GROUNDWATER TECHNOLOGY ®

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Jan 1995

WORK PLAN FOR FURTHER SITE ASSESSMENT
GMC TRUCK CENTER
8099 SOUTH COLISEUM WAY
OAKLAND, CALIFORNIA

GTI Project 042020136

January 26, 1995

Prepared for:
Mr. G. Keith West
General Motors Corporation
Argonaut "A" - 1004H
485 W. Milwaukee Avenue
Detroit, MI 48202

Groundwater Technology, Inc.
Submitted by:

Christopher P. DeSocio
Project Manager

Groundwater Technology, Inc.
Approved by:

Julie S. Menack
Senior Hydrogeologist
No. 1838

CERTIFIED ENGINEERING GEOLOGIST
JULIE S. MENACK
No. 1838
12/95
STATE OF CALIFORNIA

For:
Frank Gorry
Vice President, General Manager
National Industrial Division

0136W015.202

CONTENTS

Figures

Appendixes

1.0 INTRODUCTION

Groundwater Technology, Inc. has prepared this Work Plan for Further Site Assessment to investigate subsurface soil and groundwater conditions at the GMC Truck Center, located at 8099 South Coliseum Way, Oakland, California (figure 1).

2.0 BACKGROUND

In July 1993, a Phase I-II environmental assessment was initiated at the GMC Truck Center. The purpose of that assessment was to determine whether soil and groundwater contamination was present at the subject property. During this assessment, five soil borings were drilled at the site: four adjacent to existing CalTrans underground storage tanks (UST) and one in the west corner of the site. The Phase I-II assessment was documented in an assessment report dated August 6, 1993, by Clayton Environmental Consultants. The results of that report concluded that hydrocarbon contamination was present at the site in areas adjacent to the USTs located on CalTrans property and in an area at the far west corner where engine blocks were formerly stored (figure 2). Results of laboratory analyses from soil and groundwater samples collected in both areas are provided in appendix A.

On August 5, 1993, General Motors Corporation (GM) removed the four USTs south of the main building. The tanks included: a 2,000 gallon diesel fuel tank, a 2,000 gallon gasoline tank, a 1,000 gallon oil storage tank, and a 1,000 gallon used oil tank. Soil samples were collected from beneath the tanks after removal (figure 3), analyzed as required by the Alameda County Health Care Services Agency (ACHCSA), and the tanks were manifested and disposed at a licensed disposal facility. Analytical results from soil samples collected from under the tanks and pump islands indicated detectable concentrations of hydrocarbons (laboratory results-appendix B).

On August 10, 1993, GM filed an Underground Storage Tank Unauthorized Release (Leak)/Contamination Site Report with ACHCSA. This report indicated that the source of the fugitive hydrocarbons was corrosion to piping and overfilling the tanks.

Soils excavated from the tank pits were stockpiled on site (figure 3) and sampled for disposal. Results of these analyses indicated detectable concentrations of hydrocarbons (laboratory results-appendix B). Soils from the excavations were subsequently manifested and hauled on October 7, 1993, to a licensed facility for disposal.

Following closure of the Permit to Operate the former USTs on site (figure 3), additional soil borings were drilled in the area adjacent to the former tank locations on September 9, 10, and 15, 1993 (figures 4 and 5). Selected soil and groundwater samples were collected from the bore holes and submitted for laboratory analysis. The results of the analyses from this work was reported to the ACHCSA in a November 2, 1993, letter from Mr. G. Keith West of General Motors to Mr. Barney M. Chan, Hazardous Materials Specialist, ACHCSA. Copies of laboratory results of analyses from these samples are included in appendix C.

3.0 SCOPE OF WORK

The purpose of this work plan is to outline additional work to be completed to determine the horizontal and vertical impact of fugitive hydrocarbons at the site. The primary focus of the work will be contamination from USTs formerly located on the south side of the main building and on the western corner of the property, as described above. The contamination previously detected in July 1993 in the area of the former CalTrans USTs, as described in the background section above, is not part of this investigation. Additional assessment work addressing contamination from the CalTrans USTs will be completed as a separate scope of work by others. The scope of work in this work plan is a comprehensive approach including:

- preparation of site health and safety plan, background review, and permitting
- soil coring for further delineation of the extent of hydrocarbon-impacted soils and groundwater
- drilling and monitoring well installation
- well development, surveying, and groundwater monitoring
- well purging, water sampling, and analyses
- aquifer testing
- baseline risk assessment
- project reporting,including a remediation feasibility study

A discussion of these tasks follows.

3.1 Site-Specific Health and Safety Plan, Background Review, and Permitting

A site-specific *Health and Safety Plan* has been prepared by Groundwater Technology as required by the Occupational Health and Safety Administration Standard "Hazardous Waste Operations and Emergency Response" guidelines (29 CFR 1910.120). The *Health and Safety Plan* will be reviewed and signed by Groundwater Technology personnel and subcontractors performing work at the site before field operations begin.

Groundwater Technology will review historical site information. This information will consist of reports and additional historical data provided by General Motors Corporation. Soil boring and monitoring well drilling permit applications will be completed and submitted to the Zone 7 Alameda County Flood Control and Water Conservation District (Zone 7).

3.2 Site Investigation

The investigation to be completed under the scope of work described in this work plan will be done using a phased approach. The purpose of this phased approach to the site work is three fold: first to efficiently define the extent of hydrocarbon contamination, second to provide data for locating and installing monitoring wells, and third to ultimately provide information necessary for development of a baseline risk assessment and discussion of potential remedial alternatives for the site. In each case previously collected data and any data available from this work scope will be used during each phase of the project.

Soil coring for the first phase of work is the most efficient method of defining both soil and groundwater conditions with a minimum of effort and generating a minimum of material requiring disposal. The initial day of coring will provide data that expands on existing information while attempting to define the limits of hydrocarbon contamination in both soil and groundwater. A second day of soil coring, if necessary, will focus on collecting any additional data needed to complete characterization of soil and groundwater conditions and to select locations for monitoring wells. In addition, two soil samples will be collected during soil coring for the purpose of performing physical soil testing to assist in development of the baseline risk assessment and the remediation feasibility study.

The drilling and monitoring well installation will include three 4-inch diameter monitoring wells and three 2-inch piezometers. The locations selected for the monitoring wells will be chosen to provide repeatable groundwater monitoring data to monitor both the groundwater flow direction and extent of chemicals. Piezometers will be installed for the purpose of measuring the effect of pumping on

the aquifer during a planned aquifer pump test. The location for installation of the piezometers will be such that the appropriate hydraulic data can be collected during the pump test.

Well development, surveying, and groundwater monitoring will be completed following installation of groundwater monitoring wells and piezometers. Development of the wells and piezometers will remove as much residual sediment from the drilling process as possible and maximize communication between the wells and surrounding water bearing zone. Surveying of the top of the well and piezometer casings will provide accurate elevations for site groundwater monitoring. Groundwater monitoring conducted under this scope of work will provide groundwater elevations for the purpose of determining groundwater flow direction and gradient across the site.

Well purging, water sampling, and analyses will be done in accordance with the Leaking Underground Fuel Tank (LUFT) field manual, dated October 1989, published by the State of California Leaking Underground Fuel Tank Task Force. Groundwater samples will be analyzed by a California-certified laboratory.

An aquifer test will be completed at the site, following groundwater monitoring and sampling, in order to provide data for hydraulic characterization. The primary purpose for the data collected during the aquifer test will to serve as baseline information for modelling the subsurface under pumping conditions, if it is determined to be necessary in the evaluation of potential remedial alternatives.

Following completion of the above described tasks, a baseline risk assessment will be done for the site. This risk assessment will present potential environmental/health risk based clean up levels for the site while qualitatively categorizing and comparing site contamination levels to existing local background conditions.

3.2.1 Soil Coring

Groundwater Technology will supervise soil coring using hydraulically-driven soil coring systems to obtain soil and groundwater samples. The 17 soil core locations shown on figure 6 will be completed during the first day of work. These locations were selected based on previously available data. If the extent of impacted soil and groundwater is not determined during this initial day of soil coring a second day will be completed to fill any data gaps that might exist.

Soil coring rods will be driven into the ground by use of hydraulic hammer, vibrators, or pushed by hydraulic ram. This coring procedure will provide a continuous soil core at each coring location. In addition, the coring procedure used will allow collection of grab groundwater samples to define the extent of the hydrocarbon plume. In general, soil cores will be advanced to slightly below first

encountered water (approximately from 5 to 10 feet in depth) or to where field screening indicates that the probable vertical extent has been reached. During the soil coring and sampling procedure, all equipment will be decontaminated to avoid any potential cross contamination of samples. Each soil sample will be screened for hydrocarbon vapors using a photo-ionization detector (PID). The soil samples will be logged using the Unified Soil Classification System by a Groundwater Technology field geologist working under the supervision of a California-registered geologist. One sample from every 5-foot interval will be sealed with aluminum foil, capped with plastic caps, taped, labeled, and placed on ice in an insulated container. Soil and groundwater samples selected for analysis will be transported to a California-certified laboratory under chain-of-custody protocol. Soil and groundwater samples will be analyzed by EPA Methods 5030/8015/8020 (TPH as gasoline [TPH-g]), benzene, toluene, ethylbenzene, and xylene (BTEX), Hydrocarbon Screen by GC/FID for hydrocarbon compounds in ranges for diesel fuel through motor oil.

Soil samples from two distinct lithological units will also be collected for physical testing. These samples will be analyzed for the following physical parameters:

- dry and effective permeability to air
- total porosity
- volumetric moisture content
- bulk density
- grain density
- partial size distribution
- organic carbon content
- vertical hydraulic conductivity

The information obtained from these analyses will be used to assist in development of the baseline risk assessment and the preparation of the remediation feasibility study.

3.2.2 Drilling and Monitoring Well Installation

Three 4-inch-diameter groundwater monitoring wells and three 2-inch piezometers will be installed. Monitoring well locations will be determined following the receipt of laboratory analyses of samples

collected during the soil coring work (see section 3.2.1). Piezometer installation will be done for the purpose of data collection during an aquifer pump test (see section 3.2.5 description). Drilling and installation of monitoring wells and piezometers will be completed with a truck-mounted drilling rig equipped with hollow-stem augers. The soil borings for the monitoring wells and piezometers will be drilled to approximately 15 to 25 feet below surface grade (bsg). The water table is expected to be encountered at approximately 5 to 10 feet bsg.

The soil borings will be drilled using a 5-feet long continuous core barrel with soil samples collected at 5-foot intervals and notable lithologic changes. Each soil sample will be screened for hydrocarbon vapors using a photo-ionization detector (PID). The soil samples will be logged using the Unified Soil Classification System by a Groundwater Technology field geologist working under the supervision of a California-registered geologist. Samples collected for analysis will be sealed with aluminum foil, capped with plastic caps, taped, labeled, and placed on ice in an insulated container. Groundwater Technology Standard Operating Procedures (SOPs) are included in appendix D.

One soil sample from each soil boring exhibiting the highest hydrocarbon vapor concentration readings with the PID will be chosen for chemical analyses. The soil samples will be analyzed by a California-certified laboratory using EPA Methods 5030/8015/8020 (TPH as gasoline [TPH-g]), benzene, toluene, ethylbenzene, and xylene (BTEX), Hydrocarbon Screen by GC/FID for hydrocarbon compounds in ranges for diesel fuel through motor oil.

The monitoring wells will be constructed of 4-inch-diameter Schedule 40 polyvinyl-chloride (PVC) casing with flush threads and 0.020-inch-slot well screen. The well screen for monitoring wells will be installed approximately 5 feet above and 10 feet below the water table to permit entry of separate-phase hydrocarbons, if present, and to allow for seasonal fluctuation of the water table. A sand filter will be placed around the well screen to a maximum height of 2 feet above the top of the screen. The well will be sealed to grade with 1 foot of bentonite followed by a neat-cement grout containing 95 pounds Portland Type I/II cement to 5 gallons of clean water. The wellhead will be protected by a watertight locking cap and a road box. A typical groundwater monitoring well construction diagram is presented in appendix E. The three piezometers will be constructed by the same typical parameters, except that they will be constructed of 2-inch PVC screen and casing.

If an aquitard greater than 5 feet thick is observed below the water table in the permanent monitoring well borings, the borings will be sealed to the top of the aquitard with neat cement using a tremie pipe before setting the monitoring well.

Equipment used during all drilling and soil sampling work will be decontaminated prior to beginning work on site and following completion of each monitoring well installation. Decontamination of drilling tools will be done using a steam cleaner. Soil and water generated through drilling activities will be placed in 55-gallon barrels and sealed. Samples from the drill cuttings and decontaminated water will be analyzed for characterization prior to disposal. After characterization, the soil will be transported to a licensed disposal facility by a licensed transportation company, decontaminated water will be recycled at a California licensed facility.

3.2.3 Well Development, Surveying, and Groundwater Monitoring

Approximately 48 hours after installation, the permanent monitoring wells will be developed by the surge and bail/pump method to remove fine-grained sediments from the well and filter pack. Water from the development process will be stored on site in water tight containers, analyzed for characterization and disposal at a California licensed recycling facility.

Approximately three days after development of the monitoring wells, the water table will be monitored to measure static groundwater levels and the thickness of separate-phase hydrocarbons, if present. The water-table levels will be measured using an ORS Environmental Equipment INTERFACE PROBE™ Well Monitoring System, which consists of a dual optical sensor and electrical conductivity probe that distinguishes between water and petroleum products. The top of the casing of the well installed during the assessment will be surveyed to mean sea level relative to an established benchmark by a licensed surveyor. The survey data will be used with the depth-to-water measurements to calculate water elevation in the site monitoring wells and to estimate the local groundwater flow direction and gradient.

3.2.4 Well Purging, Water Sampling, and Analyses

After groundwater monitoring, a minimum of 4 well-casing volumes of water will be removed from the well before sampling. The field technician will maintain a log that includes observations and measurements of pH, temperature, and conductivity values for the water purged. Groundwater Technology personnel will collect groundwater samples from the newly installed monitoring wells. The water samples will be analyzed using EPA Methods 5030/8015/8020 (TPH as gasoline [TPH-g]), benzene, toluene, ethylbenzene, and xylene (BTEX), Hydrocarbon Screen by GC/FID for hydrocarbon compounds ranges for diesel fuel through motor oil. The groundwater monitoring and sampling activities will be conducted according to Groundwater Technology's SOPs (appendix D). Purge water from the monitoring well sampling will be stored on site in water tight containers, analyzed for characterization and disposal at a California licensed recycling facility.

3.2.5 Aquifer Testing

Groundwater Technology will perform a pump test to determine the hydraulic properties of the water bearing zone at the site. The test will be conducted by imposing stress upon the aquifer over a period of at least 24 hours and recording groundwater fluctuations. Groundwater will be pumped from one of the monitoring wells installed during this investigation and groundwater elevation data will be collected by use of a data logger and pressure transducer probes placed in the three piezometers on site (see section 3.2.2 for installation details). Following collection of data and identification of baseline conditions a series of pumping simulations will be completed to further evaluate groundwater flow conditions at the site under continuous pumping conditions. Information from these simulations will be used in the remediation feasibility analysis and baseline risk assessment.

3.2.6 Baseline Risk Assessment

To assist in defining potential cleanup levels for the site Groundwater Technology will complete a baseline risk assessment. This assessment will include a site evaluation and site characterization in order to provide basic information for determining if there has been a release of a hazardous substance that presents a risk to human health or the environment. Specific objectives will include:

- determination that a release of hazardous substances has occurred and the delineation of the general extent of the affected soil and groundwater
- an estimation of the potential threat to human health and the environment and an indication of relative risk
- determination of the need for expedited response to reduce an existing or potential threat to public health or the environment
- completion of preliminary project approaches to determine data gaps and identify potential remedial strategies
- an assessment of the informational needs of the community

The risk assessment will present the activities completed and methodologies used during the evaluation and will make appropriate comparisons to screening criteria.

3.3 Report Preparation

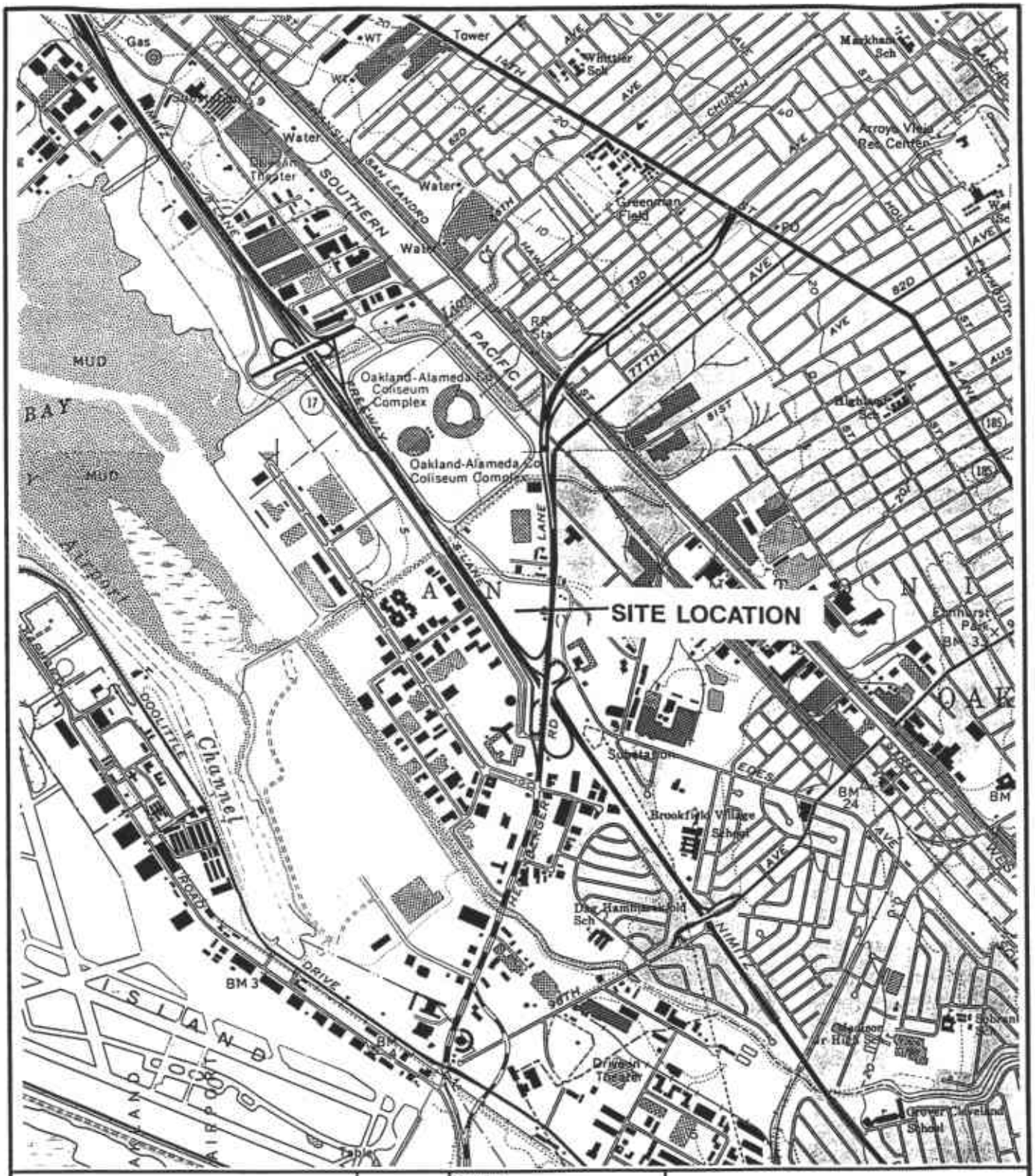
Groundwater Technology will prepare a report summarizing the tasks completed under this work plan and the associated data collected . The report will include descriptions of methods used, laboratory results, site-specific maps for groundwater gradient and contaminant concentrations, results of the baseline risk assessment, and a site remediation feasibility study.

