rec'd 4/14/94

GEOTECH
CONSULTANTS, INC.

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Bellevue, WA 98005
(206) 747-5618
FAX 747-8561

December 10, 1993

JN 93299E-2

G & M Investments
510 Rainier Avenue South
Seattle, Washington 98144

Attention: Michael K. Mastro

REPORT: Supplemental Subsurface Exploration and Testing
Garden Plaza and Fifth and Park Property
North Sixth Street at Park Avenue
Renton, Washington

Dear Mr. Mastro:

Geotech Consultants, Inc. has completed supplemental drilling, installation of groundwater monitoring wells, and laboratory analysis of soil and groundwater samples from the subject site. This report, prepared in accordance with our proposal dated November 10, 1993, summarizes our approach to the project along with results and conclusions.

Results of our original field sampling and laboratory analyses, presented to you in a report dated November 5, 1993, confirmed the presence of elevated levels of petroleum hydrocarbons at two locations and vinyl chloride at one distinct location on the site. Work completed for this phase of the project was intended to further delineate the areal and vertical extent of the petroleum hydrocarbon-affected regions discovered during our original work.

The results of this most recent site work confirm that the previously discovered petroleum hydrocarbon-affected regions are confined to small localized areas. Our field exploration and sampling along with laboratory analysis indicates that residual petroleum hydrocarbons discovered previously in soil at the location of boring B-2 are confined to that area and have not impacted groundwater at that location. Additionally, diesel-affected groundwater present at the location of monitoring well MW-4 at levels above the Method A cleanup guidelines (MTCA, Chapter 173-340) appears to be limited to the approximate area shown on Plate 3. Sampling and analysis of monitoring well MW-4 for this phase of the

project showed a significant decrease in diesel-range hydrocarbons since the initial sampling activities in October.

Based upon the localized extent of the contaminated regions, there does not appear to be a need for active remediation. The levels and extent of contamination, in our opinion, do not pose "an unacceptable threat to human health and the environment." We recommend that a long-term monitoring approach be implemented in the area of monitoring well MW-4. This would include sampling wells MW-4, MW-10, MW-11, and MW-12 on a quarterly basis until three successive sampling efforts indicate levels of diesel-range hydrocarbons in MW-4 have decreased through natural degradation to below cleanup guidelines or until a steady-state or stable condition has been achieved.

We appreciate the opportunity to be of continuing service on this project and trust that the information provided here will be of value in your site management efforts. We look forward to continuing to provide service on this project. If you have any questions, please do not hesitate to contact us.

Respectfully Submitted,

GEOTECH CONSULTANTS, INC.

Sean P. O'Brien by RME

Sean P. O'Brien
Environmental Engineer

REPORT: Additional Subsurface Exploration and Testing

Garden Plaza and Fifth and Park Property
North Sixth Street at Park Avenue
Renton, Washington

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REPORT: Additional Subsurface Exploration and Testing

Garden Plaza and Fifth and Park Property
North Sixth Street at Park Avenue
Renton, Washington

PROJECT DESCRIPTION

The site is located at the southeast corner of Park Avenue North and North Sixth Street, and encompasses two office buildings and a parking garage. Immediately east of the site, across Garden Avenue North is a U.S. Environmen-tal Protection Agency (EPA) Superfund site known as PACCAR (Pacific Car and Foundry). The Vicinity Map, Plate 1, illustrates the general location of the site.

Our previous work, as stated in our report to you dated November 5, 1993, confirmed petroleum hydrocarbon contamination at two locations on the site. Groundwater contaminated by diesel fuel was found at the location of monitoring well MW-4, and heavy oil was noted in soil at the location of boring B-2. A monitoring well, identified as LMW-2D, was also sampled and analyzed at that time for the presence of vinyl chloride identified in a previous study (see Reference 3). Results of our sampling indicated the continuing presence of vinyl chloride at concentrations above current regulatory clean-up levels but at lower concentrations than previously reported.

Our exploration program for this phase of the project was directed at more clearly defining the areal and vertical extent of the petroleum-affected areas.

METHODOLOGY/SCOPE OF WORK

Our scope of work for the project included the following tasks:

Drilling and Sampling

On November 17 and 18, 1993, an environmental engineer from our firm visited the site and observed the drilling of five additional borings (B-8 through B-12) at the locations shown on Plate 2, Site Exploration Plan.

Two borings (B-8 and B-9) were drilled in the immediate vicinity of boring B-2 to test for heavy-oil-range hydrocarbons in the soils. Three additional borings (B-10, B-11, and B-12) were completed surrounding the location of monitoring well MW-4. These three borings were converted to monitoring wells to sample groundwater.

Equipment employed for the drilling consisted of a truck-mounted drilling rig, equipped with 4-inch-inner-diameter hollow stem augers. The soils were sampled with a standard penetration sampler driven 18 inches at 5-foot intervals using a 140-pound hammer in general accordance with ASTM Method D-1586.

Samples were transferred from the sampler directly to sterilized glass jars with teflon-sealed lids furnished by the laboratory. Samples were stored in an iced chest at the site and taken to the laboratory in this conditions in an effort to preserve sample integrity by minimizing excessive dissipation of volatile fraction hydrocarbons. Each jar was labeled as to boring number, sample depth, field personnel, etc. EPA-recommended sample management protocol including maintenance of chain-of-custody documentation was observed at each stage of the project.

During drilling a field log was made by the project environmental engineer for each boring. Information recorded versus corresponding depth included soil classification (Unified Soil Classification System), color, texture, moisture, seepage zones, odors, iridescent sheens, etc.

Monitoring Well Installation

At the completion of soil borings B-10, B-11, and B-12 a groundwater monitoring well was installed. Monitoring well design and construction methods conformed to requirements and specifications outlined in WAC 173-160. As illustrated schematically on Plate 9 appended to this report, the well screen in each of the installations was positioned so as to span the maximum and minimum range of the anticipated seasonal groundwater fluctuation, thus facilitating representative sampling of water at any time during the year. The annulus of each well casing was sand packed 2 to 3 feet above well screens; a bentonite seal was placed above the sand and carried to within 2 feet of the ground surface to

prevent infiltration of surface contamination along the well casing. A non-shrinking cement grout was used to stabilize the upper section of each well. A protective casing with provisions for locking access to the well head was also provided.

Groundwater Sampling

Prior to sampling, a piston lift-type portable pump was used to purge each well by removing a minimum of three well volumes of water. This procedure was intended to assure that samples obtained from the wells would be representative of ambient groundwater conditions in the surrounding water-bearing strata.

Following developmental purge pumping, a sterilized stainless steel bailer was used to extract a groundwater sample from each of the wells. Samples were poured into labeled glassware furnished by the laboratory. Samples were stored in an iced chest on site and transported to the lab in this condition. As with the soil samples, chain of custody documentation was observed at each stage of the project.

Laboratory Analysis

Based upon our previous work on the site property, the following set of analyses were conducted on selected soil and groundwater samples:

WTPH-HCID for Petroleum Hydrocarbons (Soil)

In accordance with published Washington Department of Ecology (WDOE) documents including Publications 90-52 (Guidance for Site Checks and Site Assessments) and 91-30 (Guidance for Remediation of Releases from USTs), all selected soil samples were initially analyzed by the hydrocarbon identification test (WTPH-HCID). This analysis identifies the type of hydrocarbons, if any, that are present in the sample. Detection limits for soil are 20 ppm for gasoline, 50 ppm for diesel, and 100 ppm for heavy oil.

The HCID test is a qualitative test. Based upon the results of the HCID analysis, further analysis was requested. EPA Method 418.1 was conducted on a sample from boring B-10, and WTPH-Diesel was conducted on a sample from boring B-12.

WTPH-Diesel Extended Range (Water)

The extended-range diesel analysis quantifies hydrocarbon compounds from C12 to C30, including diesel-range hydrocarbons and some heavier oil-range hydrocarbons. Each of the water samples collected from MW-4, MW-10, MW-11, and MW-12 were analyzed by the WTPH-Diesel-extended test. The lower detection limit in water for this test is 0.5 parts per million (ppm).

FINDINGS

Surface

The subject property is a large rectangular parcel of land comprising one city block in Renton, Washington. The site is bounded on the north by North 6th Street, on the east by Garden Avenue North, on the south by North 5th Street, and on the west by Park Avenue North. The general location of the site is illustrated on the Vicinity Map, Plate 1.

