GROUNDWATER TECHNOLOGY, INC.

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TO: Mr. Don Ringsby
Ringsby Terminals, Inc.
P.O. Box 7240
3980 Quebec Street, Suite 214
Denver, CO. 80207
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DATE: 07/27/95 JOB NO. 02070-0061
FROM: Jaff Auchterlonie JWA
RE: Ringsby Terminal - Port of Oakland
2225 7th Street
Oakland, CA. 94607

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Remarks: Dear Mr. Ringsby:

Please review the enclosed Soil and Groundwater Assessment Report. Upon your approval, copies will be mailed to Ms. Jennifer Eberle of the ACDEH and Mr. Dan Schoenholz of the Port of Oakland.

If you have any comments or questions concerning this report, please feel free to give me a call.

Copies to:

Ms. Jennifer Eberle, Hazardous Materials Specialist (510) 567-6761
Alameda County Department of Environmental Health FAX (510) 337-9335
1131 Harbor Bay Parkway, #250
Alameda, California 94502-6577

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Port of Oakland
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GROUNDWATER TECHNOLOGY, INC.
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SOIL AND GROUNDWATER ASSESSMENT REPORT
RINGSBY TERMINALS, PORT OF OAKLAND LEASE
2225 7TH STREET
OAKLAND, CALIFORNIA

GTI Project 02070 0061

July 26, 1995

Prepared for:

Mr. Don Ringsby
Ringsby Terminals, Inc.
3980 Quebec Street, Suite 214
Denver, Colorado 80207

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1.0 INTRODUCTION

This report is submitted by Groundwater Technology, Inc. to summarize the results of additional soil and groundwater assessment conducted at the Ringsby Terminal, Port of Oakland lease located at 2225 7th Street, in Oakland, California (Figures 1 and 2). A summary of the quarterly groundwater monitoring and sampling event conducted on June 21, 1995 at the site is also presented. The assessment work includes the collection of soil samples from eight hydraulically driven geoprobe points (HDP), completion of temporary well points in the borings, monitoring and collection of groundwater samples from each well point, laboratory analysis of soil and groundwater samples, and preparation of this report. The work was completed in accordance with the Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, dated August 10, 1994, and in response to the Alameda County Department of Environmental Health-Environmental Protection Division (ACDEH-EPD) letters dated January 17, March 14, and April 14, 1995 (Appendix A).

The soil and groundwater assessment work described in this report was completed at the site on May 23 and 25,1995, in accordance with the scope of work outlined in Groundwater Technology's *Amended Work Plan for Soil and Groundwater Assessment*, dated April 7, 1995, and accepted by the ACDEH-EPD. The groundwater monitoring and sampling field work was conducted on June 21, 1995.

2.0 SOIL AND GROUNDWATER ASSESSMENT

The soil and groundwater assessment had two objectives:

1) To investigate the extent of the dissolved and non-dissolved phases of petroleum hydrocarbons impacting groundwater to the north of the former underground storage tank (UST) pit at the subject site.

2) To further define the boundary of the soil type change observed between the Ringsby Terminal lease and the Port of Oakland property to the north (Figure 2).

2.1 Permitting and Site-Specific Health and Safety Plan

Groundwater Technology marked the soil boring locations, conducted a private utility location survey to clear the soil boring locations, and called USA prior to proceeding with site assessment work. Permits for soil borings and temporary well points were obtained from the Alameda County Zone 7 Flood Control and Water Conservation District (Appendix B). Following a complete review of site conditions, Groundwater Technology prepared a site-specific *Health and Safety Plan* as required by the Occupational Safety and Health Administration (OSHA) Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120). The document was reviewed and signed by all Groundwater Technology personnel and subcontractors prior to commencement of work at the site.

2.2 GEOPROBE Soil Sample Collection Methods

On May 23, 1995, Groundwater Technology supervised the coring of eight geoprobe points to a depth of 14 feet below ground surface (BGS). Using a truck-mounted drill equipped with HDP rods and samplers, continuous soil cores were collected from the eight on-site points (Figure 2). Each core was collected in 3-foot-long by 2-inch-diameter stainless steel cylindrical sleeve lined with 2-inch-diameter by 6-inch-long stainless steel sample sleeves. After being driven 3 feet, the sampling barrel with the liners containing the soil samples was removed from the probe hole, and the soil samples were described. Selected 6-inch-long sample sleeves were retained for laboratory analysis. The drive rods and tools were steam cleaned between bore holes and all sampling equipment was cleaned between each sampling interval to reduce the potential for cross-contamination. All steam-cleaning water generated during drilling was placed in Department of Transportation (DOT)-approved 55-gallon drums stored adjacent to groundwater monitoring well MW-1 on site. A total of two drums of rinse and well purge water were generated during the drilling project. One 25-gallon drum was partially filled with soil generated during hand augering from the upper 2 feet of each soil boring. Field notes for drilling work are attached in Appendix B.

The soil from the cores was screened for hydrocarbon vapors using a photoionization detector (PID). Soil was logged using the Unified Soil Classification System by a Groundwater Technology field geologist working under the supervision of a California registered geologist (Appendix B). Samples were collected from continuous cores at depths of 4, 7, 10, 13 and 14 feet BGS. Each sleeve was sealed with tape, labeled and placed on ice in an insulated container for transport under chain-of-custody manifest to GTEL Environmental Laboratories in Concord, California.

A total of 16 soil samples, two soil samples from each soil boring, were submitted for laboratory analysis of benzene, toluene, ethylbenzene and total xylenes (BTEX), total petroleum hydrocarbons-as-gasoline (TPH-G), and total petroleum hydrocarbons-as-diesel (TPH-D) using EPA methods 8020/modified 8015 (Table 1). Samples collected at depths of 7 and 10 feet BGS from G-1, GP-2, GP-3, GP-4, GP-5, GP-7, GP-8 and at depths of 10 and 13 feet BGS from GP-6 were analyzed.

2.3 Temporary Well Point Completion Methods

Following the collection of soil samples and prior to removal of the outer drive rods, a temporary well point was inserted into each Geoprobe bore hole. Each well was constructed using 1.25-inch diameter schedule 40 PVC casing with 10 feet of 0.010-inch-slot well screen set from 14 to 4 feet BGS and 4 feet of blank casing set to surface grade. Each well point was sealed at the surface with 6-inches of bentonite pellets placed at 1 foot BGS around the annular space, a PVC slip cap was placed over the top of the pipe, and a traffic-rated steel plate was placed over the well.

2.4 Groundwater Monitoring and Sampling Methods

On May 25, 1995, approximately 40 hours after completion of the temporary well points, the depth to separate phase (SP), SP thickness, and depth to water in the eight geoprobe points were measured to the nearest 0.01 foot from the ground surface using an ORS Environmental Equipment INTERFACE PROBE™ Well Monitoring System. The depth to water and SP were measured from surface grade on the north side of each boring. Nails were driven into the pavement at the surface monitoring point in each soil boring. The nail heads can be surveyed at a later date to determine the measured groundwater and SP elevations. Field notes of the monitoring and sampling work are included in Appendix B and summarized in Table 2.

Groundwater samples were collected from each well using a 1-inch diameter bailer. Since the wells were completed without a sand pack, the wells were not purged prior to collection of the water samples. Prior to collecting water samples, the bailer was cleaned using an Alconox (detergent) solution. Groundwater samples were decanted from the bailer into 40-milliliter glass vials (treated with hydrochloric acid to preserve the samples) and 1-liter glass amber bottles. The samples were sealed using Teflon®-septum caps, labeled, placed on ice in an insulated container, and transported under chain-of-custody manifest to GTEL in Concord, California. The groundwater samples were analyzed for BTEX, TPH-G and TPH-D using EPA methods 8020/modified 8015. For wells containing a measurable thickness of SP, two 40 ml VOA bottles of the product were collected, the samples were analyzed using a full hydrocarbon scan SW-846 (Table 2).

Following collection of the groundwater samples, Precision Drilling field personnel removed the casing from each boring and tremie grouted back to surface grade through the outer drive casing with neat cement.

3.0 RESULTS OF SOIL AND GROUNDWATER SAMPLE ANALYSES

3.1 Geology and Stratigraphy

As shown on the three Generalized Stratigraphic Cross Sections A-A', B-B', and C-C' shown on Figures 3 and 4, sediments logged to a depth of 14 feet BGS in soil borings GP-1, GP-2, GP-4, GP-5, GP-7, and GP-8 were dominated by a fine-grained well-sorted sand with minor amount of silt. The sand ranges in thickness from 6 to 11 feet, with the top encountered at 1 to 4 feet BGS and base at 10 to 13 feet BGS (Appendix C). The sand layer is overlain by 1-foot-thick layer of asphalt/baserock and locally by 2- to 4-foot-thick layer of silty clayey sand and gravel. The sand is underlain by a soft, plastic, organic-rich clay with thin interbedded sand described in previously drilled MW-1, MW-2, and MW-3.

Instead of the 10-foot-thick sand encountered in six of the soil borings, a heterogeneous mixture of clayey sand to sandy clay, silty and gravelly in part, was encountered in GP-3 and GP-6.

As noted in the *Soil & Groundwater Assessment Report, dated March 18, 1993, by RAMCON,* and supported by the stratigraphic descriptions of the soil samples collected from the eight geoprobe points, the northern extent of the well-sorted sand observed in GP-1, GP-2, GP-4, GP-5, GP-7, and GP-8 does not extend beyond an east-west line between geoprobe points GP-2, GP-5, and GP-8 to the south and MW-3*, GP-6, BH-6, and GP-3 to the north (Figures 2, 3, and 4).

Based on conversations with Mr. Jim McGrath, Mr. Neil Werner, and Mr. Dan Schoenholz of the Port of Oakland at a meeting on December 15, 1994, the subject site and adjoining properties were originally tidal mud flats. The land was reclaimed by building a diked area in the tidal flats and pumping sand and clay from the San Francisco Bay floor to fill the diked areas. The upper 10 to 12 feet of soil underlying the Ringsby Terminal and Port of Oakland properties appear to be fill material used to reclaim the tidal flats. The clay encountered from 10 to 12 feet BGS appears to be native bay and tidal flat deposits. The size and location of the dikes are not known at this time. The stratigraphic change that occurs north of GP-2, GP-5, and GP-8 may reflect a second diked area or just a change in the grain size of the material pumped into a single diked area.

3.2 Hydrogeology

Since January 15, 1993, groundwater levels in the three Ringsby Terminal wells have fluctuated approximately 1 foot and depth to water ranged from approximately 5 to 7 feet (Table 3). The groundwater gradient is northward with one of five monitoring events, September 1994, showing a westward flow direction. The groundwater gradient has varied from 0.0016 to 0.001 foot per foot. In the three Port of Oakland wells shown in Figure 2, the groundwater gradient on May 25, 1995 was calculated at 0.002 foot per foot, North 27 degrees East (Figure 5).

On May 23, 1995, while drilling the soil borings, water was encountered at 10 to 11 feet BGS. After completion of the temporary wells, groundwater was measured at approximately 6 to 7 feet BGS in GP-1, GP-2, GP-4, GP-5, GP-7, and GP-8, at 8.74 feet BGS in GP-3, and at 8.21 feet BGS in GP-6. On May 25, 1995, the depth to groundwater and the depth and thickness of separate phase hydrocarbons was measured in eight geoprobe points and in the groundwater monitoring wells MW-1, MW-2, and MW-3. As shown on Figure 5 and Table 2, five well points, GP-1, GP-4, GP-5, GP-7, and GP-8, contained measurable amounts of SP that ranged from a maximum thickness of 1.22 feet in GP-5 to 0.23 feet in GP-1 (Figure 6). Alisto Engineering Group monitored the depth to SP and groundwater in the Port of Oakland wells MW-1* and MW-3* on May 23, 1995. The SP thickness was 0.17 feet in MW-1* and 6.46 feet in MW-3*. The Port of Oakland well MW-3* is located approximately 40 feet north of the Ringsby geoprobe point GP-8 which contained only 0.18 feet of SP.

3.3 Results of Soil Sample Analyses

Table 1 summarizes the laboratory analytical results for soil samples collected from eight soil borings on May 25, 1995. Ten soil samples contained concentrations of TPH-D ranging from 43,000 to 40 mg/kg. Seven soil samples contained concentrations of TPH-G ranging from 1,100 to 84 mg/kg. The reported concentrations of TPH-G were estimated by GTEL due to overlapping fuel patterns from the high diesel concentrations. Eight of the soil samples contained concentrations of benzene ranging from 3.2 to 0.026 mg/kg. Copies of the soil sample analytical data are attached in Appendix D. The data have also been posted in the cross sections A-A', B-B', and C-C' shown on Figures 3 and 4.

Soil samples collected from GP-3 and GP-6, located north of the main sand bed, did not contain reportable concentrations of BTEX, TPH-G, and TPH-D. The only hydrocarbons detected in the soil samples collected from GP-8 was 530 mg/kg TPH-D in the sample collected at 7 feet BGS. Copies of laboratory analyses and chain-of-custody manifests are included in Appendix D.

3.4 Results of Groundwater Sample Analyses

Table 2 summarizes laboratory analytical results of groundwater samples collected from well points GP-2, GP-3, and GP-6, and separate phase petroleum hydrocarbon samples collected from GP-1, GP-4, GP-5, GP-7, and GP-8 on May 25, 1995. In the three water samples benzene concentrations ranged from < 0.3 to 24 µg/L, TPH-G concentrations ranged from < 50 to 200 µg/L, and TPH-D concentrations ranged from 86 to 22,000 µg/L (Appendix D and Figure 7). The SP samples collected from five of the temporary well points were characterized as typical of diesel fuel. No gasoline or motor oil were noted in the samples. On June 29, 1995, GTEL reviewed the chromatograms from the water samples and the SP samples and stated that, qualitatively, the chromatograms did not appear to contain hydrocarbons in the motor oil range.

4.0 QUARTERLY GROUNDWATER MONITORING AND SAMPLING

On June 21 and 23, 1995, Groundwater Technology personnel gauged monitoring wells MW-1, MW-2, and MW-3 (Figure 3, Table 3). Consultants for the Port of Oakland also gauged the Port of Oakland wells MW-1*, MW-2*, and MW-3* on June 23, 1995 (Appendix B).

Depth to water was measured using an ORS Environmental Equipment INTERFACE PROBE Well Monitoring System, consisting of a dual optical sensor and electrical conductivity probe, that distinguishes between water and SP hydrocarbons. The probe was cleaned between each well to avoid cross contamination of the groundwater. To diminish the effects of fluctuations in the groundwater table due to tides, the three wells were gauged within a one-hour time period. All measurements were made from the top of casing in each well. No SP hydrocarbons were noted in the

three Ringsby Terminals groundwater monitoring wells. Port of Oakland groundwater monitoring wells MW-1* and MW-3* contained approximately 1.4 feet and 6.1 feet of SP, respectively (Table 3).

4.1 Groundwater Gradient and Flow Direction

Based on June 21 and June 23 water table measurements in the three Ringsby Terminal groundwater monitoring wells, the calculated groundwater gradients were:

June 21, 1995: North 14 degrees East at a gradient of 0.001 foot per foot

June 23, 1995: North 17 degrees East at a gradient of 0.001 foot per foot

The Groundwater Potentiometric Surface Map of June 23, 1995 is shown on Figure 8, and the water table elevations are shown on Table 3.

4.2 Groundwater Sampling Methods

Following groundwater monitoring, Groundwater Technology personnel sampled the groundwater in the three Ringsby Terminal monitoring wells to determine the distribution of dissolved hydrocarbons in the groundwater. Prior to water-sample collection, the three Ringsby Terminal groundwater monitoring wells were purged of 4 well volumes and allowed to recharge with representative formation water. Temperature, conductivity, and pH measurements of the purged water were recorded. Due to an obstruction in its screened section, well MW-3 was only purged to a depth of 9.25 feet below the casing top. A disposable Teflon bailer was used for the groundwater sampling. One distilled water field blank was collected for quality control purposes. All water samples were then transferred to two 40-milliliter glass vials with Teflon-septum caps and two 1-liter amber bottles, preserved on ice, and transported to a California state-certified laboratory, accompanied by a chain-of-custody manifest. The three groundwater samples and one field blank sample were analyzed for BTEX, TPH-G, and TPH-D by EPA methods 8020/modified 8015.

4.3 Groundwater Analytical Results

The three water samples collected from groundwater monitoring wells MW-1, MW-2, and MW-3 did not contain concentrations of BTEX, TPH-G, and TPH-D above the laboratory reporting limits (Table 3). Copies of the laboratory reports and chain-of-custody for the June 21, 1995 groundwater samples are included in Appendix D and the field notes are included in Appendix B.

5.0 CONCLUSIONS

Based on the field observations, monitoring data, and analytical data obtained during the soil and groundwater assessment and quarterly groundwater monitoring and sampling, diesel appears to be the dominant petroleum hydrocarbon found adsorbed to soil, as separate phase within the capillary fringe, and dissolved in groundwater at the site (Figures 6 and 7, Tables 1, 2, and 3).

Based on soil data obtained from RAMCON's Soil and Groundwater Assessment Report, dated March 18, 1993, and the current analytical data obtained from the eight geoprobe soil borings, the approximate extent of hydrocarbons adsorbed to the soil and occurring as separate phase within the capillary fringe zone has been defined to the north, east, south, and west of the former diesel UST pit (Figure 6). Due to the presence of soil and groundwater containing petroleum hydrocarbons around the former Port of Oakland UST's, located to the northwest of the former Ringsby Terminal UST pit, the northwestern limits of the hydrocarbons adsorbed to the soil and occurring as SP within the capillary fringe has not been defined. Dissolved hydrocarbons reported in water samples collected from the temporary well points GP-3 and GP-6 indicate that the northern and northeastern extent of TPH-D dissolved in the groundwater has not been defined (Figure 7).

5.1 Extent of Petroleum Hydrocarbons in Soil

The lateral limits of soil impacted with adsorbed hydrocarbons are defined by soil borings GP-3, GP-6, BH-12, and BH-6 to the north and northeast, MW-3 to the east, BH-1 and MW-1 to the south, and MW-2, BH-9, and BH-14 to the west and southwest. Due to the presence of hydrocarbons adsorbed to the soil in soil borings BH-11, GP-8, BH-10, and in the Port of Oakland wells MW-3* and MW-1*, the northwestern limits have not been defined (Figure 2 and Table 1).

