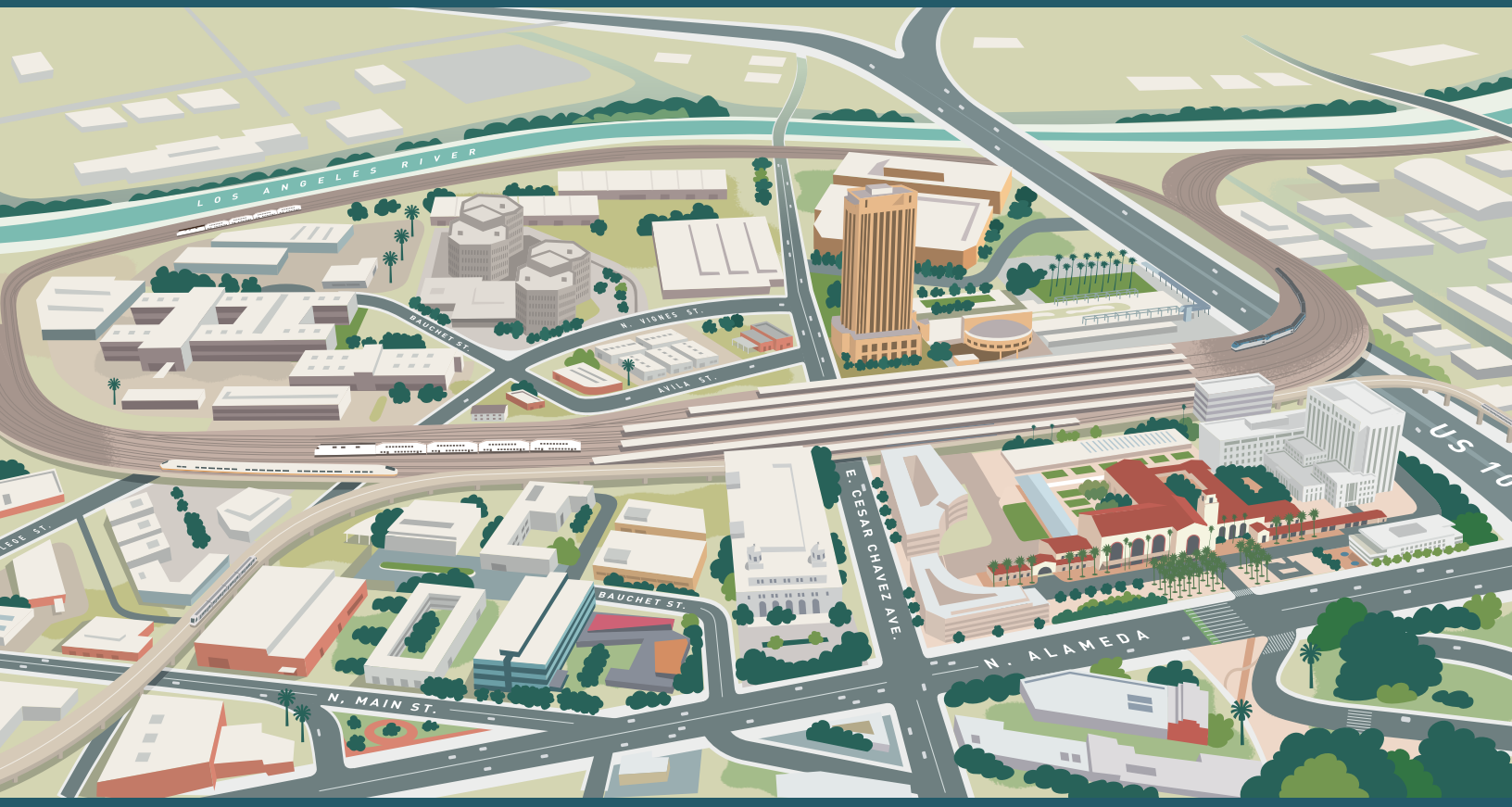
Los Angeles County
Metropolitan Transportation Authority

Link Union Station

DRAFT – Phase I Environmental Site Assessment

October 2016



Metro

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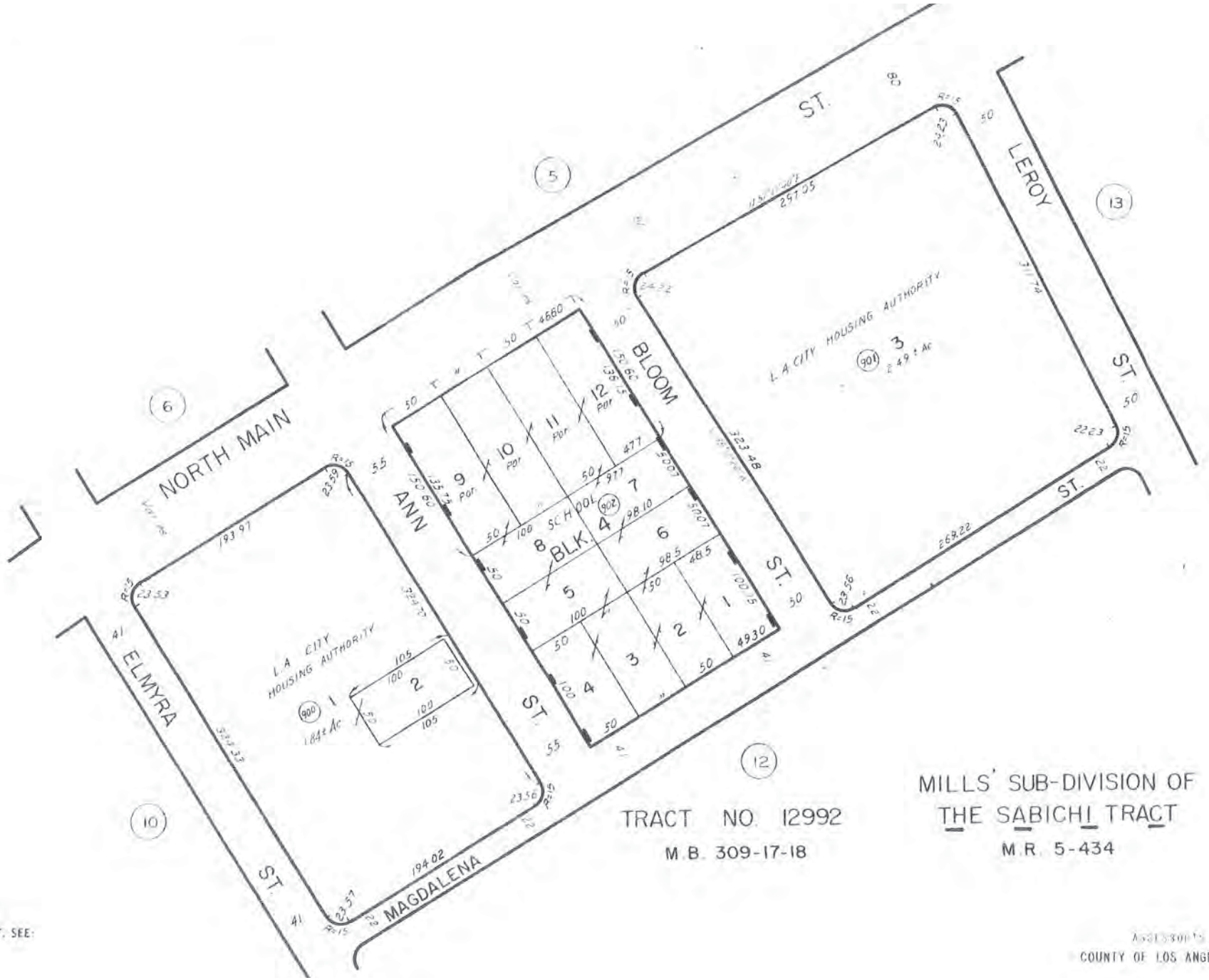
5409	11
CALE 1"	80'



CODE
4

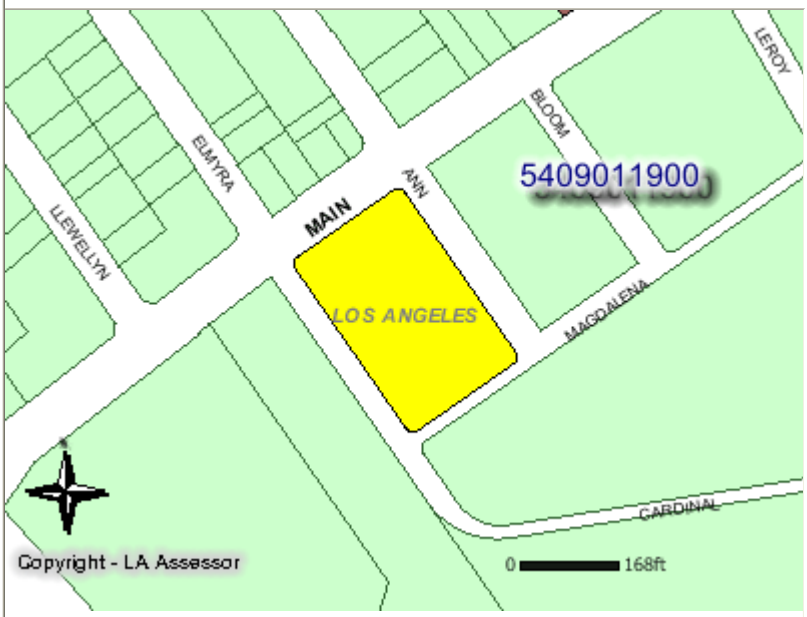
TRACT NO. 12992
M.B. 309-17-18

MILLS' SUB-DIVISION OF
THE SABICHI TRACT
M.R. 5-434

FOR PREV ASSM'T. SEE:
5413-10

ASSESSOR'S MAP
COUNTY OF LOS ANGELES, CALIF.

Los Angeles County
Office of the Assessor



Records for this property are kept at the East District Office
("How frequently is the information updated on this site?" and other FAQs)

Property Information

Assessor's ID No.	5409-011-900
Site Address	No Address Available
Property Type	Other
Region / Cluster	27 / 27870
Tax Rate Area (TRA)	00004

Click Here to View Assessor's Map

(Click Here to View Index Map)

Recent Sale Information

Latest Sale Date
Indicated Sale Price

Search for Recent Sales

2012 Roll Values

Recording Date	02/45/1967
Land	$0
Improvements	$0
Personal Property	$0
Fixtures	$0
Homeowners' Exemption	$0
Real Estate Exemption	$0
Personal Property Exemption	$0
Fixture Exemption	$0

Tax bill payment information for 2012-13
as well as any changes to the 2012 Roll Values
will be available after September 30, 2012.

Estimate Supplemental Taxes

Property Boundary Description

TRACT # 12992 LOTS 1 AND LOT 2

Building Description(s)

No building information is available for this parcel.

Click Here for Another Search

Los Angeles County
Office of the Assessor

Records for this property are kept at the East District Office
("How frequently is the information updated on this site?" and other FAQs)

Property Information

Assessor's ID No.	5409-011-901
Site Address	No Address Available
Property Type	Other
Region / Cluster	27 / 27870
Tax Rate Area (TRA)	00004

Click Here to View Assessor's Map

(Click Here to View Index Map)

Recent Sale Information

Latest Sale Date
Indicated Sale Price

Search for Recent Sales

2012 Roll Values

Recording Date	02/45/1967
Land	$0
Improvements	$0
Personal Property	$0
Fixtures	$0
Homeowners' Exemption	$0
Real Estate Exemption	$0
Personal Property Exemption	$0
Fixture Exemption	$0

Tax bill payment information for 2012-13
as well as any changes to the 2012 Roll Values
will be available after September 30, 2012.

Estimate Supplemental Taxes

Property Boundary Description

TRACT # 12992 LOT 3

Building Description(s)

No building information is available for this parcel.

Click Here for Another Search

5409 | 12

SCALE 1" = 100'

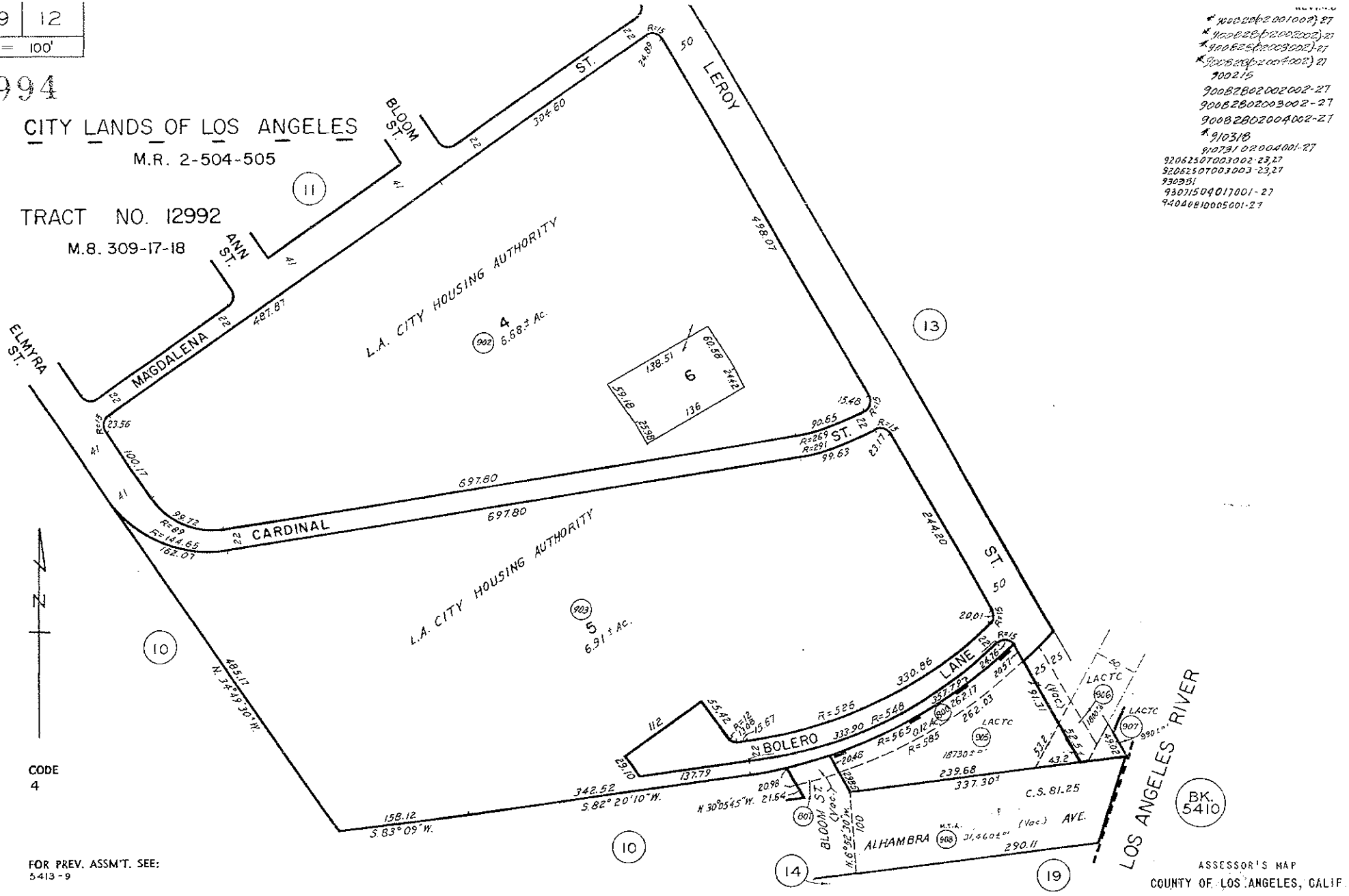
1994

CITY LANDS OF LOS ANGELES

M.R. 2-504-505

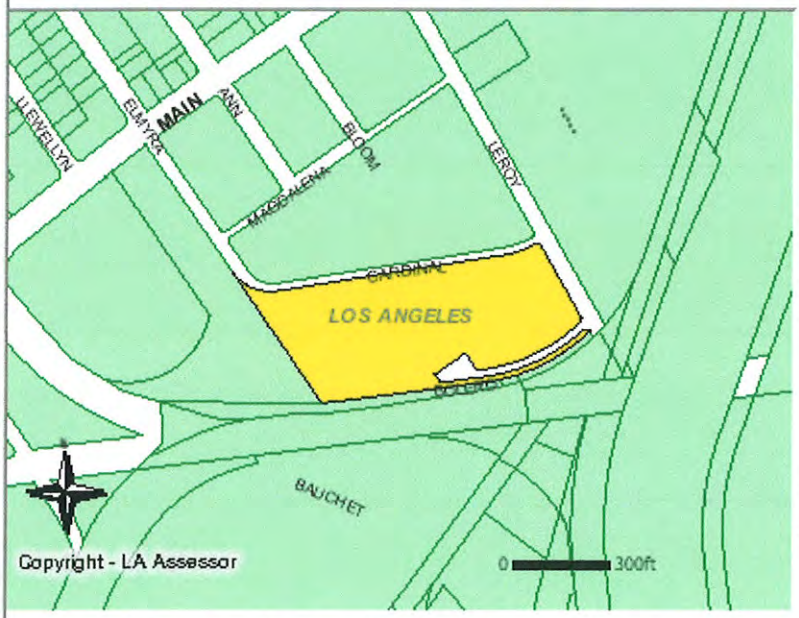
TRACT NO. 12992

M.B. 309-17-18



9008280200100Z) 27
9008280200200Z) 27
9008280200300Z)-27
9008280200400Z) 27
9002/5
9008280200200Z-27
9008280200300Z-27
9008280200400Z-27
9/03/8
9107/31 020040012-27
9206250700300Z-23,27
9206250700300Z-23,27
930331
9307150901700Z-27
9404081000500Z-27

Los Angeles County
Office of the Assessor



Records for this property are kept at the East District
(How frequently is the information updated on this site?

SCAM ALERT: NO FEE NECESSARY FOR VALUE REI

Property Information

Assessor's ID No.	5409-012-903
Site Address	No Address Available
Property Type	Other
Region / Cluster	27 / 27870
Tax Rate Area (TRA)	00004

Click Here to View Assessor's Map

(Click Here to View Index Map)

Recent Sale Information

Latest Sale Date
Indicated Sale Price

Search for Recent Sales

2009 Roll Values

Recording Date	02/45/1967
Land	$0
Improvements	$0
Personal Property	$0
Fixtures	$0
Homeowners' Exemption	$0
Real Estate Exemption	$0
Personal Property Exemption	$0
Fixture Exemption	$0

Click Here for 2009 Annual Taxes

(I have a question regarding my property tax payment

Estimate Supplemental Taxes

Property Boundary Description

TRACT # 12992 LOT 5

Building Description(s)

No building information is available for this parce

Click Here for Another Search

Los Angeles County
Office of the Assessor

Records for this property are kept at the East District
(How frequently is the information updated on this site?

SCAM ALERT: NO FEE NECESSARY FOR VALUE REL

Property Information

Assessor's ID No.	5409-012-902
Site Address	No Address Available
Property Type	Other
Region / Cluster	27 / 27870
Tax Rate Area (TRA)	00004

Click Here to View Assessor's Map

(Click Here to View Index Map)

Recent Sale Information

Latest Sale Date
Indicated Sale Price

Search for Recent Sales

2009 Roll Values

Recording Date	02/45/1967
Land	$0
Improvements	$0
Personal Property	$0
Fixtures	$0
Homeowners' Exemption	$0
Real Estate Exemption	$0
Personal Property Exemption	$0
Fixture Exemption	$0

Click Here for 2009 Annual Taxes

(I have a question regarding my property tax payment

Estimate Supplemental Taxes

Property Boundary Description

TRACT # 12992 LOTS 4 AND LOT 6

Building Description(s)

No building information is available for this parce

Click Here for Another Search

NOTE "1"

C. GANAHL'S SUBDIVISION
OF LOTS 1, 2 AND 5 IN BLOCK "B"
OF THE DESNOYERS TRACT

CITY CLERK: 02/11/09

0 25 50 100 150
SCALE IN FEET

MANUALLY DRAWN
135 B 217

REVISED: FEB. 1997
DIMENSION SHOWN IN ( ) IS UNRECORDED

CITY OF LOS ANGELES
GARY LEE MOORE CITY ENGINEER
BUREAU OF ENGINEERING G I S MAPPING DIV.
RANDY PRICE, P.E. DIVISION ENGINEER

LUIS MONTEMAYOR CHIEF GIS	DATE: AUG. 1990
GRAPHICS INPUT: M. ASRAR	CHECKED BY: E. HORNE

CENTRAL INDEX MAP 135 F 217

135 A 217

GIS CITY CLERK PLOT AS OF FEBRUARY 11, 2009 MAP 695 OF 1903

J-34 - International Bank, 943 N Main Street

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Cal/EPA

Los Angeles Regional Water Quality Control Board

101 Centre Plaza Drive
Monterey Park, CA
91754-2156
(213) 266-7500
FAX (213) 266-7600

Pete Wilson
Governor

September 25, 1997

Mr. Richard McCollister
International Bank Of California
888 South Figueroa Street
Los Angeles, CA 90017

PROPERTY LOCATED AT 943-973 NORTH MAIN STREET, LOS ANGELES, CALIFORNIA (FILE NO. 97-118)

We received a letter of transmittal dated September 23, 1997, from your consultant, Kleinfelder, transmitting copies of two reports titled "Phase I Environmental Site Assessment" dated July 30, 1997, and "Report of Phase II Environmental Site Assessment" dated September 16, 1997, for the property located at the address listed above. The letter also requested Los Angeles Regional Water Quality Control Board staff review the reports and provide a no further action (NFA) letter for the site, if appropriate.