The site is developed with the seven-story Garden Plaza office building, the three-story Fifth and Park building, and a three-story parking garage. Land use in the general vicinity of the property is zoned industrial to the north and east, and business and residential to the south and west. More specifically, the site is bordered as follows:

NORTH: The Boeing Commercial Airplane Division--Renton Facility (BCA-Renton) owns the property to the north of the site, across North 6th Street. The property is undeveloped and utilized as a parking lot.

EAST: Garden Avenue North defines the eastern border of the site. The Pacific Car and Foundry (PACCAR) Superfund site is located on the east side of Garden Avenue North.

SOUTH: North 5th Street lies along the southern border of the site. Older single-family residences line the south side of North 5th Street.

WEST: Park Avenue North marks the western property line. Little Tokyo restaurant, an automotive repair shop and single-family residences are located on the west side of Park Avenue North.

Topographically, the site is relatively flat, with slight local relief limited to building fill and landscape berms.

Observations during Drilling

As previously noted, five additional borings (B-8 through B-12) were drilled at the locations noted on Plate 2. Please refer to the individual boring logs appended as Plates 4 through 8 for specific conditions encountered at each location.

Soil

In general, subsurface conditions beneath the subject site consist of alternating layers of loose, silty sand and sandy silt, with lenses of clayey silt noted in some borings.

Soil samples were collected at 5-foot intervals in each boring, unless otherwise noted on the individual boring logs. Each sample was subjected to headspace analysis using field screening techniques to assess potential hydrocarbon vapor concentrations in soil. Hydrocarbon concentrations are recorded on the boring logs next to each sample.

Petroleum odors were not noted while drilling the borings.

Groundwater

During drilling of the five borings, groundwater was encountered between 7 and 12 feet, depending on the location and relative elevation of the borings. Monitoring wells were installed in three of the borings. The depth to groundwater was measured in each of the wells, and the results are reflected on the boring logs.

Laboratory Analysis

Table A provides a summary of the results of laboratory analysis on soil and groundwater samples selected for testing.

As noted in Table A, residual petroleum hydrocarbons were noted in soil from boring B-10 and boring B-12. No detectable levels of diesel were found in the groundwater samples submitted from MW-10, MW-11, or MW-12. MW-4 was resampled and the results of analysis indicated 6.2 ppm diesel.

CONCLUSIONS/RECOMMENDATIONS

Soil

Based upon observations made during field exploration, along with results of sampling and analysis, it appears that residual petroleum hydrocarbon contamination in soils identified on the property is limited to small localized areas.

In our earlier study we reported a concentration of 420 ppm heavy-oil-range hydrocarbons at 10 feet in boring B-2. Borings B-8 and B-9, placed approximately 10 feet to the north and south of boring B-2 did not reveal detectable levels of petroleum hydrocarbons.

Elevated levels of diesel-range and heavy-oil-range hydrocarbons were discovered in soils at the location of boring B-10 and B-12 during this phase of the study. Heavy-oil-range hydrocarbons from boring B-10 were detected at 93 ppm by EPA Method 418.1 for total petroleum hydrocarbons (TPH). This level is less than the 200 ppm cleanup guideline set in the MTCA Method A criteria. Diesel-range hydrocarbons elevated at 300 ppm were detected in soil from boring B-12. This level does not represent a significant elevation above the cleanup guideline of 200 ppm. Groundwater was not impacted at these two locations.

Groundwater

The diesel-affected groundwater detected at the location of monitoring well MW-4 in our earlier study appears to be a localized occurrence. Groundwater extracted from monitoring wells MW-10, MW-11, and MW-12 did not reveal detectable levels of diesel-range hydrocarbons. The contamination does not appear to extend to these areas.

The introduction to the Model Toxics Control Act, Chapter 173-340 WAC states, "Eliminating all risks at a contaminated site often is not possible. And since any level of exposure to a hazardous substance is assumed to result in some risk, "clean" generally means that a site is cleaned up to the point that contamination no longer poses an unacceptable threat to human health or the environment."

Based on the current use of the site and surrounding area, it does not appear that the affected regions of the property pose an unacceptable threat to human health or the environment. As such, using MTCA definitions, the subject property may be considered "clean." However, as a diligent effort, we recommend that a quarterly monitoring program be implemented to document potential seasonal fluctuations and natural degradation over time.

The monitoring program may be discontinued at a time when three consecutive sampling efforts indicate that petroleum hydrocarbon levels have decreased to below the cleanup guidelines or until a stable or "steady-state" condition has been achieved. The monitoring should include monitoring well MW-4, MW-10, MW-11, and MW-12.

Because the Garden Plaza site has been impacted by vinyl chloride contamination in groundwater from a probable off-site source, we recommend annual resampling of LMW-2D and analysis for vinyl chloride in an effort to monitor the effectiveness of remediation activities at the PACCAR facility to the east.

Monitoring well LMW-6, located in the northwest corner of the site, has not been resampled or analyzed. In 1989, groundwater extracted from LMW-6 contained 56 ppm TPH. We recommended sampling of this well for the current study, but were unable to access the well in a timely fashion. It is still our opinion that it would be prudent to resample this well. We recommend that LMW-6 be resampled during the first round of quarterly monitoring.

LIMITATIONS

This report has been prepared for the exclusive use of Mike Mastro, G & M Investments, and their representatives, for specific application to this site. Our work for this project was conducted in a manner consistent with that level of care and skill normally exercised by members of the environmental science profession currently practicing under similar conditions in the area, and in accordance with the terms and conditions of our proposal dated November 10, 1993. No other warranty, expressed or implied, is made.

If new information is developed in future site work which may include excavations, borings, studies, etc., Geotech Consultants, Inc. must be retained to reevaluate the conclusions of this report and to provide amendments as required. We accept no responsibility or liability for independent interpretations or opinions formulated by reviewers of this document.

We appreciate the opportunity to be of service on this project and trust that the information provided here will be of value in management and planning efforts. If you have any

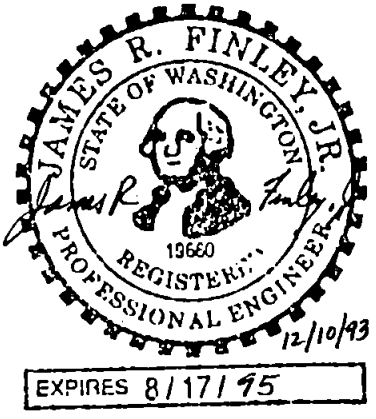
questions or if we may be of further service, please do not hesitate to contact us.

Respectfully Submitted,

GEOTECH CONSULTANTS, INC.

Sean P. O'Brien by RME

Sean P. O'Brien
Environmental Engineer



EXPIRES 8/17/95

James R. Finley, Jr., P.E.
Principal

REFERENCES

(1) Hart Crowser, Inc., December 5, 1986. Site Assessment Soil and Groundwater Quality, PACCAR Facility, Renton, Washington. Prepared for PACCAR Defense Systems, J-1639-02.

(2) Rittenhouse-Zeman and Associates, 1989. Environmental Evaluation Boeing Building 7-13, 500 Park Avenue North, Renton, Washington.

(3) Landau Associates, Inc., July 24, 1989. Final Report - Property Assessments; E and H Properties (Renton), Prepared for Boeing Environmental Affairs.

