

# URS



**GROUNDWATER MONITORING  
WELL INSTALLATION REPORT**

**MTA DIVISION 6  
100 SUNSET AVENUE  
VENICE, CALIFORNIA**

**PREPARED FOR:**

**LOS ANGELES COUNTY METROPOLITAN  
TRANSPORTATION AUTHORITY**


**JUNE 12, 2002**

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2002**

2020 East First Street, Suite 400 • Santa Ana, California 92705  
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**JUNE 12, 2002**

**PROJECT NO: 57-00070056.01**

**GROUNDWATER MONITORING WELL INSTALLATION REPORT  
METROPOLITAN TRANSPORTATION AUTHORITY DIVISION 6  
100 SUNSET AVENUE VENICE, CALIFORNIA**

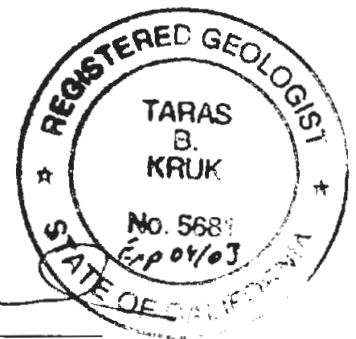
**JUNE 12, 2002  
PROJECT NO. 57.0070056.01**

This report presents the results of groundwater monitoring well installation activities conducted at the Metropolitan Transportation Authority Division 6 passenger bus fueling and maintenance facility located in Venice, California. The scope of work was completed in general accordance with the *Groundwater Monitoring Well Installation and Groundwater Monitoring Work Plan for MTA Division 6* (URS, 2001) dated April 17, 2001 and approved by the Los Angeles Regional Water Quality Control Board in their letter dated May 17, 2001. URS Corporation is under contract with Harding ESE and is a team subcontractor for the Los Angeles County Metropolitan Transportation Authority under contract ENO68 CWO-12 for environmental engineering services.



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Brian Partington  
Project Manager



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Taras B. Kruk, R.G., C.Hg.  
California Registered Geologist No. 5681  
Senior Project Geologist

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## 1.0 INTRODUCTION

URS Corporation (URS) was retained by the Los Angeles Metropolitan Transportation Authority (MTA) to conduct a subsurface soil and groundwater investigation at the MTA Division 6 passenger bus fueling and maintenance facility (the "Site"), as directed by Los Angeles Regional Water Quality Control Board (LARWQCB). The site is located at 100 Sunset Avenue in Venice, California, as shown on Figure 1. The investigation included collection and analysis of soil samples and the installation of two groundwater monitoring wells (MW-5 and MW-6). A third groundwater monitoring well (MW-7) was proposed; however, as noted in the *March 2002 First Quarter Groundwater Monitoring Report* (URS, 2002), "One proposed groundwater monitoring well was unable to be installed due to underground obstructions encountered during drilling". Four groundwater monitoring wells installed at the site in 1999 by URS have been routinely monitored to assess subsurface impacts to groundwater by fuel hydrocarbons. The installation of additional groundwater monitoring wells was requested by the LARWQCB to further delineate hydrocarbon impacts in groundwater.

This report presents the details of field activities and soil investigation results. Groundwater sample collection and the laboratory analytical results of sampling activities undertaken after the new wells were installed have been presented in the *March 2002 First Quarter Groundwater Monitoring Report* (URS, 2002) dated April 10, 2002. Well installation and soil sampling activities performed for this investigation were conducted in general accordance with the *Groundwater Monitoring Well Installation and Groundwater Monitoring Work Plan for MTA Division 6* (URS, 2001) and approved by the LARWQCB in their letter to MTA dated May 17, 2001. An explanation of the activities performed for this subsurface investigation is presented in the following sections.

### 1.1 PURPOSE

The purpose of this investigation was to assess the extent of total petroleum hydrocarbons (TPH) in soil and groundwater in the vicinity of the site. Four underground storage tanks (USTs) were previously located in the northern portion of the site. The four single-walled steel USTs (two 10,000-gallon diesel, one 8,000-gallon motor oil, and one 6,000-gallon gasoline) were removed on February 23, 1998 and subsequently replaced by dual-wall fiberglass USTs.

The specific objective of this investigation was as follows:

- ◆ Investigate subsurface soil and groundwater conditions to further assess the lateral and vertical extent of petroleum hydrocarbons and related fuel constituents identified in previous subsurface investigations at the site.

### 1.2 SCOPE OF WORK

The proposed scope of work developed to meet the objectives of this investigation was as follows:

- ◆ Perform tasks necessary to initiate the field work including preparing a site-specific Health and Safety Plan, conducting a geophysical survey to clear soil boring locations, obtaining all necessary permits, and establishing a traffic control plan.

Groundwater beneath the site was encountered during drilling at approximately 25 feet bgs in gravely well graded sand in well MW-5 and approximately 20 feet bgs in silty fine- to medium-grained sand in well MW-6.

## 2.4 PREVIOUS INVESTIGATIONS

Previous environmental site assessments including soil and groundwater investigations have been performed at the MTA Division 6 Bus Yard. A summary of the findings is presented below.

### 2.4.1 Bentley Company

In January 1996, MTA contracted Bentley Company to perform soil and groundwater hydropunch sampling at 16 locations near the USTs at the northern portion of the site. The purpose of the investigation was to determine if petroleum hydrocarbons had been released to the subsurface.

Concentrations of total petroleum hydrocarbon as gasoline (TPH-g) were detected in soil samples up to 1,690 milligrams per kilogram (mg/kg). Benzene was detected in groundwater at a maximum concentration of 0.083 milligrams per liter (mg/L).

### 2.4.2 Holquin, Fahan and Associates, Inc.

In July 1997, Holquin, Fahan and Associates, Inc. (HFA) performed an additional groundwater investigation. Groundwater samples were collected, via hydropunch, at five locations near the fuel USTs. Groundwater samples had detectable concentrations of TPH-g which ranged from not detected above laboratory limits up to 160,000 micrograms per liter ( $\mu\text{g/L}$ ). Concentrations of benzene were also detected and ranged from 0.5 to 2,900  $\mu\text{g/L}$ . The gasoline fuel oxygenate methyl tertiary butyl ether (MTBE) was also detected and ranged from non-detect to 27,000  $\mu\text{g/L}$ .

### 2.4.3 The Tyree Organization, Ltd.

In 1998, The Tyree Organization, Ltd. (Tyree) was contracted by MTA to remove and replace eight USTs at the site. On February 23, 1998, two 10,000-gallon diesel USTs, one 8,000-gallon motor oil UST, and one 6,000 gallon gasoline UST were removed from the northern portion of the site. On March 18, 1998, two 300-gallon diesel USTs and one 2,000-gallon used oil LUST were removed from the site. On June 30, 1998, a 500-gallon used oil UST was removed from the site.

At the northern UST portion of the site, soil samples were collected approximately 2 feet below each UST under the supervision of the Los Angeles County Fire Department (LACFD) inspector. Soil samples collected below the diesel tanks were analyzed for petroleum hydrocarbon as diesel (TPH-d) and benzene, toluene, ethylbenzene, xylene (BTEX). Soil samples collected below the gasoline tank were analyzed for total TPH-d, BTEX, and MTBE. The soil samples collected below the oil tanks were analyzed for total recoverable petroleum hydrocarbons (TRPH) and BTEX. According to the Tyree UST removal report, the majority of the soil samples collected were also analyzed for total lead.



Laboratory analysis of the soil samples collected from beneath the USTs at the northern portion of the site detected measurable concentrations of TPH-d, TPH-g, TRPH, toluene, ethylbenzene, xylenes, MTBE, and total lead. TPH-d was detected at the southern ends of the 10,000-gallon diesel tanks at concentrations of 1,740 mg/kg and 5,000 mg/kg. TPH-g was detected in soil samples collected below the gasoline tank at concentrations of 16.3 mg/kg (southern end) and 1,390 mg/kg (northern end). TRPH concentrations of 472 mg/kg (southern end) and 23,600 mg/kg (northern end) were detected in the two samples collected below the 8,000-gallon motor oil UST.

Benzene was not detected in any of the soil samples collected below the USTs. Five of the soil samples collected below the USTs contained detectable concentrations of the aromatic hydrocarbons toluene, ethylbenzene, and xylene components. MTBE was detected in four soil samples collected at concentrations ranging from 0.492 mg/kg to 46.8 mg/kg.

Total lead concentrations ranging from 45.8 mg/kg to 302 mg/kg were detected in soil samples obtained from beneath the USTs at the northern portion of the site.

#### 2.4.4 URS Greiner Woodward Clyde

In 1999, URS (formerly URS Greiner Woodward Clyde), was contracted by MTA to conduct a subsurface soil and groundwater investigation. The investigation included collection and analysis of soil samples, the installation of four groundwater monitoring wells, and the collection and analysis of groundwater samples. The purpose of the investigation was to assess the extent of total petroleum hydrocarbons in soil in the vicinity the four former underground storage tanks located at the northern portion of the site. Detectable concentrations of TPH-g, TPH-d, Xylene, MTBE and BTEX were identified at the site. Quarterly groundwater monitoring activities are currently being conducted at the site by URS.

Each well was constructed by suspending the well casing and screen approximately two feet above the bottom of the borehole to ensure a plumb casing. The filter pack was placed to approximately 2 feet above the well screen. A 2-foot thick seal (bentonite pellets hydrated during placement) was placed above the filter pack. A 3-foot thick seal (bentonite chips hydrated during placement) was placed above the bentonite pellets. The remaining annular space was backfilled with a cement grout containing approximately 5 percent bentonite to approximately 2 feet bgs. Each well location was completed at the surface with a flush-mount, traffic-rated well box. The well casings were equipped with locking caps.

### **3.2.3 Well Development**

The groundwater monitoring wells were developed on March 1, 2002 using a development rig equipped with a surge block, bailer, and electric pump. Well development service was provided by BC2. The well was first surged with the surge block to set the filter pack and to clean any residual fine-grained sediments from the filter pack. Once surging was complete, the residual sediment was removed with a bailer and the well was then purged with the submersible pump. Purged water was monitored approximately every 10 gallons for temperature, pH, conductivity, and turbidity parameters. Development continued until a minimum of three borehole volumes of groundwater were removed and monitoring parameters stabilized to within  $\pm 10$  percent of the previous two measurements, as determined by the field geologist. Field measurements were recorded on well development and sampling logs and are included in Appendix D.

### **3.3 SURVEY ACTIVITIES**

All wells (MW-1 through MW-6) were surveyed with respect to the California State Plane Coordinate System horizontal (NAD83) and vertical (NAVD88 and NGVD29) datums on March 1, 2002. The wells were surveyed by Dulin and Boynton, a licensed California Land Surveyor (License No. LS4787) located in Signal Hill, California. The survey data is provided in Appendix E.

## 4.0 SOIL CHEMICAL ANALYSIS

### 4.1 SOIL SAMPLE ANALYSIS

A total of 7 soil samples were submitted for chemical analysis to Calscience Environmental Laboratories, Inc. (Calscience), a California Certified Laboratory (California Certification No. 1230) located in Garden Grove, California. Soil samples were collected as described in Section 3.2.1. The soil samples were collected using the Encore sampling system per EPA Method 5035 specified in the USEPA SW-846, version III (12/96) for soil sample preparation and preservation in order to minimize organic losses for volatile organic compounds (5035/8260B) and total petroleum hydrocarbons modified for gasoline (5035/8015). The remaining soil samples were collected in stainless-steel sample sleeves, and sealed with Teflon sheets and plastic end caps. The samples were labeled, placed in plastic bags, and stored in a cooler with ice for shipment to Calscience under chain-of-custody documentation. Sample labels included the following information:

- ◆ Applicable project and site identification information.
- ◆ Sampler's initials.
- ◆ Sample collection date and time.
- ◆ Sample Identity - included site name, boring name, sampling depth, and date.

Soil samples were submitted to the laboratory for the following analyses:

- ◆ EPA Method 5035/8015-modified for TPH-g.
- ◆ EPA Method 8015-modified for TPH-d.
- ◆ EPA Method 418.1 for TRPH.
- ◆ EPA Method 5035/8260B for VOCs, including fuel oxygenates
- ◆ EPA Method 7421 for total lead.

## 5.0 RESULTS OF SOIL INVESTIGATION

The results of this investigation are summarized in the sections below.

### 5.1 STRATIGRAPHY AND SOIL CHARACTERISTICS

During the subsurface investigation, approximately 5 lithologic soil types beneath the site were identified and designated as fill material, sandy clay, silty sand, sand, and gravelly sand. Site-specific geologic details are provided in Section 2.3. The geologic cross-section line locations are illustrated on Figure 2. The subsurface stratigraphy is generalized on geologic cross-sections A-A' and B-B' as illustrated on Figures 3 and 4, respectively. The cross-sections illustrate that the sedimentary deposits beneath the site are may be characterized as discontinuous lenses of fine and coarse textured material that occur within a predominately sand unit.

### 5.2 SOIL CHEMICAL ANALYTICAL RESULTS

The analytical results for these soil samples are summarized in this section and in Table 2. The distribution of TPH, BTEX, and MTBE concentrations is illustrated on Figure 2. Copies of the laboratory analytical reports and chain-of-custody documentation are provided in Appendix F.

#### 5.2.1 Total Petroleum Hydrocarbons, Gasoline Range

Detectable concentrations of TPH-g were not identified in any of the 7 soil samples collected from soil borings MW-5 and MW-6. The laboratory reporting limit ranged from 0.19 milligrams per kilograms (mg/kg) to 0.27 mg/kg.

#### 5.2.2 Total Petroleum Hydrocarbons, Diesel Range

Two soil samples contained detectable concentrations of TPH-d above the laboratory detection limit. TPH-d was detected in the soil samples collected from MW-5 at a depth of 10 feet bgs and MW-6 at a depth of 15 feet bgs at concentrations of 200 mg/kg and 41 mg/kg, respectively. The laboratory reported these two values with the following comment: "The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard". Upon reviewing the chromatograms, it appears that when compared with the "specified standard", the soil sample detections are in the heavier end of the hydrocarbon chain spectrum for diesel.

#### 5.2.3 Total Recoverable Petroleum Hydrocarbons

Detectable concentrations of TRPH were identified in three of the 7 soil samples analyzed. TRPH was detected in MW-5 at a depth of 10 feet bgs (94 mg/kg) and in MW-6 at depths of 15 feet bgs (38 mg/kg) and 20 feet bgs (10 mg/kg).

**5.2.4 Benzene, Toluene, Ethylbenzene, Xylenes**

Detectable concentrations of BTEX were not identified in any of the 7 soil samples collected from soil borings MW-5 and MW-6.

**5.2.5 Methyl-Tertiary-Butyl Ether**

Detectable concentrations of MTBE were not identified in any of the 7 soil samples above the laboratory reporting limit.

**5.2.6 Lead**

Detectable concentrations of lead were identified in the 7 soil samples above the laboratory detection limit. The detectable concentration of lead ranged from 1.04 mg/kg in the soil sample collected from MW-5 (25 feet bgs) to 6.10 mg/kg in the soil sample collected from MW-6 (10 feet bgs).

**5.2.7 Other VOCs**

A detectable concentration of acetone at 47 micrograms per kilograms ( $\mu\text{g}/\text{kg}$ ) was identified in the soil sample collected from MW-5 at a depth of 10 feet bgs. Tetrachloroethene at a concentration of 1.3  $\mu\text{g}/\text{kg}$  was identified in the soil sample collected from MW-6 at a depth of 20 feet bgs. No other VOCs were detected above the respective laboratory reporting limits in any of the soil samples.

## 6.0 FINDINGS AND CONCLUSIONS

The following findings and conclusions were developed based on the results of this investigation:

- ◆ Two groundwater monitoring wells (MW-5 and MW-6) of the three proposed groundwater monitoring wells (MW-5, MW-6, and MW-7) were installed during this investigation. The third groundwater monitoring well (MW-7) was unable to be installed due to underground obstructions encountered during drilling;
- ◆ Soil types encountered beneath the site included sandy fill material containing debris, sandy silty clay, poorly graded silty sand, and well graded gravelly sand. Sedimentary deposits beneath the site are may be characterized as discontinuous lenses of fine and coarse textured material that occur within a predominately sand unit ;
- ◆ Groundwater beneath the site was encountered during drilling at approximately 25 feet bgs in gravelly well graded sand in well MW-5 and approximately 20 feet bgs in silty fine- to medium-grained sand in well MW-6;
- ◆ Detectable concentrations of TRPH were identified in three of the 7 soil samples analyzed. TRPH was detected in MW-5 at a depth of 10 feet bgs (94 mg/kg) and in MW-6 at depths of 15 feet bgs (38 mg/kg) and 20 feet bgs (10 mg/kg);
- ◆ Detectable concentrations of TPH-g were not identified in any of the 7 soil samples;
- ◆ TPH-d was detected in the soil samples collected from MW-5 at a depth of 10 feet bgs and MW-6 at a depth of 15 feet bgs at concentrations of 200 mg/kg and 41 mg/kg, respectively. The laboratory reported these two values with the following comment: "The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard". Upon reviewing the chromatograms, it appears that when compared with the "specified standard", the soil sample detections are in the heavier end of the hydrocarbon chain spectrum for diesel;
- ◆ Detectable concentrations of Benzene, Toluene, Ethylbenzene and Xylene were not identified in any of the 7 soil samples;
- ◆ Detectable concentrations of MTBE were not identified in any of the 7 soil samples;
- ◆ Detectable concentrations of lead were identified in the 7 soil samples collected. The concentrations detected range from 1.04 mg/kg in the soil sample collected from MW-5 (25 feet bgs) to 6.10 mg/kg in the soil sample collected from MW-6 (10 feet bgs).

## 7.0 REFERENCES

- CDWR (California Department of Water Resources Bulletin 104), 1961. Planned Utilization of the Groundwater Basins of the Coastal Plain of Los Angeles County.
- Holquin, Fahan, and Associates, Inc., September 1997. Work Plan for Additional Site Assessment at Los Angeles County Metropolitan Transportation Authority Division 6 Bus Maintenance and Fuel Facility, 100 West Sunset Avenue, Venice, California.
- URS Greiner Woodward Clyde, April 1999. Division 6, Contamination Investigation and Monitoring Proposal at Los Angeles County Metropolitan Transportation Authority Division 6 passenger bus fuel and maintenance facility, 100 West Sunset Avenue, Venice, California.
- URS Greiner Woodward Clyde, September 28, 1999. Groundwater Monitoring Well Installation Report at Los Angeles County Metropolitan Transportation Authority Division 6 passenger bus fuel and maintenance facility, 100 West Sunset Avenue, Venice, California.
- URS Corporation, April 17, 2001. Work Plan for Groundwater Monitoring Well Installation and Groundwater Monitoring at Los Angeles County Metropolitan Transportation Authority Division 6 passenger bus fuel and maintenance facility, 100 West Sunset Avenue, Venice, California.
- URS Corporation, April 10, 2002. March 2002 First Quarter Groundwater Monitoring Report at Los Angeles County Metropolitan Transportation Authority Division 6 passenger bus fuel and maintenance facility, 100 West Sunset Avenue, Venice, California.
- The Tyree Organization, Ltd., May 1999. Report on Underground Storage Removal.





# TABLES

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Table 1

Groundwater Monitoring Well Construction Details  
 MTA Division 6 Passenger Bus Terminal  
 Venice, California

GROUNDWATER MONITORING WELL													
Well Identification	Installation Date	Northing	Easting	Depth to Water (feet msl)	Boring Depth (feet bgs)	Casing Depth (feet bgs)	Top of Casing Elevation (feet msl)	Concrete Interval (feet)	Grout Interval (feet bgs)	Bentonite Chip Seal Interval (feet bgs)	Bentonite Pellet Seal Interval (feet bgs)	Filter Pack Interval (feet bgs)	Well Screen Interval (feet bgs)
MW-5	02/25/02	1820580.5	6417287.8	5.23	47.0	45.3	27.38	0.0 - 2.0	2.0 - 18	18.0 - 21.0	21.0 - 23.0	23.0 - 47.0	25.0 - 45.0
MW-6	01/20/01	1820627.3	6417407.6	5.18	41.0	40.0	24.99	0.0 - 2.0	2.0 - 8.0	8.0 - 11.0	11.0 - 13.0	13.0 - 41.0	15.0 - 40.0

Notes:

- feet msl = feet mean sea level. Water level recorded during Q2 2002 groundwater sampling event conducted on March 5, 2002.
- feet bgs = feet below ground surface
- SURVEYING CONVERSION FROM NAVD88 TO NGVD29 PER VERTCON SOFTWARE  
 NAVD88 MINUS NGVD = +0.751 (METERS) OR +2.46 (FEET)

Table 2

**Summary of Soil Analytical Results  
MTA Division 6 Passenger Bus Terminal  
Venice, California**

Sample Number	Date	Depth (feet, bgs)	TRPH (mg/kg)	TPH-d (mg/kg)	TPH-g (mg/kg)	Benzene (µg/kg)	Toluene (µg/kg)	Ethylbenzene (µg/kg)	Xylenes (µg/kg)	MTBE (µg/kg)	Lead (mg/kg)	Acetone (µg/kg)	Tetrachloroethene (µg/kg)
MW-5-10'	02/25/02	10	94	200*	ND	ND	ND	ND	ND	ND	5.68	47	ND
MW-5-15'	02/25/02	15	ND	ND	ND	ND	ND	ND	ND	ND	2.29	ND	ND
MW-5-20'	02/25/02	20	ND	ND	ND	ND	ND	ND	ND	ND	1.88	ND	ND
MW-5-25'	02/25/02	25	ND	ND	ND	ND	ND	ND	ND	ND	1.04	ND	ND
MW-6-10'	02/26/02	10	ND	ND	ND	ND	ND	ND	ND	ND	6.10	ND	ND
MW-6-15'	02/26/02	15	38	41*	ND	ND	ND	ND	ND	ND	3.02	ND	ND
MW-6-20'	02/26/02	20	10	ND	ND	ND	ND	ND	ND	ND	1.36	ND	1.3
Reporting Limit			10	5	0.19 to 0.27	0.80 to 0.98	0.80 to 0.98	0.80 to 0.98	0.80 to 0.98	1.6 to 2.0	0.5 to 1.0	16 to 20	0.80 to 0.98

**Notes:**

TPH-d = Total petroleum hydrocarbons as diesel by EPA Method 8015 modified in milligrams per kilogram (mg/kg).

TPH-g = Total petroleum hydrocarbons as gasoline by EPA Method 8015 modified in (mg/kg).

TRPH = Total recoverable petroleum hydrocarbons by EPA Method 418.1M in (mg/kg).

BTEX = Benzene, Toluene, Ethylbenzene, and Xylenes by EPA Method 8260B in micrograms per kilogram (µg/kg).

MTBE = methyl tert-butyl ether by EPA Method 8260B in µg/kg.

bgs = below ground surface.

Lead = Lead by EPA Method 7421

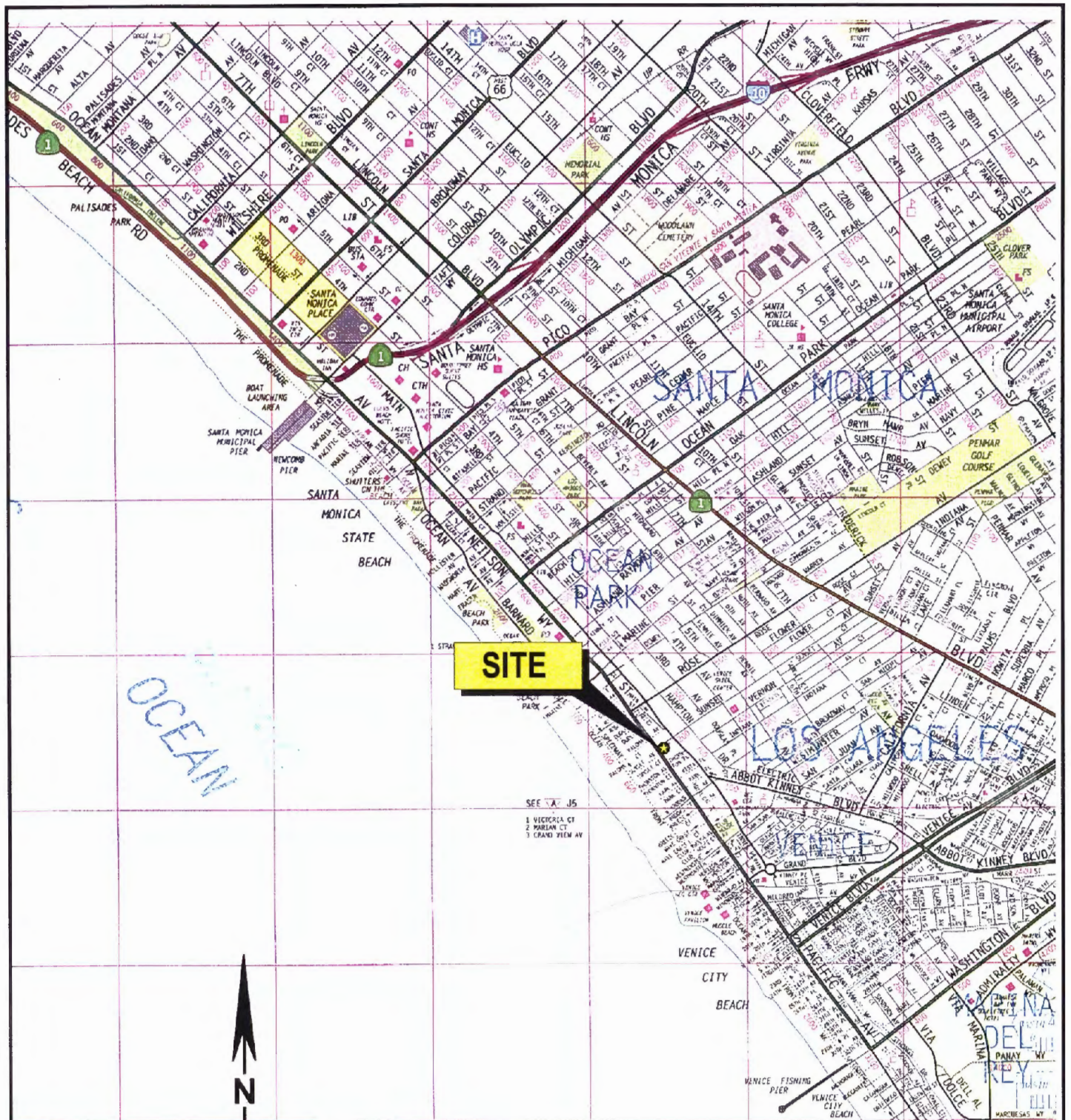
ND = Not detected.

