No.: 6895.00.028

Date: 4/27/00

Project Name: Glovie - Oakland

Sample No.: GW-6A

Sample Location: Oakland, CA

☐ FB: /

Samplers Name: MXD

☐ DUP: /

Sampling Plan Prepared By: THB

Sampling Method:

☐ Centrifugal Pump
☐ Submersible Pump
☒ Hand Bail
☐ Extraction Well Port
☒ Disposable Bailer
☐ Teflon Bailer
☐ ______ (Other)

14.83
13.61
01.22

Analyses Requested

EPA 8010
EPA 8020 + 8015m TPH
MTBE

Number and Types of Bottle used

6 VOAs w/ HCl

Method of Shipment

C + T (Lab Name)

☐ Courier

☒ Hand Deliver: MXD

Well Number: GW-6A

Well Diameter: 1"

Depth to Water: 13.61

☐ 2" (0.16 Gallon/Feet)

Well Depth: 14.83

☐ 4" (0.65 Gallon/Feet)

Height of Water Column: 1.22

☐ 5" (1.02 Gallon/Feet)

Volume in Well: /

☐ 6" (1.47 Gallon/Feet)

80% DTW

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temperature °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
1455		0	—	—	—	—	—	Grab Sample

Inlet Depth:

Comments:
(Recommended Method For Purging Well)

WATER-QUALITY SAMPLING INFORMATION

Project No.: 6895.00.028
Project Name: Blaze - Oakland
Sample Location: Oakland, CA
Samplers Name: MXD
Sampling Plan Prepared By: THB
Sampling Method:

Date: 4/28/00
Sample No.: GW-8
☐ FB:
☒ DUP: GW-10B

19.91
8.73
11.18

☐ Centrifugal Pump
☐ Submersible Pump
☒ Hand Bail
☐ Extraction Well Port
☒ Disposable Bailer
☐ Teflon Bailer
☐ _____ (Other)

Analyses Requested
EPA 8010
EPA 9020 + 8015M TPH
MTBE

Number and Types of Bottle used
2x 6 VOAs w/HCl

Method of Shipment
C+T (Lab Name)
☐ Courier
☒ Hand Deliver: MXD

Well Number: GW-8
Depth to Water: 8.73
Well Depth: 19.91
Height of Water Column: 11.18
Volume in Well:

Well Diameter: 1"
☐ 2" (0.16 Gallon/Feet)
☐ 4" (0.65 Gallon/Feet)
☐ 5" (1.02 Gallon/Feet)
☐ 6" (1.47 Gallon/Feet)

80% DTW

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temperature °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
1200		0	NA					Grab Sample Dup
1205								

Inlet Depth:

Comments: DTW verified at 8.73
(Recommended Method For Purging Well)

LEVINE•FRICKE

Page 1 of 1

WATER-QUALITY SAMPLING INFORMATION

Project No.: 6895.00.028

Project Name: Blaze - Oakland

Sample Location: Oakland, CA

Samplers Name: MXD

Sampling Plan Prepared By: THB

Sampling Method:

- ☐ Centrifugal Pump
- ☐ Submersible Pump
- ☐ Hand Bail
- ☐ Extraction Well Port
- ☐ Disposable Bailer
- ☐ Teflon Bailer
- ☐ _____ (Other)

Date: 4/28/00

Sample No.: GW-2

- ☐ FB: /
- ☐ DUP: /

19.92
8.56
11.36

Analyses Requested

CAM Bold
EPA 8020 + 8015M TPH
MTBE.

Number and Types of Bottle used

6 VOAs w HCl

Method of Shipment

C+T (Lab Name)

- ☐ Courier
- ☒ Hand Deliver: MXD

Well Number: GW-2

Depth to Water: 8.56

Well Depth: 19.92

Height of Water Column: 11.36

Volume in Well:

Well Diameter: 4"

- ☐ 2" (0.16 Gallon/Feet)
- ☐ 4" (0.65 Gallon/Feet)
- ☐ 5" (1.02 Gallon/Feet)
- ☐ 6" (1.47 Gallon/Feet)

80% DTW

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temperature °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
1245		0	—					Grab sample.

Inlet Depth:

Comments:
(Recommended Method For Purging Well)

LEVINE•FRICKE

WATER-QUALITY SAMPLING INFORMATION

Project No.: 6895.00.028

Project Name: Glove - Oakland

Sample Location: Oakland, CA

Samplers Name: MXD

Sampling Plan Prepared By: THB

Sampling Method:

- ☐ Centrifugal Pump
- ☐ Submersible Pump
- ☐ Hand Bail
- ☐ Extraction Well Port
- ☐ Disposable Bailer
- ☐ Teflon Bailer
- ☒ Peri pump (Other)

Date: 4/28/00

Sample No.: MW-11

☒ FB: MW-11 FB

☐ DUP:

20.10
8.88
11.22
.2
2.244
8.88
11.12
11.22
.16
6732
11220
1.7952

80% DTW 11.12

Analyses Requested

EPA 8010

EPA 8020 + 8015m TPH

MTBE

Number and Types of Bottle used

2 x 6 VOAS w HCl

Method of Shipment

C+T (Lab Name)

☐ Courier

☒ Hand Deliver: MXD

Well Number: MW-11

Depth to Water: 8.88

Well Depth: 20.10

Height of Water Column: 11.22

Volume in Well: ≃ 1.8 gal

Well Diameter:

- ☒ 2" (0.16 Gallon/Feet)
- ☐ 4" (0.65 Gallon/Feet)
- ☐ 5" (1.02 Gallon/Feet)
- ☐ 6" (1.47 Gallon/Feet)

TIME	Depth to Water	Volume Purged (Gallons)	Totalizer Reading	Temperature °C	pH (SU)	Cond (mohs)	Turbidity (NTU)	Remarks
1030		0	NA					start Field Blank
1040								
1038		0						start purge
1049		1.8		17.0	6.10	1107	~	clear ↓ tubing
1100	11.42	3.6		17.2	6.06	1103	~	clear
1115	12.81	5.4		17.1	6.20	1086	–	clear
1125	14.32	7.2		17.3	6.29	1065	–	clear - off
1325	14.38							sample

Inlet Depth: 10FT → 15FT

Comments: (Recommended Method For Purging Well) Well partially pecked on Sample + FB w/peri tubing. Well is covered w/ poly while purging

WTRQLTY.SMPLNG.INFO.2(8/97)

LFR LEVINE·FRICKE

WATER-LEVEL MEASUREMENTS LOG

Project No. 6895.00 02B   Date 4/27/00   Page 1 of 1

Project Name Glovatorium   Day: ☐ Sun ☐ Mon ☐ Tues ☐ Weds ☒ Thurs ☐ Fri ☐ Sat

Field Personnel MXD

General Observations Sunny; Tank removal underway at Express Auto Clinic; East side of Broadway at 38th

WELL NO.	TOC Δ SurF / ~~WELL ELEVATION~~	DEPTH TO WATER 1	DEPTH TO WATER 2	WATER ELEVATION	WELL SECURE? Y	WELL SECURE? N	REMARKS (UNITS = FEET)
GW-1	–	DRY	DRY		X		0945
GW-2	–	8.55	8.55		X		0950
GW-3	–	9.76	9.76		X		1010
GW-4	–	8.40	8.40		X		1005
GW-5	–	12.31	12.31		X		1007
GW-6A	–	13.61	13.61		X		0957
GW-8	–	8.76	8.76		X		0948 | 2nd is after allowing = 5
	FT	1st	2nd				1st is when well is 1st opened
B-2	0.11	6.70	6.68		Y		1045 / 1316 Free product
B-3	–	6.71	6.71		Y		1028 / 1313 Free product
B-7	0.37	6.80	7.11		Y		1105 / 1310 casing lifted
B-8	0.24	7.54	7.68	T=1320	Y		1110 ≥ 1 Foot of Free Product
B-9	0.20	7.41	7.41		Y		1052 / 1307
B-10	0.15	7.81	7.80		Y		1120 / 1300
B-13	0.54	8.54	8.71		Y		1035 / 1304
MW-8	–	8.29	8.29		Y		1145 Hex key
MW-9	–	9.31	9.31		Y		1150 Hex key
MW-11	–	8.86	8.86		Y		0940 9/16"

All probes deconed between wells with Alconox / DI H_2O

Note: Wells with Free product may affect H_2O level reading

Appendix C

Laboratory Certificates

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

LFR-Levine-Fricke
1900 Powell Street
12th Floor
Emeryville, CA 94608

Date: 11-MAY-00
Lab Job Number: 145326
Project ID: 6895
Location: Glovatorium

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

Curtis & Tompkins, Ltd.

Laboratory Numbers: **145326**
Client: **LFR-Levine-Fricke**
Project #: **6895**
Location: **Glovatorium**
COC#: **6000**

Sampled Date: **04/27/00**
Received Date: **04/27/00**

CASE NARRATIVE

This hardcopy data package contains sample and QC results for six water samples, which were received from the site referenced above on April 27, 2000. The samples were received intact. All data were faxed to Taylor Bennet on May 10,000.

TVH/BTXE:
Toluene was detected in the field blank but not in any of the other samples. No other analytical problems were encountered.

VOCs (EPA 8260):
No analytical problems were encountered.