The phase one assessment report provides a review of the previous businesses and chemical use at the site and recommends that a phase two investigation be conducted to address several areas of concern. The phase two assessment report discusses the results of a soil gas survey, which consisted of collecting soil gas samples from nine different locations, characterization of site-specific geology by evaluating soil cuttings and soil samples from nine soil borings at different locations, and evaluating the analytical results of soil and soil gas samples. According to the analytical results, low levels of trichloroethylene (TCE) (95 µg/kg) and perchloroethylene (PCE) (16 µg/kg) were detected in soil gas samples collected from locations SG-1 and SG-2 and soil samples collected from soil boring B-1. Low levels of ethylbenzene (14 µg/kg) and xylenes (42 µg/kg) were detected in shallow soil samples from boring B-5.

Based on the information presented in the reports and the concentration and distribution of TCE, PCE, ethylbenzene, and xylenes in the soil, Board staff have determined that no further action is required for this site.

Please contact Mr. John Geroch at (213) 266-7577 if you have any questions.

J.E. ROSS, Chief
Site Cleanup Unit

cc: Amy Sylvester, Kleinfelder

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J-36 - CA Endowment, 1000 N Alameda Street

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American Integrated Services, Inc.

August 14, 2006
AIS Project No. 24053

Mr. Enrique Casas
Information Technical Unit
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013

SUBJECT: **WDR Closeout Letter**
RWQCB WDR Permit No. 88-57-009(04)
California Endowment Property
1000 N. Alameda Street
Los Angeles, CA

Via Overnight Mail

I declare under penalty of perjury that the following is true and correct. Executed on the 24th day of July, 2006.
RWCQB WDR Closeout – No. 88-57-009(04)
California Endowment Property
1000 N. Alameda Street, Los Angeles, California.

Signatnre:

Title: **Principal**

Dear Enrique;

American Integrated Services, Inc. is pleased to submit our summary letter and documentation to close out the Waste Discharge Requirement for Discharge of Contaminated Soils – 1000 Alameda Street, California, RWQCB WDR Permit No. 88-57-009(04).

As required, we are submitting this letter with an analytical table showing the grab sample analysis taken every 250 cubic yards. Attached is a copy of the June 17, 2004 WDR , tables of analytical data for the soil excavated, which either was taken to Puente Hills (Tables 1 and 2) or Thermal Remediation Solutions in Azusa (Tables 3 and 4), and the site plan showing the area of excavation.

Approximately 37,870 cubic yards of soil were transported to Puente Hills and about 5,245 cubic yards were transported to Thermal Remediation Solutions. All soil excavated from the site was analyzed at least every 250 cubic yards in accordance with the WDR; however, as you will note by the number of

samples on Tables 1 and 3 (more than one every 250 cubic yards), additional samples also were collected based on field observations (we would sample more frequently if some darker colored soil was encountered even if it had no PID readings).

Please note that the soil sampling results shown in Tables 1 and 2 confirm our conformance to the WDR analytical limits and sampling frequency; all soils that went to Puente had no VOCs and less than 1,000 milligrams per kilogram total petroleum hydrocarbons. Although the bulk of the excavation work was performed from June to August 2004, additional shallower excavation activities continued until just recently when in April 2006 construction was completed. The WDR was kept open just in case any additional soil needed to be removed from the site, which was not the case.

Furthermore, as required, we are certifying that all wastes deposited were in compliance with the Regional Board's requirement and that no wastes have been deposited outside of the jurisdiction of the RWQCB as specified in the Regional Board's requirements, directive and conditions of the WDR.

If you have any questions, please feel free to call me at 310-522-1168. I want to thank you and the RWQCB landfill division for your support and assistance in completing this project.

Sincerely,

American Integrated Services, Inc.

David Herrera
Principal

TABLE 1

ANALYTICAL RESULTS OF SOIL DISPOSED AT PUENTE HILLS LANDFILL

Volatile Organic Compounds and Total Petroleum Hydrocarbons

The California Endowment Terminal Annex Property

Los Angeles, California

Results reported in milligrams per kilogram (mg/kg)

Sample[1]	Date	VOC's[2]	Carbon Range for EPA Method 8015												
			C11-C12[3]	C13-C14	C15-C16	C17-C18	C19-C20	C21-C22	C23-C24	C25-C28	C29-C32	C33-C36	C37-C40	C41-C44	C7-C44 total
EX-1	6/10/2004	ND[4]	---[5]	---	---	0.15	1.4	4.2	6.2	39	88	49	59	54	300
EX-2	6/10/2004	ND	---	---	---	---	---	3.5	5.1	20	32	36	33	42	170
EX-3	6/10/2004	ND	---	---	---	10	19	36	45	120	170	110	120	120	750
EX-4	6/10/2004	ND	---	---	---	---	---	1.7	4.1	15	31	27	27	32	140
EX-5	6/10/2004	ND	---	---	1.3	0.82	0.97	2.0	2.5	8.0	23	16	18	21	94
EX-6	6/10/2004	ND	---	---	---	---	---	---	---	---	---	0.35	2.1	3.7	6.2
EX-7	6/10/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-8	6/10/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-9	6/10/2004	ND	---	---	---	---	0.18	2.8	13	42	68	43	43	35	250
EX-10	6/10/2004	ND	---	---	---	0.92	3.5	6.2	8.5	20	34	25	25	28	150
EX-11	6/10/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-12	6/10/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-13	6/10/2004	ND	---	---	---	0.18	0.68	2.1	1.3	3.8	8.2	4.9	4.3	4.3	30
EX-14	6/10/2004	ND	---	---	---	---	0.49	1.2	0.050	---	---	---	---	---	<5.0
EX-15	6/11/2004	ND	---	---	---	2.9	5.5	3.9	2.1	10	22	10	12	6.6	753
EX-16	6/11/2004	ND	---	---	---	1.2	2.0	1.0	1.2	2.6	11	4.8	5.7	5.6	35
EX-17	6/11/2004	ND	---	---	---	5.1	10	10	11	35	48	30	23	15	190
EX-18	6/11/2004	ND	---	---	---	3.3	5.6	11	11	21	43	35	29	24	180
EX-19	6/11/2004	ND	---	---	---	3.4	6.6	6.3	6.6	31	49	34	43	25	200
EX-20	6/11/2004	ND	---	---	---	4.9	7.7	9.0	19	30	54	32	31	31	220
EX-21	6/11/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-SW	6/11/2004	ND	---	---	---	---	---	---	---	0.19	1.4	0.10	---	---	<5.0
EX-SE	6/11/2004	ND	---	---	---	---	---	0.32	0.46	5.5	15	14	8.5	1.1	45
EX-NE	6/11/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-NW	6/11/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX25-062404	6/24/2004	ND	---	---	---	---	---	0.33	1.0	3.9	9.3	6.0	3.8	1.3	26
EX26-062404	6/24/2004	ND	---	---	---	---	---	2.0	2.5	12	24	20	18	8.6	87
EX27-064604	6/24/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX28-062404	6/24/2004	ND	---	---	---	---	---	3.1	6.5	36	7.3	15	18	14	100
EX29-062404	6/24/2004	ND	---	---	---	---	---	0.20	0.76	2.9	9.1	5.0	4.7	3.8	27
EX30-062404	6/24/2004	ND	---	---	---	---	1.6	4.5	11	59	39	36	32	23	210

TABLE 1

ANALYTICAL RESULTS OF SOIL DISPOSED AT PUENTE HILLS LANDFILL

Volatile Organic Compounds and Total Petroleum Hydrocarbons

The California Endowment Terminal Annex Property

Los Angeles, California

Results reported in milligrams per kilogram (mg/kg)

Sample[1]	Date	VOC's[2]	Carbon Range for EPA Method 8015												
			C11-C12[3]	C13-C14	C15-C16	C17-C18	C19-C20	C21-C22	C23-C24	C25-C28	C29-C32	C33-C36	C37-C40	C41-C44	C7-C44 total
EX31-062504	6/25/2004	ND	---	---	---	0.41	2.6	2.6	4.2	5.7	46	18	20	14	110
EX32-062504	6/25/2004	ND	---	---	---	---	---	0.075	0.88	6.0	6.7	2.0	2.8	0.35	19
EX33-062504	6/25/2004	ND	---	---	---	0.15	1.7	1.8	2.2	13	10	6.4	7.0	4.7	47
EX34-062504	6/25/2004	ND	---	---	---	---	---	---	0.14	3.3	8.3	5.7	5.8	2.9	26
EX35-062504	6/25/2004	ND	---	---	---	---	---	0.44	1.3	9.5	9.7	9.1	9.8	5.4	39
EX36-062504	6/25/2004	ND	---	---	---	0.33	1.4	2.9	3.5	10	7.4	4.7	6.3	2.4	39
EX37-062504	6/25/2004	ND	---	---	---	---	---	0.80	2.4	46	25	26	20	9.4	130
EX-32	7/7/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-33	7/7/2004	ND	---	---	0.051	2.7	5.2	12	8.7	24	33	22	21	13	140
EX-34	7/7/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-49	7/16/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-50	7/19/2004	ND	0.16	1.1	1.9	4.6	8.6	10	8.9	11	3.9	0.033	---	---	51
EX-57	7/29/2004	ND	---	---	---	---	---	---	1.9	17	52	54	67	64	260
EX-58	7/29/2004	ND	---	---	---	---	---	---	---	0.22	2.5	2.9	5.1	5.6	16
EX-59	7/29/2004	ND	---	---	---	---	---	---	---	1.4	5.8	6.6	7.1	6.7	28
EX-60	7/29/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-61	7/29/2004	ND	---	---	---	---	---	---	---	6.9	110	33	36	33	210
EX-62	7/29/2004	ND	---	---	---	---	---	0.31	0.81	4.4	11	9.3	11	15	51
EX-63	7/30/2004	ND	---	---	---	---	0.66	1.9	3.2	11	15	10	11	15	68
EX-64	7/30/2004	ND	---	---	---	---	---	---	---	1.0	4.4	4.1	5.8	7.1	22
EX-65	7/30/2004	ND	---	---	---	---	---	---	1.3	7.5	18	16	16	19	78
EX-66	7/30/2004	ND	---	---	---	---	---	---	---	2.0	19	21	22	31	95
EX-67	7/30/2004	ND	---	---	---	---	0.20	2.8	5.7	20	34	26	25	25	140
EX-68	7/30/2004	ND	---	---	---	---	0.81	2.4	3.9	13	19	15	16	18	89
EX-69	7/30/2004	ND	---	---	---	---	---	---	0.079	3.0	6.1	5.5	5.4	5.9	26
EX-70	7/30/2004	ND	---	---	---	---	---	---	---	0.14	1.7	2.2	2.6	3.2	10
EX-71	7/30/2004	ND	---	---	---	---	---	---	---	1.1	3.8	2.9	3.3	4.0	15
EX-72	7/30/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-73	7/30/2004	ND	---	---	---	---	---	0.53	1.3	5.1	8.8	7.1	7.4	6.8	37
BC-1	8/3/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
BC-2	8/3/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0

TABLE 1

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SP-1	8/4/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
SP-2	8/4/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
SP-3	8/4/2004	ND	---	---	---	---	---	---	0.10	1.9	10	5.7	5.3	4.8	28
SP-4	8/5/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-74	8/2/2004	ND	---	---	---	---	0.44	1.4	3.1	26	3.8	18	15	12	79
EX-75	8/2/2004	ND	---	---	---	---	---	0.33	1.5	23	---	8.0	5.7	4.4	34
EX-76	8/2/2004	ND	---	---	---	---	0.80	2.1	4.0	11	17	14	10	8.0	67
EX-77	8/2/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-78	8/2/2004	ND	---	---	---	---	0.14	1.4	2.7	9.1	15	12	11	7.8	59
EX-79	8/2/2004	ND	---	---	---	0.11	0.89	1.4	2.6	6.9	12	12	10	7.5	53
EX-80	8/2/2004	ND	---	---	---	---	0.52	1.3	2.5	7.4	11	9.2	8.8	7.7	48
EX-81	8/2/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-82	8/2/2004	ND	---	---	---	0.20	0.63	1.9	2.5	7.8	12	11	9.4	10	55
EX-83	8/2/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-84	8/2/2004	ND	---	---	---	0.17	1.0	1.4	3.3	10	17	15	14	15	77
EX-85	8/2/2004	ND	---	---	0.35	1.1	2.0	3.2	4.1	13	22	16	17	13	91
EX-86	8/3/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-87	8/3/2004	ND	---	---	0.10	0.43	0.94	0.88	1.1	3.1	9.0	7.5	8.1	6.5	38
EX-88	8/3/2004	ND	---	---	---	---	0.30	0.32	1.0	5.1	11	8.4	9.1	6.2	41
EX-89	8/3/2004	ND	---	---	0.15	1.7	4.4	6.9	11	28	42	30	28	20	170
EX-90	8/3/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-91	8/3/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-92	8/3/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-93	8/3/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-94	8/3/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-95	8/3/2004	ND	---	---	0.57	1.3	1.9	2.9	2.4	6.2	9.3	10	5.4	6.3	46
EX-96	8/3/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-97	8/3/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-98	8/4/2004	ND	---	---	0.070	0.55	1.6	2.0	1.9	4.8	8.0	2.8	1.9	0.36	24
EX-99	8/4/2004	ND	---	---	---	---	---	0.16	0.72	3.0	4.2	0.57	---	---	8.7
EX-100	8/4/2004	ND	---	---	---	---	0.029	0.59	1.4	4.6	5.2	0.41	---	---	12

TABLE 1

ANALYTICAL RESULTS OF SOIL DISPOSED AT PUENTE HILLS LANDFILL

Volatile Organic Compounds and Total Petroleum Hydrocarbons

The California Endowment Terminal Annex Property

Los Angeles, California

Results reported in milligrams per kilogram (mg/kg)

Sample[1]	Date	VOC's[2]	Carbon Range for EPA Method 8015												
			C11-C12[3]	C13-C14	C15-C16	C17-C18	C19-C20	C21-C22	C23-C24	C25-C28	C29-C32	C33-C36	C37-C40	C41-C44	C7-C44 total
EX-101	8/4/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-102	8/4/2004	ND	---	---	---	---	0.31	1.2	2.2	6.7	7.0	0.78	---	---	18
EX-103	8/4/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-104	8/4/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-105	8/4/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-106	8/4/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-107	8/4/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-108	8/4/2004	ND	---	---	---	0.14	0.86	1.2	2.0	5.3	5.9	0.91	---	---	16
EX-109	8/4/2004	ND	---	---	---	---	---	0.25	1.0	4.5	9.0	1.5	0.086	---	16
EX-110	8/4/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-111	8/5/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-112	8/5/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-113	8/5/2004	ND	---	---	---	---	---	0.17	0.62	1.9	4.1	3.6	5.6	4.5	21
EX-114	8/5/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-115	8/5/2004	ND	---	---	---	---	---	0.023	0.14	0.67	3.5	2.7	4.2	4.0	15
EX-116	8/5/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-117	8/5/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-118	8/5/2004	ND	---	---	---	---	---	---	---	6.1	22	22	28	27	110
EX-119	8/5/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-120	8/5/2004	ND	---	---	---	0.51	3.4	3.6	5.3	14	24	19	26	19	110
EX-121	8/5/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-122	8/6/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-123	8/6/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-124	8/6/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-125	8/6/2004	ND	---	---	---	---	---	0.28	0.65	2.4	7.2	4.5	4.8	6.1	26
EX-126	8/6/2004	ND	---	---	---	---	---	---	---	0.47	3.5	2.3	2.6	2.8	12
EX-127	8/6/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-128	8/6/2004	ND	---	---	---	---	0.056	0.63	1.1	3.8	8.9	6.8	8.1	8.1	37
EX-129	8/6/2004	ND	---	---	---	0.13	1.3	3.1	3.1	11	19	14	18	19	89
EX-130	8/6/2004	ND	---	---	---	---	---	0.86	1.1	4.9	16	14	19	21	77
EX-131	8/6/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0

TABLE 1

ANALYTICAL RESULTS OF SOIL DISPOSED AT PUENTE HILLS LANDFILL

Volatile Organic Compounds and Total Petroleum Hydrocarbons

The California Endowment Terminal Annex Property

Los Angeles, California

Results reported in milligrams per kilogram (mg/kg)

Sample[1]	Date	VOC's[2]	Carbon Range for EPA Method 8015												
			C11-C12[3]	C13-C14	C15-C16	C17-C18	C19-C20	C21-C22	C23-C24	C25-C28	C29-C32	C33-C36	C37-C40	C41-C44	C7-C44 total
EX-132	8/6/2004	ND	---	0.23	2.0	5.6	14	16	20	40	48	26	27	23	220
EX-133	8/9/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-134	8/9/2004	ND	---	---	---	---	0.12	1.2	0.27	0.64	1.9	1.7	1.5	2.8	10
EX-135	8/9/2004	ND	---	---	---	---	0.58	1.1	1.4	5.9	12	7.3	7.9	6.9	43
EX-136	8/9/2004	ND	---	0.50	3.0	5.6	7.6	11	13	37	55	40	32	41	240
EX-137	8/9/2004	ND	---	0.12	1.2	2.8	3.3	9.0	5.5	16	19	14	14	13	99
EX-138	8/9/2004	ND	---	---	---	0.62	1.8	3.3	3.8	34	4.9	16	17	17	98
EX-139	8/9/2004	ND	---	---	---	---	---	---	---	0.61	3.3	2.4	2.4	3.1	12
EX-140	8/9/2004	ND	---	---	---	0.43	1.3	2.5	2.4	6.9	13	8.2	10	9.0	54
EX-141	8/9/2004	ND	---	---	---	---	---	---	0.56	2.6	6.9	3.7	3.7	4.4	22
EX-142	8/9/2004	ND	---	0.51	2.1	2.5	2.5	5.4	4.1	13	18	15	15	14	92
EX-143	8/13/2004	ND	---	---	---	0.085	1.2	2.5	4.7	13	27	20	18	14	100
EX-144	8/13/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-145	8/13/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-146	8/13/2004	ND	---	---	---	---	0.27	1.4	2.6	7.7	12	9.8	9.3	7.8	51
EX-147	8/13/2004	ND	---	---	---	0.040	0.87	1.7	2.1	7.3	13	8.9	8.9	8.9	52
EX-148	8/13/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-149	8/13/2004	ND	---	---	---	0.70	1.9	3.1	4.1	11	17	12	12	10	72
EX-150	8/13/2004	ND	---	---	---	---	0.42	1.6	3.2	10	17	14	14	12	73
EX-151	8/13/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-152	8/13/2004	ND	---	---	0.10	0.92	1.8	2.4	3.5	9.7	14	11	10	9.3	63
EX-153	8/13/2004	ND	---	---	---	---	---	---	0.29	1.9	4.5	3.1	3.8	3.8	17
EX-154	8/13/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-155	8/14/2004	ND	---	---	---	---	0.12	1.1	---	---	---	---	---	---	<5.0
EX-156	8/14/2004	ND	---	---	---	---	0.092	1.0	0.17	---	---	---	---	---	<5.0
EX-157	8/14/2004	ND	---	---	---	---	0.029	0.83	0.17	---	---	---	---	---	<5.0
EX-158	8/14/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-159	8/14/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-160	8/14/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-161	8/14/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-162	8/14/2004	ND	---	---	0.92	3.4	5.5	7.9	11	25	35	16	19	21	140

TABLE 1

ANALYTICAL RESULTS OF SOIL DISPOSED AT PUENTE HILLS LANDFILL

Volatile Organic Compounds and Total Petroleum Hydrocarbons

The California Endowment Terminal Annex Property

Los Angeles, California

Results reported in milligrams per kilogram (mg/kg)

Sample[1]	Date	VOC's[2]	Carbon Range for EPA Method 8015												
			C11-C12[3]	C13-C14	C15-C16	C17-C18	C19-C20	C21-C22	C23-C24	C25-C28	C29-C32	C33-C36	C37-C40	C41-C44	C7-C44 total
EX-163	8/14/2004	ND	---	---	---	---	0.49	1.4	2.0	5.7	9.9	5.6	6.1	5.2	36
EX-164	8/14/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-165	8/14/2004	ND	---	---	---	---	0.15	1.4	0.11	---	---	---	---	---	<5.0
EX-166	8/14/2004	ND	---	---	---	---	0.094	1.1	---	---	---	---	---	---	<5.0
EX-167	8/14/2004	ND	---	---	---	---	0.055	1.1	0.15	---	---	---	---	---	<5.0
EX-168	8/14/2004	ND	---	---	---	0.17	1.4	2.2	4.6	10	18	12	6.3	8.5	63
EX-169	8/14/2004	ND	---	---	---	---	1.1	3.4	2.0	8.7	14	10	8.3	7.3	55
EX-170	8/16/2004	ND	---	---	1.4	2.3	2.4	3.2	5.3	15	35	32	34	31	160
EX-171	8/16/2004	ND	---	0.019	1.4	2.2	4.0	4.7	6.8	20	38	30	43	35	190
EX-172	8/16/2004	ND	---	---	0.28	2.6	6.4	9.2	7.5	16	18	9.3	11	8.8	90
EX-173	8/16/2004	ND	---	0.00036	0.58	0.89	2.5	1.9	1.0	3.0	6.0	4.7	4.4	3.6	29
EX-174	8/16/2004	ND	---	0.0066	0.29	1.0	1.8	2.2	3.1	7.1	12	7.3	9.6	8.8	53
EX-175	8/16/2004	ND	---	---	0.22	0.79	1.3	2.5	2.4	5.7	8.7	5.5	9.4	8.9	46
EX-176	8/16/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-177	8/16/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-179	8/21/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-180	8/21/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-181	8/21/2004	ND	---	---	---	---	0.051	1.0	1.5	8.4	16	15	11	12	65

1. Soil samples were collected from the excavated material approximately every 250 cubic yards and additional soil samples were collected based on field observations. The total volume of soil transported to Puente Hills was approximately 37,870 cubic yards, estimated from 2,705 trips with 14 cubic yard trucks.
2. VOC's = volatile organic compounds analyzed by EPA Method 8260B; for a complete list of anlytes, see laboratory analytical reports.
3. 'C' denotes a carbon atom; C7-C11 were not detected in any samples shown in this table.
4. ND = no dectectable VOC's; see laboratory analytical reports for detection limits of each analyte.
5. --- = below laboratory detection limit, which is taken to be the detection limit for C in the diesel range (5.0 mg/kg)

TABLE 2

ANALYTICAL RESULTS OF SOIL DISPOSED AT PUENTE HILLS LANDFILL
TITLE 22 METALS[1]

The California Endowment Terminal Annex Property
Los Angeles, California

Results in milligrams per kilogram (mg/kg)

Sample	Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium (Total)	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
EX-20	6/11/04	<0.750[2]	1.97	60.7	<0.250	0.560	7.18	4.76	13.4	16.9	0.0881	<0.250	6.24	<0.750	<0.250	<0.750	16.3	32.9
USP-METALS 071404	7/14/04	<0.750	1.06	66.3	<0.250	<0.500	7.78	5.58	14.8	18.0	<0.0835	<0.250	6.81	<0.750	<0.250	<0.750	17.5	37.2
EX-60	7/29/04	<0.750	<0.750	32.9	<0.250	<0.500	3.84	3.16	5.35	1.65	0.102	<0.250	3.04	<0.750	<0.250	<0.750	9.79	16.3
EX-80	8/2/04	<0.750	1.50	55.9	<0.250	<0.500	6.71	4.30	13.4	15.0	0.126	0.420	6.30	<0.750	<0.250	<0.750	16.4	40.0
EX-100	8/4/04	<0.750	1.63	64.1	<0.250	<0.500	7.35	4.77	15.5	20.3	0.161	0.957	6.38	<0.750	<0.250	<0.750	17.3	39.5
EX-120	8/5/04	<0.750	1.37	62.0	<0.250	0.691	5.71	3.96	12.1	13.8	0.0903	0.778	5.15	<0.750	<0.250	<0.750	14.2	27.4
EX-140	8/9/04	<0.750	1.44	51.7	<0.250	<0.500	7.21	4.43	8.36	5.96	<0.0835	2.16	5.08	<0.750	<0.250	<0.750	19.6	24.9
EX-160	8/14/04	<0.750	1.67	49.3	<0.250	<0.500	5.37	4.10	7.12	3.42	0.0855	2.21	4.03	<0.750	<0.250	<0.750	15.6	24.1
EX-180	8/21/04	<0.750	<0.750	63.8	<0.250	<0.500	8.55	5.09	9.93	7.64	0.105	2.06	6.11	<0.750	<0.250	<0.750	25.1	28.3

1. Analyzed by EPA Method 6010B, except Mercury (EPA Method 245.5).
2. '<' denotes a value less than the laboratory reporting limit.

