San Francisco Regional Office

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



Clayton
ENVIRONMENTAL
CONSULTANTS

July 2, 1996

Ms. Eva Chu
Hazardous Materials Specialist
ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
1131 Harbor Bay Parkway
Alameda, California 94502-6577

Clayton Project No. 62009.00

Subject: March 1996 Groundwater Monitoring Results and
Request for No Further Action at Former UST site Located at
Bank of America Facility
1528 Webster Street
Alameda, California
B of A ES#302412

Dear Ms. Chu:

Clayton Environmental Consultants, Inc. (Clayton) is providing this letter on behalf of Bank of America (B of A) to present the attached report summarizing the March 1996 groundwater sampling results and to request an order for no further action at the former UST site located at 1528 Webster Street, Alameda, California. The location of the site is shown in Figure 1. An order for no further action is requested because the UST and soils containing hydrocarbons have been removed and only low levels of residual hydrocarbons remain in groundwater at the site.

The locations of the former UST and of the groundwater monitoring wells at the site are shown in Figure 2. As shown in Table 1 (which includes the March 1996 results), benzene, toluene ethylbenzene, and xylenes (BTEX) have not been detected in groundwater samples from wells at the site. Total petroleum hydrocarbons as diesel (TPH-D) has been detected at levels from 0.12 milligrams per liter (mg/L, MW-4) to 9.6 mg/L (MW-2).

## Background

On August 3, 1993, an underground storage tank (UST) was removed from beneath the sidewalk adjacent to the subject site (Figure 2). Soil samples collected from the UST excavation pit contained total petroleum hydrocarbons (TPH-D) ranging from 300 to 1,300 milligrams per kilogram (mg/kg).

Because of the elevated concentration of TPH-D in the soil samples, the UST pit was overexcavated on September 14, 1993. The overexcavation was performed to remove contaminated soil to the extent possible without damaging the nearby utility lines or causing

structural weakness to the subject building. Approximately 50 tons of soil was excavated and transported for offsite disposal. No additional excavation was performed because of the nearby utility lines (i.e., storm drains, sewer lines, water lines).

After overexcavation was completed, eight samples were collected from the excavation walls. At the request of Alameda County Health Care Services Agency (ACHCSA), one sample from each excavation wall was analyzed for TPH-D and benzene, toluene, ethylbenzene and xylenes (BTEX). The analytical reports indicated TPH-D concentrations ranging from 107 to 1005 mg/kg in soil samples collected from the east, west, and south walls of the excavation. The soil samples from the excavation pit did not contain BTEX concentrations at or above the analytical detection limits. After sampling was completed, the excavation was backfilled using Class II base rock material.

During April and May 1994, Clayton installed three monitoring wells (MW-1, MW-2, and MW-3) to assess the extent of soil and groundwater contamination from the former UST.

TPH-D was detected in the groundwater samples at levels ranging from 110 micrograms per liter (µg/L) in MW-1 to 4,100 µg/L in MW-2. The TPH-D concentrations in soil samples ranged from less than the reporting limit of 1 mg/kg in the sample from MW-3 to 6 mg/kg in the sample from MW-1. The groundwater flow direction, based on the groundwater elevation data collected on April 7, 1994, was calculated to be toward the south.

On July 5, 1994, ACHCSA requested a Workplan to further delineate the soil and groundwater contamination near the subject site. Clayton submitted the work plan to ACHCSA on September 6, 1994. After receiving the approval from the ACHCSA, Clayton installed two additional monitoring wells (MW-4 and MW-5) at the subject site (Figure 2).

At the request of ACHCSA during the groundwater monitoring event in March 1995, the groundwater sample from monitoring well MW-2 was analyzed for polynuclear aromatic hydrocarbons (PNAs). However, no PNAs were detected in the groundwater sample. As approved by ACHCSA, the subsequent groundwater samples were not analyzed for PNAs.

Groundwater samples were collected and analyzed quarterly during the fourth quarter of 1994 and the first three quarters of 1995. Following the third quarter of 1995, the ACHCSA revised the sampling requirements (letter dated November 8, 1995) as follows:

- Discontinue sampling of MW-1 and MW-5;
- Sample wells MW-3 and MW-4 on an annual basis, in March; and
- Sample well MW-2 on a semiannual basis, in March and September.

The March 1996 sampling has been completed and the results are presented in the attached report.

**Groundwater Flow Direction**

Based on the groundwater elevations measured in March 1996, the groundwater flow was to the south-southwest at a gradient of 0.002 foot per foot. The groundwater elevations and gradient for March 1996 are shown on Figure 2.

**Request for Closure**

Clayton requests an order for no further action for the soils and groundwater in the vicinity of the former UST at the above-referenced site. The request is based on the following:

- The former tank and associated soils containing hydrocarbons have been removed.
- BTEX and PNA were not detected in any of the groundwater samples.
- Concentrations of TPH-D are stable or declining based on the five sampling events conducted at the site since October 1994.