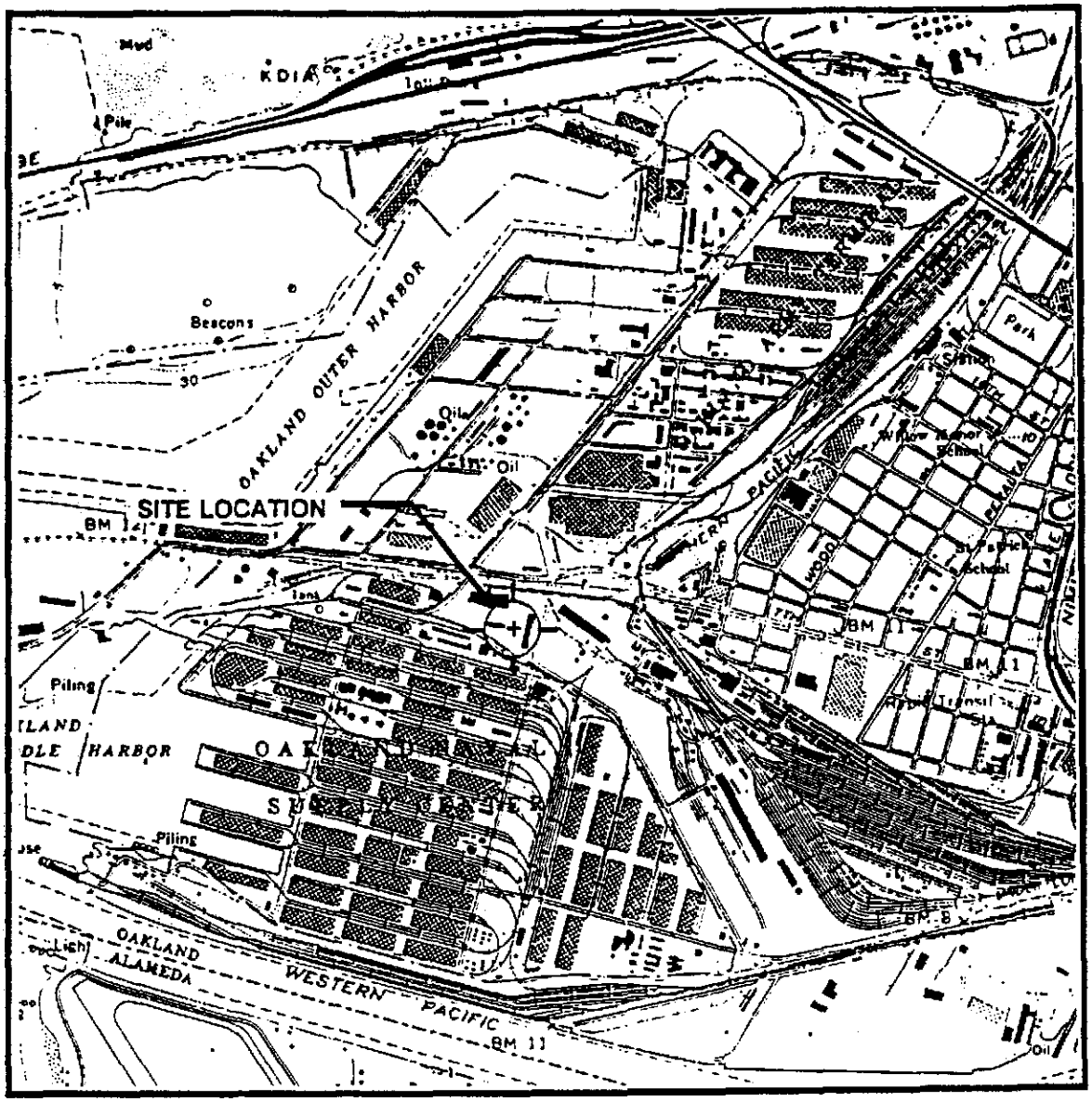
5.2 Extent of Separate Phase Petroleum Hydrocarbons

The lateral limits of SP are defined by soil borings GP-2, GP-3, GP-6, BH-12, and BH-6 to the north and northeast, MW-3 to the east, BH-1 and MW-1 to the south, and MW-2, BH-9, and BH-14 to the west and west-southwest (Figure 6 and Table 2). Due to the presence of SP measured in the temporary well point GP-8 and the Port of Oakland wells MW-3* and MW-1*, the northwestern limits have not been defined.

5.3 Extent of Petroleum Hydrocarbons In Groundwater

The lateral limits of dissolved TPH-D in the groundwater at the site do not extend westward beyond MW-2, southward beyond MW-1, and eastward beyond MW-3 (Figure 7 and Tables 2 and 3). Due to the presence of TPH-D in water samples collected from GP-2, GP-3, and GP-6, the northern limit of TPH-D dissolved in groundwater on the Ringsby Terminal Lease has not been defined.

The northern limits of the TPH-D dissolved in groundwater at the site may be affected by off-site sources. Water samples collected north of the Port of Oakland Building C-401 on May 17, 1994 contained concentrations of dissolved TPH-D that ranged from 4 to 810 µg/L. Dissolved and SP diesel were reported in groundwater samples collected from monitoring wells on the Southern Pacific Transportation Company site located both north and due east of the Ringsby Terminal's northeastern property corner (Figure 1). Work performed on the offsetting properties is described in the following reports: Uribe & Associates, November 10, 1994, *Report of Additional investigation, Building C-401, 2277 Seventh Street, Oakland, CA.*, and Geometrix Consultants Inc., January 10, 1992, *Groundwater Monitoring Report, Southern Pacific Transportation Company, Former Impoundment Area, West Oakland Yard, Oakland, CA.*



SOURCE: U.S.G.S. TOPOGRAPHIC QUADRANGLE
OAKLAND WEST
7.5 MINUTE SERIES
1959/PHOTOREVISED 1980

SCALE 1:24,000

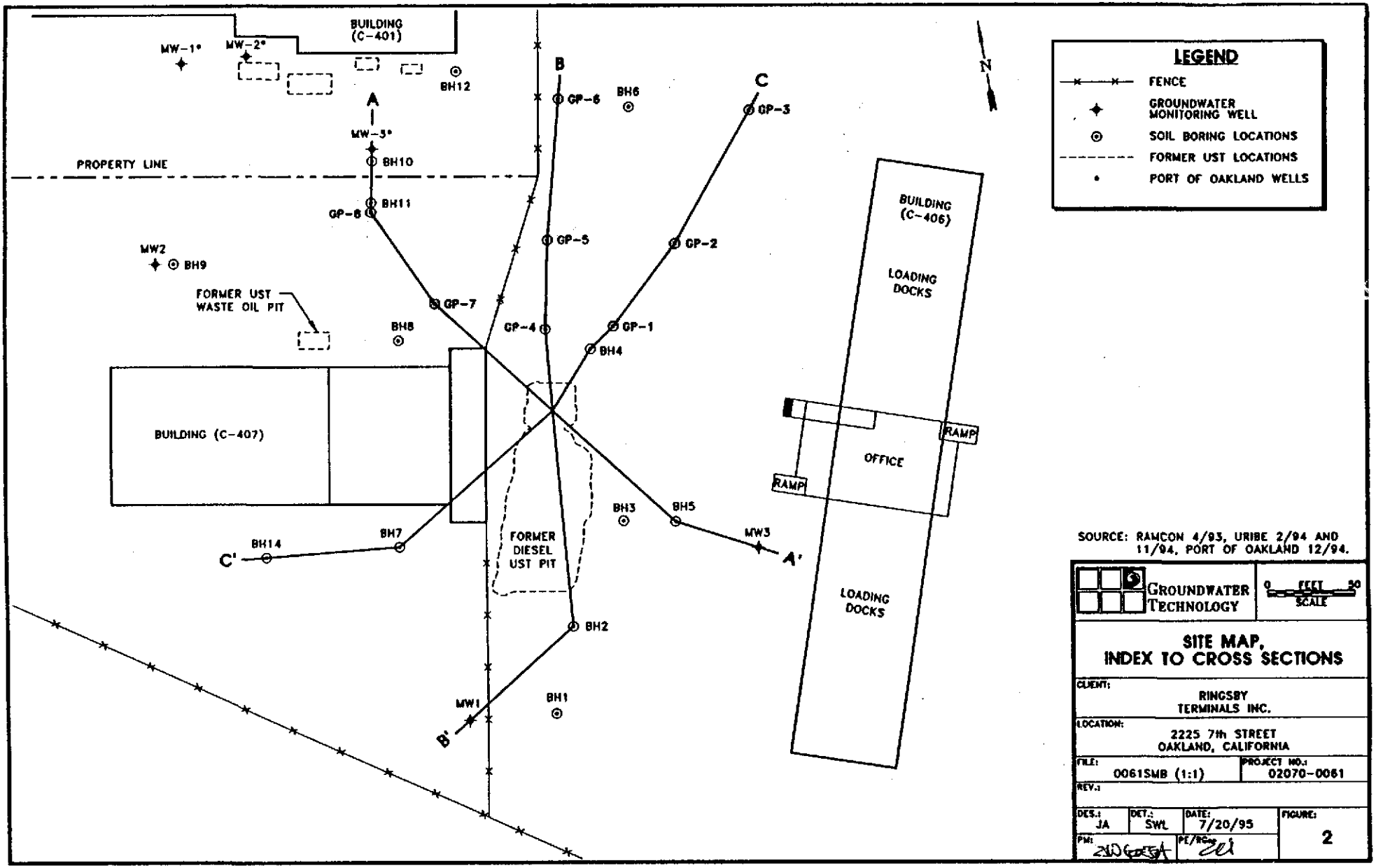
0 2,000 4,000

SCALE FEET

GROUNDWATER TECHNOLOGY

SITE LOCATION MAP

CLIENT: RINGSBY TERMINALS INC.	FILE: 0061-SL (1:1)	PROJECT NO.: 02070-0061	PM: [illegible]	PE/RG: [illegible]
	REV:			FIGURE: 1
LOCATION: 2225 7th STREET OAKLAND, CA.	DES.: JA	DET.: SP	DATE: 4-4-95	



SOURCE: RAMCON 4/93, URIBE 2/94 AND 11/94, PORT OF OAKLAND 12/94.

GROUNDWATER TECHNOLOGY

0 FEET 30 SCALE

SITE MAP, INDEX TO CROSS SECTIONS

CLIENT:	RINGSBY TERMINALS INC.
LOCATION:	2225 7th STREET OAKLAND, CALIFORNIA
FILE: 0061SMB (1:1)	PROJECT NO.: 02070-0061
REV.:	
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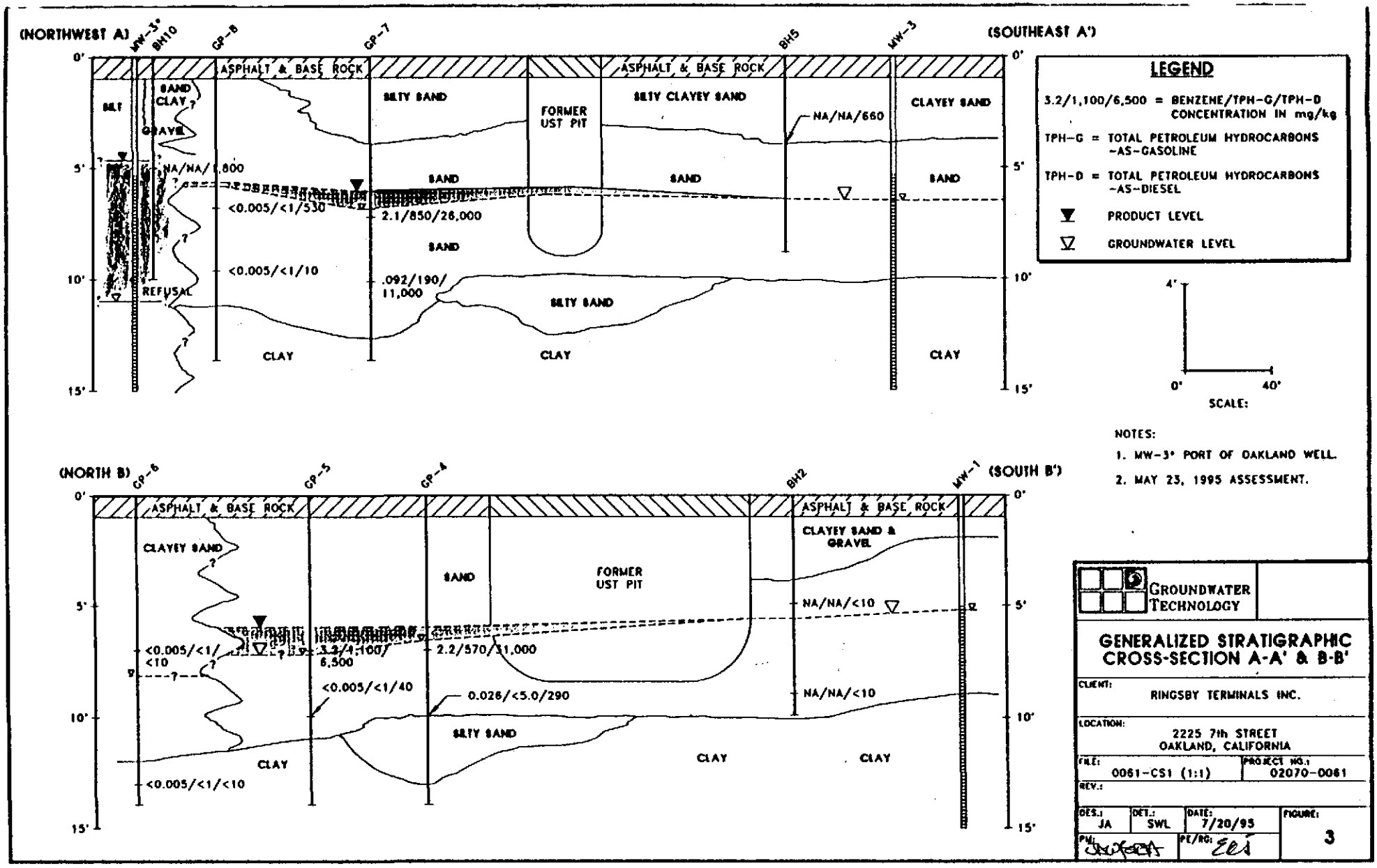

NOTES:

1. MW-3* PORT OF OAKLAND WELL.
2. MAY 23, 1995 ASSESSMENT.

GROUNDWATER TECHNOLOGY

GENERALIZED STRATIGRAPHIC CROSS-SECTION A-A' & B-B'

CLIENT:	RINGSBY TERMINALS INC.
LOCATION:	2225 7th STREET OAKLAND, CALIFORNIA
FILE:	0061-CS1 (1:1)
PROJECT NO.:	02070-0061
REV.:	
DES.:	JA
DET.:	SWL
DATE:	7/20/95
FIGURE:	3
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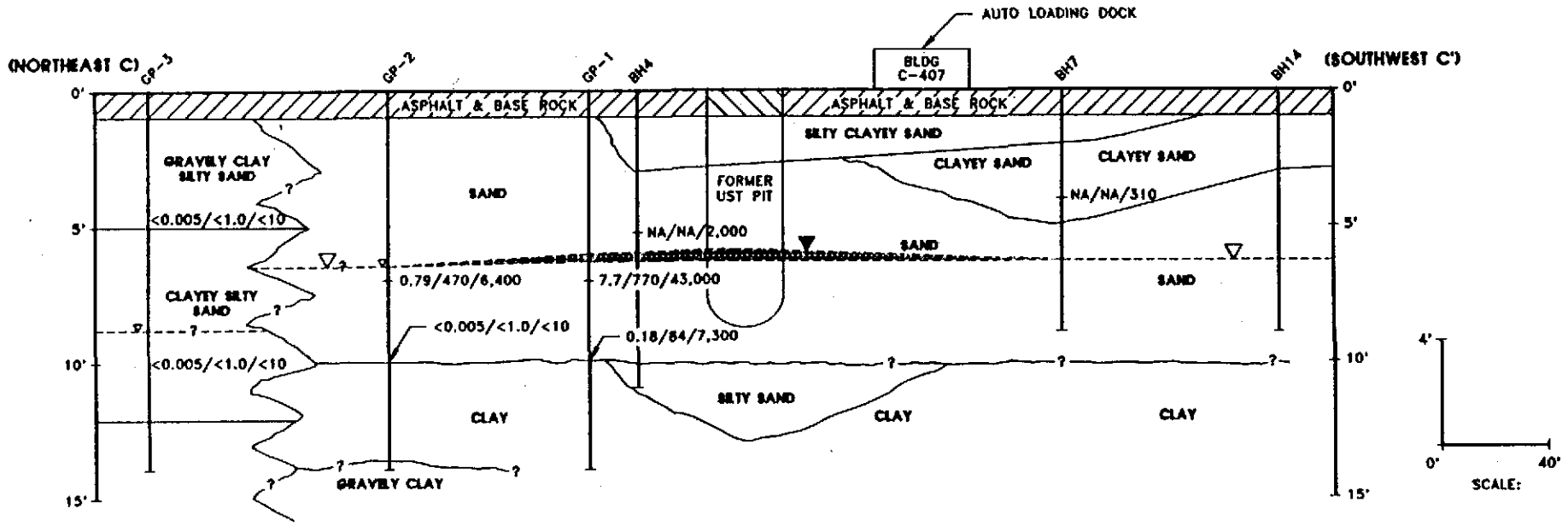
PE/RG:	



NOTES:

1. MAY 23, 1995 ASSESSMENT.

LEGEND

1.8/770/43,000 = BENZENE/TPH-G/TPH-D CONCENTRATION IN mg/kg

TPH-G = TOTAL PETROLEUM HYDROCARBONS -AS-GASOLINE

TPH-D = TOTAL PETROLEUM HYDROCARBONS -AS-DIESEL

▼ PRODUCT LEVEL

▽ GROUNDWATER LEVEL

GROUNDWATER TECHNOLOGY

GENERALIZED STRATIGRAPHIC CROSS-SECTION C-C'

CLIENT: RINGSBY TERMINALS INC.