4.0 PROJECT SCHEDULE

Groundwater Technology is prepared to begin work on this project immediately after approval by the Alameda County Health Care Services Agency and Zone 7. A proposed project schedule is included in appendix F.

FIGURES

1. Site Location Map
2. Clayton Environmental Consultants - Borehole Location Map - Phase I-II assessment; August 6, 1993
3. Clayton Environmental Consultants - Soil Sample Location Map - Tank Removals; August 5, 1993
4. Clayton Environmental Consultants - Soil Boring Location Map - UST Additional Assessment; September 9, 10, and 15, 1993
5. Clayton Environmental Consultants - Soil Boring Location Map - UST Additional Assessment; September 9, 10, and 15, 1993
6. Proposed monitoring well locations



GROUNDWATER TECHNOLOGY

SOURCE: U.S.G.S. 7.5' QUAD SHEET
SAN LEANDRO, CALIFORNIA
PHOTOREVISED 1980

N

SCALE: 0 FEET 2000

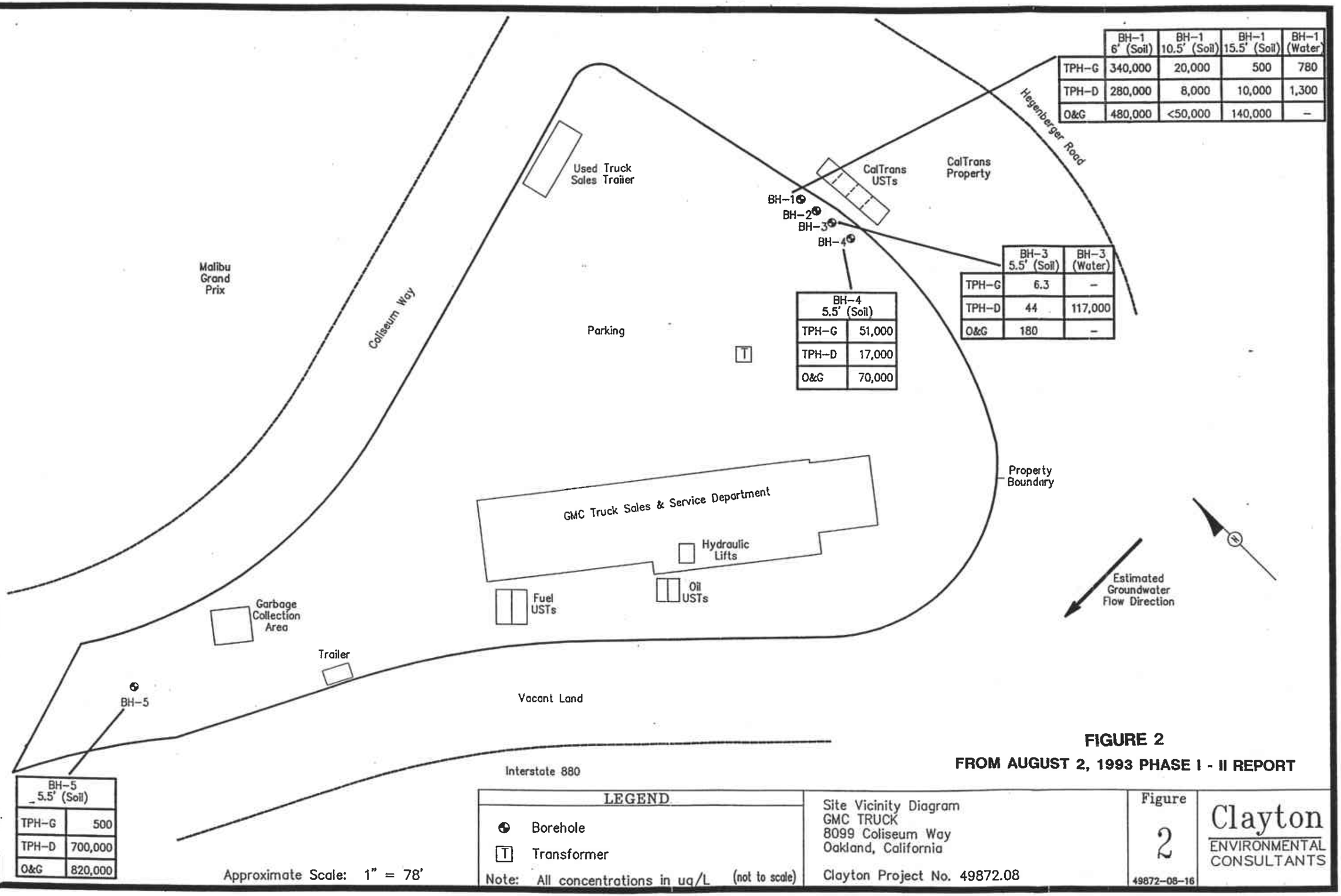
SITE LOCATION MAP

CLIENT: GMC TRUCK CENTER

DATE: 1/5/95

LOCATION: 8099 COLISEUM WAY
OAKLAND, CALIFORNIA

FIGURE: 1



	BH-1 6' (Soil)	BH-1 10.5' (Soil)	BH-1 15.5' (Soil)	BH-1 (Water)
TPH-G	340,000	20,000	500	780
TPH-D	280,000	8,000	10,000	1,300
O&G	480,000	<50,000	140,000	–

	BH-3 5.5' (Soil)	BH-3 (Water)
TPH-G	6.3	–
TPH-D	44	117,000
O&G	180	–

BH-4 5.5' (Soil)	
TPH-G	51,000
TPH-D	17,000
O&G	70,000

BH-5 5.5' (Soil)	
TPH-G	500
TPH-D	700,000
O&G	820,000

Approximate Scale: 1" = 78'

FIGURE 2

FROM AUGUST 2, 1993 PHASE I - II REPORT

LEGEND

- Borehole
- T Transformer

Note: All concentrations in ug/L (not to scale)

Site Vicinity Diagram
GMC TRUCK
8099 Coliseum Way
Oakland, California

Clayton Project No. 49872.08

Figure 2

49872-08-16

Clayton ENVIRONMENTAL CONSULTANTS

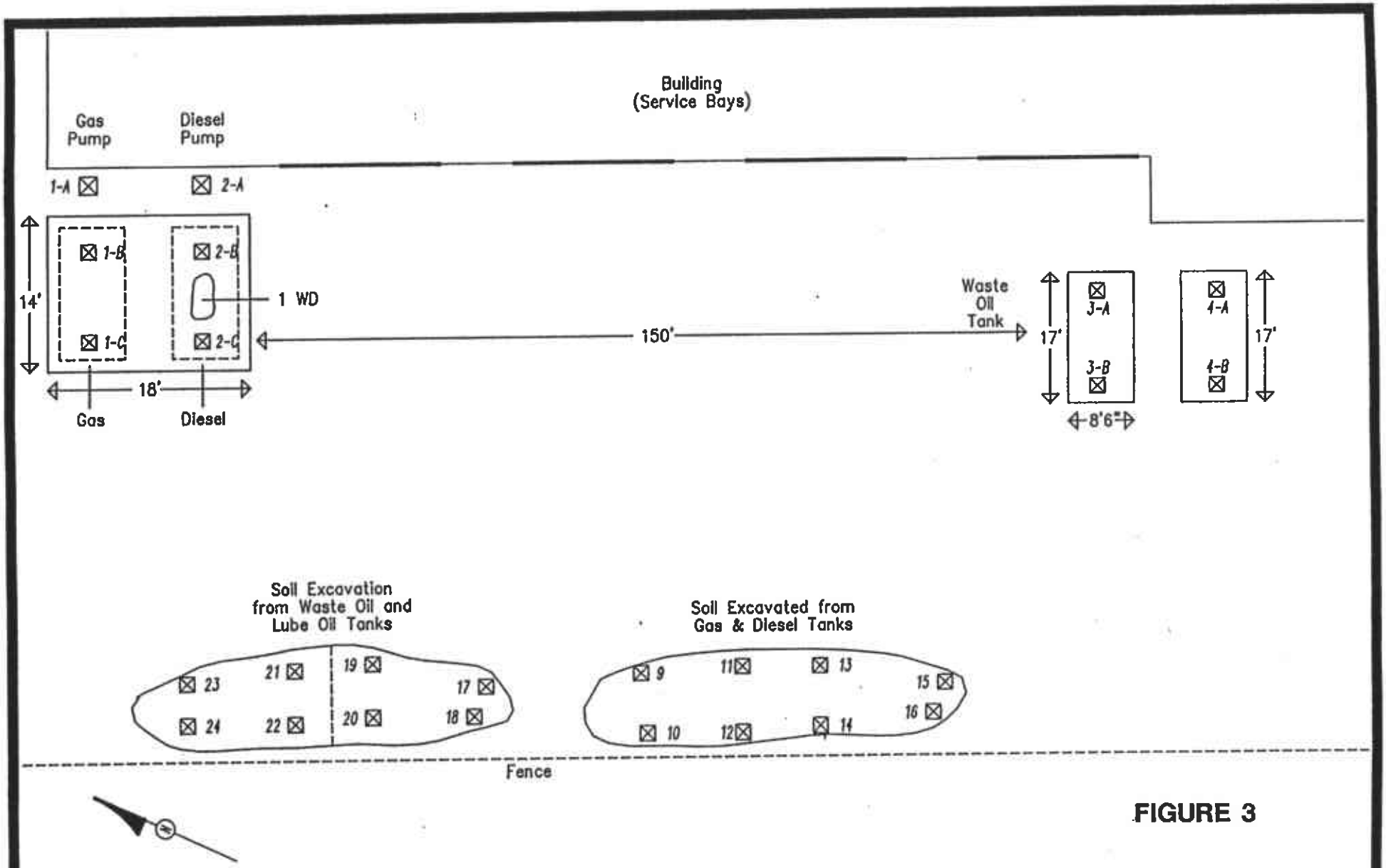


FIGURE 3

LEGEND

⊠ Sample Location

(not to scale)

Sampling Locations
GMC TRUCK CENTER
8099 Coliseum Way
Oakland, California

Clayton Project No. 49872.03

Clayton
ENVIRONMENTAL
CONSULTANTS

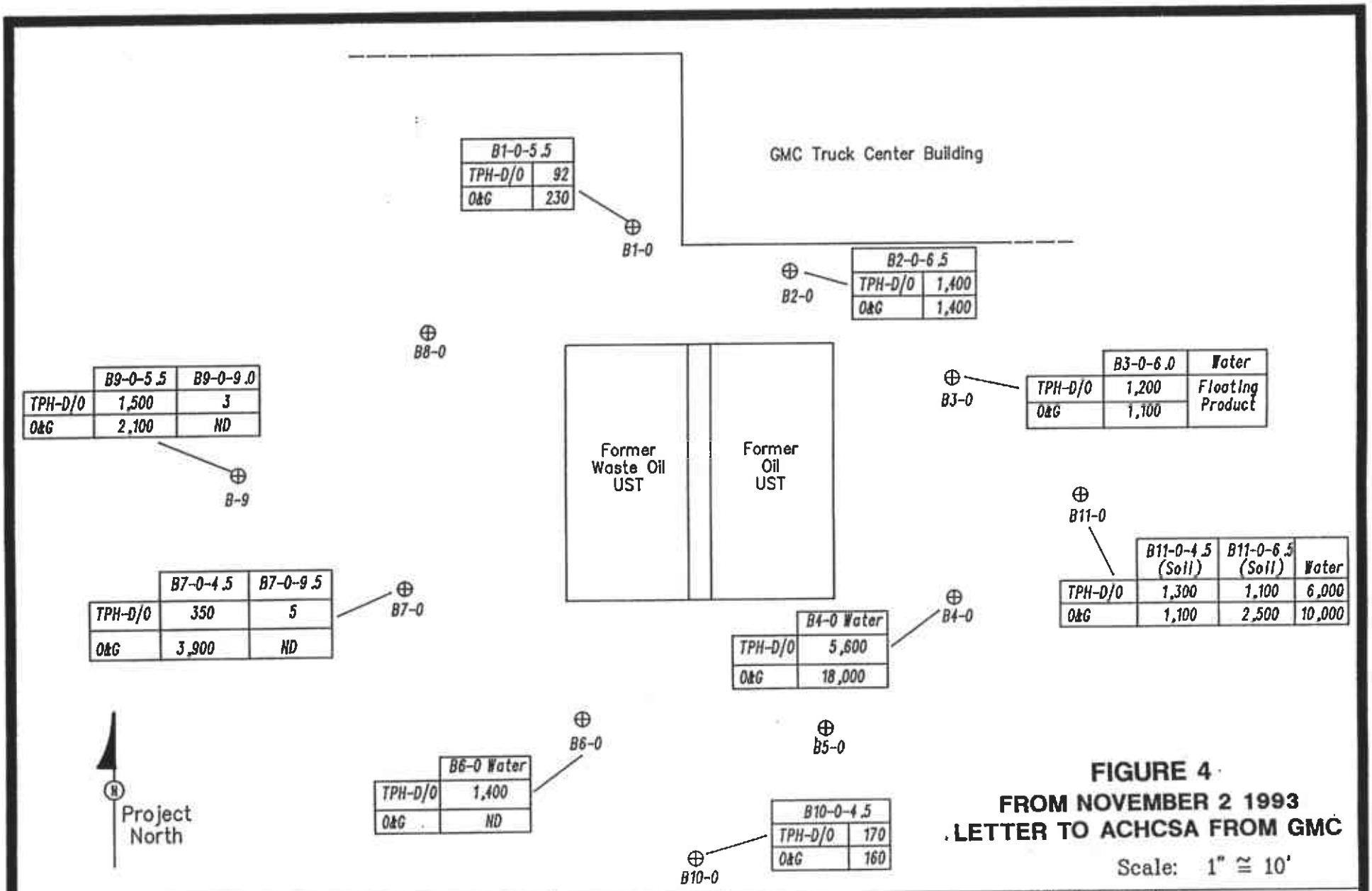


FIGURE 4
FROM NOVEMBER 2 1993
LETTER TO ACHCSA FROM GMC

Scale: 1" ≅ 10'

LEGEND

⊕ Borehole Location

Boreholes Installed September 9, 10, & 15, 1993
Soil Concentration in mg/kg
Water Concentration in ug/L

Borehole Location Near Former USTs
GMC TRUCK CENTER
8099 Coliseum Way
Oakland, California

Clayton Project No. 50945.00

Figure
50945-00-16

Clayton ENVIRONMENTAL CONSULTANTS

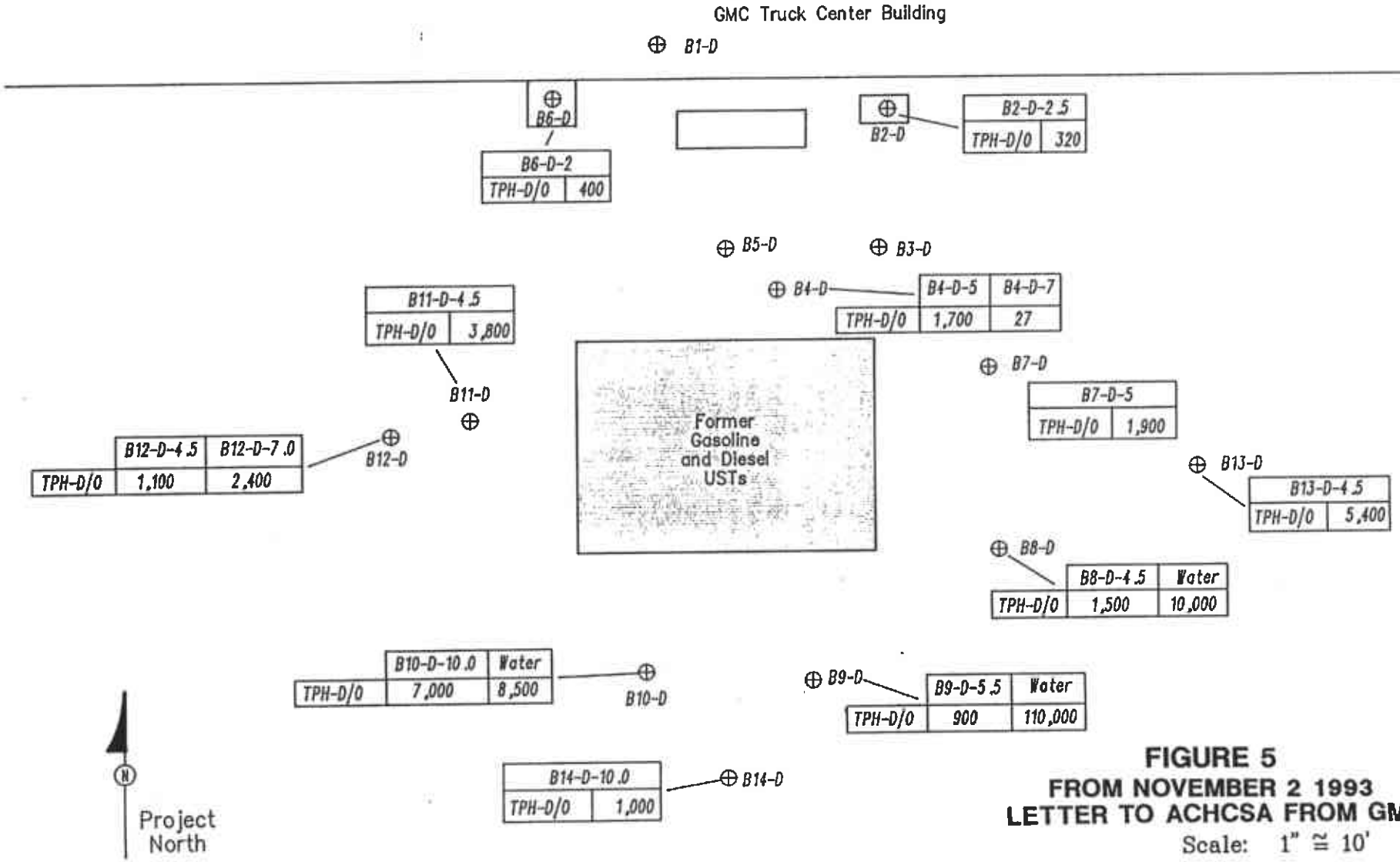
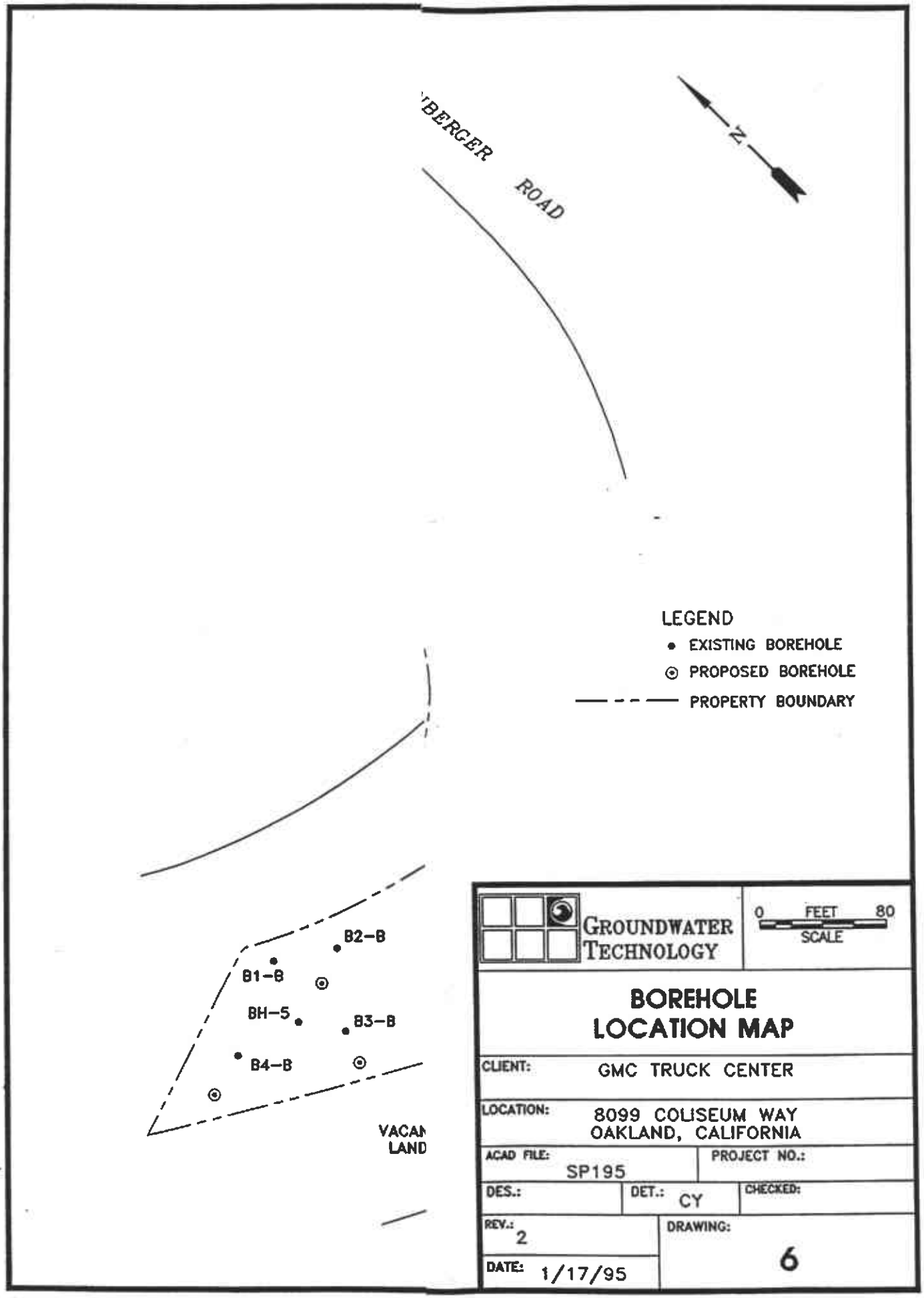