\* Lab reported this value with the following comment: "The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard."

# FIGURES

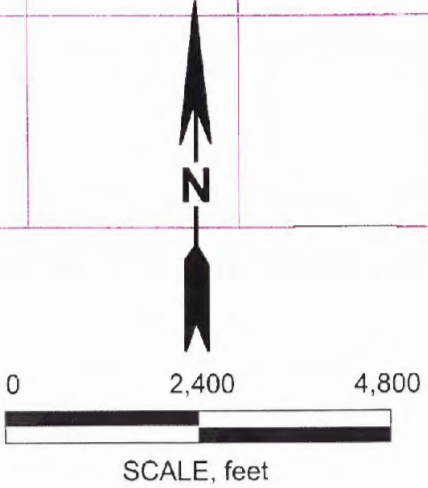
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**SITE**

SEE A-1 J5  
 1 VICTORIA CT  
 2 PARLAN CT  
 3 GRAND PREM AV



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**SITE LOCATION MAP**

Project No.: 57-00070056.01	Date: FEBRUARY 2002	Project: MTA - DIVISION 6	Fig. 1
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DEPTH	(mg/L)			(µg/L)					
	TRPH	TPH-d	TPH-g	Pb	B	T	E	X	MTBE
10	ND	ND	ND	6.10	ND	ND	ND	ND	ND
15	38	41(2)	ND	3.02	ND	ND	ND	ND	ND
20	10	ND	ND	1.36	ND	ND	ND	ND	ND

DEPTH	(mg/L)			(µg/L)					
	TRPH	TPH-d	TPH-g	Pb	B	T	E	X	MTBE
10	94	200(2)	ND	5.68	ND	ND	ND	ND	ND
15	ND	ND	ND	2.29	ND	ND	ND	ND	ND
20	ND	ND	ND	1.88	ND	ND	ND	ND	ND
25	ND	ND	ND	1.04	ND	ND	ND	ND	ND

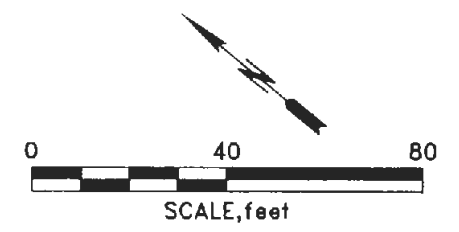
- LEGEND**
- MW-1 ⊕ GROUNDWATER MONITORING WELL LOCATION
  - A A' GEOLOGIC CROSS-SECTION INTERPRETATION, REFER TO FIGURE 3 AND 4
  - [ ] FORMER UST
  - TRPH TOTAL RECOVERABLE PETROLEUM HYDROCARBONS BY EPA METHOD 418.1 IN MILLIGRAMS PER LITER (mg/L)
  - TPH-d TOTAL PETROLEUM HYDROCARBONS AS DIESEL BY EPA METHOD 8015 MODIFIED IN MICROGRAMS PER LITER (µg/L)
  - TPH-g TOTAL PETROLEUM HYDROCARBONS AS GASOLINE BY EPA METHOD 8015 MODIFIED IN MICROGRAMS PER LITER (µg/L)
  - BTEX BENZENE, TOLUENE, ETHYLBENZENE AND XYLENES BY EPA METHOD 8260B IN MICROGRAMS PER LITER (µg/L)
  - MTBE METHYL-TERTIARY-BUTYL ETHER BY EPA METHOD 8260B IN MICROGRAMS PER LITER (µg/L)
  - Pb TOTAL LEAD BY EPA METHODS 6010B AND/OR 7421 MICROGRAMS PER LITER (µg/L)
  - <1 NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMIT
  - NS NOT SAMPLED

**NOTES:**

(2) LAB REPORTED THIS VALUE WITH THE FOLLOWING COMMENT: "THE SAMPLE CHROMATOGRAPHIC PATTERN FOR TPH DOES NOT MATCH THE CHROMATOGRAPHIC PATTERN OF THE SPECIFIED STANDARD. QUANTITATION OF THE UNKNOWN HYDROCARBON(S) IN THE SAMPLE WAS BASED UPON THE SPECIFIED STANDARD."

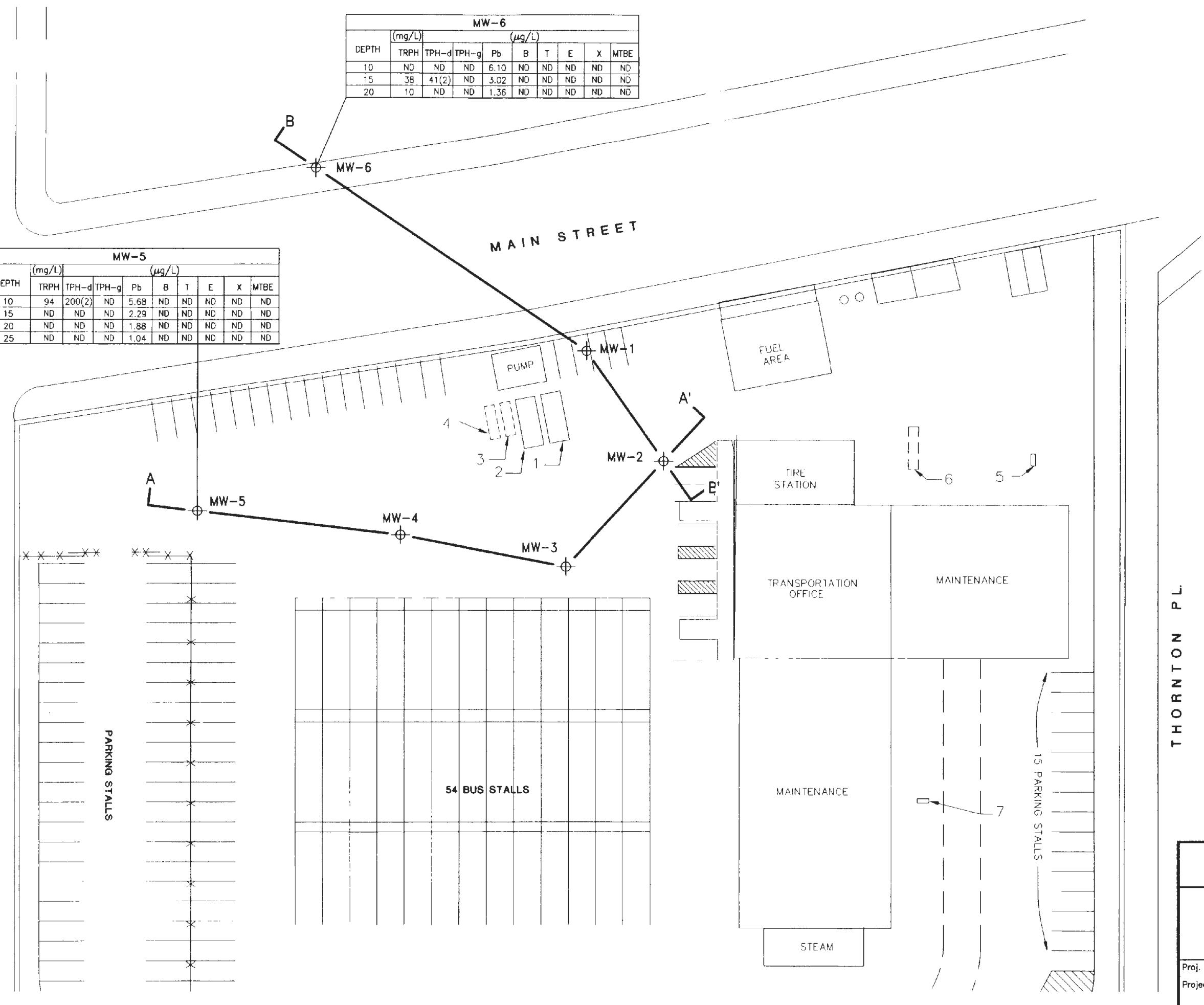
**TANK DESCRIPTION**

- 1 DIESEL TANK = 20,300 GAL.
- 2 DIESEL TANK = 20,300 GAL.
- 3 MOTOR OIL = 8,000 GAL.
- 4 UNLEADED GAS = 6,000 GAL.
- 5 WASTE OIL = 2,000 GAL.
- 6 DIESEL TANK = 20,300 GAL.
- 7 WASTE OIL = 2,000 GAL.



THORNTON PL

SUNSET AVE.

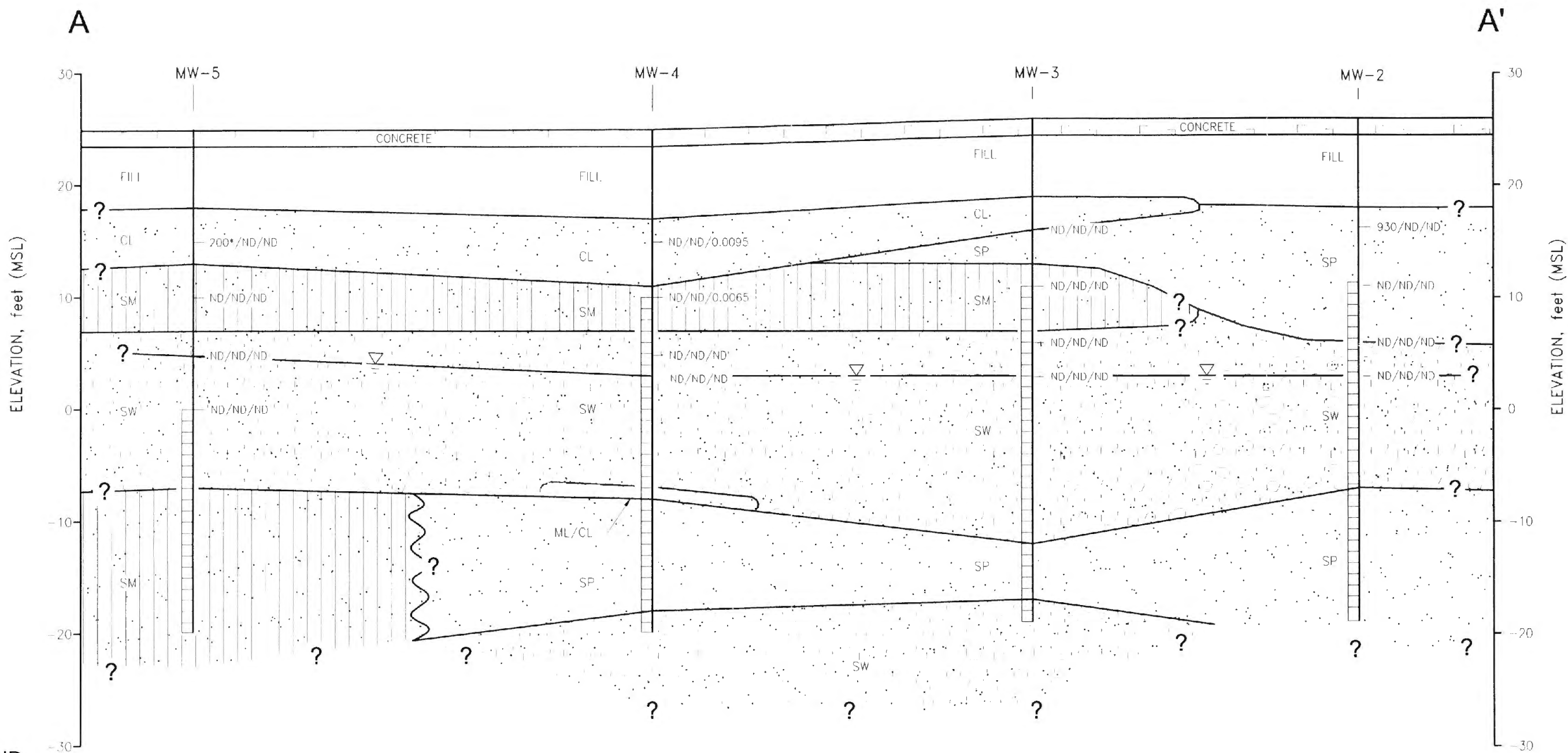


URS Corporation

SITE PLAN AND SOIL ANALYTICAL RESULTS

Proj. No.: 57.00070056.01	Date: MARCH 2002
Project: MTA - DIV. 6 100 SUNSET AVENUE VENICE, CA.	CAD ID: GW-CHEM-0302 Figure: 2





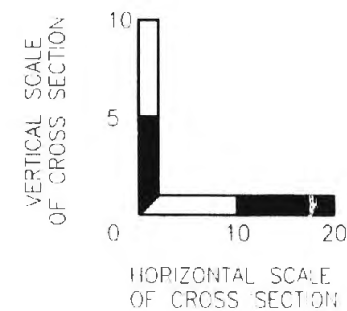
**LEGEND**

**MW-4**  
 4" (10cm) MONITORING WELL SHOWING SCREEN INTERVAL WITH TPH-D, TPH-G, AND MIBE RESULTS, RESPECTIVELY  
 ND/ND/ND  
 ND/ND/ND  
 ▽ GROUNDWATER POTENTIOMETRIC SURFACE (MARCH 5, 2002)

TPH-D TOTAL PETROLEUM HYDROCARBONS AS DIESEL BY EPA METHOD 8015 MODIFIED IN MILLIGRAMS PER KILOGRAM (mg/kg)  
 TPH-G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE BY EPA METHOD 8015 MODIFIED IN MILLIGRAMS PER KILOGRAM (mg/kg)  
 MIBE METHYL-TERTIARY-BUTYL-ETHER BY EPA METHOD 8260B IN MILLIGRAMS PER KILOGRAM (mg/kg)  
 ND: NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMIT  
 ? INFERRED

- FILL (SAND WITH FILL DEBRIS)
- CL (SANDY CLAY)
- SM (SILTY SAND)
- SP (POORLY GRADED SAND)
- ML/CL (SILT/CLAY)
- SW (GRAVELLY WELL GRADED SAND)

\* SAMPLE CHROMATOGRAPHIC PATTERN FOR TPH DOES NOT MATCH CHROMATOGRAPHIC PATTERN OF SPECIFIED STANDARD. QUANTIFICATION OF UNKNOWN HYDROCARBON(S) IN SAMPLE WAS BASED UPON THE SPECIFIED STANDARD.



**URS Corporation**

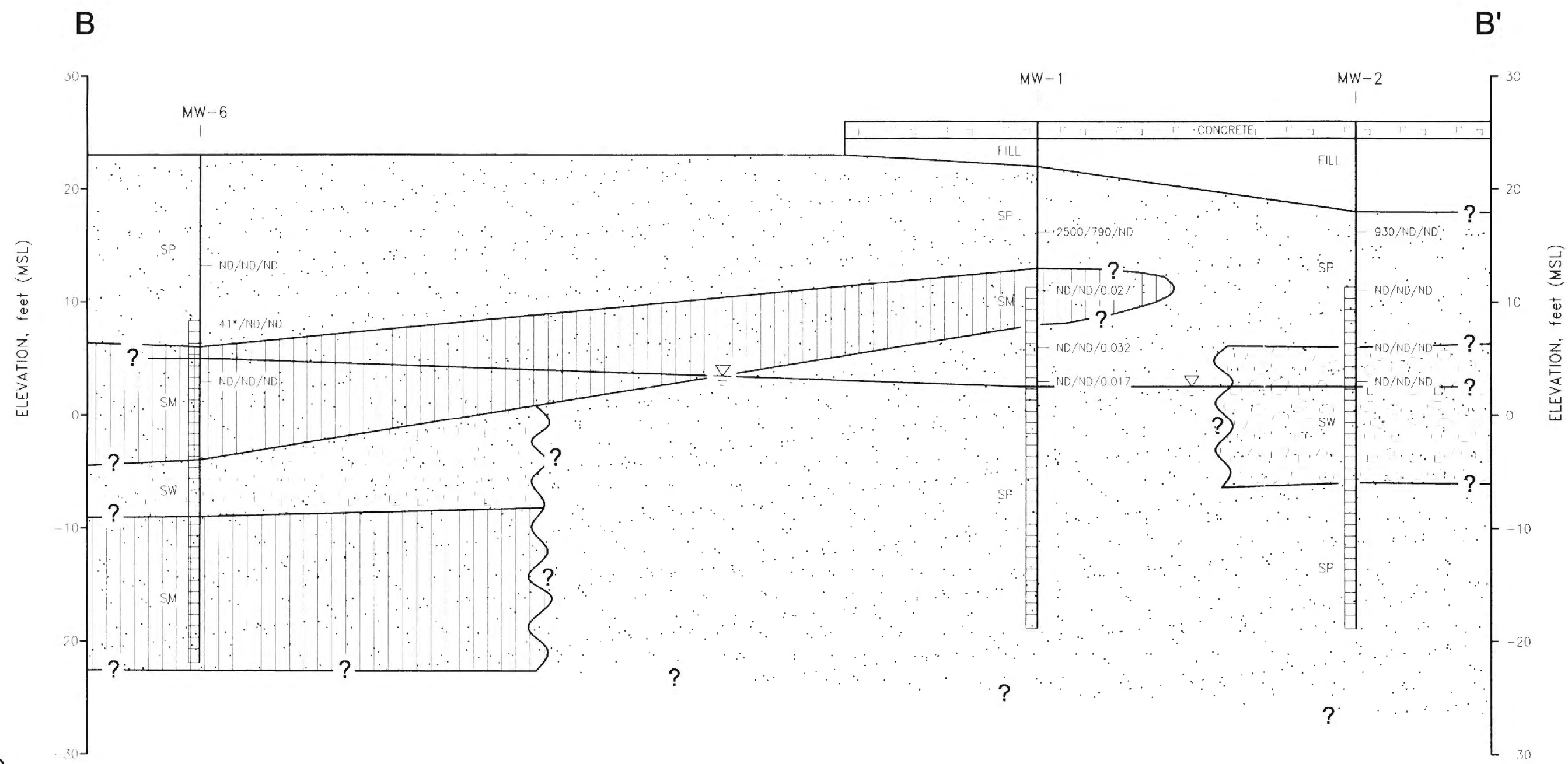
**GEOLOGIC CROSS SECTION A - A'**  
 MTA - DIVISION 6  
 100 SUNSET AVE., VENICE CA.

Proj. No.: 57.00070056.01	Date: MAY 2002
Project: MTA - DIV 6	Drawn By: GEO-XAA
	Figure: 3

N:\5700070056\01\DIV\_6\WELL\_REPORT\MARCH\_2002\GEO-XAA.DWG



\570007005601.DIV.6.WELL.REPORT\MARCH.2002\GEO-XBB.DWG

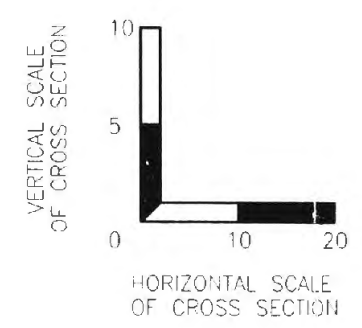


**LEGEND**

**MW-2**  
 ND/ND/ND  
 4 INCH MONITORING WELL SHOWING SCREEN INTERVAL, WITH TPH-D, TPH-G, AND MTBE RESULTS, RESPECTIVELY  
 ND/ND/ND  
 ▽ GROUNDWATER POTENTIOMETRIC SURFACE (MARCH 5, 2002)

TPH-D TOTAL PETROLEUM HYDROCARBONS AS DIESEL BY EPA METHOD 8015 MODIFIED IN MILLIGRAMS PER KILOGRAM (mg/kg)  
 TPH-G TOTAL PETROLEUM HYDROCARBONS AS GASOLINE BY EPA METHOD 8015 MODIFIED IN MILLIGRAMS PER KILOGRAM (mg/kg)  
 MTBE METHYL-TERTIARY-BUTYL-ETHER BY EPA METHOD 8260B IN MILLIGRAMS PER KILOGRAM (mg/kg)  
 ND NOT DETECTED AT OR ABOVE LABORATORY REPORTING LIMIT  
 ? INFERRED

- FILL (SAND WITH FILL DEBRIS)
- CL (SANDY CLAY)
- SM (SILTY SAND)
- SP (POORLY GRADED SAND)
- ML/CL (SILT/CLAY)
- SW (GRAVELLY WELL GRADED SAND)



\* SAMPLE CHROMATOGRAPHIC PATTERN FOR TPH DOES NOT MATCH CHROMATOGRAPHIC PATTERN OF SPECIFIED STANDARD. QUANTITATION OF UNKNOWN HYDROCARBON(S) IN SAMPLE WAS BASED UPON THE SPECIFIED STANDARD.

<b>URS Corporation</b>	
<b>GEOLOGIC CROSS SECTION B-B'</b>	
MTA - DIVISION 6 100 SUNSET AVE., VENICE CA.	
Proj. No: 57.00070056.01	Date: MAY 2002
Project: MTA - DIV 6	CAD ID: GEO-XBB
	Figure 4



# APPENDIX A

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**APPENDIX A**

**Permits**

**APPLICATION FOR WELL PERMIT**

ENVIRONMENTAL HEALTH 2525 Corporate Place Monterey Park, Ca 91754

COUNTY OF LOS ANGELES DEPARTMENT OF HEALTH SERVICES

DATE

4/30/01

TYPE OF PERMIT (CHECK)

- NEW WELL CONSTRUCTION
- RECONSTRUCTION OR RENOVATION
- DESTRUCTION

(2 wells total)

TYPE OF WELL

- PRIVATE DOMESTIC
- PUBLIC DOMESTIC
- IRRIGATION
- OBSERVATION/MONITORING
- CATHODIC
- INDUSTRIAL
- GRAVEL PACK
- TEST

TYPE OF CASING

Schedule 40 PVC BLANK - 4" Dia., Schedule 40 PVC SCREEN - 0.010" 4" Dia.

METHOD OF SEALING OF CASING

HYDRATED BENTONITE PELLETS (13'-10' BGS), HYDRATED BENTONITE CHIPS (10'-6' BGS)  
 PORTLAND CEMENT BENTONITE SLURRY (6'-2' BGS), CONCRETE + FLUSH MOUNT WELL BOX

METHOD OF DESTRUCTION

AT SURFACE

ADDRESS (NUMBER, STREET, AND NEAREST INTERSECTION)

100 SUNSET AVE. VENICE CA

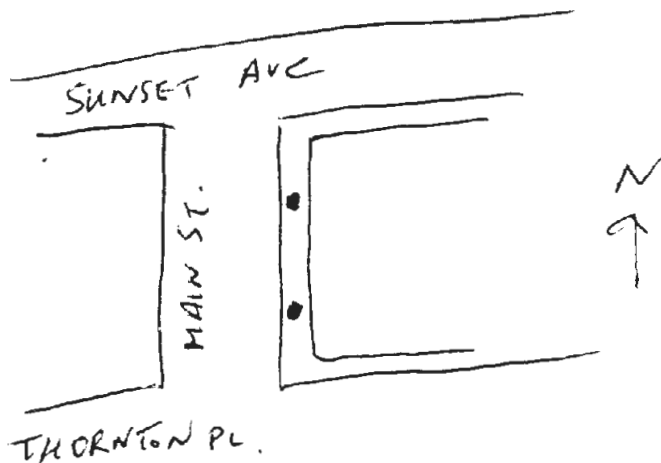
CITY

VENICE, CA

DIAGRAM (SHOW PROPERTY LINES, STREET, ADDRESS, WELL SITE, SEWERS, AND PRIVATE SEWAGE DISPOSAL SYSTEMS ALONG WITH LABELS AND DIMENSIONS)

- SEE ATTACHED FIGURES

Two Monitoring Well Construction  
 4.5' BGS



NAME OF WELL DRILLER (PRINT)

SCOTT TRAUB

NAME OF WELL OWNER (PRINT)

LACMTA

TRADE NAME

BC<sup>2</sup> ENVIRONMENTAL CORP.

MAILING ADDRESS

ONE GATEWAY PLAZA

BUSINESS ADDRESS

1212 EAST ASH ST. FULLERTON, CA

CITY

LOS ANGELES, CA

I hereby agree to comply in every respect with all regulations of the County Preventive/Public Health Services and with all ordinances and laws of the County of Los Angeles and of the State of California pertaining to well construction, reconstruction and destruction. Upon completion of well and within ten days thereafter, I will furnish the County Preventive/Public Health Services with a complete log of the well, giving date drilled, depth of well, all perforations in casing, and any other data deemed necessary by such County Preventive/Public Health Services.

**DISPOSITION OF APPLICATION: (For Sanitarians Use Only)**

- APPROVED
- DENIED
- APPROVED WITH CONDITIONS

If denied or approved with conditions, report reason or conditions here:

DATE

SANITARIAN

DATE

SECTION CHIEF

5/7/01

Michael Lim

Applicant's Signature

ENTERED

When signed by Section Chief, this application is a permit.

(626) 308-5374 msg

APPLICANT COPY

Please Return All Copies

- 2 DIESEL TANK = 6,000 GAL.
- 3 MOTOR OIL = 8,000 GAL.
- 4 UNLEADED GAS = 8,000 GAL.
- 5 WASTE OIL = 2,000 GAL.
- 6 DIESEL TANK = 10,300 GAL.
- 7 WASTE OIL = 2,000 GAL.