TABLE 3

ANALYTICAL RESULTS OF SOIL DISPOSED AT THERMAL REMEDIATION SOLUTIONS
Volatile Organic Compounds and Total Petroleum Hydrocarbons

The California Endowment Terminal Annex Property
Los Angeles, California

Results reported in milligrams per kilogram (mg/kg)

Sample[1]	Date	VOCs[2]	Carbon Range for EPA Method 8015														
			C8[3]	C9-C10	C11-C12	C13-C14	C15-C16[3]	C17-C18	C19-C20	C21-C22	C23-C24	C25-C28	C29-C32	C33-C36	C37-C40	C41-C44	C7-C44 total
EX-22	6/14/2004	ND[4]	---[5]	---	---	---	---	---	---	---	0.92	9.5	23	13	12	11	69
B4@20'	6/22/2004	0.25[6]	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
PBI-062304	6/23/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
PST-062304	6/23/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	2.5	2.4	<5.0
EX-35	7/12/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-36	7/12/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-37	7/13/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-38	7/13/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-39	7/13/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-40	7/13/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-41	7/13/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-42	7/14/2004	ND	---	---	---	---	---	0.39	0.48	1.2	2.9	16	30	15	14	9.5	89.0
EX-43	7/14/2004	ND	---	---	---	---	0.017	0.54	0.91	2.0	1.8	16	0.66	7.8	7.2	6.4	43
EX-44	7/14/2004	ND	---	---	---	---	0.14	0.98	1.8	2.3	3.4	9.1	13	8.3	6.5	5.0	50
EX-45	7/15/2004	ND	---	---	---	---	---	---	---	---	1.0	4.3	10	7.3	7.9	2.1	33.0
EX-46	7/15/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-47	7/15/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-48	7/16/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-51	7/21/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-52	7/21/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-53	7/21/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-54	7/23/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-55	7/23/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-56	7/23/2004	ND	---	---	---	---	---	---	---	---	---	---	---	---	---	---	<5.0
EX-178	8/20/2004	195	0.86	310	670	170	17	9.8	8.2	11	7.9	2.5	---	---	---	---	1,200

1. Soil samples were collected from the excavated material approximately every 250 yd^3.
2. VOCs = Total volatile organic compounds analyzed by EPA Method 8260B; for a complete list of anlytes, see laboratory analytical reports.
3. 'C' denotes a carbon atom; C7 was not detected in any of the samples shown in this table.
4. ND = no dectectable VOCs; see laboratory analytical reports for detection limits on each analyte.
5. --- = below laboratory detection limit, which is taken to be the detection limit for C in the diesel range (5.0 mg/kg)
6. See Table 4 for detected VOCs.

TABLE 4

ANALYTICAL RESULTS OF SOIL DISPOSED AT THERMAL REMEDIATION SOLUTIONS

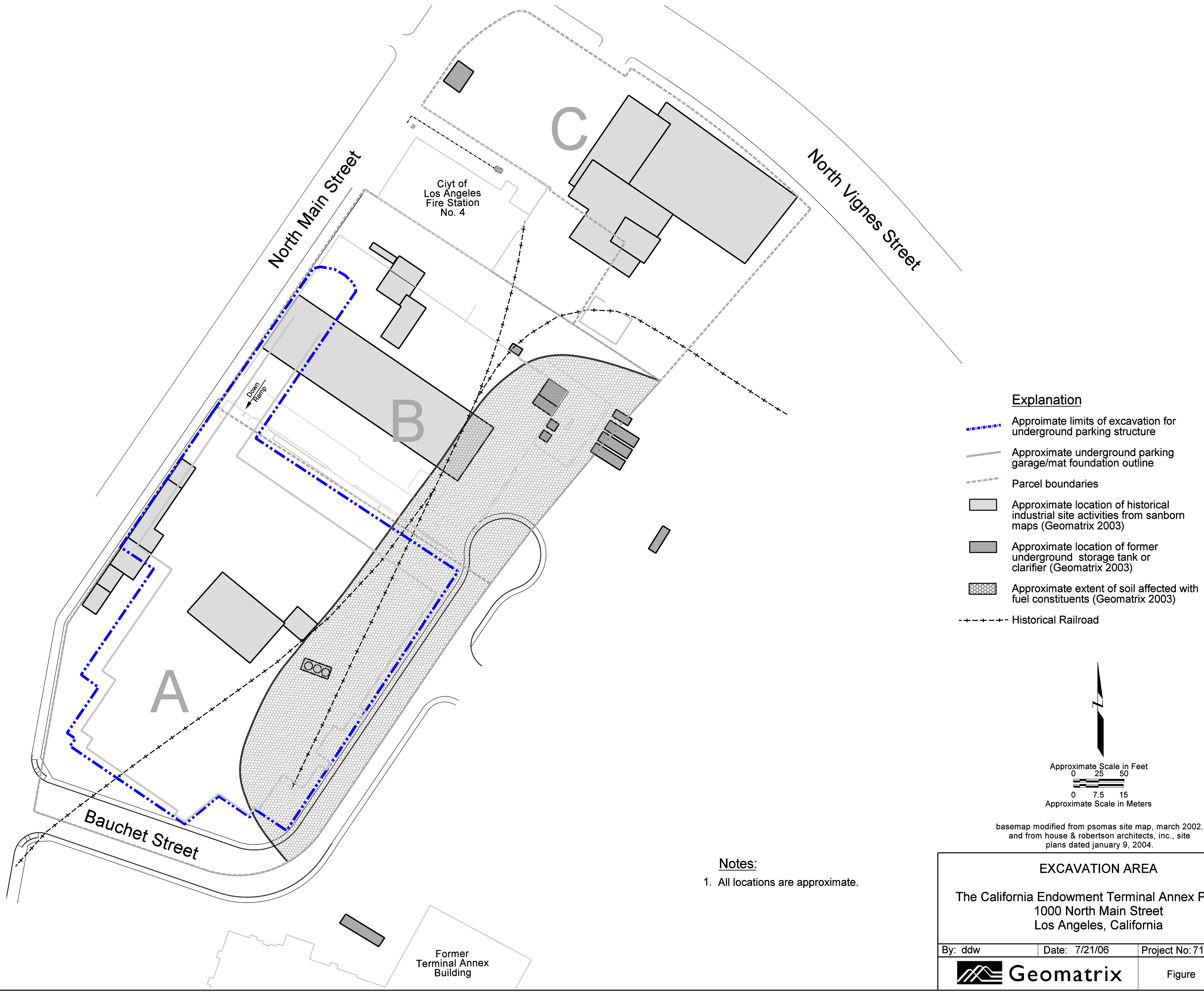
Volatile Organic Compounds[1]

The California Endowment Terminal Annex Property
Los Angeles, California

Results reported in micrograms per kilogram (µg/kg)

Sample	Date	n-Butylbenzene	sec-Butylbenzene	Ethylbenzene	Isopropylbenzene	p-Isopropyltoluene	Naphthalene	n-Propylbenzene	1,2,4-TMB[2]	1,3,5-TMB[3]	Total Xylenes
B4@20'	6/22/2004	10	<5.0	25	6.4	<5.0	110	39	32	8.1	15.2
EX-178	8/20/2004	17000	2400	1700	1400	1300	34000	8100	86000	28000	14800

1. EPA Method 8260B; for a list of analytes not detected in any of the samples see analytical reports attached.
2. 1,2,4-TMB = 1,2,4-Trimethylbenzene.
3. 1,3,5-TMB = 1,3,5-Trimethylbenzene.



North Main Street
North Vignes Street
Bauchet Street
Ciyt of
Los Angeles
Fire Station
No. 4
A
B
C
Down
Ramp
Former
Terminal Annex
Building
Explanation
Approimate limits of excavation for underground parking structure
Approximate underground parking garage/mat foundation outline
Parcel boundaries
Approximate location of historical industrial site activities from sanborn maps (Geomatrix 2003)
Approximate location of former underground storage tank or clarifier (Geomatrix 2003)
Approximate extent of soil affected with fuel constituents (Geomatrix 2003)
Historical Railroad
N
Approximate Scale in Feet
0 25 50
0 7.5 15
Approximate Scale in Meters

basemap modified from psomas site map, march 2002. and from house & robertson architects, inc., site plans dated january 9, 2004.

Notes:

1. All locations are approximate.

EXCAVATION AREA

The California Endowment Terminal Annex Property
1000 North Main Street
Los Angeles, California

By: ddw	Date: 7/21/06	Project No: 7188.001
Geomatrix		Figure 1

J-40 - Mission Tower Site, 1430 Bolero Lane

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CALIFORNIA
Water Boards

EDMUND G. BROWN JR.
GOVERNOR

MATTHEW RODRIQUEZ
SECRETARY FOR
ENVIRONMENTAL PROTECTION

Los Angeles Regional Water Quality Control Board

March 18, 2013

Mr. David C. Clark
BNSF Railway Company
920 SE Quincy
P.O. Box 1738
Topeka, KS 66601

SUBJECT: APPROVAL OF SECOND TIME EXTENSION REQUEST FOR SUBMITTAL OF A GROUNDWATER MONITORING WELL ABANDONMENT REPORT

SITE/CASE: FORMER BURLINGTON NORTHERN AND SANTA FE (BNSF) RAILWAY COMPANY MISSION TOWER SITE, 1430 BOLERO LANE, LOS ANGELES, CALIFORNIA 90012 (SCP NO. 0955, SITE ID NO. 204CF00)

Dear Mr. Clark:

The California Regional Water Quality Control Board, Los Angeles Region (Regional Board) is the public agency with primary responsibility for protection of ground and surface water and their beneficial uses within major portions of Los Angeles and Ventura Counties, including the subject property (Site).

Regional Board staff received a second *Request For Extension* (letter) dated March 14, 2013 prepared by Environmental Resources Management (ERM) on your behalf. In the letter, an additional request is made to the Regional Board to further extend the deadline for a report to document removal of six groundwater monitoring wells (report), which was initially due to the Regional Board by January 15, 2013 as required in a Regional Board No Further Action (NFA) letter dated September 25, 2012. In a Regional Board letter dated January 2, 2013, Regional Board staff granted an initial extension of the report to March 15, 2013.

ERM has been working with the Southern California Regional Rail Authority (SCRRA) to secure access to the Site for conducting the well destruction activities. ERM has submitted the required documents to obtain site access. However, according to the letter, access requirements by the SCRRA have included several time-consuming tasks, including extensive pre-job planning and coordination for conducting work in an active right-of-way, preparation of a well abandonment work plan and supporting documents and submittals to SCRRA, the mandatory requirement for all onsite personnel to attend a SCRRA railroad safety training course, and extensive coordination with a SCRRA subcontractor to schedule mandatory flagging services. In addition, ERM has been subjected to delays during which SCRRA has conducted its own review and approval of ERM's site access application.

As a result, ERM did not have sufficient time to complete the fieldwork and prepare the report to meet the March 15, 2013 submittal deadline. ERM has requested an additional 45-day extension to allow sufficient time to schedule and complete the well abandonment fieldwork and prepare a well abandonment report.

Regional Board staff considers your request reasonable and justified. Therefore, the well abandonment report is hereby granted an extension as requested. The revised submittal date is **April 30, 2013.**

If you have any questions, please contact Mr. Steve Rowe, Project Manager at (213) 576-6755 or srowe@waterboards.ca.gov, or Ms. Thizar Tintut-Williams, Unit Chief, at (213) 576-6723 or twilliams@waterboards.ca.gov.

Sincerely,

Steve Rowe, P.G.
Engineering Geologist
Site Cleanup Program Unit III

cc: Ms. Velma C. Marshall, Metropolitan Transportation Authority
Mr. Allen Blodgett, URS Corporation
Mr. Bruce Neuschaefer, ERM
Mr. Ross Surrency, TRC

J-45 & 46 - Van Der Horst Corporation, 496 and 490 Bauchet Street

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REMEDIAL INVESTIGATION REPORT

for

SECTOR E
FORMER ALISO STREET MGP SITE
LOS ANGELES, CALIFORNIA

(VOLUME I OF V)

Prepared for

The Southern California Gas Company
555 West Fifth Street
Los Angeles, California 90013-1011

Prepared by

Tetra Tech, Inc.
3475 East Foothill Boulevard
Pasadena, California 91107
(626) 470-2462

Master Agreement No.: 6100000232
Service Release No.: 5500000883 and 5500001460
Tetra Tech Project No.: TC 14239-08

May 2004

Final version will be signed and stamped

Prepared by: Karen Summers, R.G.
Principal Hydrogeologist / Task Manager
Tetra Tech, Inc.

Final version will be signed and stamped

Salar D. Niku, Ph.D., P.E.
Program Manager
Tetra Tech, Inc.

Submitted by: Ken Rowland, Senior Project Manager
San Diego Gas & Electric
An Authorized Agent for
Southern California Gas Company

Date

Copy ____ of ____
Copy ____ of ____

DISCLAIMER

This Remedial Investigation Report (Report) is prepared for the sole use and benefit of the Southern California Gas Company (Client) and for the specific Site known as the Former Aliso Street (Sector E) Manufactured Gas Plant (Site), located in Los Angeles, California. **Neither this Report nor any of the information contained therein shall be used or relied upon for any purpose by any person or entity other than the Client and for the Aliso Site.**

This Report was prepared based partially on information supplied to Tetra Tech from outside sources and other information which is in the public domain, and partially on the information Tetra Tech obtained during previous activities at this Site. Documentation for the statements made in the Report is on file at Tetra Tech's Pasadena, California, office. Tetra Tech makes no warranty as to the accuracy of statements made by others which are contained in this Report, nor are any other warranties or guarantees, expressed or implied, included or intended in the Report with respect to information supplied by outside sources or conclusions or recommendations substantially based on information supplied by outside sources. This Report has been prepared in accordance with the current generally accepted practices and standards consistent with the level of care and skill exercised under similar circumstances by other professional consultants or firms performing the same or similar services. Since the facts forming the basis for this Report are subject to professional interpretation, differing conclusions could be reached. Tetra Tech does not assume responsibility for the discovery and elimination of hazards, which could possibly cause accidents, injuries, or damage unless those hazards were apparent, and should have been discovered, as a result of the services Tetra Tech performed for the Client. This Report represents the best professional judgement of Tetra Tech; however, compliance with submitted recommendations or suggestions does not assure elimination of hazards or the fulfillment of the Client's obligations under local, state, or federal laws, or any modifications or changes to such laws.

None of the work performed hereunder shall constitute or be represented as a legal opinion of any kind or nature, but shall be a representation of findings of fact from records examined.

ACKNOWLEDGMENT

This Remedial Investigation Report has been prepared by Tetra Tech, Inc. for Southern California Gas Company

This investigation has been performed under the direct supervision of the California Department of Toxic Substances Control (DTSC). Mr. Pete Cooke is the DTSC's Project Manager performing under the direction of Ms. Rita Kamat.

Ms. Karen Summers, R.G., and Mr. Stephen Anderson, R.G., C.Hg. of Tetra Tech are the principal authors of the RI Report. Dr. Kay Johnson, Ph.D., of Tetra Tech was the principal author of the Section on Human Health Remedial Goals. Dr. Salar Niku, P.E. of Tetra Tech is the Program Manager.

All work was managed under the direction of Mr. Ken Rowland, Senior Project Manager of Southern California Gas Company, managing the work under the supervision of Dr. Todd Sostek.

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This Remedial Investigation Report (Report) is submitted by Southern California Gas Company (SCG) to comply with a Voluntary Cleanup Agreement (VCA) [Docket No. HAS-A00\01-100] executed between the California Environmental Protection Agency (Cal EPA), Department of Toxic Substances Control (DTSC) and SCG, dated October 10, 2000 [DTSC, 2000]

This Report presents the findings of recent and previous investigations on Sector E that is a portion of the former Aliso Street Manufactured Gas Plant (MGP) site. Sector E hereinafter is referred to as the "Site". This Report also presents remedial goals to protect human health and comparison of measured chemical concentrations in soil to these goals. Screening risk analyses for soil gas and groundwater were also conducted.

The most recent field investigation on the Sector E Site included soil, soil gas, and groundwater sampling by TRC. The field investigation of Sector E was included in the Master RI Work plan prepared by Tetra Tech for this activity [Tetra Tech, 2001b], which was approved by DTSC. The field investigation was conducted between March 2002 and January 2003

1.1 SITE LOCATION AND OWNERSHIP

The former Aliso Street MGP site is approximately 52 acres[1] in size, and is located in downtown Los Angeles (Figure 1-1). The Aliso Street site boundary covers an area from south of the railroad tracks by Bauchet Street to the north, across the 101 Hollywood Freeway (also referred to as the Santa Ana Freeway) to about Jackson Street to the south. The middle part of the Aliso Street site is located east of Union Station in Los Angeles, and west of the Los Angeles River. The Aliso Street site is located in Township 1 South, Range 13 West, Section 27 of the San Bernardino Meridian.

The SGC has divided the Aliso Street site into five sectors, A through E, as shown on Figure 1-2, for ease of managing the required investigation activities. SGC determined sector boundaries based on past ownership (The boundaries do not necessarily correspond exactly to the areas used by the former MGP and butadiene facilities).

Sector E is approximately 8.9 acres in extent. Sector E extends from the curved section of Bauchet Street north to the former Alhambra Avenue and the railroads that curve along this latter street. Sector E is bisected by the end section of Bauchet Street, where it meets the above railroad tracks of Union Pacific Railroad. The SCG purchased Sector E in 1942 for the butadiene operations. Sector E was not used by SCG before 1942. Sector E was divided into five lots (441, 451, 490, 496, and 498 –see Figure 1-3) after it was sold following closure of the butadiene plant. A separate RI report was prepared for the lot at 490 Bauchet Street [Tetra Tech, 2002]. Thus, Lot 490 Bauchet Street is not discussed in this RI report

[1] The acreage estimate given here is based on the previous reports that cite the size of the Site as 52 acres based on previous boundaries. The actual acreage of the Site based on current site boundaries is approximately 56.3 acres.

1.2 PURPOSE

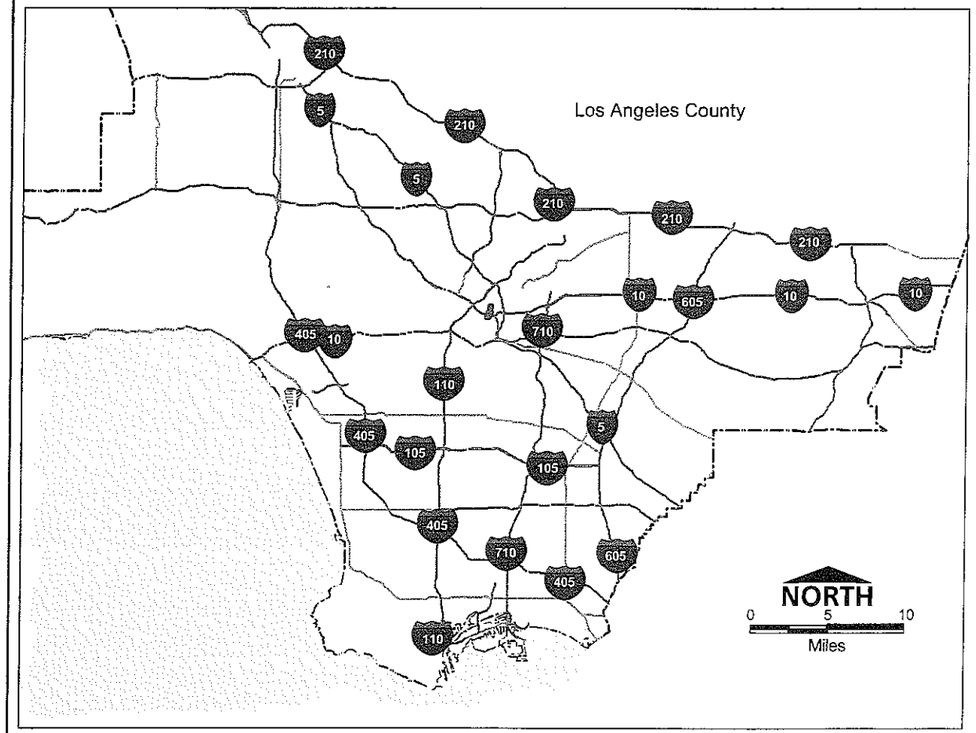
The purpose of the recent field investigation was to identify the extent of contamination in the soil, soil gas, and groundwater on Sector E. Previous site investigations have identified soil and soil gas contamination.