FIGURE 5
FROM NOVEMBER 2 1993
LETTER TO ACHCSA FROM GMC
Scale: 1" ≅ 10'

LEGEND			
⊕ Borehole Location Boreholes Installed September 9, 10, & 15, 1993 Soil Concentration in mg/kg Water Concentration in ug/L	Borehole Locations Near the Former Gasoline and Diesel USTs GMC TRUCK CENTER 8099 Coliseum Way Oakland, California Clayton Project No. 50945.00	Figure 50945-00-17	Clayton ENVIRONMENTAL CONSULTANTS


BERGER
ROAD
N
LEGEND
EXISTING BOREHOLE
PROPOSED BOREHOLE
PROPERTY BOUNDARY
B2-B
B1-B
BH-5
B3-B
B4-B
VACAN
LAND
GROUNDWATER TECHNOLOGY
0 FEET 80
SCALE
BOREHOLE LOCATION MAP
CLIENT: GMC TRUCK CENTER
LOCATION: 8099 COLISEUM WAY OAKLAND, CALIFORNIA
ACAD FILE: SP195
PROJECT NO.:
DES.:
DET.: CY
CHECKED:
REV.: 2
DRAWING: 6
DATE: 1/17/95

APPENDIX A

LABORATORY REPORTS; PHASE I-II ASSESSMENT

A

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

September 1, 1993

Clayton Project No. 49872.070

Mr. Barney M. Chan
Hazardous Materials Specialist
Alameda County Health Agency
80 Swan Way, Room 200
Oakland, California 94261

Dear Mr. Chan:

At the request of Mr. Keith West of General Motors Corporation, Clayton Environmental Consultants, Inc. is pleased to submit a copy of our laboratory reports and a site plan showing the borehole locations at the GMC Truck Center, located at 8099 South Coliseum Way in Oakland, California.

If you have any questions, please call me at or Mr. Anthony McElligott at (510) 426-2600.

Sincerely,

Dariush Dastmalchi
Geologist

DD/dd

Enclosures

cc: Mr. Keith West, General Motors Corporation

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

August 2, 1993

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 49872.07
Clayton Project No.: 93072.07

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on July 23, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after September 1, 1993, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/tjb
Attachments

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.07
Clayton Project No. 93072.07

Sample Matrix/Media: SOIL
Preparation Method: SM 5520E
Analysis Method: SM 5520F

Date Received: 07/23/93
Date Prepared: 07/27/93
Date Analyzed: 07/29/93

Lab Number	Sample Identification	Date Sampled	Hydrocarbons (mg/kg)	Detection Limit (mg/kg)
01A	BH-1-6	07/23/93	480	50
02A	BH-1-10.5	07/23/93	ND	50
03A	BH-1-15.5	07/23/93	140	50
04A	BH-3-5.5	07/23/93	180	50
05A	BH-4-5.5	07/23/93	70	50
06A	BH-5-5.5	07/23/93	820	50
07A	BH-5-10.5	07/23/93	ND	50
08A	METHOD BLANK	--	ND	50

ND Not detected at or above limit of detection
Not detected at or above limit of detection
- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.07
Clayton Project No. 93072.07

Sample Matrix/Media:	SOIL	Date Received:	07/23/93
Preparation Method:	EPA 3550	Date Prepared:	07/28/93
Analysis Method:	EPA 8015 (Modified)	Date Analyzed:	07/29/93

Lab Number	Sample Identification	Date Sampled	TPH-D (mg/kg)	Detection Limit (mg/kg)
01A	BH-1-6	07/23/93	280 a,b	1
02A	BH-1-10.5	07/23/93	8 b	1
03A	BH-1-15.5	07/23/93	10 b	1
04A	BH-3-5.5	07/23/93	44 b	1
05A	BH-4-5.5	07/23/93	17 c	1
06A	BH-5-5.5	07/23/93	700 d	1
07A	BH-5-10.5	07/23/93	3 d	1
08A	METHOD BLANK	--	ND	1

ND Not detected at or above limit of detection
Not detected at or above limit of detection
\- Information not available or not applicable

esults are reported on a wet weight basis, as received
PH-D =Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.

a Hydrocarbons lighter than C10 are also present and some of the hydrocarbons reported as TPH-D may be due to a lighter component.

b Kerosene cannot be distinguished from the other hydrocarbon components present in this sample.

Sample appears to contain kerosene and heavier hydrocarbons in the range C20 to C42.

Heavier hydrocarbons present in the range of C20 to C40. No kerosene pattern detected in this sample.

Note: Sample BH-1-6 analyzed on 07/30/93.
Method Blank analyzed on 07/28/93.

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.07
Clayton Project No. 93072.07

Sample Matrix/Media: SOIL
reparation Method: EPA 5030
nalysis Method: EPA 8015 (Modified)

Date Received: 07/23/93
Date Prepared: 07/28/93
Date Analyzed: 07/29/93

Lab Number	Sample Identification	Date Sampled	TPH-G (mg/kg)	Detection Limit (mg/kg)
01A	BH-1-6	07/23/93	340 a	0.3
2A	BH-1-10.5	07/23/93	20 a	0.3
3A	BH-1-15.5	07/23/93	0.5 a	0.3
04A	BH-3-5.5	07/23/93	6.3 a	0.3
05A	BH-4-5.5	07/23/93	51 a	0.3
6A	BH-5-5.5	07/23/93	0.5 a	0.3
7A	BH-5-10.5	07/23/93	ND	0.3
08A	METHOD BLANK	--	ND	0.3

ND Not detected at or above limit of detection
Not detected at or above limit of detection
-- Information not available or not applicable

esults are reported on a wet weight basis, as received
PH-G = Volatile petroleum hydrocarbons from C4 to C12 quantitated as gasoline.
Purgeable hydrocarbons quantitated as gasoline may be due to heavier petroleum product.

[redacted]

ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

[redacted]	
Project No.	
Batch No.	9307207
Ind. Code	W.P.
Date Logged In 7/23/93	By T. ALTON

REPORT RESULTS TO

- Name: [illegible signature] — Title:
- Company: — Dept.:
- Mailing Address:
- City, State, Zip:
- Telephone No.: — Telefax No.:

Purchase Order No. — Client Job No.

SEND INVOICE TO

- Name: GMC Truck
- Company: — Dept.:
- Address:
- City, State, Zip:

Date Results Req.: — Rush Charges Authorized? ☒ Yes ☐ No — Phone / Fax Results ☐ ☐

Samples are: (check if applicable) ☐ Drinking Water ☐ Collected in the State of New York

Special Instructions: (method, limit of detection, etc.)
5 day TAT Turnaround
* Explanation of Preservative:

ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added.*)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	TPH-G	TPH-D (Kerosene)	O&G 5520 (Hydrocarbons)							FOR LAB USE ONLY
BH-1-6	7/23/93	Soil	2x6 BC	1	x	x	x							01A
BH-1-10.5	↓	↓	↓	1	x	x	x							02
BH-1-15.5	↓	↓	↓	1	x	x	x							03
BH-3-5.5	↓	↓	↓	1	x	x	x							04A
BH-4-5.5	↓	↓	↓	1	x	x	x							05A
BH-5-5.5	↓	↓	↓	1	x	x	x							06A
BH-5-10.5	↓	↓	↓	1	x	x	x							07

CHAIN OF CUSTODY

- Collected by: (print) — Collector's Signature: [illegible signature]
- Relinquished by: [illegible signature] — Date/Time 7/23/93 — Received by: — Date/Time
- Relinquished by: — Date/Time — Received at Lab by: [illegible signature] — Date/Time 7/23/93
- Method of Shipment: — Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: ______________________ Date ____________
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

2/92

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

August 2, 1993

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 49872.07
Clayton Project No.: 93072.08

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on July 23, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after September 1, 1993, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/tjb
Attachments

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.07
Clayton Project No. 93072.08

Sample Matrix/Media:	WATER	Date Received:	07/23/93
Preparation Method:	EPA 3510	Date Prepared:	07/27/93
Analysis Method:	EPA 8015 (Modified)	Date Analyzed:	07/28/93

Lab Number	Sample Identification	Date Sampled	TPH-D (ug/L)	Detection Limit (ug/L)
01A	BH-1	07/23/93	1,300 [a]	50
02A	BH-3	07/23/93	47,000 [a]	50
04A	METHOD BLANK	--	ND	50

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.
[a] Hydrocarbons lighter than C10 also present and some of the hydrocarbons reported as TPH-D may be due to a lighter component. Kerosene cannot be distinguished from the other hydrocarbon components present in this sample.

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.07
Clayton Project No. 93072.08

Sample Matrix/Media:	WATER	Date Received:	07/23/93
Preparation Method:	EPA 5030	Date Prepared:	07/28/93
Analysis Method:	EPA 8015 (Modified)	Date Analyzed:	07/28/93

Lab Number	Sample Identification	Date Sampled	TPH-G (ug/L)	Detection Limit (ug/L)
01B	BH-1	07/23/93	780[a]	50
04A	METHOD BLANK	--	ND	50

) Not detected at or above limit of detection
Not detected at or above limit of detection
-- Information not available or not applicable

PH-G = Volatile petroleum hydrocarbons from C4 to C12 quantitated as gasoline.
a Purgeable hydrocarbons quantitated as gasoline may be due to heavier petroleum product.

Clayton ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

Clayton Only — Page 1 / 1

Project No.
Batch No. 9307208
Ind. Code | W.P.
Date Logged In 7/23/93 | By T. ALTON

REPORT RESULTS TO
Name James L. Pastuszki | Title
Company | Dept.
Mailing Address
City, State, Zip
Telephone No. | Telefax No.

SEND INVOICE TO
Purchase Order No. | Client Job No.
Name GMC Truck
Company | Dept.
Address
City, State, Zip

Date Results Req.: | Rush Charges Authorized? ☑ Yes ☐ No | Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.) 3 days Turnaround. BH-3 HAS A FLOATING PRODUCT
* Explanation of Preservative: P = HCl

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added.) TPH-G	TPH-D/KEROSENE	BTEX 8020	Hold	FOR LAB USE ONLY
BH-1	7/23/93	Water	1 Lit	1	X	X	X		01A
↓		↓	2 VOA	2	X	X			B, C
BH-3	7/23/93	WATER	(≈500ml)	1		X	X		* 02A
Trip Blank 0061193-HCl (1)		WATER	40ml	2				X	03A, B

CHAIN OF CUSTODY
Collected by: (print)
Relinquished by: | Date/Time 7/23/93
Relinquished by: | Date/Time
Method of Shipment:

Collector's Signature:
Received by: | Date/Time
Received at Lab by: Tracy B Bullock | Date/Time 7-23-93 615 PM
Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

* - LIMITED SAMPLE VOLUME LESS THAN ~500ml

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

August 2, 1993

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 49872.07
Clayton Project No.: 93072.07

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on July 23, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after September 1, 1993, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/tjb
Attachments

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.07
Clayton Project No. 93072.07

Sample Matrix/Media: SOIL
Preparation Method: SM 5520E
Analysis Method: SM 5520F

Date Received: 07/23/93
Date Prepared: 07/27/93
Date Analyzed: 07/29/93

Lab Number	Sample Identification	Date Sampled	Hydrocarbons (mg/kg)	Detection Limit (mg/kg)
01A	BH-1-6	07/23/93	480	50
02A	BH-1-10.5	07/23/93	ND	50
03A	BH-1-15.5	07/23/93	140	50
04A	BH-3-5.5	07/23/93	180	50
05A	BH-4-5.5	07/23/93	70	50
06A	BH-5-5.5	07/23/93	820	50
07A	BH-5-10.5	07/23/93	ND	50
08A	METHOD BLANK	--	ND	50

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.07
Clayton Project No. 93072.07

ample Matrix/Media: SOIL
reparation Method: EPA 3550
Analysis Method: EPA 8015 (Modified)

Date Received: 07/23/93
Date Prepared: 07/28/93
Date Analyzed: 07/29/93

Lab Number	Sample Identification	Date Sampled	TPH-D (mg/kg)	Detection Limit (mg/kg)
01A	BH-1-6	07/23/93	280 a,b	1
02A	BH-1-10.5	07/23/93	8 b	1
03A	BH-1-15.5	07/23/93	10 b	1
04A	BH-3-5.5	07/23/93	-44 b	1
05A	BH-4-5.5	07/23/93	17 c	1
06A	BH-5-5.5	07/23/93	700 d	1
07A	BH-5-10.5	07/23/93	3 d	1
08A	METHOD BLANK	--	ND	1

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received
TPH-D =Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.

a Hydrocarbons lighter than C10 are also present and some of the hydrocarbons reported as TPH-D may be due to a lighter component.

b Kerosene cannot be distinguished from the other hydrocarbon components present in this sample.

c Sample appears to contain kerosene and heavier hydrocarbons in the range C20 to C42.

d Heavier hydrocarbons present in the range of C20 to C40. No kerosene pattern detected in this sample.

Note: Sample BH-1-6 analyzed on 07/30/93.
Method Blank analyzed on 07/28/93.

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.07
Clayton Project No. 93072.07

Sample Matrix/Media: SOIL
Preparation Method: EPA 5030
Analysis Method: EPA 8015 (Modified)

Date Received: 07/23/93
Date Prepared: 07/28/93
Date Analyzed: 07/29/93

Lab Number	Sample Identification	Date Sampled	TPH-G (mg/kg)	Detection Limit (mg/kg)
01A	BH-1-6	07/23/93	340 a	0.3
02A	BH-1-10.5	07/23/93	20 a	0.3
03A	BH-1-15.5	07/23/93	0.5 a	0.3
04A	BH-3-5.5	07/23/93	6.3 a	0.3
05A	BH-4-5.5	07/23/93	51 a	0.3
06A	BH-5-5.5	07/23/93	0.5 a	0.3
07A	BH-5-10.5	07/23/93	ND	0.3
08A	METHOD BLANK	--	ND	0.3

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received
TPH-G = Volatile petroleum hydrocarbons from C4 to C12 quantitated as gasoline.
a Purgeable hydrocarbons quantitated as gasoline may be due to heavier petroleum product.

Clayton ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For [redacted] on [redacted] ily [redacted] of [redacted]

Project No.

Batch No. 9307207

Ind. Code | W.P.

Date Logged In 7/23/93 | By T. ALTON

REPORT RESULTS TO

Name Dariusz Dastmalchi | Title

Company | Dept.

Mailing Address

City, State, Zip

Telephone No. | Telefax No.

SEND INVOICE TO

Purchase Order No. | Client Job No.

Name GSC Truck

Company | Dept.

Address

City, State, Zip

Date Results Req.: | Rush Charges Authorized? ☑ Yes ☐ No | Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.)
5 day TAT Turn around

* Explanation of Preservative:

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	TPH-G	TPH-D (Kerosene)	O&G 5520 (Hydrocarbons)	FOR LAB USE ONLY
BH-1-6	7/23/93	Soil	2x16 BC	1	X	X	X	01A
BH-1-10.5				1	X	X	X	02
BH-1-15.5				1	X	X	X	03
BH-3-5.5				1	X	X	X	04A
BH-4-5.5				1	X	X	X	05A
BH-5-5.5				1	X	X	X	06A
BH-5-10.5				1	X	X	X	07

CHAIN OF CUSTODY

Collected by: (print)

Relinquished by: | Date/Time 7/23/93 1pm

Relinquished by: | Date/Time

Method of Shipment:

Collector's Signature:

Received by: | Date/Time

Received at Lab by: | Date/Time 7/23/93 3:20 Co'00

Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

August 2, 1993

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 49872.07
Clayton Project No.: 93072.08

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on July 23, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after September 1, 1993, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/tjb
Attachments

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.07
Clayton Project No. 93072.08

Sample Matrix/Media: WATER
Preparation Method: EPA 3510
Analysis Method: EPA 8015 (Modified)

Date Received: 07/23/93
Date Prepared: 07/27/93
Date Analyzed: 07/28/93

Lab Number	Sample Identification	Date Sampled	TPH-D (ug/L)	Detection Limit (ug/L)
01A	BH-1	07/23/93	1,300 a	50
02A	BH-3	07/23/93	47,000 a	50
04A	METHOD BLANK	--	ND	50

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.
a Hydrocarbons lighter than C10 also present and some of the hydrocarbons reported as TPH-D may be due to a lighter component. Kerosene cannot be distinguished from the other hydrocarbon components present in this sample.

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.07
Clayton Project No. 93072.08

Sample Matrix/Media: WATER
Preparation Method: EPA 5030
Analysis Method: EPA 8015 (Modified)

Date Received: 07/23/93
Date Prepared: 07/28/93
Date Analyzed: 07/28/93

Lab Number	Sample Identification	Date Sampled	TPH-G (ug/L)	Detection Limit (ug/L)
01B	BH-1	07/23/93	780[a]	50
04A	METHOD BLANK	--	ND	50

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

TPH-G = Volatile petroleum hydrocarbons from C4 to C12 quantitated as gasoline.
a Purgeable hydrocarbons quantitated as gasoline may be due to heavier petroleum product.