**LEGEND**

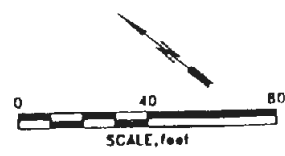
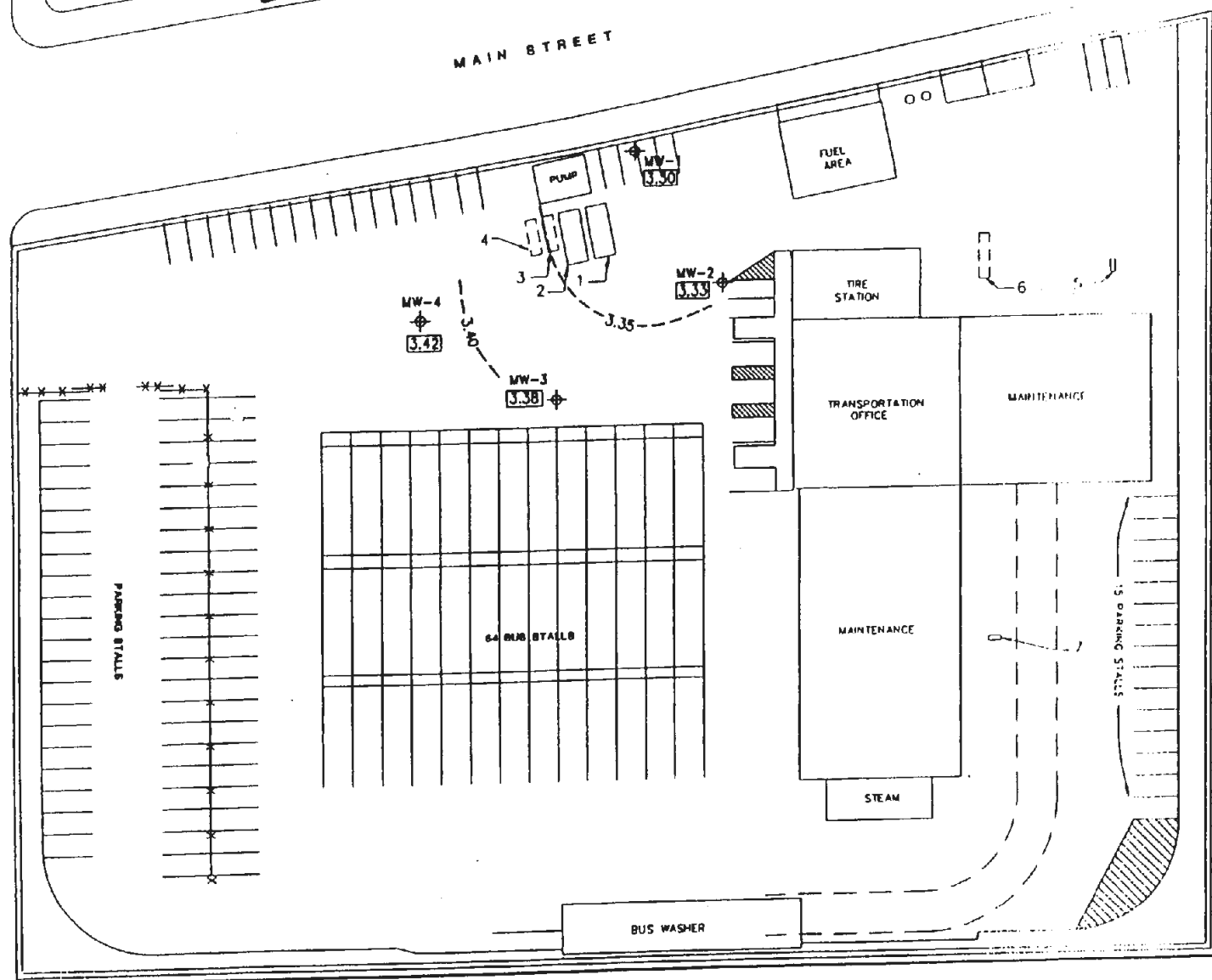
- MW-1 GROUNDWATER MONITORING WELL LOCATION WITH GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL
- PROPOSED WELL LOCATION
- 3.35- GROUNDWATER ELEVATION CONTOUR

I:\5700070056.01\DIV. 6\APRIL 2001\GV-CHEM-0300-APRIL.DWG

SUNSET AVE

MAIN STREET

THORNTON PL



**URS Corporation**

**BSITE PLAN WITH PROPOSED WELL LOCATIONS AND GROUNDWATER ELEVATIONS**

Proj. No.: 57.00070056.01	Date: APRIL
Project: MTA - DIV. 6 100 BUMBET AVENUE VENICE, CA.	CAO NO: GW-CHEM-0 Figure: 2

4/27/01 Revised Proposed New Well Locations

**SERVICE APPLICATION AND FEE COLLECTION  
 COUNTY OF LOS ANGELES - DEPARTMENT OF HEALTH SERVICES  
 PUBLIC HEALTH PROGRAMS - ENVIRONMENTAL HEALTH  
SERVICE REQUEST APPLICATION**

**INSTRUCTIONS**

1. Check the TYPE OF SERVICE requested and attach the required non-refundable fee to the application. Make money order or check payable to LOS ANGELES COUNTY TREASURER, DO NOT SEND CASH. This application is nontransferable.

**FEE REQUIRED\***

**TYPE OF SERVICE**

- |                              |                                     |   |
|------------------------------|-------------------------------------|---|
| <u>2 x \$125.00 = 250.00</u> | <input checked="" type="checkbox"/> | <u>MONITORING WELL CONSTRUCTION/DESTRUCTION</u>   |
| _____                        | <input type="checkbox"/>            | <u>WELL CONSTRUCTION, RENOVATION OR DESTRUCTION PERMIT</u><br>Complete and attach a Well Permit Application |
| _____                        | <input type="checkbox"/>            | <u>PRIVATE SEWAGE DISPOSAL SYSTEM CONSTRUCTION PERMIT</u>   |
| _____                        | <input type="checkbox"/>            | <u>PRIVATE SEWAGE DISPOSAL SYSTEM RENOVATION/EXPANSION</u>  |
| _____                        | <input type="checkbox"/>            | <u>INSPECTION OF MOUNTAIN CABIN SITE</u> as required by the<br>United States Forest Service                 |
| _____                        | <input type="checkbox"/>            | <u>INSPECTION OF EXISTING PRIVATE SEWAGE SYSTEM</u> as required<br>by FHA/VA                                |
| _____                        | <input type="checkbox"/>            | <u>WATER SUPPLY TEST AND CERTIFICATION</u> as required by U.S.<br>Department of Agriculture                 |

2. Check with Contact Office stamped below for requirements or information.
3. Complete the required information or deliver the completed application, money order or check with the forms indicated.

to: County of Los Angeles  
 Department of Health Services  
 Public Health Programs  
 Environmental Health  
 2525 Corporate Place  
 Monterey Park, Ca 91754  
 (213) 881-4147

\* Refer to Schedule of Fees  
 for current fiscal year.

**NOTE: FIELD PERSONNEL CANNOT ACCEPT FEES.**

4. Phone Contact Office noted below, after you have received your receipt, to request an inspection.

<u>LAKE 100 GARDEN AVE. VENICE, CA</u>	<u>4/12/01</u>
Service/Job Location Address	Date
<u>LAKE - 100 GARDEN AVE. VENICE, CA 90731</u>	<u>(213) 452-7301</u>
Owner/Applicant's Name	Address
<u>LAKE - 100 GARDEN AVE. VENICE, CA</u>	<u>(213) 452-7301</u>
Contractor's Name	Address
<u>LAKE - 100 GARDEN AVE. VENICE, CA</u>	<u>(213) 452-7301</u>

Co. Engineer Plan Check No. \_\_\_\_\_ Tract No. \_\_\_\_\_ Lot No. \_\_\_\_\_ No. Bedrooms \_\_\_\_\_  
 (Complete line above for Private Sewage Disposal System Construction or Renovation Application)

CONTACT OFFICE

DEPARTMENT STAMP

*Handwritten:* May 9 2001  
 0014900  
 Rep: 150000

**FEE PAID**



Printed on recycled materials.

Street Use Inspection Division  
100 S. Spring Street, 4th Floor  
Los Angeles, CA 90014  
(213) 485-5668

# PERMIT TO MAINTAIN MATERIALS OR EQUIPMENT IN STREET

## PERMIT ME 13567

(White copy to be posted in conspicuous place on job site)

**ISSUING OFFICES** (See reverse side for address and phone)

- LOS ANGELES
- HARBOR
- VALLEY
- WEST LOS ANGELES

**IMPORTANT:** This permit, issued under the provisions of Sections 62.45 et seq. of the Los Angeles Municipal Code, is void after 60 days from date of issuance except as otherwise specified in the Conditions section below.

**NOTE - SEE REVERSE SIDE OF PERMIT**

PERMITTEE'S NAME: **MTA** PHONE NO.: **(213) 922-7324**

PERMITTEE'S ADDRESS (Number): **One Gateway Plaza LA CA 90012** (Street): **LA CA 90012** (City and Zip Code): **LA CA 90012**

JOB OR WORK SITE LOCATION: **MAIN St. (#2 North bound** WIDTH: **18.3'** LENGTH: **502.6'** AREA: **9,197.58**

STREET: **Lane between Thornton Pl** WIDTH: **18.3'** LENGTH: **502.6'** AREA: **9,197.58**

STREET: **to the South & Sunset Ave to the North** WIDTH: **18.3'** LENGTH: **502.6'** AREA: **9,197.58**

CONDITIONS: **Dot Approval plan attached OK by Hill**

PERMITTEE'S ADDRESS (Number): **One Gateway Plaza LA CA 90012** (Street): **LA CA 90012** (City and Zip Code): **LA CA 90012**

JOB OR WORK SITE LOCATION: **MAIN St. (#2 North bound** WIDTH: **18.3'** LENGTH: **502.6'** AREA: **9,197.58**

STREET: **Lane between Thornton Pl** WIDTH: **18.3'** LENGTH: **502.6'** AREA: **9,197.58**

STREET: **to the South & Sunset Ave to the North** WIDTH: **18.3'** LENGTH: **502.6'** AREA: **9,197.58**

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STREET: **Lane between Thornton Pl** WIDTH: **18.3'** LENGTH: **502.6'** AREA: **9,197.58**

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JOB OR WORK SITE LOCATION: **MAIN St. (#2 North bound** WIDTH: **18.3'** LENGTH: **502.6'** AREA: **9,197.58**

STREET: **Lane between Thornton Pl** WIDTH: **18.3'** LENGTH: **502.6'** AREA: **9,197.58**

STREET: **to the South & Sunset Ave to the North** WIDTH: **18.3'** LENGTH: **502.6'** AREA: **9,197.58**

- TYPE OF MATERIAL OR EQUIPMENT**
- Building Material
  - Protective Fence/W/Canopy
  - Trash Bin/Storage Bin
  - Equipment
  - Crane - No. of Lanes \_\_\_\_\_
  - Helicopter
  - Construction Closure
  - Other **Lane Closure**

Day(s): **2 days only**  
**2/26/02 & 3/1/02**

Time: **7 AM - 5:30 PM**

PERMIT **ME 13567**

Total area of **9,197.58** Sq. Ft.

PERMIT FEE: **2,439.20**

RECEIPT NO. **02/22/02 046203 311 13:4**

DATE: **02/22/02**

DEPARTMENT OF PUBLIC WORKS

BY: **Jennit Phala**

CITY OF  
LOS ANGELES  
PUBLIC WORKS

02/22/02

PERMIT #

# ME13567

9990 0.26

F08632550020

BLDG MAT'L IN ROW/SF

\$ 259.74

9990 0.26

F08632550020

BLDG MAT'L IN ROW/SF

\$ 259.74

9990 0.26

F08632550020

BLDG MAT'L IN ROW/SF

\$ 259.74

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BLDG MAT'L IN ROW/SF

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BLDG MAT'L IN ROW/SF

\$ 259.74

9990 0.26

F08632550020

BLDG MAT'L IN ROW/SF

\$ 259.74

9990 0.26

F08632550020

BLDG MAT'L IN ROW/SF

\$ 259.74

2060 0.26

F08632550020

BLDG MAT'L IN ROW/SF

\$ 53.56

SURCH 2%

47.98

CHECK

2439.20

Form 206 (Rev. 8/99)

Street Use Inspection Division  
800 S. Spring Street, 4th Floor  
Los Angeles, CA 90014  
(213) 485-5688

CITY OF LOS ANGELES  
REQUEST TO MAINTAIN  
MATERIALS OR EQUIPMENT IN STREET

FAX 213.473.6748

- LOS ANGELES
- VALLEY
- HARBOR
- WEST LOS ANGELES

MAP PAGE # \_\_\_\_\_ DISTRICT# 112

CONTACT PERSON/

PERMITTEE'S NAME

MTA

PHONE NO

(213) 922-7324

PERMITTEE'S ADDRESS

(Number)

(Street)

(City and Zip Code)

JOB OR WORK SITE LOCATION

MAIN STREET (# 2 north bound 18.3' x 502.6' = 9,197.58

STREET

lane) between Thormoton Place

STREET

to the South and Sunset

CONDITIONS:

Avenue to the north.

OK by Hill

① DOT approval plan attached.

on 2/22/02

faxed to WLA on 2/22/02

TYPE OF MATERIAL OR EQUIPMENT

- Building Material
- Protective Fence/W/Canopy
- Trash Bin/Storage Bin
- Equipment
- Crane - No. of Lanes \_\_\_\_\_
- Helicopter
- Construction Closure
- Other lane closure

Day(s):

2/26/02 AND 3/1/02

Time:

7am - 5:30pm

Total area of 9,197.58 Sq. Ft.

PERMIT FEE

2439.20

RECEIPT NO.

DATE

2/22/02

DEPARTMENT OF PUBLIC WORKS

BY:

# FACSIMILE TRANSMISSION

Four pages to 213-473-6748

10



February 15, 2002

file: EX220 City Cooperative Agreements  
TPUA-202.1 City of Los Angeles, BOSS  
CP# 2303039, Project # 200026;  
Div. 6 - Site Remediation

Los Angeles County  
Metropolitan  
Transportation  
Authority  
One Gateway Plaza  
Los Angeles, CA  
90012

Bureau of Street Services  
West Los Angeles District  
CITY OF LOS ANGELES  
1828 Sawtelle Boulevard, 3rd Floor  
West Los Angeles, CA 90025-5516

Dear Sirs:

**RE: MTA REQUEST FOR STREET USE PERMIT AND TRAFFIC  
LANE CLOSURE, VENICE BUSINESS DISTRICT AREA**

213.922.6000

Mailing Address:  
P.O. Box 194  
Los Angeles, CA 90053

The Metropolitan Transportation Authority (MTA) does herewith make application to the City of Los Angeles for a Street Use Permit and temporary closure of the #2 north bound lane of Main Street between Thornton Place to the south and Sunset Avenue to the north.

The closure request is for two days only, February 26<sup>th</sup> and March 1<sup>st</sup>. The reason for this request is to install two ground water monitoring wells in the sidewalk area on the east side of Main Street (please refer to the attached sketches). We respectfully request your consideration of a no-fee permit to the MTA to accomplish this work.

The MTA Project Management for this project is being provided under contract by the URS Corporation. The contractor installing the wells on behalf of the MTA is the BC2 company. It is anticipated that the lane closure set-up/take-down and drilling activities for this work can be accomplished between the hours of 7:00 a.m. and 5:30 p.m. RP Barricade has been contracted to implement the traffic control plan, which they also developed (copy of their "Watch Manual" set-up is also attached). No parking postings have been requested from LADOT for any parking spaces that fall within the designated work area.

Should you have additional questions regarding this permit request, please contact me at (213) 922-7324. Your assistance in processing this permit application is very much appreciated.

Sincerely,

*Robert Babbitt*

ROBERT BABBITT

Senior Third Party Administrator, Facilities Engineering

9,975.588.4. = \$2439.20  
Ok by Hill  
on 2/21/02

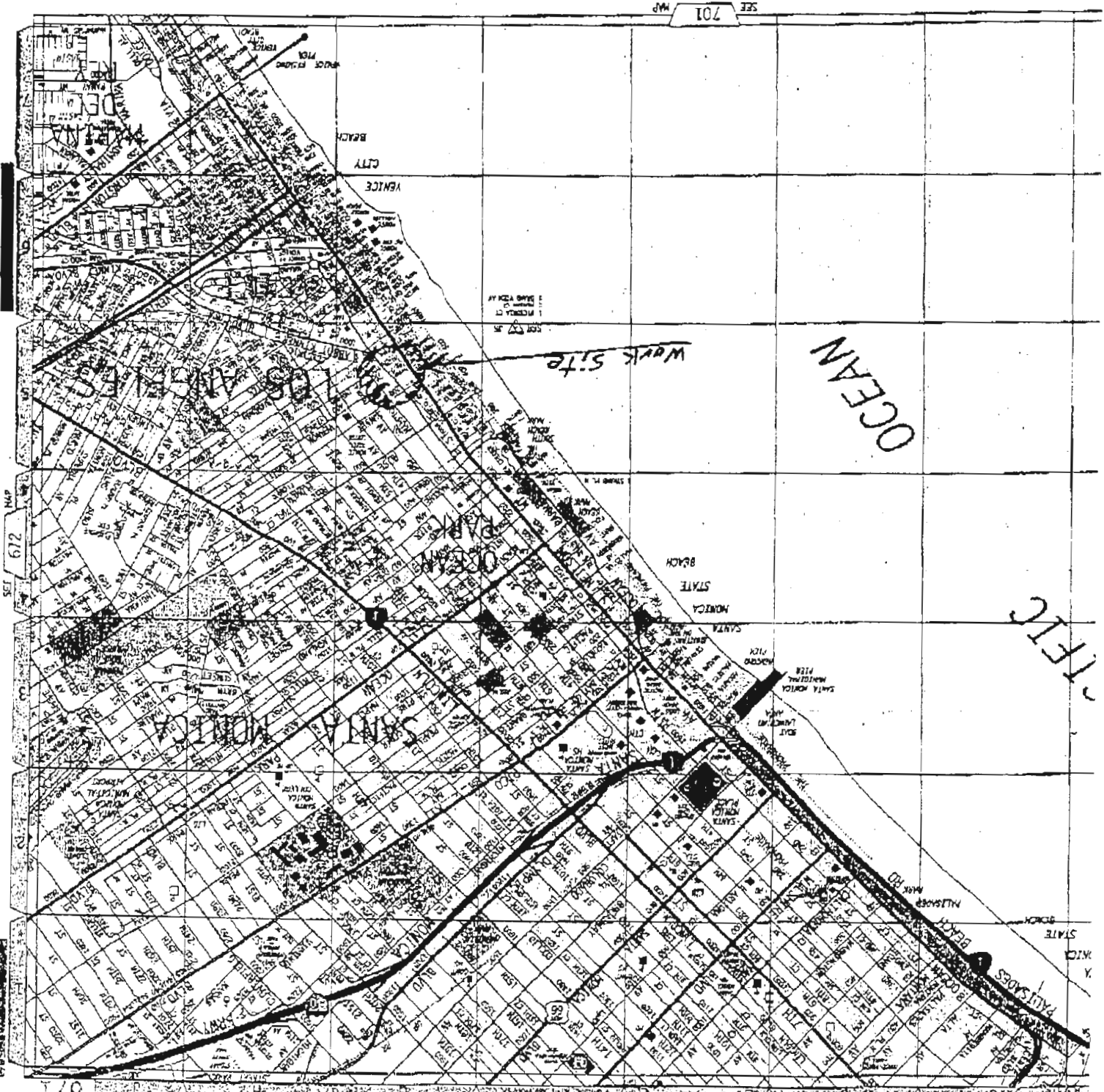
Attachments (3)

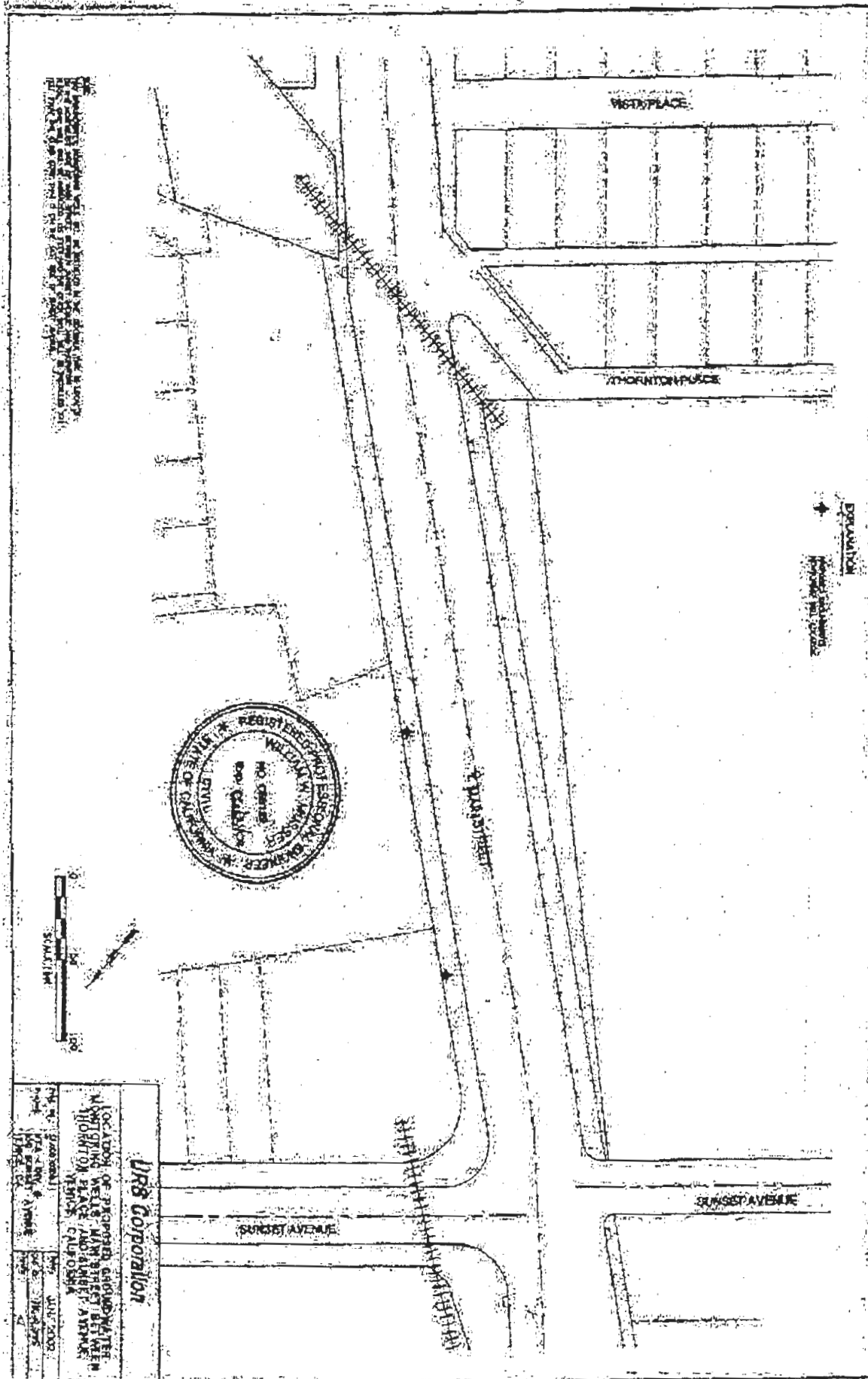
cc: Warren Fu; MTA, 99-18-10  
Sue Henry; URS Corporation  
Kathleen Letcher; 99-17-02  
MTA Doc. Control; 99-17-01

183 x 500.6  
① DOT approval plan required.

MAIN STREET  
between Thornton Place







City of Los Angeles  
 Dept. of Public Works  
 Bureau of Engineering  
 78-3.652 (R9-89)

**APPLICATION / PERMIT  
 FOR  
 EXCAVATION**  
 IN OR ADJACENT TO PUBLIC STREETS  
 UNDER CHAPTER 6, ARTICLE 2, LOS ANGELES MUNICIPAL CODE

THIS PERMIT IS NOT VALID UNLESS REGISTER VALIDATED OR RECEIPT SHOWN

JOB ADDRESS 100 SUNSET AVENUE		
PROPERTY OWNER/CONTRACTOR/AGENT FOR METROPOLITAN TRANSPORTATION AGENCY		
ADDRESS ONE GATEWAY PLAZA		
CITY LOS ANGELES		
STATE CA	ZIP CODE 90012-2952	
TELEPHONE (213) 922-6875		
PURPOSE OF EXCAVATION Monitoring Well		
WORK ORDER NO. E1904165	LIAB. INS. C.A. NO.	INSURANCE EXPIRES
"A" PERMIT NO.	SURETY BOND C.A. NO.	MISC. RECEIPT NO.
WAIVER REC. NO.	MISC. CASH BOND NO.	

RECEIPT NO.

	UNITS	RATE	SUBTOTAL
E-Permit			
A-Permit			
Revocable Permit			
Special Inspection			
Plan Check			
Tie-Back (Less than 20 ft. below street surface)			
Tie Back (20 ft. or more below street surface)			
SDRF FEE			
OTHER FEE			
2% SURCHARGE			\$1.00
7% SURCHARGE			\$1.00
<b>TOTAL</b>			<b>\$2.00</b>

**NOTICE TO PERMITTEE**

PERMIT MUST BE ON JOB AT ALL TIMES.  
 THIS PERMIT EXPIRES 6 MONTHS FROM ISSUANCE UNLESS WORK HAS COMMENCED. (LAMC 62.02)  
 KEEP SIDEWALKS AND GUTTERS CLEAR.

**INSPECTION IS REQUIRED**

I hereby agree to observe all requirements of the Municipal Code of the City of Los Angeles, all amendments thereto, and any special requirements made part of this permit.

X *Ginger Couwell*  
 PRINT NAME *Ginger Couwell*  
 METROPOLITAN TRANSPORTATION AGENCY

BY  
**MEDHAT ISKAROUS**  
 BUREAU OF ENGINEERING

DATE  
**02/22/2002**

STREETS AFFECTED

SPECIAL DEPOSIT PERMIT NO.  
**E02850008**

JOB ADDRESS  
 100 SUNSET AVENUE

**APPLICATION / PERMIT  
 FOR  
 EXCAVATION**  
 IN OR ADJACENT TO PUBLIC STREETS  
 UNDER CHAPTER 6, ARTICLE 2, LOS ANGELES MUNICIPAL CODE

THIS PERMIT IS NOT VALID UNLESS REGISTER VALIDATED OR RECEIPT SHOWN

JOB ADDRESS 100 SUNSET AVENUE		
PROPERTY OWNER/CONTRACTOR/AGENT FOR METROPOLITAN TRANSPORTATION AGENCY		
ADDRESS ONE GATEWAY PLAZA		
CITY LOS ANGELES		
STATE CA	ZIP CODE 90012-2952	
TELEPHONE (213) 922-6875		
PURPOSE OF EXCAVATION Monitoring Well (2 WELLS)		
WORK ORDER NO. E1904165	LIAB. INS. C.A. NO.	INSURANCE EXPIRES
"A" PERMIT NO.	SURETY BOND C.A. NO.	MISC. RECEIPT NO.
WAIVER REC. NO.	MISC. CASH BOND NO.	

RECEIPT NO.

*"NO FEE PERMIT"*

*BONDS AND INSURANCE FOR THIS PROJECT ARE COVERED UNDER SPECIAL PERMITTING PROCESS UNDER MASTER COOPERATIVE AGREEMENT BETWEEN THE CITY OF LOS ANGELES AND MTA*

**NOTICE TO PERMITTEE**

PERMIT MUST BE ON JOB AT ALL TIMES.  
 THIS PERMIT EXPIRES 6 MONTHS FROM ISSUANCE UNLESS WORK HAS COMMENCED. (LAMC 62.02)  
 KEEP SIDEWALKS AND GUTTERS CLEAR.