145326

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

TEMP. RECEIVED: 5.2 °C
RECEIVED BY: [signature]

Project No.: 6895.00.028	Project Location: Oakland, CA	Date: 4/27/00	Serial № 6000
Project Name: Glovatorium	Field Logbook No.: MXD-3	Sample Event Name: —	
Sampler (Signature): [signature]			Samplers: MXD

SAMPLE INFORMATION (Print Clearly) — ANALYSES

	SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	8021 w/ MTBE + BTEX	8015m	8010 VOCs			HOLD	RUSH	REMARKS
	~~BLANK (MXD)~~	—	—		~~X~~ —	—	X	X	X					Stand. TAT
1	GW-5	4/27/00	1240		3	H2O	↓	↓	↓			✱		Results to Taylor Bennett
2	GW-3FB	↓	1340		6	↓	↓	↓	↓					
3	GW-3	↓	1345		6	↓	↓	↓	↓					TPH analysis include
4	GW-103	↓	1350		6	↓	↓	↓	↓					gasoline + Stoddard
5	GW-4	↓	1430		6	↓	↓	↓	↓					solvent as standard
6	GW-6A	↓	1455		6	↓	↓	↓	↓					
														~~✱ Please hold sample until additional VOAs are received tomorrow~~
														Please Run GW-5

RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
[signature]	4/27/00	16:55	[signature]	4/27/00	16:55

METHOD OF SHIPMENT: Courier	DATE	TIME	LAB COMMENTS:

Sample Collector: LEVINE·FRICKE·RECON
1900 Powell Street, 12th Floor
Emeryville, California 94608-1827
(510) 652-4500

Analytical Laboratory: C+T

Shipping Copy (White) Lab Copy (Yellow) File Copy (Pink) Field Copy (Goldenrod)

9999\COCTEMP.CDR 042998

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8015M
Matrix:	Water	Sampled:	04/27/00
Units:	ug/L	Received:	04/27/00
Diln Fac:	1.000	Analyzed:	05/02/00
Batch#:	55526		

Field ID: GW-5 Lab ID: 145326-001
Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	96 Y	50
Stoddard Solvent C7-C12	50 Y	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	114	59-135
Bromofluorobenzene (FID)	116	60-140

Field ID: GW-3FB Lab ID: 145326-002
Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	ND	50
Stoddard Solvent C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	115	59-135
Bromofluorobenzene (FID)	115	60-140

Field ID: GW-3 Lab ID: 145326-003
Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	380 Y Z	50
Stoddard Solvent C7-C12	200 Y Z	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	113	59-135
Bromofluorobenzene (FID)	119	60-140

Field ID: GW-103 Lab ID: 145326-004
Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	570 Y Z	50
Stoddard Solvent C7-C12	300 Z	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	109	59-135
Bromofluorobenzene (FID)	123	60-140

Y = Sample exhibits fuel pattern which does not resemble standard
Z = Sample exhibits unknown single peak or peaks
ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8015M
Matrix:	Water	Sampled:	04/27/00
Units:	ug/L	Received:	04/27/00
Diln Fac:	1.000	Analyzed:	05/02/00
Batch#:	55526		

Field ID: GW-4 Lab ID: 145326-005
Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	600 Y	50
Stoddard Solvent C7-C12	310	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	118	59-135
Bromofluorobenzene (FID)	122	60-140

Field ID: GW-6A Lab ID: 145326-006
Type: SAMPLE

Analyte	Result	RL
Gasoline C7-C12	87 Y	50
Stoddard Solvent C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	113	59-135
Bromofluorobenzene (FID)	112	60-140

Type: BLANK Lab ID: QC114427

Analyte	Result	RL
Gasoline C7-C12	<50	50
Stoddard Solvent C7-C12	<50	50

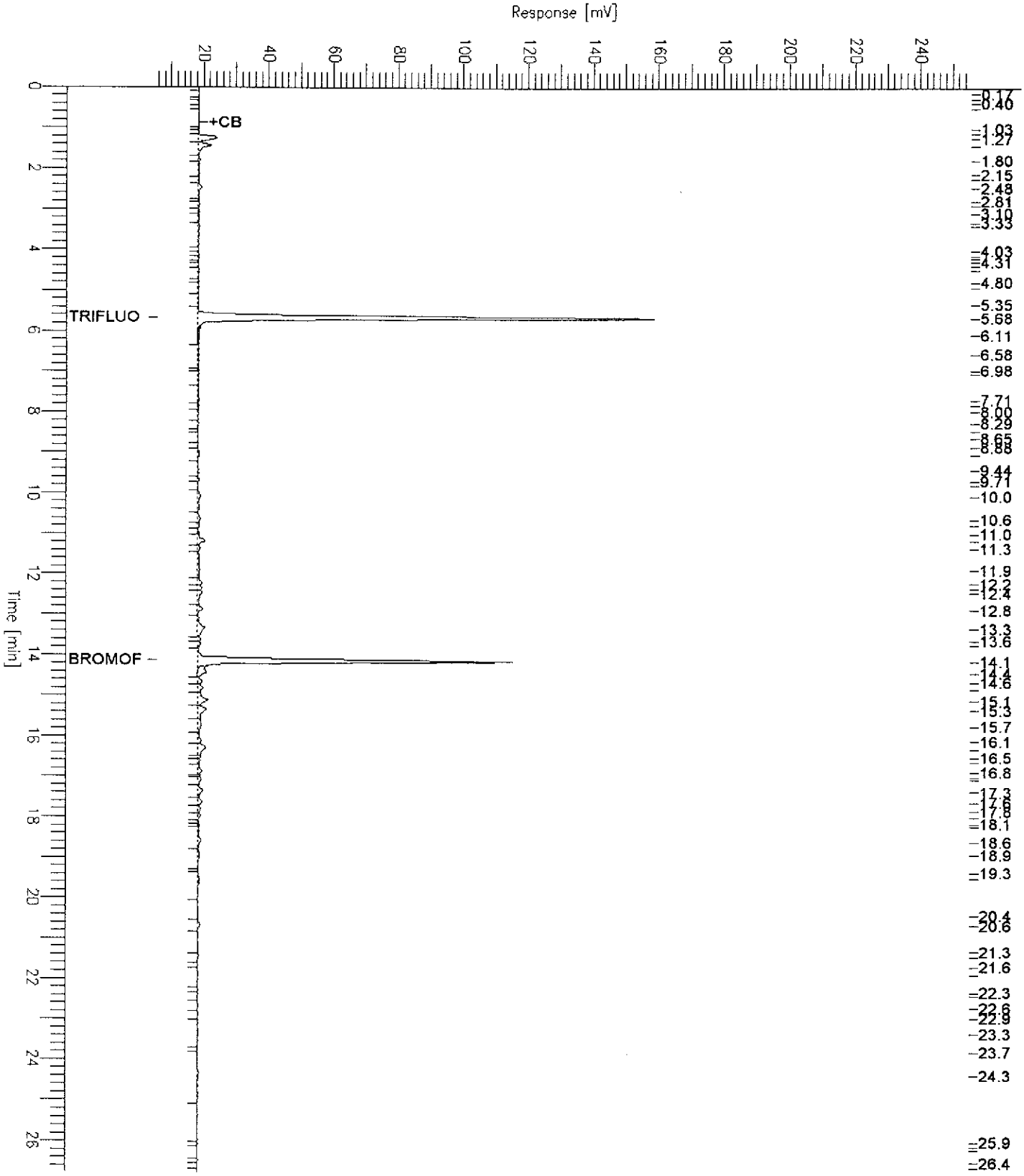
Surrogate	%REC	Limits
Trifluorotoluene (FID)	98	59-135
Bromofluorobenzene (FID)	97	60-140

Y = Sample exhibits fuel pattern which does not resemble standard
Z = Sample exhibits unknown single peak or peaks
ND = Not Detected
RL = Reporting Limit

GC19 TVH 'X' Data File (FID)

Sample Name : 145326-001,55526
FileName : G:\GC19\DATA\123X006.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 6 mV

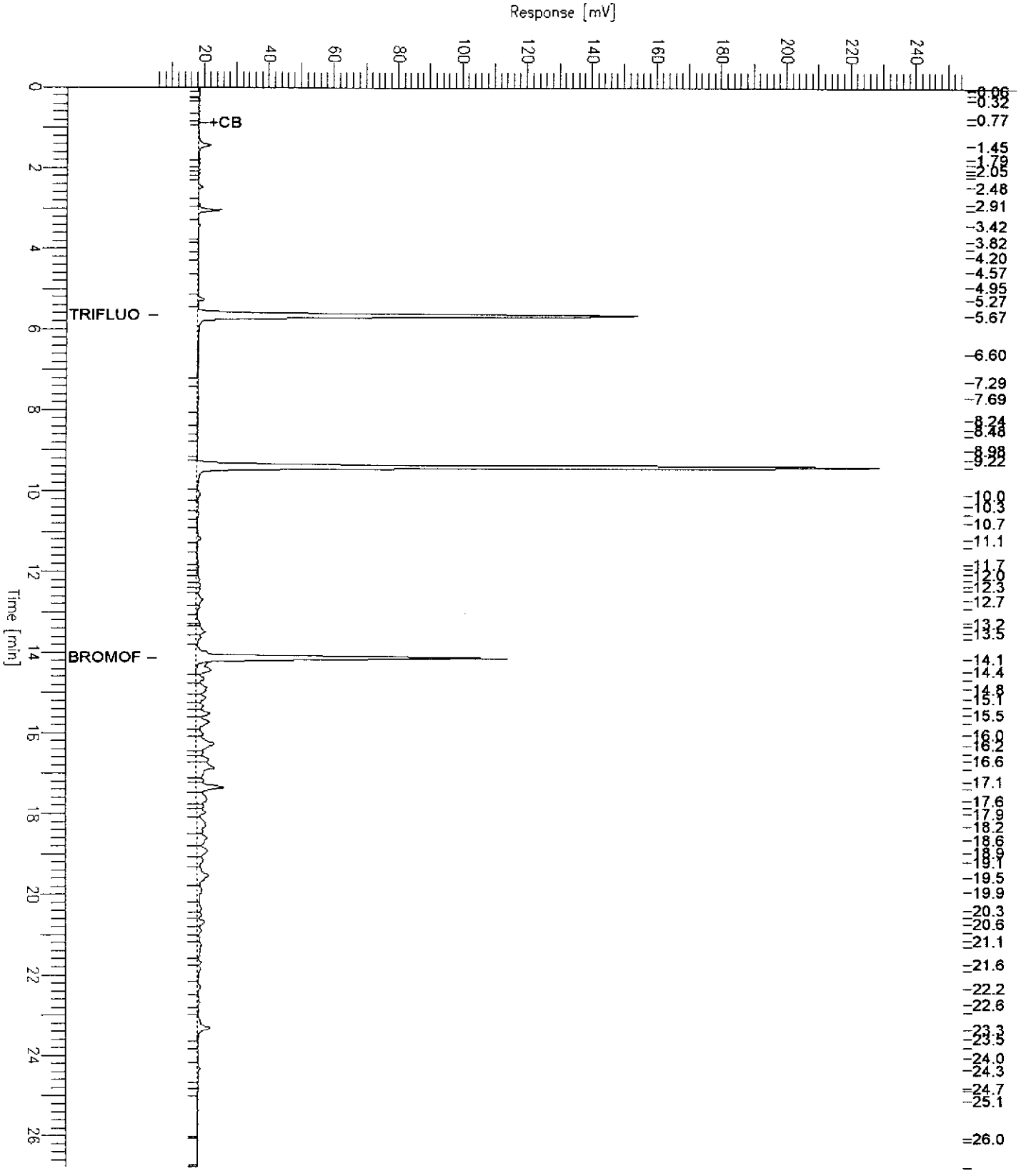
Sample #: Page 1 of 1
Date : 5/2/00 07:43 PM
Time of Injection: 5/2/00 07:16 PM
Low Point : 5.79 mV High Point : 255.79 mV
Plot Scale: 250.0 mV



GC19 TVH 'X' Data File (FID)

