#### DEPARTMENT OF TRANSPORTATION

BOX 23660 OAKLAND, CA 94623-0660 (510) 286-4444 TDD (510) 286-4454



VUL 1 3 2001

July 11, 2001

Mr. Don Hwang, Hazardous Materials Specialist Alameda County Health Care Services Agency 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577

Dear Mr. Hwang:

Enclosed please find the monitoring well installation and groundwater study report for the former Thomas Short Company site (3430 Wood Street, Alameda County site #386) in Oakland. Because of delays in getting the quarterly reports finalized by our consultant, it was ultimately decided to incorporate the first three groundwater sampling events into this one report. The well installation and initial sampling occurred in May 2000; since then the wells have been sampled in November 2000 and March 2001.

Previously, your contact within our office for this site had been Teresa Trinh; however, Ms. Trinh is no longer employed with our office. The Thomas Short Company site-related work is now being managed by myself. It is expected that as the water monitoring continues in the future, it will include my involvement. With the new State fiscal year having started this month, I anticipate preparing in the near future the contract needed to continue the monitoring work at the former Thomas Short Company site.

In the meantime, if you have any questions or comments regarding the first three sampling events, I can be reached at (510) 286-5647.

Sincerely,

HARRY Y. YAHATA District Director

By: Christopher R. Willow CHRISTOPHER R. WILSON, P.E.

Office of Environmental Engineering

Enclosure

c: file

## JUL 1 3 2001

# MONITORING WELL INSTALLATION AND GROUNDWATER SAMPLING REPORT

# FORMER THOMAS A. SHORT Co. OAKLAND, ALAMEDA COUNTY, CALIFORNIA



# **GEOCON**

GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS

#### PREPARED FOR

CALIFORNIA DEPARTMENT OF TRANSPORTATION
DISTRICT 4

OAKLAND, CALIFORNIA

TASK ORDER NO. 04-190270-RM

GEOCON PROJECT NO. S8225-06-103

**JUNE 2001** 



#### ENVIRONMENTAL ■ GEOTECHNICAL



Project No. S8225-06-103 June 29, 2001

Mr. Chris Wilson California Department of Transportation District 4 111 Grand Avenue, 14th Floor Post Office Box 23660 Oakland, California 94623-0660

Subject: MONITORING WELL INSTALLATION AND GROUNDWATER SAMPLING REPORT

FORMER THOMAS A. SHORT COMPANY

OAKLAND, ALAMEDA COUNTY, CALIFORNIA

CONTRACT NO. 43A0012, TASK ORDER NO. 04-190270-RM

Dear Mr. Wilson:

In accordance with California Department of Transportation (Caltrans) Contract No. 43A0012 and Task Order No. 04-190270-RM, Geocon Consultants, Inc. has performed environmental engineering services at the project site. The site consists of the Former Thomas A. Short Company located at 3430 Wood Street in Oakland, California. The accompanying report summarizes the services performed including the installation of three groundwater monitoring wells and the results of the first groundwater sampling event.

The contents of this report reflect the views of Geocon Consultants, Inc., who is responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California or the Federal Highway Administration. This report does not constitute a standard, specification, or regulation.

If there are any questions concerning the contents of this report, or if Geocon may be of further service, please contact the undersigned at your convenience.

Sincerely,

GEOCON CONSULTANTS

Matthew Hanko

Sr. Project Scientist

MWH:RWD:mwh

Addressee

Richard Day CEG, CHG Regional Manager

# TABLE OF CONTENTS

## SITE INVESTIGATION REPORT

		Page
<u>1.0</u>	<u>INTRODUCTION</u>	1
•	1.1 Site Description	
	1.2 Background	
	1.3 Purpose.	
<u>2.0</u>		
	2.1 Pre-Field Activities	
	2.2 Field Activities	
<u>3.0</u>	INVESTIGATIVE METHODS	
	3.1 Boring Location Rationale	
	<ul> <li>3.2 Procedures for Boring Advancement and Monitoring Well Construction</li> <li>3.3 Groundwater Sampling and Monitoring Well Survey</li> </ul>	
	3.3 Groundwater Sampling and Monitoring Well Survey  3.4 Laboratory Analyses	
<u>4.0</u>	FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS  4.1 Site Geology and Hydrogeology	
	4.1 Site Geology and Hydrogeology  4.2 Analytical Results – Soil Samples	
	4.3 Analytical Results – Groundwater Sample	
5.0	CONCLUSIONS AND RECOMMENDATIONS	
6.0		
	GURES	
1. 2.	Vicinity Map Site Plan	
-	o.c Groundwater Potentiometric Surface Contour Map	
	Hydrocarbon Concentrations in Groundwater	
TAJ	BLES	
1.	Groundwater Elevation Data	
2.	Summary of Soil Analytical Data	
3.	Summary of Petroleum Hydrocarbons Groundwater Analytical Data	
4.	Summary of Volatile Organic Compounds Groundwater Analytical Data	
5.	Summary of Dissolved Metals Groundwater Analytical Data	
API	PENDICES	
A.	Boring Logs and Well Construction Details	
В.	Monitoring Well Data Sheets	
C.	Surveyors Report Laboratory Reports and Chain-of-Custody Documentation	
D.	Laboratory Reports and Chain-or-Custody Documentation	

#### SITE INVESTIGATION REPORT

#### 1.0 INTRODUCTION

This report for the former Thomas A. Short Company (TASCO) site was prepared under California Department of Transportation (Caltrans) Contract No. 43A0012 and Task Order (TO) No. 04-190270-RM.

#### 1.1 Site Description

The subject site is located at 3430 Wood Street in Oakland, Alameda County, California. No existing improvements at the site are present with the exception of two footings for the Interstate 880 (I 880) overpass. The approximate location of the site is depicted on the attached Vicinity Map presented as Figure 1. The approximate site boundaries and existing improvements are depicted on the Site Plan presented as Figure 2.

#### 1.2 Background

It is understood that the former TASCO facility manufactured and repaired marine valves and associated parts for approximately 36 years. Caltrans purchased the property in 1994 and subsequently demolished the building improvements as part of the I-880 realignment project. One 4,000-gallon gasoline underground storage tank (UST) and one 1,000-gallon diesel UST were previously located at the TASCO facility. The approximate former UST locations are depicted on the Site Plan, Figure 2.

In June 1992, four borings (B1, B2, H1 and W1) were performed around the perimeter of the USTs (see Figure 2). W1 was completed as a 2-inch diameter groundwater monitoring well. The depth to groundwater in well W1 was measured at 3.9 meters (12.7 feet) below the ground surface (bgs) on July 1, 1992. Soil samples obtained from the borings contained elevated concentrations of total petroleum hydrocarbons as gasoline (TPHg) and diesel (TPHd), and benzene, toluene, ethyl benzene and total xylenes (BTEX). Groundwater samples collected from H1 (hydropunch sample) and W1 contained TPHg concentrations of 16 and 1.3 milligrams per liter (mg/l), respectively.

The onsite USTs were removed from the TASCO facility in January 1993. Approximately 175 cubic yards of petroleum hydrocarbon-impacted soil was over excavated after the USTs were removed. Groundwater was encountered at a depth of approximately 3.1 meters (10 feet) bgs within the UST excavation. The results of confirmation soil samples indicated residual concentrations of petroleum hydrocarbons and lead. Subsequent to the UST removal activities, groundwater samples obtained from well W1 in February and October 1993 contained TPHg concentrations of 4.6 and 3.7 mg/l, respectively.

In November 1996, Geocon installed three groundwater monitoring wells (MW1 through MW3) around the former UST excavation (see Figure 2). The 2-inch diameter wells were installed to depths ranging from 3.5 to 4.0 meters (11.5 to 13 feet) bgs. Soil samples obtained from the well borings were analyzed for volatile organic compounds (VOCs), TPHg, TPHd, total recoverable petroleum hydrocarbons (TRPH) and 17 title 22 metals.

VOCs including methylene chloride (typical laboratory extractant) and carbon disulfide were detected at relatively low concentrations of less than 50 µg/kg in the soil samples analyzed. Sample MW3-10 contained benzene, toluene and total xylene concentrations of 314, 1,220 and 1,180 micrograms per kilogram (µg/kg), respectively. TPHg was detected in soil samples MW2-5 and MW3-10 at concentrations of 6.0 and 43 mg/kg, respectively. TPHd and TRPH were detected in the majority of the soil samples at concentrations ranging from 1.4 to 1,500 mg/kg. With the exception of 542 mg/kg lead reported for sample MW2-5, elevated metal concentrations were not reported.

Since wells MW1, MW2 and MW3 were installed, they have not been sampled or surveyed. Additionally, since the construction of bridge piers at the TASCO site for the I-880 realignment structure, the onsite wells have not been able to be located with the exception of well W1.

#### 1.3 Purpose

The purpose of the subject TO is to provide additional information regarding the extent of soil and groundwater impacts near the former fuel UST excavation at the TASCO site, and to evaluate the site for potential low risk regulatory closure status.

#### 2.0 SCOPE OF SERVICES

The following scope of services was performed as requested by Caltrans in TO No. 04-190270-RM.

#### 2.1 Pre-Field Activities

- Conducted a pre-work site meeting on April 20, 2000. The pre-work meeting was attended by the Caltrans previous contract manager, Teresa Trinh, and Geocon's field representative, John Juhrend, to locate and inspect the work areas. At the pre-work site meeting the assumed locations of the previously installed wells were investigated by digging with a shovel and using a metal detector. The wells could not be located; thus, it was decided at the meeting to enhance the search with the aid of a backhoe. Subsequent to the backhoe operations, the TASCO property was marked for Underground Service Alert utility clearance.
- Prepared a Site Investigation Workplan and a Health and Safety Plan, both dated May 5, 2000.
   The Workplan outlined and summarized the scope of work requested in the subject TO. The Health and Safety Plan provided guidelines on the use of personal protective equipment and the health and safety procedures implemented during the field activities.
- Obtained a drilling permit from Alameda County Public Works Agency, Water Resources Section.
- Contacted the local public utilities via Underground Service Alert, to attempt to delineate subsurface public utilities and conduits in proximity to the proposed excavation and boring/well locations.
- Retained the services of: 1) Cruz Brothers, a private utility locating subcontractor, to mark the location of underground utilities or obstructions in the vicinity of the proposed boring; 2) V&W Drilling, a California-licensed driller, to operate the drill rig; 3) Advanced Technology Laboratories (ATL), a California-certified hazardous materials testing laboratory (ELAP No. 1838), to perform laboratory analyses, and 4) Virgil Chavez Land Surveying to survey the top of groundwater monitoring well casing elevation and horizontal location.

#### 2.2 Field Activities

On May 19, 2000, attempts to locate wells MW-1, MW-2, MW-3 and W1 were made using a backhoe. The assumed well locations were plotted in the field based on measurements extrapolated from the existing groundwater monitoring well location map. The backhoe was used to scrape the soil surface in an attempt to uncover the apparently buried or damage wells. The backhoe uncovered approximately 19 square meters (200 square feet) of area to 0.6 meter (two feet) below grade per well location, and only one well (W-1) was located. Well W-1 was not in good condition. The well did not have a well box and the casing was open only to approximately one meter (three feet) below grade. The approximate location of monitoring well W-1 is depicted on the Site Plan presented as Figure 2.

On May 23, 2000, three additional groundwater monitoring wells (MW-4, MW-5 and MW-6) were constructed on the TASCO property. Each well was completed to 4.6 meters (15 feet) below grade and constructed with 3.1 meters (10 feet) of 0.025-cm (0.010-inch) slot screen, 5-cm (2-inch) diameter

schedule 40 polyvinyl chloride (PVC) casing and completed to approximately 0.76 meter (2.5 feet) above grade with 5-cm (2-inch) schedule 40 blank. A stand pipe monument was placed over each well head. The well construction details are presented in the boring logs included as Appendix A. Soil samples were collected from each well borehole and submitted to the laboratory to be analyzed for the presence of TPHg, TPHd, (BTEX), Volatile Organic Compounds (VOCs) and total lead.

Upon completion of the groundwater monitoring wells, each was developed and surveyed for top of casing elevation and horizontal location. A total of three groundwater sampling events with laboratory analysis have been performed.

#### 3.0 INVESTIGATIVE METHODS

#### 3.1 Boring Location Rationale

The locations of the monitoring wells were designated by Caltrans in the vicinity of the former USTs.

#### 3.2 Procedures for Boring Advancement and Monitoring Well Construction

The borings were advanced using a truck-mounted hollow-stem auger drill rig on May 23, 2000. For logging purposes, soil samples were collected at 1.7-meter (five-foot) intervals. The soil samples were collected utilizing a split-spoon sampler lined with stainless-steel sleeves. The sampler was advanced approximately 0.46 meter (18 inches) into the underlying soil by dropping a 140-pound hammer 0.76 meter (30 inches). The number of blows required to advance the sampler each foot was recorded on the boring logs. Soil samples collected from depths of 1.5 and 3.1 meters (5 and 10 feet) bgs were submitted to ATL for analytical analyses, except no sample was recovered from boring MW-5 at 3.1 meters (10 feet). These soil samples were logged and field screened with a photo-ionization detector (PID).

The borings were logged following the Unified Soil Classification System (USCS) under the supervision of a California Certified Engineering Geologist (CEG). Reproductions of the boring logs and well construction diagrams are presented as Appendix A.

Groundwater was encountered at a depth of approximately 3.1 to 4.72 meters (10 to 15.5 feet) bgs. Each soil boring was converted to a 4.6-meter-deep (15-foot-deep) groundwater monitoring well. The groundwater monitoring well was constructed using 5-cm (2-inch) diameter, schedule 40, PVC casing. The lower portion (1.5 to 4.6 meters (5 to 15 feet) bgs) of the well was constructed using 3.1 meter (10 feet) of 0.025-cm (0.010-inch) slotted screen PVC casing. A filter pack consisting of silica sand was placed around the well screen beginning at total depth to approximately 0.6 meter (2 feet) above the top of the screen. An approximately 0.45-meter (1.5-foot) seal consisting of hydrated bentonite pellets was placed on top of the filter pack. Above the bentonite seal, annular space was filled with concrete, and the well was completed using a stand pipe monument well box set in concrete. Soil cuttings generated during the installation of the monitoring well were containerized in two 208-liter (55-gallon) drums. The drums were stored onsite pending disposal. The fieldwork was performed under the direct supervision of Geocon's project manager.

#### 3.3 Groundwater Sampling and Monitoring Well Survey

The monitoring wells were developed and sampled on May 26, 2000. Each well was developed by purging approximately 10 casing volumes for development (approximately 19 liters (5 gallons)) of groundwater from each well. The purging was accomplished utilizing a battery-operated submersible pump. The pump was decontaminated prior to use in each well by washing the pump with an Alconox solution followed by two rinses with distilled water. During the well development groundwater temperature, pH, conductivity, and turbidity were periodically recorded. The well development data sheets and monitoring well sampling data sheets are included in Appendix B.

Additional groundwater sampling events were performed on November 27, 2000 and March 29, 2001. At the time of groundwater sampling events, groundwater was measured at depths of between 2.9 and 5.0 meters (11.5 and 14.75 feet) bgs. The groundwater elevation data are presented Table 1. Approximately 3 casing volumes of groundwater were purged from each well prior to sampling utilizing discrete disposable bailer. During the well purging procedure groundwater temperature, pH, conductivity, and turbidity were periodically recorded. The monitoring well sampling data sheets are included in Appendix B. A groundwater sample was collected from each monitoring well utilizing a new disposable polyethylene bailer. The groundwater sample was transferred to laboratory-provided containers, labeled, and placed in a cooler with ice for transport to ATL. The purged groundwater was containerized in a 208-liter (55-gallon) drum and stored onsite pending disposal.

On June 19, 2000, Geocon mobilized to the subject site to perform a groundwater sounding round and accompany Virgil Chavez Land Surveyor. Each well was surveyed for horizontal and vertical locations based on the datum provided by Caltrans (NAD27, and NGVD29). The surveyor's report is included as

Appendix C.

#### 3.4 Laboratory Analyses

As required by the subject TO, Geocon instructed the analytical laboratory to perform the laboratory analyses under a standard turn-around-time. Reproductions of the laboratory reports and chain of custody documentation are presented as Appendix D.

The soil and groundwater samples were analyzed for the presence of:

- TPHg, and TPHd following United States Environmental Protection Agency (EPA) Test Method 8015B;
- BTEX following EPA Test Method 8020;
- VOCs following EPA Test Method 8260B; and
- Total lead following EPA Test Method 6010
- CAM 17 metals following EPA Test Method 6010 and 7470
- Fuel Oxygenate Compounds following EPA Method 8260

QA/QC procedures were performed for each method of analysis with specificity for each analyte listed in the test method's QA/QC. The laboratory QA/QC procedures included the following:

- One method blank for every ten samples, batch of samples or type of matrix, whichever was more frequent.
- One sample analyzed in duplicate for every ten samples, batch of samples or type of matrix, whichever was more frequent.
- One spiked sample for every ten samples, batch of samples or type of matrix, whichever was more frequent, with spike made at ten times the detection limit or at the analyte level.

Prior to submitting the soil samples to the laboratory, the chain-of-custody documentation was reviewed for accuracy and completeness.

#### 4.0 FIELD OBSERVATIONS AND INVESTIGATIVE RESULTS

#### 4.1 Site Geology and Hydrogeology

Soil encountered during the drilling activities consisted of a varied fill material extending from the surface to 2.1 meters (7 feet) bgs. The layers of fill consisted of a sandy gravel extending to depths of 0.3 to 0.9 meter (1 to 3 feet) over fine-grained silt or clay material over a moist sandy gravel to gravel material over native soil. The underlying native soil consisted of a dark grayish black, very moist, soft, highly organic, sandy silt or clayey silt (Bay Mud). The Bay Mud varies in thickness from 0.9 to 2.1 meters (3 to 7 feet) thick and is underlain either by saturated gravel/coarse sand (MW-5 and MW-6) or a very stiff, sandy clay (MW-4). Beneath the saturated gravel/coarse sand in MW-5 and MW-6 is soft sandy silt. Saturated conditions were encountered in the Bay Mud at approximately 10.5 feet below grade in MW-4.

During the drilling activities, groundwater was encountered in the Bay Mud at approximately 3.2 meters (10.5 feet) bgs (MW-4) and in a gravel/coarse sand at approximately 4 to 4.7 meters (13 to 15.5 feet) bgs in MW-5 and MW-6. During the groundwater sampling, groundwater was measured at depths ranging from 2.9 to 5.0 meters bgs.

Based on the groundwater elevations, the presumed direction of the groundwater flow has varied from the southeast to the west-southwest. The groundwater gradient as ranged from approximately 0.0056 to 0.0097. The groundwater potentiometric surface contours for each sampling event are presented on Figures 3a though 3c.

#### 4.2 Analytical Results – Soil Samples

A summary of the soil analytical laboratory test results is presented in Table 2. The laboratory analytical results for soil indicated that TPHg and TPHd were present in most soil samples. The highest TPHg concentrations in each boring were detected in the deepest (3.1-meter (10-foot)) sample and ranged from 3 mg/kg to 54 mg/kg. TPHd concentrations ranged from 1.2 mg/kg to 8.0 mg/kg. BTEX was also present in soil with benzene ranging from 18 ug/kg to 276 ug/kg. The highest concentrations of petroleum hydrocarbons were consistently present in the 3.1-meter (10-foot) samples from each boring and may be attributed to the smearing of hydrocarbons from impacted groundwater. Other VOCs were present with n-propylbenzene at the highest concentration of 280 ug/kg in the soil sample collected at 1.5 meters (5 feet) bgs in boring MW-6. All detected soil contaminants are below the respective Preliminary Remediation Goals (PRGs) established by United States Environmental Protection Agency Region 9 for residential soil.

#### 4.3 Analytical Results – Groundwater Sample

According to the laboratory analytical data, TPHg, TPHd, BTEX, and VOCs were consistently present in each groundwater monitoring well of each sampling event with the exception of non-detectable VOCs in MW-6 for the March 2001 sampling event. The analytical data are presented in Table 3.

Low concentrations of TPHg and TPHd were present in groundwater. Benzene was present in March 2001 at concentrations ranging from 35 micrograms per liter (ug/l) (MW-5) to 52 ug/l (MW-6). MTBE was present in groundwater samples collected during the first two sample events (ranging from 1.2 ug/l to 7.0 ug/l) and no detections at all well locations in March 2001. It is noted that the May 26, 2000 analytical data for metals were reported as totals and not dissolved. Dissolved metals are reported for each subsequent sample event. Dissolved metals were also present in groundwater at low concentrations less than or near the respective Maximum Contaminant Level (MCL). Petroleum hydrocarbons, BTEX, and MTBE concentrations in groundwater are presented on Figure 4.

Benzene concentrations exceed the Maximum Contaminant Limit (MCL) (1 ug/l) in groundwater samples collected from each well. A Primary Health Goal (PHG) has been established for MTBE at a concentration of 13 ug/l. MTBE concentrations present in groundwater at the TASCO site are less than the PHG. Concentrations of 1,2,4-trimethylbenzene and 1,3,5-trimethylbenzene each exceeded the PRG of 12 ug/l in tap water during the sampling event in May 2000; however in March 2001, 1,2,4-trimethylbenzene was not detected in any well and 1,3,5-trimethylbenzene was present only in MW-4 at 8 ug/l. Naphthalene and n-propylbenzene each exceed their respective PRGs for tap water in well MW-4 during March 2001 sampling event. The groundwater encountered at the subject property is not intended as drinking water and the MCL, PHG, and PRG values are intended only as a reference point.

#### 5.0 CONCLUSIONS AND RECOMMENDATIONS

The soil and groundwater analytical results are summarized as follows:

- Groundwater at the TASCO site contains TPHg, TPHd, BTEX, MTBE, and other VOCs. The primary contaminant appears to be TPHg. As of March 2001, TPHg concentrations in groundwater range from 0.26 mg/L to 8.1 mg/L; benzene was present at concentrations ranging from 35 ug/l to 52 ug/l. Naphthalene was present at concentrations ranging from 15 ug/l to 45 ug/l during the March 2001 event, exceeding the PRG for tap water established at 6.2 ug/l. Also during the March 2001 sampling event, n-propylbenzene was detected in MW-4 at 280 ug/l, which is above the respective PRG (61 ug/l). MTBE was previously detected at the site at concentrations less than the PHG, and in March 2001 no MTBE was present. The other VOCs detected in the groundwater samples appear to be other fuel additives and are either non-regulated compounds or were detected at concentrations less than their respective regulatory threshold.
- Groundwater contaminant concentrations appear to be stabilized at the site.
- Soil at the TASCO site has detectable concentrations of TPHg, TPHd, BTEX, and VOCs. Total lead concentrations in soil ranged from 4 mg/kg to 77 mg/kg. The TPHg, TPHd, BTEX, and VOC concentrations do not warrant additional investigation nor are the concentrations indicative of a source. The highest petroleum hydrocarbon concentrations were present in the 3.1-meter (10-foot) soil sample from each boring and may be indicative of smeared hydrocarbons from impacted groundwater.

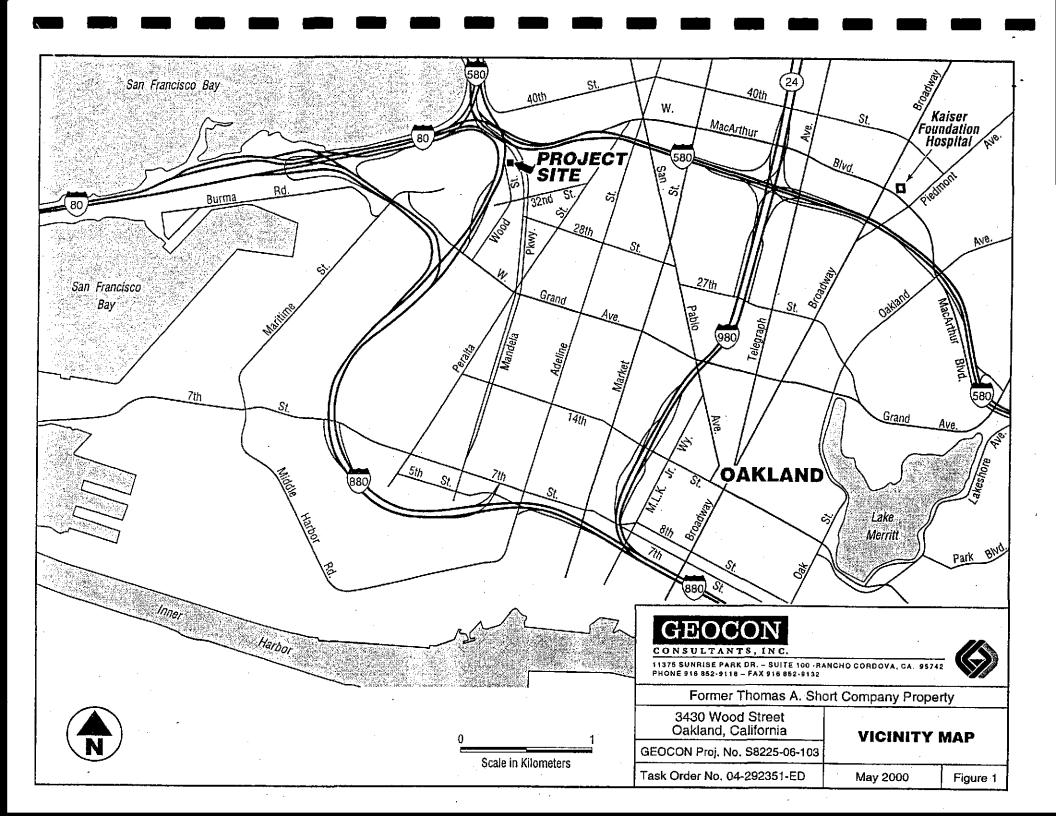
Four wells (MW-1 through MW-3 and W1) were previously installed at the TASCO property prior to the construction of the new Cypress Freeway overpass. Since the completion of the construction project, the wells were no longer visible. It is possible that the wells were buried or damaged during the construction effort. Thus, Geocon mobilized a backhoe to the subject site to locate the missing wells. One well was located, W-1, and it was in poor condition. Geocon recommends that the well be abandoned by drill out method.

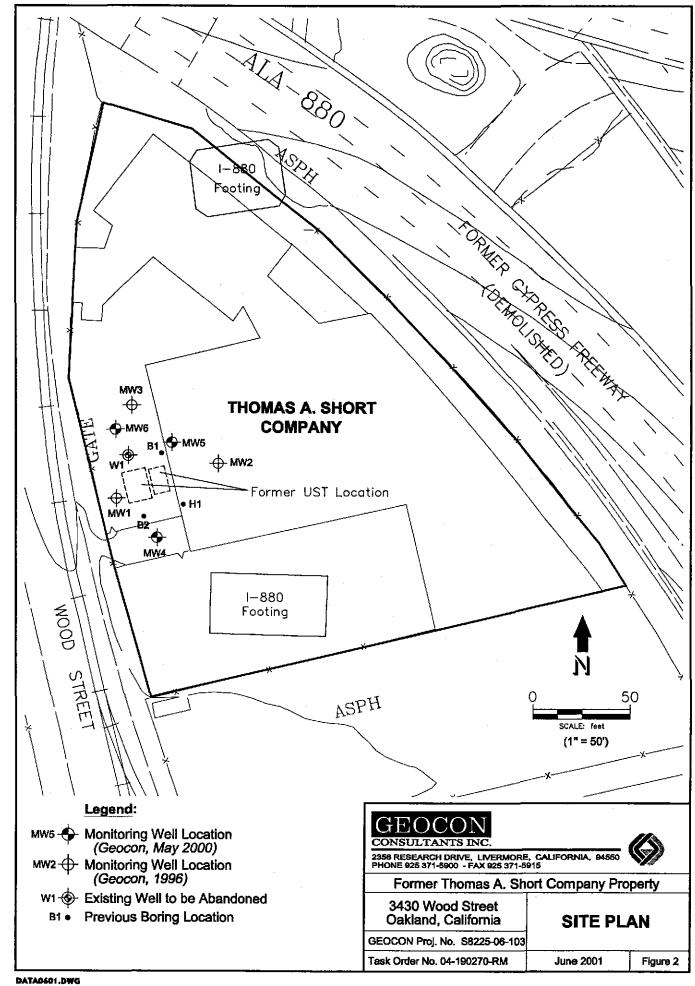
Geocon recommends that groundwater monitoring and sampling continue on a quarterly schedule for TPHg, BTEX, and VOCs.

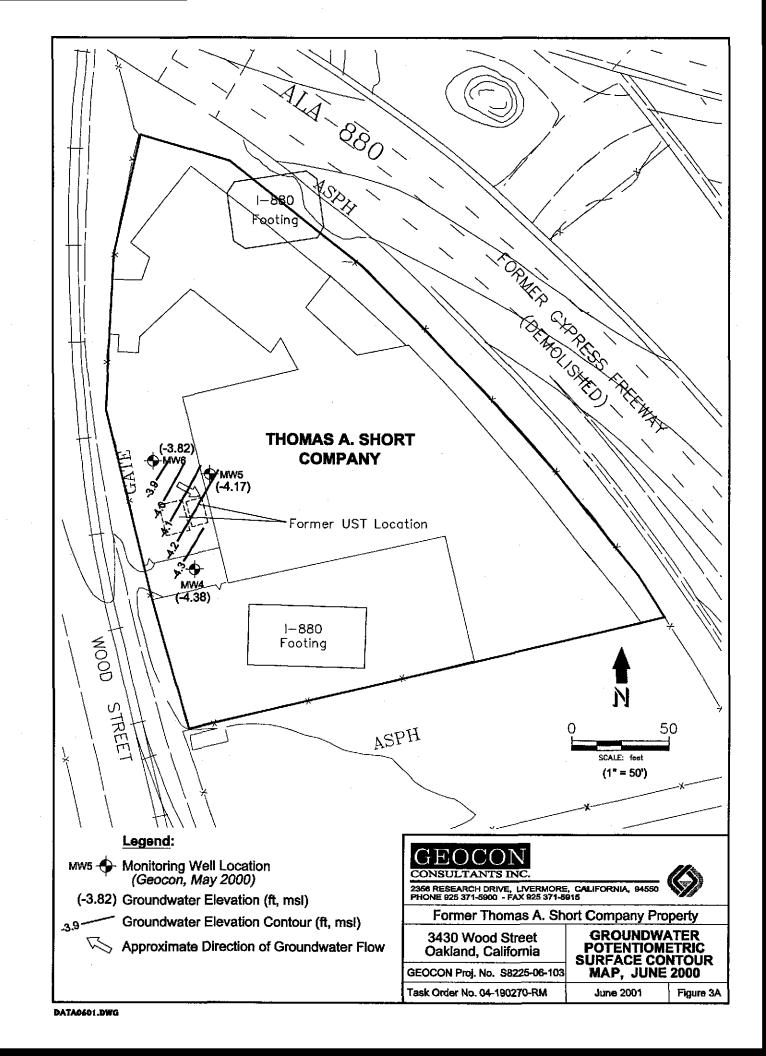
#### 6.0 REPORT LIMITATIONS

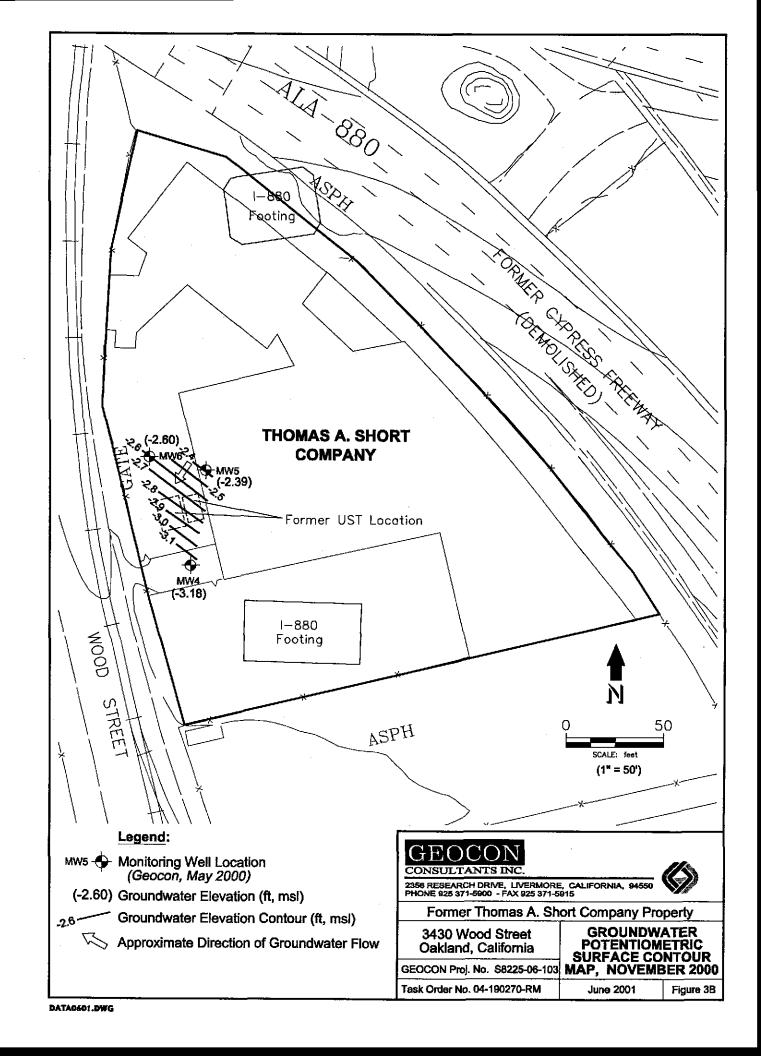
This report has been prepared exclusively for Caltrans. The information contained herein is only valid as of the date of the report, and will require an update to reflect additional information obtained.