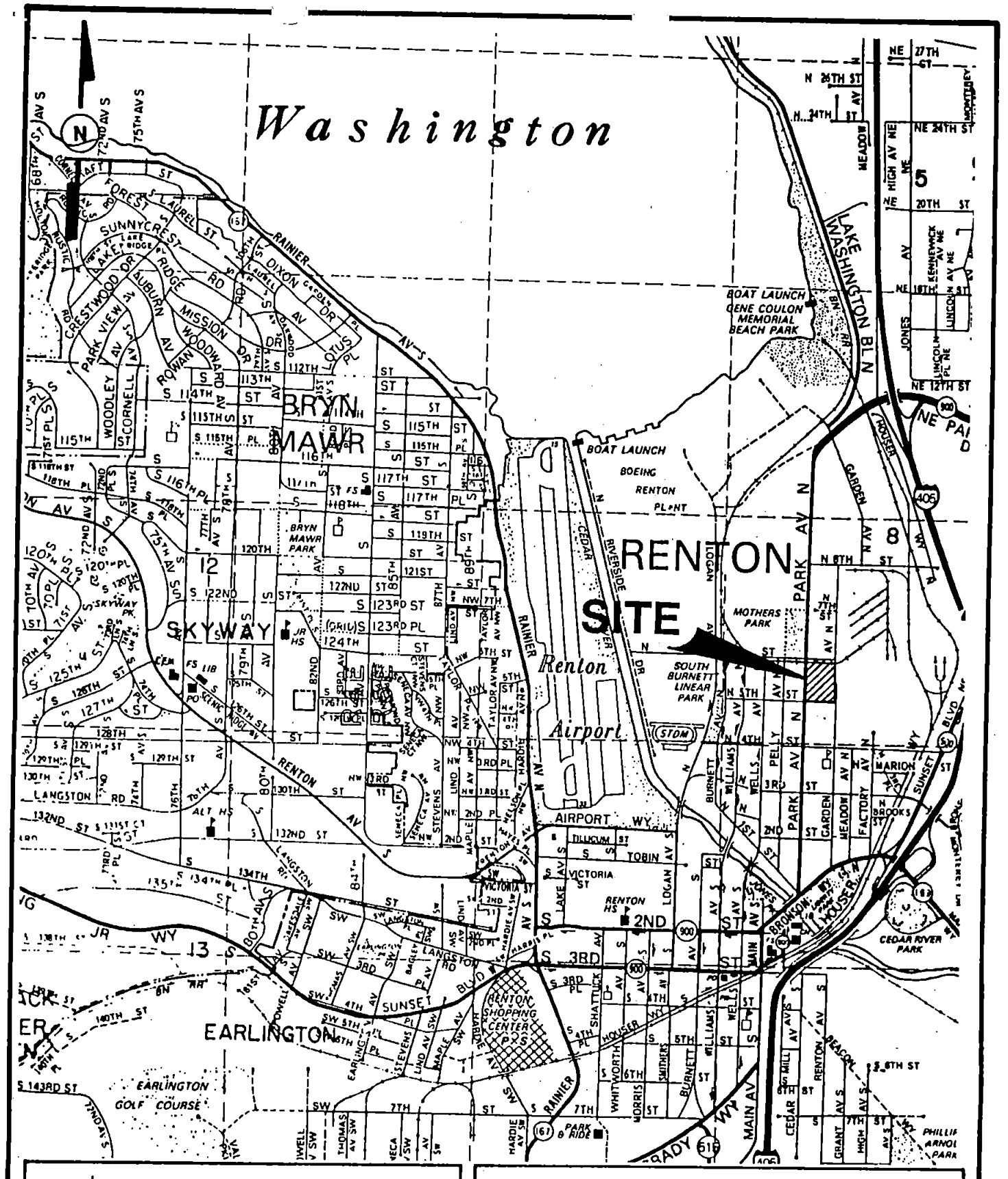
(4) Geotech Consultants, Inc., November 5, 1993, Subsurface Exploration and Testing, Garden Plaza and Fifth and Park Property, 14 pps., 10 Plates, Lab reports.

TABLE A - LABORATORY RESULTS

Sample No.	Medium	Depth	Analysis	Results/Comments
93299-B8-2	soil	10	WTPH-HCID	ND gas, diesel, and oil
93299-B9-2	soil	10	WTPH-HCID	ND gas, diesel, and oil
93299-B10-2	soil	10	WTPH-HCID EPA 418.1	Oil range hydrocarbons 93 ppm TPH
93299-B11-2	soil	10	WTPH-HCID	ND gas, diesel, and oil
93299-B12-2	soil	10	WTPH-HCID WTPH-Diesel	Diesel range hydrocarbons 300 ppm Diesel
93299-MW4	water		WTPH-Diesel	6.2 ppm
93299-MW10	water		WTPH-Diesel	None detected
93299-MW11	water		WTPH-Diesel	None detected
93299-MW12	water		WTPH-Diesel	None detected

Notes:

1) Ppm denotes concentrations in parts per million
2) Ppb denotes concentrations in parts per billion
3) ND denotes non-detectable levels of analyte
4) HCID detection limits
   - 20 ppm gas
   - 50 ppm diesel
   - 100 ppm oil range
5) WTPH-Diesel detection limits 0.5 ppm

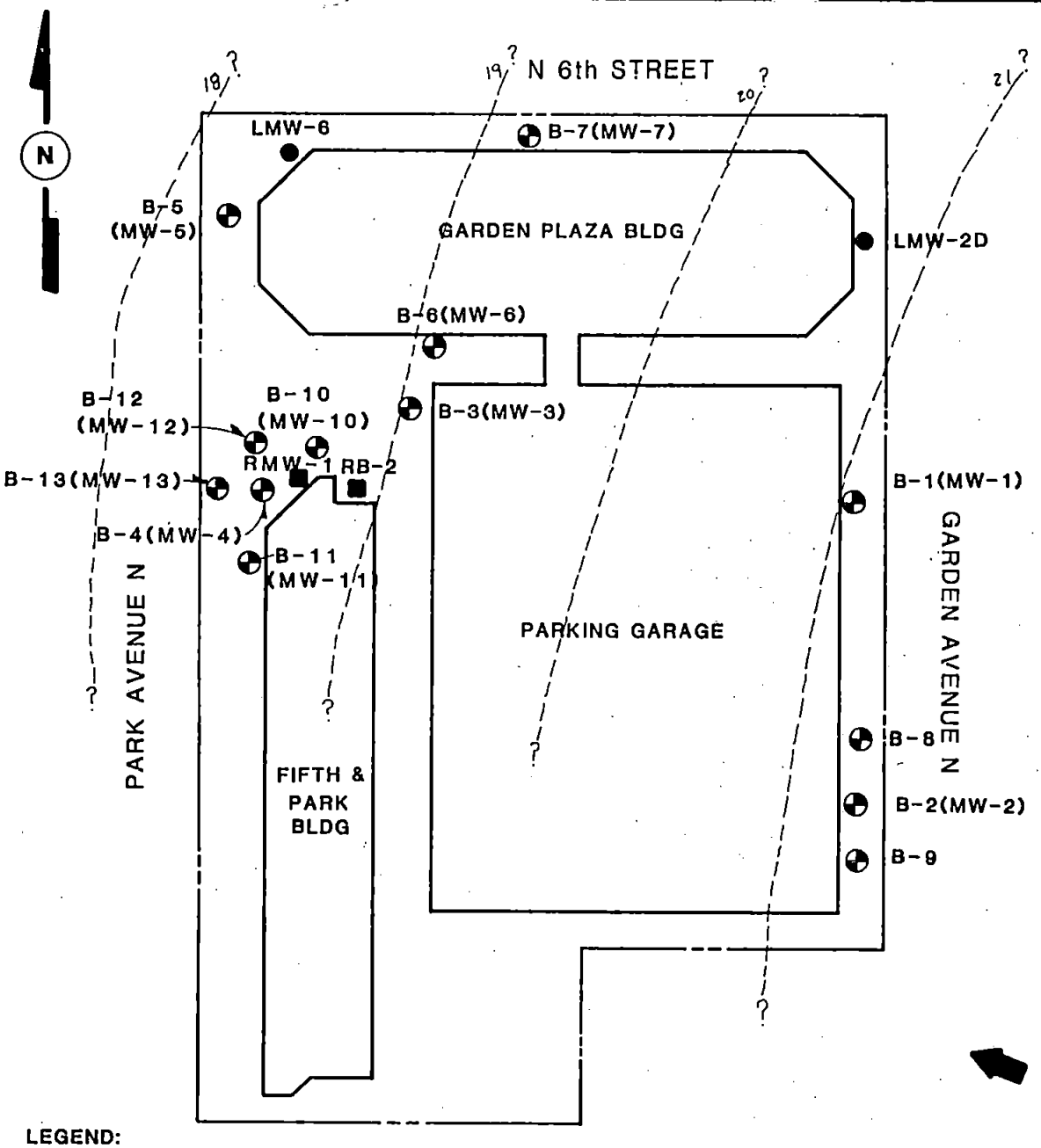


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VICINITY MAP

PARK AVENUE N AT N 6th STREET
RENTON, WA

Job No.:	Date:	Logged By:	Plate:
93299E	NOV 1993		1



LEGEND:

- EXPLORATION LOCATIONS BY RZA (1989)
- EXPLORATION LOCATIONS BY LANDAU (1989)
- BORING/MONITORING WELLS BY GEOTECH CONSULTANTS OCT 1993 -FEB 1994
- MEASURED DIRECTION OF GROUNDWATER MOVEMENT BELOW SITE
- APPROXIMATE GROUNDWATER CONTOUR ELEVATION LINES