LOCATION: 2225 7th STREET OAKLAND, CALIFORNIA

FILE:	PROJECT NO.:
0061-CS2 (1:1)	02070-0061

REV.:

DES.:	DFT.:	DATE:	FIGURE:
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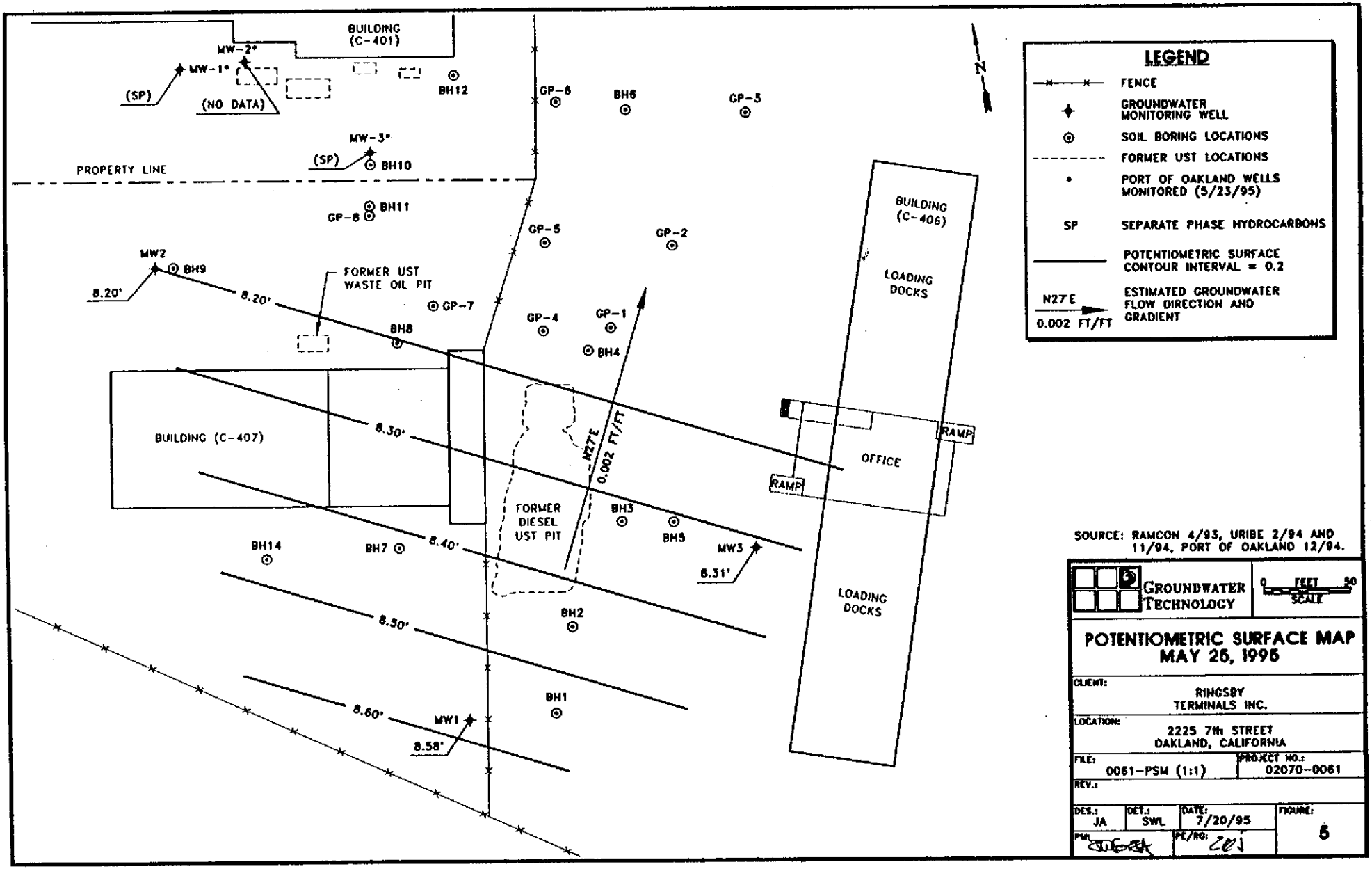


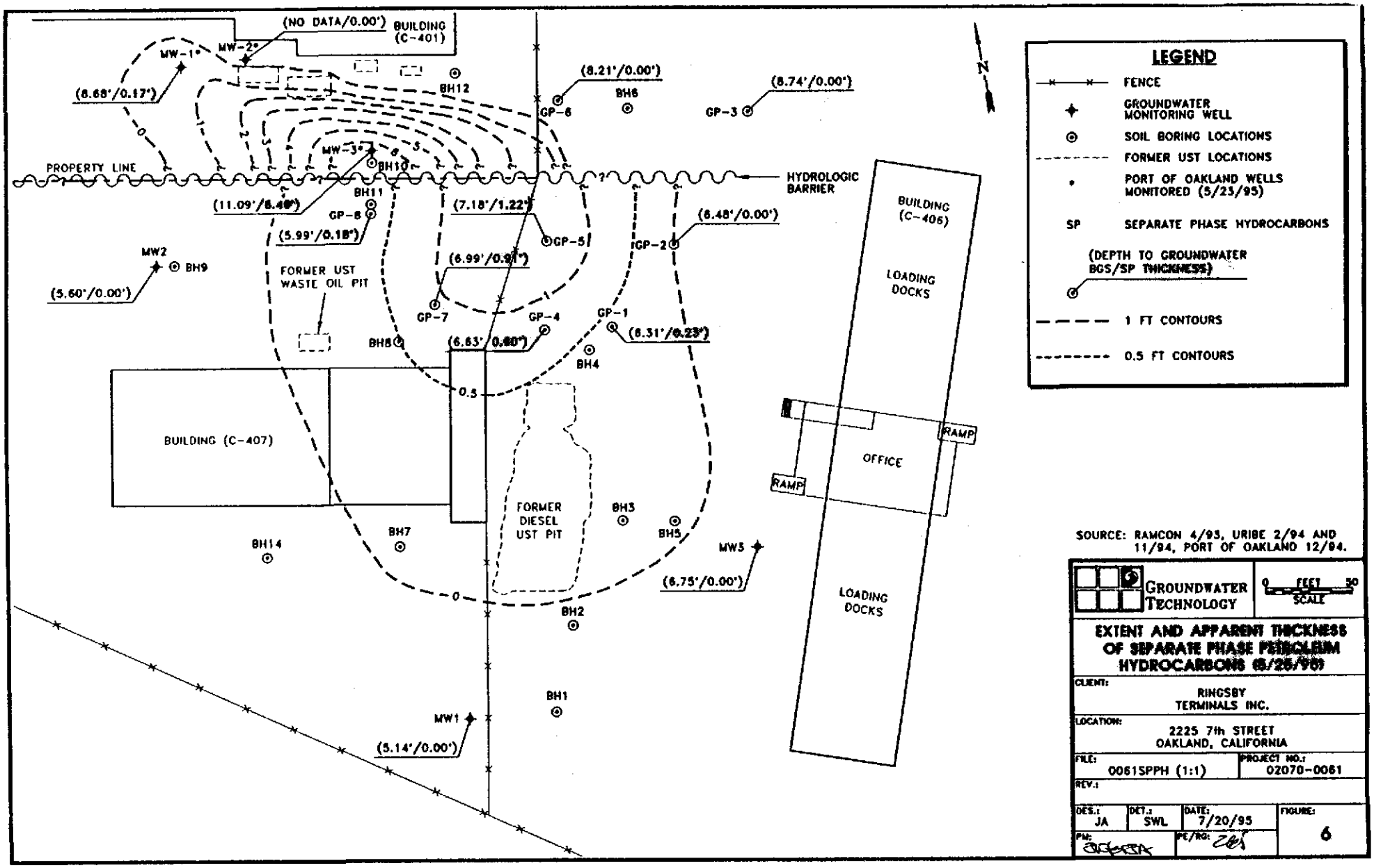
SOURCE: RAMCON 4/93, URIBE 2/94 AND 11/94, PORT OF OAKLAND 12/94.

GROUNDWATER TECHNOLOGY

0 FEET 50 SCALE

POTENTIOMETRIC SURFACE MAP MAY 25, 1995

CLIENT:	RINGSBY TERMINALS INC.
LOCATION:	2225 7th STREET OAKLAND, CALIFORNIA
FILE: 0061-PSM (1:1)	PROJECT NO.: 02070-0061
REV.:	
DES.: JA / DFT.: SWL / DATE: 7/20/95	FIGURE: 5
PM: / PE/RG:	



SOURCE: RAMCON 4/93, URIBE 2/94 AND 11/94, PORT OF OAKLAND 12/94.

GROUNDWATER TECHNOLOGY

0 FEET 30 SCALE

EXTENT AND APPARENT THICKNESS OF SEPARATE PHASE PETROLEUM HYDROCARBONS (5/23/95)

CLIENT: RINGSBY TERMINALS INC.

LOCATION: 2225 7th STREET OAKLAND, CALIFORNIA

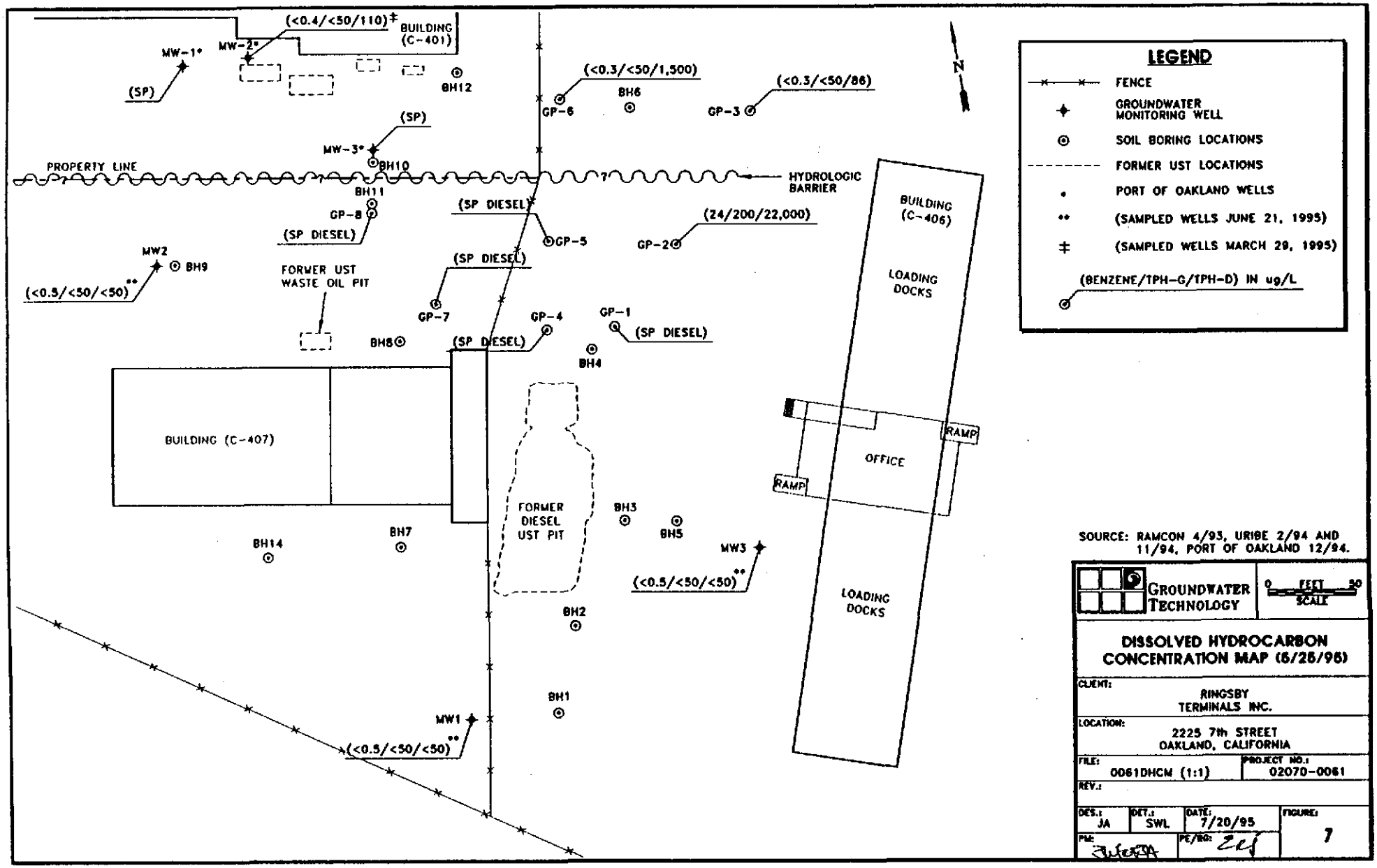
FILE: 0061SPPH (1:1)

PROJECT NO.: 02070-0061

REV.:

DES.:	DFT.:	DATE:	FIGURE:
JA	SWL	7/20/95	6

PM: PE/RG:



LEGEND

- FENCE
- GROUNDWATER MONITORING WELL
- SOIL BORING LOCATIONS
- FORMER UST LOCATIONS
- PORT OF OAKLAND WELLS
- ** (SAMPLED WELLS JUNE 21, 1995)
- ‡ (SAMPLED WELLS MARCH 29, 1995)
- (BENZENE/TPH-G/TPH-D) IN ug/L

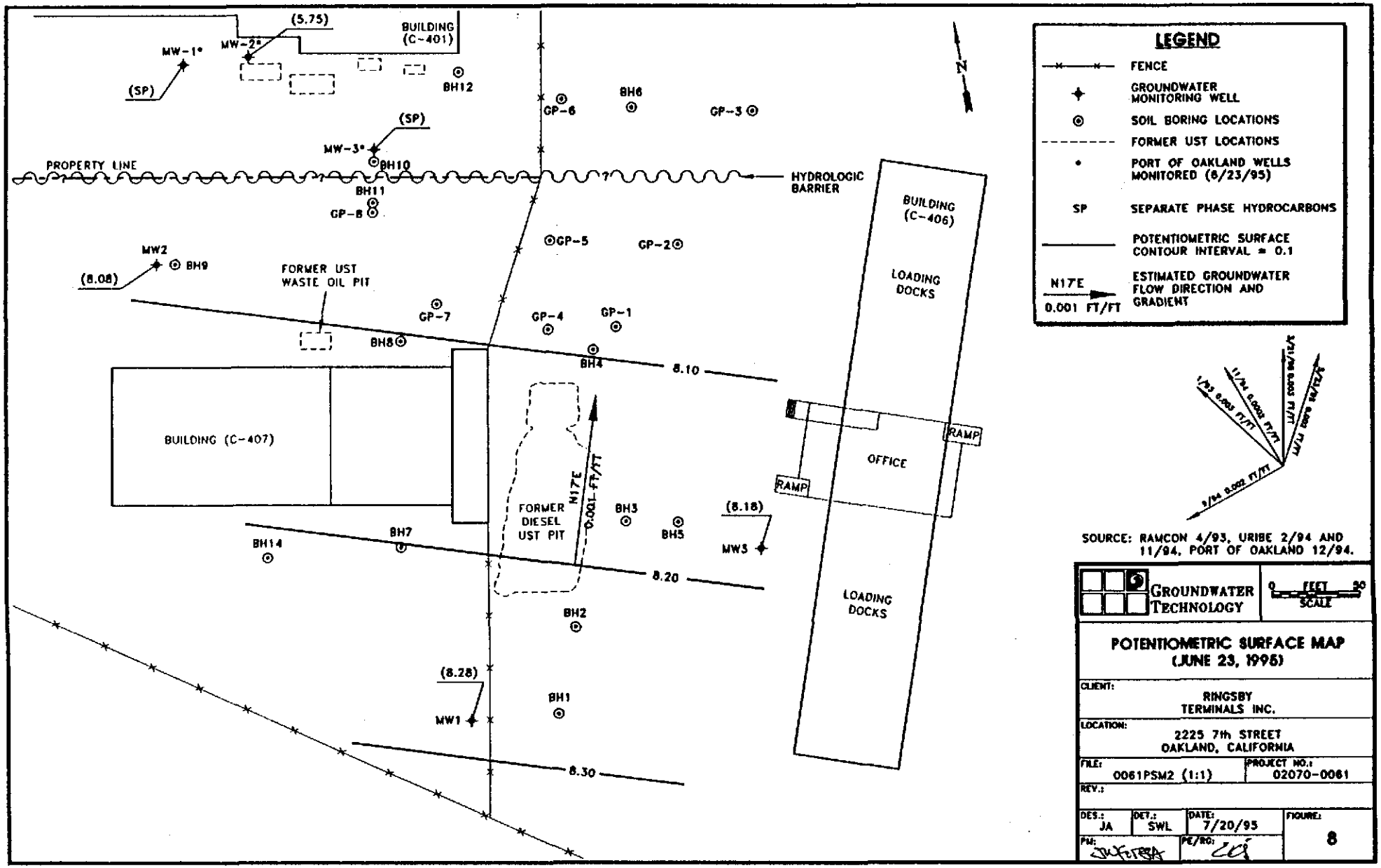
SOURCE: RAMCON 4/93, URIBE 2/94 AND 11/94, PORT OF OAKLAND 12/94.

GROUNDWATER TECHNOLOGY

0 FEET 50 SCALE

DISSOLVED HYDROCARBON CONCENTRATION MAP (5/26/95)

CLIENT:	RINGSBY TERMINALS INC.
LOCATION:	2225 7th STREET OAKLAND, CALIFORNIA
FILE: 0061DHCM (1:1)	PROJECT NO.: 02070-0061
REV.:	
DES.: JA / DFT.: SWL / DATE: 7/20/95	FIGURE: 7
PM:	PE/RG:



SOURCE: RAMCON 4/93, URIBE 2/94 AND 11/94, PORT OF OAKLAND 12/94.

GROUNDWATER TECHNOLOGY

0 FEET 30 SCALE

POTENTIOMETRIC SURFACE MAP (JUNE 23, 1995)

CLIENT:	RINGSBY TERMINALS INC.
LOCATION:	2225 7th STREET OAKLAND, CALIFORNIA
FILE: 0061PSM2 (1:1)	PROJECT NO.: 02070-0061
REV.:	
DES.: JA / DFT.: SWL / DATE: 7/20/95	FIGURE: 8
PM: JWF/TRRA	PE/RG:

Table 1
SOIL SAMPLE ANALYTICAL RESULTS
May 23, 1995
(in parts per million [ppm])
EPA Methods 8020/8015 modified

Ringsby Terminals, Inc.
2225 7th Street
Oakland, California

DATE SAMPLED	SAMPLE I.D.	DEPTH (feet)	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-G	TPH-D
05/23/95	GP-1	7	1.7	1.3	4.3	21	770	43,000
		10	0.18	0.1	0.37	1.5	84	7,300
	GP-2	7	0.79	0.69	2.3	7.4	470	6,400
		10	<0.005	<0.005	<0.005	<0.015	<1	< 10
	GP-3	7	< 0.005	< 0.005	< 0.005	< 0.015	< 1.0	< 10
		10	<0.005	<0.005	<0.005	<0.015	<1.0	< 10
	GP-4	7	2.2	1.1	4.4	16	570	31,000
		10	0.026	< 0.025	< 0.025	< 0.075	< 5.0	290
	GP-5	7	3.2	2.2	8.4	16	1,100	6,500
		10	<0.005	<0.005	<0.005	<0.015	<1	40
	GP-6	10	< 0.005	< 0.005	< 0.005	< 0.015	< 1	< 10
		13	<0.005	<0.005	<0.005	<0.015	<1	< 10
	GP-7	7	2.1	1.7	5.5	27	850	26,000
		10	0.92	0.72	1.6	2.3	190	11,000
	GP-8	7	< 0.005	< 0.005	< 0.005	< 0.015	< 1	530
		10	<0.005	<0.005	<0.005	<0.015	<1	< 10

Explanation
TPH-G = Total petroleum hydrocarbons-as-gasoline
TPH-D = Total petroleum hydrocarbons-as-diesel
< MDL = Method detection limit

Estimated Concentration for Gasoline Due to Overlapping Fuel Patterns for samples:
GP1-7, GP1-10, GP2-7, GP4-7, GP4-10, GP5-7, GP7-7, and GP7-10

File:Dongary\0061Tab1.WK4 Date: 07/20/95

GROUNDWATER TECHNOLOGY

Table 2
GROUNDWATER MONITORING AND ANALYTICAL DATA, May 25, 1995
Concentrations in parts per billion (ppb), or micrograms per liter (µg/l)

Ringsby Terminals, Inc.- Port of Oakland
2225 7th Street, Oakland, California

WELL ID Elevation	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-G	TPH-D	TPH-M	DTW (feet)	SPT (feet)	GWE (feet)
MW-1 13.72	05/25/95	not sampled	not sampled	not sampled	not sampled	not sampled	not sampled	not sampled	5.14	0.00	8.58
MW-2 13.80	05/25/95	not sampled	not sampled	not sampled	not sampled	not sampled	not sampled	not sampled	5.60	0.00	8.20
MW-3 15.06	05/25/95	not sampled	not sampled	not sampled	not sampled	not sampled	not sampled	not sampled	6.75	0.00	8.31
GP-1 0.00	05/25/95	----	----	----	----	(<10,000)*	(950,000)*	(<100,000)*	6.31	0.23	Not Surveyed
GP-2A 0.00	05/25/95	24	< 0.3	3.8	1.7	200	22,000	----	6.48	0.00	Not Surveyed
GP-3 0.00	05/25/95	< 0.3	0.5	< 0.3	0.6	< 50	86	----	8.74	0.00	Not Surveyed
GP-4 0.00	05/25/95	----	----	----	----	(<10,000)*	(870,000)*	(<100,000)*	6.63	0.69	Not Surveyed
GP-5 0.00	05/25/95	----	----	----	----	(<10,000)*	(900,000)*	(<100,000)*	7.18	1.22	Not Surveyed
GP-6 0.00	05/25/95	< 0.3	< 0.3	2.0	2.6	< 50	15,000	----	8.21	0.00	Not Surveyed
GP-7 0.00	05/25/95	----	----	----	----	(<10,000)*	(800,000)*	(<10,000)*	6.99	0.91	Not Surveyed
GP-8 0.00	05/25/95	----	----	----	----	(<1,000)*	(170,000)*	(<10,000)*	5.99	0.18	Not Surveyed

EXPLANATION:
TPH-G = Total petroleum hydrocarbons-as-gasoline
TPH-D = Total petroleum hydrocarbons-as-diesel
TPH-M = Total petroleum hydrocarbons-as-Motor Oil
DTW = Depth to water
GWE = Groundwater elevation
MSL = Mean sea level
– = Sample Analyzed for BTEX or Full Hydrocarbon Scan, SW-846
()* = Separate-phase petroleum hydrocarbon sample; concentrations reported in mg/kg

SURVEY INFORMATION:

Well #	TOC	Grade	Property/well Owner
MW-1	13.72	—	Ringsby Terminals, Inc.
MW-2	13.80	---	Ringsby Terminals, Inc.
MW-3	15.06	---	Ringsby Terminals, Inc.