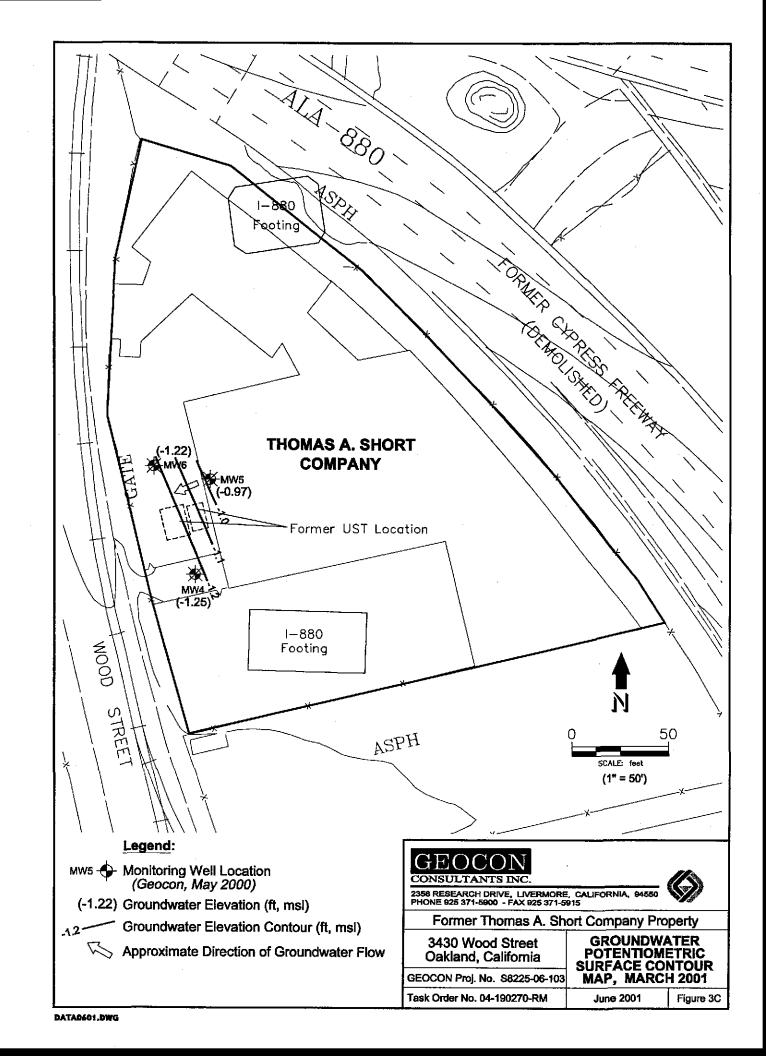
This report is not a comprehensive site characterization and should not be construed as such. The findings as presented in this report are predicated on the results of the limited sampling and laboratory testing performed. In addition, the information obtained is not intended to address potential impacts related to sources other than those specified herein. Therefore, the report should be deemed conclusive with respect to only the information obtained. We make no warranty, express or implied, with respect to the content of this report or any subsequent reports, correspondence or consultation. Geocon strived to perform the services summarized herein in accordance with the local standard of care in the geographic region at the time the services were rendered











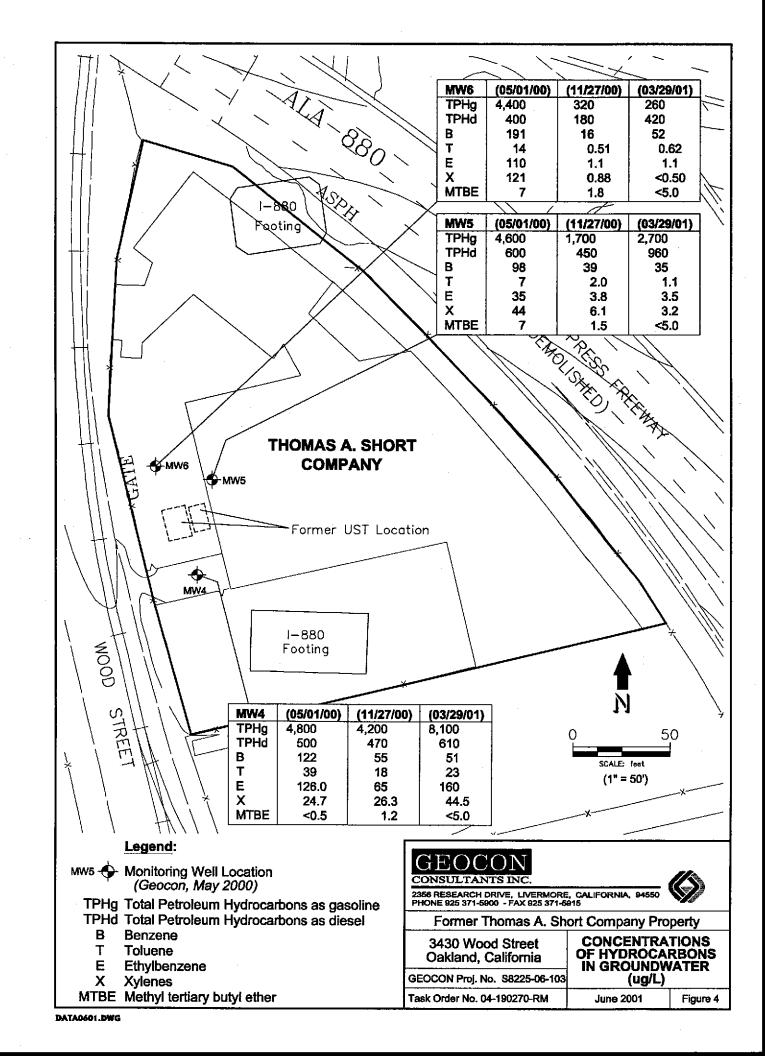


TABLE 1
GROUNDWATER ELEVATION DATA
Former Thomas A. Short Company
Oakland, California

Monitoring Well	Measurement Date	Top Of Casing (m, NGVD29)	Top Of Casing (ft, NGVD29)	Depth to Water (m)	Depth to Water (ft)	Groundwater Elevation (m, NGVD29)	Groundwater Elevation (ft, NGVD29)
MW-4	19-Jun-00	2.54	8.33	3.87	12.71	-1.34	4.20
	27-Nov-00	2.54	8.33	3.51	11.51	-1.34 -0.97	-4.38 -3.18
	29-Mar-01	2.54	8.33	2.92	9.58	-0.38	-1.25
MW-5	19-Jun-00	3.76	12.33	5.03	16.5	-1.27	-4.17
	27-Nov-00	3.76	12.33	4.49	14.72	-0.73	-2.39
	29-Mar-01	3.76	12.33	4.05	13.30	-0.30	-0.97
MW-6	19-Jun-00	3.50	11.49	4.67	15.31	-1.16	-3.82
	27-Nov-00	3.50	11.49	4.29	14.09	-0.79	-2.60
	29-Mar-01	3.50	11.49	3.87	12.71	-0.37	-1.22

m = meters

ft = feet

NGVD29 = National Geodetic Vertical Datum, 1929

# TABLE 2 SUMMARY OF SOIL ANALYTICAL DATA Former Thomas A. Short Company Oakland, California

Sample No.	Date Collected	Depth (m)	Depth (ft)	ТКРН	ТРН	ТРН	benzene	toluene	ethylbenzene	xylenes	methylene chloride	n-butylbenzene	sec-butylbenzene	tert-butylbenzene	isopropylbenzene	4-isopropyltoluene	napthalene	n-propylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	total lead
					mg/kg		<u> </u>						ug/kg								mg/kg
A-1	Jun-92	0.3	1	6,600										Md No ka							
A-2	Jun-92	0.5	1.5	66																	
		0.9	3	180																	
B-1	Jun-92	1.5	5		1,500		-	-	-	8,400		<b></b>			<del></del>						
		2.4	8		ND	ND	35	7	ND	ND											
		4.1	13.5		ND	ND	20	7	10	30										H	
B <b>-</b> 2	Jun-92	1.5 2.4 4.1	5 8 13.5		14,000 ND 1,700	700 ND ND	210	5	ND	60,000 ND 36,000									**************************************		

# TABLE 2 SUMMARY OF SOIL ANALYTICAL DATA

# Former Thomas A. Short Company Oakland, California

Sample No.	Date Collected	Depth (m)	Depth (ft)	ТКРН	mg/kg	ТРНФ	benzene	toluene	ethylbenzene	xylenes	methylene chloride	n-butylbenzene	sec-butylbenzene	tert-butylbenzene	isopropylbenzene	4-isopropyltoluene	napthalene	n-propylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	س الإلا تق تق total lead
H-1	Jun-92	0.6	2		ND	ND	ND	ND	ND	ND											
		1.5	5		ND	ND	ND	ND	ND	ND			-								
		2.4	8		6	ND	230	80	200	420											
W-1	Jun-92	1.5	5		ND	ND	10	ND	15	ND					<i></i> -						
		2.4	8		ND	ND	ND	ND	ND	ND											
		4.3	14	<b></b>	24	ND	10	7	70	110											
MW-1	Nov-96	0.3	1	45	< 1	194	< 5	< 5	< 5	< 5	18			*							35
		1.5	5	43	< 1	27	< 5	< 5	< 5	< 5	14										44
		3.0	10	12	< 1	2.7	< 5	< 5	< 5	< 5	5.1										4.4

# TABLE 2 SUMMARY OF SOIL ANALYTICAL DATA Former Thomas A. Short Company Oakland, California

Sample No.	Date Collected	Depth (m)	Depth (ft)	ТКРН	mg/kg	TPHd	benzene	toluene	ethylbenzene	xylenes	methylene chloride	n-butylbenzene	sec-butylbenzene	tert-butylbenzene	isopropylbenzene	4-isopropyltoluene	napthalene	n-propylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	B 자 ka fotal lead
MW-2	Nov-96	0.3	1	370	< 1	309	< 5	< 5	< 5	< <b>5</b> .	13										40
		1.5	5	360	6.0	44	< 5	< 5	< 5	< 5	< 5										542
		3.0	10	12	< 1	< 1.0	< 5	< 5	< 5	< 5	15		200								4.6
MW-3	Nov-96	0.3	1	1500	< 1 °.	1,670	< 5	< 5	< 5	< 5	21										6.7
		1.5	5	356	< 1	526	< 5	< 5	< 5	< 5	45										18
		3,0	10	50	43	1.4	314	1,220	955	1,180	7.4		222								4.8
MW-4	May-00	1.5	5		< 1	1.2	< 5	< 5	< 5	< 5	< 5		B. W. M.								4
		3.0	10	,	3	1.4	107	12	253	218	< 5	158	< 5	< 5	14	< 5	8.2	8.7	47	14	14

## TABLE 2 SUMMARY OF SOIL ANALYTICAL DATA

# Former Thomas A. Short Company Oakland, California

Sample No.	Date Collected	Depth (m)	Depth (ft)	ТКРН	TPHg	TPHd	benzene	toluene	ethylbenzene	xylenes	methylene chloride	n-butylbenzene	sec-butylbenzene	tert-butylbenzene	isopropylbenzene	4-isopropyltoluene	napthalene	n-propylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene	total lead
MW-5	May-00	1.5	5		mg/kg < 1	8.0	< 5	< 5	< 5	78	< 5	57	<b>ug/kg</b> < 5	< 5	20	< 5	35	39	168		mg/kg 77 3.2
MW-6	May-00	1.5	5	m m m	2.1	2.0	18	8	< 5	10	< 5	126	59	64	166	17	< 5	280	20	15	27 1.7
		3.0	10		54	< 1	276	15	43	44	< 5	12	< 5	< 5	12	< 5	< 5	20	103	27	8

ND = not detected

--- = not analyzed

g/kg = milligrams per kilogram

ug/kg = micrograms per kilogram

<= not detected above laboratory reporting limit

1.7 = WET soluble lead reported in milligrams per liter (mg/L)

# TABLE 3 SUMMARY OF PETROLEUM HYDROCARBON GROUNDWATER ANALYTICAL DATA

Former Thomas A. Short Company Oakland, California

Monitoring Well	Sample Date	TPHg (mg/L)	TPHd (mg/L)	Benzene (μg/L)	Toluene (μg/L)	Ethylbenzene (µg/L)	Total Xylenes (µg/L)	MTBE (μg/L)
N 4557 - 4	26.34 00	4.0	^ <b>-</b>					
MW-4	26-May-00	4.8	0.5	122	39	126.0	24.7	< 0.5
	27-Nov-00	4.2	0.47	55	18	65	26.3	1.2
	29-Mar-01	8.1	0.61	51	23	160	44,5	<5.0
MW-5	26-May-00	4.6	0,6	98	7	35	44	7
	27-Nov-00	1.7	0.45	39	2.0	3.8	6.1	1.5
	29-Mar-01	2.7	0.96	35	1.1	3.5	3.2	<5.0
MW-6	26-May-00	4.4	0.4	191	14	110	121	7
	27-Nov-00	0.32	0.18	16	0.51	1.1	0.88	1.8
	29 <b>-Mar-</b> 01	0.26	0.42	52	0.62	1.1	< 0.50	< 5.0

TPHg = Total Petroleum Hydrocarbons as gasoline

TPHd = Total Petroleum Hydrocarbons as diesel

MBTE = Methyl tert-Butyl Ether

mg/L = milligrams per liter

ug/L = micrograms per liter

<= not detected above laboratory reporting limit

TABLE 4
SUMMARY OF VOLATILE ORGANIC COMPOUNDS
GROUNDWATER ANALYTICAL DATA (µg/L)

Former Thomas A. Short Company Oakland, California

Monitoring Well	Sample Date	n-butylbenzene	sec-butylbenzene	tert-butylbenzene	4-chlorotoluene	isopropylbenzene	4-isopropyltoluene	naphthalene	n-propylbenzene	1,2,4-trimethylbenzene	1,3,5-trimethylbenzene
MW-4	26-May-00	18	0,6	14	< 5	141	5	101	170	< 5	12
112,1	27-Nov-00	7.3	< 5.0	9.9	<5.0	70	< 5.0	<5.0	63.0	<5.0	< 5.0
	29-Mar-01	26	12	21.0	< 5.0	180	8	45	280	<5.0	8
MW-5	26-May-00	21	8.2	11	< 5	29	< 5	14	31	96	51
	27-Nov-00	< 5.0	< 5.0	< 5.0	< 5.0	<5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	29-Mar-01	<5.0	< 5.0	14	< 5.0	7.1	< 5.0	15	11	<5.0	<5.0
MW-6	26-May-00	17	< 5	5.4	7.4	25	6.6	44	36	149	< 5
	27-Nov-00	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
	29-Mar-01	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0

mg/L = milligrams per liter

ug/L = micrograms per liter

<= not detected above laboratory reporting limit

### TABLE 5 SUMMARY OF DISSOLVED METALS GROUNDWATER ANALYTICAL DATA (mg/L)

Former Thomas A. Short Company Oakland, California

WELL I.D.	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
MW-4	26-May-00									0.20*								
707 444	27-Nov-00		0.010	0.47	< 0.0010	< 0.0030	0.0032	< 0.003	0.010		< 0.004	0.0064	0.030	< 0.0050	0.020	< 0.0050	0.0034	0.070
	29-Mar-01															<0.0050		
MW-5	26-May-00									0.33*								
	27-Nov-00		0.030	1.2	< 0.0010	0.0061	0.050	0.010	0.050	0.020	< 0.004	0.010	0.10	< 0.0050	0.010	< 0.0050	0.050	0.010
	29-Mar-01	<0.0050	0.010	0.20	<0.001	<0.0030	<0.003	< 0.003	0.010	< 0.005	<0.004	< 0.005	0.0062	< 0.0050	0.0013	< 0.005	<0.005	0.030
MW-6	26-May-00									0.40*								
	27-Nov-00	< 0.0050	0.0091	0.20	<0.0010	< 0.0030	<0.003	0,0049	0.010	< 0.0050	< 0.004	0.010	0.040	< 0.0050	0.010	< 0.0050	0.0036	0.050
	29-Mar-01	< 0.0050	0.0091	0.11	<0.0010	< 0.0030	<0.003	0.0040	0.020	<0.0050	<0.004	0.0054	0.010	<0.0050	0.001	<0.0050	0.003	0.37

<sup>\*</sup> Lead data was not reported as dissolved. The samples were not filtered or preserved prior to analysis.

mg/L = milligrams per liter

ug/L = micrograms per liter

<= not detected above laboratory reporting limit</p>

PROJECT NO. S8225-06-103 BORING/WELL NO. PENETRAT. RESIST. BLOWS/FT. LITHOLOGY MW-4 SAMPLE DEPTH IN PEET Š. DATE DRILLED 5/23/00 WATER LEVEL (ATD) WELL HEADSPACE CONSTRUCTION (PPM) EQUIPMENT MOBILE B-61 DRILLER V&W DRILLING SOIL DESCRIPTION FILL 000 Sandy GRAVEL (GP) 1 00 2 00 3 FILL Sandy SILT with GRAVEL (ML) 4 FILL Saturated GRAVEL 5 Very soft, very moist, dark grayish black (10YR 2/1), fine 1.1 SAND (SM) - highly organic, plastic 2 MW4-5 Very soft, very moist, dark gray (10YR 3/1), Clayey SILT (OL) - organic, plastic 9 10 0.2 - becomes saturated at approximately 10.5 feet 11 MW4-10 4 12 13 14 Very stiff, dark yellowish brown, fine to medium, Sandy CLAY with 1/4 inch gravel (CL) 15 - plastic 20 16 **BORING TERMINATED AT 15 FEET** 17 SPLIT SPOON SAMPLER WAS PUSHED TO 16.5 FEET WELL CASING SET AT 15 FEET 18 19 Figure A1, Log of Boring MW-4, page 1 of 1 ENV WELL WELLS.GPJ 06/14/00 CASING ELEVATION: NA QUANTITY OF FILTER MATERIAL: 3.5 - 90LB BAGS DIAMÉTER & TYPE OF CASING: WELL SEAL & INTERVAL: BENTONITE CHIPS 1.5 - 3' CASING INTERVAL: WELL SEAL QUANTITY: 1 40LB BAG WELL SCREEN: 0.01" ANNULUS SEAL/INTERVAL: READY-MIX CONCRETE 0 - 1.5' SCREEN INTERVAL: 5 - 15' ADDITIVES: WATER WELL COVER: STAND PIPE MONUMENT WELL DEPTH: FILTERPACK/INTERVAL:

ENGINEER/GEOLOGIST:

MATT HANKO

SILICA SAND 10X20

PROJEC	T NO.	S8225-	06-103						
H L	PENETRAT. RESIST. BLOWS/FT.	ET.	птногоду	BORING/WELL N	o	MW-5			
DEPTH IN PEET	NET VESI OW	SAMPLE NO.	HOL	DATE DRILLED5/23/00	w.	ATER LEVEL (ATD)	13.0'	WELL	HEADSPACE
	E BI	S		EQUIPMENT MO	BILE B-61	DRILLER	V&W DRILLING	CONSTRUCTION	(PPM)
				SC	IL DESC	RIPTION			
- 1 - 2 3 4 5 - 6 -		MWS-S	000000000000000000000000000000000000000	FILL Sandy GRAVEL (GP)  FILL Very stiff, slightly moist Silty CLAY with sand (Grave) - plastic  FILL Saturated Sandy GRAVE	CL)	lowish brown (10	YR 4/2),		роог
- 7 - - 8 - - 9 - - 10 -	13	NOREC	0 0 0	Very soft, very moist, da - slightly plastic, organi	 rk gray (1	10YR 3/1) Clayey	SILT (OL) -		recovery
- 11 12 14 15 -	10			Stiff, saturated, yellowis GRAVEL with clay (GF - poorly graded	)		- -		0
- 16 - - 17 - - 18 -				Soft, slightly moist, pale - slightly plastic BORING T SPLIT SPOON SAM WELL CASING SET A	ERMINA PLER WA	TED AT 15 FEET AS PUSHED TO	Γ		
- 19 -					age 1 of 1 ENV WELL WELLS.GPJ 06/14/				
				, page 1 of 1					S.GPJ 06/14/00
<del></del>	ELEVAT		NA			TY OF FILTER MAT		OLB BAGS	
		PE OF CA		2"		EAL & INTERVAL:	BENTONITE	CHIPS 1.5	- 3'
	INTERV CREEN:		- 5'		<b></b>		1 40LB BAG	TV CONON-	one A
1	N INTERV	0.01"	15'		<del></del>	JS SEAL/INTERVAL	KEADY-M	IX CONCRE	TE 6 - 1.
WELL (				MONUMENT	WELL D	VES: NONE EPTH: 15		-	
				<del></del>		<del></del>	TATA PERSON TELA SATE	70	
TILLER	PACK/IN	EKVAL:	SILI	CA SAND 10X20	ENGINE	ER/GEOLOGIST:	MATT HANK	LU	

PROJECT NO. S8225-06-103 BORING/WELL NO. PENETRAT. RESIST. BLOWS/FT. MW-6 LITHOLOGY SAMPLE HEET FEET DATE DRILLED \_\_5/23/00 \_\_\_\_\_ WATER LEVEL (ATD) \_\_\_ 15.5' WELL HEADSPACE CONSTRUCTION (PPM) EQUIPMENT MOBILE B-61 DRILLER V&W DRILLING SOIL DESCRIPTION FILL 000 Sandy GRAVEL with concrete debris (GP) 0000 1 FILL 2 Stiff, slightly moist, dark grayish brown (10YR 4/1), Sandy CLAY with 5% gravel up to 1 inch in diameter (CL) 3 - plastic FILL Saturated GRAVEL\_ 5 Very soft, very moist, dark grayish black (10YR 3/1), Sandy 0.1 SILT (OL) - organic, plastic MW6-5 6 Stiff, slightly moist, gray (10YR 4/1), Sandy CLAY with 1/4 to 2 inch gravel - slight petroleum odor (CL) 10 12.4 MW6-10 11 11 12 13 14 15 11 0 Saturated, dark yellow brown (10YR 4/2), coarse SAND (SP) 16 Soft, slightly moist, pale brown (10YR 5/3), Sandy SILT (ML) slightly plastic 17 . **BORING TERMINATED AT 15 FEET** SPLIT SPOON SAMPLER WAS PUSHED TO 16.5 FEET 18 WELL CASING SET AT 15 FEET 19 Figure A3, Log of Boring MW-6, page 1 of 1 ENV\_WELL WELLS.GPJ 06/14/00 CASING ELEVATION: NA QUANTITY OF FILTER MATERIAL: 3.5 - 90LB BAGS DIAMETER & TYPE OF CASING: WELL SEAL & INTERVAL: BENTONITE CHIPS 1.5 - 3' CASING INTERVAL: 3 - 5' WELL SEAL QUANTITY: 140LB BAG WELL SCREEN: 0.01" ANNULUS SEAL/INTERVAL: READY-MIX CONCRETE 0 - 1.5' SCREEN INTERVAL: 5 - 15' ADDITIVES: NONE WELL COVER: STAND PIPE MONUMENT WELL DEPTH: FILTERPACK/INTERVAL: SILICA SAND 10X20 ENGINEER/GEOLOGIST: MATT HANKO

T	MONITOR	RING WE	LL DATA			<u> </u>
	18 2000	)	<del>-</del>	PROJECT #:	£ 5822.	5-06-103
	A. Shor	7 (	-	MILEAGE:		<u></u> .
	71. 37707	1. (0-	-	PAGE: OF:	Hanko	<del></del>
	-		- -			
WELL #	MW-4	MW-5	MW-6			
TIME OPENED (24 hr)						
TIME (24 hr)						
WATER DEPTH (ft)	12.71	16.50	15.31			<u> </u>
WELL DEPTH (ft)				-		
WELL DIAMETER (in)						
WELL VOLUME (gal)						
SHEEN OR FILM	•				<del> </del>	
PRODUCT THICKNESS (TO						
FIELD SAMPLE COLOR						
PURGE						<u> </u>
DEVELOP				<u> </u>	<u> </u>	<del>                                       </del>
SAMPLE					1 .	
METHOD						
PURGED WATER VOL. (gal)	<u> </u>			<u> </u>		
PURGED COLOR						
PURGED PROD. VOL. (gal)						
PURGE SEQUENCE						<del></del>
PROD DETECT METHOD						
соммента:				<del></del>		
	•					i

# WELL DEVELOPMENT DATA SHEET

(fill out completely)

WELL OR LOCATION. A SHORT SAMPLER Travis Wills DATE 5/26/00 PROJECT Thomas IWL Action Пте Pump rate Well / Hydrologic statistics (low yield) Start pump / Begin 910 equals 198 gal/ft. casing SWL . (if above screen) Stop 925 packer Sampled 145 intake (Final IWL) bailer depth (orde one) Marie C. Torris TOP Purge calculation gal/ft. • 15 ft. = 48 gals x 10 = 48 SWL-SWL to BOP or ónò purge volume-(if in screen) packer to BOP volume 10 casings BOP Head purge calculation (Airlitt only) 15 T.D. (as built) gal/ft.\* ft.= gals. packer to SWL PB 8 Equipment Used / Sampling Method / Description of Event/Comments: Actual gallons purged 412 Actual volumes purged Dobnoursable Well yield (see below) TEMP °C /°F Gallons purged \* TURBIDITY Ph (circle one) (UTM) 001 6.7 21 2. 4. 1463 5. 1421 986 6. 2 7. 11,49 8. 9. 10. 11. 12 ⊕ HY- Minimal Take measurement at MY - WL drop - able to purge 3 LY - Able to purge 3 /LY - Minimal recharge -W.L drop volumes during one sitting approximately each volumes by returning egrue et eidan. casing volume purged. by reducing pump rate or later or next day. 3 volumes.

cycling pump.

### MONITORING WELL SAMPLING DATA

Project Name:	Project Number:
Well No.: MW-5	Date 5/26
Well Diameter: Z in.	Field Personnel TM
Casing Length: 15 feet	Screened Casing Length: feet
Well Elevation: feet MSL measure	d from

PURGE CHARACTERISTICS						
Water Depth Before Pumping (2,00) ft.	2 in. = .1	2 in. = .1632 Gal/ft. 4 in. = .6528 Gal/ft.				
Calculated Water Column Volume: Ga	al. 0.48	Volumes Purged:				
Start Pumping Time:	End Pum	End Pumping Time:				
otal Time: min. Flow G		nge: to				
Total Volume Pumped: Gal.	Avg. Flo	Avg. Flow Rate: gpm				
Water Depth After Pumping: feet	Time:	Time:				
Dissolved Oxygen: mg/l	Free Proc	Free Product: (Y/N); Thickness: inches				

comments:			

48

# WELL DEVELOPMENT DATA SHEET

(fill out completely)

WELL OR LOCATION MW-6 Mille (ruvis DATE \_5/26/00 PROJECT\_/hom45 SAMPLER MT\_ Action Ilme Pump rate Well / Hydrologic statistics (low yield) Start pump / Begin Well type 1125 (MW, EW, etc.) HTUS STOP (Dry) // 31 1135 diameter. SWL -\_\_gal/ft. casing equals\_\_\_\_ (if above screen) Stop 1155 packer Sampled 1200 intake (Final IWL) bailer depth (circle one) - TOP Purge calculation gal/ft. \* \_ gals x 10 = SWL-SWL to BOP or one (if in screen) purge volumepacker to BOP volume 10 casings BOP Head purge calculation (Alriift only) gal/ft.\* \_\_\_tt.=\_\_\_\_gals\_ measured. T.D. (as built) T.D. packer to SWL Equipment Used / Sampling Method / Description of Event/Comments: Actual gallons purged Actual volumes purged Well yield (see below) TEMP °C /°F E2 (us / cm) Gallons purged \* TURBIDITY Ph (circle ane) (NTU) 18.3 1902 6.0 28.5 2. 18.4 1212 22.4 17.9 1808 7.9 14,6 4. 17.7 1627 16.3 18.1 5. 783 77.0 5.3 6. 18,6 1402 23,9 6.9 7. 17.9 1523 5.Z 8. 9. 10. 11. Take measurement at ⊕ HY- Minimal MY - WL drop - able to purge 3 LY - Able to purge 3 /LY - Minimal recharge approximately each W.L. drop volumes during one sitting volumes by returning egrue of siden. casing volume purged. by reducing pump rate or later or next day. 3 volumes. cycling pump.