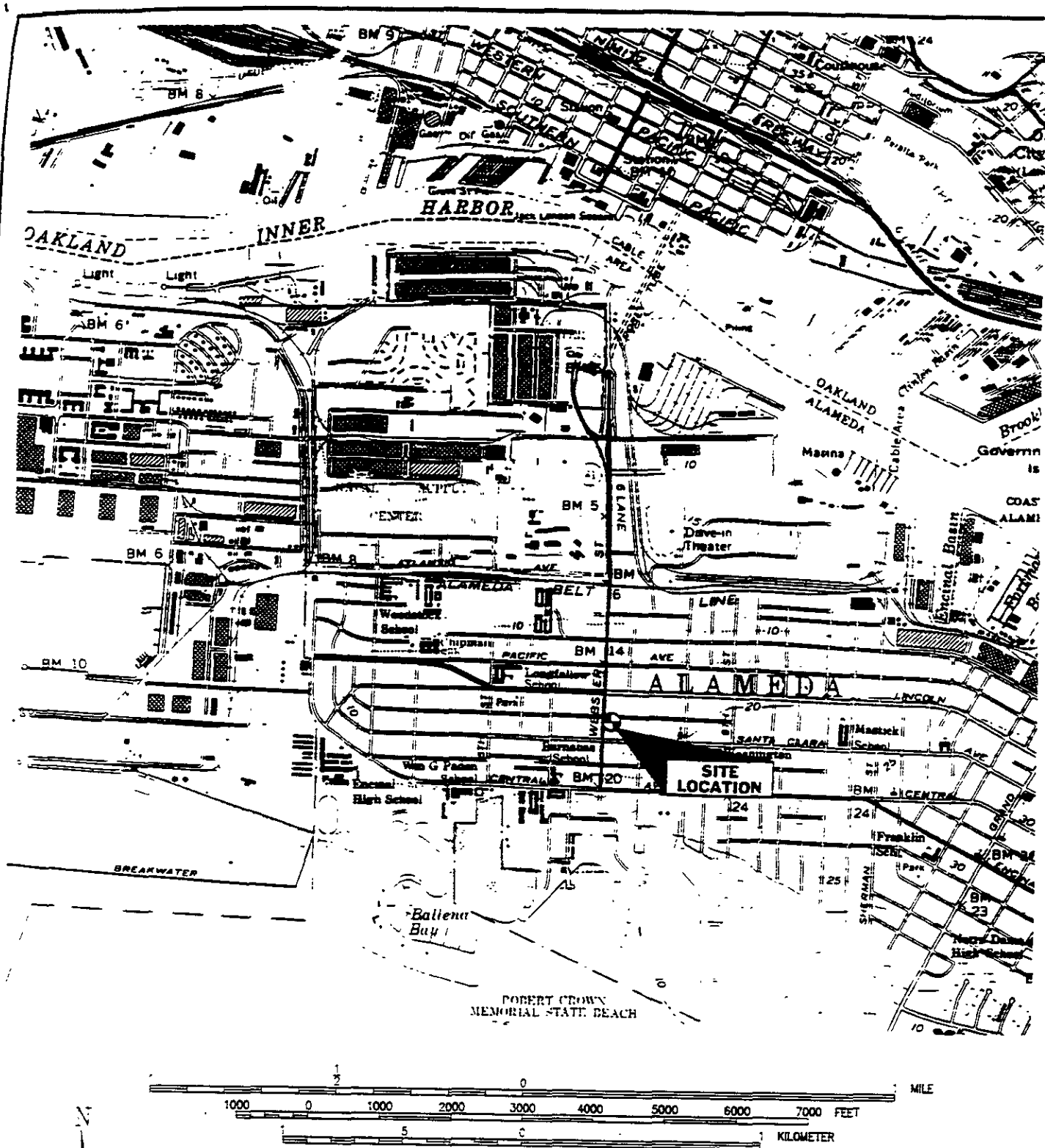
We trust that this information will assist you in your evaluation of the site. If you have any further questions or comments, please contact me at (510) 426-2613 or Mr. Rick Day at (510)426-2676.