GP Points not surveyed.

calculated assuming a specific gravity of (0.875)
Wells surveyed to Port of Oakland Datum
12/06/94, (3.2 feet below mean sea level)

0061Tab2.wk4 Table updated 07/20/95

GROUNDWATER TECHNOLOGY

Table 3

GROUNDWATER MONITORING AND ANALYTICAL DATA, 1993, 1994, and 1995

Concentrations in parts per billion (ppb), or micrograms per liter (µg/l)

Ringsby Terminals, Inc.- Port of Oakland
2225 7th Street, Oakland, California

WELL ID/ ELEVATION (TOC:feet)	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-G	TPH-D	DTW (feet)	SPT (feet)	GWE (feet)
MW-1	01/15/93	< 0.3	< 0.3	< 0.3	< 0.3	< 50 ~	< 50	5.21	0.00	8.51
13.72	09/12/94	0.6	< 0.3	< 0.3	< 0.3	< 10 c	10,000	6.37	0.00	7.35
	11/30/94	< 0.3	< 0.3	< 0.3	< 0.3	< 10	2,800	5.76	0.00	7.96
	03/29/95	< 0.3	< 0.3	< 0.3	< 0.3	< 50	< 50	4.57	0.00	9.15
	05/25/95	----	----	----	----	----	----	5.14	0.00	8.58
	06/21/95	< 0.3	< 0.3	< 0.3	< 0.3	< 50	< 50 d	5.41	0.00	8.31
	06/23/95	----	----	----	----	----	----	5.44	0.00	8.28
MW-2	01/15/93	< 0.3	< 0.3	< 0.3	< 0.3	< 50	< 50	6.21	0.00	7.59
13.80	09/12/94	0.6	< 0.3	< 0.3	< 0.3	34 c	< 50	6.47	0.00	7.33
	11/30/94	0.9	< 0.3	< 0.3	< 0.3	< 10	81	6.34	0.00	7.46
	03/29/95	0.3	< 0.3	< 0.3	< 0.3	< 50 b	75	5.51	0.00	8.29
	05/25/95	----	----	----	----	----	----	5.60	0.00	8.20
	06/21/95	< 0.3	< 0.3	< 0.3	< 0.3	< 50 b	< 50	5.72	0.00	8.08
	06/23/95	----	----	----	----	----	----	5.72	0.00	8.08
MW-3	01/15/93	< 0.3	< 0.3	< 0.3	< 0.3	< 50	< 50	6.44	0.00	8.62
15.06	09/12/94	0.3	< 0.3	< 0.3	< 0.3	< 50	< 50	7.35	0.00	7.71
	11/30/94	< 0.3	< 0.3	< 0.3	< 0.3	110	150	7.12	0.00	7.94
	03/29/95	< 0.3	< 0.3	< 0.3	< 0.3	< 50	< 50	6.31	0.00	8.75
	05/25/95	----	----	----	----	----	----	6.75	0.00	8.31
	06/21/95	< 0.3	< 0.3	< 0.3	< 0.3	< 50 b	< 50 d	6.87	0.00	8.19
	06/23/95	----	----	----	----	----	----	6.88	0.00	8.18

GROUNDWATER TECHNOLOGY

Table 3

GROUNDWATER MONITORING AND ANALYTICAL DATA, 1993, 1994, and 1995

Concentrations in parts per billion (ppb), or micrograms per liter (µg/l)

Ringsby Terminals, Inc.- Port of Oakland
2225 7th Street, Oakland, California

WELL ID/ ELEVATION (TOC:feet)	DATE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TPH-G	TPH-D	DTW (feet)	SPT (feet)	GWE (feet)
MW-1*	11/30/94	---	---	---	---	---	---	9.51	0.91	5.43
14.14	03/29/95	---	---	---	---	---	---	7.67	0.17	6.62
	05/23/95	---	---	---	---	---	---	8.68	0.17	5.61
	06/23/95	---	---	---	---	---	---	9.60	1.40	5.77
MW-2*	11/30/94	---	---	---	---	---	---	8.91	0.00	5.46
14.37	03/29/95	---	---	---	---	---	---	7.47	0.00	6.90
	05/23/95	---	---	---	---	---	---	---	---	---
	06/23/95	---	---	---	---	---	---	8.62	0.00	5.75
MW-3*	11/30/94	---	---	---	---	---	---	13.07	5.21	5.69
14.20	03/29/95	---	---	---	---	---	---	9.59	2.93	7.17
	05/23/95	---	---	---	---	---	---	11.09	6.46	8.76
	06/23/95	---	---	---	---	---	---	12.21	6.09	7.32

EXPLANATION:

TPH-G = Total petroleum hydrocarbons-as-gasoline
TPH-D = Total petroleum hydrocarbons-as-diesel
DTW = Depth to water
SPT = Separate-phase thickness
GWE = Groundwater elevation
MSL = Mean sea level
TOC = Top of casing
-- = Not analyzed or no sample/measurment collected

~ = Sample also analyzed using EPA 624, volatile organics were present.
a = Uncategorized compound not included in the hydrocarbon concentration
b = Uncategorized compound not included in the gasoline concentration
c = Hydrocarbon pattern is not characteristic of gasoline
d = Hydrocarbon pattern present in sample is not characteristic of diesel

SURVEY INFORMATION:

Well #	TOC	Grade	Property/well Owner
MW-1	13.72	---	Ringsby Terminals, Inc.
MW-2	13.80	---	Ringsby Terminals, Inc.
MW-3	15.06	---	Ringsby Terminals, Inc.
MW-1*	14.14	---	Port of Oakland
MW-2*	14.37	---	Port of Oakland
MW-3*	14.20	---	Port of Oakland

GWE for wells with separate phase hydrocarbons calculated assuming a specific gravity of (0.875)
Wells surveyed to Port of Oakland Datum 12/06/94; (3.2 feet below mean sea level)

M&STab3.wk4 Table updated 07/17/95

GROUNDWATER TECHNOLOGY

APPENDIX A

Alameda County Department of Environmental Health Letters
January 17, March 14, and April 14, 1995

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
ALAMEDA COUNTY CC4580
DEPT. OF ENVIRONMENTAL HEALTH
ENVIRONMENTAL PROTECTION DIVISION
1131 HARBOR BAY PKWY., #250
ALAMEDA CA 94502-6577

January 17, 1995
STID 940

Dongary Investments
PO Box 7240
Denver CO 80207
Attn: Don Ringsby

RE: Nations Way Transport, 2225-7th St., Oakland CA 94607

Dear Mr. Ringsby,

I am in receipt of the non-hazardous waste manifests for the disposal of approximately 870 cubic yards of contaminated, stockpiled soil, under cover letter from ERM, dated 9/12/94.

I am also in receipt of the "Groundwater Monitoring and Sampling Report," prepared by Groundwater Technology Inc. (GTI), dated 9/20/94. This report documents groundwater monitoring and sampling activities conducted on 9/12/94. It appears that you have established a quarterly groundwater monitoring/sampling program, as requested in my last letter, dated 7/26/94.

Upon review of the data, it is likely that floating product lies on the groundwater table beneath the Dongary sublease. This is indicated by the discussion and the boring logs in the "Soil and Groundwater Site Assessment," prepared by Ramcon, dated 3/18/93. The three wells existing on the Dongary sublease do not adequately delineate both the dissolved and non-dissolved phases of the groundwater plume. Groundwater conditions closer to the potential source of contamination (UST excavation), as well as to the north and northeast of the UST excavation, need to be assessed. Therefore, you are requested to submit a workplan for groundwater investigation in this area within 45 days, or by March 6, 1995.

All work should adhere to a) the Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, dated 8/10/90; and b) Article 11 of Title 23, California Code of Regulations. Reports and proposals must be submitted under seal of a California-Registered Geologist, -Certified Engineering Geologist, or -Registered Civil Engineer.

Please note that with the exception of closure reports, routine reports and documents no longer need to be copied to the Regional Water Quality Control Board. Kindly submit a cover letter with your consultant's reports.

If you have any questions, please contact me at 510-567-6761; our fax is 510-337-9335. PLEASE NOTE TEAT OUR NEW ADDRESS IS 1131 HARBOR BAY PARKWAY, 2nd FLOOR, ALAMEDA CA 94502.

Sincerely,

Jennifer Eberle
Hazardous Materials Specialist

cc: Port of Oakland, 530 Water St., Oakland CA 94607, Attn: Dan Schoenholz
Jaff Auchterlonie, Groundwater Technology Inc., 1401 Halyard Dr., Suite 140, W. Sacramento CA 95691
Bob Katin, Groundwater Technology Inc., 4057 Port Chicago Hwy, Concord CA 94520
Kevin Graves, RWQCB
Gil Jensen, Alameda County District Attorney's Office
Ed Howell/file

je940-I

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH

ALAMEDA COUNTY CC4580
DEPT. OF ENVIRONMENTAL HEALTH
ENVIRONMENTAL PROTECTION DIVISION
1131 HARBOR BAY PKWY., #250
ALAMEDA CA 94502-6577

March 14, 1995
STID 940

Dongary Investments
PO Box 7240
Denver CO 80207
Attn: Don Ringsby

RE: Nations Way Transport, 2225-7th St., Oakland CA 94607

Dear Mr. Ringsby,

I am in receipt of the "Work Plan for Soil and Groundwater Assessment," dated 2/24/95, prepared by Groundwater Technology Inc. (GTI). As you know, this workplan involves the drilling of two groundwater monitoring wells. One well is located approximately 25' north of the former UST pit, and the other well is located approximately 150' northeast of the former UST pit.

During the ensuing review of this case, and during subsequent telephone conversations with your consultant, Jaff Auchterlonie of GTI, I explained the inadequacy of this workplan. Two wells are simply not enough points to clarify the following data gaps:

1) The extrapolation of the change in soil lithology between the coarser grained material as seen in BH11, and the finer grained material as seen in BH10.

2) The definition of both the free and dissolved product plumes, originally noted during the Dongary UST removals in 7/92.

Jaff Auchterlonie of GTI and I discussed the use of a rapid site assessment tool, which would give us a lot more data in a cost effective manner. The use of a Geoprobe was proposed by Mr. Auchterlonie. The Geoprobe is one form of direct penetration technology (DPT) which can enable us to gather soil and water (or free product) samples in a timely and cost effective manner, especially for such a large site as this.

I subsequently received two faxes from Mr. Auchterlonie, dated 3/13/95 and 3/14/95. These faxes include a site map with proposed locations for DPT (or Geoprobe) points. As discussed with Mr. Auchterlonie on 3/14/95, **this approach is acceptable, on the condition that one extra (8th) data point be located approximately 40' NW from Dongary's former UST pit.** This extra point is important because, along with point #7, it will enable us to better understand the distribution of the free product plume between the Dongary UST pit and the Port's UST pit (Building C-401).

Therefore, you are requested to submit an addendum to the 2/24/95 Workplan by GTI, specifying the methodology for the DPT approach, within 30 days (or sooner), or by April 14, 1995. This letter is being faxed both to you and to GTI for timeliness.

All work should adhere to a) the Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, dated 8/10/90; and b) Article 11 of Title 23, California Code of Regulations. Reports and proposals must be submitted **under seal** of a California-Registered Geologist, -Certified Engineering Geologist, or -Registered Civil Engineer.

Please note that with the exception of closure reports, routine reports and documents no longer need to be copied to the Regional Water Quality Control Board. Kindly submit a cover letter with your consultant's reports.

If you have any questions, please contact me at 510-567-6761; our fax is 510-337-9335. **PLEASE NOTE THAT OUR NEW ADDRESS IS 1131 HARBOR BAY PARKWAY, 2nd FLOOR, ALAMEDA CA 94502.**

Sincerely,

Jennifer Eberle
Hazardous Materials Specialist

cc: Port of Oakland, 530 Water St., Oakland CA 94607, Attn: Dan Schoenholz
Jaff Auchterlonie, Groundwater Technology Inc., 1401 Halyard Dr., Suite 140, W. Sacramento CA 95691
Bob Katin, Groundwater Technology Inc., 4057 Port Chicago Hwy, Concord CA 94520
Kevin Graves, RWQCB
Gil Jensen, Alameda County District Attorney's Office
Ed Howell/file

je.940-J

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

RAFAT A. SHAHID, DIRECTOR
DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
1131 Harbor Bay Parkway
Alameda, CA 94502-6577
(510) 567-6700

April 14, 1995
STID 940

Dongary Investments
PO Box 7240
Denver CO 80207
Attn: Don Ringsby

RE: Nations Way Transport, 2225-7th St., Oakland CA 94607

Dear Mr. Ringsby,

I am in receipt of the "Amended Work Plan for Soil and Groundwater Assessment," dated 4/7/95, prepared by Groundwater Technology Inc. (GTI). As you know, this workplan involves the drilling of eight Geoprobe points, located to the northwest, north, and northeast of the former Dongary UST excavation. The Geoprobe is a type of direct penetration technology (DPT) which can enable us to gather soil and water (or free product) samples in a timely and cost effective manner, especially for such a large site as this.

The 4/7/95 Amended Work Plan by GTI is acceptable. Please notify me at least 2 business days in advance of field activities, so I may arrange to be onsite.

Please understand that permanent well points may be required in the future, based on the results of this investigation. If you have any questions, please contact me at 510-567-6761; our fax is 510-337-9335.

Sincerely,

Jennifer Eberle
Hazardous Materials Specialist

cc: Port of Oakland, 530 Water St., Oakland CA 94607, Attn: Dan Schoenholz
Jaff Auchterlonie, Groundwater Technology Inc., 1401 Halyard Dr., Suite 140, W. Sacramento CA 95691
Bob Katin, Groundwater Technology Inc., 4057 Port Chicago Hwy, Concord CA 94520
Kevin Graves, RWQCB
Gil Jensen, Alameda County District Attorney's Office
Ariu Levi/file

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APR 19 1995

APPENDIX B

ZONE 7 WATER AGENCY DRILLING PERMITS
SOIL AND GROUNDWATER ASSESSMENT FIELD NOTES, May 23 and 25, 1995
GROUNDWATER MONITORING AND SAMPLING FIELD NOTES, June 21, 1995
ALISTO ENGINEERING GROUP, PRODUCT REMOVAL STATUS, June 1994 to June 1995

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Ringsby Terminals
Port of Oakland, 2225 7th St.
Oakland, CA. 94607

CLIENT
Name Ringsby Terminals, Inc
Address P.O. Box 7240 Voice (303) 320-3960
City Denver Co. Zip 80207

APPLICANT
Name Jeff Architerbonic G
Groundwater Technology Fax (916) 372-8781
Address 1401 Halyard Dr. Suite 140 Voice (916) 372-4700
City West Sacramento, CA. Zip 95691

TYPE OF PROJECT
Well Construction
Cathodic Protection ___
Water Supply ___
Monitoring ___
Geotechnical Investigation
General ✓
Contamination ___
Well Destruction ___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other Single Water Sampler Temporary well point.
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger ___
Cable ___ Other Geoprobe

DRILLER'S LICENSE NO. 636387 Precision Sampling, Inc.

WELL PROJECTS
Drill Hole Diameter ___ in. Maximum
Casing Diameter ___ in. Depth ___ ft.
Surface Seal Depth ___ ft. Number ___

GEOTECHNICAL PROJECTS
Number of Borings 8
Hole Diameter 2 in. Maximum
Depth 14 ft.

ESTIMATED STARTING DATE 5/1/95
ESTIMATED COMPLETION DATE 5/3/95

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature]

FOR OFFICE USE

PERMIT NUMBER 95255
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

A. GENERAL
(1.) A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
(3.) Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

(C.) GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 27 Apr 95
Wyman Hong

5/22/95.

RINGSBY TERMINAL
Port of OAKLAND, 2225 7th St OAKLAND
Tolwyman Hong 13:30

JAPP PAGER PN 115 7032
PRECISION Mike Polk.
Pag (415) 201-2896
Cell (415) 515+ 0356

ON SITE 6:45
MEET W/ PRECISION
STEWART King
Mike Polkington
Sergio.
RECON AREA.
1 TRAILER OBSTRUCTING GP 4

7:20
TSM (SEE addendum)
START GP-3. - 1st
Calibrate PID.
Label Decon DRUMS A:B

Call Jeff. 7:55 AM
GO INTO OFFICE

FILE

Ringsby DTW BGS.

@ 16:40

Well ID	DTP	DTW	DTB
GP-1		6.03 BRN oily.	
GP-2		6.48	
GP-3	9	9.48	
GP-4		6.01 BRN oily	
GP-5	6.08	~~6.51~~ 6.74	
GP-6		12.51	
GP-7		6.18 oily	
GP-8		5.83 oily	

IP Not Reading Product or is to thin

Drum A: C Decon Water 80gal
Drum B Soil 25 gal

Ringsby

Drums Stored
50 yds East
of Purge Is/
DW Cmpd.

off site @ 16:40

5/24

2 Soil + 1 water from PT
BTEX/TPH-G - TPH-D

Monitor Wells 1, 2, 3
DTP's & DTW

GP-2 - 7:10
GP-1 - 7:10
GP-3 - 7:10

Tel Jeff
Xtra cuttin on GP-4,5,6
→ 8" WATER LINE
11 to fence

NW Transport = Ringsby Lease
Monty or Dennis
SEALAND = Todd Burson
Autowasher is building Client
our Client Leases to SEALAND

8:25 Contact Dennis
to Move TRAILER OVER
GP-4

-Tel Jeff
Use a white PAINT white
Adj to SB's ; Take
DTW From This elev.
To determine gradient after
Surveyed.

Ringsby Terminal

ID	Dpth	PID (ppm)	
GP-4	4	98	
	7	233	*
	10	372	*
	13	39	
	14	8	
GP-5	4	376	
	7	1544	*
	10	43	
	13	30	
gravel	14	28	*
GP-6	4	NR	
	7	4	*
	10	5	*
	13	4	
	14	3	
GP-7	4	23	
	7	587	*
	10	476	*
	13	28	
	14	14	
GP-8	4	8	
	7	6	*
	10	80	*
	13	1	

Dpth

5/25/95

Ringsby on site 8:00

Monitor Wells FR Grade +¼" on N Side

ID	DTP	DTW	SPT Thick
~~GP-8~~			
GP-3	Ø	8.74	Ø
GP-2	Ø	6.48	Ø
* GP-1	Brnbily	6.03	Sheen
GP-6	Ø	8.21	odor
GP-5	5.96	7.18	1.22
GP-4	6.03	6.63	0.60
GP-8	5.81	5.99	0.18
GP-7	6.08	6.99	0.91

MW NO KEY

PAGE Mike @ Precision.
tell him to have Tech Bring Nails
CALL MAC TO GET # for Precision 415 456 9875

OBSERVED PERSON Pumping Contents of Drums INTO "EMCO Wheaton" MW 5/23/95. in Afternoon

START SAMPLING

Sampl ORDER
GP-3, 2, 6, 1, 5, 4, & 7

GP-3 Dry out
3 VOAs
1 3/4 L.