MONITORING WE	LLL SAMPLING DATA		
Project Name:	Project Number:		
Well No.: MW - W	Date 5/26		
Well Diameter: 7 in.	Field Personnel TM		
Casing Length: 15 feet	Screened Casing Length: feet		
Well Elevation: feet MSL measu	ared from		
PURGE CHA	RACTERISTICS		
Water Depth Before Pumping: 7.02-ft.	2 in. = .1632 Gal/ft. 4 in. = .6528 Gal/ft.		
Calculated Water Column Volume: Ga	Nolumes Purged:		
Start Pumping Time:	End Pumping Time:		
Total Time: min.	Flow Gauge: to		
Total Volume Pumped: Gal.	Avg. Flow Rate: gpm		
Water Depth After Pumping: feet	Time:		
Dissolved Oxygen: mg/l	Free Product: (Y/N); Thickness: inches		
SAMPLING CI	HARACTERISTICS		
Purging Method:	Sampling Method: Disposable Bailer		
Laboratory Analysis:			
	NDUCTIVITY pH Gallons (umhos/cm) Purged		
(°C)	(anthos/cm) rangod		

comments:			
			<u></u>
	- 1	-	

# WELL DEVELOPMENT DATA SHEET

(fill out completely)

	<del></del>				ELL OR LO	CATION	
PROJECT		SA	AMPLER .		D	ATE	
Well /	Hydrologic stat	Istics		Action	Пте	Pump rate	[WL (low yleid
	Well type MW- 4			tart pump / Begir	1020		
	YM)	V. EW, etc.)		Stop/dry)	1024		
				Start	1030		
	d dian	neter Z		stop (Dry)	1031		
swt	1 1			090 Start	1040		
(if above screen)	edu	ais gai/ft. c	asing —	Steff on)	1041		
packer		1	St	op .	1052	<del> </del>	<u> </u>
intake f	ı.	,		mpled	1055		
bailer depth (circle one	)	ТОР	(F	nai IWL)			
		- 10P	<u> </u>		Purge ca	lculation	
swt			1//	96 gal/ft. · 15	tt. = 0.44	gals x 10 =	5 cals
(if in screen)		L		SWL to BC	Por one		volume-
. ,	] 1			packer to 8	SOP volun		r volume- casings
		- BOP		Head	urge calcu	lation (Airlitt o	•
measured. T.D. ————		- T.D. (as built)	<u></u>	gal/ft.*	_ft	gais.	
		- 1.D. (45 Duit)		packerto	and the first of the court of the court		
Actual gallons purged	a 5	Equipme	ent Used / :	Sampling Method	20 Alberta (2004)		
Actual volumes purge Well yield + (see below)	ed <u>IV</u>	Conductor	sis	<i>P</i> .			٠.
Gallons purged *	TEMP °C /°F (circle one)		Ph				
1. /	181	1752	8.4	(NTU	<del></del>		<del></del>
2. 11/2	18.2				· ·		
3. 2		1761	8.8				
	18.0	1793	8.4	18.00	1		
4. 7/2	17,9	1699	8.1	19.13	<u>`</u>	1	
5. 3	17.3	1083	8.9	8,41			
6. 4	17.5	117.5	9.1	11.21			
7. 5	16.9	1581	6.9				<u> </u>
8.	7.4	1211	1 12 12	10.1-	<del>  </del>		
9.			<del>                                     </del>				
10.			· ·				
<u></u> 11.							
12.							
Take measurement at approximately each casing volume purged.	⊕ <u>HY-</u> Minimal W.L drog		duiring one s ng pump rat	itting volum	o purge 3 es by returnin r next day.	VLY - Minima nable 3 volui	egnuc œ

Project Name:			Project Number:			
Well No.: MW- Y			Date 5/210			
Well Diameter:	Z in.		Field Pers	onnel IM		
Casing Length:	15 feet		Screened (	Casing Length:	feet	
Well Elevation:	feet MSL 1	measure	d from			
	PURGE	CHAR	ACTERIS7	TICS		
Water Depth Befo	ore Pumping:		2  in. = .16	32 Gal/ft. 4 in. =	: .6528 <b>G</b> al/ft.	
Calculated Water	Column Volume:	Gal.	0.44	Volumes Purged:	······································	
Start Pumping Ti	me:		End Pump	ing Time:	·	
Total Time: n	nin.		Flow Gau	ge: to		
Total Volume Pur	mped: Gal.		Avg. Flow	Rate: gpm		
Water Depth After	er Pumping: feet		Time:			
Dissolved Oxyger	n: mg/l		Free Product: (Y/N); Thickness: inches			
	SAMPLIN	IG CHA	RACTERI	<del> </del>		
Purging Method:			Sampling I	Method: Disposable	Bailer	
Laboratory Analy		1 6000000000000000000000000000000000000			<b>.</b>	
TIME	TEMPERATURE (°C)		OUCTIVITY	pH	Gallons Purged	
··						
	]	<u></u>			<u>L </u>	
comments:		····				
		<del></del>				

Project Name: Thomas Short	Project Number: 58725-06-103		
Well No.: WW 6	Date 11/21		
Well Diameter: 2 in.	Field Personnel TM		
Casing Length: \8.7 feet	Screened Casing Length: feet		
Well Elevation: feet MSL meas	vation: feet MSL measured from		

PURGE CHARACTERISTICS					
Water Depth Before Pumping: ft. 14.04 2 in. = .1632 Gal/ft. 4 in. = .65					
Calculated Water Column Volume: Gal.	0.75 Volumes Purged:				
Start Pumping Time:	End Pumping Time:				
Total Time: min.	Flow Gauge: to				
Total Volume Pumped: Gal.	Avg. Flow Rate: gpm				
Water Depth After Pumping: feet	Time:				
Dissolved Oxygen: mg/l	Free Product: (Y/N); Thickness: inches				

	SAMPLIN	G CHARACTERIST	ICS	· · · · · · · · · · · · · · · · · · ·
Purging Method	bailer	Sampling Met	hod: Disposable	Bailer
Laboratory Ana				
TIME	TEMPERATURE (°C)	CONDUCTIVITY (umhos/cm)	pH	Gallons Purged
1059	17,9	987	7.7	1
1103	0.71	975	7.5	7
1107	17.5	1053	7.5	2.5
\200	Sumple			

comments: Street odor	Run	almost	dry	while	program
comments: Stight solor let Recharge before	or Same	sling	1 1/2		100
					·
Tagged 15.0	before	Sumpla	<u>~</u>	· · · · · · · · · · · · · · · · · · ·	

Project Name: Thomas short	Project Number: 58725-06-10-3
Well No.: www 5	Date (1)27
Well Diameter: 2 in.	Field Personnel TW
Casing Length: 14.2 feet	Screened Casing Length: feet
Well Elevation: feet MSL measu	ared from

PURGE CHARACTERISTICS						
Water Depth Before Pumping: 14.72ft.	2 in. = .1632 Gal/ft. 4 in. = .6528 Gal/ft.					
Calculated Water Column Volume: Ga	al. 0,13 Volumes Purged:					
Start Pumping Time: 950	End Pumping Time:					
Total Time: min.	Flow Gauge: to					
Total Volume Pumped: Gal. Avg. Flow Rate: gpm						
Water Depth After Pumping: feet Time:						
Dissolved Oxygen: mg/l	Free Product: (Y/N); Thickness: inches					

	SAMPLING CHARACTERISTICS							
Purging Method: bailer Sampling Method: Disposable Bailer								
Laboratory Anal	ysis:							
TIME TEMPERATURE CONDUCTIVITY pH Gallons (°C) (umhos/cm) Purged								
1038	18.4	874	8.3	1				
1042	18.5	940	7.9	2				
1044	17.8	962	7.7	2.5				
1145	Sumple							

comments: 517	ust ador	Disu	oloned u	saler	
let reche	vac	1'lehr			
	0				
Sabele	Depth	befor	Sampling	15.25	
7			77	)	

Project Name: Short	Project Number: Sazzs-66-103	
Well No.: ww-4	Date 11/27	
Well Diameter: 7 in.	Field Personnel TM	
Casing Length: feet .	Screened Casing Length: feet	
Well Elevation: feet MSL measure	ed from	

PURGE CHARACTERISTICS				
Water Depth Before Pumping: 11.5 ft.	2 in. = .1632 Gal/ft. 4 in. = .6528 Gal/ft.			
Calculated Water Column Volume: Oslo Gal.	Volumes Purged:			
Start Pumping Time: 450	End Pumping Time:			
Total Time: min.	Flow Gauge: to			
Total Volume Pumped: Gal.	Avg. Flow Rate: gpm			
Water Depth After Pumping: feet	Time:			
Dissolved Oxygen: mg/l	Free Product: (Y/N); Thickness: inches			

SAMPLING CHARACTERISTICS				
Purging Method	bailer	Sampling Method: Disposable Bailer		
Laboratory Analysis:				
TIME TEMPERATURE CONDUCTIVITY pH Gallons (°C) (umhos/cm) Purged				
932	16.3	412	7.8	0.5
935	17.1	506	7.6	1
941	17.2	518	7.5	2
1170	Sample			

strong stor Let Recharge Zhrs

Water Depth before Sumpling 11.96 7

Project Name: Thomas Short	Project Number: 10 42244		
Well No.: WW-6	Date 3/24/04		
Well Diameter: 7, in.	Field Personnel		
Casing Length: 18.1 feet	Screened Casing Length: feet		
Well Elevation: feet MSL measu	red from		
	'		
PURGE CHA	RACTERISTICS		
Water Depth Before Pumping: ft. 12.11	2 in. = .1632 Gal/ft. 4 in. = .6528 Gal/ft.		
Calculated Water Column Volume: Ga	1. 0.41 Volumes Purged: 3		
Start Pumping Time: 450 1010	End Pumping Time:		
Total Time: min.	Flow Gauge: to		
Total Volume Pumped; Gal.	Avg. Flow Rate: gpm		
Water Depth After Pumping: feet	Time:		
Dissolved Oxygen: mg/l	Free Product: (Y/N); Thickness: inches		
SAMPLING CI	HARACTERISTICS		
Purging Method: bacler Sampling Method: Disposable Bailer			
Laboratory Analysis:			
	NDUCTIVITY pH Gallons (umhos/cm) A Purged		
are told your lost	200 120 La		
1019 16.7	1023 7.4 2		
1023 16.9	1019 7.3 3		
1110 Sungle			
comments: 174UT odov	moderate turbulity		

Project Name: Thomas Short	Project Number:
Well No.: MW-5	Date 3/24/01
Well Diameter: 2 in.	Field Personnel TW
Casing Length: 19.2 feet	Screened Casing Length: feet
Well Elevation: feet MSL measure	d from

PURGE CHARACTERISTICS				
Water Depth Before Pumping: 133th.	2 in. = .1632 Gal/ft. 4 in. = .6528 Gal/ft.			
	I. 0,46 Volumes Purged: 3			
Start Pumping Time: 947	End Pumping Time:			
Total Time: min.	Flow Gauge: to			
Total Volume Pumped: Gal.	Avg. Flow Rate: gpm			
Water Depth After Pumping: feet	Time:			
Dissolved Oxygen: mg/l	Free Product: (Y/N); Thickness: inches			

SAMPLING CHARACTERISTICS					
Purging Method	bailer	Sampling Method: Disposable Bailer			
Laboratory Ana	lysis:				
TIME	TEMPERATURE CONDUCTIVITY pH Gallons (°C) (umbos/cm) Purged				
951	15.8	615	(e.5		
954	المال	901	6.5	1	
959	1 bel	913	له،دو	3	
1055	Sangle				

comments:	Harmy solar	
dark		

Project Name: Thomas Short	Project Number:
Well No.: WW-4	Date 3/24/01
Well Diameter: 2 in.	Field Personnel TM
Casing Length: 15 feet	Screened Casing Length: feet
Well Elevation: feet MSL measure	d from

PURGE CHARACTERISTICS				
Water Depth Before Pumping: ft. 9.59 2 in. = .1632 Gal/ft. 4 in. = .6528 Gal/ft.				
Calculated Water Column Volume: Gal.	0.98 Volumes Purged: 3			
Start Pumping Time: 930	End Pumping Time:			
Total Time: min.	Flow Gauge: to			
Total Volume Pumped: Gal.	Avg. Flow Rate: gpm			
Water Depth After Pumping: feet	Time:			
Dissolved Oxygen: mg/l	Free Product: (Y/N); Thickness: inches			

SAMPLING CHARACTERISTICS					
Purging Method:	od: buile Sampling Method: Disposable Bailer			Bailer	
Laboratory Anal					
TIME TEMPERATURE CONDUCTIVITY pH Gallons (°C) (umbos/cm) Purged					
933	16.5	<del>8</del> %	10.9		
931	14.3	964	آر می	2_	
940	1613	799	6.7	212	
1040	Surple				

comments: Green	bluck	Color	A-B-T-	heury
odo				\
			•	

#### Virgil Chavez Land Surveying

312 Georgia Street, Suite 225 Vallejo, California 94590-5907 (707) 553-2476 • Fax (707) 553-8698

July 11, 2000 Project No. 1865-00

Matt Hanko Geocon Consultants, Inc. 5673 W. Las Positas Blvd., Suite 205 Pleasanton, Ca. 94588

Subject: Monitoring Well Survey 3430 Wood Street

Oakland, Ca.

#### Dear Matt:

This is to confirm that we have proceeded at your request to survey the monitoring wells at the above referenced site. The survey was completed July 7, 2000. Measurement locations were marked at approximate north side of top of casing, and top of box. The coordinates and elevations are in feet, based on information provided by Cal Trans. (NAD27;NGVD29)

Well No.	Ground Elevation	TOC <u>Elevation</u>	Northing	Easting
MW - 4	8.39'	8.33'	487643.60	1483094.82
MW - 5	9.03'	12.33'	487711.31	1483105.38
MW - 6	8.50'	11.49'	487720.74	1483065.59

#### Additional points located at your request.

Top of	Conc. Wall	487575.25	1483092.12
Top of	Conc. Wall	487579.40	1483109.85
Corner	of Column	487628.62	1483134.56
Corner	of Column	487620.15	1483134.30
Corner	of Column	487619.65	1483141.87
Corner	of Column	487627.51	1483167.11
Corner	of Column	487619.25	1483166.87
Corner	of Column	487618.87	1483174.93

Sincerely,

Virgil D. Chavez, PLS 6323

June 6, 2000

ELAP No.: 1838

Geocon Environmental 5673 W. Las Positas Blvd, Ste 205 Pleasanton, CA 94588

ATTN:

Matt Hanko

Client's Project:

Thomas A Short, #S8225-06-103

Lab No .:

44258-001/005

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (562) 989 - 4045 if I can be of further assistance to your company.

Sincerely,

Operyl De Los Reyes

Technical Operations Manager

CDR/jh

**Enclosures** 

This cover letter is an integral part of this analytical report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purpose without authorization is prohibited.

Client:

Geocon Environmental

QC Batch #:

L008015DS262

Attn:

Matt Hanko

Date Sampled:

05/23/00

Date Received: **Date Extracted:**  05/25/00

05/31/00

Date Analyzed:

06/01/00

Client's Project:

Thomas A Short, #S8225-06-103

**Extraction Method:** 

3550B

Matrix:

Soil

**Extraction Material:** 

Methylene

**Analyst Initials:** 

AP

Chloride

et disemperate appear et disemperate appear	Metros de la companya	od 8015B (M)/TPH (Diesel)		事。 では、他の対象を表現している。 企業を対象を表現している。
Lab No.:	Sample ID:	Results, mg/kg	DLR, mg/kg	Dilution Factor
Method Blank		ND	1.0	1.0
44258-001	MW-4@5'	1.2*	1.0	1.0
44258-002	MW-4@10'	1.4*	1.0	1.0
44258-003	MW-5@5'	8.0**	1.0	1.0
44258-004	MW-6@5'	2.0**	1.0	1.0
44258-005	MW-6@10'	ND	1.0	1.0
44258-002Dup	MW-4@10'	6.0*	1.0	1.0
				,
	·			

MDL = Method Detection Limit ND = Not Detected (Below DLR). DLR = MDL X Dilution Factor

Sample contains hydrocarbons that fall within the diesel range, but does not match the diesel pattern. However, quantitation is based on a diesel standard.

= Sample contains hydrocarbons that are heavier than diesel. However, quantitation is based on a diesel standard.

Reviewed/Approved By:

Ce- Ter

Compton Persaud

Semi-Volatile Supervisor

Spike Recovery and RPD Summary Report - Soil (mg/kg)

Method : C:\HPCHEM\2\METHODS\LBD00526.M (Chemstation Integrator) Title : Diesel

Last Update : Fri May 26 16:24:38 2000

Response via : Initial Calibration

Non-Spiked Sample: L0601013.D

Spike

Spike

Sample

Duplicate Sample

File ID : L0601037.D

L0601039.D 044258-001A,MSD,SW631013

Sample: 044258-001A,MS,SW631013 044258-001A,MSD,SW6310 Acq Time: 1 Jun 2000 10:31 pm 1 Jun 2000 10:56 pm

Sample Spike Spike Dup Spike Dup RPD QC Limits
Conc Added Res Res %Rec %Rec RPD % Rec

| 37 | 1000 | 919 | 949 | 88 | 91 | 3 | 37 | 40-140 |

OCBATCH#L008015DS262

Reviewed/Approved by: 4

Compton Persaud

Department Supervisor

Date: 06/05/00

Advanced Technology Laboratories

Client: Attn: **Geocon Environmental** 

Matt Hanko

Client's Project:

Thomas A Short, #S8225-06-103

Date Received:

05/25/00 SOIL

Matrix: Units:

UG/KG

Haddianaca nestitus	Selfer			EPANE	thed 826	<b>18</b> (4)	440	共和國特別	118 444 340 341		March The State
Lab No.:		Method B	ank	44258-001		44258-001Dup		44258-002	<u> </u>	44258-003	
Client Sample I.D.:		1		MW-4@5'		MW-4@5'		MW-4@10"		MW-5@5'	
Date Sampled:		-		05/23/00		05/23/00		05/23/00		05/23/00	
QC Batch #:	·	P00VOC\$	160	P00VOCS	160	P00VOCS	160	P00VOCS	160	P00VOCS1	60
Date Analyzed:		05/26/200	0	05/26/200	D	05/26/200	0	05/26/200	0	05/26/2000	
Analyst Initials:		JPC		JPC		JPC		JPC		JPC	
Dilution Factor:		1		1		1		1		1	
ANALYTE	MDL	DLRA	Results	DLR	Results	DLR	Results	A DUR	Results	UPDLR	Results
benzene	5	5	ND	5	ND	5	ND	5		5	57
bromobenzene	5	5	ND	5	ДИ	5	ND	5	ND.	5	ND
bromodichloromethane	5	5	ND	5	ND	5	ND	5			
bromoform	5	5	ND	5	ND	5	ND	5		5	
bromomethane	5	5	ND	5	ND	_5	ND	5	ND	5	ND
n-butylbenzene	5	. 5	ND	5	ND	5	ND	5			
sec-butylbenzene	5	5		5		5		5			NE
tert-butylbenzene	5	5	ND	5	ND	5	ND	5			NE
carbon tetrachloride	5	5			ND	5		5			
chlorobenzene	5					5	ND	5	ND.		
chloroethane	5	5	ND	5	ND	5	ND	- 5	ND	5	NE
chloroform	5	5				5		5			
chloromethane	5	5	ND	5	ND	. 5	ND	Ę	ND		
2-chlorotoluene	5	5	ND	5			ND	5			
4-chlorotoluene	5	5		5							
dibromochloromethane	5	5			ND	5	ND	5	ND ND		
1,2-dibromo-3-chloropropane	5	5	ND	5	ND	5		5			
1,2-dibromoethane	5	. 5	ND			5		5			
dibromomethane	5	5					ND				
1,2-dichlorobenzene	5							5			
1,3-dichlorobenzene	5	5									
1,4-dichlorobenzene	5										
dichlorodifluoromethane	5	5									
1,1-dichloroethane	5	5					ND.				
1,2-dichloroethane	5										
1,1-dichloroethene	5					_					
cis-1,2-dichloroethene	5	5		<del>-</del>	<del></del>		+	5			
trans-1,2-dichloroethene	5										
1,2-dichloropropane	5					_				<u> </u>	4
1,3-dichloropropane	5			<del></del>	-	_		1			
2,2-dichloropropane	5										
1,1-dichloropropene	5					5					
ethylbenzene	5	5	ND.	5	ND	5	ND		194		
hexachiorobutadiene	5	5	ND	5	ND	5	ND		ND.	5	N

Pg. 1 of 2

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DLR = MDL x Dilution Factor

NA = Not Analyzed

Client: Attn:

Geocon Environmental

Matt Hanko

Client's Project:

Thomas A Short, #\$8225-06-103

Date Received: Matrix:

Units:

05/25/00

SOIL UG/KG

	J-152 (134)		<b>7</b> (44) 71 (1)	EPA Me	thod 8260	)B	1:115				
Lab No.:		Method Bl		44258-001		44258-001		44258-002		44258-003	
Client Sample I.D.:		-				MW-4@5'		MW-4@10	<b>!</b>	MW-5@5'	
ANALYTE ANALYTE	MDU	DLR	Results	(#IDER#	Results	DLR	Results	DLR	. Resulter	IT DER	Results
isopropylbenzene	5	5		5	ND	5	ND	5	14		20
4-isopropyitoluene	. 5	5	ND	5	ND	5	ND	5	ND	. 5	ND
methylene chloride	5	5	ND	5	ND	5	ND	5	ND	5	ND
naphthalene	5	5	ND	5	ND	5	ND	5	8.2	5	35
n-propylbenzene	5	5	ND	5	ND	5	ND	5	8.7	5	39
styrene	5	5	ND	5	ND	5	ND	5	ND	5	ND
1,1,1,2-tetrachioroethane	5	5	ND	5	ND	5	ND	5	ND	5	ND
1,1,2,2-tetrachioroethane	5	5	ND	5	ND	5	ND	5	ND	5	ND
tetrachioroethene	5	5	ND	5	ND	5	ND	5	ND	5	ND
toluene	5	5	. ND	5	ND	5	ND	5	15	5	ND
1,2,3-trichiorobenzene	5	5	ND	5	ND	5	ND	5	ND	5	ДN
1,2,4-trichlorobenzene	5	5	ND	5	ND	5	ND	5	ND	5	ND
1,1,1-trichloroethane	5	. 5	ND.	5	ND	5	ND	5	ND	5	ND
1,1,2-trichloroethane	5	5	ND	5	ND	5	ND	5	ND	5	ND
trichloroethene	5	5	ND	5	NĐ	5	ND	5	ND	5	ND
trichlorofluoromethane	5	5		5	ND	5	ND	5	ND	5	ND
1,2,3-trichloropropane	5	5	ND	5	ND	5	ND	5	ND	5	ND
1,2,4-trimethylbenzene	5	5	ND	5	ND	5	ND	5	47	5	166
1,3,5-trimethylbenzene	5	5	ND	5	ND	5	ND	5	14	5	42
vinyl chloride	5	5	ND.	5	NĎ	5	ND	. 5	ND	5	ND
o-xylene	5	5		5	ND	5	ND	5	60	5	ND
m,p-xylene	5	5	ND	5	ND	5	ND	5	155	5	78
<b>推步 人名巴拉尔 万克克克斯斯斯斯</b>		, Matr	ix Spike a	nd Matrix	Spike Du	plicate Re	port #	ran Karab	Sur Squar	Marie de	
Lab No.:		044258-00	1A-SAMP	044258-00	1A-MS	044258-00	1A-MSD				
QC Batch Number:		P00VOCS		P00VOCS		P00VOCS					
ANALYTE	i i ji di si	" DLR	Results	#Results	%Rec.	Results	%Rec.	RPD %	Rec. Limits	RPD Limits	Amount
1,1-dichloroethene		5	ND	97	97	73	73	28 *	58-156	20	100
benzene		. 5	ND	96	96	87	87	10	72-134	12	100
trichloroethene		5	ND	96	96	84	84	13	55-145	16	100
			1								

Pg. 2 of 2

MDL = Method Detection Limit

toluene

chlorobenzene

ND = Not Detected (Below DLR)

DLR = MDL x Dilution Factor

Approved/Reviewed By:

Batch is validated by the LCS. The LCS meets QC requirements. Does not meet QC requirement

ND

ND

Edgar Morrison

94

78

94

78 \*

102

79

8

102

79 \*

73-127

80-119

100

100

16

11

Volatile Supervisor

5

5

# Original sample result may be below detection limit. The result was used for % Recovery calculation purposes only.

Client Attn:

Geocon Environmental

**Matt Hanko** 

Client's Project:

Thomas A Short, #S8225-06-103

Date Received: Matrix:

05/25/00 SOIL UG/KG

Units:

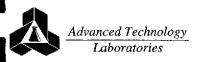
	: RESIDE	#755E		W EPA I	Aethod 82	60B.***			Charles of the Co	CHATH.	
Lab No.:		44258-004		44258-005		LCS					
Client Sample I.D.:		MW-6@5	1	MW-6@10'		-					
Date Sampled:				05/23/00						1	
QC Batch #:		P00VOCS160		P00VOCS	160	P00VOCS1	60				
-											
Date Analyzed:		05/26/200	0	05/26/200	0	05/26/2000					
Analyst Initials:		JPC		JPC		JPC					
Dilution Factor:		1		1		1					
ANALYTE (**)	Mal.	<b>POLEN</b>	Results	DLR	Results	Limita	% Recovery	o de la	# Results	DLR I	Healite
benzene	5			5							
bromobenzene	6		ND.	5	ND	21-175	106				T
bromodichloromethane	5		ND	5	ND	21-175	98				
bromoform	5		ND	5	ND	21-175	101				T
bromomethane	5	į	ND	5	ND	21-176	89				]
n-butylbenzene	5	4	126	5	12	21-175	111				1
sec-butylbenzene	5		5 59	5	ND	21-175	111				Ţ
tert-butylbenzene	5		64	. 5	ND	21-175	108				1
carbon tetrachloride	5		ND.	5	ND	21-175	100			T	
chlorobenzene	5		ND	6	ND	21-175	102	_			
chloroethane	5		ND	5	ND	21-175	92		1		1
chloroform	6		ND	. 6	ND	21-175	93				1
chloromethane .	5		ND.	5	ND	21-175	70				T
2-chlorotoluene	- 6		ND	- 5	ND	21-175	104				
4-chlorotoluene	5		ND	5	ND	21-175	108				
dibromochloromethane	5		ND	5	ND	21-175	102				
1,2-dibromo-3-chloropropane	5	,	ND ND	5	ND	21-175	94				
1,2-dibromoethane	5		ND ND	. 5	ND	21-175	97				
dibromomethane	5		ND	5	ND	21-175	96			1	T
1,2-dichlorobenzene	5		ND	5	ND	21-175	107				
1,3-dichlorobenzene	5		ND	5	ND	21-175	109		T		
1,4-dichlorobenzene	5	. 1	5 ND	6	ND	21-175			<u> </u>		
dichlorodifluoromethane	5		5 ND	5	ND.	21-175				1	1
1,1-dichioroethane	5		5 ND	5	ND.						
1,2-dichloroethane	5		ND ND	5	i ND	21-175					
1,1-dichloroethene	5		5 ND	5	i ND	21-175					
cis-1,2-dichloroethene	5		5 ND	5	i ND	21-175	95				
trans-1,2-dichloroethene	6		5 ND	6	ND.						
1,2-dichloropropane	5		S ND						<u> </u>		1
1,3-dichloropropane	5		5 ND		ND.						<u> </u>
2,2-dichloropropane	5		5 ND								
1,1-dichloropropene	5		5 ND	5	ND	21-175	106				
ethylbenzene	5		5 ND								
hexachlorobutadiene	5		5 NO		ND.	21-175	115				

Pg. 1 of 2

MDL = Method Detection Limit ND = Not Detected (Below DLR)

DLR = MDL x Dilution Factor

NA - Not Analyzed



Client: Attn: Geocon Environmental

Matt Hanko

Client's Project:

Thomas A Short, #S8225-06-103

Date Received:

05/25/00 SOIL

Matrix: Units:

UG/KG

		<b>WILLIAM</b>	AN SHITTED	EPAN	lethod 82	60B					
Lab No.:		44258-004	_1	44258-005		LCS					
Client Sample I.D.:		MW-6@5'		MW-6@10'							
HE PALDHANALYTE !!	MOL	DLR	Reside	DLR	Results	Limite	% Recovery	DLR	Results	HADER .	Results
isopropylbenzene	5	5	155	5	12	21-175	111				
4-isopropyltoluene	. 5	5	17	5	ND	21-175	111				
methylene chloride	5	5	ND	5	ND	21-175	89				
naphthalene	5	5	17	5	ND	21-175	107				
n-propylbenzene	5	5	280	5	20	21-176	110				
styrene	5	5	МD	5	ND	21-175	104				
1,1,1,2-tetrachloroethane	5	5.	ND	5	ND	21-175	101				
1,1,2,2-tetrachioroethane	5	5	ND	5	ND	21-175	103				
tetrachloroethene	5	5	ND.	5	ND	21-175	104				
toluene	5	. 6	8.1	5	15	21-175	99				
1,2,3-trichlorobenzene	5	5	ND		ND	21-175	110				
1,2,4-trichlorobenzene	5	. 5	ND	5	ND.	21-175	106				
1,1,1-trichloroethane	5	6	ND	5	ND	21-175	94				
1,1,2-trichloroethane	5	- 5	ND	5	, ND	21-175	99				-
trichloroethene	5	<u> 5</u>	ND.	5	ΝĐ	21-175	101				
trichlorofluoromethane	5	5	ND	5	ND	21-175	95				
1,2,3-trichloropropane	5	5	ND	. 5	ND	21-175	103				
1,2,4-trimethylbenzene	5	5	20	. 5	103	21-175	106				
1,3,5-trimethylbenzene	5	5	15	5	27	21-175	107				
vinyl chloride	5	5	ND	5	ND	21-175	85				
o-xylene	5	5	ND.		ND		105				
m,p-xylene	5	5	10	5	44	21-175	104				
and the second	still)	il il Ma	trix Spike	and Matr	x Spike C	uplicate R	eport#		Carl State and	排稿件 (	(4) Y
Lab No.:		044258-00°		044258-00		044258-001					
QC Batch Number:		P00VOCS		P00VOCS		P00VOCS1					
ANALYTE	444	DLR	Results	Results	%Rec.	Results	%Rec.	RPD%		RPD Limits	Amount
1,1-dichloroethene		5	ND	97	97	73	73	28 *	58-156	20	100
benzene		5	ND	96	96	87	87	10	72-134	12	100
trichloroethene		5	ND	96	96	84	84	13	55-145	16	100
toluene		5	ND	94	94	102	102	8	73-127	16	100
chlorobenzene		5	ND	78	78 *	79	79 *	1	80-119	11	100

MDL = Method Detection Limit

ND = Not Detected (Below DLR)

DLR = MDL x Dilution Factor

= Does not meet QC requirements. Batch is validated by the LCS. The LCS meets QC requirements.

Approved/Reviewed By:

Edgar Morrison

Date: 6 6 00

Pg. 2 of 2

Volatile Supervisor

# Original sample result may be below detection limit. The result was used for % Recovery calculation purposes only.

Client:

**Geocon Environmental** 

Attn:

Matt Hanko

Client's Project:

Thomas A Short, #\$8225-06-103

Date Received: Matrix: 05/25/00 SOIL

COMPANIE TO THE PROPERTY.	N. Alle	i sekakali	44 S 10 T	De Sie	A Metric	deonsien)				Liennesse v			
La	b No.:		Method B	lank	44258-001		44258-002		44258-003		44258-004		
Client Samp	le I.D.:		_		MW-4@5' MW-4			/W-4@10' MW-5@5'			MW-6@5'		
Date Sa			P4		05/23/00		05/23/00		05/23/00		05/23/00		
	atch #:		E008G209		E008G20	S141	E008G20	S141	E008G20	S141	E008G20S	141	
Date Ana			06/01/00		06/01/00		06/01/00		06/01/00		06/01/00		
Analyst li			MO		MO		MO		MO		MO		
Dilution F			1		1		1		1		1 1		
III WANALYTE	MDL	Units	HOUR			(Résilts)	DLR	Results	DLR	Results	I DIE	Results	
Gasoline	1	mg/Kg	1	ND	1	ND	1	3.3^	1	ND		2.1^	
Benzene		ug/Kg	5	ND	5	ND	5	107	5	ND		ND	
Toluene		ug/Kg		ND	5	ND	5	12		ND		ND	
Ethylbenzene		ug/Kg		ND.	5	ND	5	253	5	ND		ND.	
m,p-Xylene		ug/Kg		ND	5	ND	5	170	5	ND		ND.	
o-Xylene		ug/Kg	5	ND	5	ND	5	48	5	ND	5	ND.	
	網探告的			/Spike and	l'Matrix S	pike Dupli	cate Repo	nt ###	H AND S		的傾向合語的	<b>新疆地域</b>	
Lab No.:			44258-004	<u> </u>	44258-00	4 MS	44258-00	14 MSD					
QC Batch Num	ber:		E008G208		E008G20		E008G20						
JANALYTE	Heli Silvini	17.00	OUR	Results	Results	5 %Rec#	Results	%Rec.	RPD %	Rec. Limit	RPD Limit	Amount	
Gasoline			1	2.1	3.1	44	4.1	58	27*	41-151	21		
Вепzепе			5	ND	15	55	21	78	40*	42-132	15	27	
Toluene			5	ND	71	31	121	90	52*	45-110	15	134	

MDL = Method Detection Limit

^ Sample contains hydrocarbons that do not match the gasoline pattern. However quantitation is based upo

\* Does not meet the QC requirements. Batch is validated by the LCS. The LCS meets the QC requirements.