Sincerely,

Peter L. Schaefer, RG, CEG, CHG
Senior Project Geologist

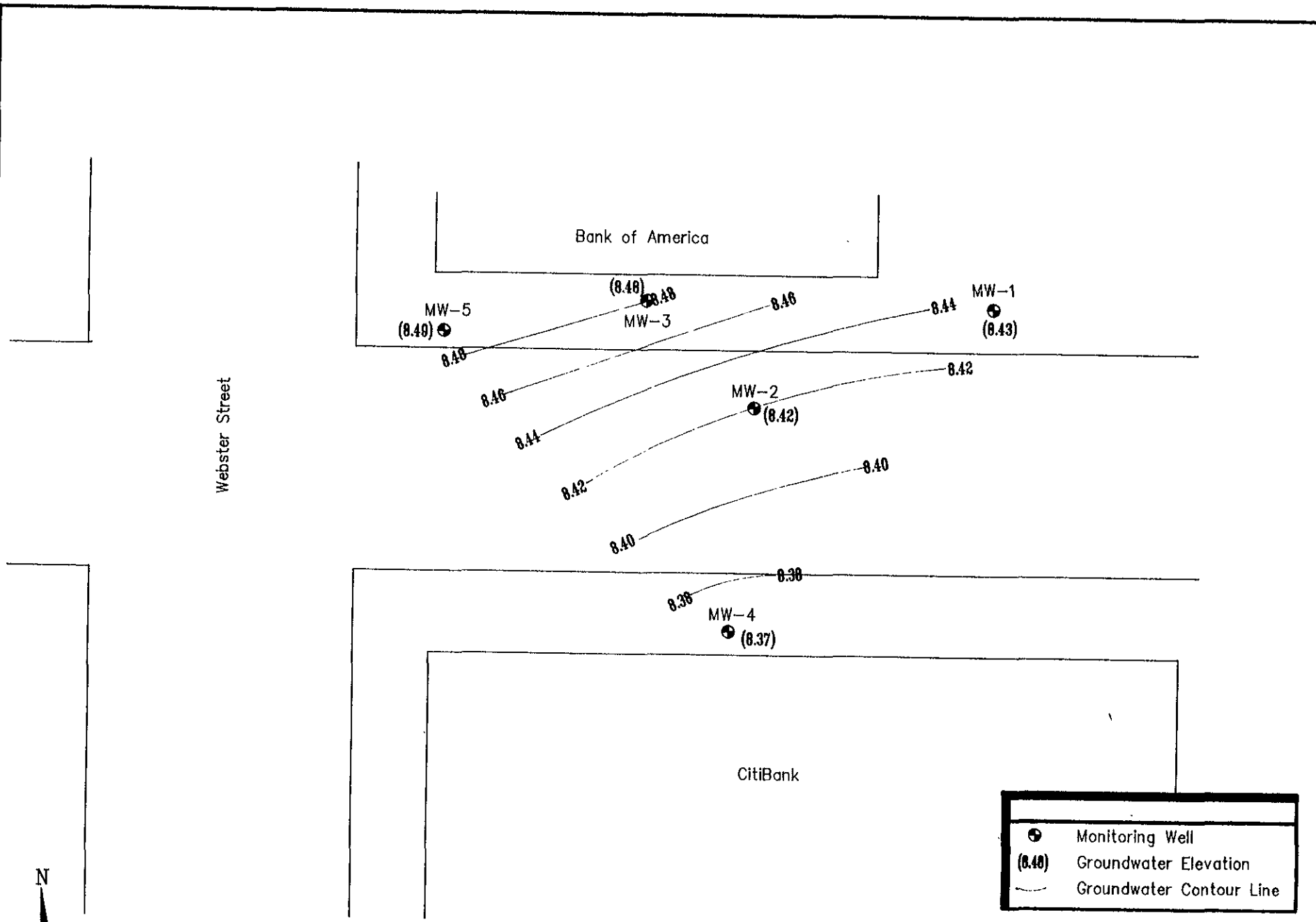
PLS/paw
Enclosures

c: Rick Oliver - B of A
Rick Day - Clayton




Portion of 7.5-minute Series (Topographic) Map
United States Department of the Interior
Geological Survey

| | | | |
|---|---|---|---|
| Figure 1<br>Site location | Clayton<br>ENVIRONMENTAL<br>CONSULTANTS | Bank of America, 1528 Webster Street, Alameda, California | |
| | | Clayton Project No. 62009.01 | Bank of America |




| | | |
|---|---|---|
| Figure 2<br>Site Map<br>with<br>Groundwater<br>Elevations | Clayton<br>ENVIRONMENTAL<br>CONSULTANTS | Bank of America, 1528 Webster Street, Alameda, California |
| | Clayton Project No. 62009.04 | Bank of America |

**TABLE 1**
Summary of Groundwater Analytical Results
October 1994 through March 1996

| Monitoring Well | Sample Date | TPH-D (ug/L) | BTEX (ug/L) | PNA (ug/L) | TDS (mg/L) |
|---|---|---|---|---|---|
| MW-1 | 24-Oct-94 | ND | ND | NA | 22,000 |
| | 30-Mar-95 | 280 | ND | NA | 280 |
| | 21-Jun-95 | ND | ND | NA | 700 |
| | 20-Sep-95 | ND | ND | ND | 250 |
| MW-2 | 24-Oct-94 | 4,400 | ND | NA | 260 |
| | 30-Mar-95 | ND | ND | ND | 260 |
| | 21-Jun-95 | 9,600 | ND | NA | 380 |
| | 20-Sep-95 | 1,200 | ND | ND | 250 |
| | 20-Mar-96 | 5,000 | ND | NA | 360 |
| MW-3 | 24-Oct-94 | 1,200 | ND | NA | 140 |
| | 30-Mar-95 | ND | ND | NA | 280 |
| | 21-Jun-95 | 460 | ND | NA | 110 |
| | 20-Sep-95 | 600 | ND | ND | 120 |
| | 20-Mar-96 | 240 | ND | NA | 100 |
| MW-4 | 24-Oct-94 | 170 | ND | NA | 200 |
| | 30-Mar-95 | ND | ND | NA | 340 |
| | 21-Jun-95 | ND | ND | NA | 220 |
| | 20-Sep-95 | 120 | ND | ND | 590 |
| | 20-Mar-96 | ND | ND | NA | 280 |
| MW-5 | 24-Oct-94 | ND | ND | NA | 180,000 |
| | 30-Mar-95 | ND | ND | NA | 170,000 |
| | 21-Jun-95 | ND | ND | NA | 110,000 |
| | 20-Sep-95 | ND | ND | ND | 120,000 |

TPH-D - Total Petroleum Hydrocarbons as Diesel
BTEX - Benzene, Toluene, Ethylbenzene, and Xylenes
PNA - Polynuclear aromatics
TDS - Total Dissolved Solids
ND - Not detected at or above laboratory reporting limits
NA - Not analyzed

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Clayton
ENVIRONMENTAL
CONSULTANTS

May 21, 1996

Mr. Rick Oliver
Environmental Analyst
BANK OF AMERICA
4000 MacArthur Boulevard, Suite 100
Newport Beach, California 92660

Clayton Project No. 62009.04

Subject: Semiannual Groundwater Sampling at Bank of America (B of A) Facility Located at 1528 Webster Street in Alameda, California
B of A ES# 302412

Dear Mr. Oliver:

Clayton Environmental Consultants, Inc. is pleased to present this semiannual report for the groundwater sampling and monitoring activities conducted at the Bank of America facility located at 1528 Webster Street in Alameda, California (Figure 1). On March 20, 1996, Clayton collected groundwater samples for laboratory analysis from monitoring wells MW-2 through MW-4 (Figure 2). Groundwater elevations were measured on May 13, 1996.

## Background

On August 3, 1993, an underground storage tank (UST) was removed from beneath the side walk adjacent to the subject site (Figure 2). Soil samples collected from the UST excavation pit contained total petroleum hydrocarbons (TPH-D) ranging from 300 to 1300 milligrams per kilogram (mg/kg).

Because of the elevated concentration of TPH-D in the soil samples, the UST pit was overexcavated on September 14, 1993. The overexcavation was performed to remove contaminated soil to the extent possible without damaging the nearby utility lines or causing structural weakness to the subject building. Approximately 50 tons of soil was excavated and transported for offsite disposal. No additional excavation was performed because of the near by utilities lines (i.e., storm drains, sewer lines, water lines).

After overexcavation was completed, eight samples were collected from the excavation

one sample from each excavation wall was analyzed for TPH-D and benzene, toluene, ethylbenzene and xylenes (BTEX). The analytical reports indicated TPH-D concentrations ranging from 107 to 1005 mg/kg in soil samples collected from the east, west, and south walls of the excavation. The soil samples from the excavation pit did not contain BTEX concentrations at or above the analytical detection limits. After sampling was completed, the excavation was backfilled using Class II base rock material.

During April and May 1994, Clayton installed three monitoring wells (MW-1, MW-2, and MW-3) to assess the extent of soil and groundwater contamination from the former UST.