GP-2 SAMPLED
Purged @ 2.25 gals
Resampled
10:10 GP-2A DTW = 6.42 95% Recvg
sheen.

~~GP-1~~

PRECISION Arrives 10:15.
Sergio STARTS TREMMLE

NAIL ALL BORINGS.
PAINT ~~Spray~~ ORG.
w/Ribbon

NAILS VERY HARD TO DRIVE N2 Asphalt &

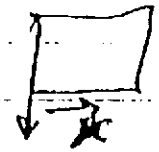
	DTP	DTW	SPT
* GP-1	6.08	6.31	(0.23 feet)

after Sampling 3 VOA's Produced

Accurately locate & Building corners & Auto CAD Comm

CONFIRM GP-8
2 measurements / hole
1 E 1 N

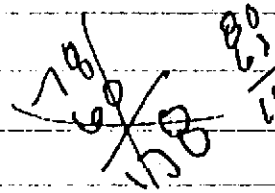
1 c



2 VOA'S FOR FULL Hyd. Screen

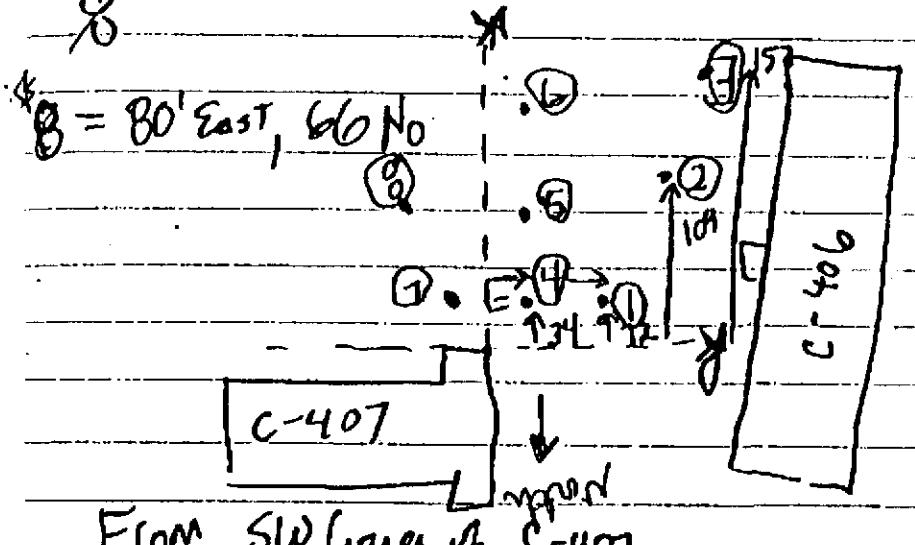
GP-6 Dry out
got full complement of Samples (s)

FINISH Sampling & Decon c 13:00
START Sketch MAP



1 = 72'x, 12y

2 109x, 60y
3 152x
4 34'x, 11y
5
6
7
8



From SW Corner of C-407

4)	34 South	11 East	11N 34E
1)	72' So.	12 East	12 N 72 E
2)	109 So	60 East	60 N 109 E
3)	152 So	138 East	138 N 152 E
5)	34 So	63 East	63 N 34 E
6)	40 So	143 East	143 N 40 E

RINGSBY 5/25/93

	DTW	TOC
MW-1B	5.14	13:45
MW-2	5-60	13:40
MW-3B	6-75	13:50

Drum Purge Water
11/30/94 Tafft
See Site MAP
By MW-1B
Precision off site 13:30
Clean up & off Site

14:00

Post-it® Fax Note 7671 | Date 5/25 | # of pages ▶ 8

To GTI Kingsbury	From GTI		
Co./Dept. SAC	Co. Concord		
Phone #	Phone #		
Fax #	Fax #		

WORK REQUEST FORM

JOB NAME: Dongary– Port of Oakland
JOB NUMBER: 02070–0061–030504

SITE ADDRESS: 2225 7th Street, Oakland, California
START DATE: [redacted] * 06/14/95
DATE PREPARED: 10/09/94

PREPARED FOR: Field Services
PREPARED BY: Jaff Auchterlonie

WORK DESCRIPTION: MONITOR AND SAMPLE THREE 15 foot deep MONITORING WELLS

SCOPE OF WORK: MONITOR and SAMPLE 3–15 foot deep GROUNDWATER WELLS for three quarters
Projected work dates, the second week of: (December, March, and ~~July~~ June

~~Monitoring well seals must be installed at site, please call Jaff Auchterlonie for details~~

MONITOR GROUNDWATER DEPTH IN THREE WELLS

Due to tidal influences at the site it is important to measure the groundwater depth in the in the three wells in a reasonably short time frame.

Break the sanitary seal in each well and allow groundwater to stabilize.
Measure the depth to groundwater in each well, taking no more than 15 minutes to monitor the depths in all three wells.
All depth measurements will be from Top Of Casing

COLLECT WATER SAMPLES FROM THE THREE WELLS, MW–1, MW–2, MW–3

Based on past analyses, sample well MW–3 first, MW–2 second, and MW–1 last.
Using a hand bailer Purge four well volumes from each well
Measure & record pH, conductivity, and temperature of the purged groundwater.
Store water in one or two 55 gallon drums and place drums as shown on attached site plan.
Label drums as purged groundwater, Dongary Investments/GTI, and date.

ANALYZE WATER SAMPLES WITH GTEL.

Fill out COC and request BTEX, TPH–G, and TPH–D on a one week TAT

EQUIPMENT NEEDED:

Health & Safety Site Plan
Two 55 gallon drums, Nine 40 ml VOAs, Six 1 liter amber bottles
Bailers to purge water from 4" wells and three disposable bailers NO PUMPS
~~1/2~~", 9/16", and ~~15/16~~" sockets 3/8" 1/4"

Reviewed Date: 6/14/95
Reviewed By:
Work Acceptable: Yes / No
Permit Required Yes / No

GENERAL INFORMATION

Direct all questions to Jaff Auchterlonie or Bruce Beale, (916) 372-4700

Site Contacts:	N.W Transport	Monty or Dennis	(510) 451–6967
Off–Site Contact:	Sealand	Todd Burson	(510) 272–5214

RECEIVED
JUL - 3 1995

PROJECT MANAGER, Jaff Aushterlonie AUTHORIZATION

file:WkReq2.wk1

GROUNDWATER GAUGING FORM

JOB NAME: Dongary- Port of Oakland
IP#: 2225 7th Street, Oakland, CA.
JOB NUMBER: 02070-0061-030504
DATE: ~~6-21-95~~ 6-21-95
MEASURED TO TOC OR GRADE? Top of Casing

NOTE: Well MW-3 has obstruction at 9.5 feet

WELL I.D.	DTB	WELL DIAM.	WELL ELEV. TOC	DTW	DTP	PT	80% RECHG.	ELEV WATER	COMMENTS Please note if well needs locking cap or street box repai
3rd MW-1	14.90	4"	97.72'	5.41					
2nd MW-2	15.10	4"	98.59'	5.72					
5th MW-3	9.25	4"	99.42 ~~99.22~~	6.87					Obstruction @ 9.6 ft

Project Name: Dongary Investments

Site Address: 2225 7th St. Oakland

Project Number: 020700061.030504

Date: 6.21.95

Page 1 of 3

Project Manager: Jaff Aushterlonie

Well ID: MW-3

Well Diameter: 4"

DTW Measurements:
Initial: 6.87
Recharge:

Calc Well Volume: 1.55 gal
Well Volume: 4 ~~6.21~~ gal

Purge Method
Peristaltic
Gear Drive
Submersible

Pump Depth ft.
Hand Bailed X
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:

Other:

Time	Temp X C F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1:20	21.4	1.81	6.68	0		Cloudy Grey
1:21	21.5	2.18	6.97	1		4
1:25	21.5	2.01	7.43	3		4
				DRY		

Project Name: Dongary Investments

Date: 6.21.95

Site Address: 2225 7th St. Oakland

Page 2 of 3

Project Number: 020700061.030504

Project Manager: Jaff Aushterlonie

Well ID: MW-2

Well Diameter: 4"

DTW Measurements:
Initial: 5.72
Recharge:

Calc Well Volume: 6.12 gal
Well Volume: 4 24.5 gal

Purge Method
Peristaltic
Gear Drive
Submersible

Pump Depth ft.
Hand Bailed X
Air Lift
Other

Instruments Used
YSI: X
Hydac:
Omega:

Other:

Time	Temp X C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1:37	21.0	2.56	7.68	0		Clear
1:41	21.1	3.01	7.72	6		Cloudy
1:45	21.2	3.13	7.58	12		Cloudy Brown
				Dry		

Project Name: Dongary Investments

Site Address: 2225 7th St. Oakland

Project Number: 020700061.030504

Date: 10.21.05

Page 3 of 3

Project Manager: Jaff Aushterlonie

Well ID: MW-1

Well Diameter: 4"

DTW Measurements:
Initial: 5.41
Recharge:

Calc Well Volume: 6.19 gal
Well Volume: 4 ~~29.7~~ gal

Purge Method
Peristaltic
Gear Drive
Submersible

Pump Depth ~~X~~ ft.
Hand Bailed ~~X~~
Air Lift
Other

Instruments Used
YSI: ~~X~~
Hydac:
Omega:

Other:

Time	Temp ~~X~~ C / F	Conductivity	pH	Purge Volume Gallons	Turbidity	Comments
1:55	21.0	1.39	7.85	0		Clear
1:59	21.0	1.41	7.59	6		Clear
2:04	21.1	1.44	7.61	12		Cloudy
2:10	21.1	1.43	7.60	18		Cloudy Brown

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080 PIKE LANE, SUITE C
CONCORD, CA 94520
(510) 685-7852
(800) 423-7143

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

34051

Company Name: Groundwater Technology
Phone #: 510 671 2387
FAX #:
Company Address: 4057 Port Chicago Hwy
Site Location: 2225 7th St.
Project Manager: Jeff Auchterlonie
Client Project ID: (#) 0207 00161.030569
(NAME) Dougary
Sampler Name (Print): MARK GARCIA

I attest that the proper field sampling procedures were used during the collection of these samples.

Field Sample ID	GTEL Lab # (Lab Use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	PRODUCT	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	UNPRESERVED	OTHER (Specify)	Sampling: DATE	TIME
MW-3		4	W						X			Y	X		6/8/95	225
MW-2		3	↓						↓			↓	↓		↓	235
MW-1		4	↓						↓			↓	↓		↓	245
TBLB		1	W						X			X	X			—

ANALYSIS REQUEST | OTHER

BTEX 602 ☐ 8020 ☐ with MTBE ☐ | BTEX/Gas Hydrocarbons PID/FID ☒ with MTBE ☐ | Hydrocarbons GC/FID Gas ☐ Diesel ☒ Screen ☐ | Hydrocarbon Profile (SIMDIS) ☐ | Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐ | TPH/IR 418.1 ☐ SM 503 ☐ | EDB by 504 ☐ OBCP by 504 ☐ | EPA 503.1 ☐ EPA 502.2 ☐ | EPA 601 ☐ EPA 8010 ☐ | EPA 602 ☐ EPA 8020 ☐ | EPA 608 ☐ 8080 ☐ PCB only ☐ | EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐ | EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐ | EPA 610 ☐ 8310 ☐ | EP TOX Metals ☐ Pesticides ☐ Herbicides ☐ | TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Past ☐ Herb ☐ | EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐ | CAM Metals TTLC ☐ STLC ☐ | Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐ | Organic Lead ☐ | Corrosivity ☐ Flash Point ☐ Reactivity ☐

TAT
Priority (24 hr) ☐
Expedited (48 hr) ☐
5 Business Days ☒
Other ☐
Business Days

Special Handling
GTEL Contact
Quote/Contract #
Confirmation #
P.O. #

QA/QC Level
Blue ☐ CLP ☐ Other ☐

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS
FAX ☐

REMARKS: 1 (one) week T.A.T.

Lab Use Only Lot #:
Storage Location
Work Order #:

CUSTODY RECORD

Relinquished by Sampler	Date	Time	Received by:
Mark Garcia	6/8/95	12:00	Joe Weber
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory: Waybill #

WORK REQUEST

JOB NAME:	Dongary - Port of Oakland	JOB NUMBER:	020700061 - 030504
SITE ADDRESS:	2225 7th St. Oakland, CA.	START DATE: DATE PREPARED:	06/23/95 06/23/95
PREPARED FOR:	Hector Merino	PREPARED BY:	Krissi McIlvenna

6/23/95

WORK DESCRIPTION: MONITOR 3 WELLS

1) Be on site at 1:00pm (Coordinating monitoring with another consultant)

2) Monitor three (3) wells MW-1, MW-2 and MW-3

Well	DTW
MW-1	5.44
MW-2	5.72
MW-3	6.88

ARRIVED AT 13:00 OPENED ALL WELLS.
MONITORED WELLS OTHER CONSULTANT FIRM WAS A NO SHOW,
CALLED SAFF @ 13:30

EQUIPMENT NEEDED:

Site Safety Plan and Safety Equipment

GENERAL INFORMATION

Reviewed Date: 6/29/95

Reviewed By:

Work Acceptable: (Yes) / No

Rework Required: Yes / (No)

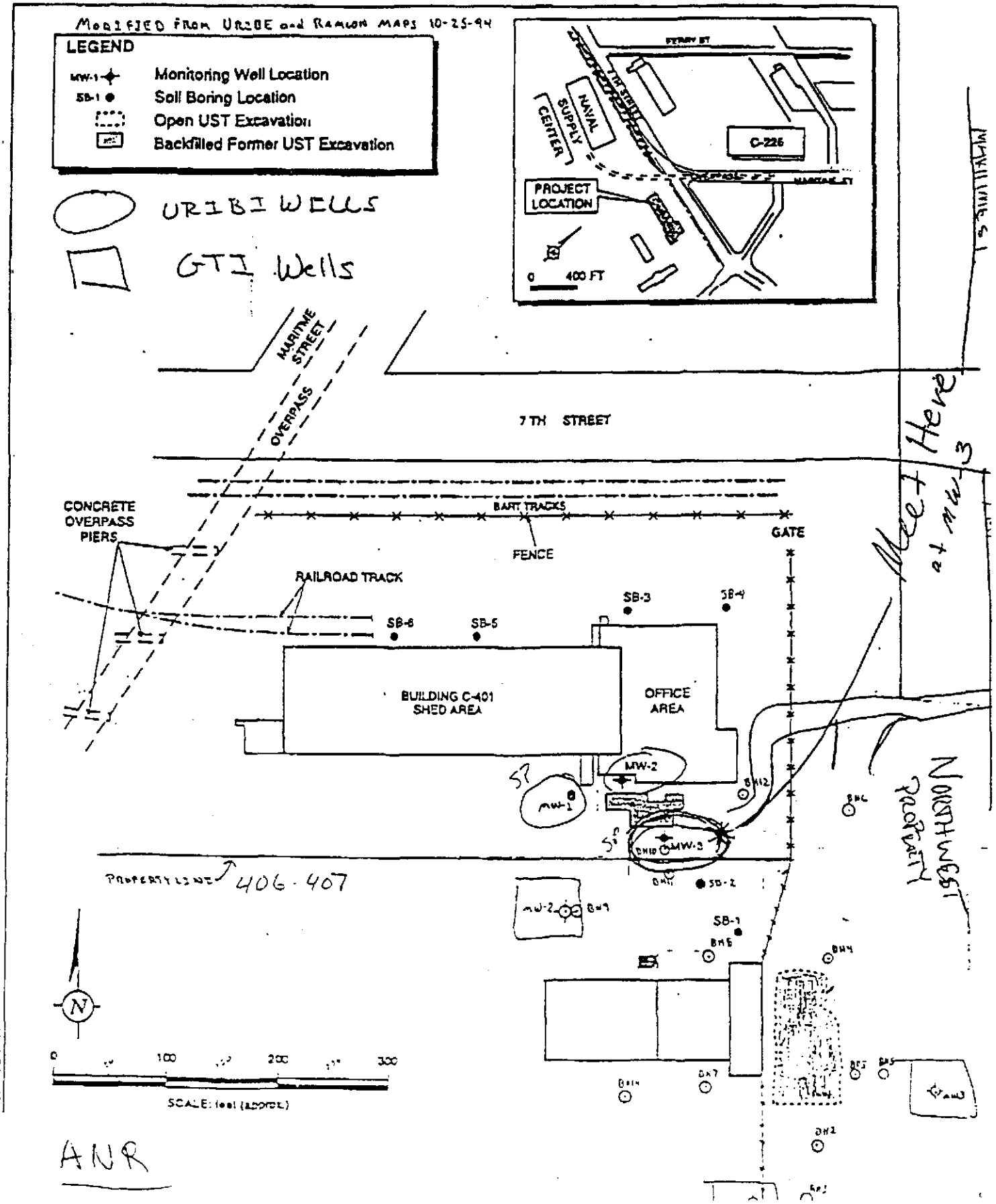
RECEIVED
JUL - 3 1995

GT! PM: Jaff Auchterlonie (916) 372-4700

B:\yulupa\work\rq02.wk4

AUTHORIZATION

FREE PRODUCT IN URIBI WELLS MW3 MW2



ALISTO ENGINEERING GROUP
FIELD SERVICES

Client: Port of Oakland
Alisto Project No: 10-270-02
Service Station No: _____

Date: 6-23-95
Field Personnel: C Reinhem
Site Address: 2270 E 7th St Oakland Area

Field Activity: ___Groundwater Monitoring ___Groundwater Sampling ___Well Development

Equipment Used:

___Water Gauge
___Parameter Kit
___Disposable Bailers
___Tank Trailer
___Diasolved Oxygen Meter
___Pump
___Poly Tubing
___Locks
___Gloves
___Vinyl Tubing 1/2"
___Water Level Indicator
___Locking Caps (2", 4")
___PVC Bailer (2", 4")
___Organic Vapor Meter
___Mileage

QUALITY CONTROL SAMPLES:

___ QC-1 Sample Duplicate (Well ID)
___ QC-2 Trip Blank
___ QC-3 Rinsate Blank

PARAMETER EQUIPMENT CALIBRATION

pH Meter #:_____ Time:_____
Solution pH 4.00 ___ at ___ °F
Solution pH 7.00 ___ at ___ °F
Solution pH 10.00 ___ at ___ °F

Notes:

Collect DTW & P.T from MW 1, 2 & 3, prior to product p/u.

	DTW	Product Thickness	GW Elevation ②	Time
MW-1	9.60	1.40	14.17	5.62	3:42P
MW-2	8.62	0	14.38	5.76	3:38P
MW-3	12.21	6.09	14.24	6.60	3:46P

② Calculated assuming 0.75 S.G. for free product.