ND = Not Detected (Below DLR)
DLR = MDL x Dilution Factor

tor N

Approved/Reviewed By:

Edgar Morrison

Volatile Supervisor

# Original sample result may be below detection limit. The result was used for % Recovery calculation purposes only. The cover letter is an integral part of this analytical report.

Cllent:

Geocon Environmental

Attn:

Matt Hanko

Client's Project:

Thomas A Short, #S8225-06-103

Date Received:

05/25/00

Matrix:

SOIL

	10.1		Process of		EPA Metho	d 8015(M)				er leikatus ja	factory (A)	
La	ab No.:		44258-005	,	44258-004	44258-004 Dup.						
Client Sam	ple I.D.:		MW-6@10	•	MW-6@5'	MW-6@5' -		-				
Date S	Date Sampled: 05/23/00				05/23/00							•
QC E	atch #:		E008G20S	141	E008G20S1	41	E008G20S	141				
Date An	alyzed:		06/01/00		06/02/00		06/02/00					
Analyst	Initials:		MQ		MO		MO					
Dilution	Factor:		1		1		1			-		
ANALY(E)(###################################	<b>MOU</b>	Whits:	P DLR	Results	EN ROLFINSK	HREBUIS!	»Umite#	W Rec	LO MARIEN			都 議 編 章
Gasoline	1	mg/Kg	1	N	1	ND	38-146	90			-	
Benzene	5	ug/Kg	5	54	5	ND	41-145	87				
Toluene	5	ug/Kg	5	ND	5	ND	41-145	101				
Ethylbenzene	5	ug/Kg	5	ND	5	ND	41-145	89				
m,p-Xylene	5	ug/Kg	5	ND	5	ND	41-145	87				
o-Xylene		ug/Kg		ND		ND		91				
			Ma	rix Spikera	nd Matriks	jike Dupik	atel Report	##8	for all by			辨態機
Lab No.:			44258-004		44258-004	MS	44258-004	MSD				
QC Batch Nun	nber:		E008G20S	141	E008G20S	41	E008G20S					
ANALYTE:	a profile		DLR	Results	Results"	WRec.	Results	%Rec.	RPD%	Rec. Limits	RPO Limits	Amoun
Gasoline			1	2.1	3.1	44	4.1	58	27*	41-151	21	
Benzene			5	ND	15	55	21	78	40*	42-132	15	2
Toluene			5	ND	71	31	121	90	52*	45-110	15	134

ND = Not Detected (Below DLR)

\* Does not meet the QC requirements. Batch is validated by the LCS. The LCS meets the QC requiremetns.

ND = Not Detected (Below DLR)
DLR = MDL x Dilution Factor

Approved/Reviewed By:\_

Edgar Morrison

Volatile Supervisor

# Original sample result may be below detection limit. The result was used for % Recovery calculation purposes only.

C	liei	11

Geocon Environmental

Attn:

Matt Hanko

Client's Project:

Thomas A Short, #S8225-06-103

Date Received: Date Sampled: 05/25/00 05/23/00 06/01/00

Date Digested: Digestion Method:

06/01/00 EPA 3050

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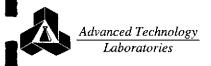
MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DF = Dilution Factor (DLR/MDL)

Reviewed/Approved By:

M

Date: 6/7/h

Cheryl de los Reyes Technical Operations Manager



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Attn: Matt 1	tanko		City	Plea	Santon		State C.	A Zip C	ode 945.	SS FAX:	725 14	699	749
Project Name: Tha	mas A S	hort Project #	5872	5-06-10	Sampler:	(Printed Name	194 G	lanko	(Signatur	(e)	Zunt	11	Tuilo
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ELAP No.: 1838

Geocon Environmental 5673 W. Las Positas Blvd, Ste 205 Pleasanton, CA 94588

ATTN:

Matt Hanko

Client's Project:

Thomas A. Short, #S8225-06-103

Lab No.:

45649-001/002

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (562) 989 - 4045 if I can be of further assistance to your company.

Sincerely,

Cheryl De Los Reyes

Technical Operations Manager

CDR/jh

**Enclosures** 

This cover letter is an integral part of this analytical report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purpose without authorization is prohibited.

Date:

Client: Attn:	Geocon Enviro Matt Hanko	onmental			
Client's Project:	Thomas A. Sh	ort, #S8225-06-103			
Date Received: Date Sampled: Date Extracted: Extraction Method	05/25/00 05/23/00 07/31/00 d: WET (Title 22	2, CCR, 66261.100 Appen	dix II)		
Lab No.		Analysis.	3 1 1 2	Results	νſ
45649-001	MW-5@5'	EPA 7420 (Lead)	08/02/00	3.2 STLC	E
45649-002	MW-6@5'	EPA 7420 (Lead)	08/02/00	1.7 STLC	
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Date: 8/NOD

MDL DLR Analyst

HP

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Inorganics Supervisor

The cover letter is an integral part of this analytical report.

Eddie Rodriguez

Reviewed/Approved By:\_

### Spike Recovery and RPD Summary Report

Method:

EPA 7420

Analyst:

HP

Data File: 00802DI-1, 00802STLC

QA File:

0215-1

ANALYTE

LEAD

Date Analyzed: 8/2/00

Date Extracted: 7/31/00

Matrix:

DI, STLC

QC Batch No: PBF000802DI-1, PBF000802STLC-1

												1 01 0000020					
SAMPLE ID	UNITS	LCS Conc	LCS Res	% Rec	METH BLK	SPL CONC	SPL DUP	% Dev	SPK ADDED	MS RESULT	MSD RESULT	%MS REC	%MSD REC	% REC Limit	RPD	RPDLimit	
45692-001st	mg/L	5.0	5.3	106	ND	24	22	9	25	45	45	84	84	80-120	0	20	0,15
		· ·		104	ND	1.3	1.1	17	5.0	6.6	6.5	106	104	80-120	2	20	p. 15
45692-002di	mg/L	5.0	5,2	104	ND	1.3	1.,		0.0								
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Approved by:

Eddie F Rodriguez Inorganic supervisor Date: \$30



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. 747			<b>#4</b> #	Overnia	ht _	Eme	rgency	7		Critic	al	<del>'</del>		Urg	ent	寸		JA o	utine		1	Pres	ervat	ives:				$\neg$
<ul> <li>TAT starts 8 a.m. 1 samples received</li> </ul>			TAT: A	2 24 ())			rgency workda		C=	2 Wc	rkday		D=		ent orkda		Œ	27 V	/orko	lays							604 C=4	
-ampios recorred	o bili	···	Contair	ner Types:	T=Tube	V=V	OA L=	Liter	P≖	Pint	J=J8	ar E	=Ted	lar 🔻	G=Gla	388	P=P	lastic	M=	=Meta	al 2	Z=Zn	i(AC)	2 O	=NaC	Ж	T=Na <sub>2</sub> S <sub>2</sub> (	O₃ į

Reply ASAP

chemil

TO:

(Applican)	<u>D</u> ate	July 27, 2000	
Total Street	Number of pe	ages including cover sheet	7
	FROM:	Matt Hanko Geocon Consultants, 1 5673 W. Las Positas B	

Please Comment

Phone Suite 205 Far Phone Pleasanton, California 94588 Phone 925.469.9750 CC Mobile Phone 925.785-5021 Fax Phone 925.469.9749 REMARKS: 🔀 Urgent For your review

For I ab No. 41258-003 and 44258-004 please run samples for WET analysis for lead.

June 8, 2000 ELAP No.: 1838

Geocon Environmental 11375 Sunrise Park Drive, Suite 100 Rancho Cordova, CA 95742

ATTN:

Amy Hester

Client's Project:

Thomas A Short, #S8225-06-103

Lab No .:

44327-001/006

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (562) 989 - 4045 if I can be of further assistance to your company.

Sincerely,

Cheryl De Los Reyes

Technical Operations Manager

CDR/jh

Enclosures

This cover letter is an integral part of this analytical report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purpose without authorization is prohibited.

Client:

Geocon Environmental

Attn:

Amy Hester

Cilent's Project:

Thomas A Short, #\$8225-06-103

Date Received: Matrix:

05/27/00 WATER

Units:

UG/L

Lab No.:	ECT 134 14 MINOR 2 MIN 13 BY	Method B	in in the second	44327-001		44327-003		44327-005		44327-005D	
Client Sample I.D.:			MILE	MW-5		MW-4		MW-6		MW-6	up
Date Sampled:				05/26/00		05/26/00		05/26/00		05/26/00	
QC Batch #:		Q00VOCV	VAGE	Q00VOCV	140F	Q00VOCV	V40C	Q00VOCV	NA DE	09/29/00	105
QC Batcii #.		COUNCE	¥105	QUUVUCY	rius	GOOVOCY	<u> </u>	HOUVOCY	ชาบอ	COUVOCAN	105
Date Analyzed:		05/30/200	<u></u>	05/30/2000	١	05/30/2000	^	05/30/200		05/30/2000	
Analyst Initials:		DJK	<u> </u>	DJK	<u> </u>	DJK	<del> </del>	03/30/200	<u> </u>	DJK	
Dilution Factor:		1		1		1		DUK.		DJK 4	
ANALYTE	MDL	DUR	Results		Results	DLR	Results	DLR	Results"	DLR	27 PAGE 740
oenzene	5	5		5	112	5 DER		<b>941</b> 5	17 100 10 11 11 11 11 11 11	5	240
promobenzene	5	. 5		5	ND	5				5	ND
bromodichloromethane	5	5		5	ND	5				5	ND
bromoform	5	5		5	ND	5		. 5		5	ND
bromomethane	5	5		5	ND ND	5		5		5	ND
n-butylbenzene	5	5		5	21	5				. 5	16
sec-butylbenzene	5	5		5	8.2	5		_		5	ND
tert-butylbenzene	5	5		5	11	5				5	5.4
carbon tetrachioride	5	5		5	ND	5		5		5	ND
chlorobenzene	5	5		5	ND	5		5		5	ND
chioroethane	5	5	7.11	5	ND	5		5		5	ND
chloroform	5	5		5		5		5		5	ND
chloromethane	5	5		5	ND	5		5		5	ND
2-chlorotoluene	5	5		5	ND	5		5		5	
4-chlorotoluene	5	5		5	ND	5		5		5	
dibromochloromethane	5	5		5	ND	5				5	ND
1,2-dibromo-3-chloropropane	5	- 5		5	ND	5		5		5	
1.2-dibromoethane	5	5		5	ND	5		5		5	ND
dibromomethane	5	5		5	ND	5		5		5	NE
1.2-dichlorobenzene	5	5		5	. ND	5		5		5	
1.3-dichlorobenzene	5	5	<del></del>	5	ND ND	5		5		5	
1.4-dichlorobenzene	5	5		5		5		5		5	
dichlorodifluoromethane	5	5		5	ND ND	5		5		5	
1.1-dichloroethane	5	5		5	ND ND	5		5		5	
1,2-dichloroethane	5	5		5		5		5		5	
1,1-dichloroethene	5	5		5	ND ND	5		5		5	NE
cis-1.2-dichloroethene	5	5		5	ND ND	5		5		5	NE
trans-1,2-dichloroethene	5	. 5		5	ND	5		5		5	NE
1,2-dichloropropane	5	5		5	ND ND	5		5		5	NC
1,3-dichloropropane	5	5		5	ND ND	5		5		5	ND ND
2,2-dichloropropane	5			5		5		5		5	ND
1,1-dichloropropane	5	5		. 5		5		5		5	ND ND
ethylbenzene	5	5		5		5				5	134
etnylbenzene hexachlorobutadiene	5	5	I NU	5	ND	_ <b>&gt;</b>	154	5 5		5	134 ND

Pg. 1 of 2

MDL = Method Detection Limit ND = Not Detected (Below DLR)

DLR = MDL x Dilution Factor



Client:

Geocon Environmental

Attn:

Amy Hester

Client's Project:

Thomas A Short, #\$8225-06-103

Date Received:

05/27/00 WATER

Matrix: Units:

WATE UG/L

	机温度器	35 (6)	A Present	EPA Me	thed 8260	B		1,23,3		7 134	
Lab No.:		Method Bi	ank	44327-001		44327-003		44327-005		44327-005D	up
Client Sample I.D.:	Marria			MW-5		MW-4		MW-6		MW-6	
ANALYTE		DLR	Results	DLR	Results	DLR.	Results	DLR	Results	DLR	Results
Isopropylbenzene	5	5	ND	. 5	29	5	141	5	25	5	26
4-Isopropyltoluene	5	5	ND	. 5	ND	5	6.0	5	5.6	5	5.6
methylene chloride	5	5	ND	5	ND	5	ND	5	ND	5	ND
naphthalene	5	5	ND	5	14	5	101	5	44	5	39
n-propylbenzene	5	5	ND	5	31	5		5		5	38
styrene	5	5	ND	5	ND	5	ND	. 5	ND	5	N
1,1,1,2-tetrachioroethane	5	5	ND	5	ND	5	ND	5	ND	5	ND
1,1,2,2-tetrachloroethane	5	5	ND	5	ND	5	ND	5	ND	5	ND
tetrachloroethene	5	5	ND	5	ND	5	ND	5	ND	5	ND
toluene	5	5	ND.	5	6.5	5	47	5	13	5	13
1,2,3-trich orobenzene	5	5	ND	5	ND	5	ND	5	ND	5	ND
1,2,4-trichlorobenzene	5	5	ND	5	ND	5	ND	5	ND	5	ND
1,1,1-trichloroethane	5	5	ND	5	ND.	5	ND	5	ND	5	ND
1,1,2-trichloroethane	5	5	ND	5	ND	5		5	ND	5	ND
trichloroethene	5	5	ND	. 5	ND	. 5	ND	5	ND	5	ND
trichlorofluoromethane	5	5	ND	5	ND	5	ND	5	ND	5	ND
1,2,3-trichloropropane	5	5	ND	5	NĎ	5	ND	5	ND	5	ND
1,2,4-trimethylbenzene	5		ND	5	96	5	, ND	5	149	5	172
1,3,5-trimethylbenzene	5	5	ND	5	51	5	12	5	80	5	81
vinyl chloride	5	5	ND	5	ND.	5	ND	5	ND	5	ND
o-xylene	5	5	ND	5	ND	5	7.4	5	15	5	15
m,p-xylene	5	5	ND	5	43	5	17	5	114	5	121
		Matri	x Spike aı	nd Matrix	Spike Duj	olicate Re	port #			To how the	
Lab No.:		Method Bi		Blank MS		Blank MSI					
QC Batch Number:		Q00VOCV	V105	Q00VOCV	V105	Q00VOCV	V105	]			
ANALYTE		DLR	Results	*Results	%Rec.	Results	%Rec.	RPD %	Rec. Limits	RPD Limits	Amount
1,1-dichloroethene		5	ND	106	106	108	108	2	61-151	21	100
benzene		5	ND	107	107	110	110	3	73-131	15	100
trichloroethene		5	ND	102	102	106	106	4	72-128	15	100
toluene		5	ND	106	106	108	108	2	63-140	· 14:	100
		1	T		· · · · · · · · · · · · · · · · · · ·						

chlorobenzene
MDL = Method Detection Limit

ND = Not Detected (Below DLR)

DLR = MDL x Dilution Factor

Approved/Reviewed By:\_

Edgar Morrison

Volatiles Supervisor

101

101

102

102

ND

# Original sample result may be below detection limit. The result was used for % Recovery calculation purposes only. The cover letter is an integral part of this analytical report.

Date: 6 8 60

81-115

100

Pg. 2 of 2

Client: Attn:

Geocon Environmental

Amy Hester

Client's Project:

Thomas A Short, #S8225-06-103

Date Received:

05/27/00 WATER UG/L

Matrix: Units:

Library Hamiltonia	30 44	NAME OF	Part of the	EPAN	ethod 826	OB III		er en annual	4		
Lab No.:		LCS	steen Kalastanjala						200000 TOURS AND AND AND AND AND AND AND AND AND AND	- STANSON SECTION	Secondary Missississ
Client Sample I.D.:					•	<del> </del>		1			
Date Sampled:		-	<del></del>					<del> </del>			
QC Batch #:		Q00VOCW	/105			<del></del>		<del> </del>			
ao Baten w.		4001001	1100		-	<del> </del>		-		<del></del>	
Date Analyzed:		05/30/2000	<del></del>					<del> </del>			
Analyst Initials:		DJK				<del> </del>					
Dilution Factor:		1								<b> -</b>	
ANALYTE	MEN		D/ Por	AND	. Descrite	' N.D.	Dar Med	of pos	Disabiles	THE DESIGNATION	EDS-140
benzene	5	21-176	109		ricauita	ر المالا	L'esmira.	S PLAN	Veamire :	神学リンピス語名	** CARPTURE
bromobenzene	5	21-175	89		+		-		<b>†</b>		
bromodichloromethane	5	21-175	96		+		<del></del>	<del></del>	-		
bromoform	5	21-175	98		<del> </del>		<del></del>		+		
bromomethane	5	21-175	94		<del>                                     </del>			<del>                                     </del>	<del> </del>		
n-butylbenzene	5	21-175	83		<del>                                     </del>	<del> </del>	<del>                                     </del>	<del> </del>	+		
sec-butylbenzene	5	21-175	83		<del> </del>		-	<b>-</b>	<del>                                     </del>		<del> </del>
tert-butylbenzene	5	21-176	79		1		<del> </del>				
carbon tetrachloride	5	21-175	92		<del>                                     </del>						<del></del>
chlorobenzene	5	21-175	101		1		<del> </del> -	<del> </del>	-		
chloroethane	5	21-175	111		+		<u> </u>				
chloroform	- 5	21-175	85		<del></del>						
chloromethane	5	21-176	114		+		<del> </del>	-			
2-chlorotoluene	5	21-175	85				<del></del>	-	+	<del></del>	
4-chlorotoluene	5	21-175	87		1			· · · · · · ·			
dibromochloromethane	5	21-175	95				<del>                                     </del>		<del></del> -		
1,2-dibromo-3-chloropropane	5	21-175	83		1	<del></del>	<del>                                     </del>				<del>                                     </del>
1,2-dibromoethane	5	21-175	106		1 .			<del> </del>	-		
dibromomethane	5	21-175	106					··	<u> </u>		
1.2-dichlorobenzene	5	21-175	88	-	<del>                                     </del>	-	1				
1,3-dichlorobenzene	5	21-175	88				<del></del>		1		
1.4-dichlorobenzene	5	21-175	89		1	·			1		
dichlorodifluoromethane	5	21-175	97								
1.1-dichloroethane	5	21-175	93						1		
1,2-dichloroethane	5	21-175	93					<u> </u>	ì		<del>                                     </del>
1,1-dichloroethene	5	21-175	105		1				· ·		<del> </del>
cis-1,2-dichloroethene	5	21-175	98		-		<del>-</del>	t			<u> </u>
trans-1,2-dichloroethene	5	21-175	104		1						<del> </del>
1,2-dichloropropane	5	21-175	108					<del> </del>			t
1,3-dichloropropane	5	21-175	101		1				<del> </del>		<u> </u>
2,2-dichloropropane	5	21-175	89		1						
1,1-dichloropropene	5	21-175	107		1					<del></del> -	
ethylbenzene	5	21-175	101		1			<del></del>		ì	
hexachlorobutadiene	5	21-175	81		<del></del>			í			<del></del>

MDL = Method Detection Limit ND = Not Detected (Below DLR) DLR = MDL x Dilution Factor

The cover letter is an integral part of this analytical report.

Pg. 1 of 2

Client: Attn:

Geocon Environmental

Amy Hester

Client's Project:

Thomas A Short, #\$8225-06-103

Date Received:

05/27/00

Matrix: Units:

WATER UG/L

The second of the second	a lan arii	Narkija nasti		EDAM	sthod 926	ne		Court Say	Taron Social		Market as the
Lab No.:		LCS	es aliena i fraithir		SUITOU DEU	VD				a programme	
Client Sample I.D.:	•				- :						
ANALYTE	MDL	Limits	% Rec	DLR	Results	· OLR	Results	DLR	· Results	N DER	Results
isopropylbenzene	5		88		3111						
4-isopropyltoluene	5	21-175	81					,			
methylene chloride	5	21-175	100								
naphthalene	6	21-175	90							•	
n-propylbenzene	6	21-175	88								
styrene	5	21-175	104	I							
1,1,1,2-tetrachloroethane	5	21-175	94						L		
1,1,2,2-tetrachloroethane	5	21-175	92						T		
tetrachloroethene	5	21-175	106								
toluene	5	21-175	109								
1,2,3-trichlorobenzene	5	21-175	83						-		
1,2,4-trichlorobenzene	5	21-175	86								
1,1,1-trichloroethane	5	21-175	86	1							
1,1,2-trichloroethane	5	21-175	104								
trichloroethene	5	21-175	104	L					-		
trichlorofluoromethane	5	21-175	92		1						
1,2,3-trichloropropane	5	21-175	89							i l	
1,2,4-trimethylbenzene	5	21-175	83	L.							
1,3,5-trimethylbenzene	5	21-175	85								
vinyl chloride	5	21-175	108				Ĺ				
o-xylene	5	21-175	101	L							
m,p-xylene	5	21-175	103								
MERCHANIA MARKATAN PERMIT		Mati	ix Spike a	and Matrix	Spike Du	iplicaté R	eport #	<b>电影电影</b>	3.016 (10.10)		literal alloca
Lab No.:		Method BI		Blank MS		Blank MS					
QC Batch Number:		Q00VOCV	V105	Q00VOCV		Q00VOCV				<u> </u>	
ANALYTE		DLR	Results	Results	%Rec.	Results	%Rec.	RPD %	Rec. Limite	<b>RPD</b> Limits	Amount
1,1-dichloroethene		5	ND	106	106	108	108	2	61-151	21	100
benzen <b>e</b>		5	ND	107	107	110	110	3	73-131	15	100
trichloroethene		5	ND	102	102	106	106	4	72-128	15	100
toluene		. 5	ND	106	106	108	108	2	63-140	14	100
chlorobenzene		5	ND	101	101	102	102	1	81-115	11	100

MDL =	Method	Detection	Limit

= Not Detected (Below DLR) DLR = MDL x Dilution Factor

Approved/Reviewed By:

Pg. 2 of 2

Edgar Morrison

Volatiles Supervisor

# Original sample result may be below detection limit. The result was used for % Recovery calculation purposes only.

Client:

**Geocon Environmental** 

Attn:

Amy Hester

Client's Project:

Thomas A Short, #88225-06-103

Date Received:

05/27/00

Matrix:

WATER

	MSC			EPA	Method:	B015(M)802	Overva ila	Salatio enc	i destager at	in an area	1121541033	
La	b No.:		Method Bl	ank .	44327-00	1	44327-00	)3	44327-00	5	LCS	
Client Samp	ole I.D.:				MW-5		MW-4		MW-6			
Date Sa	mpled:				05/26/00		05/26/00		05/26/00			
QC B	atch #:		1008G20W	087	1008G20\	N087	1008G201	W087	1008G20	W087	1008G20W0	187
Date An	alyzed:		05/31/2000		06/01/20	00	06/01/20	00	06/01/20	00	06/01/2000	
Analyst I	nitials:		IMG		IMG		IMG		IMG		<b>IMG</b>	
Dilution	Factor:	,	1		1	i	1		1	•	1	
ANALYTE	MDL	Units	DLR	Results	DUR	Results	DLR	Results	HOLR	Results	li Limits	%Rec.
Gasoline	0.05	mg/L	0.05	ND	0.05	4.6*	0.05	4.8*	0.05	4.4*	57-129	93
Benzene	0.5	ug/L	0.5	ND	0.5	88	0.5	122	0.5	191	46-132	101
Toluene	0.5	ug/L	0.5	ND	0.5	7.0	0.5	39	0.5	14	46-132	100
Ethylbenzene	0.5	ug/L	0.5	ND	0.5	35	0.5	126	0.5	110	46-132	98
m,p-Xylene	0.5	ug/L	0.5	ND	0.5	39	0.5	17	0.5	107	46-132	99
o-Xylene		ug/L	0.5	ND	0.5	4.7	0.5		0.5	14	46-132	103
MTBE	0.5	ug/L	0.5	ND	0.5	6.6	0.5		0.5	6.8	30-156	101
	化原燃槽	1.00	"Matrix	Spike and	i Matrix S	pike Dupli	tate Repo	ort#	edia ta cit	THE RESERVE		W 4 18.
Lab No.:			MBLK		<b>BLANK</b>	VIS .	BLANK	MSD				
QC Batch Num	ber:		1008G20W	087	1008G20	W087	1008G20					
ANALYTE	计图1000	福福	DLR	Results	Results	%Rec.	Results	%Rec.	RPD %	Rec. Limits	RPD Limits	Amount
Gasoline			0.05	ND	1.0	98	0.9	90	9	54-135	18	1
Benzene			0.5	ND	5.5	101	5.5	101	0	59-134	7	5.5
Toluene			0.5	ND	30	101	30	100	1	59-146	15	30

MDL = Method Detection Limit
ND = Not Detected (Below DLR)

\*Sample contains hydrocarbons that do not match the gasoline pattern.

00

However, quantitation is based on a gasoline standard.

DLR = MDL x Dilution Factor

Approved/Reviewed By:\_\_\_

Volatiles Supervisor

**Edgar Morrison** 

# Original sample result may be below detection limit. The result was used for % Recovery calculation purposes only. The cover letter is an integral part of this analytical report.

Client:

Geocon Environmental

QC Batch #:

L008015DW260

Attn:

Amy Hester

Date Sampled:

05/26/00

Date Received:

05/27/00

Date Extracted: Date Analyzed:

05/30/00 06/01/00

Client's Project:

Thomas A Short, #S8225-06-103

Extraction Method:

3510C

Matrix:

Water

**Extraction Material:** 

Methylene

**Analyst Initials:** 

AP

Chloride

	Method	8015B (M)/TPH (Diesel)		and the state of t
Lab No.:	Sample ID:	Results, mg/L	DLR, mg/L	Dilution Factor
Method Blank		ND	0.05	1.0
44327-002	MW-5	0.6*	0.05	1.0
44327-004	MW-4	0.5*	0.05	1.0
44327-006	MW-6	0.4*	0.05	1.0
		<del></del>		
	·	•		
		%Rec	Limits	
LCS		83	31-129	
		<del> </del>		<del></del>

MDL = Method Detection Limit

ND = Not Detected (Below DLR).

DLR = MDL X Dilution Factor

\* = Sample contains hydrocarbons that are lighter than the diesel pattern. However, quantitation is based on diesel standard.

Reviewed/Approved By: 6- Cersaw

w

Date: 06/08/00

Compton Persaud Semi-Volatile Supervisor

he cover letter is an integral part of this analytical report.

Advanced Technology
Laboratories

1510 E. 33rd Street Signal Hill, CA 90807 Tel: 562 989-4045 Fax: 562 989-4040

Spike Recovery and RPD Summary Report - WATER (MG/L)

Method : C:\HPCI
Title : Diesel : C:\HPCHEM\2\METHODS\LBD00526.M (Chemstation Integrator)

Last Update : Fri May 26 15:59:15 2000

Response via : Initial Calibration

Non-Spiked Sample: L0531071.D

Spike Sample Spike

Duplicate Sample

File ID : L0531093.D

L0531095.D 000531BLKW3,MSD,SW631013

Sample : 000531BLKW3,MS,SW631013 Acq Time: 1 Jun 2000 4:44 am

1 Jun 2000 5:09 am

Compound

Sample Spike Spike Dup Spike Dup RPD QC Limits
Conc Added Res Res %Rec %Rec RPD % Rec

| 0.0 | 1000 | 1286 | 1249 | 128 | 124 | 3 | 23 | 42-142 |

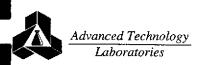
QCBATCH#L008015DW260

Reviewed/Approved by: 6.

Edgar Morrison

Department Supervisor

for Date: 06/08/00



Client:	Geo
Chent:	Get
Attn:	Åm

ocon Environmental

Amy Hester

Client's Project:

Thomas A Short, #S8225-06-103

Date Received: Date Sampled: 05/27/00 05/26/00

06/07/00 EPA 3010 Date Digested:

Digestion Method	POST diale descriptions recommended to the second	EPA 3010											
Lab No.	Sample L.D.	Analysis	Date Analyzed	Results	Matrix, Units	MDE	DLR	A nalys					
44327-001	MW-5	EPA 6010 (Lead)	06/07/00	0.20	Water, mg/L	0.005	0.005 0.005	DJ					
44327-003	MW-4	EPA 6010 (Lead)	06/07/00		Water, mg/L			DJ DJ					
44327-005	MW-6	EPA 6010 (Lead)	06/07/00		Water, mg/L	0.005	0.005						
11027 005	11.2.110	ETA OUTO (Ecau)	00/07/00	0.40	water, mg/t	0.003	0.003	Dij					
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MDL = Method Detection Limit ND = Not Detected (Below DLR) DF = Dilution Factor (DLR/MDL)

Danis 4/4		т.
Reviewed/A	pproved	DV:

Cheryl de los Reyes **Technical Operations Manager**  Date:

#### Spike Recovery and RPD Summary Report

Method:

EPA 6010

Analyst:

DJ/SER

Data File:

ICAP000607-2

QA File:

0158-2

Date Analyzed:

6/7/00

Date Digested:

6/7/00

Sample ID:

Blank

Matrix:

Water

QC Batch No: ICAP 000607W-2

					·	1									
Analyte	UNITS	LCS Conc	LCS Res	% Rec	METH BLANK	SPL CONC	SPK ADDED	MS RESULT	MSD RESULT	%MS REC	%MSD REC	% REC Limit	RPD	RPD Limit	MDL
Antimony	mg/L	1.0	0.86	86	ND	ND	5.0	4.7	4.8	94	96	50-150	2	11	0.005
Arsenic	mg/L	1.0	0.88	88	ND	ND	5.0	4.6	4.7	92	94	57-126	2	9	0.005
Barium	mg/L	1.0	0.96	96	- ND	ND	5.0	5.0	5.0	100	100	58-124	0	12	0.001
Beryllium	mg/L	1.0	0.85	85	ND	ND	5.0	4.5	4.6	90	92	48-124	2	11	0.001
Cadmium	mg/L	1.0	0.88	88	ND	ND	5.0	4.7	4.9	94	98	55-122	4	10	0.003
Chromium	mg/L	1.0	0.85	85	ND	ND	5.0	4.4	4.6	88	92	59-123	4	9	0.003
Cobalt	mg/L	1.0	0.83	83	ND	ND	5.0	4.2	4.3	84	86	60-119	2	8	0.003
Copper	mg/L	1.0	0.93	93	ND	NĎ	5.0	5.0	5.0	100	100	76-114	0	11	0.003
Lead	mg/L	1.0	0.91	91	ND	ND	5.0	4.7	4.8	94	96	67-119	2	9	0.005
Molybdenum	mg/L	1.0	0.88	88	ND	ND	5.0	4.5	4.7	90	94	67-115	4	17	0.005
Nickel	mg/L	1.0	0.91	91	ND	ND	5.0	4.6	4.8	92	96	57-120	4	10	0.003
Selenium	mg/L	1.0	0.80	80	ND	ND	5.0	4.2	4.3	84	86	41-136	2	10	0.005
Silver	mg/L	1.0	0.92	92	ND	ND	5.0	4.6	4.7	92	94	24-155	2	13	0.001
Thallium	mg/L	1.0	0.92	92	ND 0	ND	5.0	4.9	.no in <b>5,0</b> in	98	100	62-123	2	9	0.005
Vanadium	mg/L	1.0	0.89	89	ND	ND	5.0	4.5	4.6	90	92	62-120	2	10	0.003
Zinc .	mg/L	1.0	0.88	88	. ND	ND	5.0	4.4	4.5	88	90	35-126	2	16	0.010
														-	

Approved by:

Cheryl De Los Reyes Technical Operations Manager

Advanced Technology Laboratories

1510 E. 33rd Street

Fax: 562 989-4040

Signal Hill, CA 90807 Tel: 562 989-4045



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Att	in:	· · · ·			City		ancho C	ordova			State	C	A	Zip Co	de S	5742	FAX	( 9	16 ) 8	152-	9132
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3	amples received after 5 p.:	Contai	ner Types: T=Tu							=Ted	llar G≃										T=Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>

ELAP No.: 1838

Geocon Environmental 5673 W. Las Positas Blvd, Ste 205 Pleasanton, CA 94588

ATTN:

Matt Hanko

Client's Project:

Thomas Short, #S8225-06-103

Lab No.:

48159-001/003

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (562) 989 - 4045 if I can be of further assistance to your company.