0 100 200

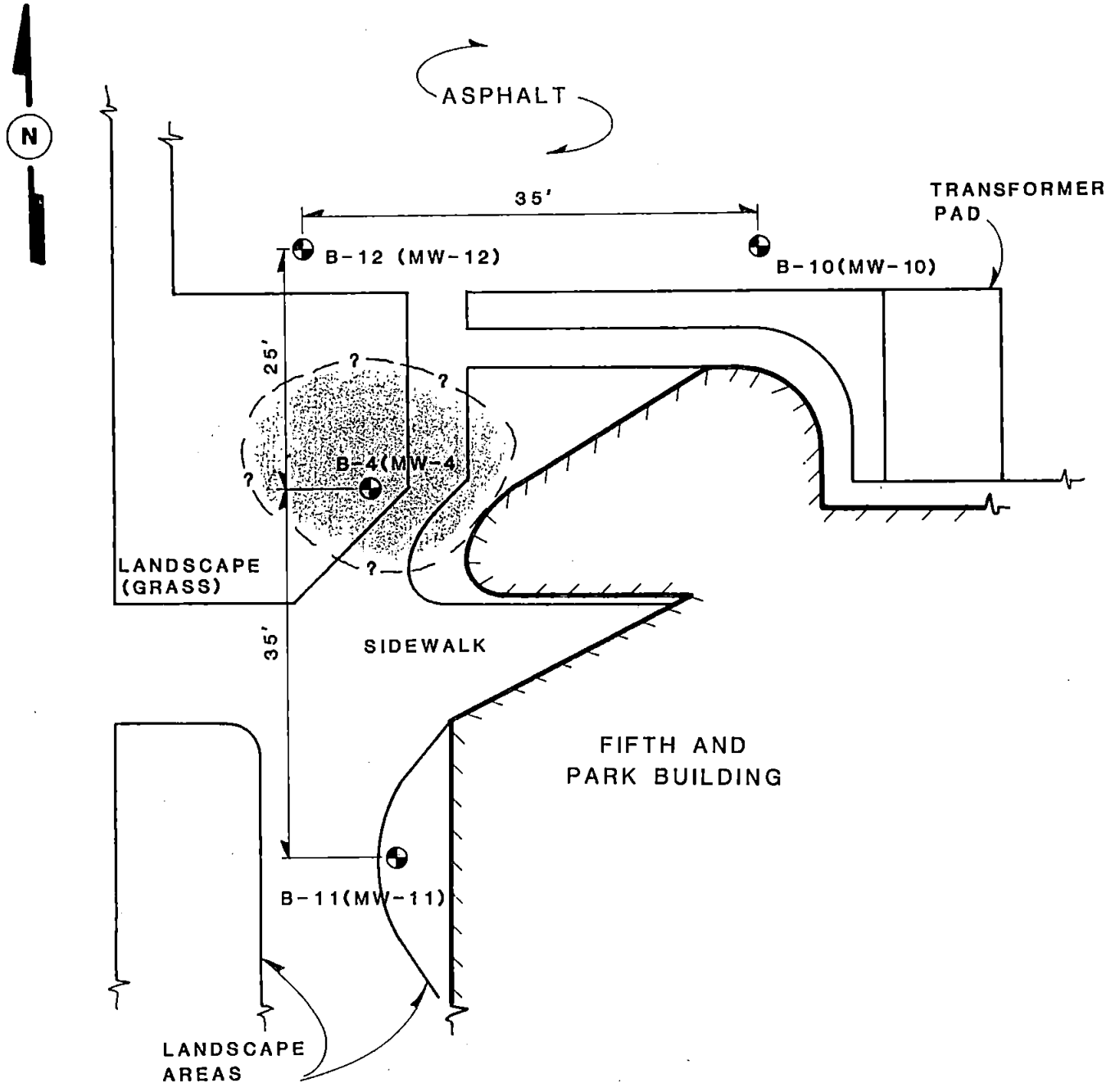
SCALE IN FEET

GEOTECH CONSULTANTS

SITE EXPLORATION PLAN

PARK AVENUE N AT N.6th STREET
RENTON, WA

Job No.:	Date:		Plate:
93299E	NOV 1993		2



LEGEND:

APPROXIMATE BORING/MONITORING WELL LOCATIONS

PROBABLE LIMITS OF DIESEL-AFFECTED GROUNDWATER

GEOTECH CONSULTANTS

NORTHWEST CORNER SITE PLAN
PARK AVENUE AT N 6th STREET
RENTON, WA

Job No.:	Date:		Plate:
93299E	DEC 1993	NTS	3

BORING 8

Moisture Content (%)	Sample	Blows per Foot	USCS	Description
			FILL	Landscape area, construction debris noted (FILL)
		8	SM	Brown, silty SAND, moist, loose (HC < 10 ppm)
	1	8	ML	Brownish gray mottled with orange, sandy SILT, wet,firm (HC < 10 ppm)
	2	4	SP SM	Gray, silty, fine grained SAND, wet, very loose (HC < 10ppm)
		7		-becomes medium grained, less silty (HC < 10ppm)
		7	SM	Gray, silty SAND, wet, loose (HC < 10 ppm)

Test boring was terminated at 20.5 feet below grade on 11-17-93
Groundwater was encountered at approximately 10 feet during drilling.

Note: -HC denotes hydrocarbon concentrations as measured during field work in the headspace of a plastic bag.

-ppm denotes parts per million.

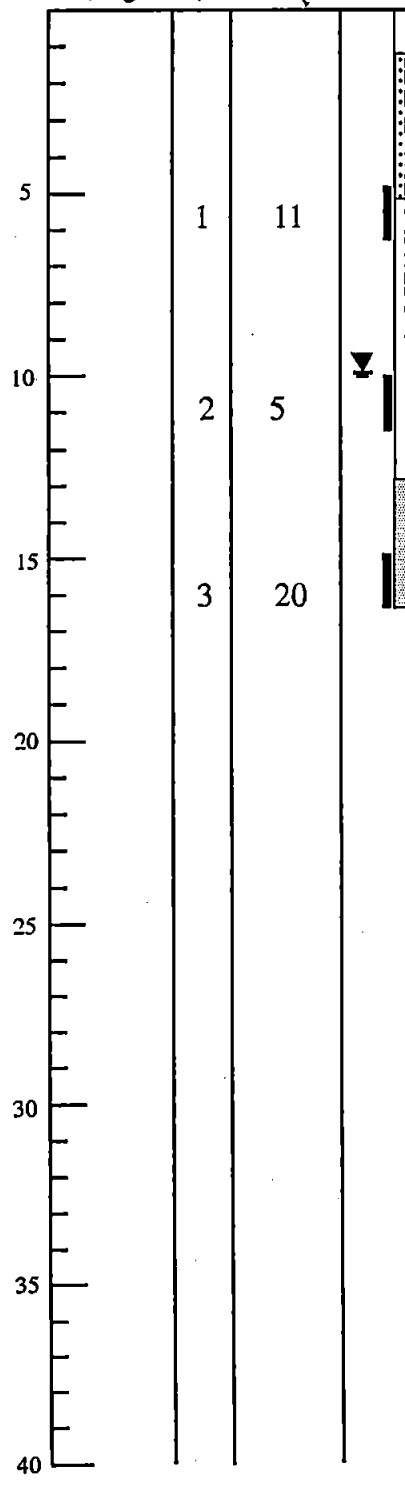
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TEST BORING LOG

PARK AVENUE N. AT N. 6th STREET
RENTON, WA

Job No:	Date:	Logged by:	Plate:
93299E-2	DEC 1993	SPO	4

BORING 9



USCS	Description
	Landscape area
SM	Brown, mottled with orange, silty SAND, moist to wet, loose (HC < 10 ppm)
ML	Gray, sandy SILT, wet, loose (HC < 10 ppm)
	(HC < 10 ppm)
SP	Gray, medium grained SAND, wet, medium dense (HC < 10 ppm)

Test boring was terminated at 16.5 feet below grade on 11-17-93 Groundwater was encountered at approximately 10 feet during drilling.

Note: -HC denotes hydrocarbon concentrations as measured during field work in the headspace of a plastic bag.