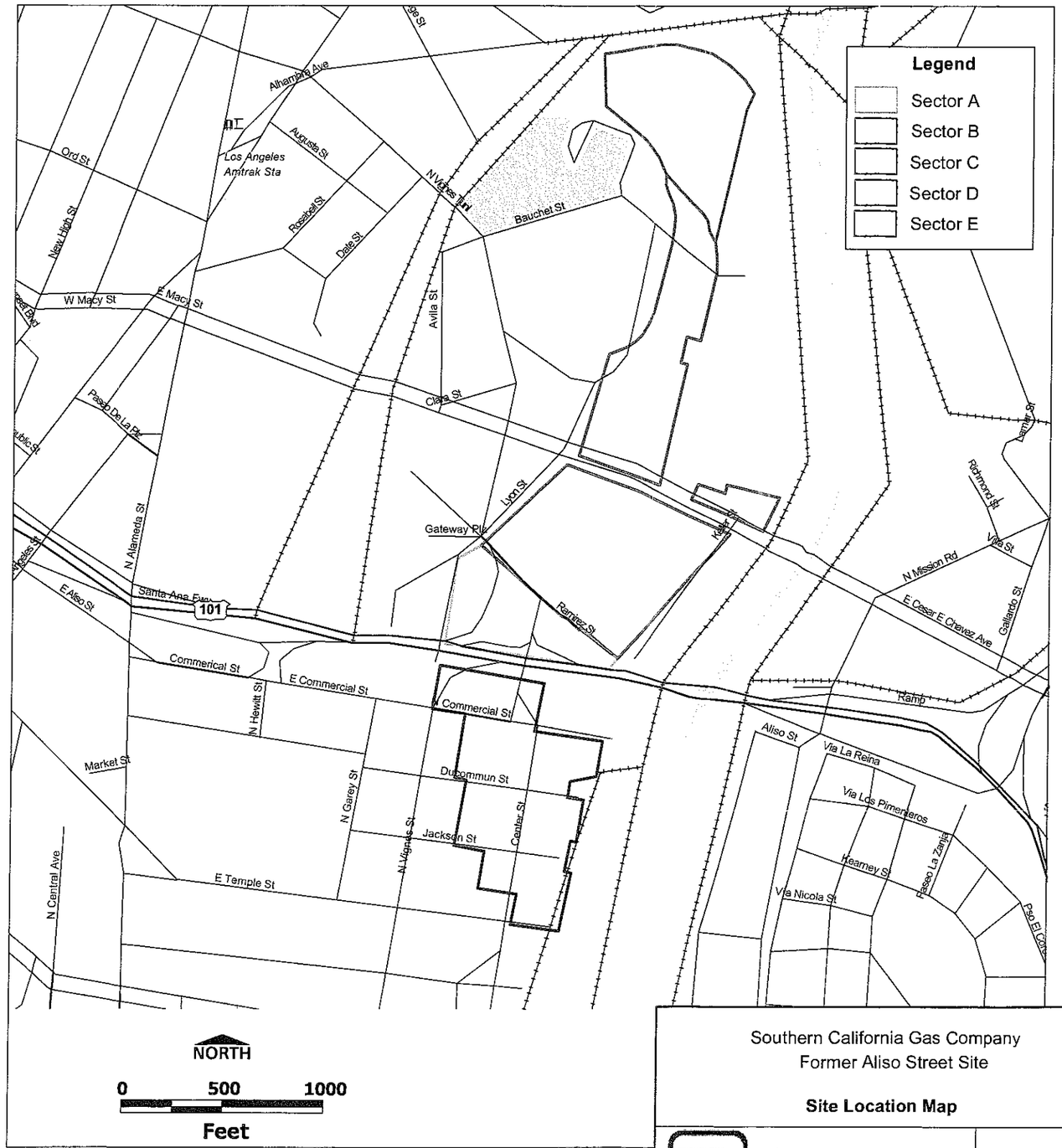
This report discusses the available data from the recent sampling in combination with previous field results. These results are then used to determine risk-based remedial goals for protection of human health. These remedial goals are compared to the measured concentrations in soil at this Site to determine if further remediation is needed.

1.3 CURRENT AND FUTURE LAND USES

Following the demolition of the MGP/butadiene facilities in the early 1950s, the properties formerly occupied by the plant equipment were subdivided and sold to various private and public parties. Sector E was divided into lots and sold to multiple parties, as discussed in Section 2. Lots 441 and 451 of Sector E are part of the Los Angeles County Central Men's Jail Facilities. Two aboveground parking structures are located on part of lot 441 and on lot 498. A paved parking lot is located on lot 496. Lots 441, 451, and 498 are currently owned by Los Angeles County. Lot 496 is owned by Patton-Wilkinson Properties, but is used by the Five Star Parking Company. Lot 490 is owned by Zimmerman Development Company, and is currently vacant.

Most of the remainder of the former Aliso Street MGP site was subsequently redeveloped into commercial, light industrial, public institutional, and transportation land uses. There are no current residential properties within the boundaries of the former Aliso Street site, and specifically not on Sector D. Based on SCG's review of current land use maps and land planning documents, the reasonably anticipated future land uses for the Aliso Street MGP site are expected to remain commercial, industrial, public institutional, and transportation. Land uses may include parking lot or parking structure, office buildings, public institutions, enclosed warehouse spaces, indoor and outdoor manufacturing areas, exterior storage yards, and public transportation right-of-ways (e.g. highways and rail).





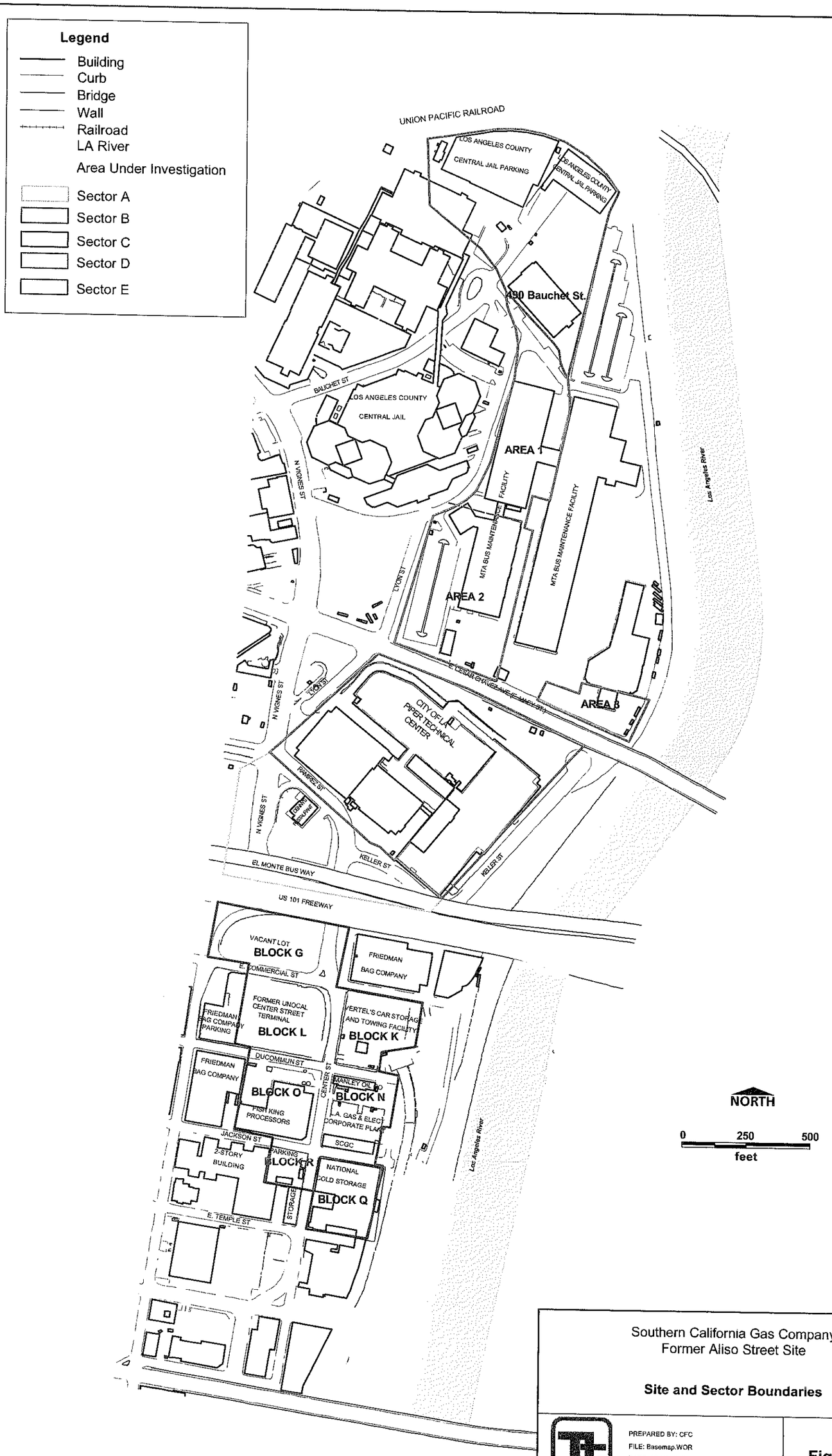
Southern California Gas Company
Former Aliso Street Site

Site Location Map

Tetra Tech, Inc.

PREPARED BY: CFC
FILE: Site_location WOR
DATE: 4-1-2003

Fig. 1-1



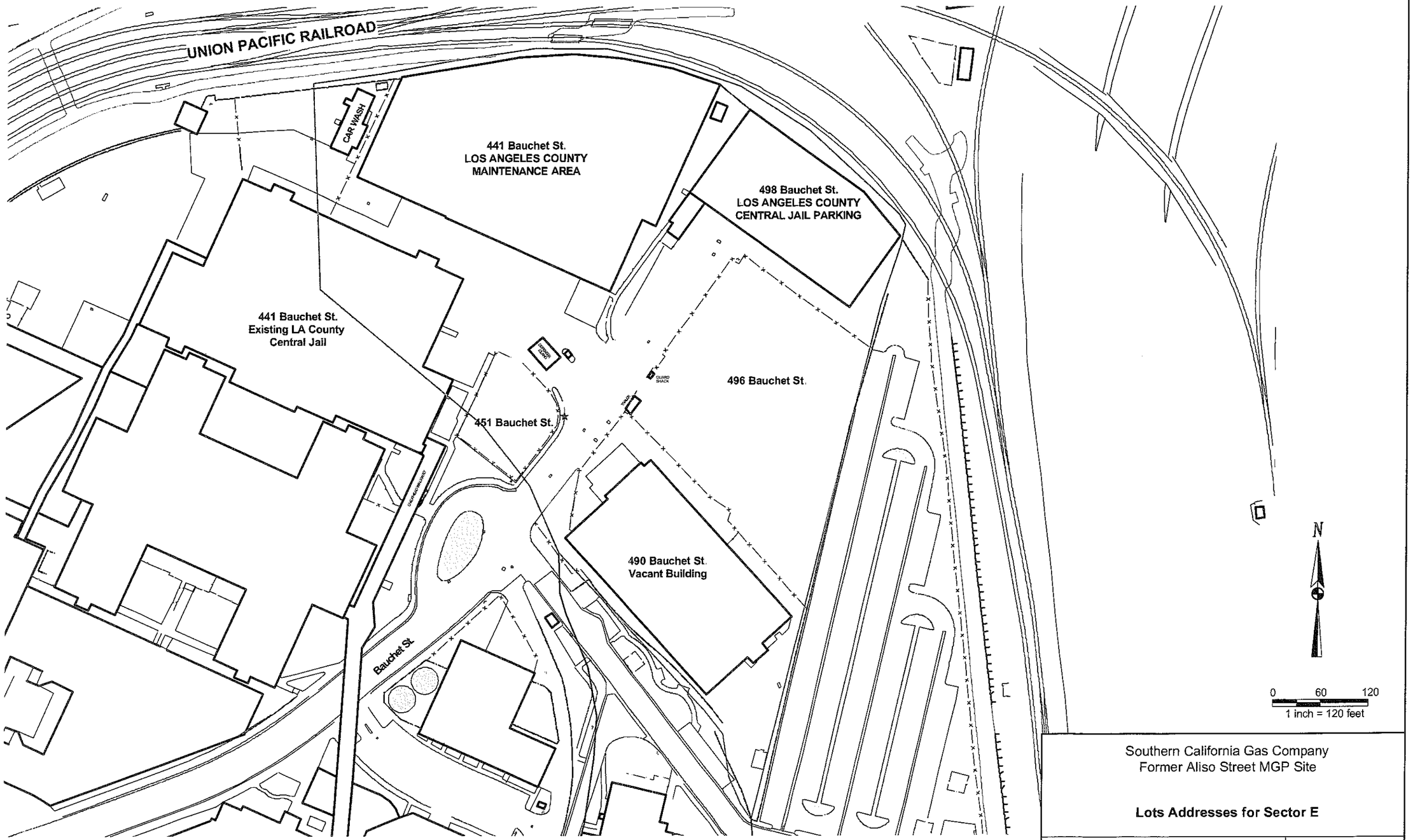
Southern California Gas Company
Former Aliso Street Site

Site and Sector Boundaries

Tetra Tech, Inc.

PREPARED BY: CFC
FILE: Basemap.WOR
DATE: 12-18-2003

Fig. 1-2



Southern California Gas Company
Former Aliso Street MGP Site

Lots Addresses for Sector E

Tetra Tech, Inc.

REVIEW BY:_____
FILE: FULL119230_Sector_E WOR
DATE: 3-30-04

Fig. 1-3

2. SITE BACKGROUND AND PAST INVESTIGATIONS

2.1 SITE BACKGROUND

In this section, the facilities and operations related to the former Aliso Street butadiene-related operations located on Sector E are briefly summarized. There were no operations related to the MGP operations on Sector E, because the property was not bought until 1942. A full discussion of the past operations regarding the entire Aliso Street site has been documented in the Remedial Investigation Master Work Plan [Tetra Tech, 2001].

In this report, Sector E has been divided into three areas based on differing uses. The southeast part of the Sector, referred to as 490 Bauchet Street, is owned by a private party, and was addressed in a separate report [Tetra Tech, 2003] and is not discussed here. This property has a building, which is currently vacant.

The remainder of Sector E has been divided into east and west parts separated by the Bauchet Street extension. Sector E is currently used by the County of Los Angeles for two parking structures one on each side of Bauchet Street and a refueling station near the middle of the west part. Sector E outside of the parking structures and buildings is covered by concrete pavement. Part of a building associated with offices for the Central Men's Jail extends onto Sector E on the southwest part of the property.

Overview of MGP Operations

There were no MGP-related operations on Sector E. For information only, a short summary of the MGP operations is included. The first facilities for the MGP operations were built in 1876 on Sectors A and B. Additional properties on Sector C were bought between 1900 and 1925 and used mostly for gas storage. In 1922, natural gas became available and was mixed with the manufactured gas until January 1927 when straight natural gas was distributed to the Los Angeles market. The Los Angeles Gas and Electric Company placed the gas plant facilities on standby mode in January 1927. This company merged with the SCG in 1937. The gas plant remained on stand-by until administratively retired by SCG in 1941. In 1942, many of the facilities were converted to the production of butadiene, as discussed below.

Butadiene Plant Operations

During World War II beginning in 1942, under contract to the U.S. Defense Plant Corporation, the SCG converted much of its Aliso Street MGP facilities to the production of butadiene, which is a raw material used in the manufacture of synthetic rubber. Additional land was added for these facilities and the MGP facilities were modified. The butadiene plant was operated by SCG under the authority and direction of the U.S. Defense Plant Corporation from 1943 to 1947. The butadiene facilities on the entire Aliso Street site that existed in 1945 are shown on Figure 2-1. Most of the butadiene plant facilities were demolished by 1952, except for the large gasholders and associated equipment that were removed in 1973.

The butadiene manufacturing process involved a series of steps. The first step was heating

vaporized oil distillates and steam in the gas generators. The gas was then cooled in a wash box to remove tars, light oils, and oil emulsions. The vapors passed out of the wash box into a pipeline for transfer to other units for cleaning. This wet butadiene gas was passed through a condensate scrubber and a Cottrell precipitator to remove entrained oil particles, and purifiers with iron oxides to remove hydrogen sulfide. The gas was then stored in a large gasholder on Ducommun Street (Block K in Sector C). The wet butadiene gas was then sent to the Ducommun Street compressor plant (Block N in Sector C) and then to the Hortonsphere on Block R (in Sector C), which acted as a surge tank, and to the Jackson Street compressor unit, also on Block R. The gas pressure was raised in these units to allow the gas to be further processed in the adsorption-distillation plant (Block Q in Sector C). This unit was used to separate valuable fractions from the butadiene gas such as the aromatic liquids, which were separated and sold. The butadiene gas was cooled into a liquid and transferred by pipeline to the City of Torrance for the making of rubber. The remaining residue gas then went through a stripping plant, and the cleaned gas was either used by the plant or pumped into the gas distribution system for outside customers. One of the by-products was dicyclopentadiene from a recovery unit, which was stored in small, aboveground tanks located on the 490 Bauchet Street property on Sector E.

The butadiene-related facilities on Sector E located on the east side of the street extension included two feedstock storage tanks located inside berms (Figure 2-2). On the west side, the facilities included an oil storage tank inside a dike, a yard where iron and wood shavings were stored, and a small office and storage building. Part of the dicyclopentadiene recovery unit extended onto the southeastern corner of Sector E.

Other Site Uses

Sector E has had more extensive industrial uses than most other parts of the Aliso Street MGP site. Sector E had several oil refining companies, metal plating operations, a concrete plant, a frozen food storage facility, and a glass distribution center and warehouse, in addition to many USTs and ASTs, as discussed later in this section. A summary of both pre- and post-butadiene operations is provided, since these operations may have contributed to the observed soil and groundwater contamination.

Site Uses Before Butadiene Plant

The middle part of the eastern side of Sector E (previously referred to as the 496 and 498 Bauchet Street properties) was used by the Amalgamated Oil Company beginning sometime before 1906 until about 1917 [CH2MHill, 1997]. As shown on Figure 2-3, the 498 Property had condenser tanks, stills, and aboveground tanks. A large distillate tank was present on the 496 Property along with two smaller aboveground tanks. The tanks and other buildings on the 498 Property were later used by Shell Oil Company from about 1935 until the property was bought by SCG in 1942. Across Bauchet Street, there were other oil companies: Puget Oil Co. in 1905, Puente Oil Co. in 1910, Columbia Oil Co. in 1914, and Shell Oil Co. in 1929. Further south of Sector E on the west side, there were several brick kilns during this time period.

Site Uses After Butadiene Plant

One of the three feedstock oil storage tanks used for the butadiene operations on the west side of Sector E was removed prior to 1952, while the two tanks on the east side were removed between 1952 and 1958 [BCL, 1987a]. The site on the east side of Bauchet Street was divided into three parcels, referred to as 490 Bauchet, 496 Bauchet, and 498 Bauchet. There was a railroad spur parallel to the street next to the 496 and 498 properties. The 490 Bauchet Street property has been discussed in a separate report [Tetra Tech, 2003].

The 498 Bauchet Street property was used as a warehouse by several different companies, and had one large building that covered nearly the entire parcel. From 1952 until 1961, the property was used as a glass distribution warehouse owned by Charles Ulrich [CH2MHill, 1997]. From 1961 until about 1970, the property continued to be used as a warehouse owned by Howard Tans. In the 1970's and 1980's, China Seaway, Inc used the property for frozen food storage; exact dates of operation are not known. The cold storage units encompassed about 30 percent of the building; the remainder was office space and a loading dock [BCL, 1987a] Next, the County of Los Angeles bought the property and used it for parking. The old building was removed in 1988, and a new two-story parking structure was built in about 1990 [Earth Technology Corporation, 1989].

The 496 Bauchet Street property was used for metal plating operations by two companies, Spar-Tan Engineering Company from April 1957 to 1964 and Van der Horst Corporation from 1964 to 1987 [BCL, 1987a]. Records from the South Coast Air District, described in the BCL 1987 report, showed that the Spar-Tan facility was "a hard chrome plating shop for components of diesel engines used by railroad companies". The BCL 1987 report stated that Van Der Horst operated the facility "as a plating and honing shop for the rebuilding of worn engine cylinders". Three metal plating lines were used for the hard chrome plating process. Approximately 80 gallons per month of PCE were used during degreasing operations [BCL, 1987]. BCL provided a drawing of the Van der Horst facility from 1985 showing the three sets of plating tanks and other small tanks behind the building, to the east (Figure 2-3). A 1,500-gallon UST for heating oil was formerly located at the south edge of the building. Chemicals used at the facility included: solvents (acetone and PCE), chromic acid, fluoroboric acid, hydrochloric acid, nitric acid, sulfuric acids, barium carbonate, chrome hydroxide, ferrous sulfate solution, and lime[1] Metals and cyanide were present in the wastewater discharged to the sewer system. Records from the Los Angeles Bureau of Sanitation permit from October 10, 1964 showed that liquid waste from floor washing from the chrome operations and blow-down from air conditioning and cooling coils were discharged to a 10-inch clay sewer pipe connected to the City sewer [BCL, 1987]. Estimated quantities of liquid waste, sludges, and chemical concentrations for metals, cyanide, and pH are also included in the BCL report.