Sample Name : 145326-003,55526
FileName : G:\GC19\DATA\123X008.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 6 mV

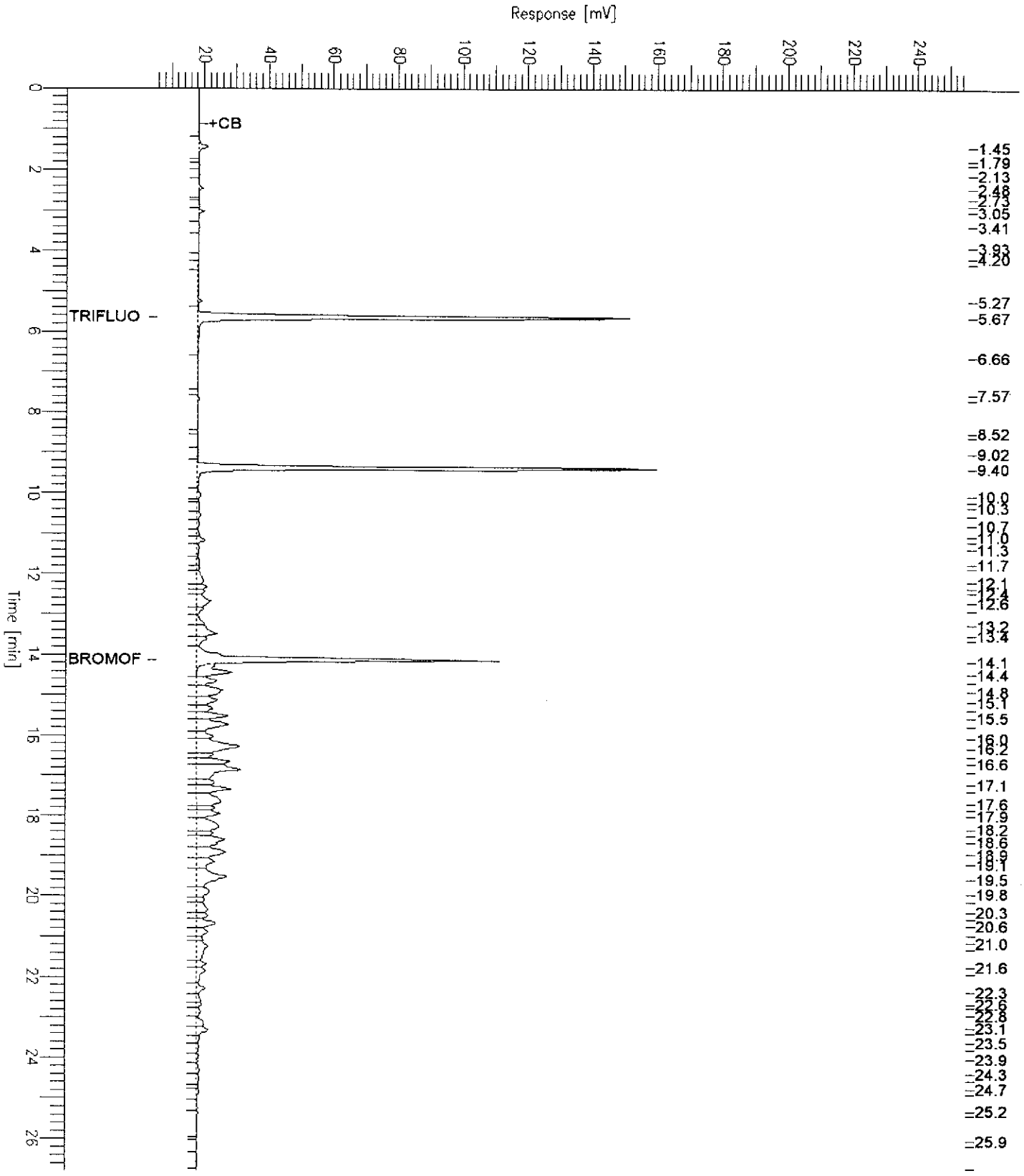
Sample #: Page 1 of 1
Date : 5/2/00 09:08 PM
Time of Injection: 5/2/00 08:41 PM
Low Point : 5.76 mV High Point : 255.76 mV
Plot Scale: 250.0 mV



GC19 TVH 'X' Data File (FID)

Sample Name : 145326-004,55526
FileName : G:\GC19\DATA\123X009.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 6 mV

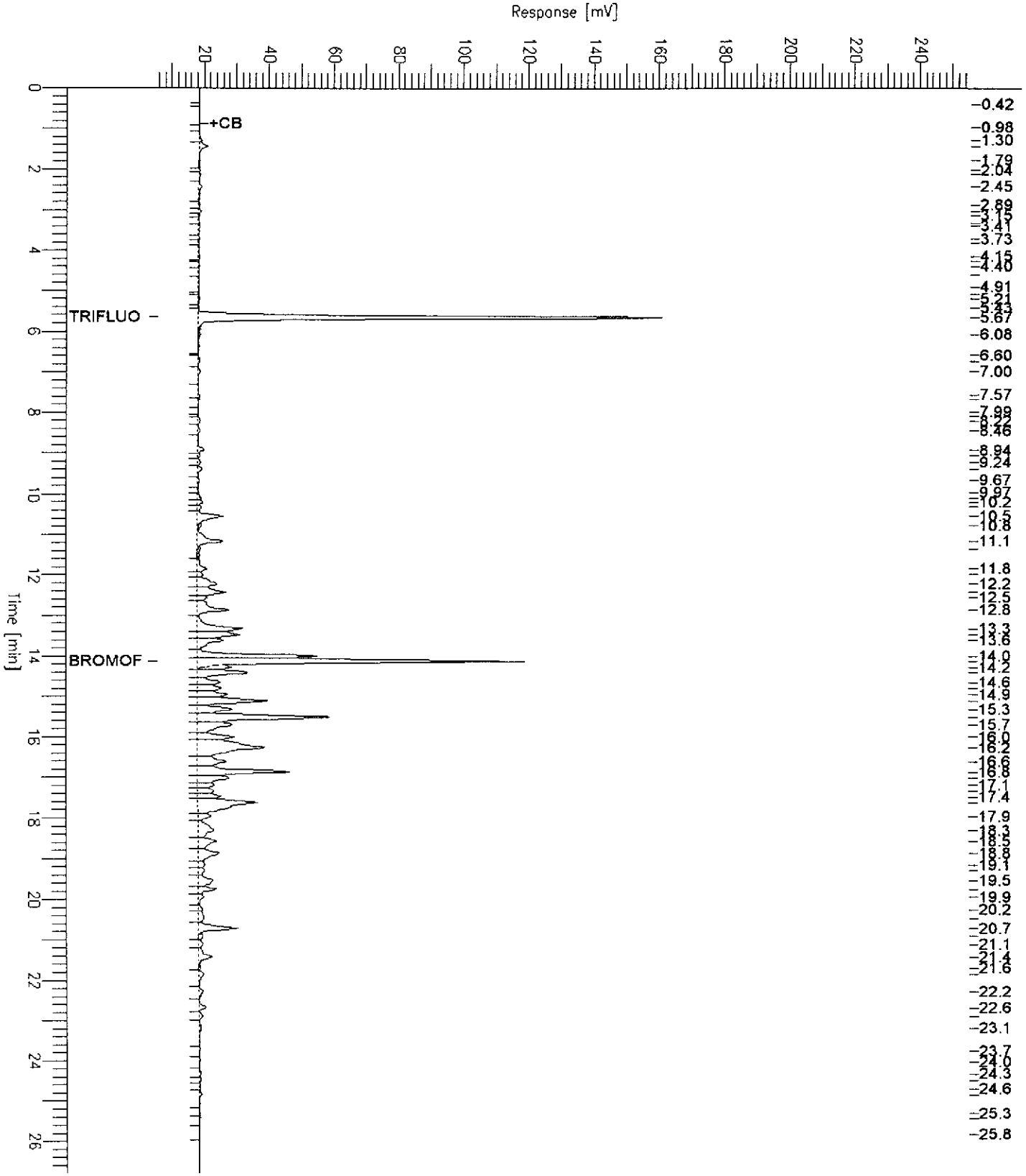
Sample #: Page 1 of 1
Date : 5/2/00 09:50 PM
Time of Injection: 5/2/00 09:23 PM
Low Point : 5.72 mV High Point : 255.72 mV
Plot Scale: 250.0 mV



GC19 TVH 'X' Data File (FID)

Sample Name : 145326-005,55526
FileName : G:\GC19\DATA\123X010.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 6 mV

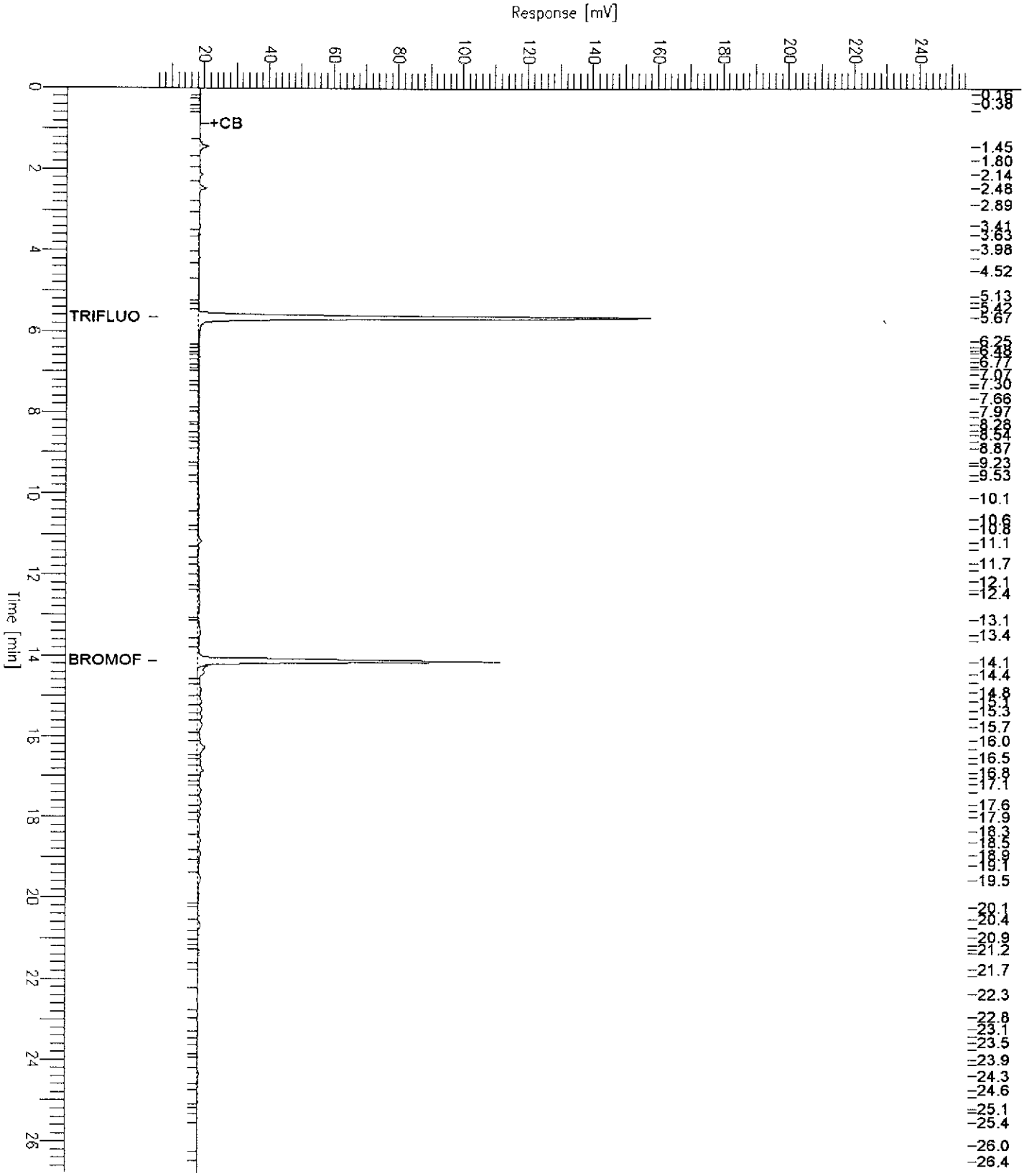
Sample #: Page 1 of 1
Date : 5/2/00 10:33 PM
Time of Injection: 5/2/00 10:06 PM
Low Point : 5.81 mV High Point : 255.81 mV
Plot Scale: 250.0 mV



