



Clark & Witham, Inc.

Phone:
(510) 659-1805
Fax:
(510) 659-6344

3499 Edison Way, Fremont, CA. 94538

Consulting Engineering Geologists

TRANSMITTAL FORM

TO: Ms. Juliet Shin
Alameda County Department of
Environmental Health
Hazardous Materials Division
80 Swan Way, Room 200
Oakland, California 94621

DATE: October 15, 1992
PROJECT NUMBER: CHO002-A
SUBJECT: Report

FROM: Rodger Witham
TITLE: Project Manager

WE ARE SENDING YOU:
COPIES DATED

COPIES	DATED	Job No.
1	10/15/92	CHO002-A

DESCRIPTION

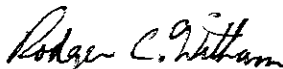
Letter Report, Ground-Water
Monitoring in September 1992 at
Former Okada Property, 16109 Ashland
Avenue, San Lorenzo, California.

THESE ARE TRANSMITTED as checked below:

- For review and comment
- As requested
- For approval
- For your files
- Other:

REMARKS: As requested by Mr. Martin Petersen of Citation Homes.

Copies: 1 to CWI project file no.: CHO002-A


Rodger C. Witham, Project Manager



Clark & Witham, Inc.

Phone:
(510) 659-1805
Fax:
(510) 659-6344

3499 Edison Way, Fremont, CA. 94538

Consulting Engineering Geologists

LETTER REPORT
GROUND-WATER MONITORING
IN SEPTEMBER 1992

at

Former Okada Property
16109 Ashland Avenue
San Lorenzo, California

Job No. CHO002-A

92 OCT 15 11 11:27



Clark & Witham, Inc.

Phone:
(510) 659-1805
Fax:
(510) 659-6344

3499 Edison Way, Fremont, CA. 94538

Consulting Engineering Geologists

October 15, 1992

Mr. Martin Petersen
Citation Homes Central
404 Saratoga Avenue, Suite 100
Santa Clara, California 95050

Subject: Report on Ground-Water Monitoring in September 1992 at Former Okada Property, 16109 Ashland Avenue, San Lorenzo, California.

Mr. Petersen:

Citation Homes Central (Citation) has requested that Clark & Witham, Inc. perform ground-water monitoring at the above-referenced site. The 16-acre site is located on the west side of Ashland Avenue between Bertero Avenue and East 14th Street in San Lorenzo, California (Plate 1). The site is currently vacant and has been graded by Citation for future residential development. According to information provided by Citation (TERRASEARCH, INC., Report dated 10 February 1989, Project No. E5999), the site formerly was a nursery, which contained various greenhouses, fields, a chemical storage shed, a boiler, aboveground tanks, and several residences. In addition, two underground storage tanks (USTs) were located in the northeastern portion of the site. One 250-gallon tank was used to store gasoline and the other 3,000-gallon tank was used to store fuel oil. The two tanks were excavated in January 1989 (TERRASEARCH, INC. Report of 10 February 1989).

Three ground-water monitoring wells were subsequently installed in the area of the two USTs; TERRATECH, INC., of San Jose, California, observed installation of wells MW-1 and MW-2 in March 1989 (TERRATECH, INC., Report dated April 7, 1989, Project No. 4486), and MW-3 in August 1989 (TERRATECH, INC., Report dated August 31, 1989, Project No. 4486/1). Wells MW-1 and MW-2 were installed to a depth of 13 feet, and MW-3 was installed to a depth of 16 feet below the ground surface. Plate 2 shows the northeastern portion of the property and includes the locations of former nursery structures, former UST locations, and MW-1 through MW-3. The well locations are shown on Plate 2. Ground-water sampling and analysis were performed by others at various times during 1989 and 1990.

The latest ground-water monitoring of wells MW-2 and MW-3 was performed on September 2, 1992. Well MW-1 was not available for sampling. According to Citation, this well was

probably removed during excavation and placement of underground utilities for the residential development. The top of the casing of MW-2 had been damaged during Citation's site work, and this well was repaired and secured during the September site visit.

Ground-Water Monitoring and Results

Ground-water monitoring performed by Clark & Witham, Inc. includes measuring depth to water, examining samples of water in a bailer for evidence of petroleum hydrocarbons (free product and sheen), purging the wells, and sampling and analysis of water from the wells. Field procedures are described in the Appendix.