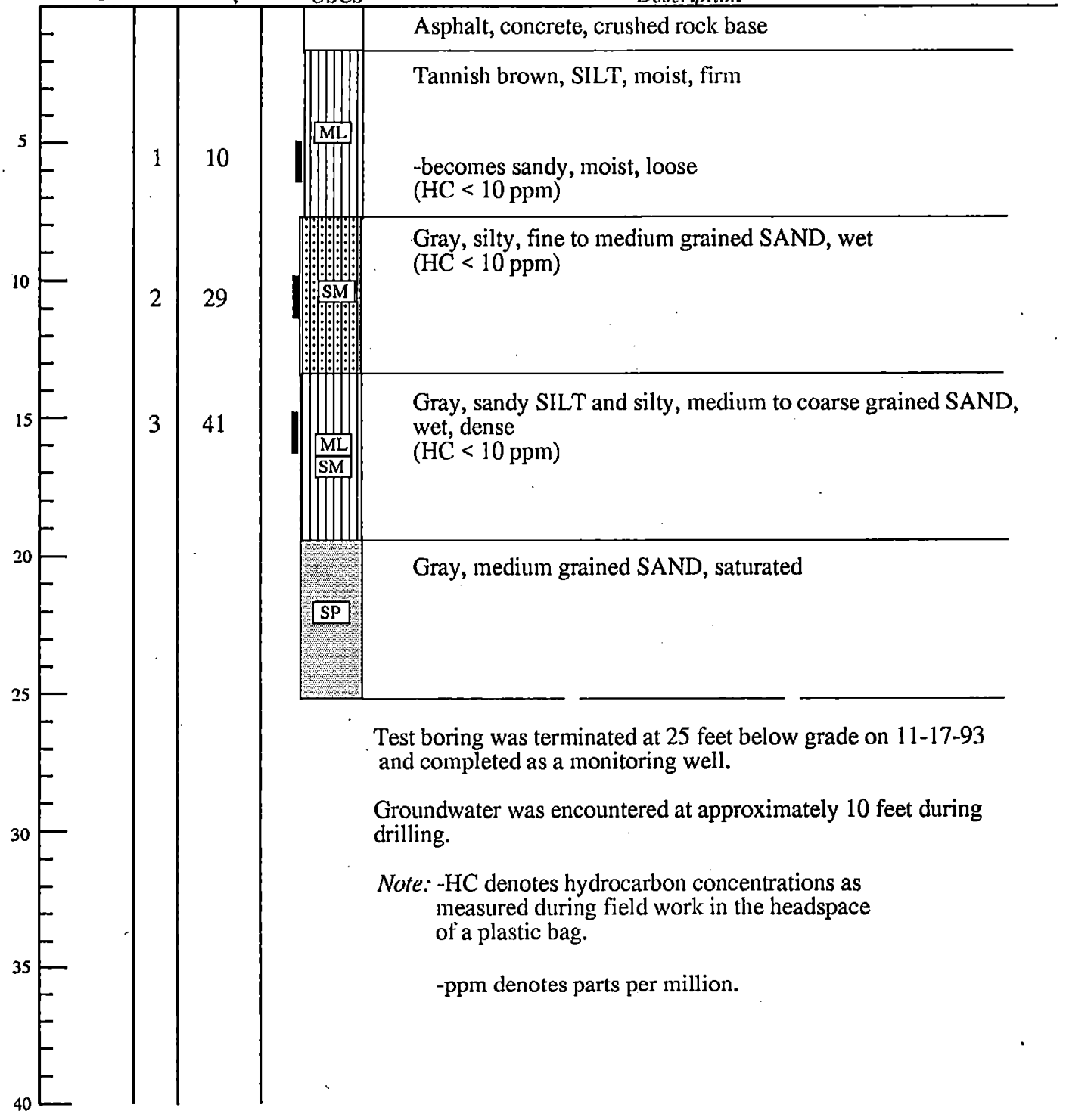
-ppm denotes parts per million.

GEOTECH
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TEST BORING LOG
PARK AVENUE N. AT N. 6th STREET
RENTON, WA

Job No:	Date:	Logged by:	Plate:
93299E-2	DEC 1993	SPO	5

BORING 10 (Monitoring Well 10)



Test boring was terminated at 25 feet below grade on 11-17-93 and completed as a monitoring well.

Groundwater was encountered at approximately 10 feet during drilling.

Note: -HC denotes hydrocarbon concentrations as measured during field work in the headspace of a plastic bag.

-ppm denotes parts per million.

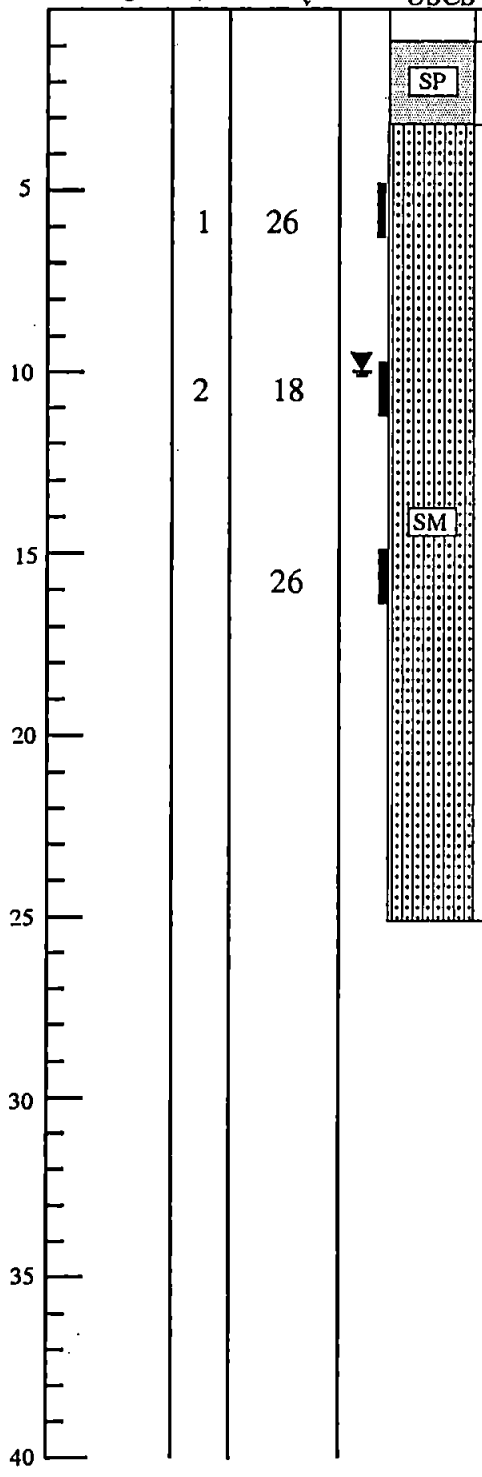
GEOTECH CONSULTANTS, INC.

TEST BORING LOG

PARK AVENUE N. AT N. 6th STREET
RENTON, WA

Job No:	Date:	Logged by:	Plate:
93299E-2	DEC 1993	SPO	6

BORING 11 (Monitoring Well 11)



Test boring was terminated at 25 feet below grade on 11-17-93 and completed as a monitoring well.

Groundwater was encountered at approximately 10 feet during drilling.

Note: -HC denotes hydrocarbon concentrations as measured during field work in the headspace of a plastic bag.

-ppm denotes parts per million.

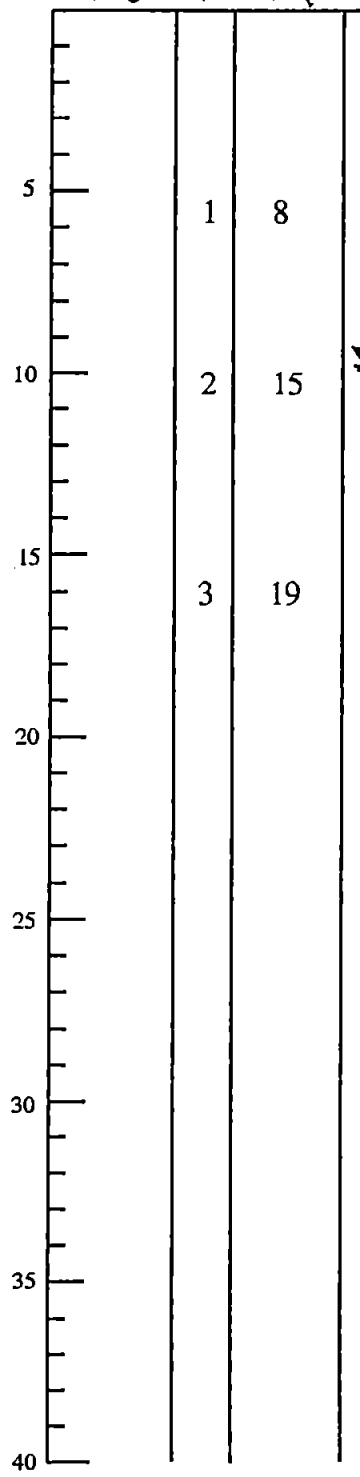
GEOTECH CONSULTANTS, INC.