GC19 TVH 'X' Data File (FID)

Sample Name : 145326-006,55526
FileName : G:\GC19\DATA\123X011.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 6 mV

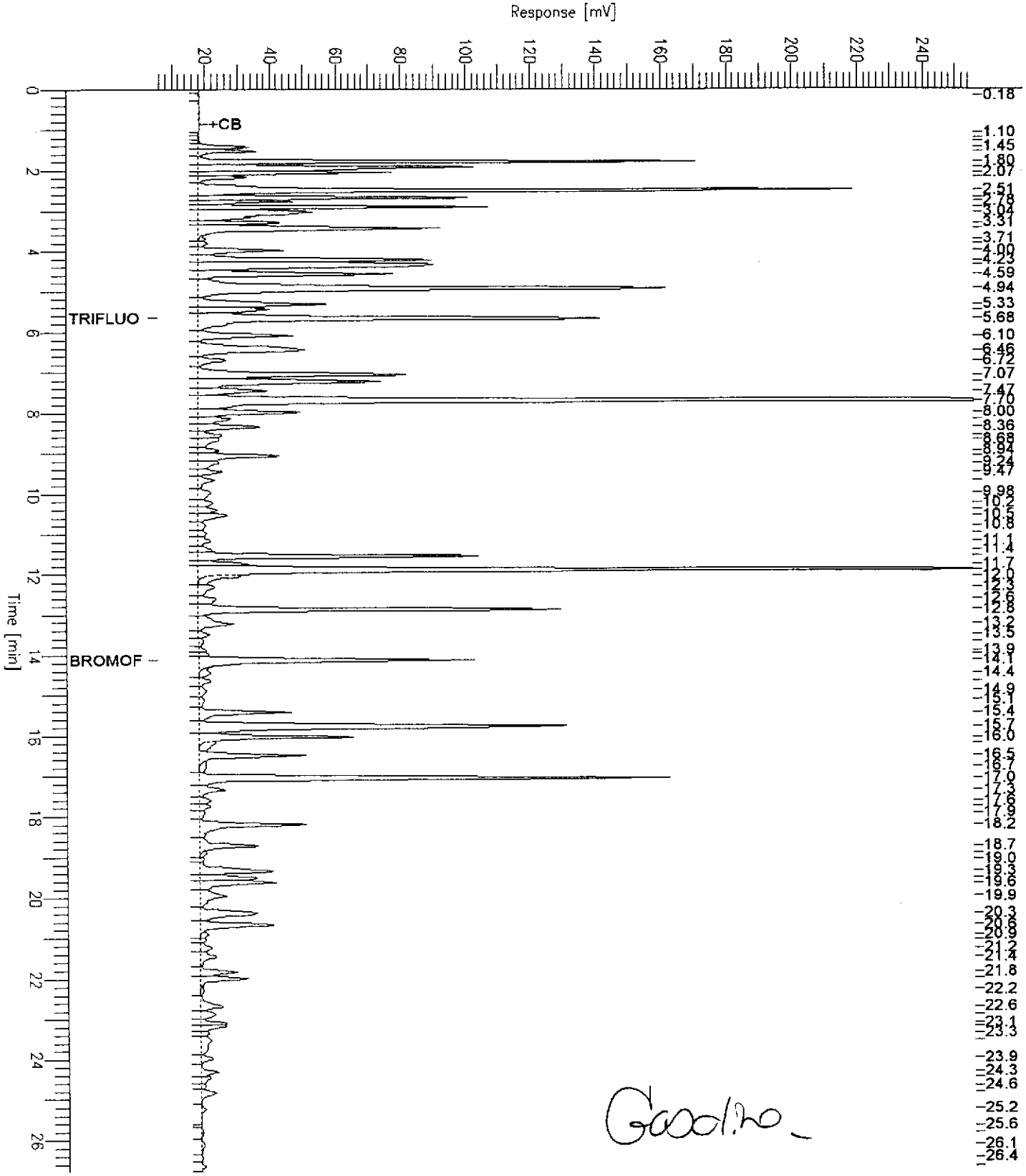
Sample #: Page 1 of 1
Date : 5/2/00 11:15 PM
Time of Injection: 5/2/00 10:48 PM
Low Point : 5.89 mV High Point : 255.89 mV
Plot Scale: 250.0 mV



GC19 TVH 'X' Data File (FID)

Sample Name : CCV/LCS,QC114425,55526,00WS9032,5/5000
FileName : G:\GC19\DATA\123X003.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 6 mV

Sample #: GAS Page 1 of 1
Date : 5/2/00 05:33 PM
Time of Injection: 5/2/00 05:06 PM
Low Point : 5.66 mV High Point : 255.66 mV
Plot Scale: 250.0 mV

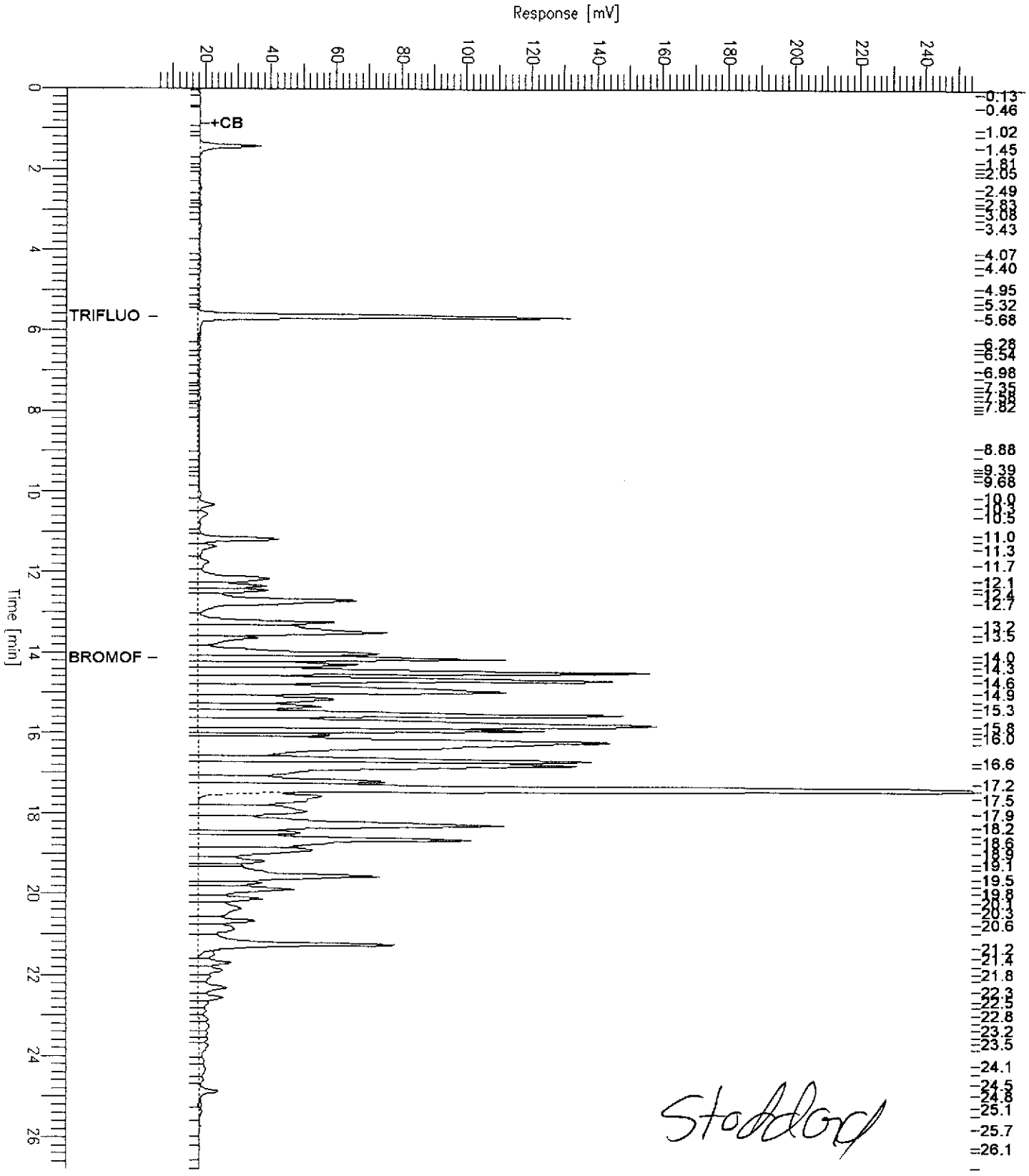


Good!no_

GC19 TVH 'X' Data File (FID)

Sample Name : CCV,STODDARD,55526,00WS8810,5/5000
FileName : G:\GC19\DATA\123X002.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 5 mV