Sincerely,

Cheryl De Los Reyes

Technical Operations Manager

CDR/dg

Enclosures

This cover letter is an integral part of this analytical report.

This report pertains only to the samples investigated and does not necessarily apply to other apparently identical or similar materials. This report is submitted for the exclusive use of the client to whom it is addressed. Any reproduction of this report or use of this Laboratory's name for advertising or publicity purpose without authorization is prohibited.

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samples received after 5 p.m.	Container Types: T=Tube								r G=0			lastic		=Meta							la <sub>2</sub> S <sub>2</sub> O <sub>3</sub>

DISTRIBUTION: White with report, Yellow to folder, Plnk to submitter.

Print Date: 12/7/00

CLIENT:

Geocon Environmental

Lab Order:

048159

Project:

Thomas Short - S8225-06-103

Lab ID:

048159-001A

Client Sample ID: MW-4

Collection Date: 11/27/00 11:20:00 AM

Matrix: WATER

Analyses		Result	Limit Qı	al Units	DF	Date Analyzed
GASOLINE RANGE	ORGANICS BY GC/FII	 D	EPA	8015B(M)		
RunID: <b>GC6_00</b>	1201A BatchID:	1008G201	W214	PrepDate:		Analyst: JPC
GRO		4.2	0.050	mg/L	1	12/1/00
VOLATILE ORGANI	C COMPOUNDS BY G	C/PID	EPA	8020A		
RunID: GC6_00	1201A BatchID	1008G20	W214	PrepDate:		Analyst: JPC
Benzene		55	0.50	μg/L	1	12/1/00
Ethylbenzene		65	0.50	μg/L	1	12/1/00
m,p-Xylene		21	0.50	μg/L	1	12/1/00
MTBE		1.2	0.50	μg/L	1	12/1/00
o-Xylene	,	5.3	0.50	μg/L	1	12/1/00
Toluene		18	0.50	μg/L	1	12/1/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored. Highly Reactive **Initials:** 



Print Date: 12/7/00

CLIENT:

Lab ID:

Geocon Environmental

Lab Order:

048159

Project: Thomas Short - S8225-06-103

048159-002A

Client Sample ID: MW-5

Collection Date: 11/27/00 11:45:00 AM

Matrix: WATER

Analyses	]	Result	Limit Qu	ıal Units	DF	Date Analyzed
GASOLINE RANGE ORGANIC	S BY GC/FID		EPA	8015B(M)		
RunID: GC6_001201A	BatchID;	1008G20	W214	PrepDate:		Analyst: JPC
GRO		1.7	0.050	mg/L	1	12/1/00
VOLATILE ORGANIC COMPO	UNDS BY GC	/PID	EPA	8020A		
RunID: GC6_001201A	BatchID:	1008G20	W214	PrepDate:		Analyst: JPC
Benzene		39	0.50	μg/L	1	12/1/00
Ethylbenzene		3.8	0.50	μg/L	1	12/1/00
m,p-Xylene	*	4.4	0.50	μg/L	1	12/1/00
MTBE		1.5	0.50	μg/L	1	12/1/00
o-Xylene		1.7	0.50	μg/L	1 .	12/1/00
Toluene		2.0	0.50	μg/L	1	12/1/00

Qualiflers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored. Highly Reactive **Initials:** 





Print Date: 12/7/00

CLIENT:

Geocon Environmental

Lab Order:

048159

Project:

Thomas Short - S8225-06-103

Collection Date: 11/27/00 12:00:00 PM

Client Sample ID: MW-6

Lab ID: 048159-003A Matrix: WATER

Analyses	]	Result	Limit Qu	al Units	DF	Date Analyzed
GASOLINE RANGE ORGANIC	S BY GC/FID		EPA	8015B(M)		
RunID: GC6_001201A	BatchID:	1008G20	W214	PrepDate:		Analyst JPC
GRO		0.32	0.050	mg/L	1	12/1/00
VOLATILE ORGANIC COMPO	JNDS BY GC	(PID	EPA	8020A		
RunID: GC6_001201A	BatchID:	1008G20	W214	PrepDate:		Analyst: JPC
Benzene		16	0.50	μg/L	1	12/1/00
Ethylbenzene		1.1	0.50	μg/L	1	12/1/00
m,p-Xylene		88.0	0.50	μg/L	1	12/1/00
MTBE		1.8	0.50	µg/L	1	12/1/00
o-Xylene		ND	0.50	μg/L	1	12/1/00
Toluene		0.51	0.50	μg/L	1	12/1/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range

M - Not Monitored, Highly Reactive





Print Date: 12/7/00

**CLIENT:** 

Geocon Environmental

Lab Order:

048159

Project: Lab ID: Thomas Short - S8225-06-103

048159-001B

Client Sample ID: MW-4

Collection Date: 11/27/00 11:20:00 AM

Matrix: WATER

Analyses	]	Result	Limit Qu	al Units	DF	Date Analyzed
DIESEL RANGE ORGANICS B	Y GC/FID		EPA	8015B(M)		
RunID: GC7_001130A	BatchID:	2154		PrepDate:	11/29/00	Analyst: AP
Diesel		0.47	0.050	mg/L	1	11/30/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored. Highly Reactive Initials:

2



Print Date: 12/7/00

CLIENT:

Geocon Environmental

Lab Order:

048159

Project:

Thomas Short - \$8225-06-103

Lab ID:

048159-002B

Client Sample ID: MW-5

Collection Date: 11/27/00 11:45:00 AM

Matrix: WATER

Analyses	Result	Limit Qı	al Units	DF	Date Analyzed	
DIESEL RANGE ORGANICS B	Y GC/FID	EPA	8015B(M)			
RunID: GC7_001130A	BatchID: 2154		PrepDate:	11/29/00	Analyst: AP	
Diesel	0.45	0.050	mg/L	1	11/30/00	

Qualiflers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored. Highly Reactive **Initials:** 

3



Print Date: 12/7/00

**CLIENT:** Lab Order: Geocon Environmental

048159

Project:

048159-003B Lab ID:

Thomas Short - S8225-06-103

Client Sample ID: MW-6

Collection Date: 11/27/00 12:00:00 PM

Matrix: WATER

Analyses	Result	Limit Qu	al Units	DF	Date Analyzed	
DIESEL RANGE ORGANICS B		ЕРА	8015B(M)			
RuniD: <b>GC7_001130A</b>	BatchID: 2154		PrepDate:	11/29/00	Analyst: AP	
Diesel	0.18	0.050	mg/L	1	11/30/00	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

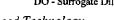
DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range





Print Date: 12/7/00

CLIENT:

Geocon Environmental

Lab Order:

048159

Project:

Thomas Short - S8225-06-103

Client Sample ID: MW-4

Collection Date: 11/27/00 11:20:00 AM

Lab ID:	048159-001A		Matrix: WATER								
Analyses		]	Result	Limit (	Qual U	nits	DF	Date Analyz	zed		
VOLATILE OF	RGANIC COMPOU	INDS BY GC	/MS	EP	A 8260	В					
RunID: M	IS2_001201A	BatchID:	Q00VOCV	N242	P	repDate:		Analyst:	DJK		
Di-isopropyl et	her		ND	5.0	uc	g/L	1	12/1/00			
Ethyl tert-butyl			ND	5.0		g/L	1	12/1/00			
MTBE	*****		ND	5.0		g/L	1	12/1/00			
Tert-amyl meth	nvl ether		ND	5.0		g/L	1	12/1/00			
Tert-Butanol	7,		ND	200		g/L	1	12/1/00			
VOLATILE OF	RGANIC COMPOU	INDS BY GC	/MS	FF	PA 8260	R					
	S2_001201A	BatchID:	Q00VOC			repDate:	·	Analyst:	DJK		
1,1,1,2-Tetrac	hloroethane		ND	5.0	ш	g/L	1	12/1/00			
1,1,1-Trichlore			ND	5.0	-	g/L	1	12/1/00			
1,1,2,2-Tetrac			ND	5.0		g/L	1	12/1/00			
1,1,2-Trichlord			ND	5.0		g/L	1	12/1/00			
1,1-Dichloroet		٠	ND	5.0		g/L	1	12/1/00			
1,1-Dichloroet			ND	5.0		g/L	1	12/1/00			
1,1-Dichloropr			ND	5.0		g/L	1	12/1/00			
1,2,3-Trichlore	•		ND	5.0		g/L	1	12/1/00			
1,2,3-Trichlord			ND	5.0		g/L	1	12/1/00			
1,2,4-Trichlore	obenzene		ND	5.0		g/L	1	12/1/00			
1,2,4-Trimethy			ND	5.0		g/L	1	12/1/00			
	3-chloropropane		ND	5.0		g/L	1	12/1/00			
1,2-Dibromoei	• •		ND	5,0		g/L	1	12/1/00			
1,2-Dichlorobe			ND	5.0		g/L	1	12/1/00			
1,2-Dichloroet			ND	5.0		g/L	1	12/1/00			
1,2-Dichloropi			ND	5.0		g/L	1	12/1/00			
1,3,5-Trimethy	•		ND	5.0		g/L	1	12/1/00			
1,3-Dichlorob			ND	5.0		g/L	1	12/1/00			
1,3-Dichloropi			ND	5.0		g/L	1	12/1/00			
1,4-Dichlorob			ND	5.0		g/L	1	12/1/00			
2,2-Dichlorop			ND	5.0		g/L	1	12/1/00			
2-Chlorotolue			ND	5.0		g/L	1	12/1/00			
4-Chlorotolue			ND	5.0		g/L	1	12/1/00			
4-Isopropyltol			ND	5.0		g/L	1	12/1/00			
Benzene			47	5.0		9/L	1	12/1/00			
Bromobenzen	e		ND	5.0		g/L	1	12/1/00			
Bromodichlore			ND	5.0		g/L	1	12/1/00			
Bromoform			ND	5.0		g/L	1	12/1/00			
Bromomethar	ne		ND	5.0		g/L	1	12/1/00			
Carbon tetrac			ND	5.0		g/L	1	12/1/00			

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range

M - Not Monitored. Highly Reactive





Print Date: 12/7/00

CLIENT:

Geocon Environmental

Lab Order:

048159

Project:

Thomas Short - S8225-06-103

Lab ID:

048159-001A

Client Sample ID: MW-4

Collection Date: 11/27/00 11:20:00 AM

Matrix: WATER

Analyses	Result	Limit Qu	al Units	DF	Date Analyzed
VOLATILE ORGANIC COMPO	UNDS BY GC/MS	EPA	8260B		
RunID: MS2_001201A	BatchID: Q00VO	CW242	PrepDate:		Analyst: DJK
Chlorobenzene	ND	5.0	μg/L	1	12/1/00
Chloroethane	ND	5.0	μg/L	1	12/1/00
Chloroform	ND	5.0	μg/L	1	12/1/00
Chloromethane	ND	5.0	μg/L	1	12/1/00
cis-1,2-Dichloroethene	ND	5.0	μg/L	1	12/1/00
Dibromochloromethane	ND	5.0	μg/L	1	12/1/00
Dibromomethane	ND	5.0	μg/L	1	12/1/00
Dichlorodifluoromethane	ND	5.0	μg/L	1	12/1/00
Ethylbenzene	47	5.0	μg/L	1	12/1/00
Hexachlorobutadiene	ND	5.0	μg/L	1	12/1/00
Isopropylbenzene	70	5.0	μg/L	1	12/1/00
m,p-Xylene	16	5.0	μg/L	1.	12/1/00
Methylene chloride	ND	5.0	μg/L	1	12/1/00
n-Butylbenzene	7.3	5.0	μg/L	1	12/1/00
n-Propyibenzene	63	5.0	μg/L	1	12/1/00
Naphthalene	ND	5.0	μg/L	1	12/1/00
o-Xylene	ND	5.0	μg/L	1	12/1/00
sec-Butylbenzene	ND	5.0	μg/L	1	12/1/00
Styrene	ND	5.0	μg/L	1	12/1/00
tert-Butylbenzene	9.9	5.0	μg/L	1	12/1/00
Tetrachioroethene	ND	5.0	μg/L	1 .	12/1/00
Toluene	15	5.0	µg/L	1	12/1/00
trans-1,2-Dichloroethene	ND	5.0	µg/L	1	12/1/00
Trichloroethene	ND	5,0	µg/L	1	12/1/00
Trichlorofluoromethane	ND	5.0	µg/∟	1	12/1/00
Vinyl chloride	ND	5.0	μg/L	1	12/1/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

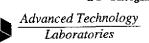
E - Value above quantitation range

Initials:



3





Print Date: 12/7/00

CLIENT: Lab Order: Geocon Environmental

048159

Project:

Thomas Short - \$8225-06-103

Client Sample ID: MW-5

Collection Date: 11/27/00 11:45:00 AM

Lab ID:

048159-002A

Matrix: WATER

Analyses	<u>-</u> ]	Result	Limit Qu	al Units	DF	Date Analyzed
VOLATILE ORGANIC COMPO	UNDS BY GC	/MS	EPA	8260B	-	
RunID: MS2_001201A	BatchID:	Q00VO	CW242	PrepDate:		Analyst: DJK
Di-isopropyt ether		ND	5.0	μg/L	1	12/1/00
Ethyl tert-butyl ether		ND	5.0	μg/L	1	12/1/00
MTBE		ND	5.0	μg/L	1	12/1/00
Tert-amyl methyl ether		ИD	5.0	μg/L	1	12/1/00
Tert-Butanol		NĐ	200	μg/L	1	12/1/00
VOLATILE ORGANIC COMPO	UNDS BY GC	/MS	EPA	8260B		
RuniD: MS2_001201A	BatchID:	Q00VO		PrepDate:		Analyst: <b>DJK</b>
1,1,1,2-Tetrachloroethane		ND	5.0	μg/L	1	12/1/00
1,1,1-Trichloroethane		NĐ	5.0	μg/L	1	12/1/00
1,1,2,2-Tetrachloroethane		ND	5.0	µg/L	1	12/1/00
1,1,2-Trichloroethane		ND	5.0	μg/L	1	12/1/00
1,1-Dichloroethane		ND	5.0	μg/L	1	12/1/00
1,1-Dichloroethene		ND	5.0	μg/L	1	12/1/00
1,1-Dichloropropene		ND	5.0	μ <b>g/L</b>	1	12/1/00
1,2,3-Trichlorobenzene		ND	5.0	μg/L	1	12/1/00
1,2,3-Trichloropropane		ND	5,0	μg/L	1	12/1/00
1,2,4-Trichlorobenzene		NĎ	5.0	μg/L	1	12/1/00
1,2,4-Trimethylbenzene		ND	5.0	μg/L	1	12/1/00
1,2-Dibromo-3-chloropropane		ND	5.0	μg/L	1	12/1/00
1,2-Dibromoethane		ND	5.0	μg/L	1	12/1/00
1,2-Dichlorobenzene		ND	5.0	μg/L	1	12/1/00
1,2-Dichloroethane		ND	5.0	μg/L	1	12/1/00
1,2-Dichloropropane		ND	5.0	μg/L	1	12/1/00
1,3,5-Trimethylbenzene		ND	5.0	μg/L	1	12/1/00
1,3-Dichlorobenzene		ND	5.0	μg/L	1	12/1/00
1,3-Dichloropropane		ND	5.0	µg/L	1	12/1/00
1,4-Dichlorobenzene		ND	5.0	µg/L	1	12/1/00
2,2-Dichloropropane		ND	5.0	µg/∟	1	12/1/00
2-Chlorotoluene		ND	5.0	µg/L	1	12/1/00
4-Chlorotoluene		ND	5.0	μg/L	1	12/1/00
4-isopropyitoluene		ND	5.0	μg/L	1	12/1/00
Benzene		25	5.0	μg/L	1	12/1/00
Bromobenzene		ND	5.0	μg/L	1	12/1/00
Bromodichloromethane		ND	5.0	μg/L	1	12/1/00
Bromoform		ND	5.0	μg/L	1	12/1/00
Bromomethane		ND	5.0	μg/L	1	12/1/00
Carbon tetrachloride		ND	5.0	μg/L	1	12/1/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range

M - Not Monitored. Highly Reactive





Print Date: 12/7/00

CLIENT:

Project:

Geocon Environmental

Lab Order:

048159

Thomas Short - S8225-06-103

Collection Date: 11/27/00 11:45:00 AM

Client Sample ID: MW-5

Lab ID: 048159-002A Matrix: WATER

Analyses	Result	Limit Qu	ial Units	DF	Date Analyzed
VOLATILE ORGANIC COMPO	JNDS BY GC/MS	EPA	8260B		
RuniD: MS2_001201A	BatchiD: Q00VOC	W242	PrepDate:		Analyst: DJK
Chlorobenzene	ND	5.0	μg/L	1	12/1/00
Chloroethane	ND	5.0	μg/L	1	12/1/00
Chloroform	ND	5.0	μg/L	1	12/1/00
Chloromethane	ND	5.0	μg/L	1	12/1/00
cis-1,2-Dichloroethene	ND <sup>*</sup>	5.0	μg/L	1	12/1/00
Dibromochloromethane	ND	5.0	μ <b>g/L</b>	1	12/1/00
Dibromomethane	ND	5.0	μg/L	1	12/1/00
Dichlorodifluoromethane	ND	5.0	µg/L	1	12/1/00
Ethylbenzene	ND	5.0	μg/L	1	12/1/00
Hexachlorobutadiene	ND	5.0	μg/L	1	12/1/00
Isopropylbenzene	ND	5.0	μg/L	1	12/1/00
m,p-Xylene	ND	5.0	µg/L	1	12/1/00
Methylene chloride	ND	5.0	μg/L	1	12/1/00
n-Butylbenzene	ND	5.0	µg/L	1	12/1/00
n-Propylbenzene	ND	5.0	μg/L	1	12/1/00
Naphthalene	ND	5.0	μg/L	1	12/1/00
o-Xylene	ND	5.0	μg/L	1	12/1/00
sec-Butylbenzene	ND	5.0	μg/L	1	12/1/00
Styrene	ND	5.0	μg/L	1	12/1/00
tert-Butylbenzene	ND	5.0	μg/L	1	12/1/00
Tetrachloroethene	ND	5,0	μg/L	1	12/1/00
Toluene	ND	5.0	μg/L	1	12/1/00
trans-1,2-Dichloroethene	ND	5.0	µg/L	1	12/1/00
Trichloroethene	ND	5.0	μg/L	1	12/1/00
Trichlorofluoromethane	ND	5.0	μg/L	1	12/1/00
Vinyl chloride	ND	5.0	μg/L	1	12/1/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range

M - Not Monitored. Highly Reactive





Print Date: 12/7/00

CLIENT:

Geocon Environmental

Client Sample ID: MW-6

Lab Order:

048159

Project:

Thomas Short - S8225-06-103

Collection Date: 11/27/00 12:00:00 PM

Lab ID:

048159-003A

Matrix: WATER

Analyses	F	Result	Limit Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPO	JNDS BY GC/	MS	EPA 82	260B		
RuniD: MS2_001201A	BatchID:	Q00VOC		PrepDate:		Analyst: DJK
Di-isopropyl ether		ND	5.0	µg/L	1	12/1/00
Ethyl tert-butyl ether		ND	5.0	µg/L	1	12/1/00
MTBE		ND	5.0	μg/L	1	12/1/00
Tert-amyl methyl ether		ND	5.0	μg/L	1	12/1/00
Tert-Butanol		ND	200	µg/L	1	12/1/00
VOLATILE ORGANIC COMPO	JNDS BY GC/	MS	EPA 82	260B		
RunID: MS2_001201A	BatchID:	Q00VOC		PrepDate:		Analyst DJK
1,1,1,2-Tetrachloroethane		ND ·	5.0	μg/L	1	12/1/00
1,1,1-Trichloroethane		ND	5.0	µg/L	1	12/1/00
1,1,2,2-Tetrachloroethane		ND	5.0	μg/L	1	12/1/00
1,1,2-Trichloroethane		ND	5.0	μg/L	1	12/1/00
1,1-Dichloroethane		ND	5.0	µg/L	1	12/1/00
1,1-Dichloroethene		ND	5.0	μg/L	1	12/1/00
1,1-Dichloropropene		ND	5.0	μg/L	1	12/1/00
1,2,3-Trichlorobenzene		ND	5.0	μg/L	1	12/1/00
1,2,3-Trichloropropane		ND	5.0	µg/L	1	12/1/00
1,2,4-Trichlorobenzene		ND	<del>5</del> .0	μg/L	1	12/1/00
1,2,4-Trimethylbenzene		ND	5.0	μg/L	1	12/1/00
1,2-Dibromo-3-chloropropane		ND	5.0	µg/L	1	12/1/00
1,2-Dibromoethane		ND	5.0	µg/L	1	12/1/00
1,2-Dichlorobenzene		ND	5.0	μg/L	1	12/1/00
1,2-Dichloroethane		ND	5.0	μg/L	1	12/1/00
1,2-Dichloropropane		ND	5.0	µg/L	1	12/1/00
1,3,5-Trimethylbenzene		ND	5.0	μg/L	1	12/1/00
1,3-Dichlorobenzene		ND	5.0	μg/L	1	12/1/00
1,3-Dichloropropane		ND	5.0	μg/L	1	12/1/00
1,4-Dichlorobenzene		ND	5.0	µg/L	1	12/1/00
2,2-Dichloropropane		ND	5.0	μg/L	1	12/1/00
2-Chlorotoluene		ND	5,0	μg/L	1	12/1/00
4-Chlorotoluene		ND	5.0	µg/∟	1	12/1/00
4-Isopropyitoluene		ND	5.0	µg/∟	1	12/1/00
Benzene		34	5.0	μg/L	1	12/1/00
Bromobenzene		ND	5.0	μg/L	1	12/1/00
Bromodichloromethane		ND	5.0	µg/L	1	12/1/00
Bromoform		ND	5.0	μg/L	1	12/1/00
Bromomethane		ND	5.0	µg/L	1	12/1/00
Carbon tetrachloride		ND	5.0	μg/L	1	12/1/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored, Highly Reactive Initials:



6



Print Date: 12/7/00

Client Sample ID: MW-6

CLIENT: Lab Order: Geocon Environmental

048159

Project:

Thomas Short - S8225-06-103

Collection Date: 11/27/00 12:00:00 PM

Lab ID: 048159-003A Matrix: WATER

RunID: MS2_001201A  hlorobenzene hloroethane hloroform hloromethane is-1,2-Dichloroethene iibromochloromethane iibromomethane iichlorodifluoromethane ithylbenzene lexachlorobutadiene sopropylbenzene n,p-Xylene Methylene chloride -Butylbenzene laphthalene -Yylene laphthalene -Xylene ec-Butylbenzene styrene	Result	Limit	Qual Units	DF	Date Analyzed
VOLATILE ORGANIC COMPO	UNDS BY GC/MS		EPA 8260B		
RunID: MS2_001201A	BatchID: Q00	VOCW242	PrepDate	<b>)</b> :	Analyst: DJK
Chlorobenzene	NC	5.0	μg/L	1	12/1/00
Chloroethane	NE	5.0	μg/L	1	12/1/00
Chloroform	NC	5.0	μg/L	1	12/1/00
Chloromethane	NE	5.0	μg/L	1	12/1/00
cis-1,2-Dichloroethene	NE	5.0	μg/L	1	12/1/00
Dibromochloromethane	NE	5.0	μg/L	· 1	12/1/00
Dibromomethane	NC	5.0	µg/L	1	12/1/00
Dichlorodifluoromethane	NE	5.0	μg/L	1	12/1/00
Ethylbenzene	NE	5.0	μg/L	1	12/1/00
Hexachlorobutadiene	NE	5.0	μg/L	1	12/1/00
Isopropylbenzene	NE	5.0	μg/L	1	12/1/00
m,p-Xylene	NE	5.0	μg/L	1	12/1/00
Methylene chloride	NE	5,0	μg/L	1	12/1/00
n-Butylbenzene	NE	5.0	μg/L	1	12/1/00
n-Propylbenzene	NE	5.0	μg/L	1	12/1/00
Naphthaiene	NE	5.0	μg/L	1	12/1/00
o-Xylene	NE	5.0		1	12/1/00
sec-Butylbenzene	NE	5.0	μg/L	1.	12/1/00
Styrene	NE	5.0	μg/L	1	12/1/00
tert-Butylbenzene	NE	5.0	μg/L	1	12/1/00
Tetrachloroethene	NE	5.0		1	12/1/00
Toluene	NE	5.0	μg/L	1	12/1/00
trans-1,2-Dichloroethene	NE	5.0		1	12/1/00
Trichloroethene	NE	5.0	μg/L	1	12/1/00
Trichlorofluoromethane	. NE	5.0	μg/L	1	12/1/00
Vinyl chloride	NE	5.0	μg/L	1	12/1/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

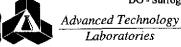
1510 E. 33rd Street

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range



048159-001B

Print Date: 12/7/00

CLIENT:

Geocon Environmental

Thomas Short - S8225-06-103

Lab Order:

048159

Client Sample ID: MW-4

Project:

Lab ID:

**Collection Date:** 11/27/00 11:20:00 AM

Matrix: WATER

Analyses	Result	Limit Qu	al Units	DF	Date Analyzed
CP METALS		EPA	6010B		
RunID: ICP2_001129A	BatchID: 2148		PrepDate:	11/28/00	Analyst: EFR
Antimony	ND	0.0050	mg/L	1	11/29/00
Arsenic	0.010	0.0050	mg/L	1	11/29/00
Barium	0.47	0.0010	mg/L	1	11/29/00
Beryllium	ND	0.0010	mg/L	1	11/29/00
Cadmium	ND	0.0030	mg/L	1	11/29/00
Chromium	0.0032	0.0030	mg/L	1	11/29/00
Cobalt	ND	0.0030	mg/L	1	11/29/00
Copper	0.010	0.0030	mg/L	1	11/29/00
Lead	0.0077	0.0050	mg/L	1	11/29/00
Molybdenum	0.0064	0.0050	mg/L	1	11/29/00
Nickel	0.030	0.0030	mg/L	1	11/29/00
Selenium	ND	0.0050	mg/L	1	11/29/00
Silver	0.020	0.0010	mg/L	1	11/29/00
Thallium	ND	0.0050	mg/L	1	11/29/00
Vanadium	0.0034	0.0030	mg/L	1	11/29/00
Zinc	0.070	0.010	mg/L	1	11/29/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

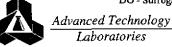
DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored. Highly Reactive





Print Date: 12/7/00

CLIENT:

Geocon Environmental

Lab Order: 048159

Project:

Thomas Short - S8225-06-103

Lab ID:

048159-001B

Client Sample ID: MW-4

Collection Date: 11/27/00 11:20:00 AM

Matrix: WATER

Analyses	F	Result	Limit Qu	al Units	DF	Date Analyzed
MERCURY BY COLD VAPOR	TECHNIQUE		EPA	7470A		
RuniD: AA1_001129A	BatchID:	2149		PrepDate:	11/28/00	Analyst: NS
Mercury		ND	0.0040	mg/L	2	11/29/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

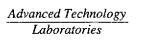
DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored, Highly Reactive





Print Date: 12/7/00

CLIENT:

Geocon Environmental

Lab Order:

048159

Project:

Thomas Short - \$8225-06-103

Lab ID:

048159-002B

Client Sample ID: MW-5

Collection Date: 11/27/00 11:45:00 AM

Matrix: WATER

Analyses	Result	Limit Qu	ıal Units	DF	Date Analyzed
ICP METALS		EPA	6010B		
RunID: ICP2_001129A	BatchID: 2148		PrepDate:	11/28/00	Analyst: EFR
Antimony	ND	0.0050	mg/L	1	11/29/00
Arsenic	0.030	0.0050	mg/L	1	11/29/00
Barium	1.2	0.0010	mg/L	1	11/29/00
Beryllium	ND	0.0010	mg/L	1	11/29/00
Cadmium	0.0061	0.0030	mg/L	1	11/29/00
Chromium	0.050	0.0030	mg/L	1	11/29/00
Cobalt	0.010	0.0030	mg/L	1	11/29/00
Copper	0.050	0.0030	mg/L	1	11/29/00
Lead	0.020	0.0050	mg/L	1	11/29/00
Molybdenum	0.010	0.0050	mg/L	1	11/29/00
Nickel	0.10	0.0030	mg/L	1	11/29/00
Selenium	ND	0.0050	mg/L	1	11/29/00
Silver	0.010	0.0010	mg/L	1	11/29/00
Thallium	ND	0.0050	mg/L	1	11/29/00
Vanadium	0.050	0.0030	mg/L	1	11/29/00
Zinc	0.10	0.010	mg/L	1	11/29/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range

**Initials:** 



M - Not Monitored, Highly Reactive



Print Date: 12/7/00

CLIENT:

Geocon Environmental

Lab Order:

048159

Project: Lab ID: Thomas Short - S8225-06-103

048159-002B

Client Sample ID: MW-5

Collection Date: 11/27/00 11:45:00 AM

Matrix: WATER

Analyses	Result	Limit Qu	al Units	DF	Date Analyzed
MERCURY BY COLD VAPOR	TECHNIQUE	EPA	7470A		
RunID: AA1_001129A	BatchID: 2149		PrepDate:	11/28/00	Analyst: NS
Mercury	ND	0.0040	mg/L	2	11/29/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