By 1958, on the west side of Bauchet Street, there was a ready-mix concrete plant and a crating and crate storage yard with an office. This entire area was converted into a parking lot by 1970. A parking structure and building for the Central Men's Jail were built on this area by 1986 [CH2MHill, 1997].

[1] The PEA report noted that 80 percent of TCE produced in the US is used in vapor degreasing of metal parts [CH2MHill, 1997], but the agency records from the BCL 1987 report did not mention TCE

The entire Sector E, excluding the 490 Bauchet Street property, is currently owned by the County of Los Angeles and is used for facilities of the Central Jail and parking. The County of Los Angeles later installed fuel USTs on Sector E, and several investigations of these tanks have been conducted (see Figure 2-3 for location of the major fuel storage areas). In conjunction with construction of the first group of facilities in 1989-90, about 28,651 tons of soil and 1,025 tons of concrete were removed [Ecology & Environment, 1991]. When the jail facilities were expanded in 1992, several diesel and gasoline USTs were removed. In response to a diesel leak, two USTs, located northwest of the Sector E parcels, were removed along with soil in May 1992 [California Environmental, 1995][2]. A vapor extraction system was installed in April 1996, and the site was closed by the Regional Water Quality Control Board in May 1997 [RWQCB, 1997].

2.2 PAST INVESTIGATIONS

The Aliso Street site has been extensively reworked and modified since the MGP/butadiene facilities were present; therefore many of the potential sources of contamination may have been mitigated or removed (see Section 3 of the Remedial Investigation Master Workplan [Tetra Tech, 2001]). The following is a summary of the past investigations that have been conducted on Sector E by SCG and others. The previous soil and groundwater data are discussed in this section. Except the PEA data, the past investigation data have not been used for risk assessment, because the necessary supporting information such as detection limits were often missing, older methods that are not comparable with current methods were used, much of the data is over 10 years old, and in some places the soil has been excavated as part of UST removals. The PEA data [CH2MHill, 1997] have been used in data analyses and the risk assessment, since all the necessary information is available.

The locations of previous soil borings and wells with chemical data are shown on Figure 2-4. The investigations for the 490 Bauchet Street property on the southeast corner of Sector E are not discussed here, since there is a separate report for that property [Tetra Tech, April 2003]. Past investigations on the remainder of the property are discussed below.

Levine Fricke, 1987

A preliminary site assessment at 496 Bauchet Street was conducted in March 1987 by Levine Fricke [Levine Fricke, 1987]. Eleven borings were installed behind the metal plating facility at 496 Bauchet Street, which would be in the central part on the eastern side of Sector E. Chemical data for these borings are not available, but a summary section in the report notes that chromium was present in the top 2 to 4 feet in most borings and to a depth of 8.5 feet in one boring. Past agency records indicated that wastes were disposed outside of the building.

BCL & Associates, 1987

In September 1987, BCL & Associates (BCL) installed eight soil borings (BC-B109 through BC-

[2] Groundwater monitoring since then showed that by 1996, BTEX concentrations had declined to 1 µg/L benzene and 3.5 µg/L xylene [California Environmental, 1996]

B-116) and one well (BC-MW16) next to a former building on the 498 Bauchet Property, owned at that time by the China Seaway, Inc [BCL, 1988a]. Five of the borings (BC-B-109 to 112 and BC-B-116) were drilled inside the building to a depth of 5 to 15 feet deep The soil encountered was 7 to 9 feet of sandy fill underlain by gravely alluvium. Three borings were drilled outside the building, of which two (BC-B-113 and BC-B-114) extended only to 5 feet, due to obstructions from a concrete slab or roadbed The other boring, BC-B-115 was drilled to 12 feet, and encountered 0.3 foot of asphalt, 6 to 8 feet of sandy black stained fill underlain by gravelly alluvium A tarry material was found at 5 feet bgs in boring BC-B-113. All of these locations are under the current parking structure, which was built later than this investigation.

A total of 26 soil samples were analyzed, but not all parameters were analyzed in each sample. The methods used were: EPA Method 6020 for Metals, EPA Method 8270 for PAHs and other semi-volatiles, EPA Method 418.1 for total TPH, EPA Method modified 8015M for TPH components, and primarily EPA Method 8240 for VOCs. Barium, total chromium, cobalt, mercury, molybdenum, vanadium, and zinc were detected in the 11 samples analyzed

The maximum concentrations are as follows:

- Barium 170 mg/kg, and cobalt 10 mg/kg in a 6-foot sample from BC-B-111
- Total chromium 31 mg/kg in a 1-foot sample from BC-B-110
- Mercury 1.8 mg/kg, molybdenum 8.5 mg/kg, and zinc 440 mg/kg in a 3-foot sample from BC-B-115
- Vanadium 80 mg/kg in a 6-foot sample from BC-B-116.

VOCs were detected in 9 out of 15 samples and results were as follows:

- Acetone 0.15 mg/kg in one sample
- Ethylbenzene ranging from 0.009 to 0.117 mg/kg in 5 samples
- Toluene 0.005 to 0.085 mg/kg in 8 samples
- Xylenes from 0.007 to 0.043 mg/kg in 8 samples
- PAHs at low concentrations were detected in the 3-foot samples from the borings outside the building (0.03 -1.0 mg/kg by compound).
- Total TPH at concentrations up to 231 mg/kg was found in three borings beneath the building to a depth of 15 feet. No chemical data for groundwater from the well at BC-MW-16 were included in this report.

BCL & Associates, 1988

Two wells (MW117 and MW118) were installed to a depth of 42 feet and 55 feet bgs, respectively in November 1988 [BCL, 1988a] (see Figure 2-4 for well locations near 498 Bauchet Street on Sector E). The materials encountered consisted of sand and gravelly sand. Groundwater was reached at a depth of 31 feet bgs. Floating oily free product was found in one of the wells (MW-117), in November 1988. Water samples were analyzed for VOCs, SVOCs, and TPH. TPH and solvents were found in the groundwater and a trace of benzene in one older well (M22). The 498 Property owned by China Seaway, a frozen seafood warehouse, at that time was investigated in September 1988 Eight soil borings were drilled and 26 soil samples

were collected outside the building. Five shallow borings were installed inside the building IPH, BTEX, and low concentrations of PAHs were found in the shallow soils [BCL, 1988b].

Earth Technology, 1989

The Earth Technology Corporation performed an investigation inside the building at 498 Bauchet Street at the Los Angeles County Central Jail in 1989 [Earth Technology Corporation, 1989]. The 1989 investigation included installing eight soil borings and collecting 26 soil samples for IPH. The soil consisted of 4 to 10 feet of sandy fill underlain by gravelly alluvium to a depth of 39 feet. Floating product, considered to be crude oil, was found in the borings at the water table, a depth of 30 to 36 feet bgs. IPH related to fuel was also identified in the shallow soils.

Bechtel, 1992

In 1992, a site screening inspection for U.S. EPA was conducted by Bechtel to determine if the Van der Horst metal plating facility at 496 Bauchet Street should be listed as a Superfund site [Bechtel, 1992]. The metal plating facility had been abandoned in 1989 but some facilities were still present. About 150 containers of hazardous wastes were left on the site and plating sludge and residual metal salts were found in the building in three concrete sumps, up to 40 feet by 100 feet long. Wastes were removed, but the site was not classified as a Superfund site

Hunter Environmental/Gregg, 1989

There were two main fuel tank areas (east and west) on the jail property near the present parking structure on Sector E. The West fuel area had two 10,000-gallon diesel USTs. The East fuel area had a diesel UST and two fuel islands. The first investigation of the two fuel areas was conducted in 1989 by Hunter Environmental when the two diesel USTs in the West Area were removed. Five borings were installed near the USTs. IPH was higher than 1,000 mg/kg in the soils beneath these USTs [Hunter/Gregg, 1989]. In the East Fuel area, three soil borings were installed. Both diesel and gasoline were found in the soils beneath the two diesel USTs and one gasoline UST.

Earth Technology Corporation (ETC) and California Environmental (CE), 1990-1995

Earth Technology conducted a follow-up investigation at the main fuel areas in September to October 1990 and August to November 1991 [ETC, 1992a]. Six monitoring wells (MW1 to MW6) were installed to depths of 45 feet bgs, three in 1990 and three in 1991. Four additional wells (MW7 to MW10) were installed in May 1992. Three of the monitoring wells, MW5, MW6, and MW10, were located on the northern part of Sector E, and MW9 is next to the Sector E boundary. The other six wells were located to the west of Sector E.

Groundwater was encountered at a depth of approximately 34 feet bgs. Soil samples were collected at three depths from each of these wells at 5-foot intervals. IPH and BTEX were detected at a depth of 25 feet in MW9 next to Bauchet Street and MW10 downgradient of a UST. Thirteen soil borings were installed and 63 soil samples were collected and analyzed for IPH

and BTEX. Almost half of the soil samples contained TPH at concentrations ranging from 1,000 to 9,800 mg/kg. Floating free product with a thickness of 0.15 foot was found in Well MW3 in September 1991 with TPH and BTEX in all the other wells except Well MW1 in the West Fuel Area [ETC, 1992a].

A 5,000-gallon gasoline UST and a 5,000-gallon diesel UST were removed in May 1992 in the east fuel storage area along with associated piping. Soil samples from beneath the tanks showed benzene up to 0.6 mg/kg, TPH diesel between 5,100 and 9,000 mg/kg, and TPH gasoline from 720 to 1,600 mg/kg. In May 1993, two 12,000-gallon diesel USTs and the surrounding contaminated soils were removed from the West Fuel Storage Area. The soils beneath the tanks had TPH diesel from 210 to 3,300 mg/kg. In the east area, a 2,000-gallon diesel UST was also removed. Soils beneath this tank had less TPH diesel, up to 91 mg/kg [CE, 1995].

Further groundwater assessment was then conducted by ETC associated with these tank removals. Groundwater monitoring was conducted by ETC in February and July 1992. In June 1992, two wells, MW2 and MW3, in the West Fuel Area had floating free product [ETC, 1993]. Benzene was detected in wells MW5 through MW8 at concentrations ranging from 0.4 to 4 µg/L in MW6 near the East Fuel Area [ETC, 1993]

Groundwater monitoring wells MW1 through MW10 near the fuel areas of the larger jail property were monitored through 1993 by ETC [ETC, 1993] and then by California Environmental from 1994 to 1996 [CE, 1994 and 1996]. Early investigations described the groundwater flow direction as to the east. Sampling in 1993 and later, however, showed that the eastward flow was due to offsite dewatering operations near the Aliso Site. In 1993, the groundwater was encountered at a depth of 33.5 feet bgs to 36 feet bgs and the flow direction was to the southwest [ETC, 1993]. In 1995, groundwater was observed at depths of 30 to 34 feet bgs (258 to 260 feet MSL) [CE, 1995]. The groundwater flow direction was to the west-southwest in June 1995.

California Environmental (CE) 1995-1996

In 1995, California Environmental performed a site assessment for the County of Los Angeles Sheriff's Department and prepared a corrective action plan [CE, 1995a] for two areas within the Central Jail property that had releases from former USTs containing diesel and gasoline. Approximately 30,000 cubic yards of soil were considered impacted near the USTs. A vapor extraction system was installed in April 1996 beneath the former tanks in the East and West Fuel Areas

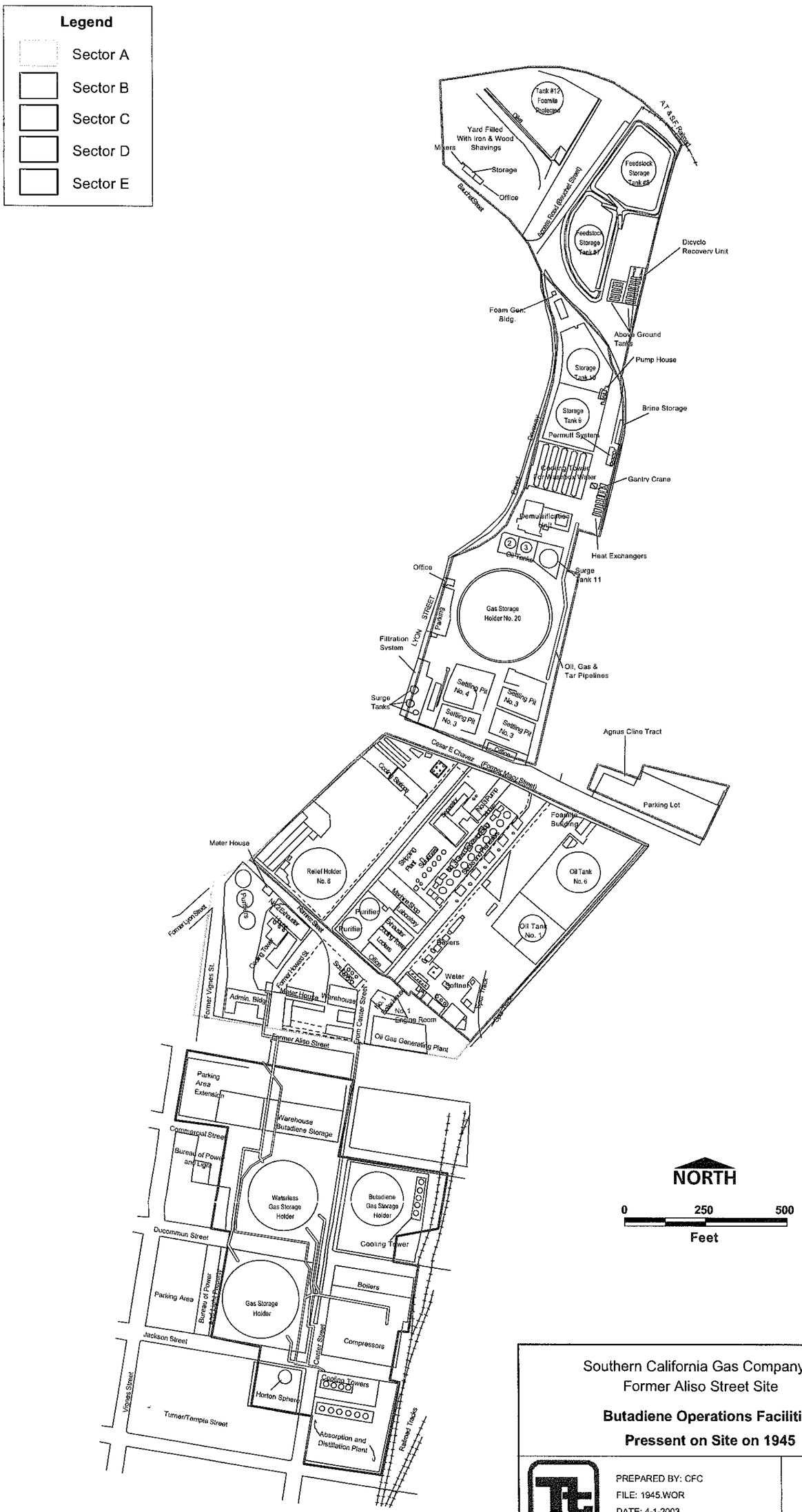
In 1995, California Environmental sampled the ten monitoring wells (MW1 through MW10) for the County of Los Angeles Sheriff's Department as part of a quarterly groundwater monitoring program [CE, 1996] Groundwater samples were analyzed for BTEX, diesel, gasoline, and fuel characterization. With the exception of the occurrence of benzene and toluene at MW9 (1 µg/L and 3.5 ug/L, respectively), TPH and BTEX were not detected in the groundwater in December 1995. Free product was not found during the three sampling events. Remaining USTs on the property at that time included a 12,000-gallon diesel tank in the West Fuel Area and a 12,000-

gallon gasoline tank in the East Fuel Area. Removal of a 500-gallon PCE tank located beneath the northern jail building was planned for Fall quarter of 1997.

CH_2Mhill, 1997

In 1997, CH2MHill performed a PEA for Sector E [CH2MHill, 1997]. The investigation consisted of drilling and sampling of 21 soil borings, five of which were converted to monitoring wells as shown on Figure 2-4. The soil borings were advanced to a depth of approximately 30 feet. The upper 10 to 12 feet of soil consisted of fill, sands, and silty sands. Between about 10 and 30 feet, the soils included sands and sandy gravel with clay and cobble lenses. The new monitoring wells were 42.5 to 53 feet deep with 20-foot screened intervals. Groundwater was encountered at depths ranging from 30 to 35 feet bgs. The local flow direction was to the southeast at a gradient of 0.003 to 0.006 foot/foot. Infiltration was negligible because buildings or pavement cover most of the site.

The PEA [CH_2Mhill, 1997] included a soil-gas survey, which indicated that VOCs including benzene and solvents were present in the soils. Parameters analyzed in the soils and groundwater included TPH, PAHs, VOCs, SVOCs, metals, phenols, cyanide, pH, and sulfides. The results of the investigation indicated that the most frequently detected constituents at the site were TPH, VOCs, SVOCs, and PAHs. The highest concentration of TPH (diesel) in soil was 63,100 mg/kg at SB-1A at a depth of 6 feet and the highest gasoline concentration was 4,310 mg/kg in Well E3 at a depth of 21 feet. Dicyclopentadiene was found in Well E3; the highest concentration was 872 µg/L. Benzene was found in some borings with the highest soil concentration was at a depth of 30 feet in SB-1A on the 490 Bauchet Street property.



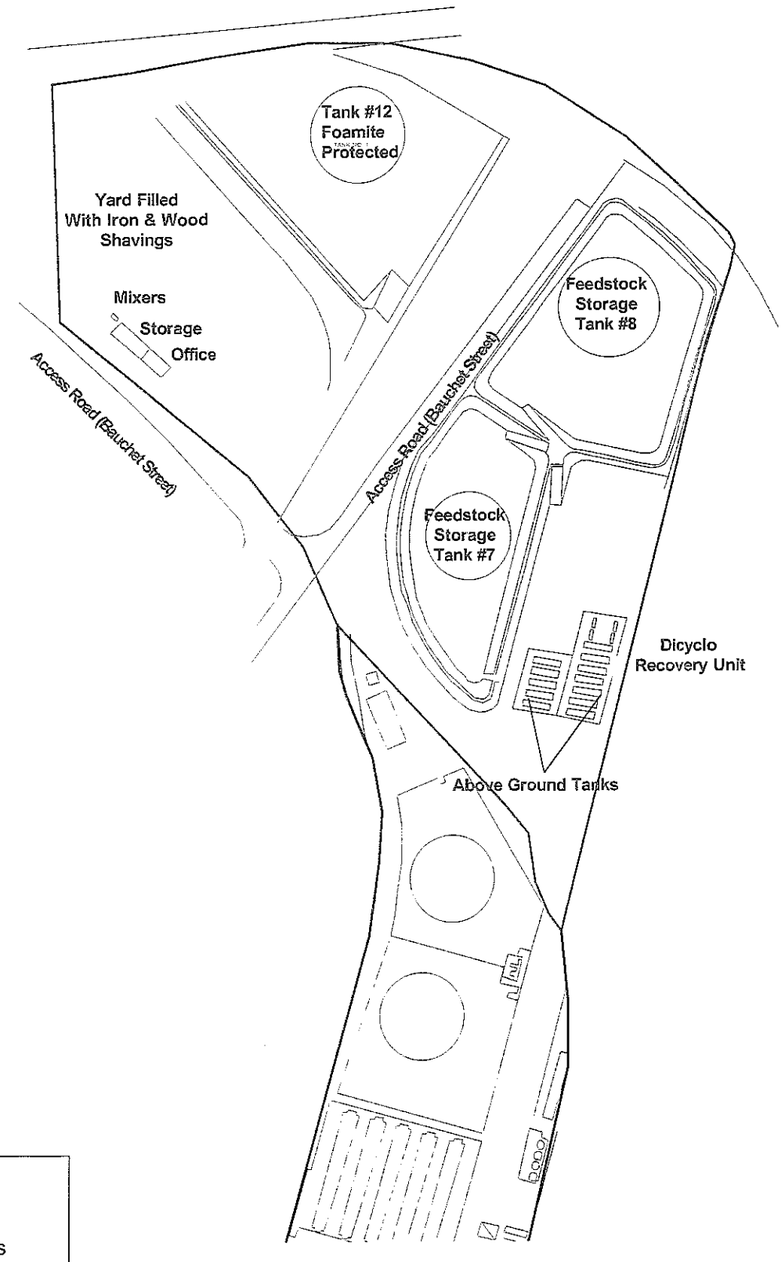
Southern California Gas Company
Former Aliso Street Site

Butadiene Operations Facilities
Pressent on Site on 1945

Tetra Tech, Inc.

PREPARED BY: CFC
FILE: 1945.WOR
DATE: 4-1-2003

Fig. 2-1



Legend

Historical Features - Butadiene Facilities

N

0 60 120

1 inch = 120 feet

Southern California Gas Company
Former Aliso Street MGP Site

Butadiene Operation Facilities, 1945

Tetra Tech, Inc.

REVIEW BY:_____
FILE FULL119230_Sector_E WOR
DATE 3-30-04

Fig. 2-2

Southern California Gas Company
Former Aliso Street MGP Site

Historical Features on Sector E

REVIEW BY _____
FILE: FULL119230_Sector_E WOR
DATE: 3-30-04

Tetra Tech, Inc.

Fig. 2-3

Legend

- ⊕ Previous Boring
- ▲ Well
- Former MGP Boundary (Sector E)
- Former MGP Boundary (Sector D)
- Cinderblock Wall
- Retaining Wall
- Fence
- Historical Structures

Southern California Gas Company
Former Aliso Street MGP Site

Location of Previous Borings and Wells on Sector E

Tetra Tech, Inc.

REVIEW BY:_____
FILE: FULL119230_Sector_E WOR
DATE: 3-30-04

Fig. 2-4

This section describes the approach used in performing the field investigation for Sector E. The field activities included installation and sampling of soil borings, wells, and soil gas probes. The RI activities were performed in accordance with the Remedial Investigation Master Workplan [Tetra Tech, 2001], responses to DTSC comments on the Workplan, and the Phase II Remedial Investigation Addendum [Tetra Tech, 2002].