Barrels: ___Soil ___Water ___Dbl Contained ___Empty ___Soil Pile (Cu Yds)

Project Manager Approval: _____

FORM: FS1/1500SJ

TABLE 1 - PRODUCT REMOVAL STATUS
PORT OF OAKLAND, BUILDING C-401
2277 SEVENTH STREET, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-270

WELL ID	DATE	CASING ELEVATION (a) (feet)	DEPTH TO WATER (feet)	DEPTH TO PRODUCT	PRODUCT THICKNESS	GROUNDWATER ELEVATION (b) (Feet)	PRODUCT REMOVED (Gallons)	PRODUCT REMOVED CUMULATIVE (Gallons)	
MW-1	06/30/94	14.17	9.75	9.20	0.55	4.83	1.5	1.5	(c)
	07/08/94	14.17	9.88	9.12	0.76	4.86	1.5	3.0	(c)
	07/14/94	14.17	9.90	9.12	0.78	4.86	1.5	4.5	(c)
	7/21-22/94	14.17	9.78	9.16	0.62	4.86	1.5	6.0	(c)
	07/29/94	14.17	10.00	9.13	0.87	4.82	3.0	9.0	(c)
	08/03/94	14.17	10.3	9.19	1.11	4.70	3.0	12.0	(c)
	08/11/94	14.17	10.51	9.24	1.27	4.61	3.0	15.0	(c)
	08/18/94	14.17	10.38	9.25	1.13	4.64	3.0	18.0	(c)
	09/29/94	14.17	10.5	9.30	1.20	4.57	3.0	21.0	(c)
	10/04/94	14.17	9.75	9.30	0.45	4.76	1.5	22.5	(c)
	10/14/94	14.17	10.05	9.25	0.80	4.72	1.5	24.0	(c)
	10/21/94	14.17	10.84	9.49	1.35	4.34	—	24.0	(c)
	11/02/94	14.17	10.26	9.44	0.82	4.53	2.5	26.5	(c)
	11/10/94	14.17	9.80	8.45	1.35	5.38	3.0	29.5	(c)
	11/18/94	14.17	9.76	8.78	0.98	5.15	3.0	32.5	(c)
	12/08/94	14.17	9.46	8.69	0.77	5.29	3.0	35.5	(c)
	01/20/95	14.17	8.01	7.73	0.28	6.37	2.0	37.5	(c)
	01/27/95	14.17	7.54	7.52	0.02	6.65	2.0	39.5	(c)
	02/10/95	14.17	8.15	7.92	0.23	6.19	2.0	41.5	(c)
	02/16/95	14.17	8.40	8.18	0.23	5.94	1.0	42.5	(c)
	02/23/95	14.17	8.46	8.21	0.25	5.90	2.0	44.5	(c)
	03/03/95	14.17	8.25	8.15	0.10	6.00	2.0	46.5	(c)
	03/10/95	14.17	7.63	7.53	0.10	6.62	2.0	48.5	(c)
	03/17/95	14.17	8.00	7.80	0.20	6.32	2.0	50.5	(c)
	04/07/95	14.17	—	—	—	14.17	2.0	52.5	
	04/14/95	14.17	—	—	—	14.17	3.0	55.5	
	04/19/95	14.17	8.34	7.10	0.24	6.01	0.5	56.0	
	04/26/95	14.17	8.26	7.98	0.28	6.12	1.0	57.0	
	05/03/95	14.17	8.77	8.47	0.30	5.63	0.5	57.5	
	05/12/95	14.17	8.33	7.87	0.46	6.19	2.0	59.5	
	05/16/95	14.17	8.42	8.64	0.22	5.92	1.5	61.0	
	05/23/95	14.17	8.68	8.51	0.17	5.62	1.5	62.5	
	05/31/95	14.17	8.71	8.54	0.17	5.59	1.0	63.5	
	06/07/95	14.17	8.77	8.61	0.16	5.52	2.5	66.0	
	06/14/95	14.17	9.51	7.88	1.63	5.85	5.0	71.0	
	06/23/95	14.17	9.60	8.20	1.40	5.62	4.0	75.0	

TABLE 1 - PRODUCT REMOVAL STATUS
PORT OF OAKLAND, BUILDING C-401
2277 SEVENTH STREET, OAKLAND, CALIFORNIA

ALISTO PROJECT NO. 10-270

WELL ID	DATE	CASING ELEVATION (a) (feet)	DEPTH TO WATER (feet)	DEPTH TO PRODUCT	PRODUCT THICKNESS	GROUNDWATER ELEVATION (b) (Feet)	PRODUCT REMOVED (Gallons)	PRODUCT REMOVED CUMULATIVE (Gallons)
MW-3	06/30/94	14.24	14.97	8.83	6.14	3.86	45.0	45.0
	07/08/94	14.24	14.85	8.34	6.51	4.27	45.0	90.0
	07/14/94	14.24	14.41	8.35	6.06	4.38	45.0	135.0
	7/21-22/94	14.24	14.32	8.45	5.87	4.32	45.0	180.0
	07/29/94	14.24	14.45	8.90	5.55	3.95	18.0	198.0
	08/03/94	14.24	14.45	8.45	6.00	4.29	30.0	228.0
	08/11/94	14.24	14.45	9.52	4.93	3.49	30.0	258.0
	08/18/94	14.24	14.38	9.48	4.90	3.54	45.0	303.0
	09/23/94	14.24	14.45	8.75	5.70	4.07	100.0	403.0
	09/29/94	14.24	14.45	8.85	5.60	3.99	165.0	568.0
	10/04/94	14.24	14.50	8.65	5.85	4.19	165.0	733.0
	10/14/94	14.24	14.50	9.60	4.90	3.42	165.0	898.0
	10/21/94	14.24	14.50	8.88	5.62	3.96	90.0	988.0
	11/02/94	14.24	14.50	8.79	5.71	4.02	50.0	1038.0
	11/10/94	14.24	13.12	8.07	5.05	4.91	—	1038.0
	11/18/94	14.24	13.10	7.91	5.19	5.03	90.0	1128.0
	12/08/94	14.24	13.58	7.95	5.63	4.86	50.0	1178.0
	01/20/95	14.24	10.11	7.09	3.02	6.40	40.0	1218.0
	01/27/95	14.24	11.09	7.15	3.94	6.11	20.0	1238.0
	02/10/95	14.24	11.05	7.05	4.00	6.19	0.0	1238.0
	02/16/95	14.24	12.10	7.20	4.90	5.82	140.0	1378.0
	02/23/95	14.24	12.00	7.33	4.67	5.74	100.0	1478.0
	03/03/95	14.24	12.25	7.40	4.85	5.63	150.0	1628.0
	03/10/95	14.24	10.40	7.10	3.30	6.32	150.0	1778.0
	03/17/95	14.24	9.80	6.90	2.90	6.62	165.0	1943.0
	03/31/95	14.24	—	6.60	—	—	100.0	2043.0
	04/07/95	14.24	—	6.80	—	—	160.0	2203.0
	04/14/95	14.24	—	6.90	—	—	160.0	2363.0
	04/19/95	14.24	11.30	4.26	7.04	8.22	110.0	2473.0
	04/26/95	14.24	11.11	4.83	6.28	7.84	125.0	2598.0
	05/03/95	14.24	10.84	4.89	5.95	7.86	130.0	2728.0
	05/12/95	14.24	11.08	4.86	6.22	7.83	140.0	2868.0
	05/16/95	14.24	11.11	4.72	6.39	7.92	150.0	3018.0
	05/23/95	14.24	11.09	4.63	6.46	8.00	100.0	3118.0
	05/31/95	14.24	10.84	5.20	5.64	7.63	100.0	3218.0
	06/07/95	14.24	12.26	7.33	4.93	5.66	150.0	3368.0
	06/14/95	14.24	12.01	6.21	5.80	6.58	90.0	3458.0
	06/23/95	14.24	12.21	6.12	6.09	6.60	100.0	3558.0

NOTES:

(a) Casing elevations surveyed to the nearest 0.01 foot relative to mean lower low water (3.2 feet below mean sea level, Port of Oakland datum)

(b) Groundwater elevation adjusted assuming a specific gravity of 0.75 for the separate-phase product.

(c) The estimated amount bailed is approximately 75% product and 25% water.

5/23/95

APPENDIX C

SOIL BORING LOGS

Drilling Log

GROUNDWATER TECHNOLOGY

Soil Boring **GP-1**

Project Ringsby Terminals-Oakland Owner Ringsby Terminals, Inc.
Location 2225 7th Street, Oakland, CA Proj. No. 02070.0061
Surface Elev. _____ Total Hole Depth 14 ft. Diameter 2.38 in.
Top of Casing _____ Water Level Initial 11 ft. Static _____
Screen: Dia 1.25 in. Length 10 ft. Type/Size 0.010 in.
Casing: Dia 1.25 in. Length 4 ft. Type PVC Sch. 40
Fill Material Neat Cement Rig/Core XD-1 Continous Core
Drill Co. Precision Sampling Method Direct Push Technology
Driller Mike Polkington Log By Terry James Date 05/23/95 Permit # 95255
Checked By Ed Simonis License No. RG#4422

See Site Map For Boring Location

COMMENTS:

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
0					GC	Asphalt over base course.
2						Fine SAND: light brown-gray, dry, loose, well to moderate sorted, moderate hydrocarbon odor.
4	10	GP-1 -5'			SP	
6	556					(grades greenish gray, strong hydrocarbon odor)
8						(grades wet)
10	1544	GP-1 -10'			CL	CLAY: olive gray/dark gray, moist, soft, plastic, slight "organic" odor.
12						*Encountered water 05/23/95*
14						(grades black)
16						End of boring.
18						
20						
22						
24						

Drilling Log

GROUNDWATER TECHNOLOGY

Soil Boring GP-2

Project Ringsby Terminals-Oakland Owner Ringsby Terminals, Inc.
Location 2225 7th Street, Oakland, CA Proj. No. 02070.0061
Surface Elev. _____ Total Hole Depth 14 ft. Diameter 2.38 in.
Top of Casing _____ Water Level Initial 10 ft. Static _____
Screen: Dia 1.25 in. Length 10 ft. Type/Size 0.010 in.
Casing: Dia 1.25 in. Length 4 ft. Type PVC Sch. 40
Fill Material Neat Cement Rig/Core XD-1 Continous Core
Drill Co. Precision Sampling Method Direct Push Technology
Driller Mike Polkinaton Log By Terry James Date 05/23/95 Permit # 95255
Checked By Ed Simons License No. RG#4422

See Site Map For Boring Location

COMMENTS:

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
0						6" asphalt over 6" base course.
2					GC	Silty, fine SAND (10,90): dark brown gray, dry, loose, moderate sorted, subrounded, faint hydrocarbon odor.
4	119	GP-2 -5'				
6					SP	(grades less soft, gray, damp)
8	233					
10	22	GP-2 -10'				(grades wet) *Encountered Water, 05/23/95*
12					CL	CLAY: olive gray/dark gray interlayered, moist/wet, soft, plastic, faint "organic" odor.
14					GC	Clayey, silty, sandy GRAVEL (15,15,15,55): dark gray, wet, loose. End of boring.
16						
18						
20						
22						
24						

Drilling Log

GROUNDWATER TECHNOLOGY

Soil Boring GP-3

Project Ringsby Terminals-Oakland Owner Ringsby Terminals, Inc.
Location 2225 7th Street, Oakland, CA Proj. No. 02070 0061
Surface Elev. _____ Total Hole Depth 14 ft. Diameter 2.38 in.
Top of Casing _____ Water Level Initial 10 ft. Static _____
Screen: Dia 1.25 in. Length 10 ft. Type/Size 0.010 in.
Casing: Dia 1.25 in. Length 4 ft. Type PVC Sch. 40
Fill Material Neat Cement Rig/Core XD-1 Continous Core
Drill Co. Precision Sampling Method Direct Push Technology
Driller Mike Polkington Log By Terry James Date 05/23/95 Permit # 95255
Checked By Ed Simonis License No. RG#4422

See Site Map For Boring Location

COMMENTS:

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
0						Asphalt over base course.
2					GC	Gravelly, clayey, silty SAND (10,20,20,50): dark brown, damp, soft, no hydrocarbon odor.
4	15	GP-3 -5'			SC	
6						(grades variagated green-gray/brown-gray/dark gray/pale gray. CLAY/SILT/SAND (30,30,40) mixture)
8	24				SC	(grades sandy CLAY (50,50))
10	57	GP-3 -10'				*Encountered water, 05/23/95*
12						(grades with fine sand layers)
14					SP/SC	End of boring.
16						
18						
20						
22						
24						

Drilling Log

GROUNDWATER TECHNOLOGY

Soil Boring GP-4

Project Ringsby Terminals-Oakland Owner Ringsby Terminals, Inc.
Location 2225 7th Street, Oakland, CA Proj. No. 02070 0061
Surface Elev. ____ Total Hole Depth 14 ft. Diameter 2.38 in.
Top of Casing ____ Water Level Initial 10 ft. Static ____
Screen: Dia 1.25 in. Length 10 ft. Type/Size 0.010 in.
Casing: Dia 1.25 in. Length 4 ft. Type PVC Sch. 40
Fill Material Neat Cement Rig/Core XD-1 Continous Core
Drill Co. Precision Sampling Method Direct Push Technology
Driller Mike Polkinaton Log By Terry James Date 05/23/95 Permit # 95255
Checked By Ed Simonis License No. RG#4422

See Site Map For Boring Location

COMMENTS:

Depth (ft.)	PID (ppm)	Sample ID	Blow Count / % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
0						Asphalt over base course.
2					GC	Silty fine SAND (10,90): gray-brown, dry, loose, strong hydrocarbon odor.
4	N/A	GP-4 -5'				
6					SP	(grades no silt)
8	N/A					
10	N/A	GP-4 -10'				*Encountered Water, 05/23/95*
12					SM	(grades silty fine SAND (20,80): gray, wet)
14					CL	CLAY: dark gray, moist, soft, plastic, faint hydrocarbon odor. (grades black)
16						End of boring.
18						
20						
22						
24						

Drilling Log

GROUNDWATER TECHNOLOGY

Soil Boring GP-5

Project Ringsby Terminals-Oakland Owner Ringsby Terminals, Inc.
Location 2225 7th Street, Oakland, CA Proj. No. 02070.0061
Surface Elev. _____ Total Hole Depth 14 ft. Diameter 2.38 in.
Top of Casing _____ Water Level Initial 10 ft. Static _____
Screen: Dia 1.25 in. Length 10 ft. Type/Size 0.010 in.
Casing: Dia 1.25 in. Length 4 ft. Type PVC Sch. 40
Fill Material Neat Cement Rig/Core XD-i Continous Core
Drill Co. Precision Sampling Method Direct Push Technology
Driller Mike Polkington Log By Terry James Date 05/23/95 Permit # 95255
Checked By Ed Simonis License No. RG#4422

See Site Map For Boring Location

COMMENTS:

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
0						Asphalt over base course.
2					GC	Silty fine SAND (10,90): gray, damp, loose.
4	N/A	GP-5 -5'				
6					SP	(grades fine SAND: light brown gray)
8	N/A					
10	N/A	GP-5 -10'				(grades silty SAND (20,80): green gray, strong degraded hydrocarbon odor)
						Encountered Water, 05/23/95
12					CL	CLAY: green gray, wet, soft, plastic.
14					CL	(grades silty CLAY (50,50))
						End of boring.
16						
18						
20						
22						
24						

Drilling Log

GROUNDWATER TECHNOLOGY

Soil Boring GP-8

Project Ringsby Terminals-Oakland Owner Ringsby Terminals, Inc.
Location 2225 7th Street, Oakland, CA Proj. No. 02070 0061
Surface Elev. _____ Total Hole Depth 14 ft. Diameter 2.38 in.
Top of Casing _____ Water Level Initial 10 ft. Static _____
Screen: Dia 1.25 in. Length 10 ft. Type/Size 0.010 in.
Casing: Dia 1.25 in. Length 4 ft. Type PVC Sch. 40
Fill Material Neat Cement Rig/Core XD-1 Continous Core
Drill Co. Precision Sampling Method Direct Push Technology
Driller Mike Polkington Log By Terry James Date 05/23/95 Permit # 95255
Checked By Ed Simonis License No. RG#4422

See Site Map For Boring Location

COMMENTS:

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
0						Asphalt over base course.
2					GM	Fine SAND: light brown, dry/damp, loose, well sorted, subrounded, weak hydrocarbon odor.
4	N/A	GP-8 -5'				
6					SP	
8	N/A					(grades wet)
10	N/A	GP-8 -10'				*Encountered Water, 05/23/95*
12					CL	CLAY: gray/green-gray, moist, soft, plastic, faint "organic" odor.
14						(grades black)
						End of boring.
16						
18						
20						
22						
24						

GROUNDWATER TECHNOLOGY

Drilling Log

Soil Boring GP-7

Project Ringsby Terminals-Oakland Owner Ringsby Terminals, Inc.
Location 2225 7th Street, Oakland, CA Proj. No. 02070 006:
Surface Elev. ____ Total Hole Depth 14 ft. Diameter 2.38 in.
Top of Casing ____ Water Level Initial ____ Static ____
Screen: Dia 1.25 in. Length 10 ft. Type/Size 0.010 in.
Casing: Dia 1.25 in. Length 4 ft. Type PVC Sch. 40
Fill Material Neat Cement Rig/Core XD-1 Continous Core
Drill Co. Precision Sampling Method Direct Push Technology
Driller Mike Polkington Log By Terry James Date 05/23/95 Permit # 95255
Checked By Ed Simons License No. RG#4422

See Site Map For Boring Location

COMMENTS:

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2						
0						Asphalt over gravelly base.
2					GM	
					SW	Silty, fine SAND (20,80): gray-brown, dry/moist, loose.
4	N/A	GP-7 -5'				(grades hydrocarbon odor)
6	N/A					(grades no silt, well sorted, subrounded, strong hydrocarbon odor)
8					SP	(grades wet)
10	N/A	GP-7 -10'				
12						
14					CL	CLAY: gray/green-gray, moist, soft, plastic, weak "organic" odor. End of boring.
16						
18						
20						
22						
24						

GROUNDWATER TECHNOLOGY

Drilling Log

Soil Boring GP-6

Project Ringsby Terminals-Oakland Owner Ringsby Terminals, Inc.
Location 2225 7th Street, Oakland, CA Proj. No. 02070 0061
Surface Elev. _____ Total Hole Depth 14 ft. Diameter 2.38 in.
Top of Casing _____ Water Level Initial _____ Static _____
Screen: Dia 1.25 in. Length 10 ft. Type/Size 0.010 in.
Casing: Dia 1.25 in. Length 4 ft. Type PVC Sch. 40
Fill Material Neat Cement Rig/Core XD-1 Continous Core
Drill Co. Precision Sampling Method Direct Push Technology
Driller Mike Polkington Log By Terry James Date 05/23/95 Permit # 95255
Checked By Ed Simonis License No. RG#4422

See Site Map For Boring Location

COMMENTS:

Depth (ft.)	PID (ppm)	Sample ID	Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
0						6" asphalt over gravelly silty sand base.
2					GM	Heterogeneous mixture of clayey SAND (30,70) ranging to sandy CLAY (30,70): gray/brown-gray/green gray/pale gray, firm to stiff with softer sand zones (poor sample recovery).
4	N/A	GP-6 -5'				
6						(graces hydrocarbon odor)
8	N/A				SC/CL	
10	N/A	GP-6 -10'				
12					CL	CLAY: dark gray to black, moist/wet, soft, plastic, faint hydrocarbon odor.
14						End of boring.
16						
18						
20						
22						
24						

APPENDIX D

LABORATORY REPORTS AND CHAIN-OF-CUSTODY

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

June 9, 1995

Jaff Auchterlonie
Groundwater Technology, Inc.
1401 Halyard Drive, #140
Sacramento, CA 95691

RE: GTEL Client ID: 020700161
Login Number: C5050297
Project ID (number): 020700161
Project ID (name): Ringsby Term/2225 7th St., Oakland, CA

Dear Jaff Auchterlonie:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 05/25/95 under Chain-of-Custody Number(s) 36530.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is certified by the Department of Health Service under Certification Number E1075.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Rashmi Shah
Laboratory Director

GTEL Client ID: 020700161
Login Number: C5050297
Project ID (number): 020700161
Project ID (name): Ringsby Term/2225 7th St., Oakland, CA

ANALYTICAL RESULTS

Volatile Organics
Method: EPA8020/15
Matrix: Solids

GTEL Sample Number	C5050297-02	C5050297-03	C5050297-07	C5050297-08
Client ID	GP-1-7	GP-1-10	GP-2-7	GP-2-10
Date Sampled	05/23/95	05/23/95	05/23/95	05/23/95
Date Analyzed	05/28/95	05/28/95	05/28/95	06/01/95
Dilution Factor	20.0	5.00	20.0	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Benzene	0.005	mg/kg	1.7	0.18	0.79	< 0.005
Toluene	0.005	mg/kg	1.3	0.10	0.69	< 0.005
Ethylbenzene	0.005	mg/kg	4.3	0.37	2.3	< 0.005
Xylenes (total)	0.015	mg/kg	21.	1.5	7.4	< 0.015
TPH as GAS	1.0	mg/kg	770	84.	470	< 1.0
BFB (Surrogate)	--	%	101.	100.	99.2	97.2

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA8020/15:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

C5050297-02:

Estimated concentration for gasoline due to overlapping fuel patterns.