TPH-D was detected in the groundwater samples at levels ranging from 110 micrograms per liter (µg/L) in MW-1 to 4,100 µg/L in MW-2. The TPH-D concentrations in soil samples ranged from less than the reporting limit of 1 mg/kg in the sample from MW-3 to 6 mg/kg in the sample from MW-1. The groundwater flow direction, based on the groundwater elevation data collected on April 7, 1994, was calculated to be toward the south.

On July 5, 1994, ACHCSA requested a work plan to further delineate the soil and groundwater contamination near the subject site. Clayton submitted the work plan to ACHCSA on September 6, 1994. After receiving the approval from the ACHCSA, Clayton installed two additional monitoring wells (MW-4 and MW-5) at the subject site (Figure 2).

At the request of ACHCSA during the groundwater monitoring event in March 1995, the groundwater sample from monitoring well MW-2 was analyzed for polynuclear aromatic hydrocarbons (PNAs). However, no PNAs were detected in the groundwater sample. As approved by ACHCSA, the subsequent groundwater samples were not analyzed for PNAs.

Groundwater samples were collected and analyzed quarterly during the fourth quarter of 1994 and the first three quarters of 1995. Following the third quarter of 1995, the ACHCSA revised the sampling requirements (letter dated November 8, 1995) as follows:

- Discontinue sampling of MW-1 and MW-5;
- Sample wells MW-3 and MW-4 on an annual basis, in March; and
- Sample well MW-2 on a semiannual basis, in March and September.

## Field Activities

The depth to groundwater was measured to the nearest 0.01 foot upon arrival at the site. Prior to sampling, stagnant water was purged from wells by using a 2-inch submersible pump. Approximately four times the well volume was pumped from each well to ensure water representative of the aquifer was present in the well. The purging was continued until sufficient volume of water had been purged for pH, temperature, and electrical conductivity to stabilize.

The following parameters were noted during the sampling activities:

- Monitoring well identification
- Static water level
- Well depth
- Condition of water prior to purging (e.g., amount of free product)
- Purge rate and volume
- pH, temperature, and conductivity during purging
- Time purged
- Time of sample collection
- Sampling method
- Name of sampler
- Climatic conditions

The water sample was collected using a new disposable bailer. All other equipment coming into contact with groundwater was thoroughly cleaned and decontaminated before use at the site.

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

Groundwater samples were transferred from the bailer to the sample bottles using a method which minimized the volatilization of a sample due to agitation and/or transfer from bailer to sample container. To document and trace samples from time of collection, a signed chain-of-custody record was completed by the sampler and accompanied the samples through the laboratory analyses. The completed chain-of-custody was included with the analytical report from the laboratory.

## Analytical Results

The groundwater samples from wells MW-2, MW-3, and MW-4 were analyzed using the following United States Environmental Protection Agency (USEPA) methods:

- USEPA Method 8015 for total petroleum hydrocarbons as diesel (TPH-D);
- USEPA Method 8020 for benzene, toluene, ethylbenzene, and xylenes (BTEX); and
- USEPA Method 160.1 for total dissolved solids (TDS).

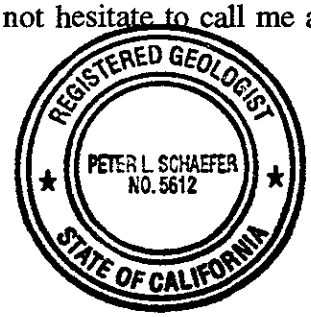
TPH-D was not detected in the groundwater sample taken from MW-4. TPH-D was detected in samples from monitoring wells MW-2 (5,000 µg/l) and MW-3 (240 µg/l). BTEX was not detected in any of the groundwater samples. The analytical results are summarized in Table 1. The laboratory reports are included in Appendix A.

**Groundwater Flow Direction**

Using the groundwater elevations measured May 13, 1996, Clayton calculated the groundwater flow and gradient to be to the southeast at a magnitude of approximately 0.002 foot per foot. The groundwater elevations and graqdient are shown on Figure 2.

If you have any questions, please do not hesitate to call me at (510) 426-2613.