Sample #: STODDARD Page 1 of 1
Date : 5/2/00 04:50 PM
Time of Injection: 5/2/00 04:23 PM
Low Point : 5.26 mV High Point : 255.26 mV
Plot Scale: 250.0 mV



Stoddard

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8021B
Matrix:	Water	Sampled:	04/27/00
Units:	ug/L	Received:	04/27/00
Diln Fac:	1.000	Analyzed:	05/02/00
Batch#:	55526		

Field ID: GW-5 Lab ID: 145326-001
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	2.0
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	114	56-142
Bromofluorobenzene (PID)	111	55-149

Field ID: GW-3FB Lab ID: 145326-002
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	2.0
Benzene	ND	0.50
Toluene	0.54	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	113	56-142
Bromofluorobenzene (PID)	113	55-149

Field ID: GW-3 Lab ID: 145326-003
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	2.0
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	111	56-142
Bromofluorobenzene (PID)	112	55-149

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8021B
Matrix:	Water	Sampled:	04/27/00
Units:	ug/L	Received:	04/27/00
Diln Fac:	1.000	Analyzed:	05/02/00
Batch#:	55526		

Field ID: GW-103 Lab ID: 145326-004
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	2.0
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	106	56-142
Bromofluorobenzene (PID)	108	55-149

Field ID: GW-4 Lab ID: 145326-005
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	2.0
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	2.7	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	117	56-142
Bromofluorobenzene (PID)	123	55-149

Field ID: GW-6A Lab ID: 145326-006
Type: SAMPLE

Analyte	Result	RL
MTBE	ND	2.0
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	111	56-142
Bromofluorobenzene (PID)	111	55-149

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8021B
Matrix:	Water	Sampled:	04/27/00
Units:	ug/L	Received:	04/27/00
Diln Fac:	1.000	Analyzed:	05/02/00
Batch#:	55526		

Type: BLANK Lab ID: QC114427

Analyte	Result	RL
MTBE	<2.0	2.0
Benzene	<0.50	0.50
Toluene	<0.50	0.50
Ethylbenzene	<0.50	0.50
m,p-Xylenes	<0.50	0.50
o-Xylene	<0.50	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	97	56-142
Bromofluorobenzene (PID)	96	55-149

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8015M
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC114425	Batch#:	55526
Matrix:	Water	Analyzed:	05/02/00
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,051	103	73-121

Surrogate	%REC	Limits
Trifluorotoluene (FID)	115	59-135
Bromofluorobenzene (FID)	114	60-140

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC114426	Batch#:	55526
Matrix:	Water	Analyzed:	05/02/00
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	17.71	89	51-125
Benzene	20.00	16.66	83	67-117
Toluene	20.00	17.96	90	69-117
Ethylbenzene	20.00	18.37	92	68-124
m,p-Xylenes	40.00	39.26	98	70-125
o-Xylene	20.00	18.29	91	65-129

Surrogate	%REC	Limits
Trifluorotoluene (PID)	98	56-142
Bromofluorobenzene (PID)	99	55-149

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8015M
Field ID:	ZZZZZZZZZZ	Batch#:	55526
MSS Lab ID:	145317-003	Sampled:	04/27/00
Matrix:	Water	Received:	04/28/00
Units:	ug/L	Analyzed:	05/03/00
Diln Fac:	1.000		

Type: MS Lab ID: QC114428

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	65.50	2,000	2,110	102	65-131

Surrogate	%REC	Limits
Trifluorotoluene (FID)	131	59-135
Bromofluorobenzene (FID)	132	60-140

Type: MSD Lab ID: QC114429

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,104	102	65-131	0	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	128	59-135
Bromofluorobenzene (FID)	126	60-140

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Field ID:	GW-5	Batch#:	55660
Lab ID:	145326-001	Sampled:	04/27/00
Matrix:	Water	Received:	04/27/00
Units:	ug/L	Analyzed:	05/07/00
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	2.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	111	78-123
Toluene-d8	105	80-110
Bromofluorobenzene	96	80-115

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Field ID:	GW-3FB	Batch#:	55660
Lab ID:	145326-002	Sampled:	04/27/00
Matrix:	Water	Received:	04/27/00
Units:	ug/L	Analyzed:	05/07/00
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	2.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	78-123
Toluene-d8	104	80-110
Bromofluorobenzene	96	80-115

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Field ID:	GW-3	Units:	ug/L
Lab ID:	145326-003	Sampled:	04/27/00
Matrix:	Water	Received:	04/27/00

Analyte	Result	RL	Dil Fac	Batch#	Analyzed
Freon 12	ND	2.0	1.000	55660	05/07/00
Chloromethane	ND	1.0	1.000	55660	05/07/00
Vinyl Chloride	ND	0.5	1.000	55660	05/07/00
Bromomethane	ND	1.0	1.000	55660	05/07/00
Chloroethane	ND	1.0	1.000	55660	05/07/00
Trichlorofluoromethane	ND	0.5	1.000	55660	05/07/00
Freon 113	ND	5.0	1.000	55660	05/07/00
1,1-Dichloroethene	ND	0.5	1.000	55660	05/07/00
Methylene Chloride	ND	5.0	1.000	55660	05/07/00
trans-1,2-Dichloroethene	ND	0.5	1.000	55660	05/07/00
1,1-Dichloroethane	ND	0.5	1.000	55660	05/07/00
cis-1,2-Dichloroethene	5.6	0.5	1.000	55660	05/07/00
Chloroform	ND	0.5	1.000	55660	05/07/00
1,1,1-Trichloroethane	ND	0.5	1.000	55660	05/07/00
Carbon Tetrachloride	ND	0.5	1.000	55660	05/07/00
1,2-Dichloroethane	ND	0.5	1.000	55660	05/07/00
Trichloroethene	2.3	0.5	1.000	55660	05/07/00
1,2-Dichloropropane	ND	0.5	1.000	55660	05/07/00
Bromodichloromethane	ND	0.5	1.000	55660	05/07/00
cis-1,3-Dichloropropene	ND	0.5	1.000	55660	05/07/00
trans-1,3-Dichloropropene	ND	0.5	1.000	55660	05/07/00
1,1,2-Trichloroethane	ND	0.5	1.000	55660	05/07/00
Tetrachloroethene	350	2.0	4.000	55713	05/09/00
Dibromochloromethane	ND	0.5	1.000	55660	05/07/00
Chlorobenzene	ND	0.5	1.000	55660	05/07/00
Bromoform	ND	0.5	1.000	55660	05/07/00
1,1,2,2-Tetrachloroethane	ND	0.5	1.000	55660	05/07/00
1,3-Dichlorobenzene	ND	0.5	1.000	55660	05/07/00
1,4-Dichlorobenzene	ND	0.5	1.000	55660	05/07/00
1,2-Dichlorobenzene	ND	0.5	1.000	55660	05/07/00

Surrogate	%REC	Limits	Dil Fac	Batch#	Analyzed
1,2-Dichloroethane-d4	113	78-123	1.000	55660	05/07/00
Toluene-d8	104	80-110	1.000	55660	05/07/00
Bromofluorobenzene	96	80-115	1.000	55660	05/07/00

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Field ID:	GW-103	Batch#:	55713
Lab ID:	145326-004	Sampled:	04/27/00
Matrix:	Water	Received:	04/27/00
Units:	ug/L	Analyzed:	05/09/00
Diln Fac:	2.500		

Analyte	Result	RL
Freon 12	ND	5.0
Chloromethane	ND	2.5
Vinyl Chloride	ND	1.3
Bromomethane	ND	2.5
Chloroethane	ND	2.5
Trichlorofluoromethane	ND	1.3
Freon 113	ND	13
1,1-Dichloroethene	ND	1.3
Methylene Chloride	ND	13
trans-1,2-Dichloroethene	ND	1.3
1,1-Dichloroethane	ND	1.3
cis-1,2-Dichloroethene	2.3	1.3
Chloroform	ND	1.3
1,1,1-Trichloroethane	ND	1.3
Carbon Tetrachloride	ND	1.3
1,2-Dichloroethane	ND	1.3
Trichloroethene	1.5	1.3
1,2-Dichloropropane	ND	1.3
Bromodichloromethane	ND	1.3
cis-1,3-Dichloropropene	ND	1.3
trans-1,3-Dichloropropene	ND	1.3
1,1,2-Trichloroethane	ND	1.3
Tetrachloroethene	270	1.3
Dibromochloromethane	ND	1.3
Chlorobenzene	ND	1.3
Bromoform	ND	1.3
1,1,2,2-Tetrachloroethane	ND	1.3
1,3-Dichlorobenzene	ND	1.3
1,4-Dichlorobenzene	ND	1.3
1,2-Dichlorobenzene	ND	1.3

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	95	78-123
Toluene-d8	99	80-110
Bromofluorobenzene	100	80-115

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Field ID:	GW-4	Batch#:	55713
Lab ID:	145326-005	Sampled:	04/27/00
Matrix:	Water	Received:	04/27/00
Units:	ug/L	Analyzed:	05/09/00
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	2.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	1.0	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	0.6	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	1.7	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	96	78-123
Toluene-d8	99	80-110
Bromofluorobenzene	100	80-115

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Field ID:	GW-6A	Batch#:	55660
Lab ID:	145326-006	Sampled:	04/27/00
Matrix:	Water	Received:	04/27/00
Units:	ug/L	Analyzed:	05/07/00
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	2.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	110	78-123
Toluene-d8	105	80-110
Bromofluorobenzene	96	80-115

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC114924	Batch#:	55660
Matrix:	Water	Analyzed:	05/07/00
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	2.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	106	78-123
Toluene-d8	103	80-110
Bromofluorobenzene	96	80-115

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC115141	Batch#:	55713
Matrix:	Water	Analyzed:	05/09/00
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	2.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	97	78-123
Toluene-d8	100	80-110
Bromofluorobenzene	99	80-115

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	55660
Units:	ug/L	Analyzed:	05/07/00
Diln Fac:	1.000		

Type: BS Lab ID: QC114922

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	50.47	101	74-132
Trichloroethene	50.00	44.99	90	80-119
Chlorobenzene	50.00	49.00	98	80-117

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	104	78-123
Toluene-d8	102	80-110
Bromofluorobenzene	93	80-115

Type: BSD Lab ID: QC114923

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	50.00	48.73	97	74-132	4	20
Trichloroethene	50.00	44.66	89	80-119	1	20
Chlorobenzene	50.00	47.94	96	80-117	2	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	104	78-123
Toluene-d8	102	80-110
Bromofluorobenzene	92	80-115

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145326	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	55713
Units:	ug/L	Analyzed:	05/09/00
Diln Fac:	1.000		

Type: BS Lab ID: QC115139

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	54.20	108	74-132
Trichloroethene	50.00	52.67	105	80-119
Chlorobenzene	50.00	52.25	104	80-117

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	89	78-123
Toluene-d8	100	80-110
Bromofluorobenzene	99	80-115

Type: BSD Lab ID: QC115140

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	50.00	51.64	103	74-132	5	20
Trichloroethene	50.00	50.62	101	80-119	4	20
Chlorobenzene	50.00	50.31	101	80-117	4	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	94	78-123
Toluene-d8	100	80-110
Bromofluorobenzene	100	80-115

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

LFR-Levine-Fricke
1900 Powell Street
12th Floor
Emeryville, CA 94608

Date: 16-MAY-00
Lab Job Number: 145327
Project ID: 6895
Location: Glovatorium

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by: _____
Project Manager

Reviewed by: _____
Operations Manager

Curtis & Tompkins, Ltd.