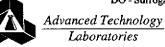
S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored. Highly Reactive **Initials:** 



3



Print Date: 12/7/00

CLIENT:

Geocon Environmental

Lab Order:

048159

Project:

Thomas Short - S8225-06-103

Lab ID:

048159-003B

Client Sample ID: MW-6

Collection Date: 11/27/00 12:00:00 PM

Matrix: WATER

Analyses	Result	Limit Qu	al Units	DF	Date Analyzed
CP METALS	EPA 6010B				
RunID: ICP2_001129A	BatchID: 2148		PrepDate:	11/28/00	Analyst: EFR
Antimony	ND	0.0050	mg/L	1	11/29/00
Arsenic	0.0091	0.0050	mg/L	1	11/29/00
Barium	0.20	0.0010	mg/L	1	11/29/00
Beryllium	ND	0.0010	mg/L	1	11/29/00
Cadmium	ND	0.0030	mg/L	1	11/29/00
Chromium	ND	0.0030	mg/L	1	11/29/00
Cobalt	0.0049	0.0030	mg/L	1	11/29/00
Copper	0.010	0.0030	mg/L	1	11/29/00
Lead	ND	0.0050	mg/L	1	11/29/00
Molybdenum	0.010	0.0050	mg/L	1	11/29/00
Nickel	0.040	0.0030	mg/L	1	11/29/00
Selenium	ND	0.0050	mg/L	1	11/29/00
Silver	0.010	0.0010	mg/L	1	11/29/ <b>00</b>
Thallium	ND	0.0050	mg/L	1	11/29/00
Vanadium	0.0036	0.0030	mg/L	1	11/29/00
Zinc	0.050	0,010	mg/L	1	11/29/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

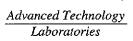
DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored. Highly Reactive





Print Date: 12/7/00

CLIENT:

Geocon Environmental

Lab Order:

048159

Project:

Thomas Short - S8225-06-103

Lab ID:

048159-003B

Client Sample ID: MW-6

Collection Date: 11/27/00 12:00:00 PM

Matrix: WATER

Analyses	Result	Limit Qual U	nits DF	Date Analyzed
MERCURY BY COLD VAPOR	TECHNIQUE	EPA 7470	A	
RunID: <b>AA1_001129A</b>	BatchID: 2149	P	repDate: <b>11/28/00</b>	Analyst: NS
Mercury	ND	0.0040 m	g/L 2	11/29/00

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range







Date: 07-Dec-00

CLIENT:

Geocon Environmental

R - RPD outside accepted recovery limits

Work Order:

048159

Project:

Thomas Short - S8225-06-103

**QC SUMMARY REPORT** 

Method Blank

Sample ID: MB-2148	Batch ID: 2148		Test Name	: DISSOLVE	D METALS BY IC	P	Uni	ts.mg/L /	Analysis Date: 11	/29/00	Prep Date:	11/28/0
MBLK							SeqNo:	7508	8			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	·	ND	0.0050									
Arsenic		ND	0.0050									J
Barium		ND	0.0010									
Beryllium		ND	0.0010									
Cadmium		ND	0.0030	•								
Chromium		ND	0.0030									
Cobalt		ND	0.0030									
Copper		ND	0.0030								•	
Lead		ND	0.0050									
Molybdenum		ND	0.0050									
Nickel		ND	0.0030									J
Selenium		ND	0.0050									
Silver		ND	0.0010			•						
Thallium		ND	0.0050									J
Vanadium		ND	0.0030									
Zinc		ND	0.010			-						
Sample ID: MB-2149	Batch ID: 2149		Test Name	MERCURY	BY COLD VAPO	R TECHNIQUE	Unit	ts mg/L A	nalysis Date: 11	/29/00	Prep Date:	11/28/00
MBLK							SeqNo:	7513	2			
Analyte		Resuit	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury		ND	0.0020									
	·-·								<del> </del>			
=	etected at the Reporting 1				e associated Method	d Blank	DO	- Surrogate I	Piluted Out	Initia	als: 📅	<del></del>
J - Analyte	detected below quantitation	on limits	M - Not M	lonitored. High	dy Reactive							2

S - Spike/Surrogate outside of limits due to matrix interference



Geocon Environmental

R - RPD outside accepted recovery limits

Work Order: 048

048159

Project:

Thomas Short - S8225-06-103

QC SUMMARY REPORT

Method Blank

Sample ID: MB-2154	Batch ID: 2154	Test Name	e: DIESEL RA	NGE ORGANIC	S BY GC/FID	Unit	smg/L /	\nalysis Date:	11/30/00	Prep Date:	11/29/00
MBLK					•	SeqNo:	7527	3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	0.050	-			<u>-</u>					
Sample ID: 001201BLKW1	Batch ID: 1008G20W214	Test Name	: GASOLINE	RANGE ORGA	NICS BY GC/F	ID Uni	smg/L /	Analysis Date:	12/1/00	Prep Date:	
MBLK						SeqNo:	7553	4			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	0,20									
Sample ID: 001201BLKW1	Batch ID: I008G20W214	Test Name	: VOLATILE	ORGANIC COM	IPOUNDS BY G	SC/PID Unit	sµg/L A	nalysis Date:	12/1/00	Prep Date:	
MBLK						SeqNo:	7551	5			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50									
Ethylbenzene	ND	0.50							•		
m,p-Xylene	ND	0.50									
MTBE	ND	0.50									
o-Xylene	ND	0.50									
Toluene	ND	0,50									
Sample ID: 001201BLKW1	Batch ID: Q00VOCW242	Test Name	: VOLATILE	ORGANIC COM	POUNDS BY G	C/MS Unit	sμg/L A	inalysis Date:	12/1/00	Prep Date:	
MBLK						SeqNo:	7517	6			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Di-isopropyl ether	ND	5.0	· · · · · · · · · · · · · · · · · · ·	·····							
Ethyl tert-butyl ether	ND	5,0									
MTBE	ND	5.0									
Tert-amyl methyl ether	ND	5.0									
Tert-Butanol	ND	200								_	
Qualifiers: ND - Not Detec	cted at the Reporting Limit	B - Analy	te detected in th	ne associated Meth	nod Blank	DO	- Surrogate I	Diluted Out	Initi	als:	
	ected below quantitation limits	M - Not N	Aonitored. High	ly Reactive							3

S - Spike/Surrogate outside of limits due to matrix interference



Geocon Environmental

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

Work Order:

048159

Sample ID: 001201BLKW1 Batch ID: Q00VOCW242

Project:

Thomas Short - S8225-06-103

QC SUMMARY REPORT

Analysis Date: 12/1/00

Method Blank

Prep Date:

Analyte	Result										
4 4 4 2 Tetrachlarochana		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
1,1,1,2-Tetrachloroethane	ND	5.0									
1,1,1-Trichloroethane	ND	5.0									
1,1,2,2-Tetrachloroethane	ND	5.0									
1,1,2-Trichloroethane	ND	5.0									
1,1-Dichloroethane	ND	5.0									
1,1-Dichloroethene	ND	5.0									
1,1-Dichloropropene	ND	5,0									
1,2,3-Trichlorobenzene	ND	5.0									
1,2,3-Trichloropropane	ND	5.0									
1,2,4-Trichlorobenzene	ND	5.0									
1,2,4-Trimethylbenzene	ND	5.0									
1,2-Dibromo-3-chloropropane	ND	5.0									
1,2-Dibromoethane	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,2-Dichloroethane	ND	5.0									
1,2-Dichloropropane	ND	5.0									
1,3,5-Trimethylbenzene	ND	5.0									
1,3-Dichlorobenzene	ND	5.0									
1,3-Dichloropropane	ND	5.0									
1,4-Dichlorobenzene	ND	5.0									
2,2-Dichloropropane	ND	5.0									
2-Chloroethyl vinyl ether	ND	5,0									
2-Chlorotoluene	ND	5.0									
4-Chlorotoluene	ND	5.0									
4-Isopropyltoluene	ND	5.0									
Benzene	ND	5.0									
Bromobenzene	ND	5.0									
Bromodichloromethane	ND	5.0									

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

Test Name: VOLATILE ORGANIC COMPOUNDS BY GC/MS Units µg/L

1510

Ė



CLIENT: Geocon Environmental **QC SUMMARY REPORT** Work Order: 048159 Method Blank Thomas Short - S8225-06-103 Project: 5.0 Bromoform ND Bromomethane ND 5.0 5.0 Carbon tetrachloride ND Chlorobenzene ND 5.0 Chloroethane 5.0 ND Chloroform ND 5.0 Chloromethane 5.0 ND cis-1,2-Dichloroethene 5.0 ND cis-1,3-Dichloropropene ND 5.0 Dibromochloromethane ND 5.0 Dibromomethane ND 5.0 Dichlorodifluoromethane ND 5.0 Ethylbenzene ND 5.0 5.0 Hexachlorobutadiene ND Isopropylbenzene ND 5.0 ND 5.0 m.p-Xylene Methylene chloride ND 5.0 MTBE 5.0 ND ND 5.0 n-Butylbenzene n-Propylbenzene ND 5.0 5.0 Naphthalene ND o-Xylene ND 5.0 sec-Butylbenzene ND 5.0 Styrene ND 5.0 tert-Butylbenzene ND 5.0 Tetrachloroethene ND 5.0 Toluene ND 5.0 trans-1,2-Dichloroethene ND 5.0 trans-1,3-Dichloropropene ND 5.0 Trichloroethene ND 5.0 Trichlorofluoromethane ND 5.0 Vlnyl chloride ND 5.0 DO - Surrogate Diluted Out Qualifiers: ND - Not Detected at the Reporting Limit B - Analyte detected in the associated Method Blank Initials:

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference





Date: 07-Dec-00

CLIENT:

Geocon Environmental

Work Order:

048159

Project:

Thomas Short - S8225-06-103

**QC SUMMARY REPORT** 

Sample Duplicate

Sample ID: 048159-003B	Batch ID: 2148	Test Nam	e: DISSOLVEI	METALS BY ICF	•	Unit	tsmg/L A	nalysis Date:	11/29/00	Prep Date:	11/28/00
DUP						SeqNo:	7508	1			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLImit	Qual
Antimony	ND	0,0050	0	0	0	0	0	0			
Arsenic	0.01	0.0050	0	0	0	0	0	0			
Barium	0.23	0.0010	0	0	0	0	0	0			
Beryllium	0,0007	0.0010	0	0	0	0	0	0			J
Cadmium	0.00103	0.0030	0	0	0	0	. 0	0	-		j
Chromium	0.00392	0.0030	0	0	0	0	0	0			
Cobalt	0.00578	0.0030	Ð	0	0	0	0	0			
Copper	0.02	0.0030	0	0	0	0	0	0			
Lead	ND	0.0050	0	0	0	٥	0	0			
Molybdenum	0.01	0.0050	0	0	0	0	0	0			
Nickel	0.05	0.0030	0	0	0	0	0	0			
Selenium	ND	0.0050	0	0	0	0	0	0			
Silver	0.00878	0.0010	0	0	0	0	0	0			
Thallium	0.00413	0.0050	0	0	0	0	0	0			J
Vanadium	0.00654	0.0030	0	0	0	0	0	0			
Zinc	0,03	0.010	0	0	0	0	0	0			
Sample ID: <b>048159-003B</b>	Batch ID: 2149	Test Name	e: MERCURY	BY COLD VAPOR	TECHNIQUE	. Unit	smg/L A	nalysis Date:	11/29/00	Prep Date:	11/28/00
DUP						SeqNo:	75136	3			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0040	0	0	0	0	0	0	0	30	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

DO - Surrogate Diluted Out





Geocon Environmental

R - RPD outside accepted recovery limits

Work Order:

048159

Project:

Thomas Short - S8225-06-103

## **QC SUMMARY REPORT**

Sample Duplicate

3

-	<u> </u>										
Sample ID: 048159-002B	Batch (D: 2154	Test Nam	e: DIESEL RA	NGE ORGANIC	S BY GC/FID	Uni	ts mg/L /	Analysis Date:	11/30/00	Prep Date:	11/29/00
DUP						SeqNo:	7528	10			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	0.5164	0.050	0	0	0	0	0	0.4469	14	30	
Sample ID: 048159-003A	Batch ID: 1008G20W214	Test Nam	e: GASOLINE	RANGE ORGA	NICS BY GC/F	ID Uni	ts.mg/L.	Analysis Date:	12/1/00	Prep Date:	
DUP						SeqNo:	7553	8			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	0.42	0.050	0	0	0	0	0	0,323	26	30	
Sample ID: 048159-003A	Batch ID: 1008G20W214	Test Nam	e: VOLATILE	ORGANIC COM	POUNDS BY	GC/PID Uni	tsµg/L A	Analysis Date:	12/1/00	Prep Date:	
DUP						SeqNo:	7551	9			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	32.76	0.50	0	0	0	0	0	15.69	70	30	R
Ethylbenzene	2.745	0.50	0	0	0	0	0	1.078	87	30	R
m,p-Xylene	1.052	0.50	0	0	0	0	0	0.876	18	30	
MTBE	2.026	0.50	0	0	0	0	0	1.835	10	30	
o-Xylene	0.507	0.50	0	0	0	0	0	0.254	66	30	R
Toluene	0,893	0.50	0	0	0	0	0	0.512	54	30	R
Sample ID: 048159-003A	Batch ID: Q00VOCW242	Test Name	: VOLATILE	ORGANIC COM	POUNDS BY (	GC/MS Unit	tsµg/L A	\nalysis Date:	12/1/00	Prep Date:	
DUP						SeqNo:	7517	9			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Di-isopropyl ether	ND	5.0	0	0	0	0	0	0	0	30	
Ethyl tert-butyl ether	ND	5.0	0	0	0	0	0	0	0	30	
MTBE	ND	5.0	0	0	0	0	0	0	O	30	
Tert-amyl methyl ether	ND	5.0	0	0	0	0	0	0	0	30	
Tert-Butanol	ND	200	0	0	0	0	0	0	0	30	
Qualifiers: ND - Not De	stected at the Reporting Limit	B - Analy	te detected in t	ne associated Meth	od Blank	DO - Surrogate Diluted Out				als: 🕼	
J - Analyte d	etected below quantitation limits	M - Not l	Monitored, High	ly Reactive							

S - Spike/Surrogate outside of limits due to matrix interference



Geocon Environmental

Work Order:

048159

Project:

Thomas Short - S8225-06-103

## QC SUMMARY REPORT

Sample Duplicate

Sample ID: <b>048169-003A</b> DUP	Batch ID: Q00VOCW242	Test Nam	e: VOLATILE	ORGANIC COMP	OUNDS BY (	GC/MS Uni SeqNo:	ts µg/L A 75167	nalysis Date: 12/1 7	/00	Prep Date:	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLImit	Qua
1,1,1,2-Tetrachioroethane	ND	5.0	0	0	0	0	0	0	0	30	
1,1,1-Trichloroethane	ND	5.0	0	0	0	. 0	0	0	0	30	
1,1,2,2-Tetrachloroethane	ND	5.0	0	0	0	0	0	0	0	30	
1,1,2-Trichloroethane	ND	5,0	0	0	0	0	0	0	0	30	
1,1-Dichloroethane	ND	5.0	0	0	0	0	0	0	0	30	
1,1-Dichloroethene	ND	5.0	0	0	0	0	0	0	0	30	
1,1-Dichloropropene	ND	5.0	0	0	0	0	0	0	0	30	
1,2,3-Trichlorobenzene	ND	5.0	0	0	0	0	0	0	0	30	
1,2,3-Trichloropropane	ND	5.0	0	0	0	0	0	0	0	30	
1,2,4-Trichlorobenzene	ND	5.0	0	0	0	0	0	0	0	30	
1,2,4-Trimethylbenzene	ND	5.0	0	0	0	0	0	0	0	30	
1,2-Dibromo-3-chloropropane	ND	5.0	0	0	0	0	0	0	0	30	
1,2-Dibromoethane	ND	5.0	0	0	0	0	0	0	0	30	
1,2-Dichlorobenzene	ND	5.0	0	0	0	0	0	0	0	30	
1,2-Dichloroethane	ND	5.0	0	0	0	0	0	0	0	30	
1,2-Dichtoropropane	ND	5.0	0	0	0	0	0	0	0	30	
1,3,5-Trimethylbenzene	NĎ	5.0	. 0	0	0	0	0	0	0	30	
1,3-Dichlorobenzene	ND	5.0	0	0	0	0	0	0	0	30	
1,3-Dichloropropane	ND	5.0	0	0	0.	0	0	0	0	30	
1,4-Dichlorobenzene	ND	5.0	0	0	0	0	0	O	0	30	
2,2-Dichloropropane	ND	5.0	0	0	0	0	0	0	0	30	
2-Chlorotoluene	ND	5.0	0	0	0	0	. 0	0	0	30	
4-Chlorotoluene	ND	5.0	0	0	0	0	0	0	0	30	
4-Isopropyltoluene	ND	5.0	0	0	0	0	0	0	0	30	
Benzene	33.24	5.0	0	. 0	0	0	0	34.31	3	30	
Bromobenzene	ND	5.0	0	0	0 ´	0	0	0	0	30	
Bromodichloromethane	ND	5.0	0	0	0	0	0	0	0	30	
Bromoform	ND	5.0	0	0	0	0	0	0	0	30	
Qualifiers: ND - Not Detec	ted at the Reporting Limit	R - Anal	vte detected in ti	ne associated Method	Blank	DO	- Surrogate D	ilated Out	Initi:	als:	

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference



Work Order:

ND - Not Detected at the Reporting Limit

Geocon Environmental

048159

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

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	SUB	VIVI A	KKY	REP	UKI

Sample	Duplicate
Dampio	Dupmeate

Bromomethane	ND	5.0	0	0 .	0	0	0	0	0	30
Carbon tetrachloride	ND	5.0	0	0	0	0	0	0	0	30
Chlorobenzene	ND	5.0	0	0	0	0	0	0	0	30
Chloroethane	ND	5.0	0	0	0	0	0	0	0	30
Chloroform	ND	5.0	0	0	0	0	0	0	0	30
Chloromethane	ND	5,0	0	0	0	0	0	0	0	30
cis-1,2-Dichloroethene	ND	5.0	0	0	0	0	0	0	0	30
Dibromochloromethane	ND	5.0	0	0	0	0	0	0	0	30
Dibromomethane	ND	5.0	0	0	0	0	0	0	0	30
Dichlorodifluoromethane	ND	5.0	0	0	0	0	0	0	0	30
Ethylbenzene	ND	5.0	0	0	0	0	0	0	0	30
Hexachlorobutadiene	ND	5.0	0	0	0	0	0	0	0	30
Isopropylbenzene	ND	5.0	0	0	0	0	0	0	0	30
m,p-Xylene	ND	5.0	0	0	0	0	0	0	0	30
Methylene chloride	ND	5.0	0	0	0	0	0	0	0	30
n-Butylbenzene	ND	5.0	0	0	0	0	0	0	0	30
n-Propylbenzene	ND	5.0	0	0	0	0	0	0	0	30
Naphthalene	ND	5.0	0	0	0	0	0	0	0	30
o-Xylene	ND	5.0	0	0	0	0	0	0	0	30
sec-Butylbenzene	ND	5.0	0	0	0	0	0	0	0	30
Styrene	ND	5.0	0	0	0	0	0	0	0	30
tert-Butylbenzene	ND	5.0	0	0	0	0	0	0	0	30
Tetrachioroethene	ND	5.0	0	0	0	0	0	0	0	30
Toluene	ND	5.0	0	0	0	0	0	0	0	30
trans-1,2-Dichloroethene	ND	5,0	0	0	0	0	0	0	0	30
Trichloroethene	ND	5.0	0	0	0	0	0	0	0	30
Trichlorofluoromethane	ND	5.0	0	0	0	0	0	Ō	0	30
Vinyl chloride	ND	5.0	0	0	0	0	0	0	0	30

DO - Surrogate Diluted Out





Date: 07-Dec-00

CLIENT:

Geocon Environmental

Work Order:

048159

Project:

Thomas Short - S8225-06-103

**QC SUMMARY REPORT** 

Sample Matrix Spike

Sample ID: 048159-003B	Batch ID: 2148		Test Nam	e: <b>DISSOLVE</b> I	D METALS BY ICI	•	Unit	smg/L A	nalysis Date:	11/29/00	Prep Date:	11/28/00
MS							SeqNo:	7508:	3			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLImit	Qual
Antimony		4.92	0.0050	5	0	98	69	116	0			
Arsenic		4.85	0.0050	5	0.00906	97	67	114	0			
Barium		4.87	0.0010	5	0.2	93	63	125	0			
Beryllium		4.46	0.0010	5	0,00084	89	60	117	0			
Cadmium		4.55	0.0030	5	0.00111	91	63	123	0			
Chromium		4.74	0.0030	5	0.00109	95	68	118	0			
Cobait		4.73	0.0030	5	0.00492	95	68	118	0			
Copper		5.24	0.0030	5	0.01	105	72	123	0			
Lead	•	4.92	0.0050	5	0.00355	98	66	118	0			
Molybdenum		4.86	0.0050	5	0.01	97	65	111	0			
Nickel		4.59	0.0030	5	0.04	91	64	121	0			
Selenium		4.74	0.0050	5	0	95	62	109	0			
Silver		4.22	0.0010	5	0.01	84	71	137	0			
Thallium		5.02	0.0050	5	0	100	67	122	0			
Vanadium		4.78	0.0030	5	0.0036	96	69	118	0			
Zinc		4.78	0.010	5	0.05	95	65	112	0			

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

DO - Surrogate Diluted Out







Geocon Environmental

Work Order:

048159

Project:

Thomas Short - S8225-06-103

## QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Sample ID: 048159-003B	Batch ID: 2148	Test Nam	e: DISSOLVE	METALS BY IC	P	Uni	ts mg/L A	nalysis Date:	11/29/00	Prep Date:	11/28/00
MSD						SeqNo:	7508	4			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	5.04	0,0050	5	0	101	69	116	4.92	2	20	
Arsenic	4.97	0,0050	5	0.00906	99	67	114	4.85	2	20	
Barium	4.89	0.0010	5	0.2	94	63	125	4.87	0	20	
Beryllium	4.53	0.0010	5	0.00084	91	60	117	4.46	2	20	
Cadmium	4.62	0.0030	5	0.00111	92	63	123	4.55	2	20	
Chromium	4.84	0.0030	5	0.00109	97	68	118	4.74	2	20	
Cobalt	4.85	0.0030	5	0.00492	97	68	118	4.73	3	20	
Copper	5.33	0.0030	5	0.01	106	72	123	5.24	2	20	
Lead	5,03	0.0050	5	0.00355	101	66	118	4.92	2	20	
Molybdenum	5	0.0050	5	0.01	100	65	111	4.86	3	20	
Nickel	4.68	0.0030	5	0.04	93	64	121	4.59	2	20	
Selenium	4.86	0.0050	5	0	97	62	109	4.74	3	20	
Silver	4.31	0.0010	5	0.01	86	71	137	4.22	2	20	
Thallium	5.11	0.0050	5	0	102	67	122	5.02	2	20	
Vanadium	4.89	0.0030	5	0.0036	98	69	118	4.78	2	20	
Zinc	4.88	0.010	5	0.05	97	65	112	4.78	2	20	
Sample ID: 048159-003B	Batch ID: 2149	Test Name	e: MERCURY	BY COLD VAPOI	R TECHNIQUE	Unit	ts mg/L A	nalysis Date:	11/29/00	Prep Date:	11/28/00
MS						SeqNo:	7513	7			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.01634	0.0040	0.02	0	82	69	144	0			
Sample ID: 048159-003B	Batch ID: 2149	Test Name	: MERCURY	BY COLD VAPOI	R TECHNIQUE	Unit	tsmg/L. A	nalysis Date:	11/29/00	Prep Date:	11/28/00
MSD						SeqNo:	7513	В			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.01769	0.0040	0.02	0	88	69	144	0.01634	8	20	
Qualifiers: ND - Not Dete	ected at the Reporting Limit	B - Analy	yte detected in th	ne associated Method	d Blank	DO	- Surrogate D	iluted Out	Initi	als:	
J - Analyte det	ected below quantitation limits	M - Not	Monitored. High	ily Reactive							
R - RPD outsie	de accepted recovery limits	S - Spike	Surrogate outsi	de of limits due to r	matrix interferen	ce					3

Project:

Work Order:

Fax: 562 989-4040

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits R - RPD outside accepted recovery limits

Geocon Environmental

Thomas Short - S8225-06-103

048159

S - Spike/Surrogate outside of limits due to matrix interference

M - Not Monitored. Highly Reactive

## **QC SUMMARY REPORT**

Sample Matrix Spike

Sample ID: MB-2154	Batch ID: 2154	Test Nam	e: <b>DIESEL RA</b>	NGE ORGANICS	BY GC/FID	Unit	smg/L A	nalysis Date:	11/30/00	Prep Date:	11/29/0
MS						SeqNo:	7527	5			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1.007	0.050	1	0	101	50	150	0			
Sample ID: MB-2154	Batch ID: 2154	Test Nam	e: DIESEL RA	NGE ORGĀNICS	BY GC/FID	Unit	s mg/L A	nalysis Date:	11/30/00	Prep Date:	11/29/0
MSD						SeqNo:	7527	6			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	1.027	0,050	1	0	103	50	150	1.007	2	40	*
Sample ID: 001201BLKW1	Batch ID: 1008G20W214	Test Nam	e: GASOLINE	RANGE ORGAN	ICS BY GC/F	<b>ID</b> Unit	smg/L A	nalysis Date:	12/1/00	Prep Date:	
MS						SeqNo:	7555	8			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	0.914	0.20	1	0	91	50	119	0			
Sample ID: 001201BLKW1	Batch ID: 1008G20W214	Test Nam	e: GASOLINE	RANGE ORGAN	ICS BY GC/F	ID Unit	smg/L A	nalysis Date:	12/1/00	Prep Date:	
MSD						SeqNo:	7555	9			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	0.885	0.20	1	0	89	50	119	0.914	3	20	
Sample ID: 001201BLKW1	Batch ID: 1008G20W214	Test Nam	: VOLATILE	ORGANIC COMP	OUNDS BY G	C/PID Unit	sμg/L A	nalysis Date:	12/1/00	Prep Date:	
MS <sub>.</sub>						SeqNo:	7552	0			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	6.926	0,50	5.5	0	126	60	136	0			
Toluene	36.64	0.50	30	0	122	61	128	0			
										als:	



Geocon Environmental

Work Order:

048159

Project:

Thomas Short - \$8225-06-103

## **QC SUMMARY REPORT**

Sample Matrix Spike Duplicate

Sample ID: 001201BLKW1	Batch ID: 1008G20W214	Test Nam	e: VOLATILE	ORGANIC COM	POUNDS BY	3C/PID Uni	tsμg/L A	nalysis Date:	12/1/00	Prep Date:	
MSD					•	SeqNo:	7552	1			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	6.173	0.50	5.5	0	112	60	136	6,926	12	18	•
Toluene	31.2	0.50	30	0	104	61	128	36.64	16	22	
Sample ID: 001201BLKW1	Batch ID: Q00VOCW242	Test Name	: VOLATILE	ORGANIC COM	POUNDS BY C	GC/MS Unit	sμg/L A	nalysis Date:	12/1/00	Prep Date:	
MS						SeqNo:	75160	D			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	99.67	5.0	100	0	100	71	120	0			
Benzene	109.8	5.0	100	0	110	82	122	0			
Chlorobenzene	106.8	5.0	100	0	107	81	121	0			
Toluene	110	5.0	100	0	110	81	125	0			
Trichloroethene	105.4	5.0	100	0	105	80	123	0			
Sample ID: 001201BLKW1	Batch ID: Q00VOCW242	Test Name	: VOLATILE	ORGANIC COM	POUNDS BY C	C/MS Uni	tsμg/L A	nalysis Date:	12/2/00	Prep Date:	
MSD						SeqNo:	7517	1			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	82.19	5.0	100	0	82	71	120	99.67	19	21	
Benzene	110.7	5.0	100	0	111	82	122	109.8	1	19	
Chlorobenzene	104.5	5.0	100	0	104	81	121	106.8	2	18	
Toluene	110.6	5.0	100	0	111	81	125	110	1	20	
Trichloroethene	106.9	5,0	100	0	107	80	123	105.4	1	20	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

DO - Surrogate Diluted Out

Initials:\_\_\_



April 09, 2001

Matt Hanko Geocon Environmental 5673 W. Las Positas Blvd., Ste 205 Pleasanton, CA 94588 TEL: (925) 469-9750 FAX (925) 469-9749

ELAP No:

1838

RE: Thomas Short - E

Work Order No.: 050405

Attention: Matt Hanko

Enclosed are the results for sample(s) received on April 02, 2001 by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

Thank you for the opportunity to service the needs of your company.

Please feel free to call me at (562)989-4045 if I can be of further assistance to your company.

Sincerely,

Edgar Caballero

Laboratory Director

This cover letter and a case narrative are an integral part of this analytical report.

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Date: 09-Apr-01

CLIENT:

Geocon Environmental

Project:

Thomas Short - E

Lab Order:

050405

**CASE NARRATIVE** 

Samples 050405-001B, 050405-002B and 050405-003B contain hydrocarbons that does not match the Diesel pattern. However, quantitation is based on the Diesel standard.