TEST BORING LOG

PARK AVENUE N. AT N. 6th STREET
RENTON, WA

Job No:	Date:	Logged by:	Plate:
93299E-2	DEC 1993	SPO	7

BORING 12 (Monitoring Well 12)



USCS	Description
	Asphalt, concrete
SM / ML	Tannish brown, silty, fine grained SAND, moist, loose (HC < 10 ppm)
	Gray, coarse SAND with some silt and gravel, saturated, loose to medium dense (HC < 10 ppm)
SP	(HC < 10 ppm)

Test boring was terminated at 25 feet below grade on 11-17-93 and completed as a monitoring well.

Groundwater was encountered at approximately 10 feet during drilling.

Note: -HC denotes hydrocarbon concentrations as measured during field work in the headspace of a plastic bag.

-ppm denotes parts per million.

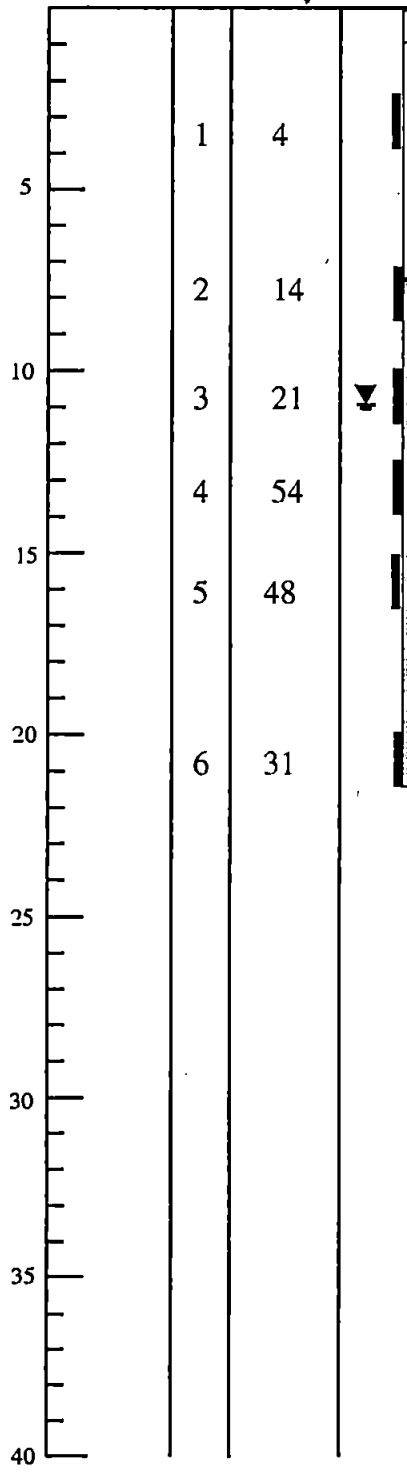
GEOTECH
CONSULTANTS, INC.

TEST BORING LOG

PARK AVENUE N. AT N. 6th STREET
RENTON, WA

Job No:	Date:	Logged by:	Plate:
93299E-2	DEC 1993	SPO	8

BORING 13 (Monitoring well 13)



Test boring was terminated at 21.5 feet below grade on 2-22-94 and completed as a monitoring well.

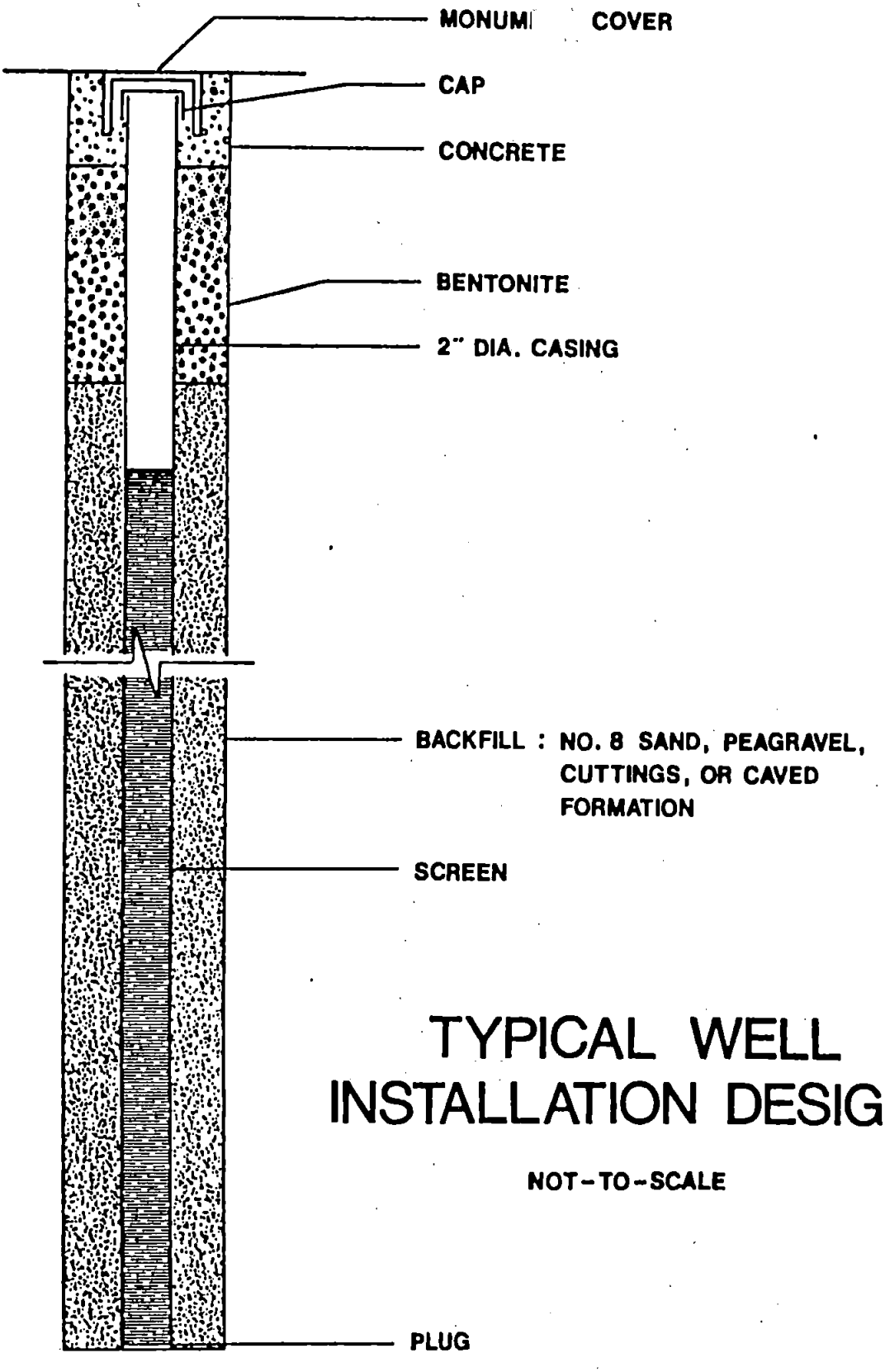
Groundwater seepage was encountered at 11 feet during drilling.

Installed 2 inch diameter well to 20 feet. The bottom 10 feet slotted. Sand packed from bottom to 7 feet. 5 foot bentonite clay seal upper 2 feet concrete.