Sincerely,



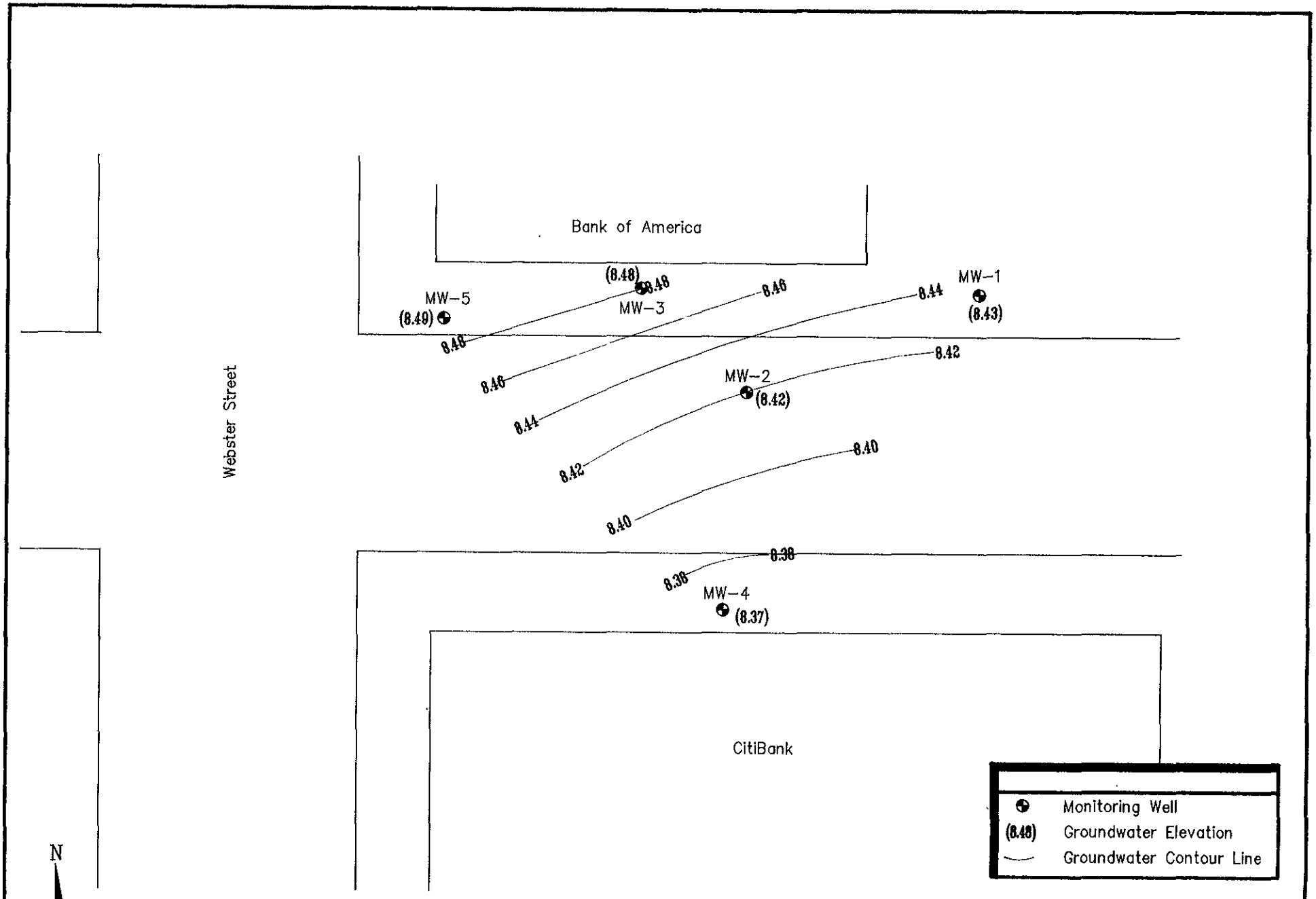

Peter L. Schaefer, RG, CEG, CHG
Senior Project Geologist
San Francisco Regional Office

PLS/

# FIGURES


Portion of 7.5-minute Series (Topographic) Map
United States Department of the Interior
Geological Survey

| | | | |
|---|---|---|---|
| Figure 1<br>Site location | Clayton ENVIRONMENTAL CONSULTANTS | Bank of America, 1528 Webster Street, Alameda, California | |
| | | Clayton Project No. 62009.01 | Bank of America |




Approximate Scale 1" = 20'

| | | | |
|---|---|---|---|
| Figure 2<br>Site Map with Groundwater Elevations<br>62009-04-18 | Clayton ENVIRONMENTAL CONSULTANTS | Bank of America, 1528 Webster Street, Alameda, California | |
| | | Clayton Project No. 62009.04 | Bank of America |

# TABLES

**TABLE 1**
Summary of Groundwater Analytical Results
October 1994 through March 1996

| Monitoring Well | Sample Date | TPH-D (ug/L) | BTEX (ug/L) | PNA (ug/L) | TDS (mg/L) |
|---|---|---|---|---|---|
| MW-1 | 24-Oct-94 | ND | ND | NA | 22,000 |
| | 30-Mar-95 | 280 | ND | NA | 280 |
| | 21-Jun-95 | ND | ND | NA | 700 |
| | 20-Sep-95 | ND | ND | ND | 250 |
| | 20-Mar-96 | NA | NA | NA | NA |
| MW-2 | 24-Oct-94 | 4,400 | ND | NA | 260 |
| | 30-Mar-95 | ND | ND | ND | 260 |
| | 21-Jun-95 | 9,600 | ND | NA | 380 |
| | 20-Sep-95 | 1,200 | ND | ND | 250 |
| | 20-Mar-96 | 5,000 | ND | NA | 360 |
| MW-3 | 24-Oct-94 | 1,200 | ND | NA | 140 |
| | 30-Mar-95 | ND | ND | NA | 280 |
| | 21-Jun-95 | 460 | ND | NA | 110 |
| | 20-Sep-95 | 600 | ND | ND | 120 |
| | 20-Mar-96 | 240 | ND | NA | 100 |
| MW-4 | 24-Oct-94 | 170 | ND | NA | 200 |
| | 30-Mar-95 | ND | ND | NA | 340 |
| | 21-Jun-95 | ND | ND | NA | 220 |
| | 20-Sep-95 | 120 | ND | ND | 590 |
| | 20-Mar-96 | ND | ND | NA | 280 |
| MW-5 | 24-Oct-94 | ND | ND | NA | 180 |
| | 30-Mar-95 | ND | ND | NA | 170 |
| | 21-Jun-95 | ND | ND | NA | 110 |
| | 20-Sep-95 | ND | ND | ND | 120 |
| | 20-Mar-96 | NA | NA | NA | NA |

TPH-D - Total Petroleum Hydrocarbons as Diesel
BTEX - Benzene, Toluene, Ethylbenzene, and Xylenes
PNA - Polynuclear aromatics
TDS - Total Dissolved Solids
ND - Not detected at or above laboratory reporting limits
NA - Not analyzed