Print Date: 4/9/01

**CLIENT:** 

Geocon Environmental

050405

Lab Order: Project:

Thomas Short - E

Lab ID:

050405-001A

Client Sample ID: MW-4

Collection Date: 3/29/01 10:40:00 AM

Matrix: Water

Analyses		Result	Limit Q	ual Units	DF	Date Analyzed	
GASOLINE RANGE ORGANICS BY GC/FID  RunID: GC6_010405A BatchID: I018G20W056			EPA	8015B(M)	Analyst: JP		
RuniD: GC6_010405A	BatchiD:	1018G20W056				PrepDate:	
GRO		8.1	0.20	mg/L	1	4/5/01	
VOLATILE ORGANIC COMPOUNDS BY GC/PID		EPA	8020A		Analyst: JPC		
RunlD: GC6_010405A	BatchID:	1018G20W056				PrepDate:	
Benzene		51	0.50	μg/L,	1	4/5/01	
Ethylbenzene		160	0.50	μg/L	1	4/5/01	
m,p-Xylene		40	0.50	μg/L	1	4/5/01	
MTBE		10	0.50	μg/L	1	4/5/01	
o-Xylene		4.5	0.50	μg/L	1	4/5/01	
Toluene		23	0.50	μg/L	1	4/5/01	
VOLATILE ORGANIC COMP	OUNDS BY	GC/MS	EP#	8260B		Analyst: DJK	
RunID: MS2_010404A	BatchID:	Q01VOCW074				PrepDate:	
Di-isopropyl ether		ND	5.0	µg/L	1	4/4/01	
Ethyl tert-butyl ether		ND	5.0	μg/L	1	4/4/01	
MTBE		ND	5.0	μg/L	1	4/4/01	
Tert-amyl methyl ether		ND	5.0	μg/L	1	4/4/01	
Tert-Butanol		ND	200	μg/L	1	4/4/01	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

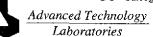
DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored. Highly Reactive





Print Date: 4/9/01

CLIENT:

Geocon Environmental

Lab Order:

050405

Project:

Lab ID:

Thomas Short - E

050405-001A

Client Sample ID: MW-4

Collection Date: 3/29/01 10:40:00 AM

Matrix: Water

Analyses	Result	Limit Q	ual Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS	BY GC/MS	EP#	8260B		Analyst: DJ
	hID: Q01VOCW0				PrepDate:
1,1,1,2-Tetrachloroethane	ND	5.0	μg/L	1	4/4/01
1,1,1-Trichloroethane	ND	5.0	μg/L	1	4/4/01
1,1,2,2-Tetrachloroethane	ND	5.0	μg/L	1	4/4/01
1,1,2-Trichloroethane	ND	5.0	μg/L	1	4/4/01
1,1-Dichloroethane	ND	5.0	μg/L	1	4/4/01
1,1-Dichloroethene	ND	5.0	μg/L	1	4/4/01
1,1-Dichloropropene	ND	5.0	μg/L	1	4/4/01
1,2,3-Trichlorobenzene	ND	5.0	μg/L	1	4/4/01
1,2,3-Trichloropropane	ND	5.0	μg/L	1	4/4/01
1,2,4-Trichlorobenzene	ND	5.0	μg/L	1	4/4/01
1,2,4-Trimethylbenzene	ND	5.0	μg/L	1	4/4/01
1,2-Dibromo-3-chloropropane	ND	5.0	μg/L	1	4/4/01
1,2-Dibromoethane	ND	5.0	μg/L	1	4/4/01
1,2-Dichlorobenzene	ND	5.0	μg/L	1	4/4/01
1,2-Dichloroethane	ND	5.0	μg/L	1	4/4/01
1,2-Dichloropropane	ND	5.0	μg/L	1	4/4/01
1,3,5-Trimethylbenzene	7.7	5.0	μg/L	1	4/4/01
1,3-Dichlorobenzene	ND	5.0	μg/L	1	4/4/01
1,3-Dichloropropane	ND	5.0	μg/L	1	4/4/01
1,4-Dichlorobenzene	ND	5.0	μg/L	1	4/4/01
2,2-Dichloropropane	ND	5.0	μg/L	1	4/4/01
2-Chlorotoluene	ND	5.0	μg/L	1	4/4/01
4-Chlorotoluene	ND	5.0	μg/L	1	4/4/01
4-Isopropyitoluene	8.4	5.0	μg/L	1	4/4/01
Benzene	67	5.0	μg/L	1	4/4/01
Bromobenzene	ND	5.0	μg/L	1	4/4/01
Bromodichloromethane	ND	5.0	μg/L	1	4/4/01
Bromoform	ND	5.0	µg/L	1	4/4/01
Bromomethane	ND	5.0	μg/L	1	4/4/01
Carbon tetrachloride	ND	5.0	µg/L	1	4/4/01
Chlorobenzene	ND	5.0	μg/L	1	4/4/01
Chloroethane	ND	5.0	µg/L	1	4/4/01
Chloroform	ND	5.0	μg/L	1	4/4/01
Chloromethane	ND	5. <b>0</b>	μg/L	1	4/4/01
cis-1,2-Dichloroethene	ND	5.0	µg/L	1	4/4/01
Dibromochloromethane	ND	5.0 5.0	μg/L	1	4/4/01
Dibromomethane	ND	5.0	μg/L	1	4/4/01
Dichlorodifluoromethane	ND	5.0 5.0	µg/L	1	4/4/01

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range



Print Date: 4/9/01

**CLIENT:** Lab Order: Geocon Environmental

Project:

050405

Thomas Short - E

Lab ID:

050405-001A

Client Sample ID: MW-4

Collection Date: 3/29/01 10:40:00 AM

Matrix: Water

Analyses		Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUNDS BY GC/MS RunID: MS2_010404A BatchID: Q01VOCW074				PA 82	8260B Ana PrepDate:		
Ethylbenzene		190	5.0		μg/L	1	4/4/01
Hexachlorobutadiene		ND	5.0		μg/L	1	4/4/01
Isopropylbenzene		180	5.0		µg/L	1	4/4/01
m,p-Xylene		41	5.0		µg/L	1	4/4/01
Methylene chloride		ND	5.0		μg/L	1	4/4/01
n-Butylbenzene		26	5.0		µg/L	1	4/4/01
n-Propylbenzene		280	5.0		μg/L	1	4/4/01
Naphthalene		45	5.0		μg/L	1	4/4/01
o-Xylene		ND	5.0		μg/L	1	4/4/01
sec-Butylbenzene		12	5.0		μg/L	1	4/4/01
Styrene		ND	5.0		μg/L	1	4/4/01
tert-Butylbenzene		21	5.0		μg/L	1	4/4/01
Tetrachloroethene		ND	5.0		μg/L	1	4/4/01
Toluene		25	5.0		μg/L	1	4/4/01
trans-1,2-Dichloroethene		ND	5.0		μg/L	1	4/4/01
Trichloroethene		ND	5.0		μg/L	1	4/4/01
Trichlorofluoromethane		ND	5.0		μg/L	1	4/4/01
Vinyl chloride		ND	5.0		μg/L	1	4/4/01

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

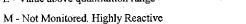
DO - Surrogate Diluted Out

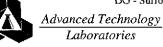
S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range







Print Date: 4/9/01

CLIENT:

Geocon Environmental

Lab Order:

050405

Project:

Thomas Short - E

Lab ID:

050405-001B

Client Sample ID: MW-4

Collection Date: 3/29/01 10:40:00 AM

Matrix: Water

Analyses		Result	Limit Qu	ial Units	DF	Date Analyzed
DIESEL RANGE ORGANICS BY GC/FID RuniD: GC7_010405B BatchiD: 3666		EPA	.8015B(M)		Analyst: AP PrepDate: 4/4/01	
Diesel		0.61	0.050	mg/L	1	4/5/01

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

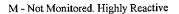
DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range







**CLIENT:** 

Geocon Environmental

Lab Order:

050405

Project:

Thomas Short - E

Lab ID:

050405-001C

Print Date: 4/9/01

Client Sample ID: MW-4

Collection Date: 3/29/01 10:40:00 AM

Matrix: Water

Analyses	Result	Limit Qu	ial Units	DF	Date Analyzed		
DISSOLVED METALS BY ICP RunID: ICP2_010405C Batc	hID: <b>3635</b>	EPA	6010B		Analyst: EFR PrepDate: 4/4/01		
Antimony	ND	0.0050	mg/L	1	4/5/01		
Arsenic	0.0094	0.0050	mg/L	1	4/5/01		
Barium	0.33	0.0010	mg/L	1	4/5/01		
Beryllium	ND	0.0010	mg/L	1	4/5/01		
Cadmium	ND	0.0030	mg/L	1	4/5/01		
Chromium	ND	0.0030	mg/L	1	4/5/01		
Cobalt	ND	0.0030	mg/L	1	4/5/01		
Copper	0.010	0.0030	mg/L	1	4/5/01		
Lead	ND	0.0050	mg/L	1	4/5/01		
Molybdenum	0.0060	0.0050	mg/L	1	4/5/01		
Nickel	0.0056	0.0030	mg/L	1	4/5/01		
Selenium	0.0058	0.0050	mg/L	1	4/5/01		
Silver	0.010	0.0010	mg/L	1	4/5/01		
Thallium	ND	0.0050	mg/L	1	4/5/01		
Vanadium	ND	0.0030	mg/L	1	4/5/01		
Zinc	0.020	0.010	mg/L	1	4/5/01		
MERCURY BY COLD VAPOR TECH	HNIQUE	EPA	7470A		Analyst: NS		
RunID: AA1_010405C Bate	hID: 3679				PrepDate: 4/5/01		
Mercury	ND	0.0040	mg/L	2	4/5/01		

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

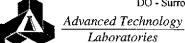
DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored. Highly Reactive





Print Date: 4/9/01

CLIENT:

Geocon Environmental

Lab Order:

050405

Project: Lab ID:

Thomas Short - E

050405-002A

Client Sample ID: MW-5

Collection Date: 3/29/01 10:55:00 AM

Matrix: Water

Analyses		Result	Limit Qı	ıal Units	DF	Date Analyzed
	GASOLINE RANGE ORGANICS BY GC/FID			8015B(M)		Analyst: JPC
RunID: GC6_010405A	BatchID:	1018G20W056				PrepDate:
GRO		2.7	0.20	mg/L	1	4/5/01
VOLATILE ORGANIC COMPOUNDS BY GC/PID			EPA	8020A		Analyst: JPC
RunID: GC6_010405A	BatchID:	I018G20W056				PrepDate:
Benzene		35	0.50	μg/L	1	4/5/01
Ethylbenzene		3.5	0.50	μg/L	1	4/5/01
m,p-Xylene		1.9	0.50	μg/L	1	4/5/01
MTBE		ND	0.50	μg/L	1	4/5/01
o-Xylene		1.3	0.50	μg/L	1	4/5/01
Toluene		1.1	0.50	μg/L	1	4/5/01
VOLATILE ORGANIC COMP	POUNDS BY	GC/MS	EPA	8260B		Analyst: DJK
RunID: MS2_010404A	BatchID:	Q01VOCW074				PrepDate:
Di-isopropyl ether		ND	5.0	μg/L	1	4/4/01
Ethyl tert-butyl ether		ND	5.0	μg/L	1	4/4/01
MTBE		ND	5.0	μg/L	1	4/4/01
Tert-amyl methyl ether		ND	5.0	μg/L	1	4/4/01
Tert-Butanol		ND	200	μg/L	1	4/4/01

Qualifiers:

ND - Not Detected at the Reporting Limit

H - Samples exceeding analytical holding time

S - Spike/Surrogate outside of limits due to matrix interference.

J - Analyte detected below quantitation limits B - Analyte detected in the associated Method Blank

E - Value above quantitation range



Print Date: 4/9/01

**CLIENT:** 

Geocon Environmental

Lab Order:

050405

Project:

Thomas Short - E

Lab ID:

050405-002A

Client Sample ID: MW-5

Collection Date: 3/29/01 10:55:00 AM

Matrix: Water

Analyses	Result	Limit Qu	al Units	DF	Date Analyzed
VOLATILE ORGANIC COMPO	UNDS BY GC/MS	EPA	8260B		Analyst: DJ
RunID: MS2_010404A	BatchID: Q01VOCW07				PrepDate:
1,1,1,2-Tetrachloroethane	ND	5.0	μg/L	1	4/4/01
1,1,1-Trichloroethane	ND	5.0	μg/L	1	4/4/01
1,1,2,2-Tetrachloroethane	ND	5.0	μg/L	1	4/4/01
1,1,2-Trichloroethane	ND	5.0	μg/L	1	4/4/01
1,1-Dichloroethane	ND	5.0	µg/L	1	4/4/01
1,1-Dichloroethene	ND	5.0	μg/L	1	4/4/01
1,1-Dichloropropene	ND	5.0	μg/L	1	4/4/01
1,2,3-Trichlorobenzene	ND	5.0	μg/L	1	4/4/01
1,2,3-Trichloropropane	ND	5.0	μg/L	1	4/4/01
1,2,4-Trichlorobenzene	ND	5.0	μg/L	1	4/4/01
1,2,4-Trimethylbenzene	ND	5.0	μg/L	1	4/4/01
1,2-Dibromo-3-chloropropane	ND	5.0	μg/L	1	4/4/01
1,2-Dibromoethane	ND	5.0	μg/L	. 1	4/4/01
1,2-Dichlorobenzene	ND	5.0	μg/L	1	4/4/01
1,2-Dichloroethane	ND	5.0	μg/L	1	4/4/01
1,2-Dichloropropane	ND	5.0	μg/L	1	4/4/01
1,3,5-Trimethylbenzene	ND	5.0	μg/L	1	4/4/01
1,3-Dichlorobenzene	ND	5.0	μg/L	1	4/4/01
1,3-Dichloropropane	ND	5.0	μg/L	1	4/4/01
1,4-Dichlorobenzene	ND	5.0	μg/L	1	4/4/01
2,2-Dichloropropane	NĎ	5.0	μg/L	1	4/4/01
2-Chlorotoluene	ND	5.0	μg/L	1	4/4/01
4-Chlorotoluene	ND	5.0	μg/L	1	4/4/01
4-Isopropyltoluene	ND	5.0	μg/L	1	4/4/01
Benzene	50	5.0	µg/L	1	4/4/01
Bromobenzene	ND	5.0	μg/L	1	4/4/01
Bromodichloromethane	ND	5.0	μg/L	1	4/4/01
Bromoform	ND	5.0	μg/L	1	4/4/01
Bromomethane	ND	5.0	μg/L	1	4/4/01
Carbon tetrachloride	ND	5.0	μg/L	1	4/4/01
Chlorobenzene	ND	5.0	μg/L	1	4/4/01
Chloroethane	ND	5.0	µg/L	1	4/4/01
Chloroform	ND	5.0	μg/L	1	4/4/01
Chloromethane	ND	5.0	μg/L	1	4/4/01
cis-1,2-Dichloroethene	ND	5.0	μg/L	1	4/4/01
Dibromochloromethane	ND	5.0	μg/L	1	4/4/01
Dibromomethane	ND	5.0	μg/L	1	4/4/01
Dichlorodifluoromethane	ND	5.0	μg/L	1	4/4/01

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Suπogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range





Print Date: 4/9/01

**CLIENT:** 

Geocon Environmental

Lab Order:

050405

Project: Lab ID: Thomas Short - E

050405-002A

Client Sample ID: MW-5

Collection Date: 3/29/01 10:55:00 AM

Matrix: Water

Analyses	 Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMP RunID: MS2_010404A	GC/MS Q01VOCW074		PA 82	60B		Analyst: DJK PrepDate:
Ethylbenzene	ND	5.0		μg/L	1	4/4/01
Hexachlorobutadiene	ND	5.0		μg/L	1	4/4/01
Isopropylbenzene	7.1	5.0		μg/L	1	4/4/01
m,p-Xylene	ND	5.0		μg/L	1	4/4/01
Methylene chloride	dИ	5.0		µg/L	1	4/4/01
n-Butylbenzene	ND	5.0		µg/L	1	4/4/01
n-Propylbenzene	11	5.0		μg/L	1	<b>4</b> /4/01
Naphthalen <del>e</del>	15	5.0		µg/L	1	4/4/01
o-Xylene	ND	5.0		μg/L	1	4/4/01
sec-Butylbenzene	ND	5.0		μg/L	1	4/4/01
Styrene	ND	5.0		μg/L	1	4/4/01
tert-Butylbenzene	14	5.0		μg/L	1	4/4/01
Tetrachloroethene	ND	5.0		μg/L	1	4/4/01
Toluene	ND	5.0		μg/L	1	4/4/01
trans-1,2-Dichloroethene	ND	5.0		μg/L	1	4/4/01
Trichloroethene	ND	5.0		μg/L	1	4/4/01
Trichlorofluoromethane	ND	5.0		μg/L	1	4/4/01
Vinyl chloride	ND	5.0		μg/L	1	4/4/01

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

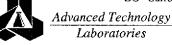
DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored. Highly Reactive





Print Date: 4/9/01

CLIENT:

Geocon Environmental

Lab Order:

050405

Project:

Thomas Short - E

Lab ID:

050405-002B

Client Sample ID: MW-5

Collection Date: 3/29/01 10:55:00 AM

Matrix: Water

Analyses		Result	Limit Qı	ıal Units	DF	Date Analyzed	
DIESEL RANGE ORGANICS RunID: GC7_010405B	BY GC/FID BatchID:	3666	EPA 8015B(M)			Analyst: AP PrepDate: 4/4/01	
Diesel		0.96	0.050	mg/L	1	4/5/01	

Qualifiers:

ND - Not Detected at the Reporting Limit

H - Samples exceeding analytical holding time

S - Spike/Surrogate outside of limits due to matrix interference.

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

E - Value above quantitation range

Initials:

DO - Surrogate Diluted Out





Print Date: 4/9/01

CLIENT:

Geocon Environmental

050405

Lab Order: Project:

Thomas Short -  $\boldsymbol{E}$ 

Lab ID:

050405-002C

Client Sample ID: MW-5

Collection Date: 3/29/01 10:55:00 AM

Matrix: Water

Analyses	Result	Limit Qu	nal Units	DF	Date Analyzed
DISSOLVED METALS BY ICP RuniD: ICP2_010405C Ba	tchID: <b>3635</b>	EPA	6010B		Analyst: <b>EFR</b> PrepDate: <b>4/4/01</b>
Antimony	ND	0.0050	mg/L	1	4/5/01
Arsenic	0.010	0.0050	mg/L	1	4/5/01
Barium	0.20	0.0010	mg/L	1	4/5/01
Beryllium	ND	0.0010	mg/L	1	4/5/01
Cadmium	ND	0.0030	mg/L	1	4/5/01
Chromium	ND	0.0030	mg/L	1	4/5/01
Cobalt	ND	0.0030	mg/L	1	4/5/01
Copper	0.010	0.0030	mg/L	1	4/5/01
Lead	ND	0.0050	mg/L	1	4/5/01
Molybdenum	ND	0.0050	mg/L	1	4/5/01
Nickel	0.0062	0.0030	mg/L	1	4/5/01
Selenium	DИ	0.0050	mg/L	1	4/5/01
Silver	0.0013	0.0010	mg/L	1	4/5/01
Thallium	ND	0.0050	mg/L	1	4/5/01
Vanadium	ND	0.0030	mg/L	1	4/5/01
Zinc	0.030	0.010	mg/L	1	4/5/01
MERCURY BY COLD VAPOR TE	CHNIQUE	EPA	7470A		Analyst: NS
	atchID: 3679				PrepDate: <b>4/5/01</b>
Mercury	ND	0.0040	mg/L	2	4/5/01

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored. Highly Reactive



11



Print Date: 4/9/01

CLIENT:

Geocon Environmental

Lab Order:

050405

Project:

Thomas Short - E

Lab ID:

050405-003A

Client Sample ID: MW-6

Collection Date: 3/29/01 11:10:00 AM

Matrix: Water

Analyses		Result	Limit Qua	l Units	DF	Date Analyzed
GASOLINE RANGE ORGANICS BY GC/FID  RunID: GC6 010405A BatchID: 1018G20W056			EPA 8	8015B(M)		Analyst: <b>JPC</b> PrepDate:
RunID: <b>GC6_010405A</b>	Batchib:	101862044036				riepbale.
GRO	•	0.26	0.20	mg/L	1	4/5/01
VOLATILE ORGANIC COMPOUNDS BY GC/PID		GC/PID	EPA 8	3020A		Analyst: JPC
RunID: GC6_010405A	BatchID:	I018G20W056				PrepDate:
Benzene		52	0.50	μg/L	1	4/5/01
Ethylbenzene		1.1	0.50	μg/L	1	4/5/01
m,p-Xylene		ND	0.50	μg/L	1	4/5/01
MTBE		ND	0.50	μg/L	1	4/5/01
o-Xylene		ND	0.50	μg/L	1	4/5/01
Toluene		0.62	0.50	µg/L	1	4/5/01
VOLATILE ORGANIC COMP	OUNDS BY	GC/MS	EPA :	3260B		Analyst: DJK
RunID: MS2_010404A	BatchID:	Q01VOCW074	ļ			PrepDate:
Di-isopropyl ether		ND	5.0	μg/L	1	4/4/01
Ethyl tert-butyl ether		ND	5.0	μg/ <b>L</b>	1	4/4/01
MTBE		ND	5.0	μg/L	1	4/4/01
Tert-amyl methyl ether		ND	5.0	μg/L	1	4/4/01
Tert-Butanol		ND	200	μg/L	1	4/4/01

Qualifiers:

ND - Not Detected at the Reporting Limit

H - Samples exceeding analytical holding time

J - Analyte detected below quantitation limits

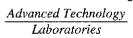
B - Analyte detected in the associated Method Blank

E - Value above quantitation range

S - Spike/Surrogate outside of limits due to matrix interference.

Initials:

DO - Surrogate Diluted Out



Print Date: 4/9/01

**CLIENT:** 

Geocon Environmental

050405

Lab Order:

Lab ID:

Project:

Thomas Short - E

050405-003A

Client Sample ID: MW-6

Collection Date: 3/29/01 11:10:00 AM

Matrix: Water

Analyses	Result	Limit Qı	ıal Units	DF	Date Analyzed
VOLATILE ORGANIC COMPOUND	OS BY GC/MS	EPA	8260B		Analyst: DJI
RuniD: MS2_010404A Bat	tchID: Q01VOCW0	74			PrepDate:
1,1,1,2-Tetrachloroethane	ND	5.0	μg/L	1	4/4/01
1,1,1-Trichloroethane	ND	5.0	μg/L	1	4/4/01
1,1,2,2-Tetrachloroethane	ND	5.0	μg/L	1	4/4/01
1,1,2-Trichloroethane	ND	5.0	μg/L	1	4/4/01
1,1-Dichloroethane	ND	5.0	μg/L	1	4/4/01
1,1-Dichloroethene	ND	5.0	μg/L	1	4/4/01
1,1-Dichloropropene	ND	5.0	μg/L	1	4/4/01
1,2,3-Trichlorobenzene	ND	5.0	µg/L	1	4/4/01
1,2,3-Trichloropropane	ND	5.0	μg/L	1	4/4/01
1,2,4-Trichlorobenzene	ND	5.0	μg/L	1	4/4/01
1,2,4-Trimethylbenzene	ND	5.0	μg/L	1	4/4/01
1,2-Dibromo-3-chloropropane	ND	5.0	μg/L	1	4/4/01
1,2-Dibromoethane	ND	5.0	μg/L	1	4/4/01
1,2-Dichlorobenzene	ND	5.0	μg/L	1	4/4/01
1,2-Dichloroethane	ND	5.0	μg/L	1	4/4/01
1,2-Dichloropropane	ND	5.0	μg/L	1	4/4/01
1,3,5-Trimethylbenzene	ND	5.0	μg/L	1	4/4/01
1,3-Dichlorobenzene	ND	5.0	μg/L	1	4/4/01
1,3-Dichloropropane	ND	5.0	μg/L	1	4/4/01
1,4-Dichlorobenzene	ND	5.0	μg/L	1	4/4/01
2,2-Dichloropropane	ND	5.0	μg/L	1	4/4/01
2-Chlorotoluene	ND	5.0	µg/L	1	4/4/01
4-Chlorotoluene	ND	5.0	μg/L	1	4/4/01
4-Isopropyltoluene	ND	5.0	μg/L	1	4/4/01
Benzene	35	5.0	μg/L	1	4/4/01
Bromobenzene	ND	5.0	μg/L	1	4/4/01
Bromodichloromethane	ND	5.0	μg/L	1	4/4/01
Bromoform	ND	5.0	µg/L	1	4/4/01
Bromomethane	ND	5.0	μg/L	1	4/4/01
Carbon tetrachloride	ND	5.0	μg/L	1	4/4/01
Chlorobenzene	ND	5.0	μg/L	1	4/4/01
Chloroethane	ND	5.0	μg/L	1	4/4/01
Chloroform	ND	5.0	μg/L	1	4/4/01
Chloromethane	ND	5.0	µg/L	1	4/4/01
cis-1,2-Dichloroethene	ND	5.0	μg/L	1	4/4/01
Dibromochloromethane	ND	5.0	μg/L	1	4/4/01
Dibromomethane	ND	5.0	µg/L	1	4/4/01
Dichlorodifluoromethane	ND	5.0	µg/L	1	4/4/01

Qualifiers:

ND - Not Detected at the Reporting Limit

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

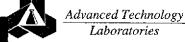
J - Analyte detected below quantitation limits

E - Value above quantitation range

B - Analyte detected in the associated Method Blank DO - Surrogate Diluted Out

13

Initials:



Print Date: 4/9/01

CLIENT:

Geocon Environmental

Lab Order:

050405

Project:

Thomas Short - E

Lab ID:

050405-003A

Client Sample ID: MW-6

Collection Date: 3/29/01 11:10:00 AM

Matrix: Water

Analyses		Result	Limit	Qual	Units	DF	Date Analyzed
VOLATILE ORGANIC COMPO Runid: MS2_010404A		GC/MS Q01VOCW074	EPA 826		60B		Analyst: DJK PrepDate:
Ethylbenzene		ND	5.0		μg/L	1	4/4/01
Hexachlorobutadiene		ND	5.0		μg/L	1	4/4/01
Isopropylbenzene		ND	5.0		µg/L	1	4/4/01
m,p-Xylene		ND	5.0		μg/L	1	4/4/01
Methylene chloride		ND	5.0		μg/L	1	4/4/01
n-Butylbenzene	,	ND	5.0		μg/L	1	4/4/01
n-Propylbenzene		ND	5.0		μg/L	1	4/4/01
Naphthalene		ND	5.0		μg/L	1	4/4/01
o-Xylene		ND	5.0		µg/L	1	4/4/01
sec-Butylbenzene		ND	5.0		μg/L	1 .	4/4/01
Styrene		ND	5.0		μg/L	1	4/4/01
tert-Butylbenzene		ND	5.0		μg/L	1	4/4/01
Tetrachloroethene		ND	5.0		μg/L	1	4/4/01
Toluene		ND	5.0		µg/L	1	4/4/01
trans-1,2-Dichloroethene		ND	5.0		μg/L	1	4/4/01
Trichloroethene		ND	5.0		μg/L	1	4/4/01
Trichlorofluoromethane		ND	5.0		μg/L	1	4/4/01
Vinyl chloride		ND	5.0		μg/L	1	4/4/01

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range

Initials:





Print Date: 4/9/01

**CLIENT:** 

Geocon Environmental

Lab Order:

050405

Project:

Thomas Short - E

Lab ID:

050405-003B

Client Sample ID: MW-6

Collection Date: 3/29/01 11:10:00 AM

Matrix: Water

Analyses		Result	lt Limit Qual Units DF Date An				
DIESEL RANGE ORGANICS RunID: GC7_010405B	S BY GC/FID BatchID: 3	3666	EPA	8015B(M)		Analyst: AP PrepDate: 4/4/01	
Diesel		0.42	0.050	mg/L	1	4/5/01	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

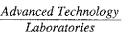
E - Value above quantitation range





M - Not Monitored. Highly Reactive

15



Print Date: 4/9/01

CLIENT:

Geocon Environmental

Lab Order:

050405

Project:

Thomas Short - E

Lab ID:

050405-003C

Client Sample ID: MW-6

Collection Date: 3/29/01 11:10:00 AM

Matrix: Water

Analyses	Result	Limit Qu	al Units	DF	Date Analyzed
DISSOLVED METALS BY ICP RunID: ICP2_010405C	BatchID: 3635	EPA 6010B			Analyst: EFR PrepDate: <b>4/4/01</b>
Antimony	ND	0.0050	mg/L	1	4/5/01
Arsenic	0.0091	0.0050	mg/L	1	4/5/01
Barium	0.11	0.0010	mg/L	1	4/5/01
Beryllium	ND	0.0010	mg/L	1	4/5/01
Cadmium	ND	0.0030	mg/L	1	4/5/01
Chromium	ND	0.0030	mg/L	1	4/5/01
Cobalt	0.0040	0.0030	mg/L	1	4/5/01
Copper	0.020	0.0030	mg/L	1	4/5/01
Lead	ND	0.0050	mg/L	1	4/5/01
Molybdenum	0.0054	0.0050	mg/L	1	4/5/01
Nickel	0.010	0.0030	mg/L	1	4/5/01
Selenium	ND	0.0050	mg/L	1	4/5/01
Silver	ND ND	0.0010	mg/L	1	4/5/01
Thallium	ND	0.0050	mg/L	1	4/5/01
Vanadium	ND	0.0030	mg/L	1	4/5/01
Zinc	0.37	0.010	mg/L	1	4/5/01
MERCURY BY COLD VAPOR RunID: AA1_010405C	TECHNIQUE BatchID: 3679	EPA	7470A		Analyst: <b>NS</b> PrepDate: <b>4/5/0</b> 1
Mercury	ND	0.0040	mg/L	2	4/5/01

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

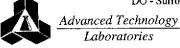
B - Analyte detected in the associated Method Blank

DO - Surrogate Diluted Out

S - Spike/Surrogate outside of limits due to matrix interference.