**INSPECTION IS REQUIRED**

I hereby agree to observe all requirements of the Municipal Code of the City of Los Angeles, all amendments thereto, and any special requirements made part of this permit.

**X**

PRINT NAME  
 METROPOLITAN TRANSPORTATION AGENCY

	UNITS	RATE	SUBTOTAL
E-Permit			
A-Permit			
Revocable Permit			
Special Inspection			
Plan Check			
Tie-Back (Less than 20 ft. below street surface)			
Tie Back (20 ft. or more below street surface)			
SDRF FEE			
OTHER FEE			
2% SURCHARGE			\$1.00
7% SURCHARGE			\$1.00
<b>TOTAL</b>			<b>\$2.00</b>

BY  
 RUDY OLSON

DATE

BUREAU OF ENGINEERING

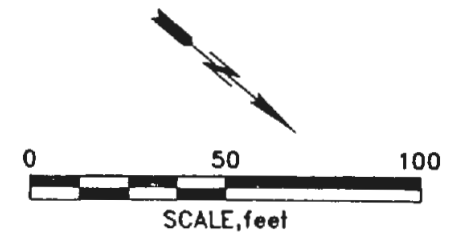
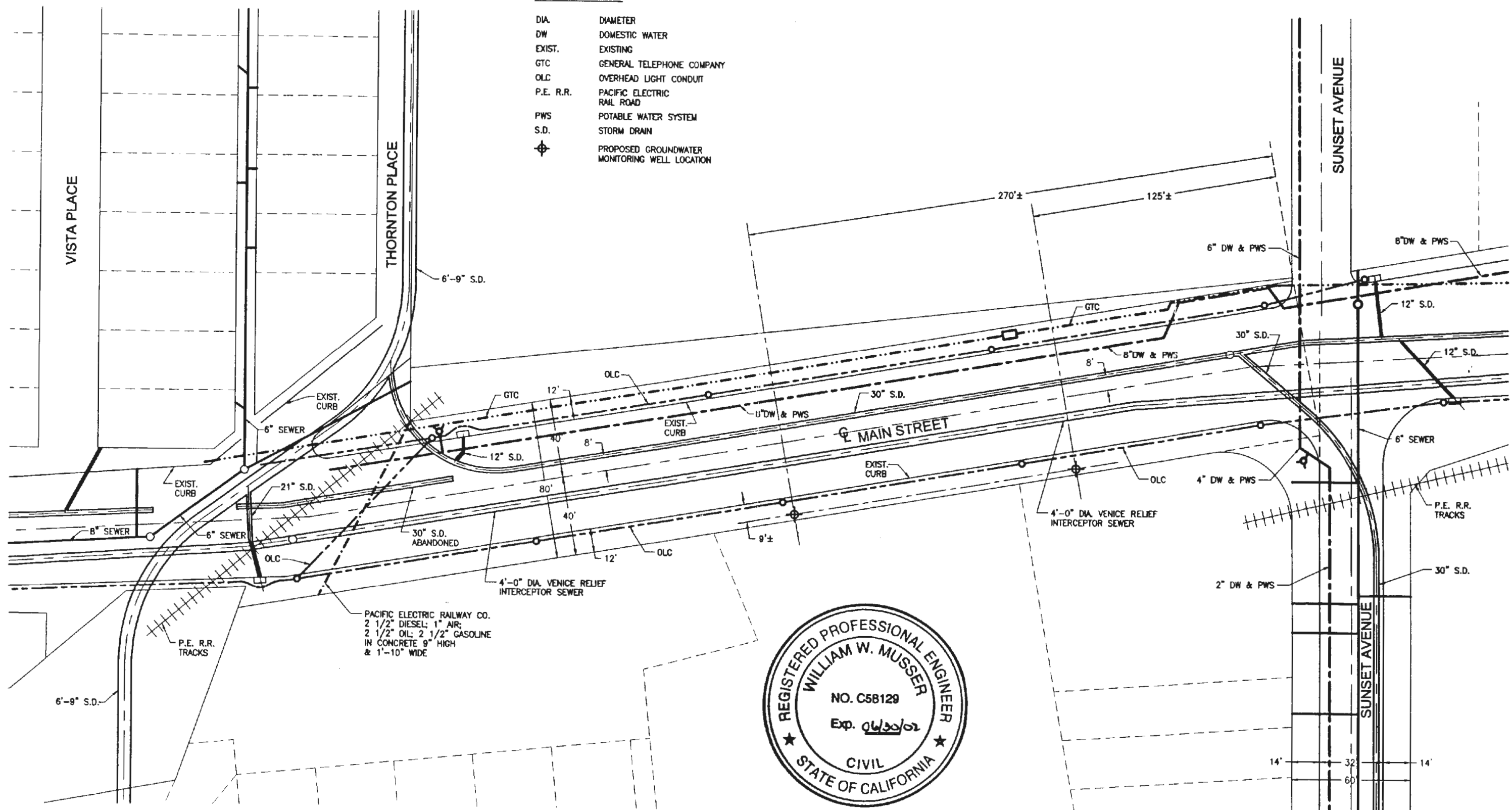
*MAIN STREET*  
 STREETS AFFECTED

JOB ADDRESS  
 100 SUNSET AVENUE

SPECIAL DEPOSIT PERMIT NO.  
 E02850008

**EXPLANATION**

- DIA. DIAMETER
- DW DOMESTIC WATER
- EXIST. EXISTING
- GTC GENERAL TELEPHONE COMPANY
- OLC OVERHEAD LIGHT CONDUIT
- P.E. R.R. PACIFIC ELECTRIC RAIL ROAD
- PWS POTABLE WATER SYSTEM
- S.D. STORM DRAIN
- ⊕ PROPOSED GROUNDWATER MONITORING WELL LOCATION



NOTE: ACCURACY IS ±1'-0".

**URS Corporation**

LOCATION OF CURB LINES, SIDEWALK LINES, PLOT LINES, ALL PUBLIC SUBSTRUCTURES AND PROPOSED GROUNDWATER MONITORING WELLS, MAIN STREET BETWEEN THORNTON PLACE AND SUNSET AVENUE, VENICE, CALIFORNIA

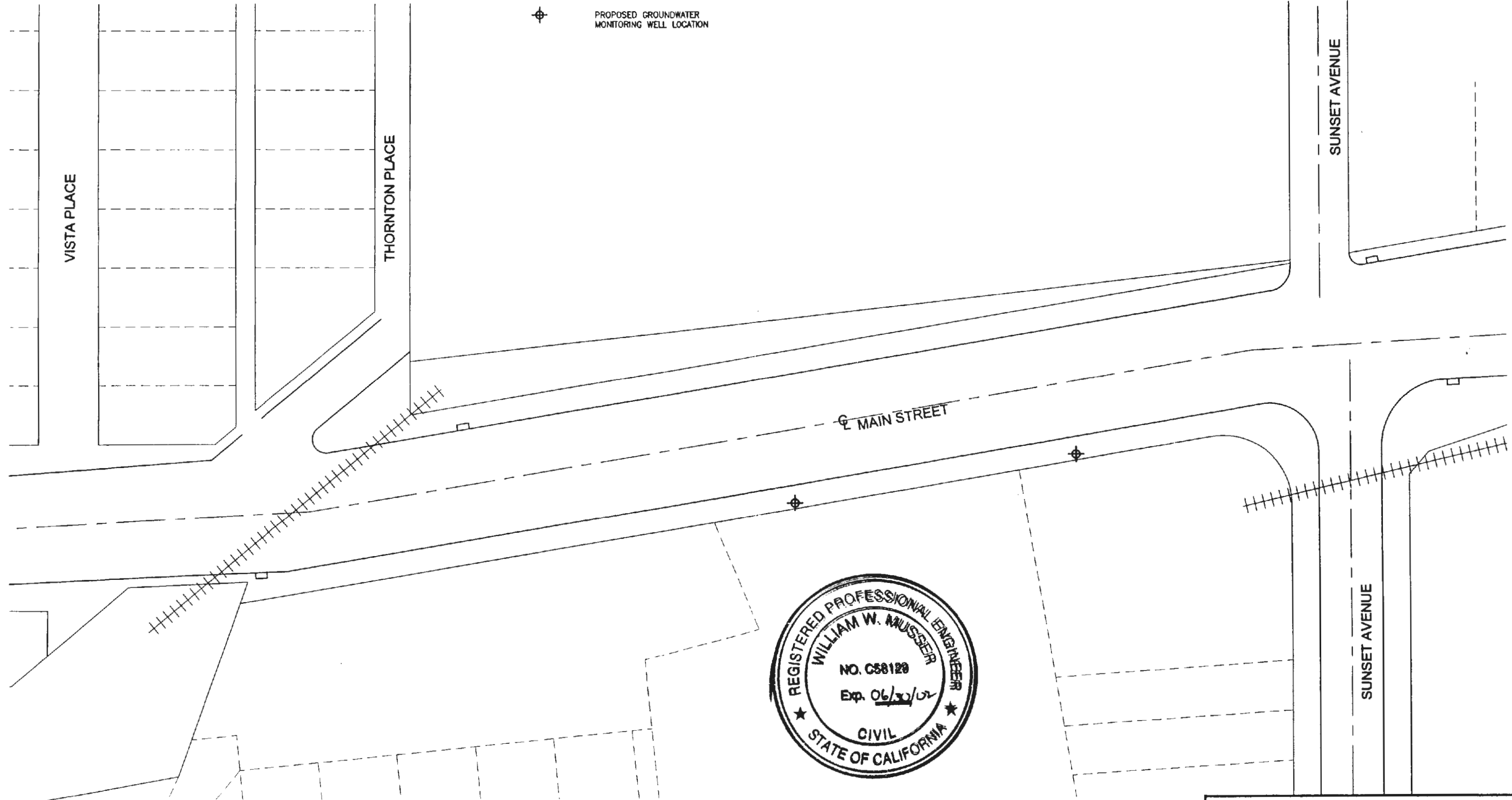
Proj. No.: 57.00070056.01	Date: JAN. 2002
Project: MTA - DIV. 6 100 SUNSET AVENUE VENICE, CA.	CAD ID: FIG-1.DWG Figure: 1

3056.01

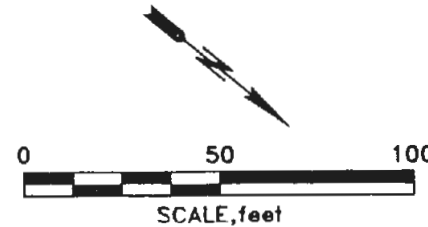


EXPLANATION

⊕ PROPOSED GROUNDWATER MONITORING WELL LOCATION



**NOTE:**  
 TWO GROUNDWATER MONITORING WELLS WILL BE INSTALLED IN THE SIDEWALK THAT IS LOCATED ON THE NORTHEAST SIDE OF MAIN STREET, BETWEEN SUNSET AVENUE AND THORNTON PLACE. ONE WELL WILL BE INSTALLED 125 FEET AND THE OTHER WELL WILL BE INSTALLED 271 FEET FROM THE CURB EDGE THAT IS ON THE EAST SIDE OF SUNSET AVENUE.



<b>URS Corporation</b>	
<b>LOCATION OF PROPOSED GROUNDWATER MONITORING WELLS, MAIN STREET BETWEEN THORNTON PLACE AND SUNSET AVENUE, VENICE, CALIFORNIA</b>	
Proj. No.: 57.00070058.01	Date: JAN. 2002
Project: <b>MTA - DIV. 6</b> 100 SUNSET AVENUE VENICE, CA.	CAD ID: FIG-2.DWG
	Figure: 2

15700070058.01.DWG 5/1/2002 10:20:15 AM 2002/1/15-2.DWG





12" EMCO WEATON  
FLUSH MOUNT WELL BOX

GROUND SURFACE

4-INCH SCHEDULE 40 PVC  
SLIP CAP

CONCRETE  
(0-2 FEET BELOW GROUND  
SURFACE (FT. BGS))

PORTLAND CEMENT GROUT  
(2-8 FT. BGS)

4-INCH SCHEDULE 40 PVC  
BLANK CASING  
(0-15 FT. BGS)

4-INCH SCHEDULE 40 PVC  
FACTORY SLOTTED SCREEN,  
0.01-INCH SLOT SIZE  
(15-40 FT. BGS)

HYDRATED BENTONITE CHIPS  
(8-11 FT. BGS)

HYDRATED BENTONITE PELLETS  
(11-13 FT. BGS)

#0/30 LONESTAR SAND PACK  
(13-41 FT. BGS)

TOTAL DEPTH - APPROX. 41 FT. BGS



SCALE: 1/2" = 1'-0"



### GROUNDWATER MONITORING WELL DETAIL

Project No.: 57.00070056.01

Date: JAN. 2002

Project: MTA-DIVISION 6

Fig. 3

MEMBERS

—  
ELLEN STEIN  
PRESIDENT

VALERIE LYNNE SHAW  
VICE-PRESIDENT

M. E. "RED" MARTINEZ  
PRESIDENT PRO-TEM

TOD A. BURNETT  
MARIBEL MARIN

—  
JAMES A. GIBSON  
SECRETARY

**CITY OF LOS ANGELES**  
CALIFORNIA



RICHARD J. RIORDAN  
MAYOR

PUBLIC WORKS  
BUREAU OF  
**ENGINEERING**  
VITALY B. TROYAN  
CITY ENGINEER

650 SOUTH SPRING ST., SUITE 202  
LOS ANGELES, CA 90014-1911

## **THINGS CONTRACTORS SHOULD NOT DO**

- 1. IGNORE CALLING THE INSPECTOR FOR A PRECONSTRUCTION MEETING.**
- 2. USING UN-APPROVED ITEMS IN THE CONSTRUCTION.**
- 3. DRILLING IN AREAS NOT ALLOWED: ALLEY INTERSECTIONS, CONCRETE GUTTERS, CONCRETE BUS PADS AND ANY LOCATION THE INSPECTOR SAYS TO STAY AWAY FROM.**
- 4. NEGLECT TO LOCATE AND MARK LOCATIONS OF ALL EXISTING SANITARY SEWER MAINS, HOUSE CONNECTION LATERALS AND STORM DRAINS PRIOR TO THE PRECONSTRUCTION MEETING WITH THE INSPECTOR AND BEFORE ANY EXCAVATION IS STARTED.**
- 5. IGNORING WHAT THE INSPECTOR SAYS.**

ADDRESS ALL COMMUNICATIONS TO THE CITY ENGINEER

AN EQUAL EMPLOYMENT OPPORTUNITY - AFFIRMATIVE ACTION EMPLOYER

Reproducible and made from recycled paper.

# NOTICE TO CONTRACTORS

On Special Deposit Permits, which includes Special Inspection, an inspector is required for any or all of the several phases of work listed below:

- (1) Start of excavation.
- (2) Shoring and bracing, if required.
- (3) Finished excavation, for depth and bearing lead.
- (4) Reinforcing steel in place and forms set.
- (5) Placing of concrete and/or laying of concrete blocks.
- (6) Stripping of forms and/or grouting of cells of concrete blocks.
- (7) Backfill and compaction.

MEMBERS

ELLEN STEIN  
PRESIDENT  
VALERIE LYNNE SHAW  
VICE-PRESIDENT  
M. E. "RED" MARTINEZ  
PRESIDENT PRO-TEM  
TOD A. BURNETT  
MARIBEL MARIN  
JAMES A. GIBSON  
SECRETARY

CITY OF LOS ANGELES  
CALIFORNIA



RICHARD J. RIORDAN  
MAYOR

PUBLIC WORKS  
BUREAU OF  
ENGINEERING  
VITALY B. TROYAN  
CITY ENGINEER  
650 SOUTH SPRING ST., SUITE 200  
LOS ANGELES, CA 90014-1911

INSTRUCTIONS AND SPECIFIC REQUIREMENTS FOR PERMITTEES

GENERAL

1. A copy of the permit must be on the job at all times.
2. All changes in sketches and permit limits must have prior approval.
3. The numbers to call for inspection are as follows:  
Job location in the San Fernando Valley: (818) 756-8335  
Job location elsewhere: (213) 580-5080
4. Notify the inspection and issuing offices immediately if the starting time is changed.
5. Pedestrian and vehicular access must be maintained at all times.
6. This permit expires \_\_\_\_\_ working days from the date of validation unless otherwise specified. Liquidated damages of \$ \_\_\_\_\_ per day will be charged if the job is not completed by \_\_\_\_\_.
7. All work must comply with the latest edition of the pamphlet, "Work Area Traffic Control".
8. Barricades and lights must be on the job from start of removals to completion of work.
9. If the barricades, protective devices, etc. are not furnished as required the City of Los Angeles may, at its option, provide them. The minimum charge for this service is \$30 per day.
10. No backfill is to be placed without prior approval of inspector.
11. No concrete shall be poured without prior approval of the inspector.
12. Permit and state trench excavation safety orders must be on the job at all times.
13. Permission to excavate must be obtained from any contractor doing concurrent work in the same area.
14. Satisfactory backfill excavations must be resurfaced with pre-mix bituminous material within 3 working days after being inspected.
15. Notify fire and police departments 48 hours before starting work. 85-6185 LAFD, Respective area station supervisor LAPD, (213) 485-4011.

SPECIAL REQUIREMENTS

16. Call Underground Service Alert (USA0 at least 48 hours prior to start of work: 1-800-227-2600.  
**NOTE: SEWERS AND STORM DRAINS WILL NOT BE LOCATED AND MARKED BY USA. THIS IS THE PERMITTEES RESPONSIBILITY.**
17. Pre-Job Inspection required 72 hours prior to the start of construction with the Department of Public Works Inspection and Job Superintendent Phone: (213) 580-5080.

ADDRESS ALL COMMUNICATIONS TO THE CITY ENGINEER

## BUREAU OF ENGINEERING

S P E C I A L      O R D E R

June 27, 1986

TO ALL:      EXCAVATION PERMITTEES

SUBJECT:      REQUIREMENTS FOR DEEP EXCAVATION CONSTRUCTION AND  
                 INSTALLATION OF TIEBACKS ON SITES IN OR ADJACENT TO  
                 PUBLIC WAYS

Over the last several years, the Bureau staff has developed a wide variety of rules and procedures related to lateral support and Special Deposit Excavation Permits. These have never been collected into a single document that could be presented to the applicants.

Effective immediately and to continue until the Manual Section covering this is published, all permit applicants for lateral support bonding and Special Deposit Excavation Permits shall adhere to the following conditions that are applicable to any such permits obtained from the Bureau of Engineering.

## A.      ENGINEERING

1. Existing substructures and utilities shall be shown on plans with elevations and sections when closer than 6 feet clear of drilled holes.
2. Provisions shall be made to immediately dispose of all ground and surface runoff water.
3. Dewatering wells within 10 feet of shoring system or within the public way must be approved by the City Engineer prior to installation.
4. Heavy loads shall not be allowed within 10 feet of the top of the excavation except where the shoring design provides for the proposed surcharge. Calculations shall be submitted.
5. All changes in the drawings and permit specifications must have prior approval of the Bureau of Engineering, phone (213) 485-3877 for procedural requirements.
6. As-Built shoring plans shall be submitted to the City Engineer within 60 days of completion of the permanent lateral support construction (Los Angeles Municipal Code 62.03).

## B. CONTRACTOR RESPONSIBILITIES

1. "UNDERGROUND SERVICE ALERT, Inquiry Identification Number (USA II No.): Before commencing any excavation, the contractor shall obtain a USA II Number by calling 1-800-422-4133. Two working days shall be allowed after the USA II Number is obtained and before the excavation work is started so that utility owners can be notified. The USA II Number must be reported to the Bureau of Contract Administration when calling for inspection: Metro (213) 485-3002; Valley, (818) 989-8335. USA II Numbers will not be given more than ten days prior to starting excavation work."
2. PRE-JOB INSPECTION REQUIRED 72 HOURS PRIOR TO THE START OF SHORING CONSTRUCTION WITH THE DEPARTMENT OF PUBLIC WORKS INSPECTOR AND JOB SUPERINTENDENT, PHONE (213) 485-3002.
3. Contractor shall locate all utilities and structures within the proposed excavation and make appropriate arrangements for their relocation, prior to the start of construction.
4. Contractor shall locate and cap off all sewer laterals behind the proposed location of soldier beams prior to the installation of soldier beams.
5. Existing underground installations carrying unstable substances shall be "Pot-Holed" as required by the Los Angeles Municipal Code 62.03.01 (Ordinance No. 150, 478), and City Engineer's Special Order SO06-0279 dated February 27, 1979 (Compliance with Ordinance Requirements for Unstable Substance Installations - Guidelines Implementations).

## C. CONSTRUCTION PROCEDURES

1. Lagging shall be required unless otherwise noted; lagging shall be 3 inch No. 2, or better, placed and backfilled with sand or slurry, in 5 foot maximum lifts.
2. All backfill between the permanent wall and the public way shall be cohesive material, compacted to a minimum 90% relative compaction or one sack slurry mix, under the continuous inspection and testing by the project's private soils engineer and the Public Works Inspector.
3. All soldier beams and lagging placed in the public way shall be removed to a minimum of 12 feet below gutter grade. All tieback anchor rods in the public way within 20 feet of the gutter grade shall be removed. All other tiebacks shall be detensioned and shall be verified by the Public Works Inspector.

#### D. TIE BACK INSTALLATION

1. Lighting shall be provided for visual inspection of drilled holes.
2. Where caving occurs, drilled holes shall be cased and all backfill shall be pressure pumped so that all voids are filled.
3. All drilled holes to be left open more than twelve (12) hours shall be cased.
4. Anchor holes shall be free of loose material and concrete shall be placed immediately after placing anchor in hole.
5. Anchors shall be tensioned straight and true. Kinking or sharp curvature in anchors under tension shall be cause for rejection.
6. Rods or stranded cables shall remain extended and exposed to permit retensioning throughout the service life of the shoring and detensioning following completion of permanent building structure.
7. Basement walls shall be designed to facilitate removal and detensioning of tieback rods.

#### E. TESTING OF TIE BACKS

1. Anchor holes shall be logged and certified by the soils engineer.
2. Hydraulic rams shall be calibrated and certified by testing laboratory.
3. All anchors shall be tested at 150% of design load for 15 minutes with less than 0.1 inch yield. 10% of anchors at each level, as selected by soils engineer shall be tested at 200% of design load. Total yield of 12 inches is acceptable. Total yield of 36 inches is unacceptable. Total yield of 12 to 36 inches shall require soils engineer to assign partial anchors values and install remedial anchors with the approval of the City Engineer.

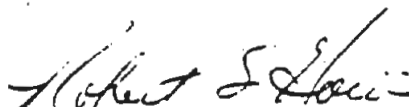
#### F. JOB SAFETY

1. Contractor shall establish initial control points for the purpose of monitoring the soldier beams prior to the start of any excavation. Shoring piles shall be survey monitored weekly for line and grade by a licensed surveyor. One set of the data obtained shall be maintained at the job site for the inspector of Public Works. A second set of this data shall be

promptly submitted to the City Engineer, Central Engineering District (Public Works Inspector may require monitoring of open excavations). Any one inch movement shall be analyzed by the soils engineer and an approved remedial shoring plan prepared. Any movement of 2-inches or more require that remedial shoring installation be made to prevent additional movement prior to further construction. All affected anchor rods shall be retensioned.

2. Emergency telephone numbers (Fire, Police, Traffic, Utility Companies, Central District, Sewer Maintenance, etc.) shall be posted at the job site and all other necessary precautions be taken to provide for emergencies.
3. Anchor tie rods shall not be welded nor used for grounding welding equipment.

( BHR REV )

  
ROBERT S. HORII  
City Engineer

BHR/GDM:ema  
CEN

1c/11/S01



# FACSIMILIE TRANSMISSION

Four pages to 213-847-5019

February 20, 2002

file: EX220 City Cooperative Agreements;  
TPUA-188 City of Los Angeles, BOE  
CP# 2303039, Project # 200026;  
Div. 6 – Site Remediation

Ziad Malhus  
Bureau of Engineering  
CITY OF LOS ANGELES  
650 S. Spring Street, Suite 1200  
Los Angeles, CA 90014

Dear Mr. Malhus:

**RE: MTA REQUEST FOR STREET USE PERMIT AND TRAFFIC  
LANE CLOSURE, VENICE BUSINESS DISTRICT AREA**

The Metropolitan Transportation Authority (MTA) has requested no-fee permits from the City of Los Angeles for MTA contractor work to install two new groundwater-monitoring wells along Main Street in the Venice area. The one city block involved is between Sunset Street to the north and Thornton Place to the south. Please see attached sketches.

As discussed by telephone with you yesterday, this project is to be considered part of the scope within the FY'02 Annual Work Plan, under the category of the CIP budget. The WOA for this work has been assigned as F104-800092-EN-02-01. Please use this WOA number to invoice MTA for BOE labor associated with the review and issuance of the requested permits.

Should you have any additional questions regarding this matter, please call Robert Babbitt at 213-922-7324.

Sincerely,

ROBERT BABBITT  
Senior Third Party Administrator,  
Facilities Engineering

Attachments (3)

cc: Warren Fu; MTA, 99-18-10  
Kathleen Letcher; 99-17-02  
MTA Doc. Control; 99-17-01



# APPENDIX B

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**APPENDIX B**  
**Soil Boring Logs**

Project: MTA Division 6  
 Project Location: 100 Sunset Ave, Venice California  
 Project Number: 57-00070056.01

# Key to Log of Boring

Sheet 1 of 1

Elevation, feet	Depth, feet	SAMPLES					Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID Headspace (ppm)	Background (ppm)		REMARKS
		Type	Number	Blows per 6-inch Interval	Percent Recovery								
1	2	3	4	5	6	7	8	9	10	11	12	13	

### COLUMN DESCRIPTIONS

- 1 Elevation:** Elevation in feet relative to mean sea level (MSL).
- 2 Depth:** Depth in feet below the ground surface.
- 3 Sample Type:** Type of soil sample collected at depth interval shown; sampler symbols are explained below.
- 4 Sample Number:** Sample identification number.
- 5 Blows / 6 inches:** Number of blows required to advance driven sampler each 6-inch interval, or distance noted, using a 140-lb hammer with a 30-inch drop.
- 6 Percent Recovery:** Percentage of sampler penetration actually recovered in the sampler.
- 7 Graphic Log:** Graphic depiction of subsurface material encountered; typical symbols are explained below.
- 8 Material Description:** Description of material encountered; may include color, moisture, grain size, and density/consistency.
- 9 Well Completion Log:** Schematic of well construction; materials are listed in header block; graphic symbols are explained below.
- 10 PID Headspace (ppm):** Field headspace reading using organic vapor analyzer (OVA) or photoionization device (PID).
- 11 PID Background (ppm):** Background reading using organic vapor analyzer (OVA) or photoionization device (PID).
- 12 Drilling Progress:** Drilling progress indicated in 24-hour clock or minutes per sample; refer to column head for units.
- 13 Remarks:** Comments and observations regarding drilling or sampling made by driller or field personnel.