**TABLE 2**
Groundwater Level Measurement Data
October 1994 through March 1996

| Monitoring Well | Measurement Date | Top of Casing (ft, msl) | Depth to Water (ft) | Groundwater Elevation (ft, msl) | Change from Previous Measurement (ft) |
|---|---|---|---|---|---|
| MW-1 | 24-Oct-94 | 13.07 | 7.60 | 5.47 | |
| | 15-Nov-94 | 13.07 | 6.38 | 6.69 | 1.22 |
| | 30-Mar-95 | 13.07 | 4.00 | 9.07 | 2.38 |
| | 26-Apr-95 | 13.07 | 4.48 | 8.59 | -0.48 |
| | 24-May-95 | 13.07 | 4.82 | 8.25 | -0.34 |
| | 21-Jun-95 | 13.07 | 5.12 | 7.95 | -0.30 |
| | 21-Jul-95 | 13.07 | 5.34 | 7.73 | -0.22 |
| | 17-Aug-95 | 13.07 | 5.64 | 7.43 | -0.30 |
| | 20-Sep-95 | 13.07 | 6.02 | 7.05 | -0.38 |
| | 18-Oct-95 | 13.07 | 6.38 | 6.69 | -0.36 |
| | 13-May-96 | 13.07 | 4.64 | 8.43 | 1.74 |
| MW-2 | 24-Oct-94 | 13.52 | 8.10 | 5.42 | |
| | 15-Nov-94 | 13.52 | 6.79 | 6.73 | 1.31 |
| | 30-Mar-95 | 13.52 | 4.52 | 9.00 | 2.27 |
| | 26-Apr-95 | 13.52 | 4.98 | 8.54 | -0.46 |
| | 24-May-95 | 13.52 | 5.39 | 8.13 | -0.41 |
| | 21-Jun-95 | 13.52 | 5.68 | 7.84 | -0.29 |
| | 21-Jul-95 | 13.52 | 5.85 | 7.67 | -0.17 |
| | 17-Aug-95 | 13.52 | 6.13 | 7.39 | -0.28 |
| | 20-Sep-95 | 13.52 | 6.44 | 7.08 | -0.31 |
| | 18-Oct-95 | 13.52 | 6.81 | 6.71 | -0.37 |
| | 13-May-96 | 13.52 | 5.10 | 8.42 | 1.71 |
| MW-3 | 24-Oct-94 | 13.34 | 7.94 | 5.40 | |
| | 15-Nov-94 | 13.34 | 6.44 | 6.90 | 1.50 |
| | 30-Mar-95 | 13.34 | 4.28 | 9.06 | 2.16 |
| | 26-Apr-95 | 13.34 | 4.78 | 8.56 | -0.50 |
| | 24-May-95 | 13.34 | 5.01 | 8.33 | -0.23 |
| | 21-Jun-95 | 13.34 | 5.35 | 7.99 | -0.34 |
| | 21-Jul-95 | 13.34 | 5.64 | 7.70 | -0.29 |
| | 17-Aug-95 | 13.34 | 5.92 | 7.42 | -0.28 |
| | 20-Sep-95 | 13.34 | 6.28 | 7.06 | -0.36 |
| | 18-Oct-95 | 13.34 | 6.64 | 6.70 | -0.36 |
| | 13-May-96 | 13.34 | 4.86 | 8.48 | 1.78 |

**TABLE 2**
Groundwater Level Measurement Data
October 1994 through March 1996

| Monitoring Well | Measurement Date | Top of Casing (ft, msl) | Depth to Water (ft) | Groundwater Elevation (ft, msl) | Change from Previous Measurement (ft) |
|---|---|---|---|---|---|
| MW-4 | 24-Oct-94 | 13.69 | 8.25 | 5.44 | |
| | 15-Nov-94 | 13.69 | 7.25 | 6.44 | 1.00 |
| | 30-Mar-95 | 13.69 | 4.74 | 8.95 | 2.51 |
| | 26-Apr-95 | 13.69 | 5.18 | 8.51 | -0.44 |
| | 24-May-95 | 13.69 | 5.55 | 8.14 | -0.37 |
| | 21-Jun-95 | 13.69 | 5.84 | 7.85 | -0.29 |
| | 21-Jul-95 | 13.69 | 6.07 | 7.62 | -0.23 |
| | 17-Aug-95 | 13.69 | 6.30 | 7.39 | -0.23 |
| | 20-Sep-95 | 13.69 | 6.62 | 7.07 | -0.32 |
| | 18-Oct-95 | 13.69 | 6.99 | 6.70 | -0.37 |
| | 13-May-96 | 13.69 | 5.32 | 8.37 | 1.67 |
| MW-5 | 24-Oct-94 | 13.52 | 8.14 | 5.38 | |
| | 15-Nov-94 | 13.52 | 6.58 | 6.94 | 1.56 |
| | 30-Mar-95 | 13.52 | 4.49 | 9.03 | 2.09 |
| | 26-Apr-95 | 13.52 | 4.93 | 8.59 | -0.44 |
| | 24-May-95 | 13.52 | 5.21 | 8.31 | -0.28 |
| | 21-Jun-95 | 13.52 | 5.53 | 7.99 | -0.32 |
| | 21-Jul-95 | 13.52 | 5.80 | 7.72 | -0.27 |
| | 17-Aug-95 | 13.52 | 6.10 | 7.42 | -0.30 |
| | 20-Sep-95 | 13.52 | 6.49 | 7.03 | -0.39 |
| | 18-Oct-95 | 13.52 | 6.84 | 6.68 | -0.35 |
| | 13-May-96 | 13.52 | 5.03 | 8.49 | 1.81 |

ft, msl - feet above mean sea level

# APPENDIX A

# ANALYTICAL RESULTS FOR GROUNDWATER SAMPLES

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
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Clayton
ENVIRONMENTAL
CONSULTANTS

April 3, 1996

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

Client Ref.: 57718.04
Clayton Project No.: 96033.01

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on March 20, 1996. Following the cover letter is the Quality Control Narrative detailing sample information/problems and a summary of the quality control issues. Also enclosed is a copy of the Chain-of-Custody record acknowledging receipt of these samples.

Please note that any unused portion of the samples will be discarded after May 3, 1996, unless you have requested otherwise.

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

Sincerely,

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

HAH/tjb

Attachments

QUALITY CONTROL NARRATIVE
for
Clayton Environmental Consultants, Inc.
Client Reference: 57718.04
Clayton Project No. 96033.01

**Sample Information/Problems:**

There were no problems with sample receipt.

**Analytical Problems:**

No problems were encountered with the sample analyses.