H - Samples exceeding analytical holding time

E - Value above quantitation range M - Not Monitored. Highly Reactive





Geocon Environmental

050405 Work Order:

CLIENT:

Thomas Short - E Project:

Date: 09-Apr-01

Method Blank

**QC SUMMARY REPORT** 

Sample ID MB-3635	Batch ID: 3635	Test Nam	e DISSOLVEI	METALS BY IC	P ·	Uni	ts.mg/L A	nalysis Date: 4/5	/01	Prep Date:	4/4/01
MBLK						SeqNo:	1162	53			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Antimoлу	ND	0.0050								*****	
Arsenic	ND	0.0050									J
Barium	ND	0.0010									
Beryllium	ND	0.0010									J
Cadmium	ND	0.0030									
Chromium	ND	0.0030									
Cobalt	ND	0.0030									
Copper	ND	0.0030									J
Lead	ND	0.0050									
Molybdenum	ND	0.0050									J
Nickel	ND	0.0030									J
Selenium	ND	0.0050									J
Silver	0.00105	0.0010									
Thallium	ND	0.0050									
Vanadium	ND	0.0030									
Zinc	ND	0.010									
Sample ID MB-3679	Batch ID: 3679	Test Nam	e MERCURY	BY COLD VAPOR	RTECHNIQU	JE Unit	smg/L A	nalysis Date: 4/5	/01	Prep Date:	4/5/01
MBLK						SeqNo:	1167	02			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.0020									

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

DO - Surrogate Diluted Out





Geocon Environmental

Work Order:

050405

Project:

Thomas Short - E

QC SUMMARY REPORT

Method Blank

Sample ID MB-3666	Batch ID: 3666	Test Nam	e DIESEL RA	NGE ORGANICS	BY GC/FID	Unit	smg/L A	nalysis Date: 4	/5/01	Prep Date:	4/4/01
MBLK						SeqNo:	1164	65			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	ND	0.050									
Sample ID 010405BLKW1	Batch ID: I018G20W056	Test Nam	e GASOLINE	RANGE ORGAN	IICS BY GC/F	ID Unit	smg/L A	nalysis Date: 4	1/5/01	Prep Date:	
MBLK						SeqNo:	1162	88			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	ND	0.20	<del>"</del>							· =	
Sample ID 010405BLKW1	Batch ID: I018G20W056	Test Nam	e VOLATILE	ORGANIC COM	POUNDS BY	GC/PID Unit	ts µg/L A	nalysis Date: 4	l/5/01	Prep Date:	
MBLK						SeqNo:	1162	75			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	ND	0.50			- <del></del>	•					
Ethylbenzene	ND	0.50									
m,p-Xylene	ND	0.50									
MTBE	ND	0.50									
o-Xylene	ND	0.50									
Toluene	ND	0.50									

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

DO - Surrogate Diluted Out





Geocon Environmental

Work Order:

050405

Project:

Thomas Short - E

QC SUMMARY REPORT

Method Blank

Sample ID 010404BLKW1	Batch ID: Q01VOCW074	Test Name	VOLATILE	ORGANIC COMP	OUNDS BY			nalysis Date: 4/4/	01	Prep Date:	
MBLK						SeqNo:	1157	30			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
1,1,1-Trichloroethane	ND	5.0									
1,1,2,2-Tetrachloroethane	ND	5.0									
1,1,2-Trichloroethane	ND	5.0									
1,1-Dichloroethane	ND	5.0									
1,1-Dichloroetheле	ND	5.0									
1,2-Dibromoethane	ND	5.0									
1,2-Dichlorobenzene	ND	5.0									
1,2-Dichloroethane	ND	5.0			·		•				
1,2-Dichloropropane	ND	5.0									
1,3-Dichlorobenzene	<b>N</b> D	5.0									
1,4-Dichlorobenzene	ND	5.0									
2-Chloroethyl vinyl ether	ND	5.0									
Велгепе	ND	5.0						•			
Bromodichloromethane	ND	5.0									
Bromoform	ND	5.0									
Bromomethane	ND	5.0									
Carbon tetrachloride	ND	5.0									
Chlorobenzene	ND	5.0									
Chloroethane	ND	5.0									
Chloroform	ND	5.0									
Chloromethane	ND	5.0			+						
cis-1,3-Dichloropropene	ND	5.0									
Di-isopropyl ether	ND	5.0									
Ethyl tert-butyl ether	ND	5.0									
Ethylbenzene	ND	5.0									
m,p-Xylene	ND	5.0									
Methylene chloride	ND	5.0									
MTBE	ND	5.0								÷	
Oualifiers: ND - Not Dete	ected at the Reporting Limit	R - Anai	vte detected in	the associated Metl	nod Blank	DO	) - Surrogate	Diluted Out	Init	ials:	

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

M - Not Monitored. Highly Reactive



Fax: 562 989-4040

CLIENT:	Geocon Environmental	OC SUMMARY REPORT
Work Order:	050405	Method Blank
Project:	Thomas Short - E	Wethou Blank

Project: Thomas Short -	·E		Method
o-Xylene	ND	5.0	
Tert-amyl methyl ether	ND	5.0	
Tert-Butanol	ND	200	
Tetrachloroethene	ND	5.0	
Toluene	ND	5.0	
trans-1,2-Dichloroethene	ND	5.0	
trans-1,3-Dichloropropene	ND	5.0	
Trichloroethene	ND	5.0	
Trichlorofluoromethane	ND	5.0	
Vinyl chloride	ND	5.0	

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

DO - Surrogate Diluted Out





Geocon Environmental

R - RPD outside accepted recovery limits

Work Order:

050405

Project:

Thomas Short - E

QC SUMMARY REPORT

Method Blank

•	D: Q01VOCW074	Test Nam	e VOLATILE ORGANIC COMP	OUNDS BY			Analysis Date: 4/4/	01	Prep Date:	
MBLK			•		SeqNo					•
Analyte	Result	PQL	SPK value SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
1,1,1,2-Tetrachloroethane	ND	5.0								
1,1,1-Trichloroethane	ND	5.0								
1,1,2,2-Tetrachloroethane	ND	5.0								
1,1,2-Trichloroethane	ND	5.0								
1,1-Dichloroethane	ND	5.0				•				
1,1-Dichloroethene	ND	5.0								
1,1-Dichloropropene	ND	5.0					•			
1,2,3-Trichlorobenzeле	ND	5.0								
1,2,3-Trichloropropane	ND	5.0								
1,2,4-Trichlorobenzeлe	ND	5.0								
1,2,4-Trimethylbeπzene	ND	5.0								
1,2-Dibromo-3-chloropropane	ND	5.0								
1,2-Dibromoethane	ND	5.0								
1,2-Dichlorobenzene	ND	5.0	•							
1,2-Dichloroethane	ND	5.0								
1,2-Dichloropropane	ND	5.0								
1,3,5-Trimethylbenzene	ND	5.0								
1,3-Dichlorobenzene	ND	5.0								
1,3-Dichloropropane	ND	5.0								
1,4-Dichlorobenzene	ND	5.0								
2,2-Dichloropropane	ND	5.0								
2-Chlorotoluene	ND	5.0								
4-Chlorotoluene	ND	5.0				•				
4-isopropyltoluene	ND	5.0								
Benzene	ND	5.0								
Bromobenzene	ND	5.0								
Bromodichloromethane	ND	5.0								
Bromoform	ND	5.0								
Qualifiers: ND - Not Detected at the J - Analyte detected below	• –		lyte detected in the associated Meth Monitored, Highly Reactive	od Blank	DC	- Surrogate I	Diluted Out	Initi	als:	

Fax: 562 989-4040



QC SUMMARY REPORT Geocon Environmental CLIENT: 050405 Work Order: Method Blank Thomas Short - E Project: ND 5.0 Bromomethane ND 5.0 Carbon tetrachloride ND 5.0 Chlorobenzene ND 5.0 Chloroethane 5.0 Chloroform ND ND 5.0 Chloromethane 5.0 ND cis-1,2-Dichloroethene ND 5.0 Dibromochloromethane ND 5.0 Dibromomethane ND 5.0 Dichlorodifluoromethane ND 5.0 Ethylbenzene 5.0 ND Hexachlorobutadiene ND 5.0 Isopropylbenzene ND 5.0 m,p-Xylene ND 5.0 Methylene chloride ND 5.0 n-Butylbenzene ND 5.0 n-Propylbenzene 5.0 ND Naphthalene 5.0 o-Xylene ND ND 5.0 sec-Butylbenzene ND 5.0 Styrene ND 5.0 tert-Butylbenzene ND 5.0 Tetrachloroethene ND 5.0 Toluene ND 5.0 trans-1,2-Dichloroethene ND 5.0 Trichloroethene ND 5.0 Trichlorofluoromethane Vinyl chloride ND 5.0 DO - Surrogate Diluted Out



ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

M - Not Monitored. Highly Reactive









Date: 09-Apr-01

CLIENT:

Geocon Environmental

Work Order:

050405

Project:

Thomas Short - E

QC SUMMARY REPORT

Sample Duplicate

Sample ID 050405-003CD	U Batch ID: 3635	Test Nam	e DISSOLVE	D METALS BY IC	P	Uni	ts.mg/L A	nalysis Date: 4/5/	01	Prep Date:	4/4/01
DUP						SeqNo:	1162	60			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Antimony	ND	0.0050	0	0	0	0	0	0	0	30	
Arsenic	0.00912	0.0050	0	0	0	0	0	0.00908	0	30	
Barium	0.12	0.0010	0	0	0	0	0	0.11	9	30	
Beryllium	0.00057	0.0010	0	0	0	0	0	0	200	30	JR
Cadmium	ND	0.0030	0	0	0	0	0	0	0	30	
Chromium	0.00229	0.0030	0	0	0	0	0	0.00124	59	30	JR
Cobalt	0.0046	0.0030	0	0	0	0	0	0.00398	14	30	
Copper	0.02	0.0030	0	0	0	0	0	0.02	0	30	
Lead	ND	0.0050	0	0 .	0	0	0	0	0	30	
Molybdenum	0.00574	0.0050	0	0	0	0	0	0.00545	5	30	
Nickel	0.01	0.0030	0	0	0	0	0	0.01	0	30	
Selenium	0.00441	0.0050	0	0	0	0	0	0.00367	18	30	J
Silver	0.00093	0.0010	0	0	0	0	0	0.00089	4	30	J
Thallium	0.0048	0.0050	0	0	0	0	0	0	200	30	JR
Vanadium	0.00177	0.0030	0	0	0	0	0	0.00145	20	30	J
Zinc	0.39	0.010	0	0	0	0	0	0.37	5	30	
Sample ID 050405-003C	Batch ID: 3679	Test Nam	e MERCURY	BY COLD VAPOI	R TECHNIQU	JE Uni	ts mg/L A	nalysis Date: 4/5/	01	Prep Date:	4/5/01
DUP						SeqNo:	1167	05			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Mercury	ND	0.0040	0	0	0	0	0	0	0	30	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

DO - Surrogate Diluted Out





Geocon Environmental

R - RPD outside accepted recovery limits

Work Order:

050405

Project:

Thomas Short - E

# QC SUMMARY REPORT

Sample Duplicate

Sample ID 050405-001B	Batch ID: 3666	Test Nam	e DIESEL RA	NGE ORGANIC	S BY GC/FID	Unit	smg/L A	nalysis Date: 4	/5/01	Prep Date:	4/4/01
DUP						SeqNo:	1164	76			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	0.7844	0.050	0	0	0	0,	O	0.6134	24	30	
Sample ID 050405-002A	Batch ID: <b>I018G20W056</b>	Test Nam	e GASOLINE	RANGE ORGAI	NICS BY GC/F	ID Unit	smg/L A	nalysis Date: 4	/5/01	Prep Date:	4
DUP						SeqNo:	11629	96			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	2.424	0.20	0	0	0	0	0	2.717	11	30	<u></u>
Sample ID 050405-002A	Batch ID: I018G20W056	Test Nam	e VOLATILE	ORGANIC COM	POUNDS BY	GC/PID Unit	ts µg/L A	nalysis Date: 4	1/5/01	Prep Date:	
DUP	•					SeqNo:	1162	83			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	33.91	0.50	0	0	0	0	0	34.95	3	30	
Ethylbenzene	3.052	0.50	0	0	0	0	0	3.504	14	30	
m,p-Xylene	1,766	0.50	0	0	0	0	0	1.949	10	30	
MTBE	ND	0.50	0	0	0	0	0	0	0	30	
o-Xylene	1.239	0.50	0	0	0	0	0	1.321	6	30	
Toluene	1.813	0.50	0	0	0	0	0	1.091	50	30	R
Sample ID 050405-001A	Batch ID: Q01VOCW074	Test Nam	e VOLATILE	ORGANIC COM	IPOUNDS BY	GC/MS Uni	tsµg/L A	nalysis Date: 4	1/4/01	Prep Date:	
DUP						SeqNo:	1157	32			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Di-isopropyl ether	ND	5.0	0	0	0	0	0	0	0	30	
Ethyl tert-butyl ether	ND	5.0	0	0	0	0	0	0	0		
MTBE	ND	5.0	0	0	0	0	0	0	0		
Tert-amyl methyl ether	ND	5.0	0	0	0	0	0	O	0		
Tert-Butanol	ND	200	0	0	0	0	0	0	0	30	
Oualifiers: ND - Not Det	tected at the Reporting Limit	B - Ana	lyte detected in	the associated Me	thod Blank	DO	- Surrogate	Diluted Out	Init	ials:	}
	etected below quantitation limits		Monitored. Hi							(-	8

3275 Walnut Avenue



CLIENT:

Geocon Environmental

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

Work Order:

050405

Project:

Thomas Short - E

QC SUMMARY REPORT

Sample Duplicate

9

Sample ID 050405-001A	Batch ID: Q01VOCW074	Test Nam	e VOLATILE	ORGANIC COMP	OUNDS BY	GC/MS Uni	ts µg/L A	nalysis Date: 4/4/0	1	Prep Date:	
DUP						SeqNo:	1157	19			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qu
1,1,1,2-Tetrachloroethane	ND	5.0	0	0	0	0	0	0	0	30	
1,1,1-Trichloroethane	ND	5.0	0	0	0	0	0	0	0	30	
1,1,2,2-Tetrachloroethane	ND	5.0	0	0	0	0	0	0	0	30	
1,1,2-Trichloroethane	ND	5.0	0	0	0	0	0	0	0	30	
1,1-Dichloroethane	ND	5.0	0	0	0	0	0	0	0	30	
1,1-Dichloroethene	ND	5.0	0	0	. 0	0	0	0	0	30	
1,1-Dichloropropene	ND	5.0	0	0	0	0	0	0	0	30	
1,2,3-Trichlorobenzene	ND	5.0	0	0	0	0	0	0	0	30	
1,2,3-Trichloropropane	ND	5.0	0	0	0	0	0	0	0	30	
1,2,4-Trichlorobenzene	ND	5.0	۵	0	, 0	0	0	0	0	30	
1,2,4-Trimethylbenzene	ND	5.0	0	0	0	0	0	0	0	30	
1,2-Dibromo-3-chloropropan	e <b>N</b> D	5.0	0	0	0	0	0	0	0	30	
1,2-Dibromoethane	ND	5.0	0	0	.0	0	0	0	0	30	
1,2-Dichlorobenzene	ND	5.0	0	0	0	0	0	0	0	30	
1,2-Dichloroethane	ND	5.0	0	0	0	0	0	0	0	30	
1,2-Dichloropropane	ND	5.0	0	0	0	0	0	0	0	30	
1,3,5-Trimethylbenzene	7.5	5.0	0	0	0	0	0	7.72	3	30	
1,3-Dichlorobenzene	ND	5.0	0	0	0	0	0	0	0	30	
1,3-Dichloropropane	ND	5.0	0	0	0	0	0	0	0	30	
1,4-Dichlorobenzene	ND	5.0	0	0	0	0	0	0	0	30	
2,2-Dichloropropane	ND	5.0	0	. 0	. 0	0	0	0	0	30	
2-Chlorotoluene	ND	5.0	0	0	0	0	0	0	Q	30	
4-Chlorotoluene	ND	5.0	0	0	0	0	0	0	0	30	
4-Isopropyltoluene	8.44	5.0	0	0	0	0	0	8.45	0	30	
Benzene	66.51	5.0	0	0	0	0	0	67.23	1	30	
Bromobenzene	ND	5.0	0	0	0	0	0	0	0	30	
Bromodichloromethane	ND	5.0	0	0	0	0	0	0	0	30	
Bromoform	ND	5.0	0	0	0	0	0	0	. 0	30	
Oualifiers: ND - Not Dete	ected at the Reporting Limit			the associated Meth	171 1	- PO	- Surrogate I	Diluted Out	Initi	. 🔊	

M - Not Monitored. Highly Reactive

Fax: 562 989-4040

R - RPD outside accepted recovery limits



CLIENT:	Geocon Environmen	ntal				•			QC SUM	IMARY	REPOR'
Work Order:	050405										ole Duplica
Project:	Thomas Short - E									Samp	не Бириса
Bromomethane		ND	5.0	0	0	0	0	0	0	0	30
Carbon tetrachlori	de	ND	5.0	0	0	. 0	0	0	0	0	30
Chlorobenzene		ND	5.0	0	0	0	0	0	0	0	30
Chloroethane		ND	5.0	0	0	0	0	0	0	0	30
Chloroform		ND	5.0	0	Q	0	0	0	0	0	30
Chloromethane		ND	5.0	0	0	0	0	0	0	0	30
cis-1,2-Dichloroetl	hene	ND	5.0	0	0	0	0	0	0	0	30
Dibromochlorome	thane	ND	5.0	0	0	0	0	0	0	0	30
Dibromomethane		ND	5.0	0	0	0	0	0	0	0	30
Dichlorodifluorome	ethane	ND	5.0	0	0	0	0	0 -	0	0	30
Ethylbenzene		182.2	5.0	0	0	0	0	0	188.5	3	. 30
-lexachlorobutadie	ene	ND	5.0	0	0	0	0	0	0	0	30
sopropylbenzene		170.8	5.0	0	0	Đ	0	0	175.2	3	30
n,p-Xylene		40.51	5.0	0	٥	0	0	0	40.87	1	30
Methylene chloride	Э	ND	5.0	0	0	0	0	0	0	0	30
ı-Butylbenzene		25.37	5.0	0	0	0	0	0	25.56	1	30
ı-Propylbenzene		272.5	5.0	0	0	0	0	0	282	3	30
Naphthalene		45.18	5.0	0	0	0	0	0	45.44	1	30
-Xylene		ND	5.0	0	. 0	0	0	0	0	0	30
sec-Butylbenzene		12.16	5.0	0	0	0	0	0 .	12.5	3	30
Styrene		ND	5.0	0	0	0	0	0	0	0	30
ert-Butylbenzene		20.73	5.0	0	0	0	0	0	21.42	3	30
Tetrachloroethene	!	ND	5.0	0	0	0	0	0	0	0	30
Foluene .		24.39	5.0	0	0	0	0	0	24.55	1	30
rans-1,2-Dichloro	ethene	ND	5.0	0	0	0	0	0	0	0	30
Frichloroethene		ND	5.0	0	0	0	0	0	0	0	30
Frichlorofluoromet	hane	ND	5.0	0	0	0	0	0	0	0	30
Vinyl chloride		ND	5.0	0	0	0	0	0	0	0	30
	) - Not Detected at the Report	_	B - Analyte d M - Not Mon	letected in the as:		Blank	DO - Su	rrogate Dilu	ited Out	Initials	·

Date: 09-Apr-01

CLIENT:

Geocon Environmental

Work Order:

050405

Project:

Thomas Short - E

**QC SUMMARY REPORT** 

Sample Matrix Spike

Sample ID 050405-003CMS Batch ID: 3638	5	Test Nam	ne DISSOLVE	D METALS BY IC	P	Uni	tsmg/L A	лаlysis Date: 4/5/	01	Prep Date:	4/4/01
MS						SeqNo:	1162	58			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	2,74	0.0050	2.5	0	110	69	116	0			
Arsenic	2.8	0.0050	2.5	0.00908	112	67	114	0			
Barium	2.45	0.0010	2.5	0.11	94	63	125	0			
Beryllium	2.44	0.0010	2.5	0	98	60	117	0			
Cadmium	2.4	0.0030	2.5	0	96	63	123	0			
Chromium	2.44	0.0030	2.5	0.00124	98	68	118	0			
Cobalt	2.58	0.0030	2.5	0.00398	103	68	118	0			
Copper	2.71	0.0030	2.5	0.02	108	72	123	0			
Lead	2.68	0.0050	2.5	0	107	66	118	0			
Molybdenum	2.64	0.0050	2.5	0.00545	105	65	111	0			
Nickel	2.55	0.0030	2.5	0.01	102	64	121	0			
Selenium	2.91	0.0050	2,5	0.00367	116	62	109	0			S
Silver	1.15	0.0010	2.5	0.00089	46	71	137	0			S
Thallium	2.74	0.0050	2.5	0	110	67	122	0			
Vanadium	2.6	0.0030	2.5	0.00145	104	69	118	0			
Zinc	2.6	0.010	2.5	0.37	89	65	112	0			

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

DO - Surrogate Diluted Out





Geocon Environmental

Work Order:

050405

Project:

Thomas Short - E

## QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Sample ID 050405-003CMS	Batch ID: 3635	Test Nam	e DISSOLVE	D METALS BY ICI	P	Unit	ts mg/L A	nalysis Date: 4/6	5/01	Prep Date: 4/4		
MSD						SeqNo:	1162	59				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Antimony	2.74	0.0050	2.5	0	110	69	116	2.74	0	20		
Arsenic	2.8	0.0050	2.5	0.00908	112	67	114	2.8	0	20		
Barium	2.46	0.0010	2.5	0.11	94	63	125	2.45	0	20		
Beryllium	2.43	0.0010	2.5	0	97	60	117	2.44	0	20		
Cadmium	2.4	0.0030	2.5	0	96	63	123	2.4	0	20		
Chromium	2.44	0.0030	2.5	0.00124	98	68	118	2.44	0	20		
Cobalt	2.57	0.0030	2.5	0.00398	103	68	118	2.58	0	20		
Copper	2.71	0.0030	2.5	0.02	108	72	123	2.71	0	20		
Lead	2.66	0.0050	2.5	0	106	66	118	2.68	1	20		
Molybdenum	2.64	0.0050	2.5	0.00545	105	65	111	2.64	0	20		
Nickel	2.55	0.0030	2.5	0.01	102	64	121	2.55	0	20		
Selenium	2.93	0.0050	2.5	0.00367	117	62	109	2.91	1	20	S	
Silver	0.79	0.0010	2.5	0.00089	32	71	137	1.15	37	20	SR	
Thallium	2.72	0.0050	2.5	0	109	67	122	2.74	1	20		
Vanadium	2.58	0.0030	2.5	0.00145	103	69	118	2.6	1	20		
Zinc	2.69	0.010	2.5	0.37	93	65	112	2.6	3	20		
Sample ID 050405-003C	Batch ID: <b>3679</b>	Test Nan	ne MERCURY	BY COLD VAPOR	RTECHNIQL	JE Unit	tsmg/L A	nalysis Date: 4/	5/01	Prep Date:	4/5/01	
MS						SeqNo:	1167	06				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury	0.01992	0.0040	0.02	0	100	69	144	0				
Sample ID 050405-003C	Batch ID: 3679	Test Nan	ne MERCURY	BY COLD VAPOR	R TECHNIQU	JE Uni	ts mg/L A	nalysis Date: 4/	5/01	Prep Date:	4/5/01	
MSD						SeqNo:	1167	07				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury	0.02037	0.0040	0.02	0	102	69	144	0.01992	2	20		
Qualifiers: ND - Not Dete	B - Analyte detected in the associated Method Blank M - Not Monitored, Highly Reactive				DO - Surrogate Diluted Out			Initi	Initials:			
R - RPD outsi	de accepted recovery limits	S - Spik	e/Surrogate out	tside of limits due to	matrix interfe	erence						

3275 Walnut Avenue



CLIENT:

Geocon Environmental

Work Order:

050405

Project:

Thomas Short - E

## QC SUMMARY REPORT

Sample Matrix Spike

Sample ID MB-3666	Batch ID: 3666	Test Name DIESEL RANGE ORGANICS BY GC/Fi			CS BY GC/FID	Uni	tsmg/L A	Analysis Date: 4/5/0	)1 Prep Date: 4/4/01		
MS						SeqNo:	1164	174			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	0.8022	0.050	1	0	80	50	150	0			
Sample ID MB-3666	Batch ID: 3666	Test Nam	e DIESEL RA	NGE ORGANIC	CS BY GC/FID	Uni	ts mg/L A	Analysis Date: 4/5/0	1	Prep Date:	4/4/01
MSD						SeqNo:	1164	175			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Diesel	0.8523	0.050	1	0	85	50	150	0.8022	6	40	
Sample ID 010405BLKW1	Batch ID: I018G20W056	Test Nam	e GASOLINE	RANGE ORGA	NICS BY GC/F	tD Uni	smg/L A	Analysis Date: 4/5/0	1	Prep Date:	
MS						SeqNo:	1162	289			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
GRO	0.931	0.20	1	0	93	50	119	0			-1/
Sample ID 010405BLKW1	Batch ID: I018G20W056	Test Nam	e GASOLINE	RANGE ORGA	NICS BY GC/F	ID Uni	s mg/L A	Analysis Date: 4/5/0	1	Prep Date:	
MSD						SeqNo:	1162	290			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Quai
GRO	0.945	0.20	1	0	95	50	119	0.931	1	20	
Sample ID 010405BLKW1	Batch ID: I018G20W056	Test Nam	e VOLATILE	ORGANIC CO	MPOUNDS BY	GC/PID Uni	tsµg/L. A	Analysis Date: 4/5/0	1	Prep Date:	
MS						SeqNo:	1162	276			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	4.694	0.50	5.5	0	85	60	136	0			
Toluene	24.61	0.50	30	. 0	82	61	128	0			
•	ected at the Reporting Limit		yte detected in	the associated Mo	ethod Blank	DO	- Surrogate l	Diluted Out	Initi	ials:	<u>}</u>

R - RPD outside accepted recovery limits



Geocon Environmental

Work Order:

050405

Project:

Thomas Short - E

QC SUMMARY REPORT

Sample Matrix Spike Duplicate

Sample ID 010405BLKW1	Batch ID: 1018G20W056	Test Nam	e VOLATILE	ORGANIC COMI	POUNDS BY	GC/PID Uni	ts µg/L A	inalysis Date: 4/5/	01	Prep Date:	
MSD						SeqNo:	1162	77			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
Benzene	4,828	0.50	5.5	0	88	60	136	4.694	3	18	
Toluene	25.72	0.50	30	0	86	61	128	24.61	4	22	
Sample ID 010404BLKW1	Batch ID: Q01VOCW074	Test Nam	e VOLATILE	ORGANIC COMI	POUNDS BY	GC/MS Uni	ts µg/L A	nalysis Date: 4/4/	01	Prep Date:	
MS						SeqNo:	1153	80			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	111.1	5.0	100	0	111	71	120	0		•	
Benzene	114.1	5.0	100	0	114	82	122	0			
Chlorobenzene	101.2	5.0	100	0	101	81	121	0			
Toluene	112.1	5.0	100	0	112	81	125	. 0			
Trichloroethene	113.3	5.0	100	0	113	80	123	0			
Sample ID 010404BLKW1	Batch ID: Q01VOCW074	Test Nam	e VOLATILE	ORGANIC COMI	POUNDS BY	GC/MS Uni	ts µg/L A	nalysis Date: 4/4/	01	Prep Date:	
MSD						SeqNo:	1153	81			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
1,1-Dichloroethene	97.13	5.0	100	0	97	71	120	111.1	13	21	
Benzene	102.7	5.0	100	0	103	82	122	114.1	11	19	
Chlorobenzene	92.3	5.0	100	0	92	81	121	101.2	9	18	
Toluene	99.46	5.0	100	0	99	81	125	112.1	12	20	
Trichloroethene	102.5	5.0	100	. 0	102	80	123	113.3	10	20	

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

DO - Surrogate Diluted Out





R - RPD outside accepted recovery limits

Geocon Environmental CLIENT:

050405 Work Order:

Thomas Short - E Project:

Date: 09-Apr-01

## QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID LCS-3635	Batch fD: 3635	Test Nam	e DISSOLVE	D METALS BY ICE	•	Uni	tsmg/L A	nalysis Date: 4/5/0	1	Prep Date:	4/4/01
LCS						SeqNo:	1162	54			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Antimony	. 1	0.0050	1	0	100	80	120	0			
Arsenic	1	0.0050	1	0.00271	100	80	120	0			
Barium	0.94	0.0010	1	0	94	80	120	0			
Beryllium	0.98	0.0010	1	0.00028	98	80	120	0			
Cadmium	1	0.0030	1	0	100	80	120	0			
Chromium	0.98	0.0030	1	0	98	80	120	0			
Cobalt	1	0.0030	1	0	100	80	120	0			
Copper	0.98	0.0030	1	0.00194	98	80	120	0			
Lead	1	0.0050	1	0	100	80	120	0			
Molybdenum	1	0.0050	1	0.00215	100	80	120	0			
Nickel	1.01	0.0030	1	0.00249	101	80	120	O			
Selenium	1	0.0050	1	0.00326	100	80	120	0			
Silver	1	0.0010	1	0.00105	100	80	120	0			
Thallium	0.98	0.0050	1	0	98	80	120	0			
Vanadium	1.01	0.0030	1	0	101	80	120	0			
Zinc	0.96	0.010	1	0 -	96	80	120	0			
Sample ID LCS-3679	Batch ID: <b>3679</b>	Test Nam	e MERCURY	BY COLD VAPOR	TECHNIQU	JE Uni	tsmg/L A	nalysis Date: 4/5/0	1	Prep Date:	4/5/01
LCS						SeqNo:	1167	01			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.02537	0.0020	0.025	0	101	80	120	0			
-	etected at the Reporting Limit		-	the associated Metho	d Blank	DO	- Surrogate I	Diluted Out	Initi	als:	
	detected below quantitation limits		Monitored, Hig	ghly Reactive side of limits due to	matriv interfe	rence					15



Geocon Environmental

Work Order:

050405

Project:

Thomas Short - E

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID LCS-3666	Batch ID: 3666	Test Nam	e DIESEL RA	NGE ORGANICS	BY GC/FID	Uni	tsmg/L/	Analysis Date: 4/5	/01	Prep Date: 4/4/01		
LCS						SeqNo:	1164	173				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua	
Diesel	0.7642	0.050	1	0	76	60	140	0				
Sample ID 010405LCSW1	Batch ID: <b>I018G20W056</b>	Test Nam	e GASOLINE	RANGE ORGAN	IICS BY GC/F	ID Uni	tsmg/L./	Analysis Date: 4/5	/01	Prep Date:		
LCS						SeqNo:	1163	000				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua	
GRO	0.83	0.20	1	0	83	64	107	0				
Sample ID 010405LCSW1	Batch ID: <b>I018G20W056</b>	Test Nam	e VOLATILE	ORGANIC COM	OUNDS BY	GC/PID Uni	tsµg/L /	Analysis Date: 4/5	/01	Prep Date:		
LCS						SeqNo:	1162	87				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua	
Benzene	4.332	0.50	5.5	0	79	58	131	0				
Ethylbenzene	6.955	0.50	8.6	0	81	58	131	0				
m,p-Xylene	28.28	0.50	35	0	81	58	131	0				
МТВЕ	72.76	0.50	101	0	72	58	131	0				
o-Xylene	10.23	0.50	12	0	85	58	131	0				
Toluene	23.4	0.50	30	0	78	58	131	0				

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

DO - Surrogate Diluted Out





Geocon Environmental

Work Order:

050405

Project:

Thomas Short - E

QC SUMMARY REPORT

Laboratory Control Spike - generic

Sample ID 010404LCSW1	Batch ID: Q01VOCW074	Test Nam	ne VOLATILE	ORGANIC COMP	OUNDS BY	GC/MS Uni	tsµg/L A	nalysis Date: 4/4/01	Γ	Prep Date:	
LCS						SeqNo:	1153	79			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qua
1,1,1-Trichloroethane	115.4	5.0	100	0	115	30	150	0			
1,1,2,2-Tetrachloroethane	90.14	5.0	100	0	90	30	150	0			
1,1,2-Trichloroethane	123.1	5.0	100	0	123	30	150	0			
1,1-Dichloroethane	115.8	5.0	100	0	116	30	150	0			
1,1-Dichloroethene	117.3	5.0	100	0	117	30	150	0			
1,2-Dichlorobenzene	87.61	5.0	100	0	88	30	150	0			
1,2-Dichloroethane	128.2	5,0	100	0	128	30	150	0			
1,2-Dichloropropane	117.4	5.0	100	0	117	30	150	0			
1,3-Dichlorobenzene	86.84	5.0	100	0	87	30	150	0			
1,3-Dichloropropane	107.7	5.0	100	0	108	30	150	0			
1,4-Dichlorobenzene	89.14	5.0	100	0	89	30	150	0			
2-Chlorotoluene	89.67	5.0	100	0	90	30	150	0			
Benzene	122	5.0	100	0	122	30	150	0			
Bromodichloromethane	118.2	5.0	100	0	118	30	150	0			
Bromoform	117.5	5.0	100	0	118	30	150	0			
Bromomethane	108.4	5.0	100	0	108	30	150	0			
Carbon tetrachloride	113	5.0	100	0	113	30	150	0			
Chlorobenzene	109.9	5.0	100	0	110	30	150	0			
Chloroethane	119.9	5.0	100	0	120	30	150	0			
Chloroform	118.9	5.0	100	0	119	30	150	0			
Chloromethane	120.3	5.0	100	0	120	30	150	0			
Dibromomethane	128.6	5.0	100	0	129	30	150	0			
Dichlorodifluoromethane	130.2	5.0	100	0	130	30	150	0			
Ethylbenzene	107.4	5.0	100	σ	107	30	150	0			
m,p-Xylene	220.1	5.0	200	0	110	30	150	0			
Methylene chloride	116	5.0	100	0	116	30	150	0			
o-Xylene	108.9	5.0	100	0	109	30	150	0			
Tetrachloroethene	110.8	5.0	100	0	111	30	150	0			

Qualifiers:

ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

R - RPD outside accepted recovery limits

B - Analyte detected in the associated Method Blank

M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

DO - Surrogate Diluted Out





CLIENT:	Geocon Environmenta	ıl	QC SUMMARY REPORT						
Work Order:	050405								Laboratory Control Spike - generic
Project:	Thomas Short - E								Emocration Services Space Beautiful
Toluene		118.6	5.0	100	0	119	30	150	0
trans-1,2-Dichloroe	ethene	112.9	5.0	100	0	113	30	150	0
Trichloroethene		123.8	5.0	100	0	124	30	150	0
Trichlorofluoromet	hane	123.3	5.0	100	0	123	30	150	0
Vinyl chloride		114.6	5.0	100	0	115	30	150	0

Qualifiers: ND - Not Detected at the Reporting Limit

J - Analyte detected below quantitation limits

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M - Not Monitored. Highly Reactive

S - Spike/Surrogate outside of limits due to matrix interference

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