Clayton
ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page 1 of 1
Project No.	
Batch No. 9307208	
Ind. Code	W.P.
Date Logged In 7/23/93	By T. ALTON

REPORT RESULTS TO
Name Jamie L Bertmalki | Title
Company | Dept.
Mailing Address
City, State, Zip
Telephone No. | Telefax No.

Purchase Order No. | Client Job No.

SEND INVOICE TO
Name GMC Truck
Company | Dept.
Address
City, State, Zip

Date Results Req.: | Rush Charges Authorized? ☑ Yes ☐ No | Phone / Fax Results ☐ ☐

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

Special Instructions: (method, limit of detection, etc.) 5 days Turnaround. BH-3 HAS A FLOATING PRODUCT
* Explanation of Preservative: P = HCl

ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	TPH-G	TPH-D/KEROSENE	0465520F	Hold							FOR LAB USE ONLY
BH-1	7/23/93	water	1 liT	1		X	X								01A
↓		↓	2 VOA	2	Xp										B, C
BH-3	7/23/93	WATER	500 ml	1		Xp									* 02A
Trip Blank 0061193-HCl (2)		WATER	40 ml	2				Xp							03 A, B

CHAIN OF CUSTODY
Collected by: (print) | Collector's Signature: Jamie L Bertmalki
Relinquished by: Jamie L Bertmalki | Date/Time 7/23/93 | Received by: | Date/Time
Relinquished by: | Date/Time | Received at Lab by: Tracy B Bullock | Date/Time 7/23/93 615 PM
Method of Shipment: | Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

* - LIMITED SAMPLE VOLUME LESS THAN ~500ml

Authorized by: ______ Date ______
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

September 27, 1993

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANT, INC.
1252 Quarry Lane
Pleasanton, CA 94566

PARTIAL REPORT
Client Ref.: 50945.00
Clayton Project No.: 93091.15

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on September 10, 1993. There samples were placed on hold on September 13, 1993. On September 16, 1993 you requested analysis of diesel and 5520F on samples BH4-B-5', BH1-B-4.5', BH2-B-5', and BH3-B-5.5'. These results are presented in this report. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after October 27, 1993, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Harriotte A. Hurley, CIH
Manager, Laboratory Services
Western Operations

HAH/caa

Attachments

Results of Analysis
for
General Motor Corp.

Client Reference: 50945.00
Clayton Project No. 93091.15

Sample Matrix/Media: SOIL
Preparation Method: SM 5520F
Analysis Method: SM 5520E

Date Received: 09/10/93
Date Prepared: 09/17/93
Date Analyzed: 09/21/93

Lab No.	Sample Identification	Date Sampled	Hydrocarbons (mg/kg)	Detection Limit (mg/kg)
11A	BH4-B-5'	09/10/93	580	50
12A	BH1-B-4.5'	09/10/93	ND	50
13A	BH2-B-5'	09/10/93	540	50
14A	BH3-B-5.5'	09/10/93	440	50
15A	METHOD BLANK	--	ND	50

ND: Not detected at or above limit of detection
<: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
General Motor Corp.

Client Reference: 50945.00
Clayton Project No. 93091.15

Sample Matrix/Media:	SOIL	Date Received:	09/10/93
reparation Method:	EPA 3550	Date Prepared:	09/18/93
nalysis Method:	EPA 8015 (Modified)	Date Analyzed:	09/21/93

ab o.	Sample Identification	Date Sampled	TPH-D (mg/kg)	Detection Limit (mg/kg)
11A	BH4-B-5'	09/10/93	570a	1
12A	BH1-B-4.5'	09/10/93	6a	1
13A	BH2-B-5'	09/10/93	490a	1
14A	BH3-B-5.5'	09/10/93	470a	1
15A	METHOD BLANK	--	ND	1

D: Not detected at or above limit of detection
: Not detected at or above limit of detection
-: Information not available or not applicable

sults are reported on a wet-weight basis, as received.
H-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.

Sample does not match the typical diesel pattern.
Sample appears to be oil.

Clayton ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

GMC-Oakland

For [illegible] Page 2 of [illegible]

Project No.

Batch No. 9309115

Ind. Code | W.P.

Date Logged In 9/13/93 | By

REPORT RESULTS TO: Name D. Dastmalchi | Title

Company CEC | Dept.

Mailing Address

City, State, Zip

Telephone No. | Telefax No.

Purchase Order No. | Client Job No.

SEND INVOICE TO: Name

Company GMC- Oakland | Dept.

Address

City, State, Zip

Date Results Req.: Standard TAT | Rush Charges Authorized? ☐ Yes ☒ No | Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.)

* Explanation of Preservative:

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	TPH-D	TPH-G/BTEX	O+G (5520)	FOR LAB USE ONLY
BH4-B-5'	9-10-93	SOIL	2"ϕ x 6"	1	X	X		11
BH1-B-4.5'	"	"	"	"	X	X		12
BH2-B-5'	"	"	"	"	X	X		13
BH3-B-5.5	"	"	"	"	X	X		14

CHAIN OF CUSTODY

Collected by: DARYOSH DASTMALCHI (print) | Collector's Signature:

Relinquished by: | Date/Time 9-10-93 3:07 PM | Received by: | Date/Time 9-10-93 3:08 PM

Relinquished by: M. Sprague | Date/Time 9-10-93 4:00 PM | Received at Lab by: | Date/Time 9/10/93 4:00

Method of Shipment:

Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

Clayton ENVIRONMENTAL CONSULTANTS

A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

GMC - Oakland

For C[illegible] Use | Page 1 of [illegible]

Project No.	
Batch No.	9309115
Ind. Code	W.P.
Date Logged In 9/13/93	By [illegible]

REPORT RESULTS TO

Name Dariush Dastmalchi | Title Geologist

Company CEC | Dept. EE

Mailing Address

City, State, Zip [illegible] Pleasanton

Telephone No. | Telefax No.

Purchase Order No. | Client Job No. 50945.00

SEND INVOICE TO

Name

Company | Dept.

Address

City, State, Zip

Date Results Req.: Standard TAT | Rush Charges Authorized? ☐ Yes ☐ No | Phone / Fax Results ☐ ☐

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

Special Instructions: (method, limit of detection, etc.)

* Explanation of Preservative:

ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	TPH-d	TPH-g/BTEX	O+G (5520)	CLHC (8010)	~~TEH~~ [illegible]							FOR LAB USE ONLY
BH5-D-4.5'	9-9-93	SOIL	2" × 6" BC	1	X	X										01A
BH5-D-7.5'	↓	↓	↓	↓	X	X										02
BH3-D-4.5'	↓	↓	↓	↓	X	X										03
BH6-0-6'	9-10-93	↓	↓	↓	↓	↓	X	X								04
BH6-0-9.5'	↓	↓	↓	↓	↓	↓	↓	↓								05
BH4-0-5'	↓	↓	↓	↓	↓	↓	↓	↓								06
BH6-0-5.5'	↓	↓	↓	↓	↓	↓	↓	↓								07
BH5-0-10.5' D.D.	↓	↓	↓	↓	↓	↓	↓	↓								08
BH7-0-5'	↓	↓	↓	↓	↓	↓	↓	↓								09
BH7-0-9	↓	↓	↓	↓	↓	↓	↓	↓								10

CHAIN OF CUSTODY

Collected by: [signature] (print) | Collector's Signature: [signature]

Relinquished by: [signature] Date/Time 9-10-93 3:07 | Received by: M. Spragnar Date/Time 9-10-93 3:08PM

Relinquished by: M. Spragnar Date/Time 9-10-93 4:20PM | Received at Lab by: Terry Salus Date/Time 9/10/93 4:00pm

Method of Shipment: | Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: ____________________ Date ____________

(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive
Novi, MI 48375
(313) 344-1770

Raritan Center
160 Fieldcrest Ave.
Edison, NJ 08837
(908) 225-6040

400 Chastain Center Blvd., N.W.
Suite 490
Kennesaw, GA 30144
(404) 499-7500

1252 Quarry Lane
Pleasanton, CA 94566
(510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

APPENDIX B

LABORATORY REPORTS; TANK REMOVAL AND CLOSURE

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

August 9, 1993

Mr. Mike Holbrook
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 49872.00
Clayton Project No.: 93080.69

Dear Mr. Holbrook:

Attached is our analytical laboratory report for the samples received on August 5, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after October 8, 1993, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/caa
Attachments

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	1A	Date Sampled:	08/05/93
Lab Number:	9308069-01A	Date Received:	08/05/93
Sample Matrix/Media:	SOIL	Date Prepared:	08/05/93
Preparation Method:	EPA 5030	Date Analyzed:	08/06/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	0.10	0.005
Ethylbenzene	100-41-4	1.6	0.005
Toluene	108-88-3	1.1	0.005
o-Xylene	95-47-6	2.9	0.005
p,m-Xylenes	--	6.9	0.005
Gasoline	--	47	0.3
Surrogates		**Recovery (%)**	**QC Limits (%)**
1,4-Difluorobenzene	540-36-3	112	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Soil Sample collected From under gasoline dispensing pump APX 2' BGS

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	1B	Date Sampled:	08/05/93
Lab Number:	9308069-02A	Date Received:	08/05/93
Sample Matrix/Media:	SOIL	Date Prepared:	08/05/93
Preparation Method:	EPA 5030	Date Analyzed:	08/06/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	0.010	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	0.013	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	0.008	0.005
Gasoline	--	0.6	0.3
Surrogates		Recovery (%)	QC Limits (%)
1,4-Difluorobenzene	540-36-3	100	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Soil Sample Collected at East end of excavation under gas tank Apx 12'TO 13' Below ground surface (BGS)

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	1C	Date Sampled:	08/05/93
Lab Number:	9308069-03A	Date Received:	08/05/93
Sample Matrix/Media:	SOIL	Date Prepared:	08/05/93
Preparation Method:	EPA 5030	Date Analyzed:	08/06/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	0.010	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	0.011	0.005
p,m-Xylenes	--	0.015	0.005
Gasoline	--	1.4	0.3
Surrogates		Recovery (%)	QC Limits (%)
1,4-Difluorobenzene	540-36-3	100	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Sample collected at WEST End of Excavation
Apx 12' TO 13' deep (BGS)

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	3A	Date Sampled:	08/05/93
Lab Number:	9308069-07A	Date Received:	08/05/93
Sample Matrix/Media:	SOIL	Date Prepared:	08/05/93
Preparation Method:	EPA 5030	Date Analyzed:	08/09/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	0.60	0.005
Ethylbenzene	100-41-4	0.15	0.005
Toluene	108-88-3	0.21	0.005
o-Xylene	95-47-6	0.29	0.005
p,m-Xylenes	--	0.84	0.005
Gasoline	--	24	0.3
Surrogates		**Recovery (%)**	**QC Limits (%)**
1,4-Difluorobenzene	540-36-3	105	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Sample Collected at East End of
Waste Oil Tank Excavation Apx 8 TO 9' BGS

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9308069-11A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	08/05/93
Preparation Method:	EPA 5030	Date Analyzed:	08/06/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
Surrogates		Recovery (%)	QC Limits (%)
1,4-Difluorobenzene	540-36-3	90	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	2A	Date Sampled:	08/05/93
Lab Number:	9308069-04A	Date Received:	08/05/93
Sample Matrix/Media:	SOIL	Date Extracted:	08/05/93
Extraction Method:	EPA 5030	Date Analyzed:	08/06/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX			
Benzene	71-43-2	1.0	0.005
Ethylbenzene	100-41-4	3.5	0.005
Toluene	108-88-3	2.8	0.005
o-Xylene	95-47-6	4.5	0.005
p,m-Xylenes	--	9.1	0.005
Surrogates		Recovery (%)	QC Limits (%)
1,4-Difluorobenzene	540-36-3	87	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Sample Collected at west end of
Waste oil tank excavation Apx 8 to 9' BGS

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9308069-11A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	08/05/93
Extraction Method:	EPA 5030	Date Analyzed:	08/06/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Surrogates		**Recovery (%)**	**QC Limits (%)**
1,4-Difluorobenzene	540-36-3	90	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	3A	Date Sampled:	08/05/93
Lab Number:	9308069-07A	Date Received:	08/05/93
Sample Matrix/Media:	SOIL	Date Prepared:	08/05/93
Preparation Method:	EPA 5030	Date Analyzed:	08/05/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Bromodichloromethane	75-27-4	ND	0.07
Bromoform	75-25-2	ND	0.07
Bromomethane	74-83-9	ND	0.07
Carbon tetrachloride	56-23-5	ND	0.06
Chlorobenzene	108-90-7	ND	0.07
Chloroethane	75-00-3	ND	0.05
2-Chloroethylvinyl ether	110-75-8	ND	0.1
Chloroform	67-66-3	ND	0.05
Chloromethane	74-87-3	ND	0.06
Dibromochloromethane	124-48-1	ND	0.06
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,3-Dichlorobenzene	541-73-1	ND	0.2
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
1,1-Dichloroethane	75-34-3	ND	0.04
1,2-Dichloroethane	107-06-2	ND	0.03
1,1-Dichloroethene	75-35-4	ND	0.03
cis-1,2-Dichloroethene	156-59-2	ND	0.04
trans-1,2-Dichloroethene	156-60-5	ND	0.04
1,2-Dichloropropane	78-87-5	ND	0.05
cis-1,3-Dichloropropene	10061-01-5	ND	0.05
trans-1,3-Dichloropropene	10061-02-6	ND	0.06
Freon 113	76-13-1	ND	0.06
Methylene chloride	75-09-2	ND	0.2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Tetrachloroethene	127-18-4	ND	0.05
1,1,1-Trichloroethane	71-55-6	ND	0.05
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trichloroethene	79-01-6	ND	0.03
Trichlorofluoromethane	75-69-4	ND	0.04
Vinyl chloride	75-01-4	ND	0.05

Waste oil Excavation Sample

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	3A	Date Sampled:	08/05/93
Lab Number:	9308069-07A	Date Received:	08/05/93
Sample Matrix/Media:	SOIL	Date Prepared:	08/05/93
Preparation Method:	EPA 5030	Date Analyzed:	08/05/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Surrogates		Recovery (%)	QC Limits (%)
Bromochloromethane	74-97-5	95	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9308069-11A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	08/05/93
Preparation Method:	EPA 5030	Date Analyzed:	08/05/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Purgeable Halocarbons			
Bromodichloromethane	75-27-4	ND	0.07
Bromoform	75-25-2	ND	0.07
Bromomethane	74-83-9	ND	0.07
Carbon tetrachloride	56-23-5	ND	0.06
Chlorobenzene	108-90-7	ND	0.07
Chloroethane	75-00-3	ND	0.05
2-Chloroethylvinyl ether	110-75-8	ND	0.1
Chloroform	67-66-3	ND	0.05
Chloromethane	74-87-3	ND	0.06
Dibromochloromethane	124-48-1	ND	0.06
1,2-Dichlorobenzene	95-50-1	ND	0.4
1,3-Dichlorobenzene	541-73-1	ND	0.2
1,4-Dichlorobenzene	106-46-7	ND	0.4
Dichlorodifluoromethane	75-71-8	ND	0.1
1,1-Dichloroethane	75-34-3	ND	0.04
1,2-Dichloroethane	107-06-2	ND	0.03
1,1-Dichloroethene	75-35-4	ND	0.03
cis-1,2-Dichloroethene	156-59-2	ND	0.04
trans-1,2-Dichloroethene	156-60-5	ND	0.04
1,2-Dichloropropane	78-87-5	ND	0.05
cis-1,3-Dichloropropene	10061-01-5	ND	0.05
trans-1,3-Dichloropropene	10061-02-6	ND	0.06
Freon 113	76-13-1	ND	0.06
Methylene chloride	75-09-2	ND	0.2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.05
Tetrachloroethene	127-18-4	ND	0.05
1,1,1-Trichloroethane	71-55-6	ND	0.05
1,1,2-Trichloroethane	79-00-5	ND	0.06
Trichloroethene	79-01-6	ND	0.03
Trichlorofluoromethane	75-69-4	ND	0.04
Vinyl chloride	75-01-4	ND	0.05

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9308069-11A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	08/05/93
Preparation Method:	EPA 5030	Date Analyzed:	08/05/93
Analytical Method:	EPA 8010		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Surrogates		Recovery (%)	QC Limits (%)
Bromochloromethane	74-97-5	96	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification: 3A
Lab Number: 9308069-07A
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Analytical Method: EPA 8270

Date Sampled: 08/05/93
Date Received: 08/05/93
Date Extracted: 08/05/93
Date Analyzed: 08/06/93

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
4-Chloro-3-methylphenol	59-50-7	ND	2
2-Chlorophenol	95-57-8	ND	2
2,4-Dichlorophenol	120-83-2	ND	2
2,4-Dimethylphenol	105-67-9	ND	2
2,4-Dinitrophenol	51-28-5	ND	10
2-Methyl-4,6-dinitrophenol	534-52-1	ND	10
2-Methylphenol	95-48-7	ND	2
4-Methylphenol	106-44-5	ND	2
2-Nitrophenol	88-75-5	ND	2
4-Nitrophenol	100-02-7	ND	10
Pentachlorophenol	87-86-5	ND	10
Phenol	108-95-2	ND	2
2,4,5-Trichlorophenol	95-95-4	ND	2
2,4,6-Trichlorophenol	88-06-2	ND	2
Base/Neutral Extractables			
Acenaphthene	83-32-9	ND	2
Acenaphthylene	208-96-8	ND	2
Anthracene	120-12-7	ND	2
Benzidine	92-87-5	ND	50
Benzoic acid	65-85-0	ND	8
Benzo(a)anthracene	56-55-3	ND	2
Benzo(b)fluoranthene	205-99-2	ND	2
Benzo(k)fluoranthene	207-08-9	ND	2
Benzo(ghi)perylene	191-24-2	ND	2
Benzo(a)pyrene	50-32-8	ND	2
Benzyl alcohol	100-51-6	ND	4
Benzyl butyl phthalate	85-68-7	ND	2
Bis(2-chloroethoxy)methane	111-91-1	ND	2
Bis(2-chloroethyl)ether	111-44-4	ND	2
Bis(2-chloroisopropyl)ether	108-60-1	ND	2
Bis(2-ethylhexyl)phthalate	117-81-7	ND	20
4-Bromophenyl phenyl ether	101-55-3	ND	2
4-Chloroaniline	106-47-8	ND	10

Waste oil tank

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	3A	Date Sampled:	08/05/93
Lab Number:	9308069-07A	Date Received:	08/05/93
Sample Matrix/Media:	SOIL	Date Extracted:	08/05/93
Extraction Method:	EPA 3550	Date Analyzed:	08/06/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
2-Chloronaphthalene	91-58-7	ND	2
4-Chlorophenyl phenyl ether	7005-72-3	ND	2
Chrysene	218-01-9	ND	2
Dibenzo(a,h)anthracene	53-70-3	ND	2
Dibenzofuran	132-64-9	ND	2
Di-n-butylphthalate	84-74-2	ND	2
1,2-Dichlorobenzene	95-50-1	ND	2
1,3-Dichlorobenzene	541-73-1	ND	2
1,4-Dichlorobenzene	106-46-7	ND	2
3,3'-Dichlorobenzidine	91-94-1	ND	50
Diethylphthalate	84-66-2	ND	2
Dimethylphthalate	131-11-3	ND	2
2,4-Dinitrotoluene	121-14-2	ND	2
2,6-Dinitrotoluene	606-20-2	ND	2
Di-n-octylphthalate	117-84-0	ND	2
Fluoranthene	206-44-0	ND	2
Fluorene	86-73-7	ND	2
Hexachlorobenzene	118-74-1	ND	2
Hexachlorobutadiene	87-68-3	ND	2
Hexachlorocyclopentadiene	77-47-4	ND	20
Hexachloroethane	67-72-1	ND	2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	2
Isophorone	78-59-1	ND	2
2-Methyl naphthalene	91-57-6	ND	2
Naphthalene	91-20-3	ND	2
2-Nitroaniline	88-74-4	ND	10
3-Nitroaniline	99-09-2	ND	10
4-Nitroaniline	100-01-6	ND	10
Nitrobenzene	98-95-3	ND	2
N-Nitrosodiphenylamine	86-30-6	ND	2
N-Nitrosodi-n-propylamine	621-64-7	ND	2
Phenanthrene	85-01-8	ND	2
Pyrene	129-00-0	ND	2

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	3A	Date Sampled:	08/05/93
Lab Number:	9308069-07A	Date Received:	08/05/93
Sample Matrix/Media:	SOIL	Date Extracted:	08/05/93
Extraction Method:	EPA 3550	Date Analyzed:	08/06/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
1,2,4-Trichlorobenzene	120-82-1	ND	2
Surrogates		Recovery (%)	QC Limits (%)
2-Fluorobiphenyl	321-60-8	78	30 - 115
2-Fluorophenol	367-12-4	80	25 - 121
Nitrobenzene-d5	4165-60-0	51	23 - 120
Phenol-d6	13127-88-3	70	24 - 113
Terphenyl-d14	98904-43-9	79	18 - 137
2,4,6-Tribromophenol	118-79-6	67	19 - 122

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Note: Detection limits increased due to matrix interference.