Laboratory Numbers: **145327**
Client: **LFR-Levine-Fricke**
Project #: **6895**
Location: **Glovatorium**
COC#: **5999**

Sampled Date: **04/27,28/00**
Received Date: **04/28/00**

CASE NARRATIVE

This hardcopy data package contains sample and QC results for six water samples, which were received from the site referenced above on April 28, 2000. The samples were received intact. Two for the six samples were placed on hold upon receipt. All data were faxed to Taylor Bennet on May 16,2000.

TVH/BTXE:
No analytical problems were encountered.

VOCs (EPA 8260):
No analytical problems were encountered.

14530

CHAIN OF CUSTODY / ANALYSES REQUEST FORM

TEMP. RECEIVED: 4.6

RECEIVED BY:

Project No.: 6895.00.028	Project Location: Oakland, CA	Date: 4/28/00	Serial No. 5999
Project Name: Glaveitorium	Field Logbook No.: MXD-3	Sample Event Name:	
Sampler (Signature):			Samplers: MXD

SAMPLE INFORMATION (Print Clearly)

SAMPLE NO.	DATE	TIME	LAB SAMPLE NO.	NO. OF CONTAINERS	SAMPLE TYPE	ANALYSES: 8016	8015	8020 w MTBE BTEX			HOLD	RUSH	REMARKS
1 TB6895	4/27/00	0900		3	H2O	X	X	X	X				8015 please include both Stoddard solvent and gasoline as standard
2 MW-11 FB	4/28/00	1030		6							X		
3 GW-8		1200		6									1 week TAT
4 GW-108		1205		6							X		
5 GW-2		1245		6									Results to Taylor Bennett
6 MW-11		1325		6									Please run the 3 VOAs received on 4/27. More VOAs couldn't be filled

RELINQUISHED BY: (Signature)	DATE: 4/28/00	TIME: 1640	RECEIVED BY: (Signature)	DATE: 4-28-00	TIME: 1640
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
RELINQUISHED BY: (Signature)	DATE	TIME	RECEIVED BY: (Signature)	DATE	TIME
METHOD OF SHIPMENT: Carrier	DATE	TIME	LAB COMMENTS:		

Sample Collector:
LEVINE•FRICKE•RECON
1900 Powell Street, 12th Floor
Emeryville, California 94608-1827
(510) 652-4500

Analytical Laboratory: C+T

Shipping Copy (White) Lab Copy (Yellow) File Copy (Pink) Field Copy (Goldenrod)

9999\COCTEMP.CDR 042998

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8015M
Matrix:	Water	Batch#:	55526
Units:	ug/L	Sampled:	04/27/00
Diln Fac:	1.000	Received:	04/28/00

Field ID: TB6895 Lab ID: 145327-001
Type: SAMPLE Analyzed: 05/02/00

Analyte	Result	RL
Gasoline C7-C12	ND	50
Stoddard Solvent C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	116	59-135
Bromofluorobenzene (FID)	115	60-140

Field ID: GW-8 Lab ID: 145327-003
Type: SAMPLE Analyzed: 05/03/00

Analyte	Result	RL
Gasoline C7-C12	120 Y Z	50
Stoddard Solvent C7-C12	64 Y Z	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	117	59-135
Bromofluorobenzene (FID)	117	60-140

Field ID: GW-2 Lab ID: 145327-005
Type: SAMPLE Analyzed: 05/03/00

Analyte	Result	RL
Gasoline C7-C12	95 Y Z	50
Stoddard Solvent C7-C12	ND	50

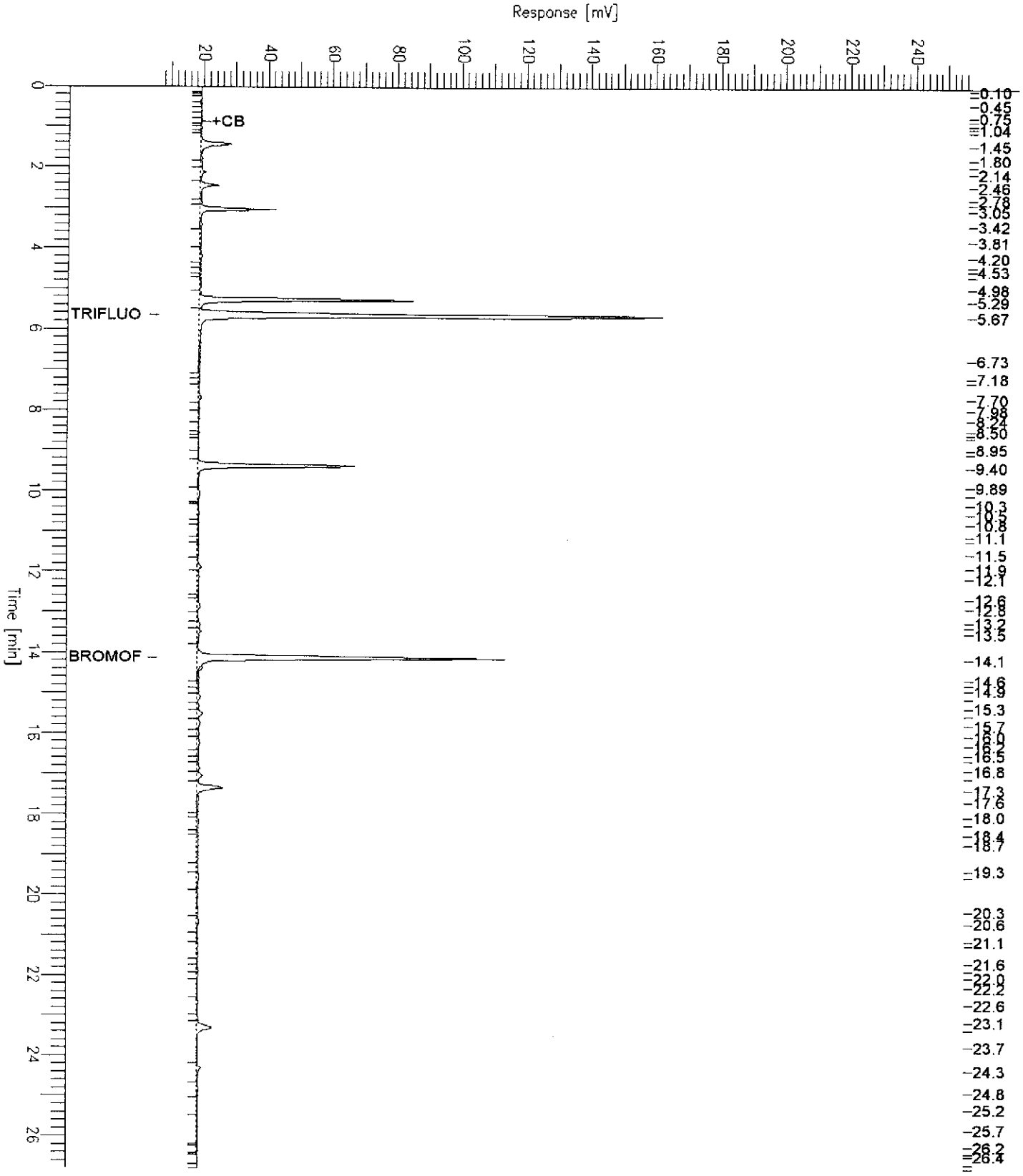
Surrogate	%REC	Limits
Trifluorotoluene (FID)	120	59-135
Bromofluorobenzene (FID)	119	60-140

Y = Sample exhibits fuel pattern which does not resemble standard
Z = Sample exhibits unknown single peak or peaks
ND = Not Detected
RL = Reporting Limit

GC19 TVH 'X' Data File (FID)

Sample Name : 145327-003,55526
FileName : G:\GC19\DATA\123X016.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 6 mV