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TEST BORING LOG
PARK AVENUE N AT N 6th STREET
RENTON, WA

Job No:	Date:	Logged by:	Plate:
93299EIC	MAR 1994	FC	9



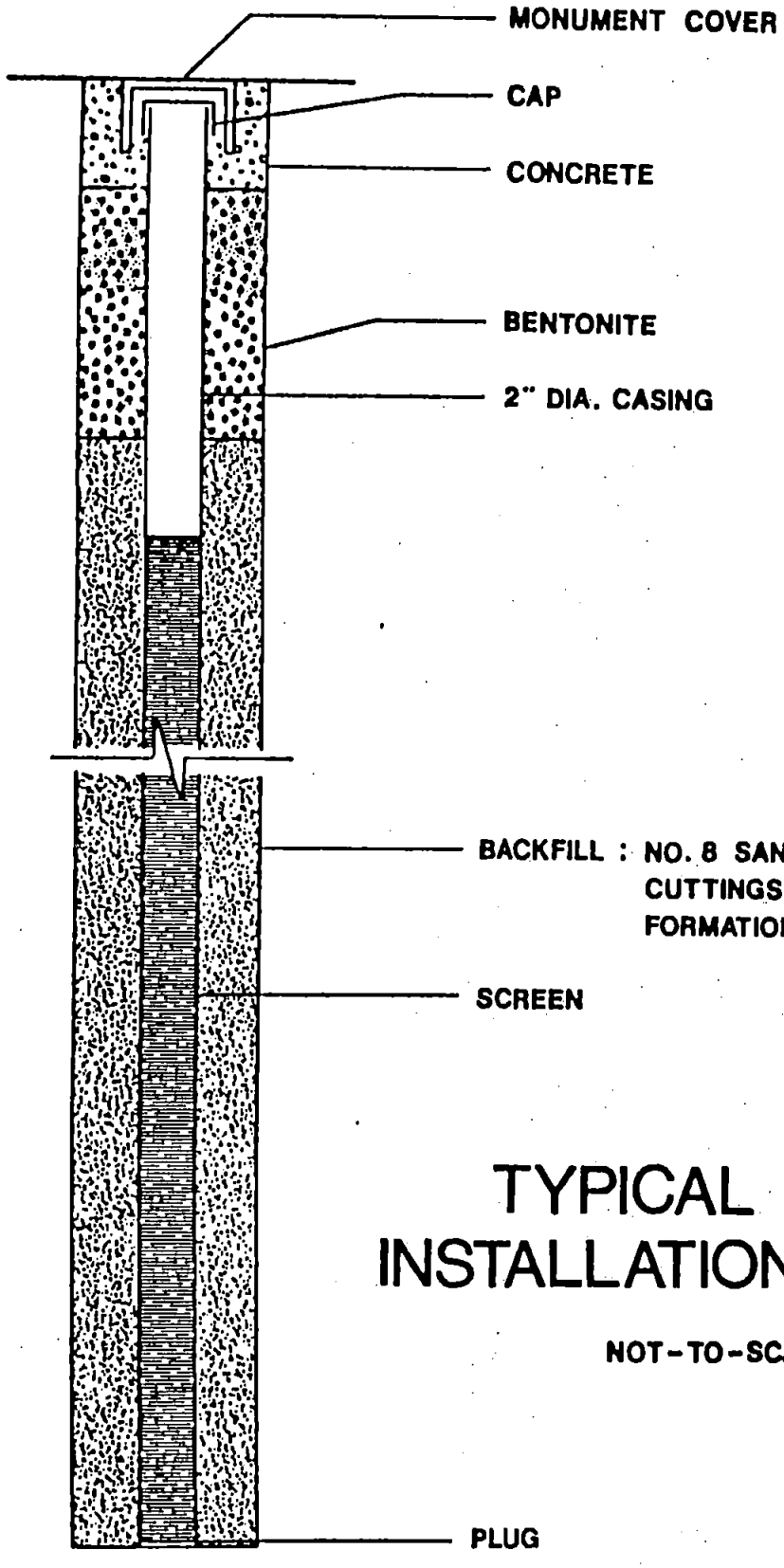
TYPICAL WELL INSTALLATION DESIGN

NOT-TO-SCALE

GEOTECH CONSULTANTS

PARK AVENUE N AT N 6th STREET
RENTON, WA

Job No.:	Date:		Plate:
93299E	NOV 1993		10



TYPICAL WELL INSTALLATION DESIGN

NOT-TO-SCALE

GEOTECH
CONSULTANTS

PARK AVENUE N. AT N. 6th STREET
RENTON, WA

Job No.:	Date:		Plate:
93299E-2	DEC 1993		9

APPENDIX

1) Lab reports with Chain of Custody

OnSite Environmental Inc.

December 1, 1993
Lab Traveler #:11-054

Sean O'Brien
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Dear Sean:

Enclosed are the results of the analyses of samples submitted on November 19, 1993 from Project 93299E-2.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this report, please feel free to call me.

Sincerely,

Judi T. Colina
Project Chemist

Enclosures

RECE[illegible] 2 1993

14924 NE 31st Circle • Redmond, WA 98052 • (206) 883-3881 • Fax (206) 885-4603

Date of Report: December 1, 1993
Samples Submitted: November 19, 1993
Lab Traveler: 11-054
Project: 93299E-2

Matrix: Soil
Date Extracted: November 19, 1993
Date Analyzed: November 19, 1993

WTPH-HCID

Sample Number	GC Characterization	o-terphenyl Surrogate Recovery
93299-B8-2	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	138%
93299-B9-2	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	133%
93299-B10-2	Oil range hydrocarbons	144%
93299-B11-2	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	137%
93299-B12-2	Diesel range hydrocarbons Oil range hydrocarbons[Q]	120%
	Quality Assurance	
Method Blank	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	139%

Q-Predominantly oil range hydrocarbons present in the sample.

Date of Report: December 1, 1993
Samples Submitted: November 19, 1993
Lab Traveler: 11-054
Project: 93299E-2

Matrix: Soil
Units: mg/Kg (ppm)
Date Extracted: November 24, 1993
Date Analyzed: November 24, 1993

WTPH-D

Sample Number	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
93299-B12-2	1	300[G]	90%

G-Hydrocarbons in the sample quantified from C12 - C30.

Date of Report: December 1, 1993
Samples Submitted: November 19, 1993
Lab Traveler: 11-054
Project: 93299E-2

Matrix: Soil
Units: mg/Kg (ppm)
Date Extracted: November 24, 1993
Date Analyzed: November 24, 1993

WTPH-D
QUALITY ASSURANCE

	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
Method Blank	1	<25	106%
Sample: 11-068-1	1	1020	F
Duplicate	1	904	F
RPD		12	

	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
Spiked @ 100 ppm			
Spike Blank	1	104	116%
Percent Recovery		104%	
Spike Blank Duplicate	1	98.7	116%
Percent Recovery		99%	
RPD		5.2	

F-Surrogate recovery data not available due to the high concentration in the sample.

Date of Report: December 1, 1993
Samples Submitted: November 19, 1993
Lab Traveler: 11-054
Project: 93299E-2

Matrix: Soil
Units: mg/Kg (ppm)
Date Extracted: November 22, 1993
Date Analyzed: November 22, 1993

WTPH 418.1

Sample Number	Dilution Factor	Total Petroleum Hydrocarbons
93299-B10-2	5	**93**

WTPH 418.1

QUALITY ASSURANCE

	Dilution Factor	Total Petroleum Hydrocarbons
Method Blank	5	<25
Sample: 11-060-2	5	808
Duplicate	5	648
RPD		22

Date of Report: December 1, 1993
Samples Submitted: November 19, 1993
Lab Traveler: 11-054
Project: 93299E-2

Date Analyzed: November 22, 1993

RESULTS OF DRY WEIGHT

Sample Number	% Moisture
93299-B10-2	18
93299-B12-2	10

COMPANY Geotech

PROJECT # 93299E-2

PROJECT NAME 93299E

MANAGER Sean O'Brien

PM JC

OnSite Environmental Inc.

14924 NE 31st CIRCLE, REDMOND, WA 98052
PHONE (206) 883-3881 FAX (206) 885-4603

REQUESTED TURNAROUND?

TRAVELER # 11-054

Dash	Sample Number	Date Sampled	Time Sampled	Type	# Jars	WTPH-HCID	WTPH-G/BTEX	WTPH-G	WTPH-D Ext. w/ SG	WTPH-418.1			DRY WEIGHT	Comments
						Analysis Required								
-1	93299-BB-2	11-17		Soil	1	X								call with results and potential further analysis — TNX
-2	B9-2	11-17		"	1	X								
-3	B10-2 (B10-2)	11-18			1	X				(X)			(X)	
-4	B11-2	11-18			1	X								
-5	B12-2	11-18			1	X			(X)				(X)	
														(X) Requested by Sean O'Brien 11/22/93

Submitted Sean P. O'Brien Date _____ Received by Sandra L. Day Date 11/19/93

Firm _____ Time _____ Firm On-Site Environmental Time 1:00

Submitted _____ Date _____ Received by _____ Date _____

Firm _____ Time _____ Firm _____ Time _____

OnSite Environmental Inc.

December 1, 1993
Lab Traveler #:11-071

Sean O'Brien
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Dear Sean:

Enclosed are the results of the analyses of samples submitted on November 24, 1993 from Project 93299E-2.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this report, please feel free to call me.