C5050297-03:

Detection limit raised due to high levels of hydrocarbons. Estimated concentration for gasoline due to overlapping fuel patterns.

C5050297-07:

Estimated concentration for gasoline due to overlapping fuel patterns.

GTEL ENVIRONMENTAL LABORATORIES, INC

GTEL Client ID: 020700161
Login Number: C5050297
Project ID (number): 020700161
Project ID (name): Ringsby Term/2225 7th St., Oakland, CA

ANALYTICAL RESULTS

Volatile Organics
Method: EPA8020/15
Matrix: Solids

GTEL Sample Number	C5050297-12	C5050297-13	C5050297-17	C5050297-18
Client ID	GP-3-7	GP-3-10	GP-4-7	GP-4-10
Date Sampled	05/23/95	05/23/95	05/23/95	05/23/95
Date Analyzed	05/30/95	05/30/95	05/28/95	06/01/95
Dilution Factor	1.00	1.00	20.0	5.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Benzene	0.005	mg/kg	< 0.005	< 0.005	2.2	0.026
Toluene	0.005	mg/kg	< 0.005	< 0.005	1.1	< 0.025
Ethylbenzene	0.005	mg/kg	< 0.005	< 0.005	4.4	< 0.025
Xylenes (total)	0.015	mg/kg	< 0.015	< 0.015	16.	< 0.075
TPH as GAS	1.0	mg/kg	< 1.0	< 1.0	570	< 5.0
BFB (Surrogate)	--	%	79.8	77.6	100.	115.

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA8020/15:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

C5050297-17:

Estimated concentration for gasoline due to overlapping fuel patterns.

C5050297-18:

Estimated concentration for gasoline due to overlapping fuel patterns.

GTEL ENVIRONMENTAL LABORATORIES, INC

GTEL Client ID: 020700161
Login Number: C5050297
Project ID (number): 020700161
Project ID (name): Ringsby Term/2225 7th St., Oakland, CA

ANALYTICAL RESULTS

Volatile Organics
Method: EPA8020/15
Matrix: Solids

GTEL Sample Number	C5050297-22	C5050297-23	C5050297-27	C5050297-28
Client ID	GP-5-7	GP-5-10	GP-6-10	GP-6-13
Date Sampled	05/23/95	05/23/95	05/23/95	05/23/95
Date Analyzed	06/02/95	06/03/95	06/02/95	06/01/95
Dilution Factor	50.0	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Benzene	0.005	mg/kg	3.2	< 0.005	< 0.005	< 0.005
Toluene	0.005	mg/kg	2.2	< 0.005	< 0.005	< 0.005
Ethylbenzene	0.005	mg/kg	8.4	< 0.005	< 0.005	< 0.005
Xylenes (total)	0.015	mg/kg	16.	< 0.015	< 0.015	< 0.015
TPH as GAS	1.0	mg/kg	1100	< 1.0	< 1.0	< 1.0
BFB (Surrogate)	--	%	110.	79.0	105.	109.

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA8020/15:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

C5050297-22:

Estimated concentration for gasoline due to overlapping fuel patterns.

GTEL ENVIRONMENTAL LABORATORIES, INC

GTEL Client ID: 020700161
Login Number: C5050297
Project ID (number): 020700161
Project ID (name): Ringsby Term/2225 7th St., Oakland, CA

ANALYTICAL RESULTS

Volatile Organics
Method: EPA8020/15
Matrix: Solids

GTEL Sample Number	C5050297-31	C5050297-32	C5050297-36	C5050297-37
Client ID	GP-7-7	GP-7-10	GP-8-7	GP-8-10
Date Sampled	05/23/95	05/23/95	05/23/95	05/23/95
Date Analyzed	06/02/95	06/06/95	06/02/95	06/02/95
Dilution Factor	20.0	10.0	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:Wet Weight			
Benzene	0.005	mg/kg	2.1	0.92	< 0.005	< 0.005
Toluene	0.005	mg/kg	1.7	0.72	< 0.005	< 0.005
Ethylbenzene	0.005	mg/kg	5.5	1.6	< 0.005	< 0.005
Xylenes (total)	0.015	mg/kg	27.	2.3	< 0.015	< 0.015
TPH as GAS	1.0	mg/kg	850	190	< 1.0	< 1.0
BFB (Surrogate)	--	%	113.	119.	103.	104.

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA8020/15:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

C5050297-31:

Estimated concentration for gasoline due to overlapping fuel patterns.

C5050297-32:

Estimated concentration for gasoline due to overlapping fuel patterns.

GTEL ENVIRONMENTAL LABORATORIES, INC

GTEL Client ID: 020700161 QUALITY CONTROL RESULTS
Login Number: C5050297 Volatile Organics
Project ID (number): 020700161 Method: EPA8020/15
Project ID (name): Ringsby Term/2225 7th St., Oakland, CA Matrix: Solids

Method Blank Results

QC Batch No: A053095-1
Date Analyzed: 28-MAY-95

Analyte	Method:EPA8020/15 Concentration: mg/kg
Benzene	< 0.020
Toluene	< 0.020
Ethylbenzene	< 0.020
Xylenes (Total)	< 0.060
TPH as Gasoline	< 1.0

Notes:

Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 60-119%.

Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision.

GTEL ENVIRONMENTAL LABORATORIES, INC

Client Number: 020700161
Project ID: Ringsby Term
2225 7th St.
Oakland, CA
Work Order Number: C5-05-0297

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons as Diesel Fuel in Soil

Modified EPA Methods 3550/8015[a]

GTEL Sample Number		02	03	07	08
Client Identification		GP-1-7	GP-1-10	GP-2-7	GP-2-10
Date Sampled		05/23/95	05/23/95	05/23/95	05/23/95
Date Extracted		06/10/95	06/10/95	06/10/95	06/10/95
Date Analyzed		06/12/95	06/12/95	06/12/95	06/11/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel fuel	10	43000	7300	6400	<10
Detection Limit Multiplier		500	500	500	1
OTP surrogate, % recovery		b	b	b	96.8

GTEL Sample Number		GCKF 061095			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Extracted		06/10/95			
Date Analyzed		06/10/95			
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel fuel	10	<10			
Detection Limit Multiplier		1			
OTP surrogate, % recovery		141			

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986. Results reported on a wet weight basis.
b. Unable to report surrogate due to target compound interference.

Client Number: 020700161
Project ID: Ringsby Term
2225 7th St.
Oakland, CA
Work Order Number: C5-05-0297

ANALYTICAL RESULTS

TPH as Diesel in Soil

Method: Modified EPA 8015[a]

GTEL Sample Number		12	13	17	18
Client Identification		GP-3-7	GP-3-10	GP-4-7	GP-4-10
Date Sampled		05/23/95	05/23/95	05/23/95	05/23/95
Date Extracted		05/31/95	05/31/95	05/31/95	05/31/95
Date Analyzed		06/07/95	06/07/95	06/08/95	06/08/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10	<10	31000	290
Detection Limit Multiplier		1	1	200	10
OTP surrogate, % recovery		60.6	74.0	b	119

GTEL Sample Number		22	23	27	28
Client Identification		GP-5-7	GP-5-10	GP-6-10	GP-6-13
Date Sampled		05/23/95	05/23/95	05/23/95	05/23/95
Date Extracted		05/31/95	05/31/95	05/31/95	05/31/95
Date Analyzed		06/08/95	06/08/95	06/09/95	06/07/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	6500	40	<10	<10
Detection Limit Multiplier		20	1	1	1
OTP surrogate, % recovery		b	83.7	51.5	83.6

a. O-Terphenyl surrogate recovery acceptability limits are 50-150%. Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, Rev. 0, U.S. EPA, November, 1986.
b. Unable to report surrogate due to target compound interference.

Client Number: 020700161
Project ID: Ringsby Term
2225 7th St.
Oakland, CA
Work Order Number: C5-05-0297

ANALYTICAL RESULTS

TPH as Diesel in Soil

Method: Modified EPA 8015[a]

GTEL Sample Number		31	32	36	37
Client Identification		GP-7-7	GP-7-10	GP-8-7	GP-8-10
Date Sampled		05/23/95	05/23/95	05/23/95	05/23/95
Date Extracted		05/31/95	05/31/95	05/31/95	05/31/95
Date Analyzed		06/09/95	06/09/95	06/08/95	06/07/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	26000	11000	530	<10
Detection Limit Multiplier		100	50	10	1
OTP surrogate, % recovery		b	b	b	72.9

a. O-Terphenyl surrogate recovery acceptability limits are 50-150%. Test Methods for Evaluating Solid Waste, SW-846, 3rd edition, Rev. 0, U.S. EPA, November, 1986.
b. Unable to report surrogate due to target compound interference.

GTEL ENVIRONMENTAL LABORATORIES INC

Client Number: 020700161
Project ID: Ringsby Term
2225 7th St.
Oakland, CA
Work Order Number: C5-05-0297

ANALYTICAL RESULTS

TPH as Diesel in Soil

Method: Modified EPA 8015[a]

GTEL Sample Number		GCJ 060795			
Client Identification		METHOD BLANK			
Date Sampled		--			
Date Extracted		05/31/95			
Date Analyzed		06/07/95			
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as diesel	10	<10			
Detection Limit Multiplier		1			
OTP surrogate, % recovery		104			

GTEL ENVIRONMENTAL LABORATORIES, INC

GTEL Environmental Laboratories, Inc.
4080 PIKE LANE, SUITE C
CONCORD, CA 94520
(510) 685-7852
(800) 423-7143

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

36530

Company Name: Groundwater Tech
Phone #: 916 372 4700
FAX #: 916 372 8781
Company Address: 27 Port Chicago
Site Location: 2225 7th St OAK
Project Manager: Jeff Duchterlonie
Client Project ID: (#) 02676.01.61
(NAME) Rumsey Tech
I test that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Terry James

Field Sample ID	GTEL Lab # (Lab Use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	PRODUCT	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	UNPRES. SERVED	OTHER (Specify)	Sampling: DATE	TIME
P-1-4	01	1		X								X	X		4/23	1040
P-1-7	02															1045
P-1-10	03															1050
P-1-13	04															1235
P-1-14	05															1100
P-4-4	16															1215
P-4-7	17															1220
P-4-10	18															1225
P-4-13	19															1230
P-4-14	20															1235

ANALYSIS REQUEST | OTHER

BTEX 602 ☐ 8020 ☐ with MTBE ☐
BTEX/Gas Hydrocarbons PID/FID ☒ with MTBE ☐
Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐
Hydrocarbon Profile (SIMDIS) ☐
Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐
TPH/IR 418.1 ☐ SM 503 ☐
EDB by 504 ☐ DBCP by 504 ☐
EPA 503.1 ☐ EPA 502.2 ☐
EPA 601 ☐ EPA 8010 ☐
EPA 602 ☐ EPA 8020 ☐
EPA 608 ☐ 8080 ☐ PCB only ☐
EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐
EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐
EPA 610 ☐ 8310 ☐
EP-TOX Metals ☐ Pesticides ☐ Herbicides ☐
TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐
EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐
CAM Metals TTLC ☐ STLC ☐
Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐
Organic Lead ☐
Corrosivity ☐ Flash Point ☐ Reactivity ☐
Hold

TAT
(24 hr)
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ress Days
s Days

Special Handling
GTEL Contact
Quote/Contract #
Confirmation #
P.O. #

QA/QC Level
CLP ☐ Other ☐

SPECIAL DETECTION LIMITS

REMARKS:

SPECIAL REPORTING REQUIREMENTS
FAX ☐ Jeff 916 372 8781

Lab Use Only Lot #: 3°C.
Storage Location: 1 OF 4
Work Order #: C5050297

CUSTODY RECORD

	Relinquished by Sampler:	Date	Time	Received by:
	Terry James	5/25	5:13	
	Relinquished by:	Date	Time	Received by:
			5/25/95	
	Relinquished by:	Date	Time	Received by Laboratory:
		5/25/95	4:13 PM	Waybill #

4:13

GTEL ENVIRONMENTAL LABORATORIES INC.

4080 PIKE LANE, SUITE C
CONCORD, CA 94520
(510) 685-7852
(800) 423-7143

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

36530

Company Name: Groundwater Tech
Phone #: 916 372 4700
FAX #: 916 372 8781
Company Address: 57 Port Chicago
Site Location: 2225 7th St OAK
Project Manager: Jeff Duckterlonie
Client Project ID: (#) 02076016
(NAME) Rimsky Term
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): Terry James

Field Sample ID	GTEL Lab # (Lab Use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	PRODUCT	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	UNPRESERVED	OTHER (Specify)	Sampling: DATE	TIME
SP-3-4	11	1		X								X	X		5/23	900
SP-3-7	12															910
SP-3-10	13															915
SP-3-13	14															920
SP-3-14	15															925
SP-2-4	06															950
SP-2-7	07															955
SP-2-10	08															1000
SP-2-13	09															1005
SP-2-14	10															1010

ANALYSIS REQUEST | OTHER

BTEX 602 ☐ 8020 ☐ with MTBE ☐	BTEX/Gas Hydrocarbons PID/FID ☒ with MTBE ☐	Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐	Hydrocarbon Prolile (SIMDIS) ☐	Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐	TPH/IR 418.1 ☐ SM 503 ☐	EDB by 504 ☐ DBCP by 504 ☐	EPA 503.1 ☐ EPA 502.2 ☐	EPA 601 ☐ EPA 8010 ☐	EPA 602 ☐ EPA 8020 ☐	EPA 608 ☐ 8080 ☐ PCB only ☐	EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐	EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐	EPA 610 ☐ 8310 ☐	EP TOX Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐	EPA Metals – Priority Pollutant ☐ TAL ☐ RCRA ☐	CAM Metals TTLC ☐ STLC ☐	Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐	Organic Lead ☐	Corrosivity ☐ Flash Point ☐ Reactivity ☐	
																						Hold
	X	X																				
	X	X																				
																						X
																						X
	X	X																				
	X	X																				
																						X
																						X

TAT
- ☐ (24 hr)
- ☐ dited (48 hr)
- ☐ siness Days
- ☐ _____
- ☐ ness Days

Special Handling
- GTEL Contact _____
- Quote/Contract # _____
- Confirmation # _____
- P O # _____

QA/QC Level
☐ CLP ☐ Other ☐ _____

SPECIAL DETECTION LIMITS

REMARKS:

SPECIAL REPORTING REQUIREMENTS
FAX Jeff 916 372 8781

Lab Use Only Lot #:

Storage Location
2 OF 4

Work Order #: C5050297

CUSTODY RECORD

Relinquished by Sampler:	Date 5/25	Time 4:13	Received by:
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date 5/25/95	Time 4:13	Received by Laboratory: Waybill #

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080 PIKE LANE, SUITE C
CONCORD, CA 94520
(510) 685-7852
(800) 423-7143

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

36530

Company Name: Groundwater Tech
Phone #: 916 372 4700
FAX #: 916 372 8781
Company Address: 57 Port Chicago
Site Location: 2225 7th St OAK
Project Manager: Jeff Duckterlonie
Client Project ID: (#) 02076 0161
(NAME) Romsby Terry
Sampler Name (Print): Terry James
I attest that the proper field sampling procedures were used during the collection of these samples.

Field Sample ID	GTEL Lab # (Lab Use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	PRODUCT	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	UNPRESERVED	OTHER (Specify)	Sampling: DATE	TIME
GP 5-4	21	1		X								X	X		5/23	1300
GP 5-7	22															1305
GP 5-10	23															1310
GP 5-13	24															1315
GP 5-14	25															1320
GP 6-4	26															1350
GP 6-10	27															1405
GP 6-13	28															1405
GP 6-14	29															1410

ANALYSIS REQUEST

BTEX 602 ☐ 8020 ☐ with MTBE ☐	BTEX/Gas Hydrocarbons PID/FID ☒ with MTBE ☐	Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐	Hydrocarbon Profile (SIMDIS) ☐	Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐	TPH/IR 418.1 ☐ SM 503 ☐	EDB by 504 ☐ DBCP by 504 ☐	EPA 503.1 ☐ EPA 502.2 ☐	EPA 601 ☐ EPA 8010 ☐	EPA 602 ☐ EPA 8020 ☐	EPA 608 ☐ 8080 ☐ PCB only ☐	EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐	EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐	EPA 610 ☐ 8310 ☐	EP TOX Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐	EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐	CAM Metals TTLC ☐ STLC ☐	Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐	Organic Lead ☐	Corrosivity ☐ Flash Point ☐ Reactivity ☐	OTHER			
	X	X																							
	X	X																							
	X	X																							
	X	X																							

TAT
- ☐ ...ly (24 hr)
- ☐ ...dited (48 hr)
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- ☐ ...ness Days

Special Handling
- GTEL Contact: _____
- Quote/Contract #: _____
- Confirmation #: _____
- P.O. #: _____

QA/QC Level
☐ ☐ CLP ☐ Other ☐ _____

SPECIAL DETECTION LIMITS

REMARKS:

SPECIAL REPORTING REQUIREMENTS
FAX ☒ Jeff 916 372 8781

Lab Use Only Lot #:

Storage Location: 3 OF 4

Work Order #: C5050297

CUSTODY RECORD

Relinquished by Sampler: Terry James
Date: 5/25 Time: 1913

Relinquished by:
Date: Time:

Relinquished by:
Date: 5/25/95 Time: 4:13 pm

Received by:

Received by:

Received by Laboratory:
Waybill #

GTEL ENVIRONMENTAL LABORATORIES, Inc.

4080 PIKE LANE, SUITE C
CONCORD, CA 94520
(510) 685-7852
(800) 423-7143

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

36530

Company Name: GROUNDWATER TECH
Phone #: 916 372 4700
FAX #: 916 372 8781
Company Address: 457 Port Chicago
Site Location: 2225 7th St OAK
Project Manager: JAFF Duckterlonie
Client Project ID: (#) 02676 0161
(NAME) Ramsey Tech
Sampler Name (Print): TERRY JAMES
I attest that the proper field sampling procedures were used during the collection of these samples.