**Quality Control:**

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

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 57718.04
Clayton Project No. 96033.01

| | | | |
|---|---|---|---|
| Sample Identification: | MW-2 | Date Sampled: | 03/20/96 |
| Lab Number: | 9603301-01A | Date Received: | 03/20/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 03/27/96 |
| Preparation Method: | EPA 5030 | Date Analyzed: | 03/27/96 |
| Method Reference: | EPA 8020 | Analyst: | DTL |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| BTEX | | | |
| Benzene | 71-43-2 | ND | 0.4 |
| Ethylbenzene | 100-41-4 | ND | 0.3 |
| Toluene | 108-88-3 | ND | 0.3 |
| o-Xylene | 95-47-6 | ND | 0.4 |
| p,m-Xylenes | 11-57-4 | ND | 0.4 |
| Surrogates | | Recovery (%) | QC Limits (%) |
| a,a,a-Trifluorotoluene | 98-08-8 | 100 | 50 - 150 |

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 57718.04
Clayton Project No. 96033.01

| | | | |
|---|---|---|---|
| Sample Identification: | MW-3 | Date Sampled: | 03/20/96 |
| Lab Number: | 9603301-02A | Date Received: | 03/20/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 03/27/96 |
| Preparation Method: | EPA 5030 | Date Analyzed: | 03/27/96 |
| Method Reference: | EPA 8020 | Analyst: | DTL |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| BTEX | | | |
| Benzene | 71-43-2 | ND | 0.4 |
| Ethylbenzene | 100-41-4 | ND | 0.3 |
| Toluene | 108-88-3 | ND | 0.3 |
| o-Xylene | 95-47-6 | ND | 0.4 |
| p,m-Xylenes | 11-57-4 | ND | 0.4 |
| Surrogates | | Recovery (%) | QC Limits (%) |
| a,a,a-Trifluorotoluene | 98-08-8 | 101 | 50 - 150 |

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 57718.04
Clayton Project No. 96033.01

| | | | |
|---|---|---|---|
| Sample Identification: | MW-4 | Date Sampled: | 03/20/96 |
| Lab Number: | 9603301-03A | Date Received: | 03/20/96 |
| Sample Matrix/Media: | WATER | Date Prepared: | 03/27/96 |
| Preparation Method: | EPA 5030 | Date Analyzed: | 03/27/96 |
| Method Reference: | EPA 8020 | Analyst: | DTL |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| BTEX | | | |
| Benzene | 71-43-2 | ND | 0.4 |
| Ethylbenzene | 100-41-4 | ND | 0.3 |
| Toluene | 108-88-3 | ND | 0.3 |
| o-Xylene | 95-47-6 | ND | 0.4 |
| p,m-Xylenes | 11-57-4 | ND | 0.4 |
| Surrogates | | Recovery (%) | QC Limits (%) |
| a,a,a-Trifluorotoluene | 98-08-8 | 85 | 50 - 150 |

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 57718.04
Clayton Project No. 96033.01

| | | | |
|---|---|---|---|
| Sample Identification: | METHOD BLANK | Date Sampled: | -- |
| Lab Number: | 9603301-05A | Date Received: | -- |
| Sample Matrix/Media: | WATER | Date Prepared: | 03/26/96 |
| Preparation Method: | EPA 5030 | Date Analyzed: | 03/26/96 |
| Method Reference: | EPA 8020 | Analyst: | DTL |

| Analyte | CAS # | Concentration (ug/L) | Method Detection Limit (ug/L) |
|---|---|---|---|
| BTEX | | | |
| Benzene | 71-43-2 | ND | 0.4 |
| Ethylbenzene | 100-41-4 | ND | 0.3 |
| Toluene | 108-88-3 | ND | 0.3 |
| o-Xylene | 95-47-6 | ND | 0.4 |
| p,m-Xylenes | 11-57-4 | ND | 0.4 |
| Surrogates | | Recovery (%) | QC Limits (%) |
| a,a,a-Trifluorotoluene | 98-08-8 | 103 | 50 - 150 |

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

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 57718.04
Clayton Project No. 96033.01

Sample Identification: See Below
Lab Number: 9603301
Sample Matrix/Media: WATER
Extraction Method: EPA 3510
Method Reference: EPA 8015 (Modified)

Date Received: 03/20/96
Date Extracted: 03/25/96
Date Analyzed: 03/31/96

| Lab Number | Sample Identification | Date Sampled | TPH-D (ug/L) | | Method Detection Limit (ug/L) |
|---|---|---|---|---|---|
| -01 | MW-2 | 03/20/96 | 5000 | a | 50 |
| -02 | MW-3 | 03/20/96 | 240 | a | 50 |
| -03 | MW-4 | 03/20/96 | ND | | 50 |
| -05 | METHOD BLANK | -- | ND | | 50 |

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

TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.
a Sample does not match the typical diesel pattern.
Sample appears to be oil.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 57718.04
Clayton Project No. 96033.01

Sample Identification: See Below
Lab Number: 9603301
Sample Matrix/Media: WATER
Method Reference: EPA 160.1

Date Received: 03/20/96
Date Analyzed: 03/20/96

| Lab Number | Sample Identification | Date Sampled | Total Dissolved Solids (mg/L) | Method Detection Limit (mg/L) |
|---|---|---|---|---|
| -01 | MW-2 | 03/20/96 | 360 | 10 |
| -02 | MW-3 | 03/20/96 | 100 | 10 |
| -03 | MW-4 | 03/20/96 | 280 | 10 |
| -05 | METHOD BLANK | -- | <10 | 10 |

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

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# Quality Assurance Results Summary

## Matrix Spike/Matrix Spike Duplicate Results

## for

## Clayton Project No. 96033.01

Quality Assurance Results Summary - Matrix Spike/Matrix Spike Duplicate
for
Clayton Project No. 96033.01



Clayton Lab Number: 9603364-LCS
Ext./Prep. Method: EPA 3510
Date: 03/25/96
Analyst: MBN
Std. Source: E960315-01W
Sample Matrix/Media: WATER

Analytical Method: EPA 8015
Instrument ID: 02893
Date: 03/28/96
Time: 00:32
Analyst: FAK
Units: UG/L
QC Batch No: 96032526

| Analyte | Sample Result | Spike Level | Matrix Spike Result | MS Recovery (%) | Matrix Spike Duplicate Result | MSD Recovery (%) | Average Recovery (% R) | LCL (% R) | UCL (% R) | RPD (%) | UCL (%RPD) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| DIESEL | ND | 1,000 | 1,200 | 120 | 1,180 | 118 | 119 | 65 | 128 | 1.7 | 25 |

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

LCL = Lower Control Limit

UCL = Upper Control Limit

Quality Assurance Results Summary - Matrix Spike/Matrix Spike Duplicate
for
Clayton Project No. 96033.01