Sincerely,

Judi T. Colina

Judi T. Colina
Project Chemist

Enclosures

14924 NE 31st Circle • Redmond, WA 98052 • (206) 883-3881 • Fax (206) 885-4603

Date of Report: December 1, 1993
Samples Submitted: November 24, 1993
Lab Traveler: 11-071
Project: 93299E-2

Matrix: Water
Units: mg/L (ppm)
Date Extracted: November 29, 1993
Date Analyzed: November 29, 1993

WTPH-D

Sample Number	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
93299-MW4	.02	6.2[Q]	104%
93299-MW10	.02	<.5	90%
93299-MW11	.02	<.5	90%
93299-MW12	.02	<.5	84%

WTPH-D
QUALITY ASSURANCE

	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
Method Blank	.02	<.5	88%
Sample: 93299-MW12	.02	<.5	84%
Duplicate	.02	<.5	79%
RPD		0	

Q-Hydrocarbons in the sample quantified from C12 - C30 as diesel fuel #2.

COMPANY Geotech

PROJECT # 93299E-2

PROJECT NAME 93299E

MANAGER Sean O'Brien

PM JC

OnSite Environmental Inc.

14524 NE 21st CIRCLE, REDMOND, WA 98052
PHONE (206) 883-3881 FAX (206) 885-4603

REQUESTED TURNAROUND?

TRAVELER # 11-071

Dash	Sample Number	Date Sampled	Time Sampled	Type	# Jars	WTPH-HCID	WTPH-G/BTEX	WTPH-G	WTPH-D extended range	WTPH-418.1			DRY WEIGHT	Comments
						Analysis Required								
-1	93299 - MW 4	11-24		water	1 liter				X					Vials
-2	- MW 10								X					
-3	- MW 11								X					
-4	- MW 12								X					

Submitted Sean P. O'Brien Date 11-24 Received by Lindsay L. Bay Date 11/24/93

Firm Geotech Consultants, Inc Time 3:45 Firm On-Site Environmental Time 3:45

Submitted _____ Date _____ Received by _____ Date _____

Firm _____ Time _____ Firm _____ Time _____

GEOTECH CONSULTANTS 13240 N.E. 20th St. (N ip Way), Suite 12 Bellevue, WA 98005

FIELD LOG

BORING NO. MW 13
JOB NO. 93299E-1C
DATE 2-.-94
TIME START 10
TIME FINISH
WATER LEVEL TIME
SHEET OF

CLIENT Mask
LOGGED BY: Pole
DRILLING CONTRACTOR:
DRILLER: SR1
EQUIPMENT
SAMPLER SPT

ELEVATION =

SAMPLE NO. / SAMPLE DEPTH	INCHES DRIVEN / INCHES RECOVERED	SAMPLER TYPE	MAX. PART. SIZE	MOISTURE	WATER LEVEL	BLOWS/6"	DEPTH	SOIL GRAPH	SOIL DESCRIPTION	COMMENTS
									dark brown silty sand with gravel fill	
						1 2 2	1 2 3 4		light gray brown silt with organics moist soft	
1				(4)						
						4 6 8	5 6 7 8			
2				(14)				SP	light brown sand with gravel fine to medium grained sand most medium dense	
						9 10 11	9 10 11 12		ground water at [illegible] (Sandy silt layers [illegible] organics)	
3				(21)	▽					
						9 24 30	13 14 15		gray medium sand layered with silty gravel	
4				(54)						
						12 23 25	16 17 18		gray sand with layers of silty gravel fine sand & silty gravel	
5				(48)						
						9 13 18	19 20 1 2		gray coarse sand with layers of silt sand [illegible]	
6				(31)						
							3 4 5 6 7 8 9		2" PVC well constructed bottom 10' slotted upper 10' blank sand [illegible] 3 feet above slot	

OnSite Environmental Inc.

February 25, 1994
Lab Traveler #:02-070

Sean O'Brien
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Dear Sean:

Enclosed are the results of the analyses of samples submitted on February 23, 1994 from Project 93299E-1C.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this report, please feel free to call me.

Sincerely,

Judith T. Colina

Judith T. Colina
Project Chemist

Enclosures

14924 NE 31st Circle • Redmond, WA 98052 • (206) 883-3881 • Fax (206) 885-4603

Date of Report: February 25, 1994
Samples Submitted: February 23, 1994
Lab Traveler: 02-070
Project: 93299E-1C

WTPH-HCID

Date Extracted: 2-24-94
Date Analyzed: 2-24-94

Matrix: Soil

Client ID	GC Characterization	o-terphenyl Surrogate Recovery
MW-13-3	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	109%

Quality Assurance

Method Blank	<20 ppm Gasoline range hydrocarbons <50 ppm Diesel range hydrocarbons <100 ppm Oil range hydrocarbons	96%

COMPANY Geotech Consultants

PROJECT # 93299E-1C

PROJECT NAME Garden Plaza

MANAGER Sean

PM JTC

OnSite Environmental Inc.

14924 NE 31st CIRCLE, REDMOND, WA 98052
PHONE (206) 883-3881 FAX (206) 885-4603

REQUESTED TURNAROUND?

TRAVELER # 02-070

Dash	Sample Number	Date Sampled	Time Sampled	Type	# Jars	WTPH-HCID	WTPH-G/BTEX	WTPH-G	WTPH-D	WTPH-418.1			DRY WEIGHT	Comments
						Analysis Required								
1	MW-13-3					X								10-11½ feet

Submitted Fred Cole Date 2-23-94 Received by [signature] Date 2.23.94

Firm Geotech Consultants Inc Time 4:25 Firm OSE Time 4:25

Submitted _____ Date _____ Received by _____ Date _____

Firm _____ Time _____ Firm _____ Time _____

OnSite
Environmental Inc.

April 5, 1994
Lab Traveler #:03-005

Sean O'Brien
GeoTech Consultants
13256 NE 20th Street, Suite 16
Bellevue, WA 98005

Dear Sean:

Enclosed are the results of the analyses of samples submitted on March 2, 1994 from Project 93299IC.

We appreciate this opportunity to be of service to you on this project. If you have any questions regarding this report, please feel free to call me.

Sincerely,

Judith T. Colina
Project Chemist

Enclosures

14924 NE 31st Circle • Redmond, WA 98052 • (206) 883-3881 • Fax (206) 885-4603

Date of Report: April 5, 1994
Samples Submitted: March 2, 1994
Lab Traveler: 03-005
Project: 93299IC

TPH-HCID

Date Extracted: 3-3-94
Date Analyzed: 3-3-94

Matrix: Water

Client ID	GC Characterization	o-terphenyl Surrogate Recovery
93299-MW13	<.20 ppm Gasoline range hydrocarbons <.50 ppm Diesel range hydrocarbons <1.0 ppm Oil range hydrocarbons	90%

Quality Assurance

Method Blank	<.20 ppm Gasoline range hydrocarbons <.50 ppm Diesel range hydrocarbons <1.0 ppm Oil range hydrocarbons	89%

Date of Report: April 5, 1994
Samples Submitted: March 2, 1994
Lab Traveler: 03-005
Project: 93299IC

WTPH-D

Date Extracted: 3-3-94
Date Analyzed: 3-3-94

Matrix: Water
Units: mg/L (ppm)

Client ID	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
93299-MW4	.02	6.5	105%

Date of Report: April 5, 1994
Samples Submitted: March 2, 1994
Lab Traveler: 03-005
Project: 93299IC

WTPH-D
QUALITY ASSURANCE

Date Extracted: 3-3-94
Date Analyzed: 3-3-94

Matrix: Water
Units: mg/L (ppm)

	Dilution Factor	TPH	o-terphenyl Surrogate Recovery
Method Blank	.02	<.5	89%
Sample: 03-005-1	.02	6.46	105%
Duplicate	.02	4.21	96%
RPD		42%R	

R-Sample/dup RPD out of control due to free product present in the sample.

COMPANY Geotech

PROJECT # 93299 EIC

PROJECT NAME 93299

MANAGER Sean O'Brien

PM JC

OnSite Environmental Inc.
14524 NE 21st CIRCLE, REDMOND, WA 98052
PHONE (206) 883-3881 FAX (206) 885-4603

REQUESTED TURNAROUND?

TRAVELER # 03-005

Dash	Sample Number	Date Sampled	Time Sampled	Type	# Jars	WTPH-HCID	WTPH-G/BTEX	WTPH-G	WTPH-D	WTPH-418.1			DRY WEIGHT	Comments
						Analysis Required								
1	93299-MW4	3-1		water	1 liter				X					
2	93299-MW13	3-1		water	1 liter	X								

Submitted Sean P. O'Brien Date 3-2

Firm Geotech Time 2:30

Received by [signature] Date 3/2/94

Firm On Site Env. Time 2:30 pm

Submitted _____ Date _____

Received by _____ Date _____