### TYPICAL SOIL GRAPHIC SYMBOLS

SAND (SP)	SAND (SW)	SAND with silt (SP-SM)	silty SAND (SM)
CLAY (CL)	CLAY (CH)	silty CLAY (CL-ML)	clayey SAND (SC)
SILT (ML)	clayey SILT (ML)	GRAVEL (GP)	GRAVEL (GW)

### TYPICAL WELL GRAPHIC SYMBOLS

Blank casing in concrete	Blank casing in Portland cement slurry
Blank casing in bentonite chips	Blank casing in hydrated bentonite pellets
Blank casing in filter sand	Slotted casing in filter sand

### TYPICAL SAMPLER GRAPHIC SYMBOLS

Modified California split spoon (2-inch-ID)	Hand auger sampler
No recovery	Grab sample

### OTHER GRAPHIC SYMBOLS

- First water encountered at time of drilling (ATD)
- Change in material properties within a stratum
- Inferred contact between strata or gradational change in lithology

### GENERAL NOTES

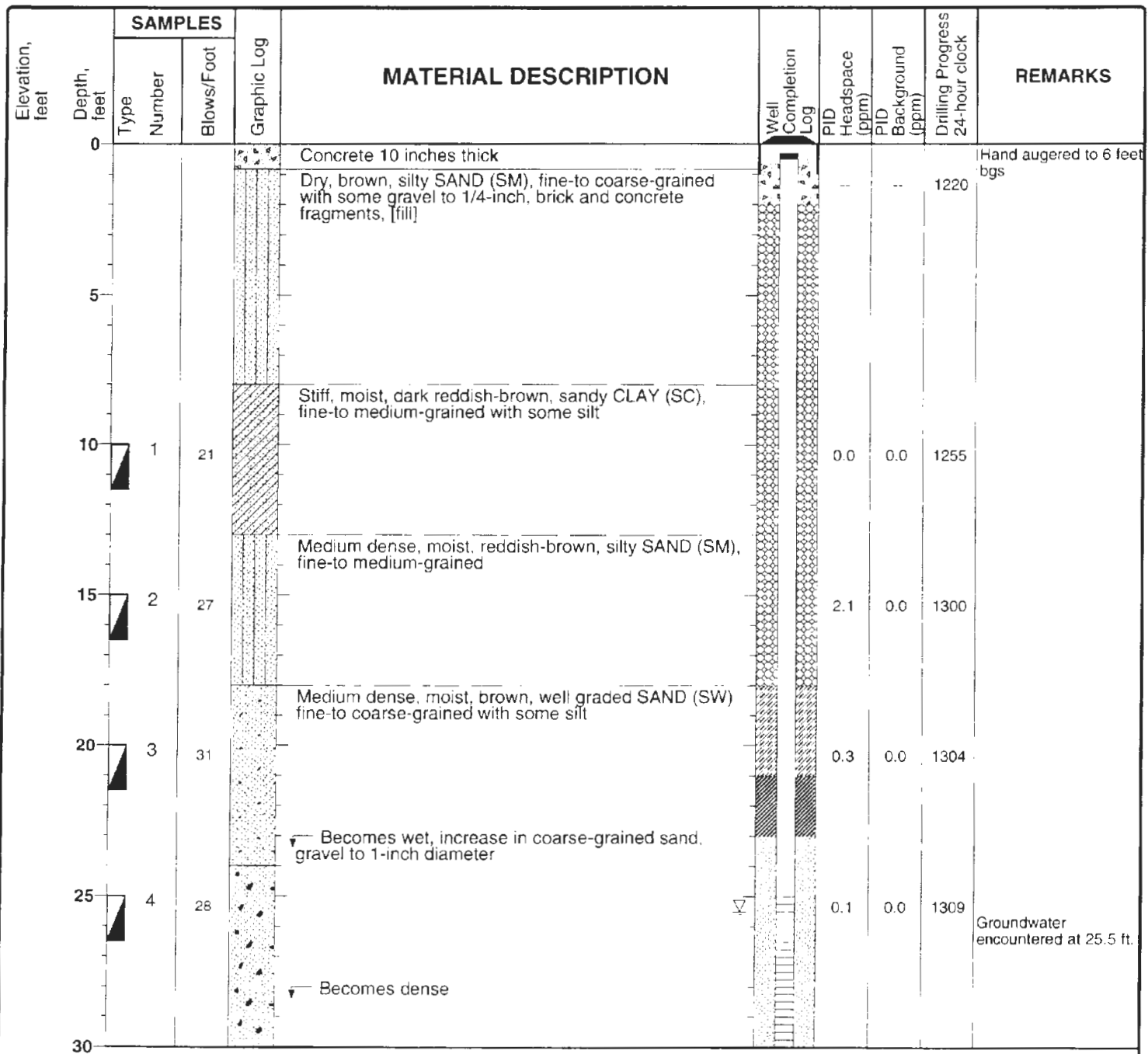
- Soil classifications are based on the United Soil Classification System. Descriptions and stratum lines are interpretive; actual lithologic changes may be gradual. Field descriptions may have been modified to reflect results of lab tests.
- Descriptions on these logs apply only at the specific boring locations and at the time the boring were advanced. They are not warranted to be representative of subsurface conditions at other locations or times.

Project: MTA Division 6  
 Project Location: 100 Sunset Ave, Venice California  
 Project Number: 57-00070056.01

# Log of MW-5

Sheet 1 of 2

Date(s) Drilled	2/25/2002	Logged By	S. Goloski	Checked By	B. Partington/ T. Kruk
Drilling Method	Hollow Stem Auger	Drilling Contractor	BC2 Environmental Corp.	Total Depth of Borehole	47.00 feet bgs
Drill Rig Type	CME-75	Drill Bit Size/Type	8-inch OD auger bit	Surface Elevation (ft-msl)	See Survey
Groundwater Level (feet bgs)	25.5	Sampling Method(s)	Modified California Split Spoon	Top of PVC Elevation	See Survey
Diameter of Hole (inches)	8"	Diameter of Well (inches)	4	Type of Well Casing	Schedule 40 PVC
Type of Sand Pack	#0/30 RMC Lonestar	Type/Thickness of Seal(s)	Hydrated bentonite pellets 23-21', Hydrated bentonite chips 21-18', Cement with Bentonite (5%) grout 18-2', Concrete 2-0'		
Comments	Flushmount well box completion				



Report: ENV\_IW\_SNA; File: MFAIIV-2.GPJ; 5/24/2002 MW-5

Project: MTA Division 6  
 Project Location: 100 Sunset Ave, Venice California  
 Project Number: 57-00070056.01

# Log of MW-5

Sheet 2 of 2

Elevation, feet	Depth, feet	SAMPLES		Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID Headspace (ppm)	PID Background (ppm)	Drilling Progress 24-hour clock	REMARKS	
		Type	Number								Blows/Foot
30		▲	5	60	Dense, wet, brown, silty SAND (SM), fine-to coarse-grained, trace gravel to 1/2-inch diameter  ↙ Increase in gravel  ↙ Increase in silt  TD = 47.00 feet bgs.		0.1	0.0	1314		
35		▲	6	71				0.0	0.0	1320	
40		▲	7	72				0.1	0.0	1325	
45								--	--	1330	
50											
55											
60											
65											
70											

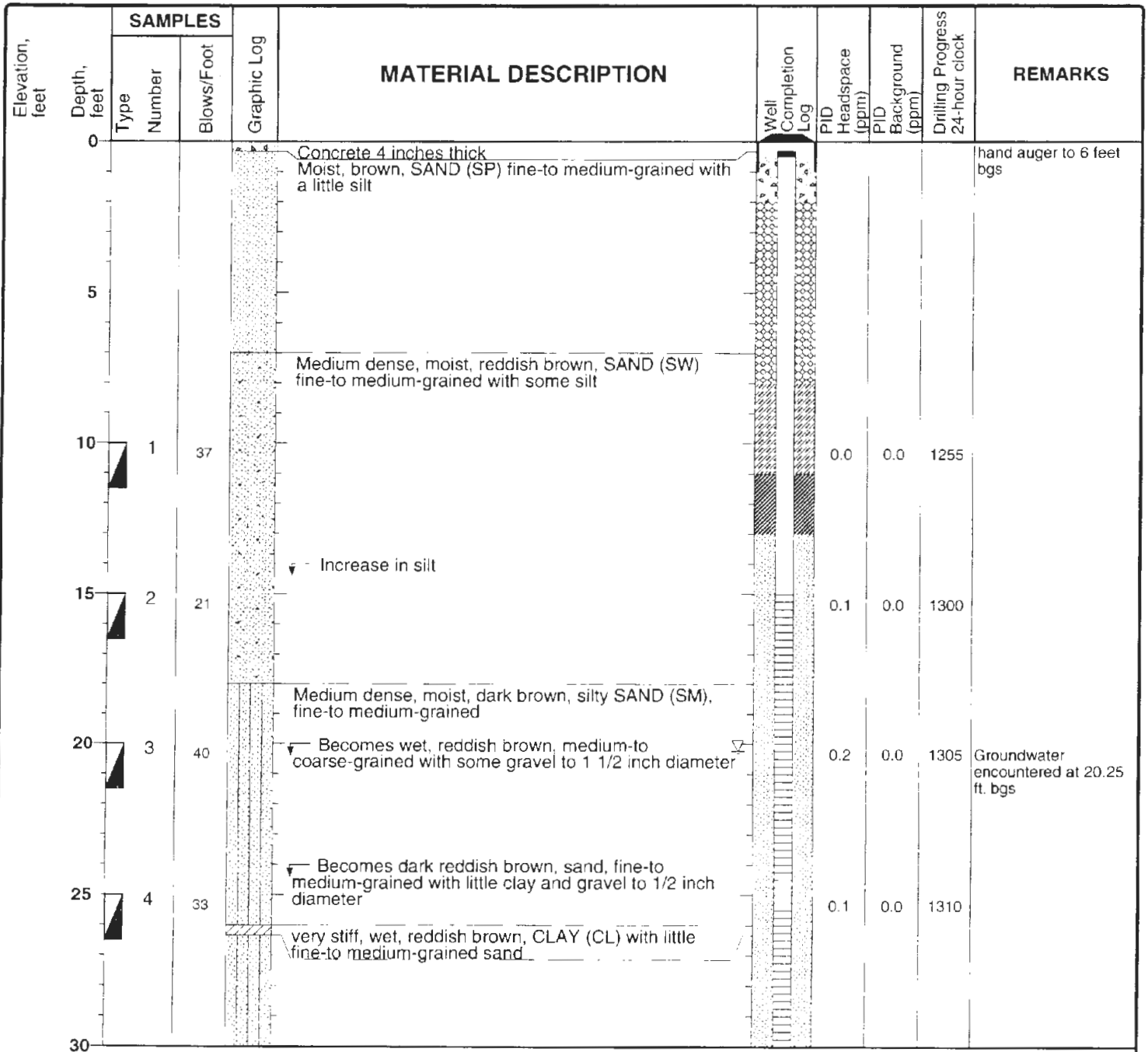


Project: MTA Division 6  
 Project Location: 100 Sunset Ave, Venice California  
 Project Number: 57-00070056.01

# Log of MW-6

Sheet 1 of 2

Date(s) Drilled	2/26/2002	Logged By	S. Goloski	Checked By	B. Partington/ T. Kruk
Drilling Method	Hollow Stem Auger	Drilling Contractor	BC2 Environmental Corp.	Total Depth of Borehole	41.00 feet bgs
Drill Rig Type	CME-75	Drill Bit Size/Type	8-inch OD auger bit	Surface Elevation (ft-msl)	See Survey
Groundwater Level (feet bgs)	20.25	Sampling Method(s)	Modified California Split Spoon	Top of PVC Elevation	See Survey
Diameter of Hole (inches)	8"	Diameter of Well (inches)	4	Type of Well Casing	Schedule 40 PVC
Type of Sand Pack	#0/30 RMC Lonestar	Type/Thickness of Seal(s)	Hydrated bentonite pellets 13-11', Hydrated bentonite chips 11-8', Cement with Bentonite (5%) grout 8-2', Concrete 2-0'		
Comments	Flushmount well box completion- well placed in sidewalk.				



Report: ENV\_IW\_SNA, File: MTADIV-2.GPJ, 5/24/2002 MW-6

Project: MTA Division 6  
 Project Location: 100 Sunset Ave, Venice California  
 Project Number: 57-00070056.01

# Log of MW-6

Sheet 2 of 2



Elevation, feet	Depth, feet	SAMPLES		Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID Headspace (ppm)	PID Background (ppm)	Drilling Progress 24-hour clock	REMARKS
		Type	Number							
	30	▲	5	51	Dense, wet, light brown. SAND (SW) fine-to coarse-grained with little silt and gravel to 1 inch diameter		0.1	0.0	1316	
	35	▲	6		Dense, wet, brown, silty SAND (SM) fine-to medium-grained with trace clay and gravel to 1/2 inch diameter		0.1	0.0	1321	
	40				↙ Increase in silt		--	--	1327	
					TD = 41.00 feet bgs					
	45									
	50									
	55									
	60									
	65									
	70									

Project: MTA Division 6  
 Project Location: 100 Sunset Ave, Venice California  
 Project Number: 57-00070056.01

# Log of MW-7

Sheet 1 of 1

Date(s) Drilled	2/26/2002		Logged By	S. Goloski		Checked By	B. Partington/ T. Kruk	
Drilling Method	Hand Auger		Drilling Contractor	BC2 Environmental Corp.		Total Depth of Borehole	5.00 feet bgs	
Drill Rig Type	Hand Auger		Drill Bit Size/Type	Hand Auger		Surface Elevation (ft-msl)	NA	
Groundwater Level (feet bgs)	NA		Sampling Method(s)	NA		Top of PVC Elevation	NA	
Diameter of Hole (inches)	2.5"	Diameter of Well (inches)	NA		Type of Well Casing	NA		
Type of Sand Pack	NA		Type/Thickness of Seal(s)	Concrete 2-0'				
Comments	Boring aborted due to concrete pipe discovered while hand augering - Backfilled with soil cuttings.							

Elevation, feet	Depth, feet	SAMPLES		Graphic Log	MATERIAL DESCRIPTION	Well Completion Log	PID Headspace (ppm)	PID Background (ppm)	Drilling Progress 24-hour clock	REMARKS
		Type Number	Blows/Foot							
0					Concrete 5 inches thick Stiff, Moist, brown, silty SAND (SM), fine-to medium-grained with some clay. layers of light brown well graded sand with trace silt [Fill]		-	-	0955	Hand auger to 5 feet.
5					TD = 5.0 feet bgs.					
10										
15										
20										
25										
30										



# APPENDIX C

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**APPENDIX C**  
**Waste Manifests**

NO. 600505

# NON-HAZARDOUS WASTE DATA FORM

NAME LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY SITE MTA DIVISION 6 EPA I.D. NO. [REDACTED]

ADDRESS ONE GATEWAY PLAZA 100 SUNSET AVE. PROFILE NO. [REDACTED]

CITY, STATE, ZIP LOS ANGELES, CA 90012 VENICE, CA 90251 PHONE NO. 213 922-6000

ATTN: KATHY LETCHER

CONTAINERS: No. 14 VOLUME 770 gallons WEIGHT \_\_\_\_\_

TYPE:  TANK TRUCK  DUMP TRUCK  DRUMS  CARTONS  OTHER

PURGED GROUNDWATER and/or DECON RINSATE

WASTE DESCRIPTION NON-HAZARDOUS WATER

GENERATING PROCESS COMPONENTS OF WASTE

1.	COMPONENTS OF WASTE	PPM	%	5.	COMPONENTS OF WASTE	PPM	%
1.	<u>WATER</u>		<u>99-100%</u>	5.			
2.	<u>TPH</u>		<u>&lt; 1 %</u>	6.			
3.	<u>ORGANICS</u>		<u>&lt; 1 %</u>	7.	<u>MSI# 50372</u>		
4.				8.			

PROPERTIES: pH 7-10  SOLID  LIQUID  SLUDGE  GELURRY  OTHER

HANDLING INSTRUCTIONS: WEAR ALL APPROPRIATE PROTECTIVE CLOTHING

THE GENERATOR CERTIFIES THAT THE WASTE AS DESCRIBED IS 100% NON-HAZARDOUS.

KATHY LETCHER *Kathleen Letcher* 3/19/02  
 TYPED OR PRINTED FULL NAME & SIGNATURE DATE

NAME B.E.S.I. NIASI EPA I.D. NO. [REDACTED]

ADDRESS 25422 TRABUCO ROAD #105-269 1281 Brea Blvd SERVICE ORDER NO. \_\_\_\_\_

CITY, STATE, ZIP LAKE FOREST, CA 92630 Brea, Ca. 91721 PICK UP DATE 3/27/02

PHONE NO. 949-450-1010 SPN 211-922-3685 W. St 3/27/02 3/22/02

TRUCK, UNIT, I.D. NO. \_\_\_\_\_ TYPED OR PRINTED FULL NAME & SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

NAME DeMENNO KERDOON EPA I.D. NO. [REDACTED]

ADDRESS 2000 N. ALAMEDA STREET DISPOSAL METHOD  LANDFILL  OTHER Recycle

CITY, STATE, ZIP COMPTON, CA 90222

PHONE NO. 310-537-7100

SUPRIAT P. SIAV 3-28-02  
 TYPED OR PRINTED FULL NAME & SIGNATURE DATE

GEN	OLD/NEW	L	A	TONS
TRANS		S	B	
C/O		RT/CO	HWDF	NONE

DISCREPANCY



**TPS Technologies Soil Recycling**  
Non-Hazardous Soils

Date of Shipment: **3/19/2002**      Responsible for Payment: **BELSHIRE**      Transporter Truck #: **507593**      Utility #: **A07**      Given by TPS: **18042**      Load #: **001**

Generator's Name and Billing Address: **LOS ANGELES COUNTY METROPOLITAN TRANSPORTATION AUTHORITY  
ONE GATEWAY PLAZA  
LOS ANGELES, CA 90012**

Generator's Phone #: **213-922-6001**      Generator's US EPA ID No: \_\_\_\_\_

Person in Contact: **KATHY LETCHER**

FAX#: \_\_\_\_\_      Customer Account Number with TPS: \_\_\_\_\_

Consultant's Name and Billing Address: **HARDING ESE  
2171 CAMPUS DRIVE  
SUITE 100  
IRVINE, CA 92612**

Consultant's Phone #: **949-224-0051**

Person in Contact: **DAVE DAVRIE**

FAX#: **949-224-0071**      Customer Account Number with TPS: \_\_\_\_\_

Generation Site (Transport from): (name & address) **MTA DIVISION 6  
100 SUNSET AVENUE  
VENICE, CA 90291**

Site Phone #: \_\_\_\_\_      BTEX Levels: \_\_\_\_\_

Person in Contact: \_\_\_\_\_      TPH Levels: \_\_\_\_\_

FAX#: \_\_\_\_\_      AVE1 Levels: \_\_\_\_\_

Designated Facility (Transport to): (name & address) **TPS TECHNOLOGIES, INC.  
12328 HIBISCUS AVENUE  
ADELANTO, CA 92301**

Facility Phone #: **800-852-8001**      Facility Permit Number: \_\_\_\_\_

Person in Contact: **DELLENA BEITON**

FAX#: **760-246-8004**

Transporter Name and Mailing Address: **B.E.S.I.  
PMB 269  
25422 TRABUCO ROAD #105  
LAKE FOREST, CA 92630**

Transporter's Phone #: **949-450-1010**      Transporter's US EPA ID No: **CAD983584681**

Person in Contact: **BRIAN CASS**      Transporter's DOT No.: **450647**

FAX#: **949-450-1177**      Customer Account Number with TPS: **1000193**

BEST# 50372

Description of Soil	Moisture Content	Contaminated by:	Approx. Qty:	Description of Delivery	Gross Weight	Tare Weight	Net Weight
Sand <input type="checkbox"/> Organic <input type="checkbox"/> Clay <input type="checkbox"/> Other <input type="checkbox"/>	0 - 10% <input type="checkbox"/> 10 - 20% <input type="checkbox"/> 20% - over <input type="checkbox"/>	Gas <input type="checkbox"/> Diesel <input type="checkbox"/> Other <input type="checkbox"/>	<b>8 DMS</b>		<b>7800</b>	<b>4420</b>	<b>5380</b>
Sand <input type="checkbox"/> Organic <input type="checkbox"/> Clay <input type="checkbox"/> Other <input type="checkbox"/>	0 - 10% <input type="checkbox"/> 10 - 20% <input type="checkbox"/> 20% - over <input type="checkbox"/>	Gas <input type="checkbox"/> Diesel <input type="checkbox"/> Other <input type="checkbox"/>					<b>2.69</b>

List any exception to items listed above: **78233**

Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.

Print or Type Name: **KATHY LETCHER**      Generator       Consultant       Signature and date: *Kathleen Letcher*      Month: **3**      Day: **19**      Year: **02**

Transporter's certification: I/We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received. I/We further certify that this soil is being directly transported from the Generation Site to the Designated Facility without off-loading, adding to, subtracting from or in any way delaying delivery to such site.

Print or Type Name: **TRACY PAUL (250T)**      Signature and date: *Tracy Paul*      Month: **3**      Day: **22**      Year: **02**

Discrepancies: \_\_\_\_\_

Recycling Facility certifies the receipt of the soil covered by this manifest except as noted above:

Print or Type Name: **D. BENTON / J. PROVANSAL**      Signature and date: *[Signature]*      **3-28-02**

Generator and/or Consultant

Transporter

Recycling Facility



# APPENDIX D

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**APPENDIX D**  
**Development Logs**



## WELL DEVELOPMENT AND SAMPLING LOG

Page 1 of 2

Well: MW-5		Project: MTA Div 6				Method of Purging: 3" Jet Sub Pump		
Date: 3/1/02		Project #: 57-00070056.01				Method of Sampling: —		
Total Depth: 45		Water Column: 22.95				<sup>Bench</sup> 1 casing volume = 36    3 casing volumes = 110		
Depth to Water	Time	Purged (gallons)	pH (units)	Conductivity (mS/cm)	Temperature (degrees C)	Dissolved O <sub>2</sub> (mg/L)	Turbidity (NTU)	Notes
22.05	1350							
	1400							BC 2 surges well
	1440							BC 2 starts to bail well
23.1	1455							BC 2 starts pump <sup>measure well</sup>
	1506							BC 2 starts pump 41 ft <sup>pump set</sup>
	1507	35	8.0	7.19	23.9	8.65	999	Brown s. lty <sup>Purging at 2 gal/min</sup>
23.3	1512	45	7.66	9.27	21.6	9.68	999	"
	1517	55	7.66	11.6	21.1	9.72	999	"
23.25	1522	65	7.62	12.5	21.5	9.65	999	becoming light brown
	1527	75	7.59	13.6	21.3	9.52	999	light brown
23.2	1532	85	7.56	14.0	21.6	9.42	999	light brown <sup>increase pump to 3 gal/min</sup>
24.95	1537	100	7.54	15.2	20.9	9.57	999	light brown
24.75	1542	115	7.57	16.0	20.2	9.69	662	becoming opaque
	1547	130	7.56	16.4	20.6	9.53	220	opaque
24.8	1552	145	7.53	16.6	20.3	9.60	83	becoming clear
	1557	160	7.56	16.9	20.5	9.67	11	clear
	1602	175	7.97	16.9	20.5	9.48	10	clear <sup>raise pump to approx 36 ft</sup>





## WELL DEVELOPMENT AND SAMPLING LOG

Well: MW-6		Project: MTA DIVISION 6			Method of Purging: 3" Jet Sub pump			
Date: 3/1/02		Project #: 57-0007.0056.01			Method of Sampling: —			
Total Depth: 38.75'		Water Column: 18.98			borehole 1 casing volume = <del>90</del> 29 borehole 3 casing volumes = 90			
Depth to Water	Time	Purged (gallons)	pH (units)	Conductivity (mS/cm)	Temperature (degrees C)	Dissolved O <sub>2</sub> (mg/L)	Turbidity (NTU)	Notes
19.77'	0910							
	0940							BCZ surges well
	1040							BCZ starts to bail well
	1110							BCZ starts pump
	1111	20	6.59	3.21	22.7	10.54	999	Purging at 2 gal/min
22.25	1116	30	7.36	3.13	22.4	10.11	999	Brown - silty at 38 ft. b
	1121	40	7.19	3.11	22.5	9.86	999	Becoming light brown
24.45	1126	50	7.07	3.58	22.4	9.02	999	Light brown
	1131	60	7.16	4.30	22.4	9.19	999	"
24.9	1136	70	7.23	4.73	22.4	9.23	840	"
	1141	80	7.31	5.15	22.4	9.21	565	becoming clearer light brown
24.85	1146	90	7.32	5.53	22.3	9.11	399	"
	1151	100	7.31	5.79	22.1	9.15	280	opaque
24.80	1155	110	7.25	6.04	22.1	9.04	107	"
	1201	120	7.36	6.30	22.2	9.05	50	"
	1206	130	7.31	6.48	22.3	9.05	4	clear
	1211	140	7.32	13.2	22.4	9.11	999	brown

more pump up to APPROX 33 ft b



# APPENDIX E

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**APPENDIX E**

**Survey Data**

**URS CORPORATION  
MTA FACILITY  
100 SUNSET AVE  
VENICE, CA**

<u>WELL</u>	<u>ELEV</u>	<u>DESC</u>	<u>NORTH</u>	<u>EAST</u>
MW-1	24.59	4" PVC (N)	1820475.2	6417433.1
MW-1	24.91	RIM		
MW-1	24.88	CONCRETE		
MW-2	25.23	4" PVC (N)	1820433.7	6417398.3
MW-2	25.67	RIM		
MW-2	25.61	CONCRETE		
MW-3	24.59	4" PVC (N)	1820452.8	6417343.6
MW-3	24.58	RIM		
MW-3	24.76	CONCRETE		
MW-4	23.50	4" PVC (N)	1820513.9	6417335.7
MW-4	24.07	RIM		
MW-4	23.98	CONCRETE		
MW-5	24.92	4" PVC (N)	1820580.5	6417287.8
MW-5	25.15	RIM		
MW-5	25.13	CONCRETE		
MW-6	22.53	4" PVC (N)	1820627.3	6417407.6
MW-6	22.87	RIM		
MW-6	22.84	CONCRETE		

BECHAMRK:

HORIZONTAL DATUM NAD83

NGS STATION DY1251- SURVEY DISK STAMPED 23 W 9.03 IN VENICE AT THE INTERSECTION OF MAIN ST AND GRAND BLVD NEAR NE EDGE OF CONCRETE ROOF OF A STORM DRAIN PUMPING STATION NEAR THE CENTER OF A TRAFFIC CIRCLE.