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9308069-11A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	08/05/93
Extraction Method:	EPA 3550	Date Analyzed:	08/06/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Acid Extractables			
4-Chloro-3-methylphenol	59-50-7	ND	0.2
2-Chlorophenol	95-57-8	ND	0.2
2,4-Dichlorophenol	120-83-2	ND	0.2
2,4-Dimethylphenol	105-67-9	ND	0.2
2,4-Dinitrophenol	51-28-5	ND	1
2-Methyl-4,6-dinitrophenol	534-52-1	ND	1
2-Methylphenol	95-48-7	ND	0.2
4-Methylphenol	106-44-5	ND	0.2
2-Nitrophenol	88-75-5	ND	0.2
4-Nitrophenol	100-02-7	ND	1
Pentachlorophenol	87-86-5	ND	1
Phenol	108-95-2	ND	0.2
2,4,5-Trichlorophenol	95-95-4	ND	0.2
2,4,6-Trichlorophenol	88-06-2	ND	0.2
Base/Neutral Extractables			
Acenaphthene	83-32-9	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Benzidine	92-87-5	ND	5
Benzoic acid	65-85-0	ND	0.8
Benzo(a)anthracene	56-55-3	ND	0.2
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
Benzyl butyl phthalate	85-68-7	ND	0.2
Bis(2-chloroethoxy)methane	111-91-1	ND	0.2
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
Bis(2-chloroisopropyl)ether	108-60-1	ND	0.2
Bis(2-ethylhexyl)phthalate	117-81-7	ND	2
4-Bromophenyl phenyl ether	101-55-3	ND	0.2
4-Chloroaniline	106-47-8	ND	1

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9308069-11A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	08/05/93
Extraction Method:	EPA 3550	Date Analyzed:	08/06/93
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
2-Chloronaphthalene	91-58-7	ND	0.2
4-Chlorophenyl phenyl ether	7005-72-3	ND	0.2
Chrysene	218-01-9	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Dibenzofuran	132-64-9	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
1,2-Dichlorobenzene	95-50-1	ND	0.2
1,3-Dichlorobenzene	541-73-1	ND	0.2
1,4-Dichlorobenzene	106-46-7	ND	0.2
3,3'-Dichlorobenzidine	91-94-1	ND	5
Diethylphthalate	84-66-2	ND	0.2
Dimethylphthalate	131-11-3	ND	0.2
2,4-Dinitrotoluene	121-14-2	ND	0.2
2,6-Dinitrotoluene	606-20-2	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2
Fluoranthene	206-44-0	ND	0.2
Fluorene	86-73-7	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
Hexachlorocyclopentadiene	77-47-4	ND	2
Hexachloroethane	67-72-1	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Isophorone	78-59-1	ND	0.2
2-Methyl naphthalene	91-57-6	ND	0.2
Naphthalene	91-20-3	ND	0.2
2-Nitroaniline	88-74-4	ND	1
3-Nitroaniline	99-09-2	ND	1
4-Nitroaniline	100-01-6	ND	1
Nitrobenzene	98-95-3	ND	0.2
N-Nitrosodiphenylamine	86-30-6	ND	0.2
N-Nitrosodi-n-propylamine	621-64-7	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Pyrene	129-00-0	ND	0.2

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Identification: METHOD BLANK
Lab Number: 9308069-11A
Sample Matrix/Media: SOIL
Extraction Method: EPA 3550
Analytical Method: EPA 8270

Date Sampled: --
Date Received: --
Date Extracted: 08/05/93
Date Analyzed: 08/06/93

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
Base/Neutral Extractables (continued)			
1,2,4-Trichlorobenzene	120-82-1	ND	0.2
Surrogates		Recovery (%)	QC Limits (%)
2-Fluorobiphenyl	321-60-8	91	30 - 115
2-Fluorophenol	367-12-4	113	25 - 121
Nitrobenzene-d5	4165-60-0	81	23 - 120
Phenol-d6	13127-88-3	110	24 - 113
Terphenyl-d14	98904-43-9	108	18 - 137
2,4,6-Tribromophenol	118-79-6	102	19 - 122

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Matrix/Media: SOIL
Preparation Method: SM 5520E
Analysis Method: SM 5520F

Date Received: 08/05/93
Date Prepared: 08/05/93
Date Analyzed: 08/06/93

Lab Number	Sample Identification	Date Sampled	Hydrocarbons (mg/kg)	Detection Limit (mg/kg)
J7A	3A	08/05/93	670	50
08A	3B	08/05/93	3,300	50
J9A	4A	08/05/93	2,500	50
10A	4B	08/05/93	1,900	50
11A	METHOD BLANK	--	ND	50

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received

3A EAST End Waste oil Tank Excavation
3B WEST " " " "

4A EAST End Lube oil tank Excavation
4B WEST " " " "

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Matrix/Media: SOIL
Preparation Method: EPA 3050
nalysis Method: EPA 6010

Date Received: 08/05/93
Date Prepared: 08/06/93
Date Analyzed: 08/06/93

Lab umber	Sample Identification	Date Sampled	Cadmium (mg/kg)	Detection Limit (mg/kg)
7A	3A	08/05/93	0.4	0.1
11A	METHOD BLANK	--	<0.1	0.1

ND Not detected at or above limit of detection
Not detected at or above limit of detection
- Information not available or not applicable

esults are reported on a wet weight basis, as received

WASTE OIL tank

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Matrix/Media: SOIL
Preparation Method: EPA 3050
nalysis Method: EPA 6010

Date Received: 08/05/93
Date Prepared: 08/06/93
Date Analyzed: 08/06/93

Lab umber	Sample Identification	Date Sampled	Chromium (mg/kg)	Detection Limit (mg/kg)
7A	3A	08/05/93	24	1
11A	METHOD BLANK	--	<1	1

ND Not detected at or above limit of detection
Not detected at or above limit of detection
-- Information not available or not applicable

esults are reported on a wet weight basis, as received

WASTE OIL TANK

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Matrix/Media: SOIL
Preparation Method: EPA 3050
Analysis Method: EPA 6010

Date Received: 08/05/93
Date Prepared: 08/06/93
Date Analyzed: 08/06/93

Lab Number	Sample Identification	Date Sampled	Nickel (mg/kg)	Detection Limit (mg/kg)
7A	3A	08/05/93	34	1
11A	METHOD BLANK	--	<1	1

ND Not detected at or above limit of detection
Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received

WASTE oil tank

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

ample Matrix/Media: SOIL
reparation Method: EPA 3050
Analysis Method: EPA 6010

Date Received: 08/05/93
Date Prepared: 08/06/93
Date Analyzed: 08/06/93

Lab Number	Sample Identification	Date Sampled	Lead (mg/kg)	Detection Limit (mg/kg)
7A	3A	08/05/93	75	1
1A	METHOD BLANK	--	<1	1

.D Not detected at or above limit of detection
< Not detected at or above limit of detection
- Information not available or not applicable

Results are reported on a wet weight basis, as received

WASTE OIL TANK

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Matrix/Media: SOIL — Date Received: 08/05/93
Preparation Method: EPA 3550 — Date Prepared: 08/05/93
Analysis Method: EPA 8015 (Modified) — Date Analyzed: 08/06/93

Lab Number	Sample Identification	Date Sampled	TPH-D (mg/kg)	Detection Limit (mg/kg)
02A	1B	08/05/93	330 a	1
04A	2A	08/05/93	14,000	1
05A	2B	08/05/93	13,000	1
06A	2C	08/05/93	890 a	1
07A	3A	08/05/93	1,200 a	1
11A	METHOD BLANK	--	ND	1

ND Not detected at or above limit of detection
Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received
TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.
Sample does not the match typical diesel pattern. Sample appears to be oil.

1-B - East end of Excavation, under gas tank location 12' TO 13' BGS

2-A - Under Diesel pump APX 2' BGS

2-B - East end of Excavation under diesel tank location 12' TO 13' BGS

2-C - WEST END of Diesel tank 12' TO 13' BGS

3-A WASTE OIL TANK EXCAVATION EAST END

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Matrix/Media: SOIL
Preparation Method: EPA 5030
Analysis Method: EPA 8015 (Modified)

Date Received: 08/05/93
Date Prepared: 08/05/93
Date Analyzed: 08/09/93

Lab Number	Sample Identification	Date Sampled	TPH-G (mg/kg)	Detection Limit (mg/kg)
J5A	2B	08/05/93	74a	0.3

ND Not detected at or above limit of detection
< Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received
TPH-G = Volatile petroleum hydrocarbons from C4 to C12 quantitated as gasoline
a Purgeable hydrocarbons quantitated as gasoline may be due to heavier petroleum products

Diesel Tank Excavation EAST End 12' to 13' BgS

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.69

Sample Matrix/Media: SOIL
Preparation Method: EPA 3050
Analysis Method: EPA 6010

Date Received: 08/05/93
Date Prepared: 08/06/93
Date Analyzed: 08/06/93

Lab Number	Sample Identification	Date Sampled	Zinc (mg/kg)	Detection Limit (mg/kg)
7A	3A	08/05/93	130	1
11A	METHOD BLANK	--	<1	1

ND Not detected at or above limit of detection
Not detected at or above limit of detection
- Information not available or not applicable

Results are reported on a wet weight basis, as received

WASTE OIL TANK EXCAVATION

[redacted]

Clayton
ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

Hold for 60 days

For Clayton Use Only	Page ___ of ___
Project No.	
Batch No. 9308069	
Ind. Code	W.P.
Date Logged In	By

REPORT RESULTS TO
Name: Holbrook | Title:
Company: Clayton | Dept. EC
Mailing Address:
City, State, Zip:
Telephone No.: | Telefax No.:

Purchase Order No. | Client Job No. 49872.00

SEND INVOICE TO
Name: MD Holbrook
Company: | Dept.
Address:
City, State, Zip:

Date Results Req.: 8/6/93 Soon | Rush Charges Authorized? ☒ Yes ☐ No | Phone / Fax Results ☐ ☐

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

Special Instructions: (method, limit of detection, etc.)
Notify McElligott with results on 8/6/93 verbel
* Explanation of Preservative:

ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	BTEX	TPH gas	TPH Diesel	Oil & Grease	EC CH 8010	8270 Semi volatiles	Metals Cd, Cr, Pb, Zn, Ni				FOR LAB USE ONLY
1A 1" under gas pump	8/5/93	Soil	Med S.C	1	X	X									01 A
1B East Side tank pit 10' BGS	8/5/93	Soil			X	X	X								02
1C West Side tank pit 10 BGS	" "	Soil			X	X									03
2A under diesel pump 1' deep	8/5/93	Soil			X		X								04
2B tank pit East (diesel) 10' BGS	" "	" "			X	X	X								05
2C Diesel tank pit 10 BGS	" "	" "					X								06
3A Waste oil East tank pit 8' BGS	" "	Soil			X	X	X	X	X	X	X				07
3B " " " West 8' BGS	" "	Soil						X							08
4A Lube oil tank East 8 FT BGS								X							09
4B " " " West 8 FT BGS	↓	↓	↓	↓				X							10

CHAIN OF CUSTODY

Collected by: MD Holbrook (print)		Collector's Signature: MD Holbrook	
Relinquished by: MD Holbrook	Date/Time 8/5/93 1610	Received by:	Date/Time
Relinquished by:	Date/Time	Received at Lab by: Terry Sato	Date/Time 8/5/93 4:10pm
Method of Shipment: Hand D.C.		Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)	

Authorized by: MD Holbrook Date 8/5/93
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive
Novi, MI 48375
(313) 344-1770

Raritan Center
160 Fieldcrest Ave.
Edison, NJ 08837
(908) 225-6040

400 Chastain Center Blvd., N.W.
Suite 490
Kennesaw, GA 30144
(404) 499-7500

1252 Quarry Lane
Pleasanton, CA 94566
(510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

RECEIVED
AUG 1 1 1993
ENVIRONMENTAL ACTIVITIES STAFF
Fed. Exp.

August 9, 1993

Mr. Mike Holbrook
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 49872.00
Clayton Project No.: 93080.70

Dear Mr. Holbrook:

Attached is our analytical laboratory report for the samples received on August 5, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after October 8, 1993, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/tjb
Attachments

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.70

Sample Identification:	1-WD SMPL FR UNDR FUELTANK	Date Sampled:	08/05/93
Lab Number:	9308070-21A	Date Received:	08/05/93
Sample Matrix/Media:	WATER	Date Extracted:	08/06/93
Extraction Method:	EPA 5030	Date Analyzed:	08/06/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	0.4	0.3
o-Xylene	95-47-6	0.5	0.4
p,m-Xylenes	--	ND	0.4
Surrogates		**Recovery (%)**	**QC Limits (%)**
1,4-Difluorobenzene	540-36-3	102	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Water Sample Collected
From under diesel tank

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.70

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9308070-22A	Date Received:	--
Sample Matrix/Media:	WATER	Date Extracted:	08/06/93
Extraction Method:	EPA 5030	Date Analyzed:	08/06/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Surrogates		Recovery (%)	QC Limits (%)
1,4-Difluorobenzene	540-36-3	102	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.70

Sample Identification:	COMPOSITE 9,10,11,12	Date Sampled:	--
Lab Number:	9308070-05A	Date Received:	08/05/93
Sample Matrix/Media:	SOIL	Date Prepared:	08/05/93
Preparation Method:	EPA 5030	Date Analyzed:	08/06/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	0.5	0.3
Surrogates		Recovery (%)	QC Limits (%)
1,4-Difluorobenzene	540-36-3	83	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Soil Excavated From
Around gas & Diesel Tank

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.70

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9308070-23A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	08/05/93
Preparation Method:	EPA 5030	Date Analyzed:	08/06/93
Analytical Method:	EPA 8015/8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
Surrogates		Recovery (%)	QC Limits (%)
1,4-Difluorobenzene	540-36-3	90	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.70

Sample Identification:	COMPOSITE 13,14,15,16	Date Sampled:	--
Lab Number:	9308070-10A	Date Received:	08/05/93
Sample Matrix/Media:	SOIL	Date Extracted:	08/05/93
Extraction Method:	EPA 5030	Date Analyzed:	08/06/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX			
Benzene	71-43-2	0.007	0.005
Ethylbenzene	100-41-4	0.034	0.005
Toluene	108-88-3	0.028	0.005
o-Xylene	95-47-6	0.063	0.005
p,m-Xylenes	--	0.17	0.005
Surrogates		**Recovery (%)**	**QC Limits (%)**
1,4-Difluorobenzene	540-36-3	92	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Soil excavated from
Around gas + Diesel tank

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.70

Sample Identification:	COMPOSITE 21,22,23,24	Date Sampled:	--
Lab Number:	9308070-20A	Date Received:	08/05/93
Sample Matrix/Media:	SOIL	Date Extracted:	08/05/93
Extraction Method:	EPA 5030	Date Analyzed:	08/06/93
Analytical Method:	EPA 8020		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX			
Benzene	71-43-2	0.031	0.005
Ethylbenzene	100-41-4	0.26	0.005
Toluene	108-88-3	0.25	0.005
o-Xylene	95-47-6	0.90	0.005
p,m-Xylenes	--	1.3	0.005
Surrogates		**Recovery (%)**	**QC Limits (%)**
1,4-Difluorobenzene	540-36-3	112	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.70

Sample Matrix/Media: SOIL
Preparation Method: SM 5520E
Analysis Method: SM 5520F

Date Received: 08/05/93
Date Prepared: 08/05/93
Date Analyzed: 08/06/93

Lab Number	Sample Identification	Date Sampled	Hydrocarbons (mg/kg)	Detection Limit (mg/kg)
20A	COMPOSITE 21,22,23,24	--	1,500	50
23A	METHOD BLANK	--	ND	50

ND Not detected at or above limit of detection
Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received

SOIL EXCAVATED FROM
WASTE OIL TANK

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.70

Sample Matrix/Media: WATER
Analysis Method: EPA 160.1

Date Received: 08/05/93
Date Analyzed: 08/05/93

Lab Number	Sample Identification	Date Sampled	Total Dissolved Solids (mg/L)	Detection Limit (mg/L)
1C	1-WD SMPL FR UNDR FUELTANK	08/05/93	720	10
22A	METHOD BLANK	--	<10	10

ND Not detected at or above limit of detection
Not detected at or above limit of detection
- Information not available or not applicable

WATER SAMPLE
FROM UNDER DIESEL TANK

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.70

Sample Matrix/Media: SOIL
Preparation Method: EPA 3550
Analysis Method: EPA 8015 (Modified)

Date Received: 08/05/93
Date Prepared: 08/05/93
Date Analyzed: 08/06/93

Lab Number	Sample Identification	Date Sampled	TPH-D (mg/kg)	Detection Limit (mg/kg)
10A	COMPOSITE 13,14,15,16	--	320 [a]	1
23A	METHOD BLANK	--	ND	1

D Not detected at or above limit of detection
ND Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received
TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.
Sample did not match typical diesel pattern. Sample appears to be oil.

Soil Excavated From
around gas + Diesel Tank

a - Oil may be From asphalt covering on tank

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 49872.00
Clayton Project No. 93080.70

Sample Matrix/Media: SOIL
Preparation Method: EPA 3550
Analysis Method: EPA 8015 (Modified)

Date Received: 08/05/93
Date Prepared: 08/05/93
Date Analyzed: 08/06/93

Lab Number	Sample Identification	Date Sampled	TPH-O (mg/kg)	Detection Limit (mg/kg)
15A	COMPOSITE 17,18,19,20	--	81	4
23A	METHOD BLANK	--	ND	4

ND Not detected at or above limit of detection
Not detected at or above limit of detection
-- Information not available or not applicable

Results are reported on a wet weight basis, as received
TPH-O = Extractable petroleum hydrocarbons from C20 to C42 quantitated as motor oil.