The water level in well MW-3 on September 2, 1992 was 0.38 foot lower than the water level measured at approximately the same time in 1989 (August 21, 1989). No conclusion can be made regarding the water level in MW-2 relative to previous measurements because the well casing was not resurveyed after repair. Water samples from MW-2 and MW-3 showed no evidence of free product or sheen on September 2, 1992. No gradient and direction of ground-water flow can be estimated during this monitoring episode because only one well was available to accurately measure the ground-water level. Ground-water has been previously reported to flow generally toward the west. Cumulative results of observations of petroleum hydrocarbons and water-level measurements are presented in Table 1.

Laboratory Analysis and Results

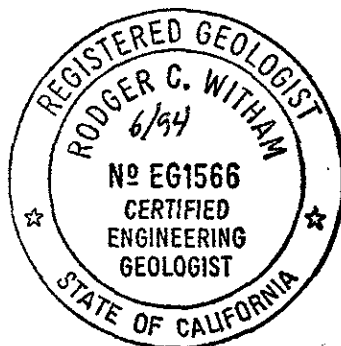
The water samples collected on September 2, 1992 were delivered to Trace Analysis Laboratory, Inc. of Hayward, California (Certification No. 1199) using appropriate chain-of-custody procedures. The water samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) and as diesel (TPHd) using Environmental Protection Agency (EPA) modified Method 8015, and for benzene, toluene, ethylbenzene, and total xylenes (BTEX) using EPA Method 8020.

The results of laboratory analyses show no detectable TPHg, TPHd, or BTEX in the water sample from MW-3. Relatively low concentrations of TPHd (97 parts per billion [ppb]) and toluene (16 ppb) were detected in the sample from MW-2. The level of toluene is well below the California Environmental Protection Agency's recommended action level (100 ppb) for toluene in drinking water. No TPHg, benzene, ethylbenzene, or total xylenes were found in MW-2. These latest and earlier laboratory results of ground-water samples show predominantly no detectable levels of TPHg and TPHd. Only trace levels of BTEX have been sporadically detected, but no concentration has been greater than the recommended action level or maximum contaminant level for the respective compounds. The cumulative

results of laboratory data are presented in Table 2. The Chain of Custody and laboratory analysis reports for the latest sampling episode are included in the Appendix.

Recommendations

The laboratory analytical results suggest minor and sporadic impact of petroleum hydrocarbons to the ground water through five sampling episodes. Benzene, toluene, ethylbenzene, and total xylenes have not been detected during most analyses and when detected, have been less than the maximum concentrations allowed for drinking water. Clark & Witham, Inc. recommends no further monitoring, that MW-2 and MW-3 be properly destroyed, and that the case be closed. We also recommend that copies of this report be forwarded to Ms. Juliet Shin, Alameda County Department of Environmental Health, Hazardous Materials Division, 80 Swan Way, Room 200, Oakland, California 94621; and Mr. John Kizer, California Regional Water Quality Control Board, San Francisco Bay Region, 2101 Webster Street, Suite 500, Oakland, California 94612. Please call if you have any questions.



Sincerely,
Clark & Witham, Inc.

Rodger C. Witham
Project Manager

Michael N. Clark
Principal

Enclosures: Table 1, Cumulative Results of Well Monitoring Data
Table 2, Cumulative Results of Laboratory Analyses
Plate 1, Site Vicinity Map
Plate 2, Site Plan - Northeast Portion

Appendix: Field Procedures
Chain of Custody
Laboratory Analysis Reports

TABLE 1
CUMULATIVE RESULTS OF WELL MONITORING DATA

Date	Floating Product	Sheen	Wellhead Elevation*	Depth to Water	Ground-Water Elevation*
MW-1					
8/21/89	--	--	100.03	8.00	92.03
11/20/89	--	--		7.80	92.23
2/22/89	--	--		6.81	93.22
7/6/90	None	None		7.81	92.22
9/2/92		Well excavated, no measurement made			
MW-2					
8/21/89	--	--	100.00	7.65	92.35
11/20/89	--	--		7.43	92.57
2/22/90	--	--		6.56	93.44
7/6/90	None	None		6.05	93.95
9/2/92	None	None	--**	9.23	--**
MW-3					
8/21/89	--	--	101.38	8.63	92.75
11/20/89	--	--		8.39	92.99
2/22/90	--	--		7.58	93.80
7/6/90	None	None		8.56	92.82
9/2/92	None	None		9.01	92.37

Elevations are in feet above mean sea level.

Depth to water measured in feet below the top of the well casing.