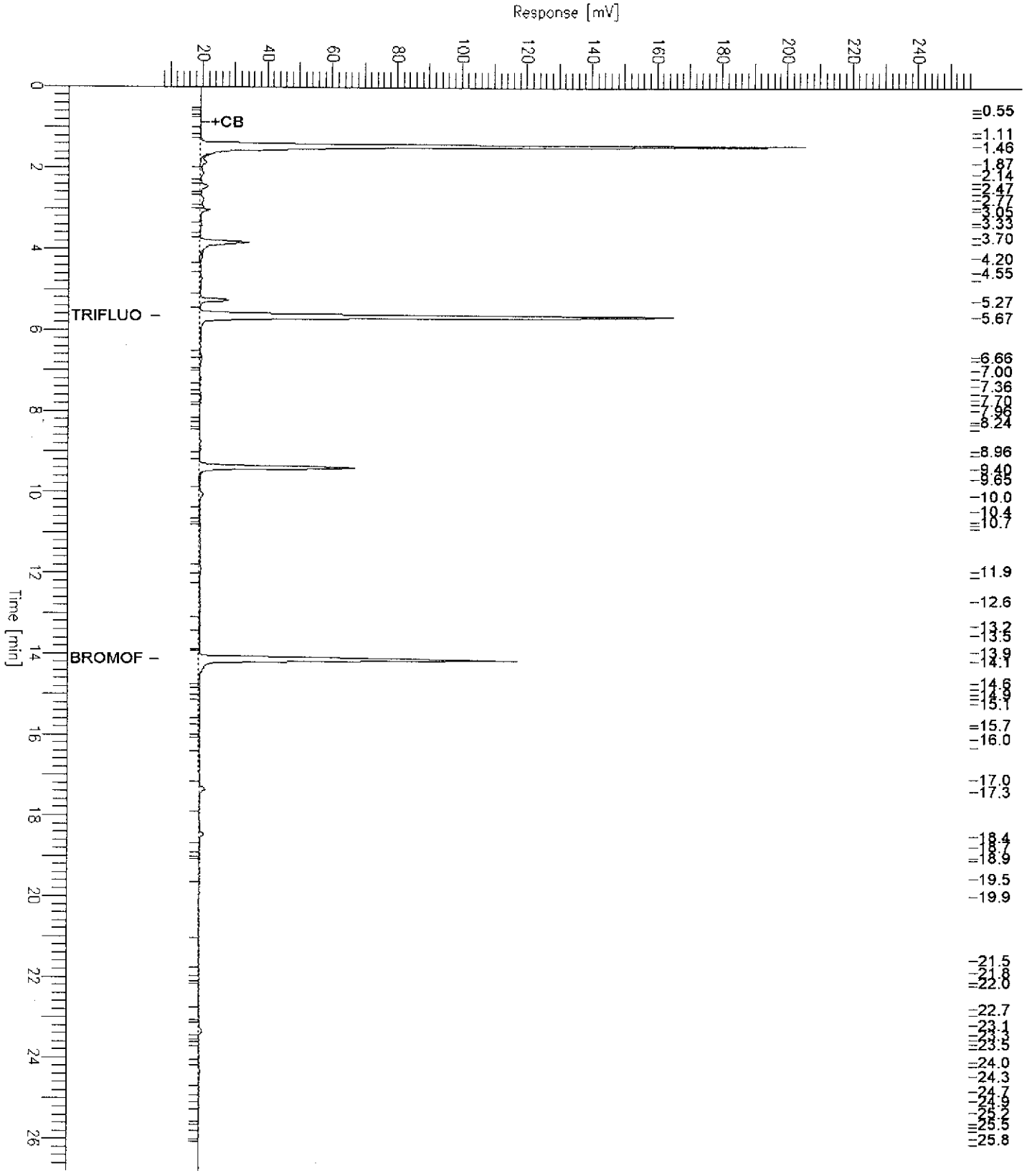
Sample #: Page 1 of 1
Date : 5/3/00 02:47 AM
Time of Injection: 5/3/00 02:20 AM
Low Point : 6.45 mV High Point : 256.45 mV
Plot Scale: 250.0 mV



GC19 TVH 'X' Data File (FID)

Sample Name : 145327-005,55526
FileName : G:\GC19\DATA\123X018.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 7 mV

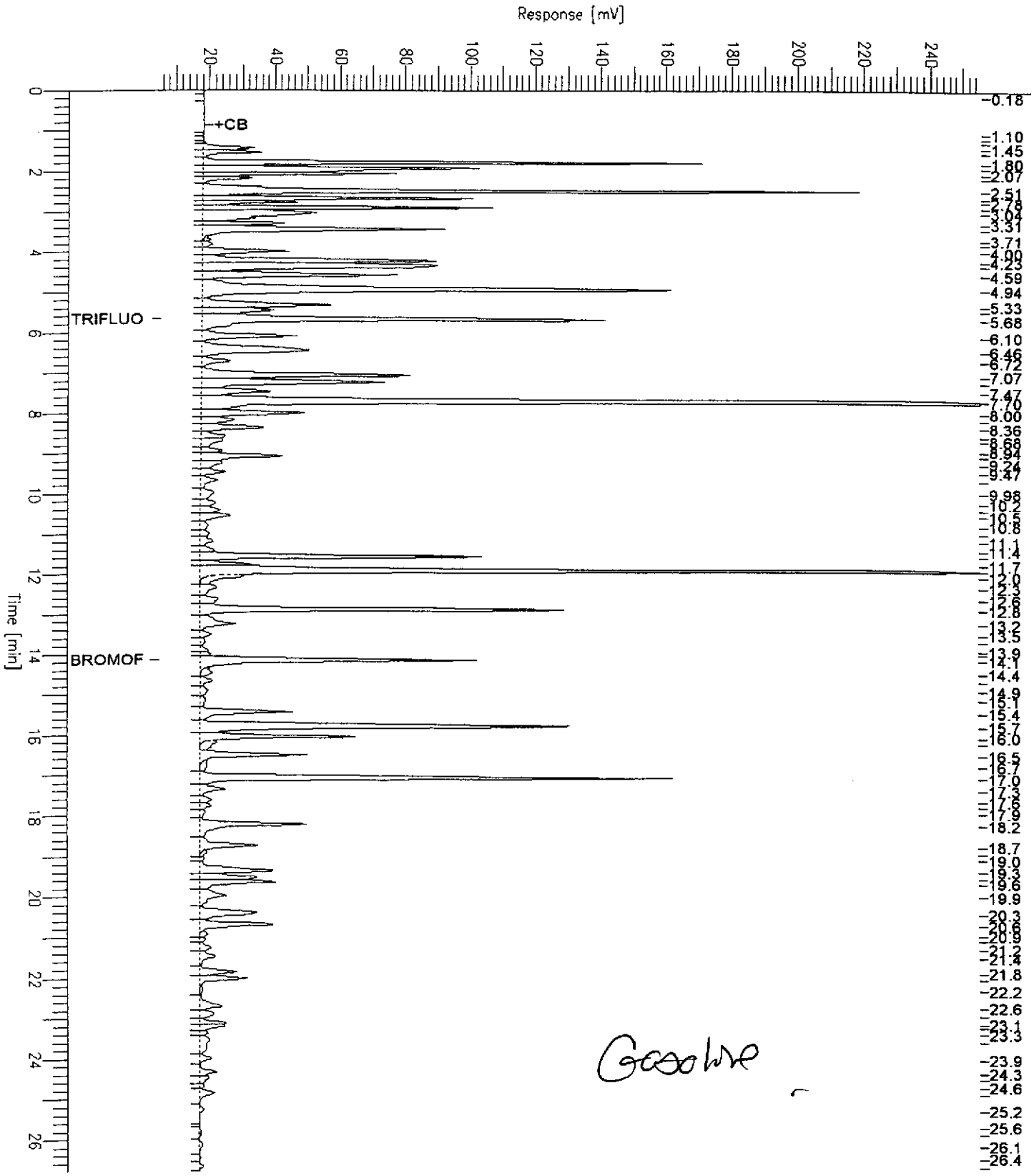
Sample #: Page 1 of 1
Date : 5/3/00 04:12 AM
Time of Injection: 5/3/00 03:45 AM
Low Point : 6.79 mV High Point : 256.79 mV
Plot Scale: 250.0 mV



GC19 TVH 'X' Data File (FID)

Sample Name : CCV/LCS,QC114425,55526,00WS9032,5/5000
FileName : G:\GC19\DATA\123X003.raw
Method : TVHBTXE
Start Time : 0.00 min End Time : 26.80 min
Scale Factor: -1.0 Plot Offset: 6 mV

Sample #: GAS Page 1 of 1
Date : 5/2/00 05:33 PM
Time of Injection: 5/2/00 05:06 PM
Low Point : 5.66 mV High Point : 255.66 mV
Plot Scale: 250.0 mV

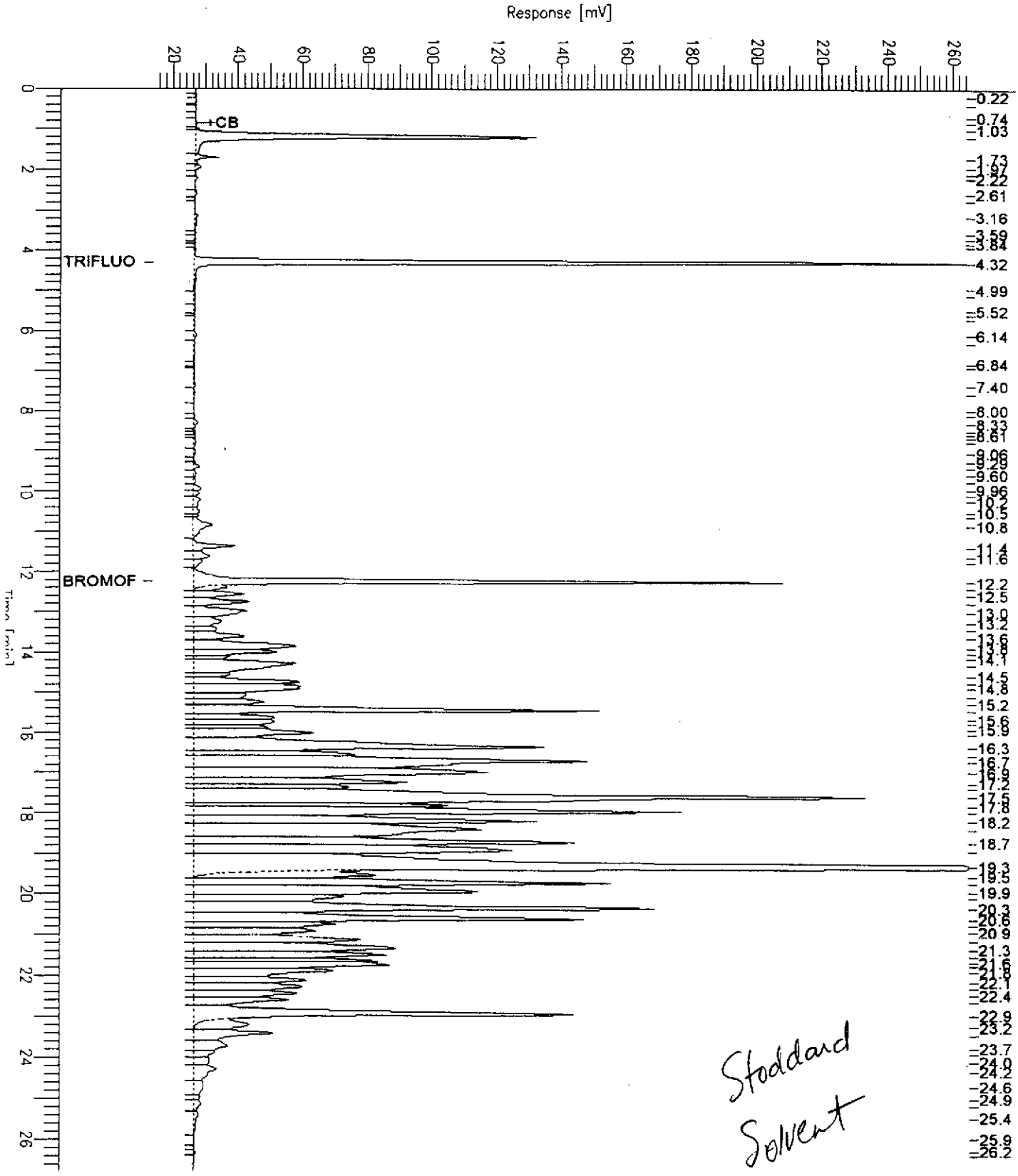


Good

GC19 TVH 'X' Data File (FID)

ample Name : CCV,97WS4980,40466
ileName : G:\GC19\DATA\113X030.raw
ethod : TVHBTXE
tart Time : 0.00 min End Time : 26.80 min
cale Factor: -1.0 Plot Offset: 14 mV