DY1251                      N1818401.63                      E6418895.38

NGS STATION DY2444- TIDAL STATION DISK STAMPED NO 4 1968 IN MARINA DEL REY AT 13715 FIJI WAY NEAR THE SOUTHEAST CORNER OF A CATCH BASIN.

DY2444                      N1813000.97                      E6426534.40

VERTICAL DATUM NAVD88- FIRST ORDER, CLASS 2  
3.316 (METERS) 10.88 (FEET)

CONVERSION FROM NAVD88 TO NGVD29 PER VERTCON SOFTWARE  
NAVD88 MINUS NGVD29= +0.751 (METERS) +2.46 (FEET)

MW-6  
N 1820627.3  
E 6417407.6

# URS Greiner Woodward Clyde

## MTA FACILITY 100 Sunset Avenue Venice, California

MW-5  
N 1820580.5  
E 6417287.8

ASPHALT

CHAINLINK FENCE

MW-4  
N 1820513.9  
E 6417335.7

CONCRETE

MW-1  
N 1820475.2  
E 6417433.1

MW-3  
N 1820452.9  
E 6417343.4

RIBBON GUTTER

MW-2  
N 1820433.7  
E 6417398.3

CONCRETE ISLAND



SCALE 1" = 30'

DATE OF SURVEY 01 MAR 02  
DATE OF PREVIOUS SURVEY 12 AUG 99



DULIN & BOYNTON  
LICENSED SURVEYORS



729 E. WILLOW STREET • (562) 426-6464 FAX (562) 426-7707 • SIGNAL HILL, CA. 90806





# APPENDIX F

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**APPENDIX F**

**Laboratory Analytical Reports and  
Chain-of-Custody Documentation**



**Calscience**  
**Environmental**  
**Laboratories, Inc.**

February 28, 2002

Ginger Conwell  
URS Corporation  
2020 East 1st Street, Suite 400  
Santa Ana, CA 92705-4032

Subject: **Calscience Work Order No.:** 02-02-1236  
**Client Reference:** MTA DIV 6 / 57-00070056.01

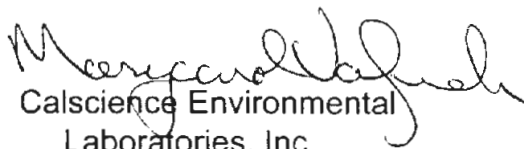
Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 2/27/02 and analyzed in accordance with the attached chain-of-custody.

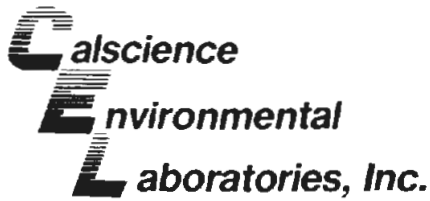
Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

  
Calscience Environmental  
Laboratories, Inc.  
Marycarol Valenzuela  
Project Manager

  
\_\_\_\_\_  
Michael J. Crisostomo  
Quality Assurance Manager



**ANALYTICAL REPORT**

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: Extraction  
 Method: EPA 418.1M

Project: MTA DIV 6 / 57-00070056.01

Page 1 of 1

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
MW-6-10	02-02-1236-1	Solid	02/26/02	02/27/02	02/27/02	02022701SA

Parameter	Result	RL	DF	Qual	Units
TRPH	ND	10	1		mg/kg

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
MW-6-15	02-02-1236-2	Solid	02/26/02	02/27/02	02/27/02	02022701SA

Parameter	Result	RL	DF	Qual	Units
TRPH	38	10	1		mg/kg

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
MW-6-20	02-02-1236-3	Solid	02/26/02	02/27/02	02/27/02	02022701SA

Parameter	Result	RL	DF	Qual	Units
TRPH	10	10	1		mg/kg

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-07-015-50	Solid	N/A	02/27/02	02/27/02	02022701SA

Parameter	Result	RL	DF	Qual	Units
TRPH	ND	10	1		mg/kg

RL - Reporting Limit    DF - Dilution Factor    Qual - Qualifiers

**ANALYTICAL REPORT**

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: Total Digestion  
 Method: EPA 7421

Project: MTA DIV 6 / 57-00070056.01

Page 1 of 1

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
MW-6-10	02-02-1236-1	Solid	02/26/02	03/01/02	03/01/02	020301lcs7

Parameter	Result	RL	DF	Qual	Units
Lead	6.10	1.00	4	D	mg/kg

MW-6-15	02-02-1236-2	Solid	02/26/02	03/01/02	03/01/02	020301lcs7
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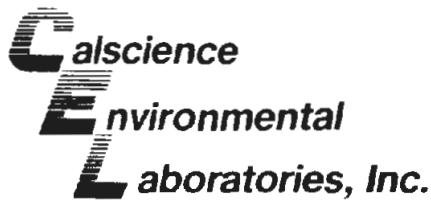
Parameter	Result	RL	DF	Qual	Units
Lead	3.02	1.00	4	D	mg/kg

MW-6-20	02-02-1236-3	Solid	02/26/02	03/01/02	03/01/02	020301lcs7
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Parameter	Result	RL	DF	Qual	Units
Lead	1.36	1.00	4	D	mg/kg

Method Blank	099-07-021-5	Solid	N/A	02/03/02	03/01/02	020301lcs7
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Parameter	Result	RL	DF	Qual	Units
Lead	ND	0.250	1		mg/kg



# ANALYTICAL REPORT

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: Ext. + D/I  
 Method: EPA 8015M

Project: MTA DIV 6 / 57-00070056.01

Page 1 of 1

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
<b>MW-6-10</b>	<b>02-02-1236-1</b>	<b>Solid</b>	<b>02/26/02</b>	<b>02/27/02</b>	<b>02/28/02</b>	<b>02022701sa</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Diesel	ND	5.0	1		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	115	45-149			

<b>MW-6-15</b>	<b>02-02-1236-2</b>	<b>Solid</b>	<b>02/26/02</b>	<b>02/27/02</b>	<b>02/28/02</b>	<b>02022701sa</b>
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Comment(s): -The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Diesel	41	5	1		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	109	45-149			

<b>MW-6-20</b>	<b>02-02-1236-3</b>	<b>Solid</b>	<b>02/26/02</b>	<b>02/27/02</b>	<b>02/28/02</b>	<b>02022701sa</b>
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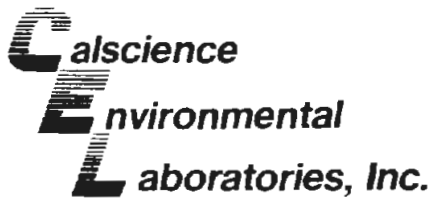
<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Diesel	ND	5.0	1		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	125	45-149			

<b>Method Blank</b>	<b>098-03-002-1,682</b>	<b>Solid</b>	<b>N/A</b>	<b>02/27/02</b>	<b>02/27/02</b>	<b>02022701sa</b>
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Diesel	ND	5.0	1		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	105	45-149			

RL - Reporting Limit    DF - Dilution Factor    Qual - Qualifiers





# ANALYTICAL REPORT

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: EPA 5035  
 Method: EPA 8015M

Project: MTA DIV 6 / 57-00070056.01

Page 1 of 1

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
<b>MW-6-10</b>	<b>02-02-1236-1</b>	<b>Solid</b>	<b>02/26/02</b>	<b>02/27/02</b>	<b>02/27/02</b>	<b>02022701sa</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Gasoline	ND	0.21	0.84		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	113	70-130			

<b>MW-6-15</b>	<b>02-02-1236-2</b>	<b>Solid</b>	<b>02/26/02</b>	<b>02/27/02</b>	<b>02/27/02</b>	<b>02022701sa</b>
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Gasoline	ND	0.28	1.1		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	105	70-130			

<b>MW-6-20</b>	<b>02-02-1236-3</b>	<b>Solid</b>	<b>02/26/02</b>	<b>02/27/02</b>	<b>02/27/02</b>	<b>02022701sa</b>
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Gasoline	ND	0.23	0.92		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	111	70-130			

<b>Method Blank</b>	<b>099-12-009-837</b>	<b>Solid</b>	<b>N/A</b>	<b>N/A</b>	<b>02/27/02</b>	<b>02022701sa</b>
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Gasoline	ND	0.25	1		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	95	70-130			

RL - Reporting Limit , DF - Dilution Factor , Qual - Qualifiers

**ANALYTICAL REPORT**

URS Corporation  
2020 East 1st Street, Suite 400  
Santa Ana, CA 92705-4032

Date Received: 02/27/02  
Work Order No: 02-02-1236  
Preparation: EPA 5035  
Method: EPA 8260B

Project: MTA DIV 6 / 57-00070056.01

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6-10	02-02-1236-1	02/26/02	Solid	02/27/02	02/27/02	022702AS

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Acetone	ND	16	0.803		ug/kg	1,1-Dichloropropene	ND	1.6	0.803		ug/kg
Benzene	ND	0.80	0.803		ug/kg	c-1,3-Dichloropropene	ND	0.80	0.803		ug/kg
Bromobenzene	ND	0.80	0.803		ug/kg	t-1,3-Dichloropropene	ND	1.6	0.803		ug/kg
Bromochloromethane	ND	1.6	0.803		ug/kg	Ethylbenzene	ND	0.80	0.803		ug/kg
Bromodichloromethane	ND	0.80	0.803		ug/kg	2-Hexanone	ND	16	0.803		ug/kg
Bromoform	ND	4.0	0.803		ug/kg	Isopropylbenzene	ND	0.80	0.803		ug/kg
Bromomethane	ND	16	0.803		ug/kg	p-Isopropyltoluene	ND	0.80	0.803		ug/kg
2-Butanone	ND	16	0.803		ug/kg	Methylene Chloride	ND	8.0	0.803		ug/kg
n-Butylbenzene	ND	0.80	0.803		ug/kg	4-Methyl-2-Pentanone	ND	16	0.803		ug/kg
sec-Butylbenzene	ND	0.80	0.803		ug/kg	Naphthalene	ND	8.0	0.803		ug/kg
tert-Butylbenzene	ND	0.80	0.803		ug/kg	n-Propylbenzene	ND	0.80	0.803		ug/kg
Carbon Disulfide	ND	8.0	0.803		ug/kg	Styrene	ND	0.80	0.803		ug/kg
Carbon Tetrachloride	ND	0.80	0.803		ug/kg	1,1,1,2-Tetrachloroethane	ND	0.80	0.803		ug/kg
Chlorobenzene	ND	0.80	0.803		ug/kg	1,1,2,2-Tetrachloroethane	ND	1.6	0.803		ug/kg
Chloroethane	ND	1.6	0.803		ug/kg	Tetrachloroethene	ND	0.80	0.803		ug/kg
Chloroform	ND	0.80	0.803		ug/kg	Toluene	ND	0.80	0.803		ug/kg
Chloromethane	ND	16	0.803		ug/kg	1,2,3-Trichlorobenzene	ND	1.6	0.803		ug/kg
2-Chlorotoluene	ND	0.80	0.803		ug/kg	1,2,4-Trichlorobenzene	ND	1.6	0.803		ug/kg
4-Chlorotoluene	ND	0.80	0.803		ug/kg	1,1,1-Trichloroethane	ND	0.80	0.803		ug/kg
Dibromochloromethane	ND	1.6	0.803		ug/kg	1,1,2-Trichloroethane	ND	0.80	0.803		ug/kg
1,2-Dibromo-3-Chloropropane	ND	4.0	0.803		ug/kg	Trichloroethene	ND	1.6	0.803		ug/kg
1,2-Dibromoethane	ND	0.80	0.803		ug/kg	Trichlorofluoromethane	ND	8.0	0.803		ug/kg
Dibromomethane	ND	0.80	0.803		ug/kg	1,2,3-Trichloropropane	ND	1.6	0.803		ug/kg
1,2-Dichlorobenzene	ND	0.80	0.803		ug/kg	1,2,4-Trimethylbenzene	ND	1.6	0.803		ug/kg
1,3-Dichlorobenzene	ND	0.80	0.803		ug/kg	1,3,5-Trimethylbenzene	ND	1.6	0.803		ug/kg
1,4-Dichlorobenzene	ND	0.80	0.803		ug/kg	Vinyl Acetate	ND	8.0	0.803		ug/kg
Dichlorodifluoromethane	ND	1.6	0.803		ug/kg	Vinyl Chloride	ND	0.80	0.803		ug/kg
1,1-Dichloroethane	ND	0.80	0.803		ug/kg	p/m-Xylene	ND	1.6	0.803		ug/kg
1,2-Dichloroethane	ND	0.80	0.803		ug/kg	o-Xylene	ND	0.80	0.803		ug/kg
1,1-Dichloroethene	ND	0.80	0.803		ug/kg	Methyl-t-Butyl Ether (MTBE)	ND	1.6	0.803		ug/kg
c-1,2-Dichloroethene	ND	0.80	0.803		ug/kg	Tert-Butyl Alcohol (TBA)	ND	16	0.803		ug/kg
t-1,2-Dichloroethene	ND	0.80	0.803		ug/kg	Diisopropyl Ether (DIPE)	ND	0.80	0.803		ug/kg
1,2-Dichloropropane	ND	0.80	0.803		ug/kg	Ethyl-t-Butyl Ether (ETBE)	ND	0.80	0.803		ug/kg
1,3-Dichloropropane	ND	0.80	0.803		ug/kg	Tert-Amyl-Methyl Ether (TAME)	ND	0.80	0.803		ug/kg
2,2-Dichloropropane	ND	4.0	0.803		ug/kg						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>			<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>		
Dibromofluoromethane	113	<u>Limits</u>				Toluene-d8	95	<u>Limits</u>			
1,4-Bromofluorobenzene	93	65-157						51-144			
		49-141									

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: EPA 5035  
 Method: EPA 8260B

Project: MTA DIV 6 / 57-00070056.01

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6-15	02-02-1236-2	02/26/02	Solid	02/27/02	02/27/02	022702AS

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Acetone	ND	20	0.975		ug/kg	1,1-Dichloropropene	ND	2.0	0.975		ug/kg
Benzene	ND	0.98	0.975		ug/kg	c-1,3-Dichloropropene	ND	0.98	0.975		ug/kg
Bromobenzene	ND	0.98	0.975		ug/kg	t-1,3-Dichloropropene	ND	2.0	0.975		ug/kg
Bromochloromethane	ND	2.0	0.975		ug/kg	Ethylbenzene	ND	0.98	0.975		ug/kg
Bromodichloromethane	ND	0.98	0.975		ug/kg	2-Hexanone	ND	20	0.975		ug/kg
Bromoform	ND	4.9	0.975		ug/kg	Isopropylbenzene	ND	0.98	0.975		ug/kg
Bromomethane	ND	20	0.975		ug/kg	p-Isopropyltoluene	ND	0.98	0.975		ug/kg
2-Butanone	ND	20	0.975		ug/kg	Methylene Chloride	ND	9.8	0.975		ug/kg
n-Butylbenzene	ND	0.98	0.975		ug/kg	4-Methyl-2-Pentanone	ND	20	0.975		ug/kg
sec-Butylbenzene	ND	0.98	0.975		ug/kg	Naphthalene	ND	9.8	0.975		ug/kg
tert-Butylbenzene	ND	0.98	0.975		ug/kg	n-Propylbenzene	ND	0.98	0.975		ug/kg
Carbon Disulfide	ND	9.8	0.975		ug/kg	Styrene	ND	0.98	0.975		ug/kg
Carbon Tetrachloride	ND	0.98	0.975		ug/kg	1,1,1,2-Tetrachloroethane	ND	0.98	0.975		ug/kg
Chlorobenzene	ND	0.98	0.975		ug/kg	1,1,2,2-Tetrachloroethane	ND	2.0	0.975		ug/kg
Chloroethane	ND	2.0	0.975		ug/kg	Tetrachloroethene	ND	0.98	0.975		ug/kg
Chloroform	ND	0.98	0.975		ug/kg	Toluene	ND	0.98	0.975		ug/kg
Chloromethane	ND	20	0.975		ug/kg	1,2,3-Trichlorobenzene	ND	2.0	0.975		ug/kg
2-Chlorotoluene	ND	0.98	0.975		ug/kg	1,2,4-Trichlorobenzene	ND	2.0	0.975		ug/kg
4-Chlorotoluene	ND	0.98	0.975		ug/kg	1,1,1-Trichloroethane	ND	0.98	0.975		ug/kg
Dibromochloromethane	ND	2.0	0.975		ug/kg	1,1,2-Trichloroethane	ND	0.98	0.975		ug/kg
1,2-Dibromo-3-Chloropropane	ND	4.9	0.975		ug/kg	Trichloroethene	ND	2.0	0.975		ug/kg
1,2-Dibromoethane	ND	0.98	0.975		ug/kg	Trichlorofluoromethane	ND	9.8	0.975		ug/kg
Dibromomethane	ND	0.98	0.975		ug/kg	1,2,3-Trichloropropane	ND	2.0	0.975		ug/kg
1,2-Dichlorobenzene	ND	0.98	0.975		ug/kg	1,2,4-Trimethylbenzene	ND	2.0	0.975		ug/kg
1,3-Dichlorobenzene	ND	0.98	0.975		ug/kg	1,3,5-Trimethylbenzene	ND	2.0	0.975		ug/kg
1,4-Dichlorobenzene	ND	0.98	0.975		ug/kg	Vinyl Acetate	ND	9.8	0.975		ug/kg
Dichlorodifluoromethane	ND	2.0	0.975		ug/kg	Vinyl Chloride	ND	0.98	0.975		ug/kg
1,1-Dichloroethane	ND	0.98	0.975		ug/kg	p/m-Xylene	ND	2.0	0.975		ug/kg
1,2-Dichloroethane	ND	0.98	0.975		ug/kg	o-Xylene	ND	0.98	0.975		ug/kg
1,1-Dichloroethene	ND	0.98	0.975		ug/kg	Methyl-t-Butyl Ether (MTBE)	ND	2.0	0.975		ug/kg
c-1,2-Dichloroethene	ND	0.98	0.975		ug/kg	Tert-Butyl Alcohol (TBA)	ND	20	0.975		ug/kg
t-1,2-Dichloroethene	ND	0.98	0.975		ug/kg	Diisopropyl Ether (DIPE)	ND	0.98	0.975		ug/kg
1,2-Dichloropropane	ND	0.98	0.975		ug/kg	Ethyl-t-Butyl Ether (ETBE)	ND	0.98	0.975		ug/kg
1,3-Dichloropropane	ND	0.98	0.975		ug/kg	Tert-Amyl-Methyl Ether (TAME)	ND	0.98	0.975		ug/kg
2,2-Dichloropropane	ND	4.9	0.975		ug/kg						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>			<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		
Dibromofluoromethane	119	65-157				Toluene-d8	96	51-144			
1,4-Bromofluorobenzene	92	49-141									

RL - Reporting Limit    DF - Dilution Factor    Qual - Qualifiers

**ANALYTICAL REPORT**

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: EPA 5035  
 Method: EPA 8260B

Project: MTA DIV 6 / 57-00070056.01

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-6-20	02-02-1236-3	02/26/02	Solid	02/27/02	02/27/02	022702AS

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Acetone	ND	19	0.931		ug/kg	1,1-Dichloropropene	ND	1.9	0.931		ug/kg
Benzene	ND	0.93	0.931		ug/kg	c-1,3-Dichloropropene	ND	0.93	0.931		ug/kg
Bromobenzene	ND	0.93	0.931		ug/kg	t-1,3-Dichloropropene	ND	1.9	0.931		ug/kg
Bromochloromethane	ND	1.9	0.931		ug/kg	Ethylbenzene	ND	0.93	0.931		ug/kg
Bromodichloromethane	ND	0.93	0.931		ug/kg	2-Hexanone	ND	19	0.931		ug/kg
Bromoform	ND	4.7	0.931		ug/kg	Isopropylbenzene	ND	0.93	0.931		ug/kg
Bromomethane	ND	19	0.931		ug/kg	p-Isopropyltoluene	ND	0.93	0.931		ug/kg
2-Butanone	ND	19	0.931		ug/kg	Methylene Chloride	ND	9.3	0.931		ug/kg
n-Butylbenzene	ND	0.93	0.931		ug/kg	4-Methyl-2-Pentanone	ND	19	0.931		ug/kg
sec-Butylbenzene	ND	0.93	0.931		ug/kg	Naphthalene	ND	9.3	0.931		ug/kg
tert-Butylbenzene	ND	0.93	0.931		ug/kg	n-Propylbenzene	ND	0.93	0.931		ug/kg
Carbon Disulfide	ND	9.3	0.931		ug/kg	Styrene	ND	0.93	0.931		ug/kg
Carbon Tetrachloride	ND	0.93	0.931		ug/kg	1,1,1,2-Tetrachloroethane	ND	0.93	0.931		ug/kg
Chlorobenzene	ND	0.93	0.931		ug/kg	1,1,2,2-Tetrachloroethane	ND	1.9	0.931		ug/kg
Chloroethane	ND	1.9	0.931		ug/kg	Tetrachloroethene	1.3	0.9	0.931		ug/kg
Chloroform	ND	0.93	0.931		ug/kg	Toluene	ND	0.93	0.931		ug/kg
Chloromethane	ND	19	0.931		ug/kg	1,2,3-Trichlorobenzene	ND	1.9	0.931		ug/kg
2-Chlorotoluene	ND	0.93	0.931		ug/kg	1,2,4-Trichlorobenzene	ND	1.9	0.931		ug/kg
4-Chlorotoluene	ND	0.93	0.931		ug/kg	1,1,1-Trichloroethane	ND	0.93	0.931		ug/kg
Dibromochloromethane	ND	1.9	0.931		ug/kg	1,1,2-Trichloroethane	ND	0.93	0.931		ug/kg
1,2-Dibromo-3-Chloropropane	ND	4.7	0.931		ug/kg	Trichloroethene	ND	1.9	0.931		ug/kg
1,2-Dibromoethane	ND	0.93	0.931		ug/kg	Trichlorofluoromethane	ND	9.3	0.931		ug/kg
Dibromomethane	ND	0.93	0.931		ug/kg	1,2,3-Trichloropropane	ND	1.9	0.931		ug/kg
1,2-Dichlorobenzene	ND	0.93	0.931		ug/kg	1,2,4-Trimethylbenzene	ND	1.9	0.931		ug/kg
1,3-Dichlorobenzene	ND	0.93	0.931		ug/kg	1,3,5-Trimethylbenzene	ND	1.9	0.931		ug/kg
1,4-Dichlorobenzene	ND	0.93	0.931		ug/kg	Vinyl Acetate	ND	9.3	0.931		ug/kg
Dichlorodifluoromethane	ND	1.9	0.931		ug/kg	Vinyl Chloride	ND	0.93	0.931		ug/kg
1,1-Dichloroethane	ND	0.93	0.931		ug/kg	p/m-Xylene	ND	1.9	0.931		ug/kg
1,2-Dichloroethane	ND	0.93	0.931		ug/kg	o-Xylene	ND	0.93	0.931		ug/kg
1,1-Dichloroethene	ND	0.93	0.931		ug/kg	Methyl-t-Butyl Ether (MTBE)	ND	1.9	0.931		ug/kg
c-1,2-Dichloroethene	ND	0.93	0.931		ug/kg	Tert-Butyl Alcohol (TBA)	ND	19	0.931		ug/kg
t-1,2-Dichloroethene	ND	0.93	0.931		ug/kg	Diisopropyl Ether (DIPE)	ND	0.93	0.931		ug/kg
1,2-Dichloropropane	ND	0.93	0.931		ug/kg	Ethyl-t-Butyl Ether (ETBE)	ND	0.93	0.931		ug/kg
1,3-Dichloropropane	ND	0.93	0.931		ug/kg	Tert-Amyl-Methyl Ether (TAME)	ND	0.93	0.931		ug/kg
2,2-Dichloropropane	ND	4.7	0.931		ug/kg						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>			<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		
Dibromofluoromethane	124	65-157				Toluene-d8	95	51-144			
1,4-Bromofluorobenzene	87	49-141									

URS Corporation  
2020 East 1st Street, Suite 400  
Santa Ana, CA 92705-4032

Date Received: 02/27/02  
Work Order No: 02-02-1236  
Preparation: EPA 5035  
Method: EPA 8260B

Project: MTA DIV 6 / 57-00070056.01

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	095-01-025-3,888	N/A	Solid	N/A	02/27/02	022702AS