* Wellhead and ground-water elevation relative to an arbitrary datum of 100.00.

-- = not measured or not reported.

** = no ground-water elevation calculated because well casing not resurveyed after repair.

Data before 9/92 available in reports provided by Citation Homes Central.

TABLE 2
CUMULATIVE RESULTS OF LABORATORY ANALYSES

Date	TPHg	TPHd	Benzene	Toluene	Ethylbenzene	Total Xylenes
MW-1						
3/89	<1,000	<1,000	0.4	1.8	<0.3	<0.3
11/89	<50	<50	<0.5	<0.5	<0.5	<1.0
2/90	<50	<50	<0.5	<0.5	<0.5	<1.0
7/90	<500	<500	<0.5	<0.5	<0.5	<0.5
9/92	Well excavated, no sample collected					
MW-2						
3/89	<1,000	<1,000	0.4	1.8	0.4	1.8
11/89	<50	<50	<0.5	<0.5	<0.5	<1.0
2/90	<50	<50	<0.5	<0.5	<0.5	1.0
7/90	<500	<500	<0.5	<0.5	<0.5	<0.5
9/92	<50	97	<0.5	16	<0.68	<1.8
MW-3						
8/89	<50	<50	<0.5	<0.5	<0.5	<1.0
11/89	<50	80	<0.5	<0.5	<0.5	<1.0
2/90	280	1,100	<0.5	<0.5	<0.5	<1.0
7/90	<500	<500	<0.5	<0.5	<0.5	<0.5
9/92	<50	<50	<0.5	<0.5	<0.5	<1.5

Results in micrograms per liter or parts per billion.

TPHg = total petroleum hydrocarbons as gasoline

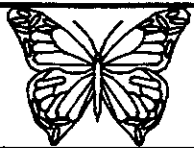
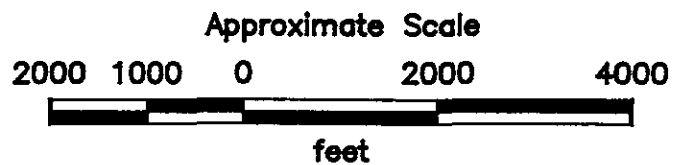
TPHd = total petroleum hydrocarbons as diesel

< = less than the detection limit of the analytical method used

Data before 9/92 in reports provided by Citation Homes Central.



Source: U.S. Geological Survey
 7.5-Minute Quadrangle
 Hayward/San Leandro, California
 Photorevised 1980



**CLARK &
 WITHAM, INC.**

PROJECT NO. CHO002-A

SITE VICINITY MAP
 Former Okada Property
 16109 Ashland Avenue
 San Lorenzo, California