Clayton Lab Number: 9603341-01A
Ext./Prep. Method: EPA 5030
Date: 03/26/96
Analyst: DTL
Std. Source: V951109-02W
Sample Matrix/Media: WATER

Analytical Method: EPA 8015/8020
Instrument ID: 05587
Date: 03/26/96
Time: 14:45
Analyst: DTL
Units: ug/L
QC Batch No: 960326A1

| Analyte | | Sample Result | Spike Level | Matrix Spike Result | MS Recovery (%) | Matrix Spike Duplicate Result | MSD Recovery (%) | Average Recovery (% R) | LCL (% R) | UCL (% R) | RPD (%) | UCL (%RPD) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BENZENE | (PID) | ND | 5.28 | 5.28 | 100 | 5.28 | 100 | 100 | 79 | 125 | 0.1 | 20 |
| ETHYLBENZENE | (PID) | ND | 5.86 | 5.83 | 100 | 5.83 | 100 | 100 | 85 | 123 | 0.0 | 20 |
| GASOLINE | (FID) | ND | 500 | 520 | 104 | 509 | 102 | 103 | 80 | 120 | 2.1 | 25 |
| SURR a,a,a-Trifluorotoluene | | ND | 100 | 109 | 109 | 110 | 110 | 110 | 50 | 150 | 0.9 | 20 |
| TOLUENE | (PID) | ND | 25.8 | 25.6 | 99 | 25.6 | 100 | 99 | 84 | 118 | 0.2 | 20 |
| TOTAL XYLENE | (PID) | ND | 37.6 | 37.4 | 100 | 37.2 | 99 | 99 | 85 | 115 | 0.5 | 20 |

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

LCL = Lower Control Limit

UCL = Upper Control Limit

# Quality Assurance Results Summary - Laboratory Control Samples (LCS)
for
Clayton Project No. 96033.01

| | | | |
|---|---|---|---|
| Clayton Lab Number: | 9603364-LCS | Analytical Method: | EPA 8015 |
| Ext./Prep. Method: | EPA 3510 | Instrument ID: | 02893 |
| Date: | 03/25/96 | Date: | 03/28/96 |
| Analyst: | MBN | Time: | 00:32 |
| Std. Source: | E960315-01W | Analyst: | FAK |
| Sample Matrix/Media: | WATER | Units: | UG/L |
| | | QC Batch no: | 96032526 |

| Analyte | Blank Result | Spike Level | LCS Result | LCS Recovery (%) | LCL (% R) | UCL (% R) |
|---|---|---|---|---|---|---|
| DIESEL | ND | 1,000 | 1,200 | 120 | 65 | 128 |

ND = Not detected at or above limit of detection  LCL = Lower Control Limit  UCL = Upper Control Limit

**Clayton**
ENVIRONMENTAL CONSULTANTS

# REQUEST FOR LABORATORY ANALYTICAL SERVICES

**IMPORTANT**
Date Results Requested: STANDARD TAT
Rush Charges Authorized? ☐ Yes ☑ No
☐ Phone or ☐ Fax Results

For Clayton Use Only
Clayton Lab Project No.
**9603301**

**REPORT RESULTS TO**
Name: D. DASTMALCHI | Client Job No.: 57718.04
Company: CEC | Dept.:
Mailing Address:
City, State, Zip:
Telephone No.: | FAX No.:

**SEND INVOICE TO**
Purchase Order No.:
Name:
Company: B of A | Dept.:
Address:
City, State, Zip:

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

* Explanation of Preservative: P = HCl

**Samples are:** (check if applicable)
☐ Drinking Water ☐ Groundwater ☐ Wastewater

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

| CLIENT SAMPLE IDENTIFICATION | DATE SAMPLED | TIME SAMPLED | MATRIX/ MEDIA | AIR VOLUME (specify units) | Number of Containers | BTEX | TDS | TPH-DIESEL | HOLD | FOR LAB USE ONLY |
|---|---|---|---|---|---|---|---|---|---|---|
| MW-2 | 3.20.96 | 11:25 | WATER | 40 ML | 2 | P | | | | 01 AB |
| MW-2 | | 11:25 | | 120 ML | 1 | | X | | | C |
| MW-2 | | 11:25 | | 1 LITER | 2 | | | P | | OE |
| MW-3 | | 12:10 | | 40 ML | 2 | P | | | | 02 AB |
| MW-3 | | 12:10 | | 120 ML | 1 | | X | | | C |
| MW-3 | | 12:10 | | 1 LITER | 2 | | | P | | OE |
| MW-4 | | 1:00 | | 40 ML | 2 | P | | | | 03 AB |
| MW-4 | | 1:00 | | 120 ML | 1 | | X | | | C |
| MW-4 | ↓ | 1:00 | ↓ | 1 LITER | 2 | | | P | | OE |
| TRIP BLANK | 3.20.96 | | WATER | 40 ML | 1 | | | | P | 04 A |

**CHAIN OF CUSTODY**
Collected by: M. SPRINGMAN (print) | Collector's Signature: M Springman
Relinquished by: M. Springman | Date/Time 3.20.96 3125 | Received by: | Date/Time
Relinquished by: | Date/Time | Received by: | Date/Time
Method of Shipment: | Received at Lab by: | Date/Time 3/20/96 3:25
Authorized by: _____ Date _____ (Client Signature **MUST** Accompany Request) | Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

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

**Detroit Regional Lab**
22345 Roethel Drive
Novi, MI 48375
(800) 806-5887
(810) 344-1770
FAX (810) 344-2655

**Atlanta Regional Lab**
400 Chastain Center Blvd., N.W., Suite 490
Kennesaw, GA 30144
(800) 252-9919
(770) 499-7500
FAX (770) 423-4990

**San Francisco Regional Lab**
1252 Quarry Lane
Pleasanton, CA 94566
(800) 294-1755
(510) 426-2657
FAX (510) 426-0106

**Seattle Regional Lab**
4636 E. Marginal Way S., Suite 215
Seattle, WA 98134
(800) 568-7755
(206) 763-7364
FAX (206) 763-4189

DISTRIBUTION:
White = Clayton Laboratory
Yellow = Clayton Accounting
Pink = Client Copy

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