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Acetone	ND	20	1		ug/kg	1,1-Dichloropropene	ND	2.0	1		ug/kg
Benzene	ND	1.0	1		ug/kg	c-1,3-Dichloropropene	ND	1.0	1		ug/kg
Bromobenzene	ND	1.0	1		ug/kg	t-1,3-Dichloropropene	ND	2.0	1		ug/kg
Bromochloromethane	ND	2.0	1		ug/kg	Ethylbenzene	ND	1.0	1		ug/kg
Bromodichloromethane	ND	1.0	1		ug/kg	2-Hexanone	ND	20	1		ug/kg
Bromoform	ND	5.0	1		ug/kg	Isopropylbenzene	ND	1.0	1		ug/kg
Bromomethane	ND	20	1		ug/kg	p-Isopropyltoluene	ND	1.0	1		ug/kg
2-Butanone	ND	20	1		ug/kg	Methylene Chloride	ND	10	1		ug/kg
n-Butylbenzene	ND	1.0	1		ug/kg	4-Methyl-2-Pentanone	ND	20	1		ug/kg
sec-Butylbenzene	ND	1.0	1		ug/kg	Naphthalene	ND	10	1		ug/kg
tert-Butylbenzene	ND	1.0	1		ug/kg	n-Propylbenzene	ND	1.0	1		ug/kg
Carbon Disulfide	ND	10	1		ug/kg	Styrene	ND	1.0	1		ug/kg
Carbon Tetrachloride	ND	1.0	1		ug/kg	1,1,1,2-Tetrachloroethane	ND	1.0	1		ug/kg
Chlorobenzene	ND	1.0	1		ug/kg	1,1,2,2-Tetrachloroethane	ND	2.0	1		ug/kg
Chloroethane	ND	2.0	1		ug/kg	Tetrachloroethene	ND	1.0	1		ug/kg
Chloroform	ND	1.0	1		ug/kg	Toluene	ND	1.0	1		ug/kg
Chloromethane	ND	20	1		ug/kg	1,2,3-Trichlorobenzene	ND	2.0	1		ug/kg
2-Chlorotoluene	ND	1.0	1		ug/kg	1,2,4-Trichlorobenzene	ND	2.0	1		ug/kg
4-Chlorotoluene	ND	1.0	1		ug/kg	1,1,1-Trichloroethane	ND	1.0	1		ug/kg
Dibromochloromethane	ND	2.0	1		ug/kg	1,1,2-Trichloroethane	ND	1.0	1		ug/kg
1,2-Dibromo-3-Chloropropane	ND	5.0	1		ug/kg	Trichloroethene	ND	2.0	1		ug/kg
1,2-Dibromoethane	ND	1.0	1		ug/kg	Trichlorofluoromethane	ND	10	1		ug/kg
Dibromomethane	ND	1.0	1		ug/kg	1,2,3-Trichloropropane	ND	2.0	1		ug/kg
1,2-Dichlorobenzene	ND	1.0	1		ug/kg	1,2,4-Trimethylbenzene	ND	2.0	1		ug/kg
1,3-Dichlorobenzene	ND	1.0	1		ug/kg	1,3,5-Trimethylbenzene	ND	2.0	1		ug/kg
1,4-Dichlorobenzene	ND	1.0	1		ug/kg	Vinyl Acetate	ND	10	1		ug/kg
Dichlorodifluoromethane	ND	2.0	1		ug/kg	Vinyl Chloride	ND	1.0	1		ug/kg
1,1-Dichloroethane	ND	1.0	1		ug/kg	p/m-Xylene	ND	2.0	1		ug/kg
1,2-Dichloroethane	ND	1.0	1		ug/kg	o-Xylene	ND	1.0	1		ug/kg
1,1-Dichloroethene	ND	1.0	1		ug/kg	Methyl-t-Butyl Ether (MTBE)	ND	2.0	1		ug/kg
c-1,2-Dichloroethene	ND	1.0	1		ug/kg	Tert-Butyl Alcohol (TBA)	ND	20	1		ug/kg
t-1,2-Dichloroethene	ND	1.0	1		ug/kg	Diisopropyl Ether (DIPE)	ND	1.0	1		ug/kg
1,2-Dichloropropane	ND	1.0	1		ug/kg	Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1		ug/kg
1,3-Dichloropropane	ND	1.0	1		ug/kg	Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1		ug/kg
2,2-Dichloropropane	ND	5.0	1		ug/kg						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>			<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>		
Dibromofluoromethane	106	65-157				Toluene-d8	98	51-144			
1,4-Bromofluorobenzene	93	49-141									

Quality Control - Spike/Spike Duplicate

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: Extraction  
 Method: EPA 418.1M

Project: MTA DIV 6 / 57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-6-10	Solid	IR #1	02/27/02	02/27/02	02022701MS

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD.CL	Qualifier
TRPH	104	106	55-135	2	0-30	

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: Extraction  
 Method: EPA 418.1M

Project: MTA DIV 6 / 57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-07-015-50	Solid	IR #1	02/27/02	NONE	02022701SA

<u>Parameter</u>	<u>Conc Added</u>	<u>Conc Recovered</u>	<u>%Rec</u>	<u>%Rec CL</u>	<u>Qualifiers</u>
TRPH	200	210	105	70-130	

Quality Control - Spike/Spike Duplicate

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

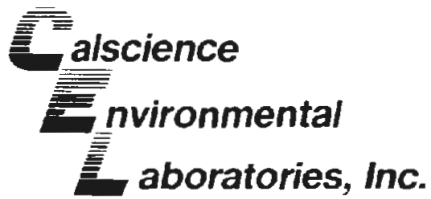
Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: Total Digestion  
 Method: EPA 7421

Project: MTA DIV 6 / 57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-6-15	Solid	GFAA	03/01/02	03/01/02	030201ms7

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifier
Lead	96	96	50-130	0	0-20	





Quality Control - Laboratory Control Sample

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: Total Digestion  
 Method: EPA 7421

Project: MTA DIV 6 / 57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-07-021-5	Solid	GFAA	03/01/02	0203011c	0203011cs7

<u>Parameter</u>	<u>Conc Added</u>	<u>Conc Recovered</u>	<u>%Rec</u>	<u>%Rec CL</u>	<u>Qualifiers</u>
Lead	2.50	2.44	97	50-130	

**Quality Control - Spike/Spike Duplicate**

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: Ext. + D/  
 Method: EPA 8015M

Project: MTA DIV 6 / 57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
02-02-1212-4	Solid	GC 23	02/27/02	02/27/02	02022701ms

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	97	95	49-139	2	0-28	

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: Ext. + D/I  
 Method: EPA 8015M

Project: MTA DIV 6 / 57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
098-03-002-1,682	Solid	GC 23	02/27/02	004F0101	02022701sa

<u>Parameter</u>	<u>Conc Added</u>	<u>Conc Recovered</u>	<u>%Rec</u>	<u>%Rec CL</u>	<u>Qualifiers</u>
TPH as Diesel	400	390	97	65-124	

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: EPA 5035  
 Method: EPA 8015M

Project: MTA DIV 6 / 57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-009-837	Solid	GC 25	N/A	02/27/02	02022701sa

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	119	114	70-130	4	0-25	

**Quality Control - LCS/LCS Duplicate**

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/27/02  
 Work Order No: 02-02-1236  
 Preparation: EPA 5035  
 Method: EPA 8260B

Project: MTA DIV 6 / 57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-025-3,888	Solid	GC/MS I	N/A	02/27/02	022702AS

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	96	100	76-124	4	0-15	
Carbon Tetrachloride	93	100	66-137	7	0-16	
Chlorobenzene	96	97	72-129	1	0-21	
1,2-Dichlorobenzene	96	98	79-121	2	0-20	
1,1-Dichloroethene	93	100	59-131	8	0-14	
Toluene	98	98	72-130	1	0-16	
Trichloroethene	95	99	69-130	3	0-18	
Vinyl Chloride	94	98	51-136	4	0-21	
Methyl-t-Butyl Ether (MTBE)	96	101	69-149	6	0-17	
Tert-Butyl Alcohol (TBA)	83	91	49-145	9	0-25	
Diisopropyl Ether (DIPE)	99	103	73-133	4	0-25	
Ethyl-t-Butyl Ether (ETBE)	100	103	73-132	3	0-25	
Tert-Amyl-Methyl Ether (TAME)	99	100	82-120	1	0-25	

Work Order Number: 02-02-1236

---

<u>Qualifier</u>	<u>Definition</u>
D	The sample data was reported from a diluted analysis.
ND	Not detected at indicated reporting limit.

LABORATORY CLIENT: URS  
ADDRESS: 2020 E. FIRST ST., SUITE 400  
CITY: SANTA ANA STATE: CA ZIP: 92705  
TEL: 714.985.6886 FAX: 714.667.7147 E-MAIL: \_\_\_\_\_

CLIENT PROJECT NAME / NUMBER: MTA DIVISION 6 / 57-00070056 01  
PROJECT CONTACT: GINGER CONNELL  
SAMPLER(S): (SIGNATURE) [Signature] COELT LOG CODE:      
P.O. NO.: \_\_\_\_\_  
LAB USE ONLY:  0  2 -  1  2  3  6  
COOLER RECEIPT: \_\_\_\_\_  
TEMP = \_\_\_\_\_ °C

TURNAROUND TIME:  
 SAME DAY  24 HR  48 HR  72 HR  5 DAYS  10 DAYS  
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)  
 RWQCB REPORTING  COELT REPORTING  
SPECIAL INSTRUCTIONS  
PLEASE INCLUDE FUEL OXYGENATES ON VOC REPORT (MTBE, DIPE, TABAE, ETBE, TBA)  
REPORT RESULTS IN GEOTRACKEX FORMAT

**REQUESTED ANALYSES**

LAB USE ONLY	GEIMS ID	SAMPLE ID	SAMPLING		MATRIX	NO. OF CONT.	TPH (G)	TPH (D) or BTEX / MTBE (8021B)	HALOCARBONS (8021B)	VOCs (8260B)	VOCs (5035 / 8260B) EnCore	SVOCs (8270C)	PEST (8081A)	PCBs (8082)	EOB / DBCP (504.1) or (8011)	CAC, T22 METALS (6010B)	PNAs (8310)	VOCs (T0-14A) or (T0-15)	TRPH (418.1)	LEAD (7421)	HOLD
			DATE	TIME																	
	<u>T060370133B</u>	<u>MW-6-10</u>	<u>2.26.02</u>	<u>1255</u>	<u>SOIL</u>	<u>6</u>	<u>X</u>	<u>X</u>		<u>X</u>									<u>X</u>	<u>X</u>	
	<u>↓</u>	<u>MW-6-15</u>	<u>↓</u>	<u>1300</u>	<u>↓</u>	<u>↓</u>	<u>X</u>	<u>X</u>		<u>X</u>									<u>X</u>	<u>X</u>	
	<u>↓</u>	<u>MW-6-20</u>	<u>↓</u>	<u>1305</u>	<u>↓</u>	<u>↓</u>	<u>X</u>	<u>X</u>		<u>X</u>									<u>X</u>	<u>X</u>	
	<u>TRIP BLANK</u>	<u>TRIP BLANK</u>	<u>↓</u>	<u>LAB</u>	<u>H<sub>2</sub>O</u>	<u>2</u>															<u>X</u>
<u>END OF RECORD</u>																					

Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature) _____	Date: _____	Time: _____
Relinquished by: (Signature) _____	Received by: (Signature) _____	Date: _____	Time: _____
Relinquished by: (Signature) _____	Received for Laboratory by: (Signature) <u>[Signature]</u>	Date: <u>2/27/02</u>	Time: <u>1140</u>

C&Q Graphic (714) 898-9702





**Calscience**  
**Environmental**  
**Laboratories, Inc.**

March 04, 2002

Ginger Conwell  
URS Corporation  
2020 East 1st Street, Suite 400  
Santa Ana, CA 92705-4032

Subject: **Calscience Work Order No.:** 02-02-1155  
**Client Reference:** MTA DIV 6/57-00070056.01

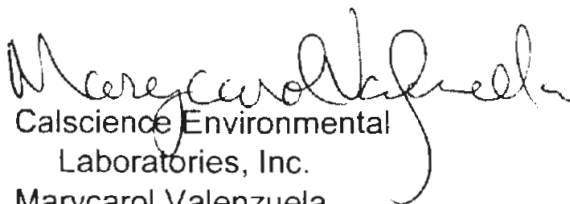
Dear Client:

Enclosed is an analytical report for the above-referenced project. The samples included in this report were received 2/25/02 and analyzed in accordance with the attached chain-of-custody.

Unless otherwise noted, all analytical testing was accomplished in accordance with the guidelines established in our Quality Assurance Program Manual, applicable standard operating procedures, and other related documentation. The results in this analytical report are limited to the samples tested and any reproduction thereof must be made in its entirety.

If you have any questions regarding this report, please do not hesitate to contact the undersigned.

Sincerely,

  
Calscience Environmental  
Laboratories, Inc.  
Marycarol Valenzuela  
Project Manager

  
\_\_\_\_\_  
Michael J. Crisostomo  
Quality Assurance Manager

URS Corporation  
2020 East 1st Street, Suite 400  
Santa Ana, CA 92705-4032

Date Sampled: 02/25/02  
Date Received: 02/25/02  
Date Digested: 02/26/02  
Date Analyzed: 03/01/02  
Work Order No.: 02-02-1155  
Method: EPA 7421  
Page 1 of 1

Attn: Ginger Conwell  
RE: MTA DIV 6/57-00070056.01

All concentrations are reported in mg/kg (ppm). Analyses for Lead were conducted on a total digestion.

<u>Sample Number</u>	<u>Lead Concentration</u>	<u>Reporting Limit</u>
MW-5-10	5.68	1.00
MW-5-15	2.29	0.50
MW-5-20	1.88	0.50
MW-5-25	1.04	0.50
Method Blank	ND	0.250

ND denotes not detected at indicated reportable limit.

Each sample was received by CEL chilled, intact, and with chain-of-custody attached.

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: N/A  
 Method: EPA 418.1M

Project: MTA DIV 6/57-00070056.01

Page 1 of 1

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
MW-5-10	02-02-1155-1	Solid	02/25/02	02/26/02	02/26/02	02022601SA

Parameter	Result	RL	DF	Qual	Units
TRPH	94	10	1		mg/kg

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
MW-5-15	02-02-1155-2	Solid	02/25/02	02/26/02	02/26/02	02022601SA

Parameter	Result	RL	DF	Qual	Units
TRPH	ND	10	1		mg/kg

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
MW-5-20	02-02-1155-3	Solid	02/25/02	02/26/02	02/26/02	02022601SA

Parameter	Result	RL	DF	Qual	Units
TRPH	ND	10	1		mg/kg

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
MW-5-25	02-02-1155-4	Solid	02/25/02	02/26/02	02/26/02	02022601SA

Parameter	Result	RL	DF	Qual	Units
TRPH	ND	10	1		mg/kg

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-07-015-51	Solid	N/A	02/26/02	02/26/02	02022601SA

Parameter	Result	RL	DF	Qual	Units
TRPH	ND	10	1		mg/kg

RL - Reporting Limit    DF - Dilution Factor    Qual - Qualifiers

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: Ext. + D/I  
 Method: EPA 8015M

Project: MTA DIV 6/57-00070056.01

Page 1 of 2

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
<b>MW-5-10</b>	<b>02-02-1155-1</b>	<b>Solid</b>	<b>02/25/02</b>	<b>02/26/02</b>	<b>02/27/02</b>	<b>02022601sa</b>

Comment(s): -The sample chromatographic pattern for TPH does not match the chromatographic pattern of the specified standard. Quantitation of the unknown hydrocarbon(s) in the sample was based upon the specified standard.

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	200	5	1		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	111	45-149			

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
<b>MW-5-15</b>	<b>02-02-1155-2</b>	<b>Solid</b>	<b>02/25/02</b>	<b>02/26/02</b>	<b>02/27/02</b>	<b>02022601sa</b>

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	ND	5.0	1		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	117	45-149			

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
<b>MW-5-20</b>	<b>02-02-1155-3</b>	<b>Solid</b>	<b>02/25/02</b>	<b>02/26/02</b>	<b>02/27/02</b>	<b>02022601sa</b>

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	ND	5.0	1		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	107	45-149			

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
<b>MW-5-25</b>	<b>02-02-1155-4</b>	<b>Solid</b>	<b>02/25/02</b>	<b>02/26/02</b>	<b>02/27/02</b>	<b>02022601sa</b>

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	ND	5.0	1		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	115	45-149			

RL - Reporting Limit    DF - Dilution Factor    Qual - Qualifiers

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

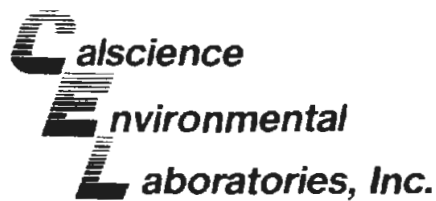
Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: Ext. + D/I  
 Method: EPA 8015M

Project: MTA DIV 6/57-00070056.01

Page 2 of 2

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	098-03-002-1,677	Solid	N/A	02/26/02	02/26/02	02022601sa

Parameter	Result	RL	DF	Qual	Units
TPH as Diesel	ND	5.0	1		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Decachlorobiphenyl	108	45-149			



# ANALYTICAL REPORT

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: EPA 5035  
 Method: EPA 8015M

Project: MTA DIV 6/57-00070056.01

Page 1 of 2

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
<b>MW-5-10</b>	<b>02-02-1155-1</b>	<b>Solid</b>	<b>02/25/02</b>	<b>02/26/02</b>	<b>02/26/02</b>	<b>02022601sa</b>

<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Gasoline	ND	0.19	0.77		mg/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>
1,4-Bromofluorobenzene	110	70-130	

<b>MW-5-15</b>	<b>02-02-1155-2</b>	<b>Solid</b>	<b>02/25/02</b>	<b>02/26/02</b>	<b>02/26/02</b>	<b>02022601sa</b>
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Gasoline	ND	0.22	0.88		mg/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>
1,4-Bromofluorobenzene	105	70-130	

<b>MW-5-20</b>	<b>02-02-1155-3</b>	<b>Solid</b>	<b>02/25/02</b>	<b>02/26/02</b>	<b>02/26/02</b>	<b>02022601sa</b>
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Gasoline	ND	0.27	1.07		mg/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>
1,4-Bromofluorobenzene	102	70-130	

<b>MW-5-25</b>	<b>02-02-1155-4</b>	<b>Solid</b>	<b>02/25/02</b>	<b>02/26/02</b>	<b>02/26/02</b>	<b>02022601sa</b>
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<u>Parameter</u>	<u>Result</u>	<u>RL</u>	<u>DF</u>	<u>Qual</u>	<u>Units</u>
TPH as Gasoline	ND	0.22	0.88		mg/kg

<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>	<u>Qual</u>
1,4-Bromofluorobenzene	102	70-130	

RL - Reporting Limit    DF - Dilution Factor    Qual - Qualifiers

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: EPA 5035  
 Method: EPA 8015M

Project: MTA DIV 6/57-00070056.01

Page 2 of 2

Client Sample Number	Lab Sample Number	Matrix	Date Collected	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	099-12-009-835	Solid	N/A	N/A	02/26/02	02022601sa

Parameter	Result	RL	DF	Qual	Units
TPH as Gasoline	ND	0.25	1		mg/kg
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
1,4-Bromofluorobenzene	93	70-130			

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: EPA 5035  
 Method: EPA 8260B

Project: MTA DIV 6/57-00070056.01

Page 1 of 5

Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5-10	02-02-1155-1	02/25/02	Solid	02/26/02	02/26/02	022602AS

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Acetone	47	16	0.818		ug/kg	1,1-Dichloropropene	ND	1.6	0.818		ug/kg
Benzene	ND	0.82	0.818		ug/kg	c-1,3-Dichloropropene	ND	0.82	0.818		ug/kg
Bromobenzene	ND	0.82	0.818		ug/kg	t-1,3-Dichloropropene	ND	1.6	0.818		ug/kg
Bromochloromethane	ND	1.6	0.818		ug/kg	Ethylbenzene	ND	0.82	0.818		ug/kg
Bromodichloromethane	ND	0.82	0.818		ug/kg	2-Hexanone	ND	16	0.818		ug/kg
Bromoform	ND	4.1	0.818		ug/kg	Isopropylbenzene	ND	0.82	0.818		ug/kg
Bromomethane	ND	16	0.818		ug/kg	p-Isopropyltoluene	ND	0.82	0.818		ug/kg
2-Butanone	ND	16	0.818		ug/kg	Methylene Chloride	ND	8.2	0.818		ug/kg
n-Butylbenzene	ND	0.82	0.818		ug/kg	4-Methyl-2-Pentanone	ND	16	0.818		ug/kg
sec-Butylbenzene	ND	0.82	0.818		ug/kg	Naphthalene	ND	8.2	0.818		ug/kg
tert-Butylbenzene	ND	0.82	0.818		ug/kg	n-Propylbenzene	ND	0.82	0.818		ug/kg
Carbon Disulfide	ND	8.2	0.818		ug/kg	Styrene	ND	0.82	0.818		ug/kg
Carbon Tetrachloride	ND	0.82	0.818		ug/kg	1,1,1,2-Tetrachloroethane	ND	0.82	0.818		ug/kg
Chlorobenzene	ND	0.82	0.818		ug/kg	1,1,2,2-Tetrachloroethane	ND	1.6	0.818		ug/kg
Chloroethane	ND	1.6	0.818		ug/kg	Tetrachloroethene	ND	0.82	0.818		ug/kg
Chloroform	ND	0.82	0.818		ug/kg	Toluene	ND	0.82	0.818		ug/kg
Chloromethane	ND	16	0.818		ug/kg	1,2,3-Trichlorobenzene	ND	1.6	0.818		ug/kg
2-Chlorotoluene	ND	0.82	0.818		ug/kg	1,2,4-Trichlorobenzene	ND	1.6	0.818		ug/kg
4-Chlorotoluene	ND	0.82	0.818		ug/kg	1,1,1-Trichloroethane	ND	0.82	0.818		ug/kg
Dibromochloromethane	ND	1.6	0.818		ug/kg	1,1,2-Trichloroethane	ND	0.82	0.818		ug/kg
1,2-Dibromo-3-Chloropropane	ND	4.1	0.818		ug/kg	Trichloroethene	ND	1.6	0.818		ug/kg
1,2-Dibromoethane	ND	0.82	0.818		ug/kg	Trichlorofluoromethane	ND	8.2	0.818		ug/kg
Dibromomethane	ND	0.82	0.818		ug/kg	1,2,3-Trichloropropane	ND	1.6	0.818		ug/kg
1,2-Dichlorobenzene	ND	0.82	0.818		ug/kg	1,2,4-Trimethylbenzene	ND	1.6	0.818		ug/kg
1,3-Dichlorobenzene	ND	0.82	0.818		ug/kg	1,3,5-Trimethylbenzene	ND	1.6	0.818		ug/kg
1,4-Dichlorobenzene	ND	0.82	0.818		ug/kg	Vinyl Acetate	ND	8.2	0.818		ug/kg
Dichlorodifluoromethane	ND	1.6	0.818		ug/kg	Vinyl Chloride	ND	0.82	0.818		ug/kg
1,1-Dichloroethane	ND	0.82	0.818		ug/kg	p/m-Xylene	ND	1.6	0.818		ug/kg
1,2-Dichloroethane	ND	0.82	0.818		ug/kg	o-Xylene	ND	0.82	0.818		ug/kg
1,1-Dichloroethene	ND	0.82	0.818		ug/kg	Methyl-t-Butyl Ether (MTBE)	ND	1.6	0.818		ug/kg
c-1,2-Dichloroethene	ND	0.82	0.818		ug/kg	Tert-Butyl Alcohol (TBA)	ND	16	0.818		ug/kg
t-1,2-Dichloroethene	ND	0.82	0.818		ug/kg	Diisopropyl Ether (DIPE)	ND	0.82	0.818		ug/kg
1,2-Dichloropropane	ND	0.82	0.818		ug/kg	Ethyl-t-Butyl Ether (ETBE)	ND	0.82	0.818		ug/kg
1,3-Dichloropropane	ND	0.82	0.818		ug/kg	Tert-Amyl-Methyl Ether (TAME)	ND	0.82	0.818		ug/kg
2,2-Dichloropropane	ND	4.1	0.818		ug/kg						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	120	65-157		Toluene-d8	95	51-144	
1,4-Bromofluorobenzene	93	49-141					



URS Corporation  
2020 East 1st Street, Suite 400  
Santa Ana, CA 92705-4032

Date Received: 02/25/02  
Work Order No: 02-02-1155  
Preparation: EPA 5035  
Method: EPA 8260B

Project: MTA DIV 6/57-00070056.01

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5-15	02-02-1155-2	02/25/02	Solid	02/26/02	02/26/02	022602AS

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Acetone	ND	18	0.898		ug/kg	1,1-Dichloropropene	ND	1.8	0.898		ug/kg
Benzene	ND	0.90	0.898		ug/kg	c-1,3-Dichloropropene	ND	0.90	0.898		ug/kg
Bromobenzene	ND	0.90	0.898		ug/kg	t-1,3-Dichloropropene	ND	1.8	0.898		ug/kg
Bromochloromethane	ND	1.8	0.898		ug/kg	Ethylbenzene	ND	0.90	0.898		ug/kg
Bromodichloromethane	ND	0.90	0.898		ug/kg	2-Hexanone	ND	18	0.898		ug/kg
Bromoform	ND	4.5	0.898		ug/kg	Isopropylbenzene	ND	0.90	0.898		ug/kg
Bromomethane	ND	18	0.898		ug/kg	p-Isopropyltoluene	ND	0.90	0.898		ug/kg
2-Butanone	ND	18	0.898		ug/kg	Methylene Chloride	ND	9.0	0.898		ug/kg
n-Butylbenzene	ND	0.90	0.898		ug/kg	4-Methyl-2-Pentanone	ND	18	0.898		ug/kg
sec-Butylbenzene	ND	0.90	0.898		ug/kg	Naphthalene	ND	9.0	0.898		ug/kg
tert-Butylbenzene	ND	0.90	0.898		ug/kg	n-Propylbenzene	ND	0.90	0.898		ug/kg
Carbon Disulfide	ND	9.0	0.898		ug/kg	Styrene	ND	0.90	0.898		ug/kg
Carbon Tetrachloride	ND	0.90	0.898		ug/kg	1,1,1,2-Tetrachloroethane	ND	0.90	0.898		ug/kg
Chlorobenzene	ND	0.90	0.898		ug/kg	1,1,2,2-Tetrachloroethane	ND	1.8	0.898		ug/kg
Chloroethane	ND	1.8	0.898		ug/kg	Tetrachloroethene	ND	0.90	0.898		ug/kg
Chloroform	ND	0.90	0.898		ug/kg	Toluene	ND	0.90	0.898		ug/kg
Chloromethane	ND	18	0.898		ug/kg	1,2,3-Trichlorobenzene	ND	1.8	0.898		ug/kg
2-Chlorotoluene	ND	0.90	0.898		ug/kg	1,2,4-Trichlorobenzene	ND	1.8	0.898		ug/kg
4-Chlorotoluene	ND	0.90	0.898		ug/kg	1,1,1-Trichloroethane	ND	0.90	0.898		ug/kg
Dibromochloromethane	ND	1.8	0.898		ug/kg	1,1,2-Trichloroethane	ND	0.90	0.898		ug/kg
1,2-Dibromo-3-Chloropropane	ND	4.5	0.898		ug/kg	Trichloroethene	ND	1.8	0.898		ug/kg
1,2-Dibromoethane	ND	0.90	0.898		ug/kg	Trichlorofluoromethane	ND	9.0	0.898		ug/kg
Dibromomethane	ND	0.90	0.898		ug/kg	1,2,3-Trichloropropane	ND	1.8	0.898		ug/kg
1,2-Dichlorobenzene	ND	0.90	0.898		ug/kg	1,2,4-Trimethylbenzene	ND	1.8	0.898		ug/kg
1,3-Dichlorobenzene	ND	0.90	0.898		ug/kg	1,3,5-Trimethylbenzene	ND	1.8	0.898		ug/kg
1,4-Dichlorobenzene	ND	0.90	0.898		ug/kg	Vinyl Acetate	ND	9.0	0.898		ug/kg
Dichlorodifluoromethane	ND	1.8	0.898		ug/kg	Vinyl Chloride	ND	0.90	0.898		ug/kg
1,1-Dichloroethane	ND	0.90	0.898		ug/kg	p/m-Xylene	ND	1.8	0.898		ug/kg
1,2-Dichloroethane	ND	0.90	0.898		ug/kg	o-Xylene	ND	0.90	0.898		ug/kg
1,1-Dichloroethene	ND	0.90	0.898		ug/kg	Methyl-t-Butyl Ether (MTBE)	ND	1.8	0.898		ug/kg
c-1,2-Dichloroethene	ND	0.90	0.898		ug/kg	Tert-Butyl Alcohol (TBA)	ND	18	0.898		ug/kg
t-1,2-Dichloroethene	ND	0.90	0.898		ug/kg	Diisopropyl Ether (DIPE)	ND	0.90	0.898		ug/kg
1,2-Dichloropropane	ND	0.90	0.898		ug/kg	Ethyl-t-Butyl Ether (ETBE)	ND	0.90	0.898		ug/kg
1,3-Dichloropropane	ND	0.90	0.898		ug/kg	Tert-Amyl-Methyl Ether (TAME)	ND	0.90	0.898		ug/kg
2,2-Dichloropropane	ND	4.5	0.898		ug/kg						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>			<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control</u>	<u>Qual</u>		
		<u>Limits</u>						<u>Limits</u>			
Dibromofluoromethane	116	65-157				Toluene-d8	97	51-144			
1,4-Bromofluorobenzene	98	49-141									