[redacted]

ENVIRONMENTAL CONSULTANTS

A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

Hold For 60 Days

[redacted] Only [redacted] ge_ [redacted]

Project No.	
Batch No.	9308076
Ind. Code	W.P.
Date Logged In 8/5/93	By T. Acton

REPORT RESULTS TO
- Name: Holbrook
- Title:
- Company:
- Dept.:
- Mailing Address:
- City, State, Zip:
- Telephone No.:
- Telefax No.:

Purchase Order No.:
Client Job No. 49872.00

SEND INVOICE TO
- Name: Holbrook
- Company:
- Dept.:
- Address:
- City, State, Zip:

Date Results Req.: 8/6/93
Rush Charges Authorized? ☒ Yes ☐ No
Phone / Fax Results ☐ ☐

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

Special Instructions: (method, limit of detection, etc.)
Call Tony McElligott with results

* Explanation of Preservative:

ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	TPH GAS BTEX	TPH Diesel BTEX	FOR LAB USE ONLY
9 Soil Pile	8/5/93	Soil	1x6 BC	1	X		01A
10 North (Composite)					X		02
11					X		03
12					X		04
13 Soil Pile						X	06A
14 East (Composite)						X	07
15						X	08
16						X	09

CHAIN OF CUSTODY

Collected by: M D Hulbert (print)		Collector's Signature:	
Relinquished by: M D Hulbert	Date/Time 1630 8/5/93	Received by:	Date/Time
Relinquished by:	Date/Time	Received at Lab by: [signature]	Date/Time 8/5/93 4:30pm
Method of Shipment:		Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)	

Authorized by: M D Hulbert Date 8/5/93
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive
Novi, MI 48375
(313) 344-1770

Raritan Center
160 Fieldcrest Ave.
Edison, NJ 08837
(908) 225-6040

400 Chastain Center Blvd., N.W.
Suite 490
Kennesaw, GA 30144
(404) 499-7500

1252 Quarry Lane
Pleasanton, CA 94566
(510) 426-2657

DISTRIBUTION:
- WHITE - Clayton Laboratory
- YELLOW - Clayton Accounting
- PINK - Client Retains

2/92

ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

Hold 60 days

For Clayton Use Only	Page ___ of ___
Project No.	
Batch No. 9308070	
Ind. Code	W.P.
Date Logged In 8/5/93	By T. [illegible]

REPORT RESULTS TO

Name: Holbrook | Title:
Company: | Dept.: ES
Mailing Address:
City, State, Zip:
Telephone No.: | Telefax No.:

Purchase Order No.: | Client Job No.: 49872.00

SEND INVOICE TO

Name: Holbrook
Company: | Dept.:
Address:
City, State, Zip:

Date Results Req.: | Rush Charges Authorized? ☐ Yes ☐ No | Phone / Fax Results ☐ ☐

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

Special Instructions: (method, limit of detection, etc.)

* Explanation of Preservative:

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	Motor Oil TPH Oil	BTEX	Oil & Grease	TPH Diesel	TDS						FOR LAB USE ONLY
17 Lube Oil Tank Soil } Composite				1	X										11A
18				1	X										12
19				1	X										13
20				1	X										14
21 Waste Oil Tank Soil } Composite				1		X	X								16A
22				1		X	X								17
23				1		X	X								18
24				1		X	X								19
1-WD Water Sample From under Diesel Fuel Tank			940mL	2	XP		No MPW								21 A,B
			91L *	[illegible]	X		X	X							21 A,B & 21C

CHAIN OF CUSTODY

Collected by: MD Holbrook (print) | Collector's Signature: MD Holbrook
Relinquished by: MD Holbrook | Date/Time 8/5/93 1635 | Received by: | Date/Time
Relinquished by: | Date/Time | Received at Lab by: [signature] | Date/Time 8/5/93 4:35
Method of Shipment: | Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

1-WD 91L (w/ Approx 100mL)

Authorized by: MD Holbrook Date 8/5/93
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive
Novi, MI 48375
(313) 344-1770

Raritan Center
160 Fieldcrest Ave.
Edison, NJ 08837
(908) 225-6040

400 Chastain Center Blvd., N.W.
Suite 490
Kennesaw, GA 30144
(404) 499-7500

1252 Quarry Lane
Pleasanton, CA 94566
(510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

APPENDIX C

LABORATORY REPORTS; SEPTEMBER 1993 SOIL BORINGS

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

September 22, 1993

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 50945.00
Clayton Project No.: 93090.88

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on September 9, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after October 22, 1993, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/tjb

Attachments

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 50945.00
Clayton Project No. 93090.88

Sample Matrix/Media: SOIL
reparation Method: EPA 3550
nalysis Method: EPA 8015 (Modified)

Date Received: 09/09/93
Date Prepared: 09/13/93
Date Analyzed: 09/14/93

ab o.	Sample Identification	Date Sampled	TPH-D (mg/kg)	Detection Limit (mg/kg)
01A	B4D-7	09/09/93	27a	1
02A	B4D-5	09/09/93	1,700a	1
3A	B8D-4.5	09/09/93	1,500a	1
04A	B9D-5.5	09/09/93	900a	1
05A	B7D-5	09/09/93	1,900a	1
6A	B10D-10	09/09/93	7,000a	1
7A	B11-4.5D	09/09/93	3,800a	1
12A	METHOD BLANK	--	ND	1

ND: Not detected at or above limit of detection
<: Not detected at or above limit of detection
-: Information not available or not applicable

esults are reported on a wet-weight basis, as received.
PH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.

a Sample does not match the typical diesel pattern.
Sample appears to be oil.

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 50945.00
Clayton Project No. 93090.88

Sample Matrix/Media: WATER
Preparation Method: EPA 3510
Analysis Method: EPA 8015 (Modified)

Date Received: 09/09/93
Date Prepared: 09/13/93
Date Analyzed: 09/14/93

Lab No.	Sample Identification	Date Sampled	TPH-D (ug/L)	Detection Limit (ug/L)
08A	BH9-D	09/09/93	110,000a	50
09A	BH10-D	09/09/93	8,500a	50
10A	BH-8D	09/09/93	7,700a	50
11A	METHOD BLANK	--	ND	50

ND: Not detected at or above limit of detection
<: Not detected at or above limit of detection
--: Information not available or not applicable

TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.

a Sample does not match the typical diesel pattern.
Sample appears to be oil.

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 50945.00
Clayton Project No. 93090.88

Sample Matrix/Media: SOIL
Preparation Method: EPA 5030
Analysis Method: EPA 8015 (Modified)

Date Received: 09/09/93
Date Prepared: 09/21/93
Date Analyzed: 09/21/93

Lab No.	Sample Identification	Date Sampled	TPH-G (mg/kg)	Detection Limit (mg/kg)
01A	B4D-7	09/09/93	ND	0.3
02A	B4D-5	09/09/93	1.4a	0.3
03A	B8D-4.5	09/09/93	ND	0.3
04A	B9D-5.5	09/09/93	ND	0.3
05A	B7D-5	09/09/93	ND	0.3
06A	B10D-10	09/09/93	1.1a,b	0.3
07A	B11-4.5D	09/09/93	ND	0.3
12A	METHOD BLANK	--	ND	0.3

ND: Not detected at or above limit of detection
<: Not detected at or above limit of detection
—: Information not available or not applicable

Results are reported on a wet-weight basis, as received.
TPH-G = Volatile petroleum hydrocarbons from C4 to C12 quantitated as gasoline.

a Purgeable hydrocarbons quantitated as gasoline may be due to heavier petroleum product.

b Purgeable hydrocarbons quantitated as gasoline do not match typical gasoline pattern.

Clayton ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

GMC-Oakland

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only | Page 1 of 1
Project No.
Batch No. 9309083
Ind. Code | W.P.
Date Logged In 9/10/93 | By TS

REPORT RESULTS TO
Name Christy Dashnadchi | Title
Company EEC | Dept. EE
Mailing Address
City, State, Zip Pleasanton
Telephone No. | Telefax No.

Purchase Order No. | Client Job No.

SEND INVOICE TO
Name
Company | Dept.
Address
City, State, Zip

Date Results Req.: 2wk TAT | Rush Charges Authorized? ☐ Yes ☐ No | Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.)

* Explanation of Preservative: P=HCl

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	TPH-D	TPH-G	FOR LAB USE ONLY
B4D-7	9/9/93	Soil	2 6X6	1	X	X	01
B4D-5							02
B8D-4.5							03
B2D-5.5							04
B3D-5							05
B10D-10							06
B11-4.5D							07
BH9-D		WATER	gl 1L	1	X		08
BH10D							09
BH-8D							10

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CHAIN OF CUSTODY
Collected by: Edward Daniel (print) | Collector's Signature:
Relinquished by: | Date/Time 9/9/93 15:53
Received by: | Date/Time
Relinquished by: | Date/Time
Received at Lab by: | Date/Time 9/9/93 @ 5:53
Method of Shipment:
Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

September 27, 1993

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 50945.00
Clayton Project No.: 93091.57

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on September 15, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after October 27, 1993, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Harriotte A. Hurley, CIH
Manager, Laboratory Services
Western Operations

HAH/caa

Attachments

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 50945.00
Clayton Project No. 93091.57

mple Identification:	B2-D-2.5	Date Sampled:	09/15/93
b Number:	9309157-12A	Date Received:	09/15/93
Sample Matrix/Media:	SOIL	Date Prepared:	09/21/93
Preparation Method:	EPA 5030	Date Analyzed:	09/22/93
alytical Method:	EPA 8015/8020	Analyst:	SCB

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
EX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
rrogates		**Recovery (%)**	**QC Limits (%)**
a,a,a-Trifluorotoluene	98-08-8	105	50 - 150

): Not detected at or above limit of detection
--: Information not available or not applicable

sults are reported on a wet-weight basis, as received.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 50945.00
Clayton Project No. 93091.57

mple Identification:	B6-D-2	Date Sampled:	09/15/93
.b Number:	9309157-14A	Date Received:	09/15/93
Sample Matrix/Media:	SOIL	Date Prepared:	09/21/93
eparation Method:	EPA 5030	Date Analyzed:	09/22/93
alytical Method:	EPA 8015/8020	Analyst:	SCB

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
TEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	0.005	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	30
Surrogates		**Recovery (%)**	**QC Limits (%)**
a,a,a-Trifluorotoluene	98-08-8	103	50 - 150

D: Not detected at or above limit of detection
--: Information not available or not applicable

esults are reported on a wet-weight basis, as received.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 50945.00
Clayton Project No. 93091.57

mple Identification:	B13-D-3.5	Date Sampled:	--
b Number:	9309157-20A	Date Received:	09/15/93
Sample Matrix/Media:	SOIL	Date Prepared:	09/21/93
Preparation Method:	EPA 5030	Date Analyzed:	09/22/93
alytical Method:	EPA 8015/8020	Analyst:	SCB

alyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
EX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
Surrogates		**Recovery (%)**	**QC Limits (%)**
a,a,a-Trifluorotoluene	98-08-8	105	50 - 150

: Not detected at or above limit of detection
--: Information not available or not applicable

sults are reported on a wet-weight basis, as received.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 50945.00
Clayton Project No. 93091.57

Sample Identification:	B14-D-10.0	Date Sampled:	--
Lab Number:	9309157-21A	Date Received:	09/15/93
Sample Matrix/Media:	SOIL	Date Prepared:	09/21/93
Preparation Method:	EPA 5030	Date Analyzed:	09/22/93
Analytical Method:	EPA 8015/8020	Analyst:	SCB

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	0.005	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	0.9	0.3
Surrogates		**Recovery (%)**	**QC Limits (%)**
a,a,a-Trifluorotoluene	98-08-8	105	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.
a Purgeable hydrocarbons quantitated as gasoline may be due to heavier petroleum product.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 50945.00
Clayton Project No. 93091.57

ıple Identification:	METHOD BLANK	Date Sampled:	--
ɔ Number:	9309157-22A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Prepared:	09/21/93
P: ɐparation Method:	EPA 5030	Date Analyzed:	09/21/93
ılytical Method:	EPA 8015/8020	Analyst:	SCB

ılyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
EX/Gasoline			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
ɔ,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
S··rrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	105	50 - 150

: Not detected at or above limit of detection
--: Information not available or not applicable

sults are reported on a wet-weight basis, as received.

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 50945.00
Clayton Project No. 93091.57

Sample Matrix/Media: SOIL
Preparation Method: SM 5520E
Analysis Method: SM 5520F

Date Received: 09/15/93
Date Prepared: 09/17/93
Date Analyzed: 09/21/93

Lab No.	Sample Identification	Date Sampled	Hydrocarbons (mg/kg)	Detection Limit (mg/kg)
01A	B1-0-5.5	09/15/93	230	50
02A	B2-0-6.5	09/15/93	1,400	50
03A	B3-0-6.0	09/15/93	1,100	50
04A	B7-0-4.5	09/15/93	3,900	50
05A	B7-0-9.5	09/15/93	ND	50
06A	B9-0-5.5	09/15/93	2,100	50
07A	B9-0-9.0	09/15/93	ND	50
08A	B10-0-4.5	09/15/93	160	50
09A	B11-0-4.5	09/15/93	1,100	50
10A	B11-0-6.5	09/15/93	2,500	50
17A	B1-R-6.0	09/15/93	ND	50
22A	METHOD BLANK	--	ND	50

ND: Not detected at or above limit of detection
<: Not detected at or above limit of detection
--: Information not available or not applicable

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 50945.00
Clayton Project No. 93091.57

Sample Matrix/Media: SOIL
Preparation Method: EPA 3550
Analysis Method: EPA 8015 (Modified)

Date Received: 09/15/93
Date Prepared: 09/18/93
Date Analyzed: 09/20/93

Lab No.	Sample Identification	Date Sampled	TPH-D (mg/kg)	Detection Limit (mg/kg)
01A	B1-0-5.5	09/15/93	92a	1
02A	B2-0-6.5	09/15/93	1,400a	1
03A	B3-0-6.0	09/15/93	1,200a	1
04A	B7-0-4.5	09/15/93	350a	1
05A	B7-0-9.5	09/15/93	5a	1
06A	B9-0-5.5	09/15/93	1,500a	1
07A	B9-0-9.0	09/15/93	3a	1
08A	B10-0-4.5	09/15/93	170a	1
09A	B11-0-4.5	09/15/93	1,300a	1
10A	B11-0-6.5	09/15/93	1,100a	1
12A	B2-D-2.5	09/15/93	320a	1
14A	B6-D-2	09/15/93	400a	1
17A	B1-R-6.0	09/15/93	25a	1
18A	B12-D-4.5	09/15/93	1,100a	1
19A	B12-D-7.0	09/15/93	2,400a	1
20A	B13-D-3.5	--	5,400a	1
21A	B14-D-10.0	--	1,000a	1
22A	METHOD BLANK	--	ND	1
22B	METHOD BLANK	--	ND	1

ND: Not detected at or above limit of detection
ND: Not detected at or above limit of detection
---: Information not available or not applicable

Results are reported on a wet-weight basis, as received.
TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.

a Sample does not match the typical diesel pattern.
Sample appears to be oil.

Clayton ENVIRONMENTAL CONSULTANTS

A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

Took Samples off hold 9/16/93 D.D

For Clayton Use Only	Page 1 of 2
Project No.	
Batch No.	9309137
Ind. Code	W.P.
Date Logged In 9/16/93	By T. ALTON

REPORT RESULTS TO

Name Dariush Dastmalchi | Title

Company | Dept.

Mailing Address

City, State, Zip

Telephone No. | Telefax No.

SEND INVOICE TO

Purchase Order No. | Client Job No.

Name GMC Truck Center

Company | Dept.

Address

City, State, Zip

Date Results Req.: | Rush Charges Authorized? ☐ Yes ☐ No | Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.)

* Explanation of Preservative:

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	Hexane	5520 F	TPH-DIESEL							FOR LAB USE ONLY
B1-0-5.5	9/15/93	Soil			X	X	X							01A
B2-0-6.5					X	X	X							02
B3-0-6.8					X	X	X							03
B7-0-4.5					X	X	X							04
9.5					X	X	X							05
B9-0-5.5					X	X	X							06
9.0					X	X	X							07
B10-0-4.5					X	X	X							08
B11-0-4.5					X	X	X							09
B11-0-6.5					X	X	X							10

CHAIN OF CUSTODY

Collected by: DARIUSH DASTMALCHI (print) | Collector's Signature: Dariush Dastmalchi

Relinquished by: Dariush Dastmalchi | Date/Time 9/15/93

Relinquished by: | Date/Time

Method of Shipment:

Received by: | Date/Time

Received at Lab by: | Date/Time 9/15/93

Sample Condition Upon Receipt: ☐ Acceptable ☐ Other (explain)

Authorized by: _____ Date _____

(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770

Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040

400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500

1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

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DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

Clayton ENVIRONMENTAL CONSULTANTS

A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

Took Samples w/ Robb. D.D. 9/16/93

For Clayton Use Only	Page 1 of 2
Project No.	
Batch No.	9309257
Ind. Code	W.P.
Date Logged In 9/16/93	By T. ALTON

REPORT RESULTS TO

Name: Darwish Dastmalchi | Title:
Company: | Dept.:
Mailing Address:
City, State, Zip:
Telephone No.: | Telefax No.:

SEND INVOICE TO

Purchase Order No.: | Client Job No.: 50945.00
Name: GMC Truck Center
Company: | Dept.:
Address:
City, State, Zip:

Date Results Req.: 9/23/93 | Rush Charges Authorized? ☐ Yes ☐ No | Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.)

* Explanation of Preservative:

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	Hold-Hold	TPH-D/Oil	TPH-G/BTXE 5520F	FOR LAB USE ONLY
B2-D-2	9/15/93	Soil		1	X			11 A
-2.5				1	X	X		12
-3.0				1	X			13
				1	X			14
B6-D-2				1	X	X		14 A
-2.5				1	X			15
-3.0				1	X			16
B1-R-6.0				1	X		X	17
B12-D-4.5				1	X	X		18
-7.0				1	X			19
								20

CHAIN OF CUSTODY

Collected by: DARIUSH DASTMALCHI (print) | Collector's Signature: Darwish Dastmalchi
Relinquished by: Darwish Dastmalchi | Date/Time 9/15/93 | Received by: | Date/Time
Relinquished by: | Date/Time | Received at Lab by: Tracy B Burke | Date/Time 9/15/93
Method of Shipment: | Sample Condition Upon Receipt: ☐ Acceptable ☐ Other (explain) 720 pm

Authorized by: _____ Date _____
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

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DISTRIBUTION:
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Clayton ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only | Page ____ of ____
Project No.
Batch No. 9309157
Ind. Code | W.P.
Date Logged In 9/16/93 | By T. Alton

REPORT RESULTS TO
Name Dariush | Title
Company | Dept.
Mailing Address
City, State, Zip
Telephone No. | Telefax No.

Purchase Order No. | Client Job No.

SEND INVOICE TO
Name
Company | Dept.
Address
City, State, Zip

Date Results Req.: | Rush Charges Authorized? ☐ Yes ☐ No | Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.)