The field activities were completed in two phases. The first and second phases were completed in March 2002 and during November 2002 and January 2003, respectively. Results of the first phase were used to select boring and well locations for the second phase of the field investigation. TRC performed the drilling and sampling of borings and installation of monitoring wells during the two phases of field investigation.

Background sampling was previously performed by Tetra Tech on December 24, 2002. Results of the background sample analyses are included in Appendix F.

3.1 APPROACH FOR SAMPLING

Soil Gas

A soil gas survey was conducted in Sector E to determine if volatile organic compounds (VOCs) from the soil or underlying groundwater were present in the soil gas. Soil gas surveys were performed by TRC on three dates. TRC installed a total of 17 soil gas probes at 7 locations within Sector E in June 2002 and analyzed samples for VOCs using EPA Method 8260B, methane by ASTM-D1946, and hydrogen sulfide by EPA method 16. Eight of these probes were re-sampled in July 2002. Two probes (TtESG-7 at 5 and 15 feet) were re-installed in January 2003 due to resurfacing of the parking area. These two new probes and six others were re-sampled in January 2003 for VOCs using EPA method TO-15 and again for hydrogen sulfide by EPA method 16. Field work procedures, analyses, and sample collection were performed in accordance with the Los Angeles Regional Water Quality Control Board (LARWQCB) *"Interim Guidance for Active Soil Gas Investigation"* dated February 25, 1997, and the approved Remedial Investigation Master Workplan [Tetra Tech, 2001]. Figure 3-1 shows the soil gas sample locations.

Soil

Soil sampling was conducted near former facility structures such as the oil tanks and dicyclopentadiene storage units. The objective was to delineate the contamination that had been previously found near these structures and to fill-in data gaps where past sampling has not been conducted. Figure 3-1 shows the location of borings and wells installed during this investigation.

A total of 29 borings (TtEB-2 to TtEB-30) were drilled during the first phase of the field investigation in March 2002. A total of 14 borings (TtEB-31 to TtEB-44) were drilled during the second phase of the field investigation in November and December 2002.

Groundwater

A total of six new groundwater monitoring wells were installed on Sector E during the first and second phases of the investigation. The wells included one deep well (TtE-8), and 5 shallow wells (TtE6, TtE7, TtE9, TtE10, and TtE11). Groundwater samples were collected to determine whether MGP/butadiene-related residues are present in the groundwater beneath the Site and if contaminants are migrating from upgradient sources. The Phase I wells were sampled in June 2002, while the Phase II wells were sampled in January 2003. Groundwater sampling at a network of wells covering the entire former Aliso Street MGP site is also being conducted by SCG under their current quarterly groundwater program. The new wells were added to this sampling program after completion.

3.2 BORING AND WELL DESIGNATIONS

The borings were labeled using a special designation, for example "TtEB-1". "Tt" specifies that Tetra Tech directed the installation of the boring during the RI. "E" specifies that the boring is in Sector E. "B" stands for boring. The number following the "-" is the boring designation. Soil gas borings were designated with "SG".

The samples have been named similar to the boring designation, except that each sample includes another "-" followed by a number specifying the depth of the sample, e.g., TtEB-1-5'.

Monitoring wells have been designated as, for example "TtE-6". This designation specifies monitoring well number 6 in Sector E installed under the direction of Tetra Tech.

3.3 SOIL AND WELL LOCATIONS

During the first phase of drilling in March 2002 and the second phase of drilling during November-December 2002, a total of 43 soil borings (TtEB-2 through TtEB-44) and 6 monitoring wells (TtE-6 through TtE-11) were drilled and installed in Sector E. Borings were drilled using a hollow-stem auger drill rig at cleared and pre-selected locations to collect soil and groundwater samples for analysis (Figure 3-1). Table 3-1 summarizes the rational for the boring and monitoring well locations. Table 3-2 summarizes the well completion details.

The following boring locations were relocated after subsurface obstructions (conduits, concrete, etc.) were encountered:

- Soil Boring TtEB-1 was replaced by Well TtE-6.
- Soil Boring TtEB-3 was stopped due to an obstruction at 1 foot. Soil Boring TtEB-3A was installed in its place a short distance away.
- Soil Boring TtEB-5 was eliminated due to access limitations

3.4 UTILITY CLEARANCE

The locations of the borings were checked for the presence of utilities. Underground Service Alert and utility companies with underground utilities at the Site were notified in advance to locate and mark public utilities on or adjacent to the boring locations. In addition, the City of Los Angeles utility maps were reviewed to determine the location of utilities, sewers, and storm drains. If the boring location was within 5 feet of a utility, the soil boring location was moved

A limited geophysical survey was performed to locate subsurface utilities in the area of the proposed boring locations. Ground penetrating radar (GPR) and electromagnetic (EM) techniques were used to locate subsurface utilities, and other obstructions. The proposed boring location was offset if a subsurface obstruction was identified

3.5 DRILLING AND SAMPLING PROCEDURES

This section describes the methods used for drilling soil borings and collecting soil samples. Prior to drilling, each location was hand augured to five feet bgs to ensure that utilities were properly identified to a depth of five feet. A California Registered Geologist supervised all drilling and sampling activities.

3.5.1 Drilling

A CME-85 hollow-stem drill rig was used to drill accessible soil borings and groundwater monitoring wells. Continuous core samples were collected using a 5-foot-long core barrel fitted with a 1.75-inch-diameter by 5-foot-long clear acetate sleeve at most locations. Some restricted soil boring locations were drilled with a limited access hollow-stem auger drill rig (LAR). Soil samples were obtained with the LAR by driving a split-spoon sampler into the soil ahead of the lead auger using a down-hole 140-pound hammer. Soil samples were collected in either acetate or stainless steel tubes, or sleeves inside the core barrel or split-spoon sampler. Blow counts were recorded for each sample interval.

A Christensen CS 4000 mud rotary drill rig was used to core bedrock borings TtS-1, TtS-2 and TtS-7 used for interpretation of the bedrock geology. The locations of these deep borings are shown on Figure 4-4 in Section 4. The continuous cores in these bedrock borings were obtained with a Christensen 94-mm Punch Core System. Four deep soil samples from 144 to 170 feet bgs in TtS-2 and TtS-7 were collected from these two borings. The chemical analyses are listed in the data tables accompanying Section 5, but are not shown on the maps showing chemical results, because they are so deep. The deep samples were not used in the remedial goal assessment.

The soil and bedrock borings were abandoned by pouring a mix of cement and bentonite down the borehole from total depth to ground surface. Designated borings were converted into wells as discussed later in this section.

3.5.2 Sample Collection

Upon core recovery, depth marks in feet bgs were placed on the acetate liner or sleeve. A representative soil sample was placed in a zip-lock bag for approximately 10 minutes prior to measuring the concentration of VOCs. The VOC concentration in parts per million (ppm) was measured by an onsite Foxboro PID/FID 1000B. The measurements were recorded on the boring logs according to depth.

Each core was visually inspected for soil discoloration, odor, and fill materials (such as debris associated with MGP residues). The observations were recorded on the boring logs. If unusual residues or heavy contamination were found in the samples, they were sealed, labeled, and submitted for analysis in addition to the scheduled samples.

A California Registered Geologist described the core according to the Unified Soil Classification System and standard geologic and petrologic terminology (Appendix A). The core was visually inspected for soil discoloration, odor, and fill materials (such as debris associated with MGP residues). The observations were recorded on the boring logs. If unusual residues or heavy contamination were found in the samples, they were sealed, labeled, and submitted for analysis in addition to the scheduled samples.

Soil samples for chemical analysis were obtained from the acetate liner or brass sleeves. The samples were preserved by sealing both ends of the acetate or sleeve with Teflon™ film and capping with plastic end caps. The end caps were taped and the samples were labeled and placed in individual zip-lock plastic bags. A chain-of-custody form was prepared listing the samples by designation. Required chemical or physical analyses for each sample were recorded next to the sample designation. The soil samples were recorded on a chain-of-custody and placed in an ice-chest chilled to 4 degrees Celsius (°C). The ice chest was transported to American Environmental Testing Laboratory (AETL) at the end of each day and relinquished to the laboratory with proper chain-of-custody documentation signed by the field geologist and the laboratory. A copy of the chain-of-custody was retained for the project file.

EPA Method 5035 was used to obtain four sets of soil samples for each depth interval selected for VOC analysis by EPA method 8260B (including benzene, toluene, ethylbenzene and xylene (BTEX), dicyclopentadiene, 1,3-butadiene, styrene, and MTBE). A technician from the American Environmental Testing Laboratory (AETL) completed all soil sample preparation and packaging for VOC analyses.

3.5.3 Soil Chemical Analysis

The analytical methods for soil samples along with expected detection limits are provided in Section 5. Samples were generally collected at different depths between 1 and 46 feet in the borings and shallow wells. Deep alluvial samples were collected at 102 feet from Well TtE-8 and deep bedrock samples from 144 to 170 feet from the bedrock borings S2 and S7. The shallow borings were drilled to below the observed groundwater level.

Samples were generally analyzed for TPHs, PAHs, VOCs (including BTEX, dicyclopentadiene, 1,3-butadiene, styrene, and MTBE). Metals and cyanide were also analyzed in selected soil samples (see Section 5).

The deepest sample from the shallow borings was from the saturated zone. Depending on the depths of the borings and actual observations of unusual materials, the actual number of samples might be higher than the number proposed in the workplan. Additional soil samples were collected at depths where unusual odors, elevated VOCs, or other indications of heavy contamination were observed.

At a rate of approximately every 20 samples, two successive sleeves from the same soil sample were collected and analyzed as field duplicates. These sleeves provided field duplicates for soil as part of the quality assurance and quality control for the analytical results. Additional field QA/QC samples, including equipment rinsate samples and trip blanks for the VOCs were also collected.

3.5.4 Soil Physical Analysis

Selected onsite soil samples were analyzed for bulk and grain densities, grain size distribution, total porosity, moisture content, permeability to air and water, and hydraulic conductivity. The samples for soil physical analysis were collected in areas where there was a potential for future remediation and for use in the risk assessment. The soil physical data are included in Appendix C. Total organic carbon and soil pH were also measured in selected unsaturated and saturated zone samples using EPA Method 9060 for total organic carbon and EPA Method 9045 for soil pH.

3.6 SOIL GAS SURVEY FOR VOCs

Soil gas samples were collected using stainless steel soil vapor sampling probes attached to 0.25-inch diameter silicone tubing (probe assembly). The probe assembly was placed inside a direct push hollow drive rod. The drive rod was advanced into the subsurface using the hydraulic ram of a direct push rig. Once the target depth was reached (i.e., 5, 15, 20 or 25 feet bgs) the hollow drive rod was withdrawn, leaving the vapor probe assembly in the boring. Clean silica sand was poured into the open borehole from total depth to 6-inches above the perforated portion of the probe assembly. The upper portion of the borehole was sealed with hydrated bentonite grout to just below ground surface.

The soil gas probes were allowed to equilibrate for at least 48 hours after installation before they were sampled. A technician from American Environmental Testing Laboratory (AETL) collected soil gas samples following the equilibration period. A calibrated flow meter and vacuum gage were connected to the silicone tubing to measure the vacuum integrity of the soil gas sampling system prior to sample collection

Soil gas was purged using an adjustable vacuum pump at approximately 200 cubic centimeters (cc) per minute. The volume of gas purged prior to sample collection was measured and

recorded in the field notebook. Once the required purge volume of air was removed from each soil gas point (approximately three to four volumes) a soil gas sample was collected at the soil gas location.

Each soil gas sample was collected in the field using glass bulbs and Tedlar® bags. These samples were analyzed within 4 to 6 hours following collection for MTBE, butadiene, dicyclopentadiene, and other VOCs by EPA Method 8260B, and hydrogen sulfide (H_2S) by EPA Method 16, and methane (CH_4) using ASTM Method D1946.

The results of the EPA Method 8260B analyses were used to select 8 of the probes for re-sampling. Probes selected for re-sampling were determined based on detected concentrations in the 8260B results, other locations where high soil gas concentrations were expected, and low detection limits were needed for the health risk assessment. At each location selected for re-sampling, the AETL technician collected a soil gas sample using a Summa canister and analyzed them following EPA Method TO-15 (modified for MTBE, butadiene and dicyclopentadiene). Samples analyzed by EPA Method TO-15 were collected from the 8 probes on July 2002 and January 2003.

Following collection of the soil gas samples, the silicone sampling tube was plugged with a machine screw, folded over, and pushed into the probe hole just below grade. The remaining depression was filled with a bentonite grout to the existing grade in unpaved areas, and with concrete in paved areas.

3.7 GROUNDWATER MONITORING WELLS

3.7.1 Monitoring Well Locations

A total of 6 new groundwater monitoring wells (TtE-6 through TtE-11) were installed at locations shown on Figure 3-1. Groundwater monitoring well TtE-8 is a deep well completed at the bedrock/alluvial interface.

3.7.2 Monitoring Well Installation

Monitoring well installation procedures are summarized below. Prior to installing the wells, Tetra Tech obtained well permits from the County of Los Angeles Department of Health Services. Copies of the well permits are included in Appendix D. Soil samples from each of the borings for the wells were collected at specified depths (see Table 5-1 in Section 5).

The borings for the monitoring wells were drilled using a CME-85 hollow-stem auger drill rig and 8.25-inch nominal diameter hollow-stem auger. The borings were reamed using a 10.25-inch nominal diameter hollow-stem auger. Each boring was completed using 4-inch nominal diameter schedule 80 PVC casing and 0.020-inch slotted screen.

The screened intervals of the shallow and deep ground water monitoring wells were 20 feet and 10 feet, respectively. The shallow wells were screened from approximately 10 feet below

groundwater to 10 feet above groundwater. The deep well TtE-8 was completed with 10 feet of screen from 5 feet below to 5 feet above the bedrock/alluvium interface. The filter pack surrounding the well screen was constructed with Lone Star No. 3 Monterey sand from total depth to approximately 2 feet above the slotted screen. The monitoring wells were surged to seat the filter pack and additional sand added as required.

A bentonite seal was placed from the sand pack to approximately 5 feet above the sand pack. The bentonite was allowed to hydrate for one hour before the remaining annular space was backfilled with cement-bentonite grout. The shallow wells were grouted through the augers. The deep wells were grouted with a tremie pipe. A traffic-rated 12-inch diameter monitoring well box with an internal steel protective cover was placed on the monitoring wells. The monitoring well casings were closed with a gas-tight cap equipped with a gas sampling port and valve. Completion details for each monitoring well are included in Table 3-2. Monitoring well construction diagrams are included on the boring logs (Appendix A).

3.7.3 Well Development

Monitoring wells were developed to improve hydraulic communication between the formation and the well and to remove fines. The wells were developed by alternatively surging with a vented surge block, bailing to remove any dislodged sediment, and pumping. Bailing was continued until 4 to 5 times the well volume was removed. After bailing and surging, the wells were pumped until clear water was obtained. The development water was monitored for conductivity, temperature, pH, and turbidity. During well development, attempts were made to lower turbidity values to below 5 Nephelometric turbidity units (NTU). The measurements were recorded on field data sheets. All purged groundwater was discharged into an onsite Baker tank for temporary storage until proper disposal to Crosby and Overton (Appendix I). Well development logs for TtE-6 to TtE-11 are included in Appendix E.

3.7.4 Groundwater Sampling (Well Inspection and Water Level Measurement)

Prior to collecting water level measurements, a Foxboro PID/FID 1000B and a Q-RAE 4-gas meter were used to check for any wellhead gases before and after opening each well. Undisturbed fluid level measurements (accurate to 0.01 foot) were collected from each well with a product interface probe to measure the depth to water and the potential presence of free product on the water surface. The total depth at the bottom of each well was also measured.

The depth to water was measured from a permanent reference point marked on each well casing. The depth-to water measurements were normalized to mean sea level elevations based on survey work performed by J. Bonadiman & Associates, Inc. (JBA, Inc.) (see Appendix H). The elevations were used to calculate groundwater elevations to Mean Sea Level (MSL). The groundwater elevations were measured by a third party in February 2003, and have been used to make the site-wide map (see Figure 4-3)

3.7.5 Groundwater Purging and Sampling

Low-flow pumping was used for both purging and sampling the groundwater monitoring wells.

The pump was installed in each well by carefully lowering it to the center of the screened interval. The well was allowed to re-equilibrate for approximately 15 minutes prior to starting the pump.

Purge flow rates were controlled between 200 to 500 milliliters per minute (ml/min). During purging, the field parameters of temperature, pH, electrical conductivity, turbidity, and dissolved oxygen were monitored at a maximum of 5-minute intervals. Purging was continued until these parameters stabilized to within the criteria provided in the workplan or until 30 minutes of purging had been performed. Copies of the purging logs are presented in Appendix E.

Immediately following purging, groundwater samples were collected using the low-flow pump. The samples were collected in appropriate, laboratory-supplied containers. Each sample container was labeled and placed into individual zip-lock plastic bags. The samples were kept in an ice chest cooled with ice until delivered to the laboratory. A chain-of-custody form was prepared at the time of sampling and accompanied the samples to the laboratory. A trip blank was included in each cooler.

Free product was encountered in a previously-installed monitoring well TtE-2, so the low flow technique was not used for sampling. A sample of the free-product was collected using a clean, disposable, depth-specific bailer. Groundwater samples were then collected from a depth of 2 feet below the free product. Samples were preserved and documented as described above.

3.8 BACKGROUND SAMPLING

Background sampling was previously performed by Tetra Tech for the entire former Aliso Street MGP site. This sampling activity was in accordance with the results of a meeting with the DTSC on December 6, 2002. The specific details of the background sampling and the data analysis completed for each analyzed sample are presented in Appendix F.

3.9 SURVEYING

Coory Engineering conducted a survey of Sector E to complete a base map of the former Aliso Street MGP site. Coory Engineering and J. Bonadiman & Associates, Inc. established the northing and easting coordinates and elevation of each monitoring well during subsequent surveys. The coordinates were used to place the well location on the base map. The base map and subsequent surveys were used to generate maps for Sector E in this report. The elevations were also used to convert measured groundwater elevations to mean sea level (MSL). Survey data for each boring and well locations are included in Appendices G and H.

3.10 BEDROCK BORINGS

Bedrock samples were obtained from three bedrock borings (TtS-1, TtS-2 and TtS-7). The alluvium and bedrock (Puente Formation) were continuously cored beginning at a depth of 60

feet bgs in TtS-1 to 75 feet bgs in TtS-7 and stopping approximately 25 feet into the Puente Formation. The depth and elevation of the Puente Formation were established and used for the bedrock contour map (see Figure 4-2). The bedrock cores were nalyzed for fossils and physical properties. Selected bedrock samples were analyzed for hydrocarbons, VOCs, and PAHs

3.11 SEISMIC REFRACTION SURVEY

Norcal Geophysical Consultants (Petaluma, California) completed a seismic refraction survey in Sectors D and C. The survey was completed to determine the depth to bedrock between the deep groundwater monitoring wells and bedrock borings. The refraction survey and deep boring information were used to generate a bedrock map discussed in Section 4 of this report.

3.12 FOSSIL SURVEY

Defining the formations below the alluvium is important to the structural interpretation of the Site and establishing sources of native crude oil. However, the sedimentary rocks of the Puente and Fernando formations are similar in appearance and difficult to differentiate. Fossils are typically used to determine the formation based on age and depth of the sedimentary deposits. Hence, bedrock samples from the deep borings in Sector E (TtS-1, TtS-2, and TtS-7) were submitted to Micropaleo Consultants in Encinitas, California for fossil analysis. Results of the analysis are discussed in Section 4. The location of the bedrock borings are shown on Figure 3-1.

3.13 FIELD AIR MONITORING

Air monitoring was conducted during sampling operations for dust and total organic vapors to ensure the Site users and field personnel were properly protected. Particulate matter was measured using a Mini-RAM dust monitor. Volatile organics were monitored using a PID meter prior to and during drilling and sampling activities. Monitoring for H_2S and other gases was conducted using a multi-gas detector. Values were recorded in a field log-book. The level of personal protective equipment was upgraded from Level D to Level C when necessary, according to the vapor concentrations specified in the Site Health and Safety Plan

3.14 DECONTAMINATION

Hollow-stem augers and drill rods were steam-cleaned prior to drilling each boring to avoid cross contamination during drilling. The sampling equipment was decontaminated after each sample interval by washing with an Alconox™ (a non-phosphate detergent) solution, rinsing with tap water and rinsing with deionized water. The decontamination water was collected in the Baker tank with the development and purge water.

3.15 WASTE MANAGEMENT

Soil cuttings generated from this investigation were collected into closed-top roll-off bins, and remained onsite pending waste characterization and disposal. Soil cuttings were transported to TPS in Adelanto for recycling and disposal. Appendix I contains the non-hazardous waste disposal manifests for the removed soil cuttings.

Decontamination water, well development water, and purge water were placed in a Baker tank and remained onsite until completion of the project, and subsequently were transported to Crosby & Overton in Long Beach, California, for recycling. Appendix I contains the non-hazardous waste disposal manifests for the decontamination water, well development water, and purge water.

3.16 QUALITY ASSURANCE AND QUALITY CONTROL

Quality assurance and quality control (QA/QC) measures specified in the Workplan [Tetra Tech, 2001] were followed for the entire site investigation program, as indicated below. Field quality control included:

- Documenting field instrument calibration, sample container preparation, etc.
- Documenting and justifying any deviation from the Workplan.
- Documenting field activities in a logbook and taking photographs.
- Decontaminating equipment with the potential for causing cross-contamination between sampling locations
- Samples were collected for generating laboratory quality control, including:

    1) Duplicate Samples: At least one sample was selected for duplicate analysis for each 20 or less field samples.

    2) Equipment Rinse Blank Samples: One equipment rinse blank sample was collected for analysis of TPH, BTEX and PAHs.