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Preparation: EPA 5035  
Method: EPA 8260B

Project: MTA DIV 6/57-00070056.01

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5-20	02-02-1155-3	02/25/02	Solid	02/26/02	02/26/02	022602AS

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Acetone	ND	19	0.94		ug/kg	1,1-Dichloropropene	ND	1.9	0.94		ug/kg
Benzene	ND	0.94	0.94		ug/kg	c-1,3-Dichloropropene	ND	0.94	0.94		ug/kg
Bromobenzene	ND	0.94	0.94		ug/kg	t-1,3-Dichloropropene	ND	1.9	0.94		ug/kg
Bromochloromethane	ND	1.9	0.94		ug/kg	Ethylbenzene	ND	0.94	0.94		ug/kg
Bromodichloromethane	ND	0.94	0.94		ug/kg	2-Hexanone	ND	19	0.94		ug/kg
Bromoform	ND	4.7	0.94		ug/kg	Isopropylbenzene	ND	0.94	0.94		ug/kg
Bromomethane	ND	19	0.94		ug/kg	p-Isopropyltoluene	ND	0.94	0.94		ug/kg
2-Butanone	ND	19	0.94		ug/kg	Methylene Chloride	ND	9.4	0.94		ug/kg
n-Butylbenzene	ND	0.94	0.94		ug/kg	4-Methyl-2-Pentanone	ND	19	0.94		ug/kg
sec-Butylbenzene	ND	0.94	0.94		ug/kg	Naphthalene	ND	9.4	0.94		ug/kg
tert-Butylbenzene	ND	0.94	0.94		ug/kg	n-Propylbenzene	ND	0.94	0.94		ug/kg
Carbon Disulfide	ND	9.4	0.94		ug/kg	Styrene	ND	0.94	0.94		ug/kg
Carbon Tetrachloride	ND	0.94	0.94		ug/kg	1,1,1,2-Tetrachloroethane	ND	0.94	0.94		ug/kg
Chlorobenzene	ND	0.94	0.94		ug/kg	1,1,2,2-Tetrachloroethane	ND	1.9	0.94		ug/kg
Chloroethane	ND	1.9	0.94		ug/kg	Tetrachloroethene	ND	0.94	0.94		ug/kg
Chloroform	ND	0.94	0.94		ug/kg	Toluene	ND	0.94	0.94		ug/kg
Chloromethane	ND	19	0.94		ug/kg	1,2,3-Trichlorobenzene	ND	1.9	0.94		ug/kg
2-Chlorotoluene	ND	0.94	0.94		ug/kg	1,2,4-Trichlorobenzene	ND	1.9	0.94		ug/kg
4-Chlorotoluene	ND	0.94	0.94		ug/kg	1,1,1-Trichloroethane	ND	0.94	0.94		ug/kg
Dibromochloromethane	ND	1.9	0.94		ug/kg	1,1,2-Trichloroethane	ND	0.94	0.94		ug/kg
1,2-Dibromo-3-Chloropropane	ND	4.7	0.94		ug/kg	Trichloroethene	ND	1.9	0.94		ug/kg
1,2-Dibromoethane	ND	0.94	0.94		ug/kg	Trichlorofluoromethane	ND	9.4	0.94		ug/kg
Dibromomethane	ND	0.94	0.94		ug/kg	1,2,3-Trichloropropane	ND	1.9	0.94		ug/kg
1,2-Dichlorobenzene	ND	0.94	0.94		ug/kg	1,2,4-Trimethylbenzene	ND	1.9	0.94		ug/kg
1,3-Dichlorobenzene	ND	0.94	0.94		ug/kg	1,3,5-Trimethylbenzene	ND	1.9	0.94		ug/kg
1,4-Dichlorobenzene	ND	0.94	0.94		ug/kg	Vinyl Acetate	ND	9.4	0.94		ug/kg
Dichlorodifluoromethane	ND	1.9	0.94		ug/kg	Vinyl Chloride	ND	0.94	0.94		ug/kg
1,1-Dichloroethane	ND	0.94	0.94		ug/kg	p/m-Xylene	ND	1.9	0.94		ug/kg
1,2-Dichloroethane	ND	0.94	0.94		ug/kg	o-Xylene	ND	0.94	0.94		ug/kg
1,1-Dichloroethene	ND	0.94	0.94		ug/kg	Methyl-t-Butyl Ether (MTBE)	ND	1.9	0.94		ug/kg
c-1,2-Dichloroethene	ND	0.94	0.94		ug/kg	Tert-Butyl Alcohol (TBA)	ND	19	0.94		ug/kg
t-1,2-Dichloroethene	ND	0.94	0.94		ug/kg	Diisopropyl Ether (DIPE)	ND	0.94	0.94		ug/kg
1,2-Dichloropropane	ND	0.94	0.94		ug/kg	Ethyl-t-Butyl Ether (ETBE)	ND	0.94	0.94		ug/kg
1,3-Dichloropropane	ND	0.94	0.94		ug/kg	Tert-Amyl-Methyl Ether (TAME)	ND	0.94	0.94		ug/kg
2,2-Dichloropropane	ND	4.7	0.94		ug/kg						
<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>		<u>Surrogates:</u>	<u>REC (%)</u>	<u>Control Limits</u>		<u>Qual</u>	
Dibromofluoromethane	120	65-157				Toluene-d8	98	51-144			
1,4-Bromofluorobenzene	95	49-141									

RL - Reporting Limit    DF - Dilution Factor    Qual - Qualifiers

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Work Order No: 02-02-1155  
Preparation: EPA 5035  
Method: EPA 8260B

Project: MTA DIV 6/57-00070056.01

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
MW-5-25	02-02-1155-4	02/25/02	Solid	02/26/02	02/26/02	022602AS

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Acetone	ND	16	0.799		ug/kg	1,1-Dichloropropene	ND	1.6	0.799		ug/kg
Benzene	ND	0.80	0.799		ug/kg	c-1,3-Dichloropropene	ND	0.80	0.799		ug/kg
Bromobenzene	ND	0.80	0.799		ug/kg	t-1,3-Dichloropropene	ND	1.6	0.799		ug/kg
Bromochloromethane	ND	1.6	0.799		ug/kg	Ethylbenzene	ND	0.80	0.799		ug/kg
Bromodichloromethane	ND	0.80	0.799		ug/kg	2-Hexanone	ND	16	0.799		ug/kg
Bromoform	ND	4.0	0.799		ug/kg	Isopropylbenzene	ND	0.80	0.799		ug/kg
Bromomethane	ND	16	0.799		ug/kg	p-Isopropyltoluene	ND	0.80	0.799		ug/kg
2-Butanone	ND	16	0.799		ug/kg	Methylene Chloride	ND	8.0	0.799		ug/kg
n-Butylbenzene	ND	0.80	0.799		ug/kg	4-Methyl-2-Pentanone	ND	16	0.799		ug/kg
sec-Butylbenzene	ND	0.80	0.799		ug/kg	Naphthalene	ND	8.0	0.799		ug/kg
tert-Butylbenzene	ND	0.80	0.799		ug/kg	n-Propylbenzene	ND	0.80	0.799		ug/kg
Carbon Disulfide	ND	8.0	0.799		ug/kg	Styrene	ND	0.80	0.799		ug/kg
Carbon Tetrachloride	ND	0.80	0.799		ug/kg	1,1,1,2-Tetrachloroethane	ND	0.80	0.799		ug/kg
Chlorobenzene	ND	0.80	0.799		ug/kg	1,1,2,2-Tetrachloroethane	ND	1.6	0.799		ug/kg
Chloroethane	ND	1.6	0.799		ug/kg	Tetrachloroethene	ND	0.80	0.799		ug/kg
Chloroform	ND	0.80	0.799		ug/kg	Toluene	ND	0.80	0.799		ug/kg
Chloromethane	ND	16	0.799		ug/kg	1,2,3-Trichlorobenzene	ND	1.6	0.799		ug/kg
2-Chlorotoluene	ND	0.80	0.799		ug/kg	1,2,4-Trichlorobenzene	ND	1.6	0.799		ug/kg
4-Chlorotoluene	ND	0.80	0.799		ug/kg	1,1,1-Trichloroethane	ND	0.80	0.799		ug/kg
Dibromochloromethane	ND	1.6	0.799		ug/kg	1,1,2-Trichloroethane	ND	0.80	0.799		ug/kg
1,2-Dibromo-3-Chloropropane	ND	4.0	0.799		ug/kg	Trichloroethene	ND	1.6	0.799		ug/kg
1,2-Dibromoethane	ND	0.80	0.799		ug/kg	Trichlorofluoromethane	ND	8.0	0.799		ug/kg
Dibromomethane	ND	0.80	0.799		ug/kg	1,2,3-Trichloropropane	ND	1.6	0.799		ug/kg
1,2-Dichlorobenzene	ND	0.80	0.799		ug/kg	1,2,4-Trimethylbenzene	ND	1.6	0.799		ug/kg
1,3-Dichlorobenzene	ND	0.80	0.799		ug/kg	1,3,5-Trimethylbenzene	ND	1.6	0.799		ug/kg
1,4-Dichlorobenzene	ND	0.80	0.799		ug/kg	Vinyl Acetate	ND	8.0	0.799		ug/kg
Dichlorodifluoromethane	ND	1.6	0.799		ug/kg	Vinyl Chloride	ND	0.80	0.799		ug/kg
1,1-Dichloroethane	ND	0.80	0.799		ug/kg	p/m-Xylene	ND	1.6	0.799		ug/kg
1,2-Dichloroethane	ND	0.80	0.799		ug/kg	o-Xylene	ND	0.80	0.799		ug/kg
1,1-Dichloroethene	ND	0.80	0.799		ug/kg	Methyl-t-Butyl Ether (MTBE)	ND	1.6	0.799		ug/kg
c-1,2-Dichloroethene	ND	0.80	0.799		ug/kg	Tert-Butyl Alcohol (TBA)	ND	16	0.799		ug/kg
t-1,2-Dichloroethene	ND	0.80	0.799		ug/kg	Diisopropyl Ether (DIPE)	ND	0.80	0.799		ug/kg
1,2-Dichloropropane	ND	0.80	0.799		ug/kg	Ethyl-t-Butyl Ether (ETBE)	ND	0.80	0.799		ug/kg
1,3-Dichloropropane	ND	0.80	0.799		ug/kg	Tert-Amyl-Methyl Ether (TAME)	ND	0.80	0.799		ug/kg
2,2-Dichloropropane	ND	4.0	0.799		ug/kg						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	120	65-157		Toluene-d8	96	51-144	
1,4-Bromofluorobenzene	102	49-141					

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Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: EPA 5035  
 Method: EPA 8260B

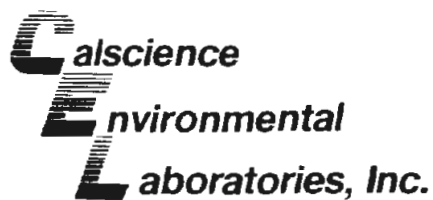
Project: MTA DIV 6/57-00070056.01

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Client Sample Number	Lab Sample Number	Date Collected	Matrix	Date Prepared	Date Analyzed	QC Batch ID
Method Blank	095-01-025-3,883	N/A	Solid	N/A	02/26/02	022602AS

Parameter	Result	RL	DF	Qual	Units	Parameter	Result	RL	DF	Qual	Units
Acetone	ND	20	1		ug/kg	1,1-Dichloropropene	ND	2.0	1		ug/kg
Benzene	ND	1.0	1		ug/kg	c-1,3-Dichloropropene	ND	1.0	1		ug/kg
Bromobenzene	ND	1.0	1		ug/kg	t-1,3-Dichloropropene	ND	2.0	1		ug/kg
Bromochloromethane	ND	2.0	1		ug/kg	Ethylbenzene	ND	1.0	1		ug/kg
Bromodichloromethane	ND	1.0	1		ug/kg	2-Hexanone	ND	20	1		ug/kg
Bromoform	ND	5.0	1		ug/kg	Isopropylbenzene	ND	1.0	1		ug/kg
Bromomethane	ND	20	1		ug/kg	p-Isopropyltoluene	ND	1.0	1		ug/kg
2-Butanone	ND	20	1		ug/kg	Methylene Chloride	ND	10	1		ug/kg
n-Butylbenzene	ND	1.0	1		ug/kg	4-Methyl-2-Pentanone	ND	20	1		ug/kg
sec-Butylbenzene	ND	1.0	1		ug/kg	Naphthalene	ND	10	1		ug/kg
tert-Butylbenzene	ND	1.0	1		ug/kg	n-Propylbenzene	ND	1.0	1		ug/kg
Carbon Disulfide	ND	10	1		ug/kg	Styrene	ND	1.0	1		ug/kg
Carbon Tetrachloride	ND	1.0	1		ug/kg	1,1,1,2-Tetrachloroethane	ND	1.0	1		ug/kg
Chlorobenzene	ND	1.0	1		ug/kg	1,1,2,2-Tetrachloroethane	ND	2.0	1		ug/kg
Chloroethane	ND	2.0	1		ug/kg	Tetrachloroethene	ND	1.0	1		ug/kg
Chloroform	ND	1.0	1		ug/kg	Toluene	ND	1.0	1		ug/kg
Chloromethane	ND	20	1		ug/kg	1,2,3-Trichlorobenzene	ND	2.0	1		ug/kg
2-Chlorotoluene	ND	1.0	1		ug/kg	1,2,4-Trichlorobenzene	ND	2.0	1		ug/kg
4-Chlorotoluene	ND	1.0	1		ug/kg	1,1,1-Trichloroethane	ND	1.0	1		ug/kg
Dibromochloromethane	ND	2.0	1		ug/kg	1,1,2-Trichloroethane	ND	1.0	1		ug/kg
1,2-Dibromo-3-Chloropropane	ND	5.0	1		ug/kg	Trichloroethene	ND	2.0	1		ug/kg
1,2-Dibromoethane	ND	1.0	1		ug/kg	Trichlorofluoromethane	ND	10	1		ug/kg
Dibromomethane	ND	1.0	1		ug/kg	1,2,3-Trichloropropane	ND	2.0	1		ug/kg
1,2-Dichlorobenzene	ND	1.0	1		ug/kg	1,2,4-Trimethylbenzene	ND	2.0	1		ug/kg
1,3-Dichlorobenzene	ND	1.0	1		ug/kg	1,3,5-Trimethylbenzene	ND	2.0	1		ug/kg
1,4-Dichlorobenzene	ND	1.0	1		ug/kg	Vinyl Acetate	ND	10	1		ug/kg
Dichlorodifluoromethane	ND	2.0	1		ug/kg	Vinyl Chloride	ND	1.0	1		ug/kg
1,1-Dichloroethane	ND	1.0	1		ug/kg	p/m-Xylene	ND	2.0	1		ug/kg
1,2-Dichloroethane	ND	1.0	1		ug/kg	o-Xylene	ND	1.0	1		ug/kg
1,1-Dichloroethene	ND	1.0	1		ug/kg	Methyl-t-Butyl Ether (MTBE)	ND	2.0	1		ug/kg
c-1,2-Dichloroethene	ND	1.0	1		ug/kg	Tert-Butyl Alcohol (TBA)	ND	20	1		ug/kg
t-1,2-Dichloroethene	ND	1.0	1		ug/kg	Diisopropyl Ether (DIPE)	ND	1.0	1		ug/kg
1,2-Dichloropropane	ND	1.0	1		ug/kg	Ethyl-t-Butyl Ether (ETBE)	ND	1.0	1		ug/kg
1,3-Dichloropropane	ND	1.0	1		ug/kg	Tert-Amyl-Methyl Ether (TAME)	ND	1.0	1		ug/kg
2,2-Dichloropropane	ND	5.0	1		ug/kg						

Surrogates:	REC (%)	Control Limits	Qual	Surrogates:	REC (%)	Control Limits	Qual
Dibromofluoromethane	105	65-157		Toluene-d8	97	51-144	
1,4-Bromofluorobenzene	93	49-141					



Quality Control - Spike/Spike Duplicate

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: N/A  
 Method: EPA 418.1M

Project: MTA DIV 6/57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-5-20	Solid	IR #1	02/26/02	02/26/02	02022601MS

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TRPH	104	108	55-135	3	0-30	



Quality Control - Laboratory Control Sample

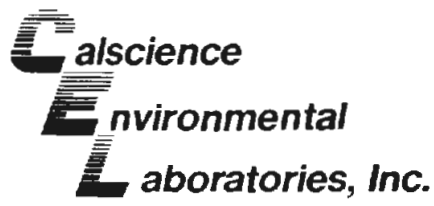
URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: N/A  
 Method: EPA 418.1M

Project: MTA DIV 6/57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-07-015-51	Solid	IR #1	02/26/02	NONE	02022601SA

Parameter	Conc Added	Conc Recovered	%Rec	%Rec CL	Qualifiers
TRPH	200	210	106	70-130	



Quality Control - Spike/Spike Duplicate

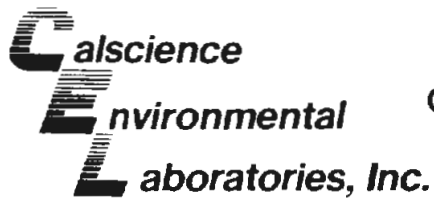
URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: Total Digestion  
 Method: EPA 7421

Project: MTA DIV 6/57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
MW-5-20	Solid	GFAA	02/26/02	03/01/02	022602ms7

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Lead	76	87	50-130	6	0-20	



Quality Control - Laboratory Control Sample

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: Total Digestion  
 Method: EPA 7421

Project: MTA DIV 6/57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
099-07-021-4	Solid	GFAA	03/01/02	0202261c	0202261cs7

Parameter	Conc Added	Conc Recovered	%Rec	%Rec CL	Qualifiers
Lead	2.50	2.43	97	50-130	



**Quality Control - Spike/Spike Duplicate**

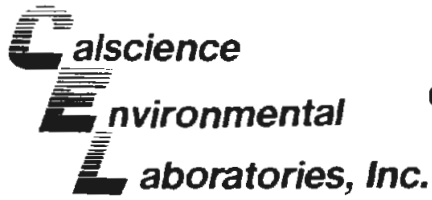
URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: Ext. + D/I  
 Method: EPA 8015M

Project: MTA DIV 6/57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	MS/MSD Batch Number
02-02-1149-1	Solid	GC 23	02/26/02	02/26/02	02022601ms

Parameter	MS %REC	MSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Diesel	104	107	49-139	3	0-28	



Quality Control - Laboratory Control Sample

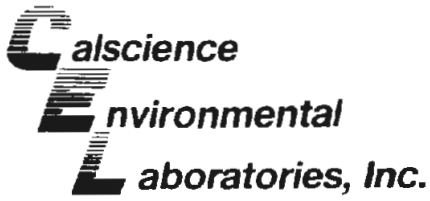
URS Corporation  
2020 East 1st Street, Suite 400  
Santa Ana, CA 92705-4032

Date Received: 02/25/02  
Work Order No: 02-02-1155  
Preparation: Ext. + D/I  
Method: EPA 8015M

Project: MTA DIV 6/57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Analyzed	Lab File ID	LCS Batch Number
098-03-002-1,677	Solid	GC 23	02/26/02	004F0101	02022601sa

<u>Parameter</u>	<u>Conc Added</u>	<u>Conc Recovered</u>	<u>%Rec</u>	<u>%Rec CL</u>	<u>Qualifiers</u>
TPH as Diesel	400	410	102	65-124	



Quality Control - LCS/LCS Duplicate

URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: EPA 5035  
 Method: EPA 8015M

Project: MTA DIV 6/57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
099-12-009-835	Solid	GC 25	N/A	02/26/02	02022601sa

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
TPH as Gasoline	114	118	70-130	3	0-25	

**Quality Control - LCS/LCS Duplicate**

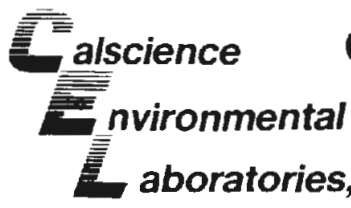
URS Corporation  
 2020 East 1st Street, Suite 400  
 Santa Ana, CA 92705-4032

Date Received: 02/25/02  
 Work Order No: 02-02-1155  
 Preparation: EPA 5035  
 Method: EPA 8260B

Project: MTA DIV 6/57-00070056.01

Quality Control Sample ID	Matrix	Instrument	Date Prepared	Date Analyzed	LCS/LCSD Batch Number
095-01-025-3,883	Solid	GC/MS Q	N/A	02/26/02	022602AS

Parameter	LCS %REC	LCSD %REC	%REC CL	RPD	RPD CL	Qualifiers
Benzene	97	97	76-124	0	0-15	
Carbon Tetrachloride	103	103	66-137	1	0-16	
Chlorobenzene	98	100	72-129	1	0-21	
1,2-Dichlorobenzene	98	97	79-121	0	0-20	
1,1-Dichloroethene	104	104	59-131	0	0-14	
Toluene	96	97	72-130	0	0-16	
Trichloroethene	96	97	69-130	0	0-18	
Vinyl Chloride	105	102	51-136	3	0-21	
Methyl-t-Butyl Ether (MTBE)	115	115	69-149	0	0-17	
Tert-Butyl Alcohol (TBA)	93	92	49-145	0	0-25	
Diisopropyl Ether (DIPE)	98	99	73-133	1	0-25	
Ethyl-t-Butyl Ether (ETBE)	92	93	73-132	1	0-25	
Tert-Amyl-Methyl Ether (TAME)	91	92	82-120	1	0-25	



# GLOSSARY OF TERMS AND QUALIFIERS

Work Order Number: 02-02-1155

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<u>Qualifier</u>	<u>Definition</u>
ND	Not detected at indicated reporting limit.

**CALSCIENCE ENVIRONMENTAL LABORATORIES, INC.**

7440 LINCOLN WAY  
GARDEN GROVE, CA 92841-1432  
TEL: (714) 895-5494 • FAX: (714) 894-7501

**CHAIN OF CUSTODY RECORD**

Date 2.25.02  
Page 1 of 1

LABORATORY CLIENT: URS  
ADDRESS: 2020 E FIRST ST, SUITE 400  
CITY: SANTA ANA STATE: CA ZIP: 92705  
TEL: 714.835.6886 FAX: 714.667.7147 E-MAIL: \_\_\_\_\_  
TURNAROUND TIME:  
 SAME DAY  24 HR  48 HR  72 HR  5 DAYS  10 DAYS  
SPECIAL REQUIREMENTS (ADDITIONAL COSTS MAY APPLY)  
 RWQCB REPORTING  COELT REPORTING  
SPECIAL INSTRUCTIONS:  
PLEASE INCLUDE FUEL OXYGENATES W/ VOC REPORT (DIPE, TAME, TBA, ETBE, MTBE)  
PLEASE REPORT IN GEOTRACER FORMATS

CLIENT PROJECT NAME / NUMBER: MTA DIV 6 157-00070056.01 P.O. NO.: \_\_\_\_\_  
PROJECT CONTACT: GINGER CONWELL LAB USE ONLY:       
SAMPLER/BY: (SIGNATURE) [Signature] COELT LOG CODE:     COOLER RECEIPT: TEMP = \_\_\_\_\_ °C

**REQUESTED ANALYSES**

LAB USE ONLY	GEIMS ID	SAMPLE ID	SAMPLING		MATRIX	NO. OF CONT.	TPH (G)	TPH (D) or	BTEX / MTBE (8021B)	HALOCARBONS (8021B)	VOCs (8260B)	VOCs (5035 / 8260B) EnCore	SVOCs (8270C)	PEST (8081A)	PCBs (808Z)	EOB / DBCP (504.1) or (8011)	CAC, T22 METALS (6010B)	PNAs (8310)	VOCs (TO-14A) or (TO-15)	TRPH (418.1)	LEAD (7421)	HOLD
			DATE	TIME																		
	<u>T0603701338</u>	<u>MW-5-10</u>	<u>2.25.02</u>	<u>1255</u>	<u>SOIL</u>	<u>6</u>	X	X			X									X	X	
		<u>MW-5-15</u>		<u>1300</u>			X	X			X									X	X	
		<u>MW-5-20</u>		<u>1304</u>			X	X			X									X	X	
		<u>MW-5-25</u>		<u>1309</u>			X	X			X									X	X	
	<u>TRIP BLANK</u>	<u>TRIP BLANK</u>		<u>LAB</u>	<u>H2O</u>	<u>2</u>																X
<u>END OF RECORD</u>																						

Relinquished by: (Signature) <u>[Signature]</u>	Received by: (Signature) <u>[Signature]</u>	Date: <u>2/25/02</u>	Time: <u>1540</u>
Relinquished by: (Signature) _____	Received by: (Signature) _____	Date: _____	Time: _____
Relinquished by: (Signature) <u>[Signature]</u>	Received for Laboratory by: (Signature) <u>[Signature]</u>	Date: <u>2/25/02</u>	Time: <u>1725</u>

CS&Q Graphic (714) 898-9702