PLATE 1

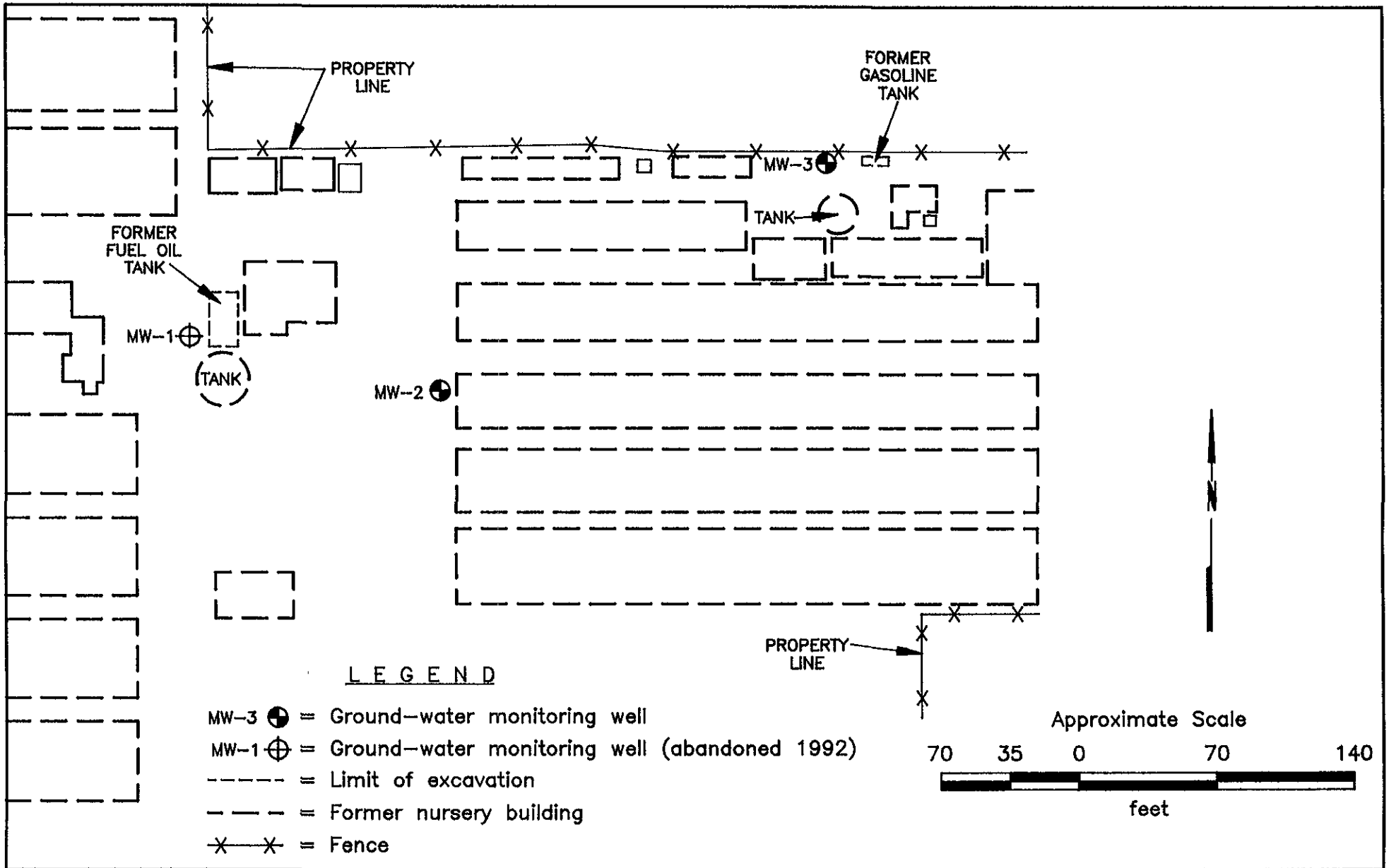
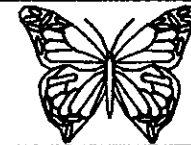


PLATE 2

SITE PLAN - NORTHEAST PORTION
 Former Okada Property
 16109 Ashland Avenue
 San Lorenzo, California



**CLARK &
 WITHAM, INC.**

PROJECT NO. CH0002-A

APPENDIX

FIELD PROCEDURES

Monitoring of Water in Wells

The static water level in each well was measured to the nearest 0.01 foot using a Solinst water-level indicator. After static ground-water level was recorded, an initial water sample was collected from each well and examined for floating product and sheen. The samples were collected by gently lowering approximately half the length of a clean acrylic bailer past the air-water interface and retrieving a sample at the surface of the water in each well.

Sampling of Water from Wells

The wells were purged by bailing with a clean acrylic bailer. Approximately 30 casing volumes (6 1/2 gallons) of water were removed from MW-2 and approximately 6 casing volumes (7 1/2 gallons) of water were removed from MW-3. Water levels in the wells were allowed to recover to at least 80 percent of the amount of drawdown before sampling. Water samples for laboratory analysis were then collected from near the water surface in the wells with a clean stainless steel bailer. For analysis for total petroleum hydrocarbons as gasoline and benzene, toluene, ethylbenzene, and total xylenes, the water samples were transferred to clean, 40-milliliter glass volatile organic analysis vials, which contained concentrated hydrochloric acid for preservation. The vials were filled completely to displace any air bubbles, and the samples were sealed with Teflon-lined caps, stored on ice, and delivered to a State-certified laboratory. Brown, 1 liter glass bottles were filled completely, for analysis for total petroleum hydrocarbons as diesel. A Chain of Custody form was initiated by the sampler and accompanied the samples to the laboratory.

Repair of MW-2

Approximately the top 2 feet of the casing MW-2 was broken off or cracked during site activities by Citation. A well casing cutter was used to cut off the cracked casing, which extended 1 1/2 feet below grade, and a 2 1/4-inch-inside-diameter casing sleeve was used to attach a length of casing to extend above grade. No glues or chemical cement were used to attach the extra casing length. An expandable plug with a chemical-resistant seal, was placed on the top of the well casing. Concrete, which extended above the casing connection, was placed around the well casing to surface grade. A 4- by 4-inch square, by 5-foot-long stovepipe well cover, with a lockable lid, was also set in the concrete around the well.