    3) Trip Blank Sample: One trip blank sample was collected and analyzed for BTEX for each shipment that included volatile organic analysis.

The method blanks, trip blanks, and rinsate samples had no detected compounds. There were no serious deficiencies with the chemical analyses for the samples from Sector E. Information on the various laboratory QA/QC samples is included in Appendix B.

Table 3-1. RATIONALE FOR SOIL BORING AND MONITORING WELL LOCATIONS FOR SECTOR E

SOIL BORINGS

Sector	Boring Designation	Rationale for Boring Location
E	TtEB-1	Determine if chemicals present in western part near former USTs.
E	TtEB-2	
E	TtEB-3	
E	TtEB-4	Determine if chemicals present near railroad on boundary of Sector E.
E	TtEB-5	
E	TtEB-6	
E	TtEB-7	Determine if chemicals present in former storage yard
E	TtEB-8	
E	TtEB-9	Determine if chemicals present downgradient of former oil tanks.
E	TtEB-10	
E	TtEB-11	
E	TtEB-12	Determine if chemicals present near former oil tanks.
E	TtEB-13	
E	TtEB-14	Determine if chemicals present in former storage yard.
E	TtEB-15	Determine if chemicals present near former UST.
E	TtEB-16	Determine extent of chemicals in downgradient part of storage yard
E	TtEB-17	
E	TtEB-18	
E	TtEB-19	
E	TtEB-20	Determine extent of chemicals near former oil tanks.
E	TtEB-21	
E	TtEB-22	
E	TtEB-23	
E	TtEB-24	Determine if chemicals present downgradient of former oil tanks
E	TtEB-25	
E	TtEB-26	
E	TtEB-27	Determine if chemicals present beneath former dicyclopentadiene tanks.
E	TtEB-28	Added during drilling to investigate TCE east of TtEB-18.
	TtEB-29	
	TtEB-30	
E	TtEB-31	Determine if source present near where methane and hydrogen and sulfide detected in TtSG-2.
E	TtEB-32	Determine extent of product and elevated VOCs in soils near TtEB-14, -16, and -17.
	TtEB-33	
	TtEB-34	
E	TtEB-35	Determine extent of TCE near former sump by TtEB-18
	TtEB-36	
E	TtEB-37	Determine extent of of product and elevated VOCs in soils near TtEB-2.
	TtEB-38	
E	TtEB-39	Determine extent of elevated PCE and metals present on former metal plating facility and deeper product in TtEB-21
	TtEB-40	
	TtEB-41	
E	TtEB-42	Determine extent of elevated metals present on former metal plating facility at TtEB-24 and TtEB-26 and high C-PAHs.
	TtEB-43	

WELLS

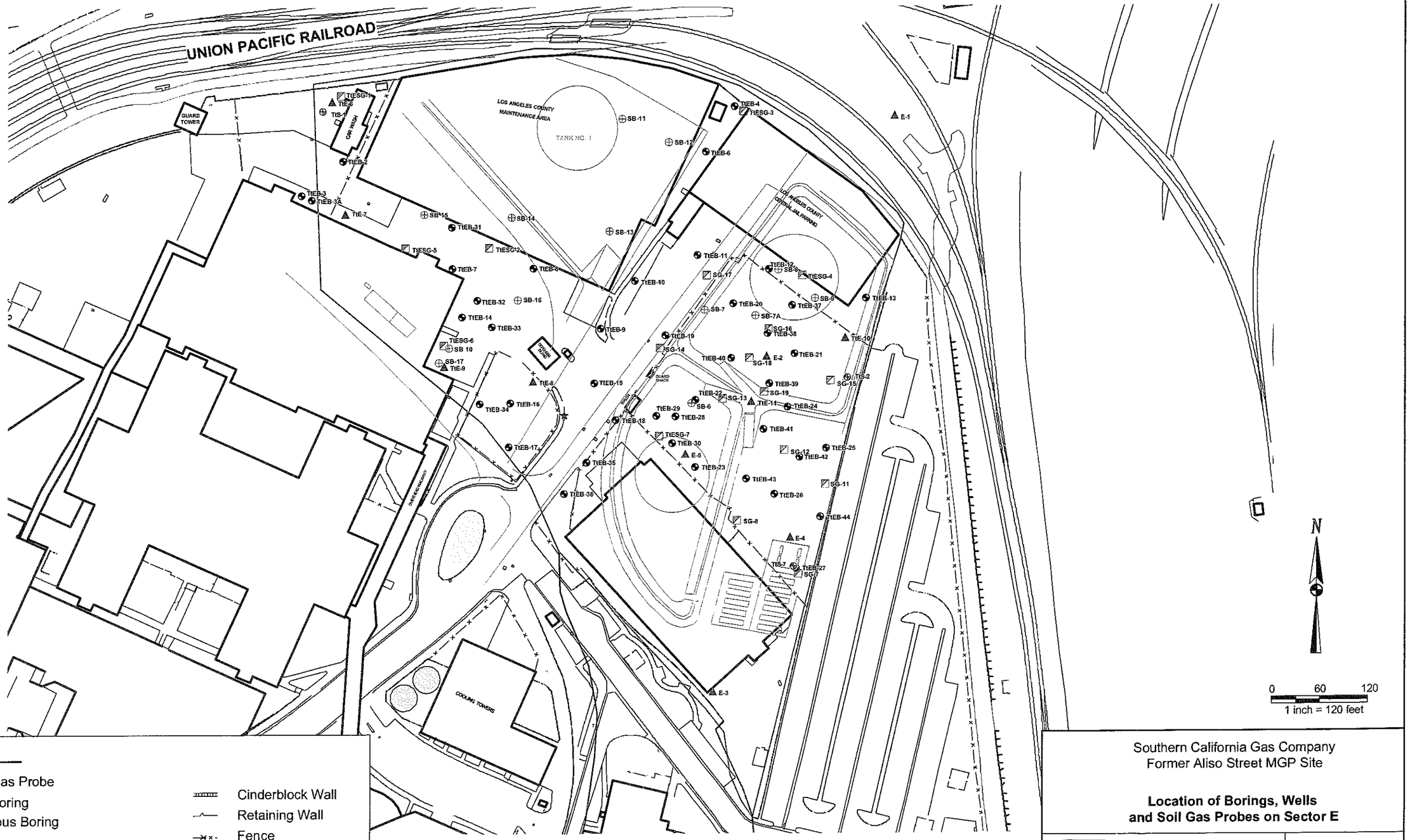
Sector	Well Designation	Rationale for Well Location
E	TtE-6	Determine groundwater quality upgradient of northwestern part of Sector E
E	TtE-7	Determine groundwater quality downgradient of former UST
E	TtE-8	Determine groundwater quality downgradient of former oil tanks.
E	TtE-9	Determine groundwater quality near product and elevated VOCs in TtEB-14.
E	TtE-10	Determine groundwater quality downgradient of boring TtEB-13 with elevated naphthalene. Old well had product, but no longer accessible.
E	TtE-11	Determine groundwater quality downgradient of product area Well E-2 had product in June 2002.

Locations of borings and wells on Sector E are shown on Figure 3-1

TABLE 3-2
WELL CONSTRUCTION DETAILS
FORMER ALISO MGP SITE, SECTOR E
Los Angeles, Califonia

Well Number	Date Installed	Total Depth (feet bgs)	Borehole Diameter (inches)	Casing Diameter (inches)	Screen Slot Size (inches)	Screen Material	Screened Interval (feet bgs)	Blank Casing (feet bgs)	Blank Casing Material	Filter Pack Material*	Filter Pack Interval	Seal Interval (bentonite)	Surface Completion WB**
TtE-6	3/28/2002	45.0	10	4	0.020	PVC Slotted	24-44	0-24	PVC	#3 Sand	22-44	19-22	WB
TtE-7	3/19/2002	46.0	10	4	0.020	PVC Slotted	25-45	0-25	PVC	#3 Sand	22.7-46	20.1-22.7	WB
TtE-8	3/19-21/02	105.0	10	4	0.020	PVC Slotted	89.5-104.5	0-89.5	PVC	#3 Sand	85-105	77-85	WB
TtE-9	12/13/2002	45.0	10	4	0.020	PVC Slotted	24-44	0-24	PVC	#3 Sand	22-44	19-22	WB
TtE-10	11/22/2002	44.0	10	4	0.020	PVC Slotted	24-44	0-24	PVC	#3 Sand	0-24	19-22	WB
TtE-11	11/21/2002	43.0	10	4	0.020	PVC Slotted	23-43	0-23	PVC	#3 Sand	21-43	18-21	WB

*: number 3 Monterey Sand
**: flush mounted Emco-Wheaton well box



Legend

- Soil Gas Probe
- Soil Boring
- Previous Boring
- Well
- Former MGP Boundary (Sector E)
- Former MGP Boundary (Sector D)
- Cinderblock Wall
- Retaining Wall
- Fence
- Historical Structures

Southern California Gas Company
Former Aliso Street MGP Site

Location of Borings, Wells and Soil Gas Probes on Sector E

Tetra Tech, Inc.

REVIEW BY:_____
FILE: FULL119230_Sector_D WOR
DATE: 4-28-04

Fig. 3-1

This section presents the regional and site-specific geology and hydrogeology. The location of oil fields and seeps relative to the Site are also included in this section. A discussion regarding Site soil physical properties is also presented

4.1 REGIONAL GEOLOGY

The former Aliso Street MGP site (hereinafter in this section is referred to as "MGP site") is located on the west side of the southward draining Los Angeles River, south of Elysian Park, east of downtown Los Angeles and north of the Union Station Oil Field. This Site is situated in the north-central portion of the Peninsular Ranges Geomorphic Province (Figure 4-1). The trace of the active Santa Monica – Raymond Fault (a geologic feature separating the northwesterly trending structural grain of the Peninsular Ranges and the east-west trending structural grain of the adjacent Transverse Ranges Geomorphic Province) is located about four miles north of the Site.

The geologic setting and conditions have been described for the vicinity of the Site in regional geological maps and literature by others [California Division of Mines and Geology (CDMG), 1971; Lamar, 1970; and Dibble, Jr., 1991]. Analysis of the geologic mapping done in the work by others indicates that in the vicinity of the MGP site, the Elysian and Repetto Hills, are formed of Miocene and Pliocene age, marine, slightly consolidated, deformed, bedrock sediments of the Puente and Fernando Formations, respectively. In many places, these marine formations are not distinguished due to their similarity and changes in naming conventions. For example, older publications may refer to the Pico Formation instead of the Fernando Formation.

The Puente Formation consists of shale, sandstone, siltstone, and claystone that in some locations have been divided into four members (e.g., layers) [Durham and Yerkes, 1964]. The youngest member (Sycamore Canyon Member) includes poorly-sorted light brown to gray siltstone and very fine-grained sandstone with thin bedding planes, shale, and orange limestone inclusions. The Yorba Member, consisting of light gray to white shale and white to gray diatomaceous shale with sandstone and limestone layers, underlies the Sycamore Canyon Member. The Yorba Member is underlain by the Soquel Member that consists of light yellowish-brown, medium grained to pebbly feldspathic sandstone with interbedded light gray to light yellowish-brown siltstone. The oldest member (La Vida Member) is a medium brown to light-gray sandstone with calcareous nodules. Bedrock samples from the deep borings north of Cesar Chavez Street were determined to be Puente Formation based on their fossil assemblage. The description of bedrock samples identified as Puente from the vicinity of the MGP site varied from light brown/gray mudstone in Sector D (in TtD-20D) to dark greenish-gray mudstone/claystone in Sector E (in TtS-2) with minor pyrite crystals and lignite.

The Fernando Formation consists primarily of siltstone, sandstone, and conglomerate, and has been divided into three members. The Upper Member is a brown conglomerate with a soft,

poorly-sorted sandstone matrix. The Middle Member is tan to brown coarse-grained to pebbly sandstone. The Lower Member is a light brown to medium gray siltstone with hard calcareous beds and soft, micaceous zones. Bedrock samples from the deep borings south of the Freeway 101 were determined to be Fernando Formation based on their fossil assemblage. The description of bedrock samples identified as Fernando from the vicinity of the MGP site varied from dry, massive, olive green mudstone (in TtO-3 in Block O of Sector C) to dark greenish-gray mudstone/claystone with moist sand lenses above a cemented conglomerate layer (in C-25).

The valleys between the hills and the coastal plain basins contain Pleistocene to Recent age, unconsolidated, alluvial deposits. The Pleistocene age materials consist of marine and non-marine deposits, and have a thickness of up to 30,000 feet in the main basin. Recent age alluvial materials have been deposited by the Los Angeles River. River channel and flood plain sediments are generally coalescing silts, sands, and gravels that are laterally discontinuous. A coarse gravel layer is often found near the contact with the alluvium and the siltstone/claystone of the underlying Puente/Fernando Bedrock Formations. The shallow alluvium is directly underlain by bedrock and not the sequence of deeper aquifers found further south in the basin (e.g., the Silverado and Sunnyside aquifers).

A bedrock structural contour map was prepared for the MGP site and vicinity (Figure 4-2). A portion of the United States Geological Survey (USGS), 1994 revised, "Los Angeles Quadrangle" topographic map sheet was adapted for use as the base for this bedrock contour map. Boring locations were plotted on the base map from information obtained from Enviro-Rail [1997]; City of Los Angeles, Department of Public Works, Bureau of Engineering, Geotechnical Engineering Division [2001]; Yerkes, Timsley, and Williams [1977]; and numerous remedial investigations and feasibility studies reports produced by Tetra Tech for the other areas within the MGP site area. Elevation of the top of the bedrock referenced to mean sea level for the nearby borings from the above references was computed and entered on the base map adjacent to the appropriate boring location. Contours of equal elevation were then drawn on the base map in the vicinity of the Site. The following features have been identified from the map that relate to low areas where any DNAPLs could accumulate and to the potential for migration from the shallow aquifer to deeper aquifers. This preliminary regional contouring of the bedrock surface depicts the following features:

- An eastward descending bedrock ridge crosses the southern portion of the MGP site, where bedrock has not been encountered to the depths investigated along the south-facing flank of the ridge;

- A bedrock low is present where the 101 Freeway passes through the MGP site. The low is to the north of, and sub-parallel to the descending ridge, and the low blends into the bedrock low along Macy Street referenced by Yerkes et. al, 1977; and

- A bedrock knob exists along the western part of Sectors B and D of the MGP site, located along the northern portion of the Site. Data are limited for the northern part of the MGP site (Sector E), but the available data points within and near this Sector suggest that this area has a bedrock low.

4.2 REGIONAL HYDROGEOLOGY

The MGP site is located within the Los Angeles Forebay area of the Los Angeles Central Groundwater Basin [California Division of Water Resources (CDWR), 1961]. Eight aquifers and associated aquitards have been mapped in the basin area. The aquifers, from shallowest to deepest are: Gaspur, Exposition, Gage, Hollydale, Jefferson, Lynwood, Silverado, and Sunnyside. Except for the Gaspur aquifer, all aquifers of the basin thin and pinch out south of the MGP site. The Gaspur aquifer has been mapped to continue northward from the basin through the MGP site.

Previous hydrogeologic investigations in the MGP site have established the presence of groundwater in the underlying river alluvial deposits at depths ranging between 29 and 42 feet below ground surface (bgs). This groundwater is unconfined and has a flow direction to the south (Figure 4-3). There are no intervening, continuous, confining layers. The base of the saturated zone is the bedrock reached at depths from 45 feet bgs in well C-10, located near the corner of East Temple Street and Center Street on Block Q to 145 feet bgs in TtS-2, located on Sector E in the northern part of the Aliso Street MGP site. In some places, the underlying bedrock is dry such as beneath Sector A, while in other places there are thin, permeable sand layers in the weathered bedrock formation. The saturated hydraulic conductivity of bedrock samples ranged from 3.2E-7 to 7.0E-9 cm/sec, compared to 1.55E-03 cm/sec for the site-wide mean for samples from the alluvium.

4.3 OIL FIELDS AND OIL SEEPS

In 1970, Lamar identifies several oil fields south of the MGP site. The nearest oil field is the Union Station Oil Field, to the MGP site southern limits (Figure 4-1). Three oil fields are located in the near vicinity of the MGP site area. The Union Station Oil Field lies at the southern limit of the MGP site, and the Los Angeles and Boyle Heights oil fields are approximately 6,000 and 9,000 feet, respectively, northwest and southeast of the MGP site area. Oil from all of these fields is found in, and has been extracted from, the Puente Formation units.

Natural occurring oil seeps are found, and have been reported, at locales in the near vicinity of the MGP site. A U.S. Geological Survey Bulletin from 1907 noted petroleum hydrocarbons found in alluvium and bedrock at the northern edge of the MGP site [McLaren Hart, 1995]. The U.S. Army Corps of Engineers found natural oil seeps along both sides of the Los Angeles River, easterly and north of the MGP site, during the concrete lining of the river channel in 1940. In 2001, the Los Angeles Geotechnical Engineering Division noted oil seeps from cracks and seams of the Los Angeles River concrete lining easterly of the site. Recent investigations for the Northeast Interceptor Sewer MGP site [LA GED, 2001] found near-surface oil deposits along the Los Angeles River between the 101 Freeway and Cesar Chavez Street, and found crude oil and gases in alluvial deposits along Mission Street (about 4,000 feet easterly of the MGP site) had migrated from fractured, oil bearing Puente deposits.

4.4 SITE SPECIFIC STRATIGRAPHY

Eight cross-sections have been developed using the boring logs of the soil borings and monitoring wells showing the soil material encountered across Sector E at the locations shown on Figure 4-4a. The cross-sections that run primarily from south to north across the eastern portion of Sector E include Figure 4-4b – A-A', Figure 4-4c - B-B', Figure 4-4d – C-C', and Figure 4-4e – D-D'. The cross-sections that run primarily from east to west across Sector E include Figure 4-4f – E-E', Figure 4-4g – F-F', Figure 4-4h – G-G', and Figure 4-4i – H-H'. These sections show that most of the alluvium is composed of poorly to well-graded sands with minor silt and clay layers that are not continuous between the borings. A summary of geologic information on the boring logs is presented in Table 4-1.

Fill Material. On Sector E, the upper 3 feet (TtEB-23) to 16.5 (TtEB-29) of the unsaturated zone was fill material. The fill consisted primarily of brown silt and silty sand with less abundant amounts of sand, silty clay, and clay. Concrete was found from 0.5 to 1.5 feet in TtEB-10, 1-2.5 feet in TtEB-16, and 7 to 9 feet in TtEB-17. Brick and debris were observed in most of the fill material. Carbonaceous material, asphalt and tar were found in the fill material (Table 4-1)

Alluvium. Alluvium extended from below the fill material to bedrock that was encountered at depths ranging from 129 feet bgs in TtS-1 to 145 feet bgs in TtS-2. The groundwater table was encountered at depths ranging from 28 feet bgs in TtEB-17 to 38 feet bgs in TtEB-7 during drilling. The saturated alluvium near the groundwater table was typically brown to dark gray, fine- to coarse-grained sand with fine to coarse gravel. The deeper saturated alluvium below the water table was typically dark gray to dark bluish gray sand with fine- to coarse-gravel. Hydrocarbon product was observed in many of the borings beginning at the water table to 9 feet below the water table in TtE-10 (Table 4-1).

Bedrock. The Puente Formation (bedrock) was present from a depth of 129 feet bgs in bedrock boring TtS-1 to a maximum depth of 145 feet bgs in bedrock boring TtS-2. The formation was described as a dark greenish gray mudstone/claystone/siltstone in bedrock boring TtS-1 at 129 feet bgs, and as an olive greenish gray mudstone/claystone/siltstone in bedrock boring TtS-2 at 145 bgs. The intercalated mudstone/claystone/siltstone was dry to moist and indurated. Petroleum and limonite staining were common with traces of mica and pyrite. Well-developed and closely-spaced bedding at 12 degrees to core horizontal was present in TtS-1 at 144 feet bgs

4.5 LOCAL HYDROGEOLOGY

During drilling, groundwater was encountered at depths ranging from 28 feet bgs in TtEB-17 to 38 feet bgs in TtEB-7. Groundwater occurs initially in gray fine- to coarse-grained sand and gravel of the alluvium. The saturated alluvium extends to the top of the Puente Formation and has a maximum thickness of 144 feet in TtS-2. The saturated alluvium comprises one aquifer overlying the bedrock, which may correspond to the Gaspur aquifer. The deeper aquifers below the Gaspur aquifer found elsewhere in the Los Angeles Basin are not present beneath Sector E.

The shallow groundwater in some of the borings of Sector E had VOCs based on the field-screening instruments. The results of the chemical analyses for the groundwater samples are discussed in detail in Section 5.

Soil samples from borings in Sector E were classified as fine- to medium-grained sand based on the grain size distribution of the Unified Soil Classification System as described by the American Society for Testing and Materials (ASTM). The hydraulic conductivities ranged from 1.22E-06 cm/sec in TtEB-32-2.0 to 1.49E-04 cm/sec in TtE-35-19.0. The moisture content ranged from 2.2 percent by weight in TtE-32-20.5 to 30.8 percent in TtE-32-31.0. The total organic carbon ranged from 770 mg/kg in TtEB-35-5.5 to 8,850 mg/kg in TtEB-32-1.5. The complete results are provided in the PTS reports in Appendix C.

4.6 SOIL PHYSICAL PROPERTIES

Thirteen soil samples from Sector E were analyzed for moisture, density, porosity, pore fluid saturation, soil pH, total organic carbon (TOC), effective permeability to air, effective permeability to water, native state effective hydraulic conductivity, and particle (grain) size distribution. The samples were analyzed by PTS Laboratories (PTS) in Santa Fe Springs, California. The results are included in Appendix C.