* Explanation of Preservative:

Samples are: (check if applicable)
☐ Drinking Water
☐ Collected in the State of New York

ANALYSIS REQUESTED
(Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	Taken off hold 9/24/93 pgs / HOLD	TPH-D/Oil	TPH-g/BTXE 5030							FOR LAB USE ONLY
B13-0-3.5		Soil	2x6 BC	1	X	X	X							20A
B14-0-10.0		↓	↓	↓	X	X	X							21A

Use QC from other 9309157

CHAIN OF CUSTODY
Collected by: (print) | Collector's Signature: Dariush Dastmalchi
Relinquished by: Dariush Dastmalchi | Date/Time | Received by: | Date/Time
Relinquished by: | Date/Time | Received at Lab by: [signature] | Date/Time 9/15/93 17:20
Method of Shipment: | Sample Condition Upon Receipt: ☐ Acceptable ☐ Other (explain)

Authorized by: ____________ Date ____________
(Client Signature Must Accompany Request)

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7600
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
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Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

September 27, 1993

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 50945.00
Clayton Project No.: 93091.14

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on September 10, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after October 27, 1993, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Harriotte A. Hurley, CIH
Manager, Laboratory Services
Western Operations

HAH/caa

Attachments

Analytical Results
for
General Motor Corp.
Client Reference: 50945.00
Clayton Project No. 93091.14

mple Identification: B4-0
ab Number: 9309114-01C
Sample Matrix/Media: WATER
eparation Method: EPA 5030
alytical Method: EPA 8010

Date Sampled: 09/10/93
Date Received: 09/10/93
Date Prepared: 09/22/93
Date Analyzed: 09/22/93
Analyst: NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
rgeable Halocarbons			
Bromodichloromethane	75-27-4	ND	0.7
Bromoform	75-25-2	ND	0.7
Bromomethane	74-83-9	ND	0.7
Carbon tetrachloride	56-23-5	ND	0.6
Chlorobenzene	108-90-7	ND	0.7
Chloroethane	75-00-3	0.9	0.5
2-Chloroethylvinyl ether	110-75-8	ND	1
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.6
Dibromochloromethane	124-48-1	ND	0.6
1,2-Dichlorobenzene	95-50-1	ND	4
1,3-Dichlorobenzene	541-73-1	ND	2
1,4-Dichlorobenzene	106-46-7	ND	4
Dichlorodifluoromethane	75-71-8	ND	1
1,1-Dichloroethane	75-34-3	ND	0.4
1,2-Dichloroethane	107-06-2	ND	0.3
1,1-Dichloroethene	75-35-4	ND	0.2
cis-1,2-Dichloroethene	156-59-2	ND	0.4
trans-1,2-Dichloroethene	156-60-5	ND	0.4
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-dichloropropene	10061-02-6	ND	0.6
Freon 113	76-13-1	ND	0.6
Methylene chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trichloroethene	79-01-6	ND	0.3
Trichlorofluoromethane	75-69-4	ND	0.4
Vinyl chloride	75-01-4	ND	0.5

Analytical Results
for
General Motor Corp.
Client Reference: 50945.00
Clayton Project No. 93091.14

mple Identification:	B4-0	Date Sampled:	09/10/93
ab Number:	9309114-01C	Date Received:	09/10/93
Sample Matrix/Media:	WATER	Date Prepared:	09/22/93
eparation Method:	EPA 5030	Date Analyzed:	09/22/93
alytical Method:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
urrogates		Recovery (%)	QC Limits (%)
Bromochloromethane	74-97-5	87	50 - 150

ND: Not detected at or above limit of detection
: Information not available or not applicable

Analytical Results
for
General Motor Corp.
Client Reference: 50945.00
Clayton Project No. 93091.14

mple Identification: B6-0
ab Number: 9309114-02C
Sample Matrix/Media: WATER
eparation Method: EPA 5030
alytical Method: EPA 8010

Date Sampled: 09/10/93
Date Received: 09/10/93
Date Prepared: 09/22/93
Date Analyzed: 09/22/93
Analyst: NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
rgeable Halocarbons			
Bromodichloromethane	75-27-4	ND	0.7
Bromoform	75-25-2	ND	0.7
Bromomethane	74-83-9	ND	0.7
Carbon tetrachloride	56-23-5	ND	0.6
Chlorobenzene	108-90-7	ND	0.7
Chloroethane	75-00-3	ND	0.5
2-Chloroethylvinyl ether	110-75-8	ND	1
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.6
Dibromochloromethane	124-48-1	ND	0.6
1,2-Dichlorobenzene	95-50-1	ND	4
1,3-Dichlorobenzene	541-73-1	ND	2
1,4-Dichlorobenzene	106-46-7	ND	4
Dichlorodifluoromethane	75-71-8	ND	1
1,1-Dichloroethane	75-34-3	ND	0.4
1,2-Dichloroethane	107-06-2	ND	0.3
1,1-Dichloroethene	75-35-4	ND	0.2
cis-1,2-Dichloroethene	156-59-2	ND	0.4
trans-1,2-Dichloroethene	156-60-5	ND	0.4
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-dichloropropene	10061-02-6	ND	0.6
Freon 113	76-13-1	ND	0.6
Methylene chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trichloroethene	79-01-6	ND	0.3
Trichlorofluoromethane	75-69-4	ND	0.4
Vinyl chloride	75-01-4	ND	0.5

Analytical Results
for
General Motor Corp.
Client Reference: 50945.00
Clayton Project No. 93091.14

mple Identification:	B6-0	Date Sampled:	09/10/93
ab Number:	9309114-02C	Date Received:	09/10/93
Sample Matrix/Media:	WATER	Date Prepared:	09/22/93
P eparation Method:	EPA 5030	Date Analyzed:	09/22/93
alytical Method:	EPA 8010	Analyst:	NAN

nalyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
rrogates		Recovery (%)	QC Limits (%)
Bromochloromethane	74-97-5	94	50 - 150

ND: Not detected at or above limit of detection
: Information not available or not applicable

Analytical Results
for
General Motor Corp.
Client Reference: 50945.00
Clayton Project No. 93091.14

mple Identification:	METHOD BLANK	Date Sampled:	--
b Number:	9309114-05A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	09/22/93
reparation Method:	EPA 5030	Date Analyzed:	09/22/93
alytical Method:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
rgeable Halocarbons			
Bromodichloromethane	75-27-4	ND	0.7
Bromoform	75-25-2	ND	0.7
Bromomethane	74-83-9	ND	0.7
Carbon tetrachloride	56-23-5	ND	0.6
Chlorobenzene	108-90-7	ND	0.7
Chloroethane	75-00-3	ND	0.5
2-Chloroethylvinyl ether	110-75-8	ND	1
Chloroform	67-66-3	ND	0.5
Chloromethane	74-87-3	ND	0.6
Dibromochloromethane	124-48-1	ND	0.6
1,2-Dichlorobenzene	95-50-1	ND	4
1,3-Dichlorobenzene	541-73-1	ND	2
1,4-Dichlorobenzene	106-46-7	ND	4
Dichlorodifluoromethane	75-71-8	ND	1
1,1-Dichloroethane	75-34-3	ND	0.4
1,2-Dichloroethane	107-06-2	ND	0.3
1,1-Dichloroethene	75-35-4	ND	0.2
cis-1,2-Dichloroethene	156-59-2	ND	0.4
trans-1,2-Dichloroethene	156-60-5	ND	0.4
1,2-Dichloropropane	78-87-5	ND	0.5
cis-1,3-Dichloropropene	10061-01-5	ND	0.5
trans-1,3-dichloropropene	10061-02-6	ND	0.6
Freon 113	76-13-1	ND	0.6
Methylene chloride	75-09-2	ND	2
1,1,2,2-Tetrachloroethane	79-34-5	ND	0.5
Tetrachloroethene	127-18-4	ND	0.5
1,1,1-Trichloroethane	71-55-6	ND	0.5
1,1,2-Trichloroethane	79-00-5	ND	0.6
Trichloroethene	79-01-6	ND	0.3
Trichlorofluoromethane	75-69-4	ND	0.4
Vinyl chloride	75-01-4	ND	0.5

Analytical Results
for
General Motor Corp.
Client Reference: 50945.00
Clayton Project No. 93091.14

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9309114-05A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	09/22/93
Preparation Method:	EPA 5030	Date Analyzed:	09/22/93
Analytical Method:	EPA 8010	Analyst:	NAN

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
Surrogates		**Recovery (%)**	**QC Limits (%)**
Bromochloromethane	74-97-5	86	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
General Motor Corp.
Client Reference: 50945.00
Clayton Project No. 93091.14

ample Identification:	B4-0	Date Sampled:	09/10/93
ab Number:	9309114-01A	Date Received:	09/10/93
Sample Matrix/Media:	WATER	Date Prepared:	09/14/93
reparation Method:	EPA 5030	Date Analyzed:	09/14/93
nalytical Method:	EPA 8015/8020	Analyst:	SCB

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
TEX/Gasoline			
Ethylbenzene	100-41-4	ND	0.3
Gasoline	--	ND	50
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Benzene	71-43-2	ND	0.4
Surrogates		**Recovery (%)**	**QC Limits (%)**
a,a,a-Trifluorotoluene	98-08-8	104	50 - 150

D: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
General Motor Corp.
Client Reference: 50945.00
Clayton Project No. 93091.14

mple Identification:	B6-0	Date Sampled:	09/10/93
ab Number:	9309114-02A	Date Received:	09/10/93
Sample Matrix/Media:	WATER	Date Prepared:	09/14/93
eparation Method:	EPA 5030	Date Analyzed:	09/14/93
alytical Method:	EPA 8015/8020	Analyst:	SCB

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
EX/Gasoline			
Ethylbenzene	100-41-4	ND	0.3
Gasoline	--	ND	50
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Benzene	71-43-2	ND	0.4
rrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	104	50 - 150

D: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
General Motor Corp.
Client Reference: 50945.00
Clayton Project No. 93091.14

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9309114-05A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	09/14/93
Preparation Method:	EPA 5030	Date Analyzed:	09/14/93
Analytical Method:	EPA 8015/8020	Analyst:	SCB

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Ethylbenzene	100-41-4	ND	0.3
Gasoline	--	ND	50
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Benzene	71-43-2	ND	0.4
Surrogates		**Recovery (%)**	**QC Limits (%)**
a,a,a-Trifluorotoluene	98-08-8	106	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results of Analysis
for
General Motor Corp.

Client Reference: 50945.00
Clayton Project No. 93091.14

Sample Matrix/Media: WATER
Preparation Method: SM 5520B
Analysis Method: SM 5520F

Date Received: 09/10/93
Date Prepared: 09/15/93
Date Analyzed: 09/22/93

Lab No.	Sample Identification	Date Sampled	Hydrocarbons (mg/L)	Detection Limit (mg/L)
01F	B4-0	09/10/93	18	5
02F	B6-0	09/10/93	ND	5
05A	METHOD BLANK	--	ND	5

D: Not detected at or above limit of detection
<: Not detected at or above limit of detection
--: Information not available or not applicable

Results of Analysis
for
General Motor Corp.

Client Reference: 50945.00
Clayton Project No. 93091.14

Sample Matrix/Media: WATER
Preparation Method: EPA 3510
Analysis Method: EPA 8015 (Modified)

Date Received: 09/10/93
Date Prepared: 09/13/93
Date Analyzed: 09/14/93

Lab No.	Sample Identification	Date Sampled	TPH-D (ug/L)	Detection Limit (ug/L)
01E	B4-0	09/10/93	5,600a	50
02E	B6-0	09/10/93	1,400a	50
05A	METHOD BLANK	--	ND	50

D: Not detected at or above limit of detection
<: Not detected at or above limit of detection
-: Information not available or not applicable

TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.

Sample does not match the typical diesel pattern.
Sample appears to be oil.

Clayton ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

Loc: B-4

For Clayton use Only	Page ___ of ___
Project No.	
Batch No. 9309E14	
Ind. Code	W.P.
Date Logged In 9/13/93	By

REPORT RESULTS TO
Name: D. Dastmalchi — Title:
Company: CEC — Dept.:
Mailing Address:
City, State, Zip:
Telephone No.: — Telefax No.:

Purchase Order No. — Client Job No. 50945.00

SEND INVOICE TO
Name:
Company: GMC OAKLAND — Dept.:
Address:
City, State, Zip:

Date Results Req.: Standard TAT | Rush Charges Authorized? ☐ Yes ☒ No | Phone / Fax Results ☐ ☐

Samples are: (check if applicable) ☐ Drinking Water ☐ Collected in the State of New York

Special Instructions: (method, limit of detection, etc.) 9/24

* Explanation of Preservative: P = Hcl

ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	BTXG	8010	DIESEL	5520F OIL + GREASE	HOLD						FOR LAB USE ONLY
B4-0	9-10-93	WATER	40 ML	2	X P										01 A,B
B4-0	↓	↓	40 ML	2		X			[redacted]						C,D
B4-0			1 LITER	1			X P	—	1409.09						E
B4-0			1 LITER	1				X P	1422 84						↓ F
B6-0			40 ML	2	X P										02 A,B
B6-0			40 ML	2		X									C,D
B6-0			1 LITER	1			X P								E
B6-0			1 LITER	1				X P							↓ F
TRIP BLANK 0070293-Hcl	↓	↓	40 ML	2					X P						03 A,B
TRIP BLANK 0070293	9-10-93	WATER	40 ML	2					X						~~C,D~~ 04 A,B

WATCH holding time

CHAIN OF CUSTODY
Collected by: M. Springman (print) — Collector's Signature: M. Springman
Relinquished by: M. Springman — Date/Time 9-10-93 4:00PM — Received by: — Date/Time
Relinquished by: — Date/Time — Received at Lab by: Terry Salva — Date/Time 9/10/93 4:00p
Method of Shipment: — Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: ______________________ Date ________
(Client Signature Must Accompany Request)

HEADSPACE BTXG VIALS ONLY for B4-0

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

#930727-01W

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

September 23, 1993

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 50945.00
Clayton Project No.: 93091.56

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on September 15, 1993. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after October 23, 1993, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Harriotte A. Hurley, CIH
Manager, Laboratory Services
Western Operations

HAH/caa

Attachments

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 50945.00
Clayton Project No. 93091.56

Sample Identification:	B11-O	Date Sampled:	09/15/93
Lab Number:	9309156-02E	Date Received:	09/15/93
Sample Matrix/Media:	WATER	Date Prepared:	09/16/93
Preparation Method:	EPA 5030	Date Analyzed:	09/16/93
Analytical Method:	EPA 8015/8020	Analyst:	SCB

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	104	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 50945.00
Clayton Project No. 93091.56

Sample Identification:	B14-D	Date Sampled:	09/15/93
Lab Number:	9309156-03F	Date Received:	09/15/93
Sample Matrix/Media:	WATER	Date Prepared:	09/16/93
Preparation Method:	EPA 5030	Date Analyzed:	09/16/93
Analytical Method:	EPA 8015/8020	Analyst:	SCB

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
BTEX/Gasoline			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
Surrogates		**Recovery (%)**	**QC Limits (%)**
a,a,a-Trifluorotoluene	98-08-8	104	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 50945.00
Clayton Project No. 93091.56

mple Identification:	METHOD BLANK	Date Sampled:	--
.b Number:	9309156-06A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	09/16/93
eparation Method:	EPA 5030	Date Analyzed:	09/16/93
alytical Method:	EPA 8015/8020	Analyst:	SCB

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
EX/Gasoline			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
rrogates		**Recovery (%)**	**QC Limits (%)**
a,a,a-Trifluorotoluene	98-08-8	104	50 - 150

D: Not detected at or above limit of detection
--: Information not available or not applicable

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 50945.00
Clayton Project No. 93091.56

Sample Matrix/Media: FREE_PRODUCT
Preparation Method: SM 5520B
Analysis Method: SM 5520F

Date Received: 09/15/93
Date Prepared: 09/20/93
Date Analyzed: 09/20/93

Lab No.	Sample Identification	Date Sampled	Hydrocarbons (mg/L)	Detection Limit (mg/L)
01A	B3-O	09/15/93	150	5
02B	B11-O	09/15/93	10	5
06A	METHOD BLANK	--	ND	5

ND: Not detected at or above limit of detection
<: Not detected at or above limit of detection
--: Information not available or not applicable

Results of Analysis
for
Clayton Environmental Consultants, Inc.

Client Reference: 50945.00
Clayton Project No. 93091.56

Sample Matrix/Media: WATER
Preparation Method: EPA 3510
Analysis Method: EPA 8015 (Modified)

Date Received: 09/15/93
Date Prepared: 09/20/93
Date Analyzed: 09/21/93

Lab No.	Sample Identification	Date Sampled	TPH-D (ug/L)	Detection Limit (ug/L)
J2A	B11-O	09/15/93	6,000a	50
03C	B14-D	09/15/93	10,000a	50
06A	METHOD BLANK	--	ND	50

D: Not detected at or above limit of detection
<: Not detected at or above limit of detection
—: Information not available or not applicable

PH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.

Sample does not match the typical diesel pattern.
Sample appears to be oil.

Clayton
ENVIRONMENTAL CONSULTANTS
A Marsh & McLennan Company

REQUEST FOR LABORATORY ANALYTICAL SERVICES

GMC — Took samples off hold 9/16/93 DD

For Clayton Use Only	Page 1 of 1
Project No.	
Batch No. 9309156	
Ind. Code	W.P.
Date Logged In 9/16/93	By TANIMI

REPORT RESULTS TO
Name: Darius Dastmalchi — Title:
Company: CEC — Dept. E&P
Mailing Address:
City, State, Zip: TLSTN
Telephone No. — Telefax No.

Purchase Order No. — Client Job No.

SEND INVOICE TO
Name:
Company: CEC — Dept. E&P
Address:
City, State, Zip:

Date Results Req.: — Rush Charges Authorized? ☐ Yes ☐ No — Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.) All samples on hold 9/15/93 DD
* Explanation of Preservative: P=HCl

Samples are: (check if applicable) ☐ Drinking Water ☐ Collected in the State of New York

ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/MEDIA	AIR VOLUME (specify units)	Number of Containers	DIESEL	5520 F	(struck)	GAS/BTEX	DIESEL/OIL	Hold				FOR LAB USE ONLY
B3-O	9/15/93	FREE PRODUCT	gl 1L	1	(struck)				X (struck)	X			3/4 Full	01A
↓		↓	↓	1		Xp				X			1/2 Full	B
B11-O		WATER	gl 1L	1	Xp		X (struck)	F					Full	02A
			↓	↓		Xp		Xp F (struck)					↓	B
			gl 40mL	2	(struck)		X (struck) →			X	(struck)	scratched		C,D
			↓	2				Xp						E,F
B14-O			gl 1L	1	(struck)				(X)	combined for one analysis			3/4 Full	03A } CREATE 03
			↓	↓		(struck)			(X)				1/2 Full	B }
			gl 40mL	2			X (struck) →			X		DD scratched out 8010		D,E
↓	↓	↓	↓	2				Xp						F,G

CHAIN OF CUSTODY
Collected by: Paul Stackelberg / Darius D. (print) — Collector's Signature: [signature]
Relinquished by: [signature] — Date/Time 9/15/93 455P — Received by: — Date/Time
Relinquished by: — Date/Time — Received at Lab by: Stacey B. Buffalo — Date/Time 9/15/93 455
Method of Shipment: — Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: ____________ Date ____________
(Client Signature Must Accompany Request)

*TRIP BLANK - 0070293 2 x gl 40ml 04A,B
TRIP BLANK - 0070293 HCl 2x gl 40ml 05A,B

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive, Novi, MI 48375, (313) 344-1770
Raritan Center, 160 Fieldcrest Ave., Edison, NJ 08837, (908) 225-6040
400 Chastain Center Blvd., N.W., Suite 490, Kennesaw, GA 30144, (404) 499-7500
1252 Quarry Lane, Pleasanton, CA 94566, (510) 426-2657

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains

APPENDIX D

GROUNDWATER TECHNOLOGY, INC.
STANDARD OPERATING PROCEDURES

GROUNDWATER TECHNOLOGY, INC.
STANDARD OPERATING PROCEDURE NO. 8
GROUNDWATER MONITORING

Groundwater monitoring of wells at the site shall be conducted using an ORS Environmental Equipment (ORS) INTERFACE PROBE™ or SURFACE SAMPLER™. The INTERFACE PROBE™ is a hand-held, battery-operated device for measuring depth to petroleum product and depth to water as measured from an established datum (*i.e.*, top of the well casing which has been surveyed). Floating separate-phase hydrocarbon (product) thickness is then calculated by subtracting the depth to product from the depth to water. In addition, water elevations are adjusted for the presence of floating product with the following calculation:

(Product Thickness) x (0.8) + (Water Elevation) = Corrected Water Elevation

Note: The factor of 0.8 accounts for the density difference between water and petroleum hydrocarbons.