{0805CoC.WK1} **CLARK & WITHAM, INC.** **CHAIN OF CUSTODY**

Project No. **CH0002-A** Project Name/Site **Citation Homes Okata Property, San Lorenzo** ANALYSES REQUESTED Turn Around Time: **Normal**

Sampler **Rodger C. Witham** (Print) **Rodger C. Witham** (Signature) O&G (5520EF) BTEX (EPA602) TPHd TPHg P.O. # **CH0002-A.LA**

Sample Id.	Date	Time	Compst.	Grab	Iced	Num. Cont.	Comments:									
W-9-MW2	9/2/92	2:40p		X	X	4	3-40 ml vials contain HCL									
W-9-MW3	9/2/92	2:20p		X	X	4	3-40 ml vials contain HCL									
							Walk in water 1-Liter (3-40ml HCL, ice) ca Green Reg TAT. RP									

Relinquished By: Rodger C. Witham	Date: 9/2/92	Time: 3:25p	Received By:	Call Results To: <input type="checkbox"/> (510) 659-1805	Send Results To: Clark & Witham, Inc. 3499 Edison Way Fremont, CA 94538 FAX: (510) 659-6344
Relinquished By:	Date:	Time:	Received By:	Project Manager: Rodger Witham	
Relinquished By:	Date:	Time:	Received By:	Condition When Received:	
Relinquished By:	Date: 9/2/92	Time: 3:25pm	Received By: Laboratory: For Tbl	Laboratory Name: Trace Analysis Lab	



September 22, 1992

Mr. Rodger Witham
Clark and Witham, Inc.
3499 Edison Way
Fremont, California 94538

Dear Mr. Witham:

Trace Analysis Laboratory received two water samples on September 2, 1992 for your Project No. CH0002-A, Citation Homes, Okata Property, San Lorenzo (our custody log number 2456).

These samples were analyzed for Total Petroleum Hydrocarbons as Diesel and Gasoline, Benzene, Toluene, Ethylbenzene and Xylenes. Our analytical report and a copy of the completed chain of custody form are enclosed for your review.

Trace Analysis Laboratory is certified under the California Environmental Laboratory Accreditation Program. Our certification number is 1199.

If you should have any questions or require additional information, please call me.

Sincerely yours,

A handwritten signature in cursive script, appearing to read 'Jennifer Pekol'.

Jennifer Pekol
Project Specialist

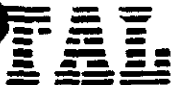
Enclosures

Trace Analysis Laboratory, Inc.

3423 Investment Boulevard, #8 • Hayward, California 94545

Telephone (510) 783-6960

Facsimile (510) 783-1512



LOG NUMBER: 2456
DATE SAMPLED: 09/02/92
DATE RECEIVED: 09/02/92
DATE EXTRACTED: 09/11/92
DATE ANALYZED: 09/17/92
DATE REPORTED: 09/22/92

CUSTOMER: Clark and Witham, Inc.
REQUESTER: Rodger Witham
PROJECT: No. CH0002-A, Citation Homes, Okata Property, San Lorenzo

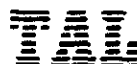
Sample Type: Water

Method and Constituent:	Units	W-9-MW2		W-9-MW3		Method Blank	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
DHS Method: Total Petroleum Hydro- carbons as Diesel	ug/l	97	50	ND	50	ND	50

QC Summary:

% Recovery: 96
% RPD: 15

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 2456
DATE SAMPLED: 09/02/92
DATE RECEIVED: 09/02/92
DATE ANALYZED: 09/11/92
DATE REPORTED: 09/22/92
PAGE: Two

Sample Type: Water

Method and Constituent:	Units	W-9-MW2		W-9-MW3		Method Blank	
		Concentration	Reporting Limit	Concentration	Reporting Limit	Concentration	Reporting Limit
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/l	ND	50	ND	50	ND	50
EPA Method 8020 for:							
Benzene	ug/l	ND	0.50	ND	0.50	ND	0.50
Toluene	ug/l	16	0.55	ND	0.50	ND	0.50
Ethylbenzene	ug/l	ND	0.68	ND	0.50	ND	0.50
Xylenes	ug/l	ND	1.8	ND	1.5	ND	1.5

QC Summary:

% Recovery: 111
% RPD: 7.9

Concentrations reported as ND were not detected at or above the reporting limit.

Louis W. DuPuis
Quality Assurance/Quality Control Manager