Sample #: STODD Page 1 of 1
Date : 4/24/98 08:16 PM
Time of Injection: 4/24/98 07:49 PM
Low Point : 14.15 mV High Point : 264.15 mV
Plot Scale: 250.0 mV



Stoddard Solvent

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8015M
Matrix:	Water	Batch#:	55526
Units:	ug/L	Sampled:	04/27/00
Diln Fac:	1.000	Received:	04/28/00

Field ID: MW-11 Lab ID: 145327-006
Type: SAMPLE Analyzed: 05/03/00

Analyte	Result	RL
Gasoline C7-C12	ND	50
Stoddard Solvent C7-C12	ND	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	113	59-135
Bromofluorobenzene (FID)	114	60-140

Type: BLANK Analyzed: 05/02/00
Lab ID: QC114427

Analyte	Result	RL
Gasoline C7-C12	<50	50
Stoddard Solvent C7-C12	<50	50

Surrogate	%REC	Limits
Trifluorotoluene (FID)	98	59-135
Bromofluorobenzene (FID)	97	60-140

Z = Sample exhibits unknown single peak or peaks
ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	55526
Units:	ug/L	Sampled:	04/27/00
Diln Fac:	1.000	Received:	04/28/00

Field ID: TB6895 Lab ID: 145327-001
Type: SAMPLE Analyzed: 05/02/00

Analyte	Result	RL
MTBE	2.4	2.0
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	113	56-142
Bromofluorobenzene (PID)	112	55-149

Field ID: GW-8 Lab ID: 145327-003
Type: SAMPLE Analyzed: 05/03/00

Analyte	Result	RL
MTBE	13	2.0
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	105	56-142
Bromofluorobenzene (PID)	112	55-149

Field ID: GW-2 Lab ID: 145327-005
Type: SAMPLE Analyzed: 05/03/00

Analyte	Result	RL
MTBE	2.1	2.0
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	115	56-142
Bromofluorobenzene (PID)	115	55-149

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8021B
Matrix:	Water	Batch#:	55526
Units:	ug/L	Sampled:	04/27/00
Diln Fac:	1.000	Received:	04/28/00

Field ID: MW-11 Lab ID: 145327-006
Type: SAMPLE Analyzed: 05/03/00

Analyte	Result	RL
MTBE	8.7	2.0
Benzene	ND	0.50
Toluene	ND	0.50
Ethylbenzene	ND	0.50
m,p-Xylenes	ND	0.50
o-Xylene	ND	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	110	56-142
Bromofluorobenzene (PID)	110	55-149

Type: BLANK Analyzed: 05/02/00
Lab ID: QC114427

Analyte	Result	RL
MTBE	<2.0	2.0
Benzene	<0.50	0.50
Toluene	<0.50	0.50
Ethylbenzene	<0.50	0.50
m,p-Xylenes	<0.50	0.50
o-Xylene	<0.50	0.50

Surrogate	%REC	Limits
Trifluorotoluene (PID)	97	56-142
Bromofluorobenzene (PID)	96	55-149

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8015M
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC114425	Batch#:	55526
Matrix:	Water	Analyzed:	05/02/00
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
Gasoline C7-C12	2,000	2,051	103	73-121

Surrogate	%REC	Limits
Trifluorotoluene (FID)	115	59-135
Bromofluorobenzene (FID)	114	60-140

Curtis & Tompkins, Ltd.

Benzene, Toluene, Ethylbenzene, Xylenes

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8021B
Type:	LCS	Diln Fac:	1.000
Lab ID:	QC114426	Batch#:	55526
Matrix:	Water	Analyzed:	05/02/00
Units:	ug/L		

Analyte	Spiked	Result	%REC	Limits
MTBE	20.00	17.71	89	51-125
Benzene	20.00	16.66	83	67-117
Toluene	20.00	17.96	90	69-117
Ethylbenzene	20.00	18.37	92	68-124
m,p-Xylenes	40.00	39.26	98	70-125
o-Xylene	20.00	18.29	91	65-129

Surrogate	%REC	Limits
Trifluorotoluene (PID)	98	56-142
Bromofluorobenzene (PID)	99	55-149

Curtis & Tompkins, Ltd.

Gasoline by GC/FID CA LUFT

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8015M
Field ID:	ZZZZZZZZZZ	Batch#:	55526
MSS Lab ID:	145317-003	Sampled:	04/27/00
Matrix:	Water	Received:	04/28/00
Units:	ug/L	Analyzed:	05/03/00
Diln Fac:	1.000		

Type: MS Lab ID: QC114428

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	65.50	2,000	2,110	102	65-131

Surrogate	%REC	Limits
Trifluorotoluene (FID)	131	59-135
Bromofluorobenzene (FID)	132	60-140

Type: MSD Lab ID: QC114429

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	2,000	2,104	102	65-131	0	20

Surrogate	%REC	Limits
Trifluorotoluene (FID)	128	59-135
Bromofluorobenzene (FID)	126	60-140

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Field ID:	TB6895	Batch#:	55738
Lab ID:	145327-001	Sampled:	04/27/00
Matrix:	Water	Received:	04/28/00
Units:	ug/L	Analyzed:	05/10/00
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	2.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	78-123
Toluene-d8	102	80-110
Bromofluorobenzene	100	80-115

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Field ID:	GW-8	Batch#:	55738
Lab ID:	145327-003	Sampled:	04/27/00
Matrix:	Water	Received:	04/28/00
Units:	ug/L	Analyzed:	05/10/00
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	2.0
Chloromethane	ND	1.0
Vinyl Chloride	2.3	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
trans-1,2-Dichloroethene	5.3	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	29	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	110	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	120	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	96	78-123
Toluene-d8	99	80-110
Bromofluorobenzene	100	80-115

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Field ID:	GW-2	Batch#:	55738
Lab ID:	145327-005	Sampled:	04/27/00
Matrix:	Water	Received:	04/28/00
Units:	ug/L	Analyzed:	05/10/00
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	2.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	3.3	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	16	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	120	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	96	78-123
Toluene-d8	102	80-110
Bromofluorobenzene	98	80-115

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Field ID:	MW-11	Batch#:	55773
Lab ID:	145327-006	Sampled:	04/27/00
Matrix:	Water	Received:	04/28/00
Units:	ug/L	Analyzed:	05/11/00
Diln Fac:	1.000		

Analyte	Result	RL
Freon 12	ND	2.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	0.5	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	97	78-123
Toluene-d8	101	80-110
Bromofluorobenzene	100	80-115

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC115244	Batch#:	55738
Matrix:	Water	Analyzed:	05/10/00
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	2.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	97	78-123
Toluene-d8	100	80-110
Bromofluorobenzene	99	80-115

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Type:	BLANK	Diln Fac:	1.000
Lab ID:	QC115379	Batch#:	55773
Matrix:	Water	Analyzed:	05/11/00
Units:	ug/L		

Analyte	Result	RL
Freon 12	ND	2.0
Chloromethane	ND	1.0
Vinyl Chloride	ND	0.5
Bromomethane	ND	1.0
Chloroethane	ND	1.0
Trichlorofluoromethane	ND	0.5
Freon 113	ND	5.0
1,1-Dichloroethene	ND	0.5
Methylene Chloride	ND	5.0
trans-1,2-Dichloroethene	ND	0.5
1,1-Dichloroethane	ND	0.5
cis-1,2-Dichloroethene	ND	0.5
Chloroform	ND	0.5
1,1,1-Trichloroethane	ND	0.5
Carbon Tetrachloride	ND	0.5
1,2-Dichloroethane	ND	0.5
Trichloroethene	ND	0.5
1,2-Dichloropropane	ND	0.5
Bromodichloromethane	ND	0.5
cis-1,3-Dichloropropene	ND	0.5
trans-1,3-Dichloropropene	ND	0.5
1,1,2-Trichloroethane	ND	0.5
Tetrachloroethene	ND	0.5
Dibromochloromethane	ND	0.5
Chlorobenzene	ND	0.5
Bromoform	ND	0.5
1,1,2,2-Tetrachloroethane	ND	0.5
1,3-Dichlorobenzene	ND	0.5
1,4-Dichlorobenzene	ND	0.5
1,2-Dichlorobenzene	ND	0.5

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	98	78-123
Toluene-d8	99	80-110
Bromofluorobenzene	100	80-115

ND = Not Detected
RL = Reporting Limit

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	55738
Units:	ug/L	Analyzed:	05/10/00
Diln Fac:	1.000		

Type: BS Lab ID: QC115242

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	54.73	109	74-132
Trichloroethene	50.00	52.61	105	80-119
Chlorobenzene	50.00	51.82	104	80-117

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	93	78-123
Toluene-d8	100	80-110
Bromofluorobenzene	99	80-115

Type: BSD Lab ID: QC115243

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	50.00	51.63	103	74-132	7	20
Trichloroethene	50.00	50.88	102	80-119	5	20
Chlorobenzene	50.00	50.12	100	80-117	3	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	93	78-123
Toluene-d8	101	80-110
Bromofluorobenzene	101	80-115

RPD= Relative Percent Difference

Curtis & Tompkins, Ltd.

Purgeable Halocarbons by GC/MS

Lab #:	145327	Location:	Glovatorium
Client:	LFR-Levine-Fricke	Prep:	EPA 5030
Project#:	6895	Analysis:	EPA 8260B
Matrix:	Water	Batch#:	55773
Units:	ug/L	Analyzed:	05/11/00
Diln Fac:	1.000		

Type: BS Lab ID: QC115376

Analyte	Spiked	Result	%REC	Limits
1,1-Dichloroethene	50.00	56.01	112	74-132
Trichloroethene	50.00	52.47	105	80-119
Chlorobenzene	50.00	51.15	102	80-117

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	95	78-123
Toluene-d8	100	80-110
Bromofluorobenzene	101	80-115

Type: BSD Lab ID: QC115377

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
1,1-Dichloroethene	50.00	53.64	107	74-132	4	20
Trichloroethene	50.00	50.87	102	80-119	3	20
Chlorobenzene	50.00	49.96	100	80-117	2	20

Surrogate	%REC	Limits
1,2-Dichloroethane-d4	96	78-123
Toluene-d8	102	80-110
Bromofluorobenzene	99	80-115

RPD= Relative Percent Difference