Field Sample ID	GTEL Lab # (Lab Use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	PRODUCT	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	UNPRES-ERVED	OTHER (Specify)	Sampling: DATE	TIME
GP-7-4	30	1		X								X	X		5/23	1500
GP-7-7	31															1505
GP-7-10	32															1510
GP-7-13	33															1515
GP-7-14	34															1520
GP-8-4	35															1600
GP-8-7	36															1605
GP-8-10	37															1610
GP-8-13	38															1615
GP-8-14	39															1620

ANALYSIS REQUEST | OTHER

Field Sample ID	BTEX 602 ☐ 8020 ☐ with MTBE ☐	BTEX/Gas Hydrocarbons PID/FID ☒ with MTBE ☐	Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐	Hydrocarbon Profile (SIMDIS) ☐	Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐	TPH/IR 418.1 ☐ SM 503 ☐	EDB by 504 ☐ DBCP by 504 ☐	EPA 503.1 ☐ EPA 502.2 ☐	EPA 601 ☐ EPA 8010 ☐	EPA 602 ☐ EPA 8020 ☐	EPA 608 ☐ 8080 ☐ PCB only ☐	EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐	EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐	EPA 610 ☐ 8310 ☐	EP TOX Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐	EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐	CAM Metals TTLC ☐ STLC ☐	Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐	Organic Lead ☐	Corrosivity ☐ Flash Point ☐ Reactivity ☐	Hold
GP-7-4																						
GP-7-7		X	X																			
GP-7-10		X	X																			
GP-7-13																						
GP-7-14																						
GP-8-4																						
GP-8-7		X	X																			
GP-8-10		X	X																			
GP-8-13																						
GP-8-14																						

TAT
Priority (24 hr) [ ]
Expedited (48 hr) [ ]
7 Business Days [ ]
Other _____ Business Days [ ]

Special Handling
GTEL Contact _____
Quote/Contract # _____
Confirmation # _____
P.O. # _____

QA/QC Level
Blue [ ] CLP [ ] Other [ ] _____

SPECIAL DETECTION LIMITS

REMARKS:

SPECIAL REPORTING REQUIREMENTS
FAX [X] Jaff 916 372 8781

Lab Use Only Lot #:

Storage Location
4 OF 4

Work Order #: CSO50297

CUSTODY RECORD

Relinquished by Sampler:	Date	Time	Received by:
Terry James	5/25	1413	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:
	5/25/95	4:13 pm	Waybill # Lorena Hansen

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

Northwest Region
4080-C Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 *from inside California*
(800) 423-7143 *from outside California*
(510) 825-0720 (FAX)

June 9, 1995

Jaff Auchterlonie
Groundwater Technology, Inc.
1401 Halyard Drive, #140
Sacramento, CA 95691

RE: GTEL Client ID: 020700161
Login Number: C5050291
Project ID (number): 020700161.050513
Project ID (name): Ringsby/2225 7th St., Oakland, CA

Dear Jaff Auchterlonie:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 05/25/95 under Chain-of-Custody Number(s) 38459.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is certified by the Department of Health Service under Certification Number E1075.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Rashmi Shah
Laboratory Director

GTEL Client ID: 020700161 ANALYTICAL RESULTS
Login Number: C5050291 Volatile Organics
Project ID (number): 020700161.050513 Method: EPA8020/15
Project ID (name): Ringsby/2225 7th St., Oakland, CA Matrix: Aqueous

GTEL Sample Number	C5050291-01	C5050291-02	C5050291-08	C5050291-09
Client ID	GP-3	GP-2A	GP-6	TB
Date Sampled	05/25/95	05/25/95	05/25/95	05/25/95
Date Analyzed	05/30/95	06/05/95	05/30/95	05/26/95
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:			
Benzene	0.3	ug/L	< 0.3	24.	< 0.3	< 0.3
Toluene	0.3	ug/L	0.5	< 0.3	< 0.3	< 0.3
Ethylbenzene	0.3	ug/L	< 0.3	3.8	2.0	< 0.3
Xylenes (total)	0.5	ug/L	0.6	1.7	2.6	< 0.5
TPH as GAS	50.	ug/L	< 50.	200	< 50.	< 50.
BFB (Surrogate)	--	%	96.7	96.8	95.8	107.

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA8020/15:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 62-129%.

GTEL ENVIRONMENTAL LABORATORIES, INC

GTEL Client ID: 020700161 QUALITY CONTROL RESULTS
Login Number: C5050291 Volatile Organics
Project ID (number): 020700161.050513 Method: EPA8020/15
Project ID (name): Ringsby/2225 7th St., Oakland, CA Matrix: Aqueous

Method Blank Results

QC Batch No: Q052695-1
Date Analyzed: 26-MAY-95

Analyte	Method:EPA8020/15 Concentration: ug/L
Benzene	< 0.30
Toluene	< 0.30
Ethylbenzene	< 0.30
Xylenes (Total)	< 0.50
TPH as Gasoline	< 50.0

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC

Client Number: 020700161
Project ID: Ringsby
2225 7th St.
Oakland, CA
Work Order Number: C5-05-0291

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons as Diesel in Water

Modified EPA Methods 3510/8015[a]

GTEL Sample Number		01[b]	02	08	GCKF 060495
Client Identification		GP-3	GP-2A	GP-6	METHOD BLANK
Date Sampled		05/25/95	05/25/95	05/25/95	--
Date Extracted		05/26/95	05/26/95	05/26/95	05/26/95
Date Analyzed		06/07/95	06/07/95	06/07/95	06/06/95
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as Diesel	50	86	22000	15000	<50
Detection Limit Multiplier		1	100	100	1
O-Terphenyl surrogate, % recovery		90.5	c	c	101

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986.

b. Hydrocarbon found in the range of diesel.

c. Unable to report surrogate due to target compound interference.

GTEL ENVIRONMENTAL LABORATORIES, INC

Client Number: 020700161
Project ID: Ringsby
2225 7th St.
Oakland, CA
Work Order Number: C5-05-0291
Date Reissued: 06-14-95

ANALYTICAL RESULTS

Hydrocarbons in Product

Method: GC-FID[a]

GTEL Sample Number		03	04	05	06
Client Identification		GP-7	GP-8	GP-4	GP-5
Date Sampled		05/25/95	05/25/95	05/25/95	05/25/95
Date Extracted		05/31/95	05/26/95	05/26/95	05/26/95
Date Analyzed		06/06/95	06/04/95	06/06/95	06/06/95
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as gasoline[b]	10	<10000	<1000	<10000	<10000
TPH as mineral spirits	10	<10000	<1000	<10000	<10000
TPH as kerosene	10	<10000	<1000	<10000	<10000
TPH as diesel fuel	10	800000	170000	870000	900000
TPH as motor oil	100	<100000	<10000	<100000	<100000
Detection Limit Multiplier		1000	100	1000	1000
O-Terphenyl surrogate, % recovery		c	c	c	c

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, USEPA, November, 1986. Results reported on a wet weight basis. O-Terphenyl surrogate acceptability limits are 50-150%.

b. Quantitation uncertain due to analyte losses during extraction and chromatographic interference by the solvent peak.

c. Product samples are not extracted with surrogate.

GTEL ENVIRONMENTAL LABORATORIES, INC.

Client Number: 020700161
Project ID: Ringsby
2225 7th St.
Oakland, CA
Work Order Number: C5-05-0291
Date Reissued: 06-14-95

ANALYTICAL RESULTS

Hydrocarbons in Product

Method: GC-FID[a]

GTEL Sample Number		07	GCKF 060495		
Client Identification		GP-1	METHOD BLANK		
Date Sampled		05/25/95	--		
Date Extracted		05/26/95	05/26/95		
Date Analyzed		06/06/95	06/04/95		
Analyte	Detection Limit, mg/Kg	Concentration, mg/Kg			
TPH as gasoline[b]	10	<10000	<10		
TPH as mineral spirits	10	<10000	<10		
TPH as kerosene	10	<10000	<10		
TPH as diesel fuel	10	950000	<10		
TPH as motor oil	100	<100000	<100		
Detection Limit Multiplier		1000	1		
O-Terphenyl surrogate, % recovery		c	c		

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, USEPA, November, 1986. Results reported on a wet weight basis. O-Terphenyl surrogate acceptability limits are 50-150%.

b. Quantitation uncertain due to analyte losses during extraction and chromatographic interference by the solvent peak.

c. Product samples are not extracted with surrogate.

GTEL ENVIRONMENTAL LABORATORIES, INC.

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080 PIKE LANE, SUITE C
CONCORD, CA 94520
(510) 685-7852
(800) 423-7143

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

38459

Company Name: GROUND WATER Tech.
Phone #: 510 671-2387
FAX #: 510 685 9148
Company Address: 4057 Port Chicago Hwy
Site Location: 2225 7th St OAKLAND
Project Manager: JAFF Auchterlonie
Client Project ID: (#) 020100061 .03 0513
(NAME) Ringsby
I attest that the proper field sampling procedures were used during the collection of these samples.
Sampler Name (Print): TERRY JONES

Field Sample ID	GTEL Lab # (Lab Use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	PRODUCT	OTHER	Method Preserved: HCl	HNO3	H2SO4	ICE	UNPRES. SERVED	OTHER (Specify)	Sampling: DATE	TIME
GP-3	01	5	X						X			X	X		5/25	9:15
GP-2A	02	5	X										X			10:10
GP-7	03	4					X									10:40
GP-8	04	2					X									10:48
GP-4	05	2					X									11:30
GP-5	06	2					X									11:50
GP-1	07	3					X									12:00
GP-6	08	5	X										X			12:20
TB	09	1	X						X			X				

Field Sample ID	BTEX 602 ☐ 8020 ☐ with MTBE ☐	BTEX/Gas Hydrocarbons PID/FID ☒ with MTBE ☐	Hydrocarbons GC/FID Gas ☐ Diesel ☒ Screen ☐	Hydrocarbon Profile (SIMCIS) ☐	Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐	TPH/IR 418.1 ☐ SM 503 ☐	EDB by 504 ☐ DBCP by 504 ☐	EPA 503.1 ☐ EPA 502.2 ☐	EPA 601 ☐ EPA 8010 ☐	EPA 602 ☐ EPA 8020 ☐	EPA 608 ☐ 8080 ☐ PCB only ☐	EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐	EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐	EPA 610 ☐ 8310 ☐	EP TOX Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐	EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐	CAM Metals TTLC ☐ STLC ☐	Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐	Organic Lead ☐	Corrosivity ☐ Flash Point ☐ Reactivity ☐	OTHER: Full Hydrocarbon Scan
GP-3	X	X																				X
GP-2A	X	X																				X
GP-7																						X
GP-8																						X
GP-4																						X
GP-5																						X
GP-1																						X
GP-6	X	X																				X
TB	X	X																				

TAT
Priority (24 hr) ☐
Expedited (48 hr) ☐
7 Business Days ☐
Other _____
Business Days ☐

Special Handling
GTEL Contact _____
Quote/Contract # _____
Confirmation # _____
P.O. # _____

QA/QC Level
Blue ☐ CLP ☐ Other ☐ _____

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS
JAFF Auchterlonie
FAX ☒ (916) 372-8781

REMARKS:

Lab Use Only Lot #: **Storage Location**

Work Order #: C5050291

CUSTODY RECORD

	Relinquished by Sampler:	Date	Time	Received by:
1	Terry Jones	5/25	14:30	
2	Relinquished by:	Date	Time	Received by:
3	Relinquished by:	Date 5/25/95	Time 14:30	Received by Laboratory: Waybill # Donna C. Jensen

GTEL
ENVIRONMENTAL
LABORATORIES, INC.

4080 Pike Lane
Concord, CA 94520
(510) 685-7852
(800) 544-3422 Inside CA
(800) 423-7143 Outside CA
(510) 825-0720 FAX

June 30, 1995

Jaff Auchterlonie
Groundwater Technology, Inc.
1401 Halyard Drive, #140
Sacramento, CA 95691

RE: GTEL Client ID: 020700161
Login Number: C5060269
Project ID (number): 020700161
Project ID (name): Ringsby Term/2225 7th St., Oakland, CA

Dear Jaff Auchterlonie:

Enclosed please find the analytical results for the samples received by GTEL Environmental Laboratories, Inc. on 06/23/95 under Chain-of-Custody Number(s) 34051.

A formal Quality Assurance/Quality Control (QA/QC) program is maintained by GTEL, which is designed to meet or exceed the EPA requirements. Analytical work for this project met QA/QC criteria unless otherwise stated in the footnotes.

GTEL is certified by the Department of Health Service under Certification Number E1075.

If you have any questions regarding this analysis, or if we can be of further assistance, please call our Customer Service Representative.

Sincerely,
GTEL Environmental Laboratories, Inc.

Rashmi Shah
Laboratory Director

GTEL Client ID: 020700161
Login Number: C5060269
Project ID (number): 020700161
Project ID (name): Ringsby Term/2225 7th St., Oakland, CA

ANALYTICAL RESULTS

Volatile Organics
Method: EPA8020/15
Matrix: Aqueous

GTEL Sample Number	C5060269-01	C5060269-02	C5060269-03	C5060269-04
Client ID	MW-3	MW-2	MW-1	TBLB
Date Sampled	06/21/95	06/21/95	06/21/95	
Date Analyzed	06/28/95	06/28/95	06/28/95	06/27/95
Dilution Factor	1.00	1.00	1.00	1.00

Analyte	Reporting Limit	Units	Concentration:			
Benzene	0.3	ug/L	< 0.3	0.5	< 0.3	< 0.3
Toluene	0.3	ug/L	< 0.3	< 0.3	< 0.3	< 0.3
Ethylbenzene	0.3	ug/L	< 0.3	< 0.3	< 0.3	< 0.3
Xylenes (total)	0.5	ug/L	< 0.5	< 0.5	< 0.5	< 0.5
TPH as GAS	50.	ug/L	< 50.	< 50.	< 50.	< 50.
BFB (Surrogate)	--	%	90.5	93.6	92.2	91.6

Notes:

Dilution Factor:

Dilution factor indicates the adjustments made for sample dilution.

EPA8020/15:

"Test Methods for Evaluating Solid Waste, Physical/Chemical Methods". SW-846, Third Edition including promulgated Update 1. Modification for TPH as gasoline as per California State Water Resources Board LUFT Manual protocols, May 1988 revision. Acceptability limits for recovery in the Bromofluorobenzene (BFB) surrogate is 62-129%.

C5060269-01:

Uncategorized compounds is not included in gasoline concentration.

C5060269-02:

Uncategorized compounds is not included in gasoline concentration.

GTEL ENVIRONMENTAL LABORATORIES INC

GTEL Client ID: 020700161 QUALITY CONTROL RESULTS
Login Number: C5060269 Volatile Organics
Project ID (number): 020700161 Method: EPA8020/15
Project ID (name): Ringsby Term/2225 7th St., Oakland, CA Matrix: Aqueous

Method Blank Results

QC Batch No: M062795-15
Date Analyzed: 27-JUN-95

Analyte	Method: EPA8020/15 Concentration: ug/L
Benzene	< 0.300
Toluene	< 0.300
Ethylbenzene	< 0.300
Xylenes (Total)	< 0.500
TPH as Gasoline	< 50.0

Notes:

GTEL ENVIRONMENTAL LABORATORIES, INC

Client Number: 020700161
Project ID: Ringsby
2225 7th St.
Oakland, CA
Work Order Number: C5-06-0269

ANALYTICAL RESULTS

Total Petroleum Hydrocarbons as Diesel in Water

Modified EPA Methods 3510/8015[a]

GTEL Sample Number		01[b]	02	03[b]	GCJ 062895
Client Identification		MW-3	MW-2	MW-1	METHOD BLANK
Date Sampled		06/21/95	06/21/95	06/21/95	--
Date Extracted		06/27/95	06/27/95	06/27/95	06/27/95
Date Analyzed		06/28/95	06/28/95	06/28/95	06/28/95
Analyte	Detection Limit, ug/L	Concentration, ug/L			
TPH as Diesel	50	<50	<50	<50	<50
Detection Limit Multiplier		1	1	1	1
O-Terphenyl surrogate, % recovery		135	119	124	117

a. Test Methods for Evaluating Solid Waste, SW-846, Third Edition, Revision 0, US EPA November 1986.
b. Hydrocarbon pattern present in sample is not characteristic of diesel.

GTEL ENVIRONMENTAL LABORATORIES, INC.

4080 PIKE LANE, SUITE C
CONCORD, CA 94520
(510) 685-7852
(800) 423-7143

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

34051

Company Name: Groundwater Technology

Phone #: 510/671-2387

FAX #:

Company Address: 1151 Fort Chicago Hwy

Site Location: 2225 7th St.

Project Manager: Jeff Auchterlonie

Client Project ID: (#) 0207.00161.030

(NAME) Dougherty

I attest that the proper field sampling procedures were used during the collection of these samples.

Sampler Name (Print): MARK GARCIA

Field Sample ID	GTEL Lab # (Lab Use only)	# CONTAINERS	Matrix: WATER	SOIL	AIR	SLUDGE	PRODUCT	OTHER	Method Preserved: HCl	HNO_3	H_2SO_4	ICE	UNPRESERVED	OTHER (Specify)	Sampling: DATE	TIME
MW-3	01	11	W						X			X	X		6/21/95	225
MW-2	02	11	↓						↓			↓	↓		↓	235
MW-1	03	11	↓						↓			↓	↓		↓	245
TB-LB	04	1	W						X			X	X			—

ANALYSIS REQUEST | OTHER

BTEX 602 ☐ 8020 ☐ with MTBE ☐	BTEX/Gas Hydrocarbons PID/FID ☐ with MTBE ☐	Hydrocarbons GC/FID Gas ☐ Diesel ☐ Screen ☐	Hydrocarbon Profile (SIMDIS) ☐	Oil and Grease 413.1 ☐ 413.2 ☐ SM-503 ☐	TPH/IR 418.1 ☐ SM 503 ☐	EDB by 504 ☐ DBCP by 504 ☐	EPA 503.1 ☐ EPA 502.2 ☐	EPA 601 ☐ EPA 8010 ☐	EPA 602 ☐ EPA 8020 ☐	EPA 608 ☐ 8080 ☐ PCB only ☐	EPA 624/PPL ☐ 8240/TAL ☐ NBS (+15) ☐	EPA 625/PPL ☐ 8270/TAL ☐ NBS (+25) ☐	EPA 610 ☐ 8310 ☐	EP TOX Metals ☐ Pesticides ☐ Herbicides ☐	TCLP Metals ☐ VOA ☐ Semi-VOA ☐ Pest ☐ Herb ☐	EPA Metals - Priority Pollutant ☐ TAL ☐ RCRA ☐	CAM Metals TTLC ☐ STLC ☐	Lead 239.2 ☐ 200.7 ☐ 7420 ☐ 7421 ☐ 6010 ☐	Organic Lead ☐	Corrosivity ☐ Flash Point ☐ Reactivity ☐
X	X	X																	
	X	X																	
	X	X																	
	X																		

TAT
Priority (24 hr)
Expedited (48 hr)
7 Business Days X
Other
Business Days

Special Handling
GTEL Contact
Quote/Contract #
Confirmation #
P.O. #

QA/QC Level
Blue CLP Other

SPECIAL DETECTION LIMITS

SPECIAL REPORTING REQUIREMENTS
FAX ☐

REMARKS: 1(one) week T.A.T.

Lab Use Only Lot #: 5°C
Storage Location
Work Order #: CS060269

CUSTODY RECORD

Relinquished by Sampler	Date	Time	Received by:
Mark Garcia	6/23/95	12:00	Jon Webb
Relinquished by: Jon Webb	6-23-95	12 30	Received by:
Relinquished by:	Date 6/23/95	Time 12:30	Received by Laboratory: Waybill # Susan C. Jensen