The thickness of dense non-aqueous phase liquids (DNAPLs) is calculated by subtracting the depth at which the DNAPL is encountered from the total depth of the well. Water-level elevations are not typically corrected for the presence of DNAPLs.

The INTERFACE PROBE™ consists of a dual-sensing probe which utilizes an optical liquid sensor and electrical conductivity to distinguish between water and petroleum products. A coated steel measuring tape transmits the sensor's signals to the reel assembly where an audible alarm sounds a continuous tone when the sensor is immersed in petroleum product and an oscillating tone when immersed in water. The INTERFACE PROBE™ is accurate to 0.01 inch.

A SURFACE SAMPLER™ shall be used for visual inspection of the groundwater to note sheens (difficult to detect with the INTERFACE PROBE™), odors, microbial action, etc.

The SURFACE SAMPLER™ used consists of a 12-inch-long case acrylic tube with a Delrin ball which closes onto a conical surface creating a seal as the sampler is pulled up. The sampler is calibrated in inches and centimeters for visual inspection of product thickness.

To reduce the potential for cross contamination between wells, the monitoring shall take place in order from the least to the most contaminated wells. Wells containing separate-phase hydrocarbons (free product) should be monitored last. Between each monitoring the equipment shall be washed with laboratory-grade detergent and double rinsed with distilled water.

GROUNDWATER TECHNOLOGY, INC.
STANDARD OPERATING PROCEDURE NO. 9
WATER SAMPLING METHODOLOGY

Before water sampling, each well shall be purged by pumping a minimum of four well volumes or until the discharge water indicates stabilization of temperature conductivity and pH. If the well is evacuated before four well volumes are removed or stabilization is achieved, the sample should be taken when the water level in the well recovers to 80 percent of its initial level.

Retrieval of the water sample, sample handling and sample preservation shall be conducted according to Standard Operating Procedure 10 concerning "Sampling for Volatiles in Water." The sampling equipment used shall consist of a Teflon® and/or stainless steel samplers which meet U.S. Environmental Protection Agency (EPA) regulations. Glass vials with Teflon® lids should be used to store the collected samples.

To ensure sample integrity, each vial shall be filled with the sampled water in such a way that the water stands above the lip of the vial. The cap should then be quickly placed on the vial and tightened securely. The vial should then be checked to ensure that air bubbles are not present prior to labeling of the sample. Label information should include a sample identification number, job identification, date, time, type of analysis requested, and sampler's name. Chain-of-custody records shall be completed according to Standard Operating Procedure (SOP) 11 concerning chain of custody.

The vials should be immediately placed in high quality coolers for shipment to the laboratory. The coolers should be packed with sufficient ice or freezer packs to ensure that the samples are kept below 4° Celsius (C). To minimize sample degradation the prescribed analysis shall take place within seven days of sample collection unless specially prepared acidified vials are used.

To minimize the potential for cross contamination between wells, all the well development and water sampling equipment which contacts the groundwater shall be cleaned between each sampling. As a second precautionary measure, the wells shall be sampled in order of increasing contaminant concentrations (the least contaminated well first, the most contaminated well last) as established by previous analysis.

GROUNDWATER TECHNOLOGY, INC.
STANDARD OPERATING PROCEDURE NO. 10
SAMPLING FOR VOLATILES IN WATER (DISSOLVED GASOLINE, SOLVENTS, ETC.)

1. Use only vials properly washed and oven dried (prepared by the laboratory).

2. Use clean sampling equipment. Scrub with Alconox or equivalent laboratory detergent and water followed by a thorough water rinse. Complete with a distilled water rinse.

   Sampling equipment which has come into contact with liquid hydrocarbons (free product) should be regarded with suspicion. Such equipment should have tubing and cables replaced and all resilient parts washed with laboratory detergent solution as indicated above. Visible deposits may have to be removed with hexane. Solvent washing should be followed by detergent washing, as indicated above.

   This procedure is valid for volatile organic analysis only. For extractable organics (for example, pesticides, or base neutrals for U.S. Environmental Protection Agency [EPA] Method 625 a final rinse with pesticide-grade isopropyl alcohol), followed by overnight or oven drying will be necessary.

3. Take duplicate samples. Mark on forms as a single sample with two containers to avoid duplication of analyses.

4. Take a site blank using distilled water or known uncontaminated source. This sample will be run at the discretion of the project manager.

5. Fill out labels and forms as much as possible ahead of time. Use an indelible marker.

6. Preservatives are required for some types of samples. Use specially prepared vials marked as indicated below, or use the appropriate field procedure (SOP 12 for acidification). Make note on forms that samples were preserved. Always have extra vials in case of problems. Samples for volatile analyses should be acidified below pH 2. Eye protection, foot protection, and disposable vinyl gloves are required for handling. Samples designated for expedited service and analyzed within seven (7) days of sampling will be acceptable without preservation. Glasses or goggles (not contact lenses) are necessary for protection of the eyes. Flush eyes with water for 15 minutes if contact occurs and seek medical attention. Rinse off hands frequently with water during handling.

   For sampling chlorinated drinking water supplies for chlorinated volatiles, samples shall be preserved with sodium thiosulfate. Use vials labeled "CONTAINS THIOSULFATE." No particular cautions are necessary.

7. Fill vial to overflowing with water, avoiding turbulence and bubbling as much as possible. Water should stand above lip of vial.

8. Carefully, but quickly, slip cap onto vial. Avoid dropping the Teflon® septum from cap by not inverting cap until it is in contact with the vial. Disc should have Teflon® face toward the water. Also avoid touching white Teflon® face with dirty fingers.

9. Tighten cap securely, invert vial, and tap against hand to see there are not bubbles inside.

10. Label vial, using indelible ink, as follows:

    A. Sample I.D. No.
    B. Job I.D. No.
    C. Date and Time
    D. Type of analysis required
    E. Your name

11. Unless the fabric-type label is used, place Scotch™ tape over the label to preserve its integrity.

12. For chain-of-custody reasons, sample vial should be wrapped end-for-end with Scotch™ tape or evidence tape and signed with indelible ink where the end of the tape seals on itself. The septum needs to be covered.

13. Chill samples immediately. Samples to be stored should be kept at 4° Celsius (C) (39.2° Fahrenheit [F]). Samples received at the laboratory above 10°C (as measured at glass surface by a thermocouple probe), after overnight shipping, will be considered substandard, so use a high quality cooler with sufficient ice or freezer packs.

14. Fill out Chain-of-Custody Manifest and Analysis Request Form (see Chain of Custody Procedures, SOP 11).

GROUNDWATER TECHNOLOGY, INC.
STANDARD OPERATING PROCEDURE NO. 11
CHAIN-OF-CUSTODY PROTOCOL

1. Samples must be maintained under custody until shipped or delivered to the laboratory. The laboratory will then maintain custody. A sample is under custody if:

    a) It is in your possession
    b) It is in your view after being in your possession
    c) You locked it up after it was in your possession
    d) It is in a designated secure area

2. Custody of samples may be transferred from one person to another. Each transferrer and recipient must date, sign and note the time on the chain-of-custody form.

3. In shipping, the container must be sealed with tape, and bear the sender's signature across the area of bonding at the ends of the tape to prevent undetected tampering. Each sampling jar should be taped and signed as well. Scotch tape works well.

4. Write "sealed by" and sign in the "Remarks" box at the bottom of the form before sealing the box. Place form in a plastic bag and seal it inside the box.

5. The "REMARKS" section of the form is for documenting details such as:

    a) Correlation of sample numbers if samples are split between labs.
    b) QC numbers when lab is logging in the samples.
    c) Sample temperature and condition when received by lab.
    d) Preservation notation.
    e) pH of samples when opened for analysis (if acidified).
    f) Sampling observation or sampling problem.

6. The chain-of-custody form should be included inside the shipping container. A copy should be sent to the project manager.

7. When the samples are received by the lab, the chain-of-custody form will be dated, signed, and the time noted by a laboratory representative. The form will be retained in the laboratory files along with shipping bills and receipts .

8. At the time of receipt of samples by the laboratory, the shipping container will be inspected and the sealing signature will be checked. The samples will be inspected for condition and bubbles, and the temperature of a representative sample container will be measured

externally by a thermocouple probe (held tightly between two samples) and recorded. The laboratory QC numbers will be placed on the labels, in the accession log, and on the chain-of-custody form. If samples are acidified, their pH will be measured by narrow range pH paper at the time of opening for analysis. All comments concerning procedures requiring handling of the samples will be dated and initialed on the form by the laboratory person performing the procedure. A copy of the completed chain-of-custody form with the comments on sample integrity will be returned to the sampler.

GROUNDWATER TECHNOLOGY, INC.
STANDARD OPERATING PROCEDURE NO. 14
SOIL SAMPLING METHODOLOGY

1. Soil samples should be collected and preserved in accordance with Groundwater Technology Standard Operating Procedure (SOP 15) concerning Soil Sample Collection and Handling when Sampling for Volatile Organics. A hollow stem soil auger should be used to drill to the desired sampling depth. A standard 2 inch diameter split spoon sampler 18 inches in length shall be used to collect the samples. The samples are contained in 2 inch diameter by 6 inch long thin walled brass tube liners fitted into the split spoon sampler (three per sampler).

2. The split spoon sampler should be driven the full depth of the spoon into the soil by a 140 pound hammer. The spoon shall then be extracted from the borehole and the brass tube liners containing the soil sample removed from the sampler. The ends of the liner tubes should be immediately covered with aluminum foil, sealed with a teflon or plastic cap, and taped with duct tape. After being properly identified with sample data entered on a standard chain of custody form the samples shall be placed on dry ice (maintained below 4~C) and transported to the laboratory within 24 hours.

3. One of the three soil samples retrieved at each sample depth shall be analyzed in the field using a photoionization detector and/or explosimeter. The purpose of the field analysis is to provide a means to choose samples to be laboratory analyzed for hydrocarbon concentrations and to enable comparisons between the field and laboratory analyses. The soil sample shall be sealed in a plastic bag and allowed to equilibrate with the air surrounding the soil for approximately 10 minutes. One of the two field vapor instruments shall be used to quantify the amount of hydrocarbon released to the air from the soils. The data shall be recorded on the drill logs at the depth corresponding to the sample point.

GROUNDWATER TECHNOLOGY, INC.
STANDARD OPERATING PROCEDURE NO. 15
SOIL SAMPLE COLLECTION AND HANDLING WHEN SAMPLING FOR VOLATILE ORGANICS

1. Use a sampling means which maintains the physical integrity of the samples. The project sampling protocol will designate a preferred sampling tool. A split spoon sampler with liners, or similar tube sampler which can be sealed, is best.

2. The samples should be sealed in the liner, with teflon plugs (The "California Sampler") or plastic caps.

3. For sending whole-core samples (above):

   A. Seal ends of liner with teflon plugs or plastic caps, leaving no free air space inside.

   B. Tape with duct tape.

   C. Label the sample with the following information: sample identification, depth, date and time, project number and required analyses.

   D. Place in plastic bag labeled with indelible marker. Use Well #, depth, date, and job #.

   E. Place inside a second bag and place a labelling tag inside outer bag.

   F. Enclose samples in a cooler with sufficient ice or dry ice to maintain samples at 4 degrees C during shipment.

   G. Seal cooler with a lock, or tape with samplers signature so tampering can be detected.

   H. Package cooler in a box with insulating material. Chain of custody forms can be placed in a plastic bag in this outer box.

   I. If dry ice is used, a maximum of 5 pounds is allowed by Federal Express without special documents(documents are easy to obtain but are not necessary for under 5 pounds). Write "ORM-A dry ice", "_____ pounds, for research" on outside packaging and on regular airbill under classification. UPS does not accept dry ice.

J. Soil cores kept a 4 degrees C are only viable for up to 7 days when aromatic hydrocarbons are involved. The lab should prepare the samples in methanol once in the lab.

4. Good sampling practice would include preparing 1 out of 5 samples to be prepared in duplicates for analysis. These 4 out of 20 samples will be used for the following purposes:

   A. One in every 20 samples should be analyzed as a field replicate to evaluate the precision of the sampling technique. A minimum of 1 sample per data set is suggested.

   B. An additional 1 in 20 samples should be selected by sampler to be prepared in duplicate as alternative to Step (A). Choose a different soil type if available.

   C. The remaining 2 in 20 samples should be used by lab for spiking with reference materials for internal QC.

   Other QC procedures can be specified at the project manager's discretion. See Table 3-2 (reference 2) attached.

5. Decontamination of equipment in the field requires a detergent wash, with a distilled water rinse.

REFERENCES

1. Soil Sampling Quality Assurance Users Guide, U.S. EPA Environmental Monitoring Systems Laboratory, Las Vegas, NV, EPA 600/4-84-043, May 1984.

2. Preparation of Soil Sampling Protocol. Techniques and Strategies, U.S. EPA, Environmental Monitoring Systems Laboratory, Las Vegas, NV, EPA 600/4-83-020, August 1983 (PB83-206979).

3. Test Methods for Evaluating Solid Waste, U.S. EPA, Office of Solid Waste and Emergency Response, Washington, D.C., SW 846, July 1982.

GROUNDWATER TECHNOLOGY, INC.
STANDARD OPERATING PROCEDURE NO. 19
OPERATION/CALIBRATION OF PHOTOIONIZATION ANALYZER

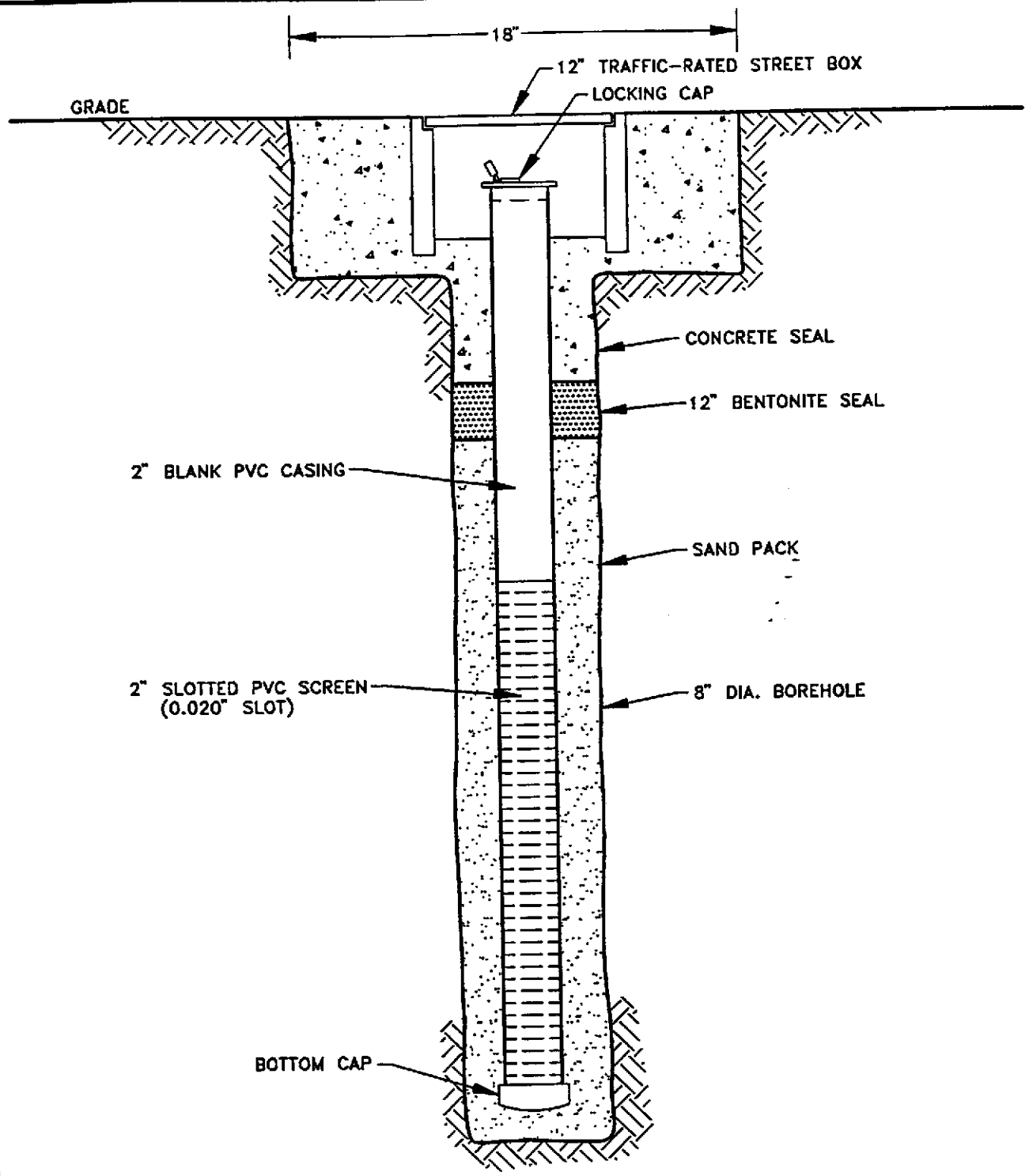
1. The Thermo Environmental Instruments Inc. Model 580B OVM Photoionization Analyzer shall be used, using photoionization, to measure the concentration of trace gases over a range of less than 1 ppm to 2,000 ppm. The specific instrument used for investigations related to hydrocarbon contamination should be calibrated for direct readings in parts per million (ppm) volume/volume of isobutylene. Specifics of the detection principle/theory and functions of various components can be found in the manufactures instruction manual.

2. To assure optimum performance, the photoionization analyzer should be calibrated with a standard gas mixture of known concentration from a pressurized container. A daily procedure for calibration involves bringing the probe and readout close to the calibration gas, cracking the valve on the tank and checking the instrument reading. This provides a useful spot check for the instrument.

3. A procedure conducted weekly for more accurate calibration of the instrument from a pressurized container is to connect one side of a "T" to the pressurized container of calibration gas, another side of the "T" to a rotameter and the third side of the "T" directly to the 8" extension to the photoionization probe (see Figure 2). Crack the valve of the pressurized container until a slight flow is indicated on the rotameter. The instrument draws in the volume of sample required for detection, and the flow in the rotameter indicates an excess of sample. Now adjust the span pot so that the instrument reads the exact value of the calibration gas. (If the instrument span setting is changed, the instrument should be turned back to the standby position and the electronic zero should be readjusted, if necessary).

APPENDIX E

WELL CONSTRUCTION SPECIFICATIONS



GROUNDWATER TECHNOLOGY

NOT TO SCALE

TYPICAL MONITORING WELL CONSTRUCTION

CLIENT: GMC TRUCK CENTER	FILE: FMONWELL		PROJECT NO: 042020136	PM	RG/PE
	REV: 1			FIGURE:	
LOCATION: 8099 COLISEUM WAY OAKLAND, CALIFORNIA	DES: CD	DET: ML	DATE: 1/17/95		

GBD1 Run date: 17Jan95

PRESTIGE

Project: GMC/WHITE TRUCK CENTER

Version: 01 Schedule Data
Targets:

Time Now : 06Feb95
Forecast End: 08Aug95
Required End:

Showing Forecast Dates

LEGEND
Activity Dura
Critical Dura
Actual Progress

ACTIVITY DESCRIPTION	START DATE	FINISH DATE
Alameda County Work Plan Approval	06Feb95	06Feb95
Site Health Plan	07Feb95	14Feb95
Site Investigation	15Feb95	21Jul95
Soil Coring	15Feb95	06Mar95
Drilling & Monitoring Well Installation	07Mar95	04Apr95
Well Development, Surveying & Monitoring	03Apr95	05Apr95
Well Purging, Water Sampling & Analysis	05Apr95	12Apr95
Aquifer Testing	13Apr95	24May95
Baseline Risk Assessment	26May95	21Jul95
Project Reporting	24Jul95	08Aug95