4.7 BEDROCK PHYSICAL PROPERTIES

Six bedrock samples from TtS-1-132, TtS-1-145, TtS-2-150, TtS-2-165, TtS-7-144, and TtS-7-165 in Sector E were analyzed for density, specific gravity, total porosity, moisture, effective permeability, air conductivity, saturated hydraulic conductivity, soil pH, total organic carbon (TOC) and particle size distribution. Environmental Geotechnology Laboratory in Santa Fe Springs, California analyzed the samples. The laboratory reports are presented in Appendix C and the data summarized in Table 4-2.

The Puente Formation samples from TtS-1, TtS-2 and TtS-7 were classified as clay based on the grain size distribution of the Unified Soil Classification System as described by the American Society for Testing and Materials (ASTM). Claystone/Mudstone is the equivalent rock term for the soil classification of clay. The saturated hydraulic conductivities ranged from 1.2E-008 cm/sec in TtS-7-165 to 2.8E-008 cm/sec in TtS-7-144. The moisture content ranged from 4.4 percent in TtS-1-145 to 33.3 percent in TtS-7-144. The total organic carbon ranged from 3.65 percent in TtS-7-165 to 6.09 percent in TtS-2-150.

4.8 FOSSIL REPORT

Soil samples from bedrock borings TtS-1 at 130 and 150 feet bgs, TtS-2 at 150 and 170 feet bgs, and TtS-7 at 144 and 165 feet bgs were submitted to Micropaleo Consultants in Encinitas, California for fossil identification. The laboratory report for Sector E samples is summarized in the table below.

Fossil Results

Sample Number	Lithology	Fossils	Formation
TtS-1-130	Mudstone, sand	Foraminifera, diatoms, fish, radiolaria	Puente (?)
TtS-1-150	Mudstone, sand	Foraminifera, fish	Puente
TtS-2-146	Shale, sand	Foraminifera, diatoms, fish, radiolaria	Puente
TtS-2-170	Mudstone, sand	Foraminifera, diatoms	Puente
TtS-7-144	Sand	Foraminifera, diatoms, radiolaria	Puente
TtS-7-165	Sand, sandy mudstone	Foraminifera, diatoms, radiolaria	Puente

Fossils suggest that the Puente Formation is present in Sector E. This conclusion is supported by the lithology of the core (i.e mudstone/claystone/siltstone) and presence of organics and petroleum hydrocarbon commonly found in the Puente Formation.

SYMBOLS

- NS-14 / TD 80' / GW @ 34' / BX @ 78' — Location of exploration boring drilled during this investigation (TD=total depth of boring, GW=depth to groundwater, BX=depth to bedrock)
- Approximate Location of Geologic Contact
- af — Approximate Location of Artificial Fill
- Approximate Limits of Landslide Debris. Arrows Indicate Direction of Movement
- Location of Fault (dashed where approximate, dotted where concealed, queried where uncertain)
- Approximate Location of Axis of Anticline, dashed where approximate (dotted where concealed)
- Approximate Limits of Oil Field
- Pre-1896 Los Angeles River Flood Plain
- Los Angeles River LACFCD
- Average Strike and dip of bedding from stereonet analysis of boring geophysical and Ruin data, and Humboldt Outcrop mapping data.
- Strike and dip from Lamar, 1970
- Strike and dip of bedding from geologic mapping for this study
- Strike and dip of bedding within older Alluvium
- Shaft Site
- Proposed Alignment

LEGEND

af	ARTIFICIAL FILL	Qt	TERRACE DEPOSITS
Qls	LANDSLIDE DEBRIS	Tfsl	FERNANDO FORMATION
Qal	RECENT ALLUVIUM	Tpss, Tpsh, Tpsl, Tpun, Tpds	PUENTE FORMATION
Qoal	OLDER ALLUVIUM	Ttcg, Ttsl	TOPANGA FORMATION

SECTOR C

SECTOR A

SECTOR B

SECTOR E

SECTOR D

Union Station Oil Field

Near Surface Oil Deposits

Near Surface Oil Deposits

Boyle Heights Oil Field

Richmond Shaft Site

Qal

Qoal

Qt

Tpsl

B-54 (GW)

B-55

B-37

B-56

B-57

B-58

B-36

B-59 (GW)

B-98

B-35

B-60

(GW) B-61

B-99

(GW) B-62

B-34

B-100

B-33

B-63

B-64

B-65 (GW)

B-66

B-32

B-67

B-110

B-111

(GW) B-70

B-69

B-68

B-31

B-116

B-71

B-117

(GW) B-73

B-75 (GW)

B-30

B-28

B-74

B-27

B-77

B-76

N

0 100 300 500

GRAPHIC SCALE

Former Aliso Street MGP Site

GEOLOGY MAP

Date : 03/25/2003

Figure 4-1

Map Revised From City of Los Angeles Bureau of Engineering Geotechnical Engineering Division, September 2001.

0 250 500
1 inch = 500 feet

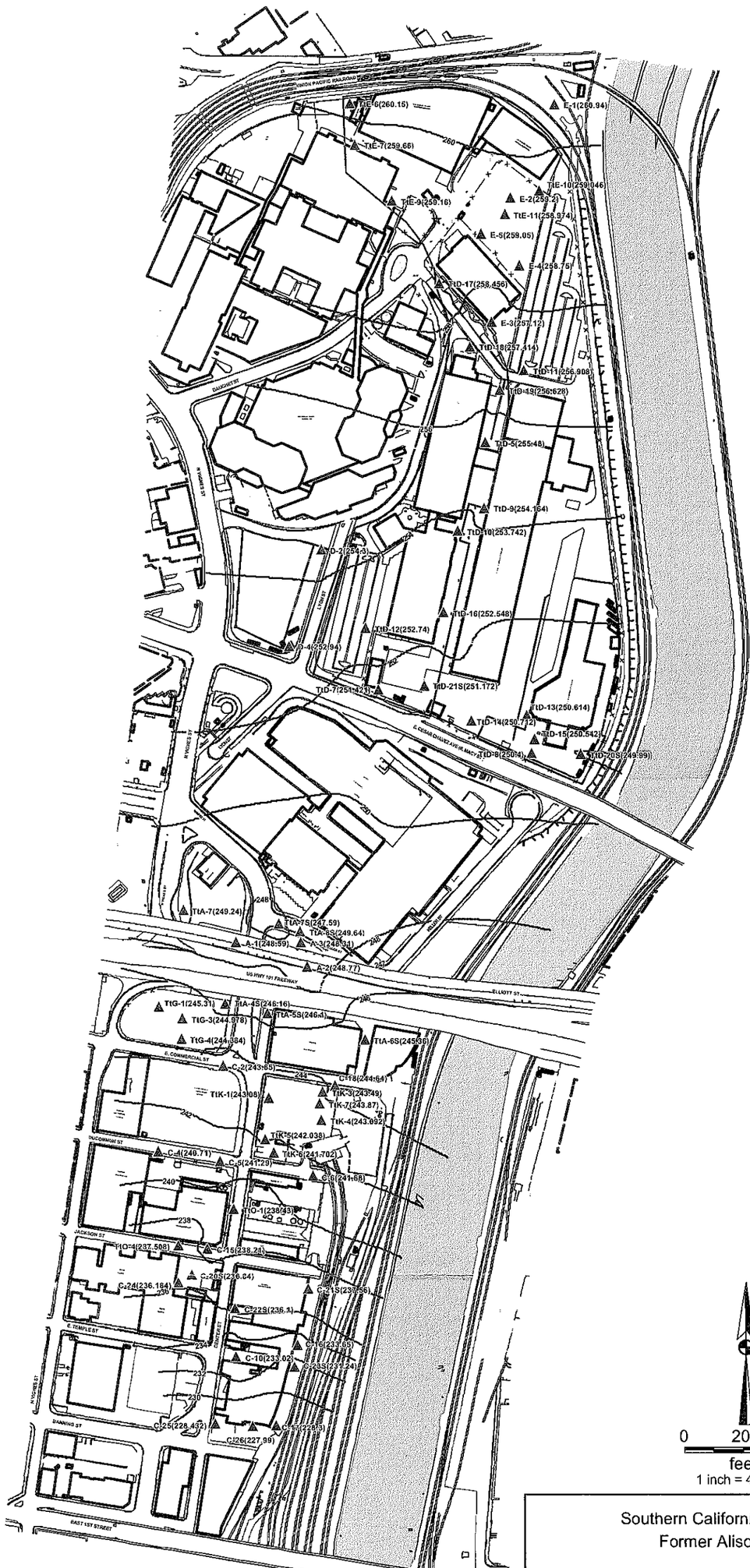
Southern California Gas Company
Former Aliso Street Site

Bedrock Elevation Map

Tetra Tech, Inc.

PREPARED BY: CFC
FILE: Bedrock.WOR
DATE: 4-1-2003

Fig. 4-2



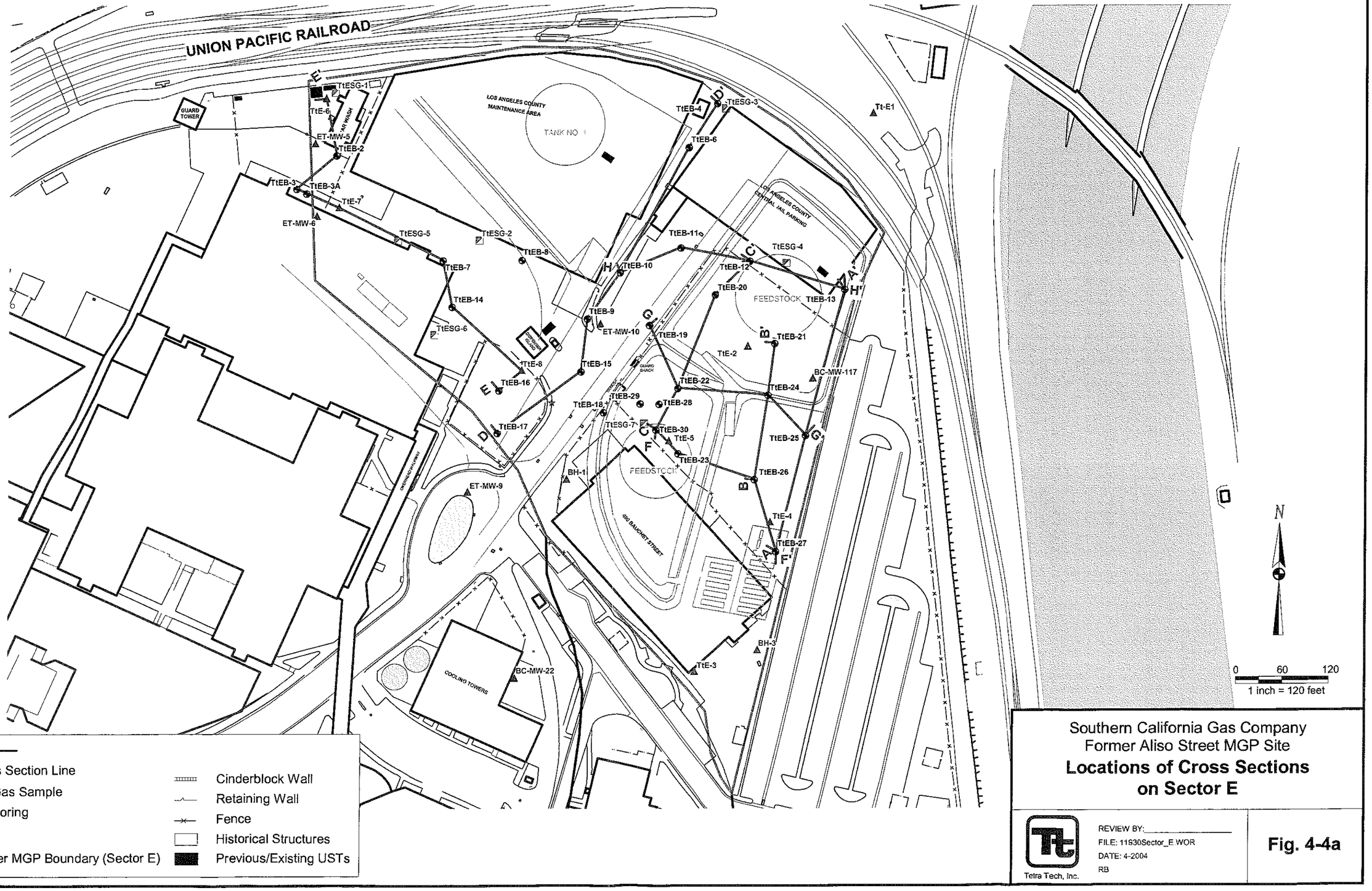
Southern California Gas Company
Former Aliso Street Site

Groundwater Elevation Contour Map
Measured 2/10/2003~2/13/2003

PREPARED BY: CFC
FILE: Monitoring Well.WOR
DATE: 7-25-2003

Tetra Tech, Inc.

Fig. 4-3



Legend

- Cross Section Line
- Soil Gas Sample
- Soil Boring
- Well
- Former MGP Boundary (Sector E)
- Cinderblock Wall
- Retaining Wall
- Fence
- Historical Structures
- Previous/Existing USTs

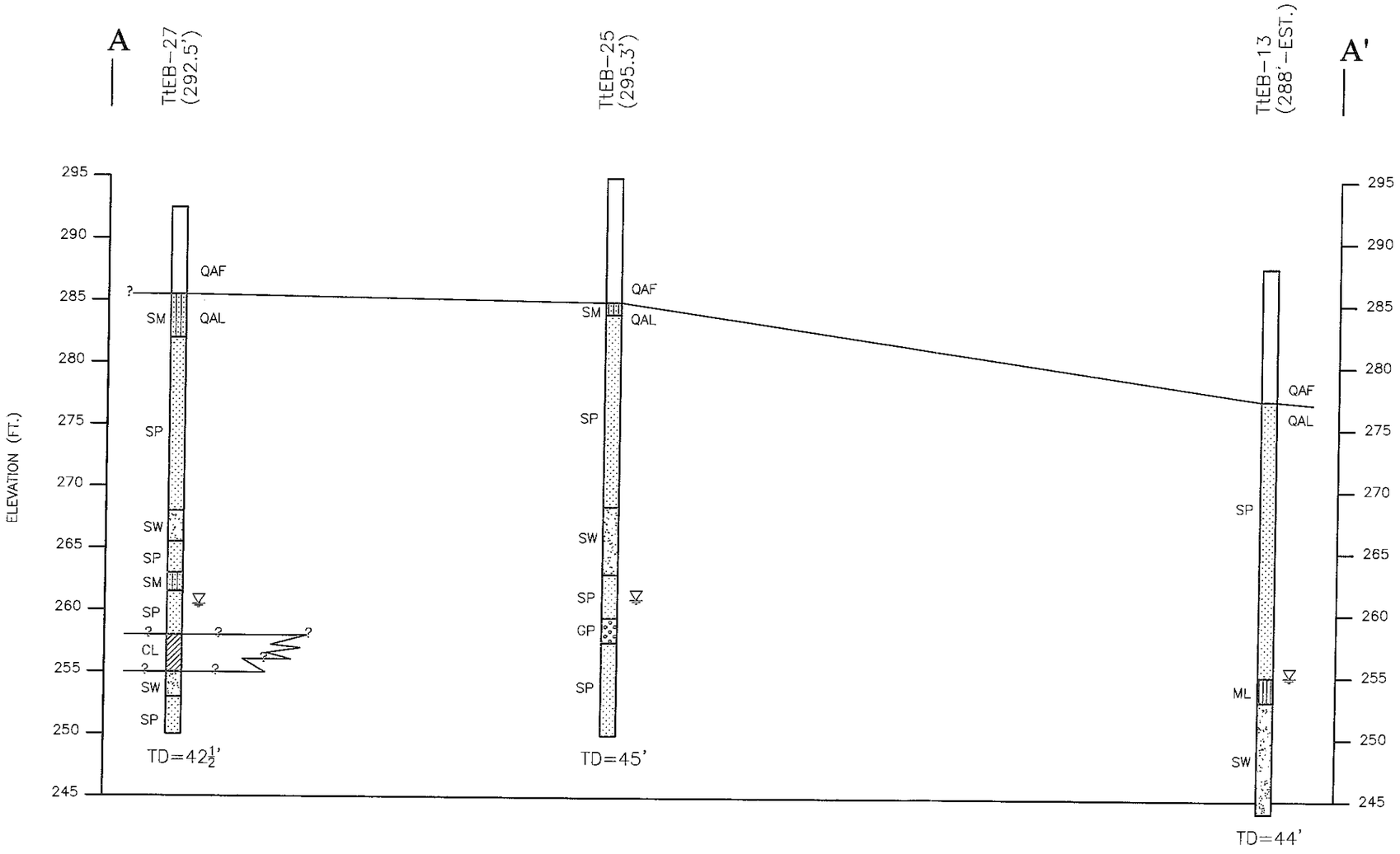
Southern California Gas Company
Former Aliso Street MGP Site

Locations of Cross Sections on Sector E

Tetra Tech, Inc.

REVIEW BY:_____
FILE: 11930Sector_E.WOR
DATE: 4-2004
RB

Fig. 4-4a



LEGEND

- (CL)– INORGANIC CLAYS
- (ML)– INORGANIC SILTS
- (SP)– POORLY GRADED SANDS
- (SW)– WELL GRADED SANDS
- (SM)– SILTY SANDS
- (GP)– POORLY GRADED GRAVELS
- WATER TABLE AT BORING COMPLETION
- QAL – QUATERNARY ALLUVIUM
- QAF – QUATERNARY ARTIFICIAL FILL

SCALE
HORIZONTAL: 1"=40'
VERTICAL: 1"=10'

CROSS SECTION A - A'

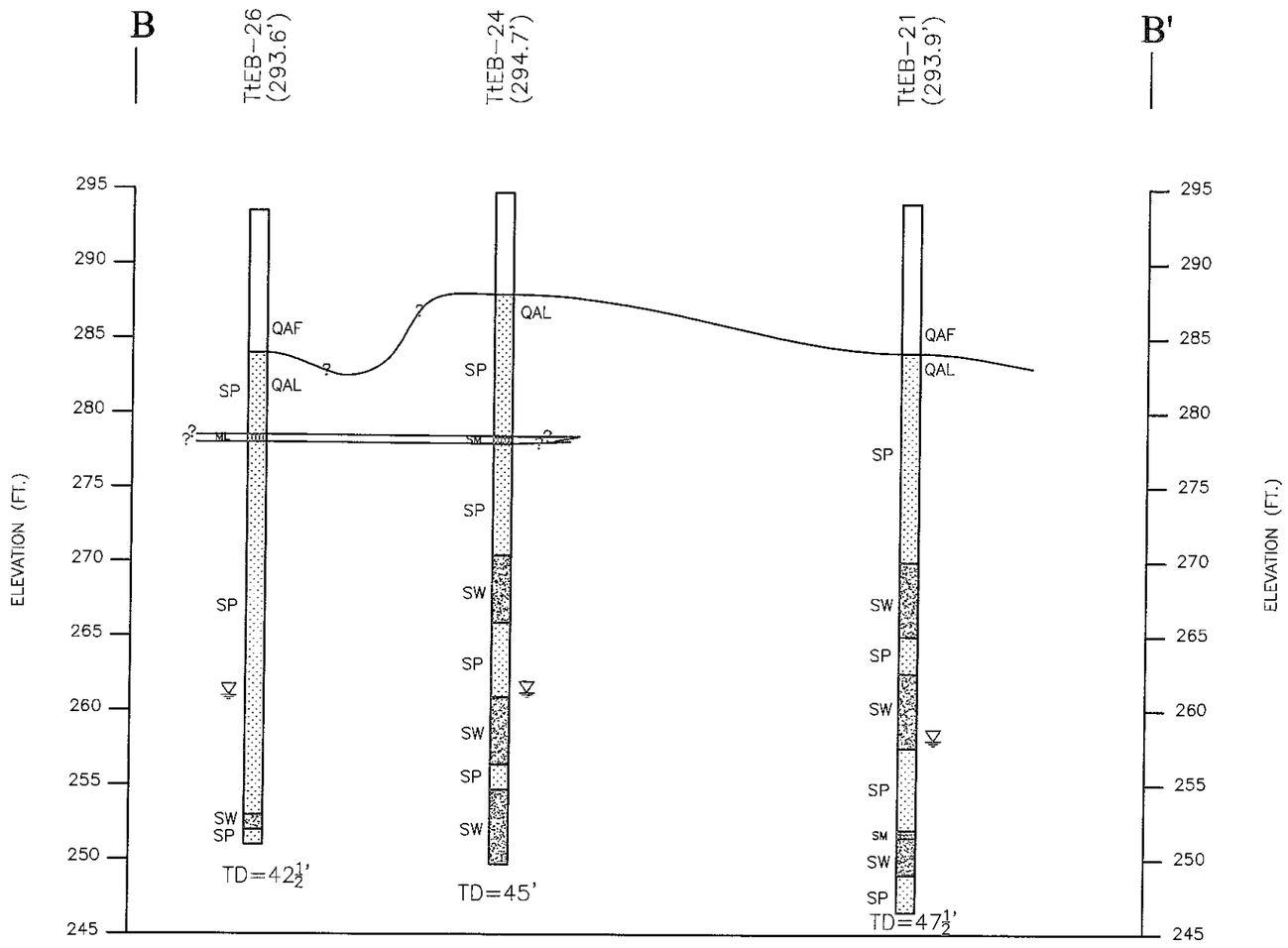
Southern California Gas Company
Former Aliso MGP Site - Sector E

CROSS SECTION A - A'

Tetra Tech, Inc.

INTERPRETATION BY: David Bramwell
Stephen Anderson
REVIEW BY:
FILE: 14239-01X-Section-A.dwg
DATE: July 2002

Fig. 4-4b



LEGEND

- (CL)– INORGANIC CLAYS
- (ML)– INORGANIC SILTS
- (SP)– POORLY GRADED SANDS
- (SW)– WELL GRADED SANDS
- (SM)– SILTY SANDS
- WATER TABLE AT BORING COMPLETION
- QAL QUATERNARY ALLUVIUM
- QAF QUATERNARY ARTIFICIAL FILL

CROSS SECTION B - B'

SCALE
HORIZONTAL: 1"=40'
VERTICAL: 1"=10'

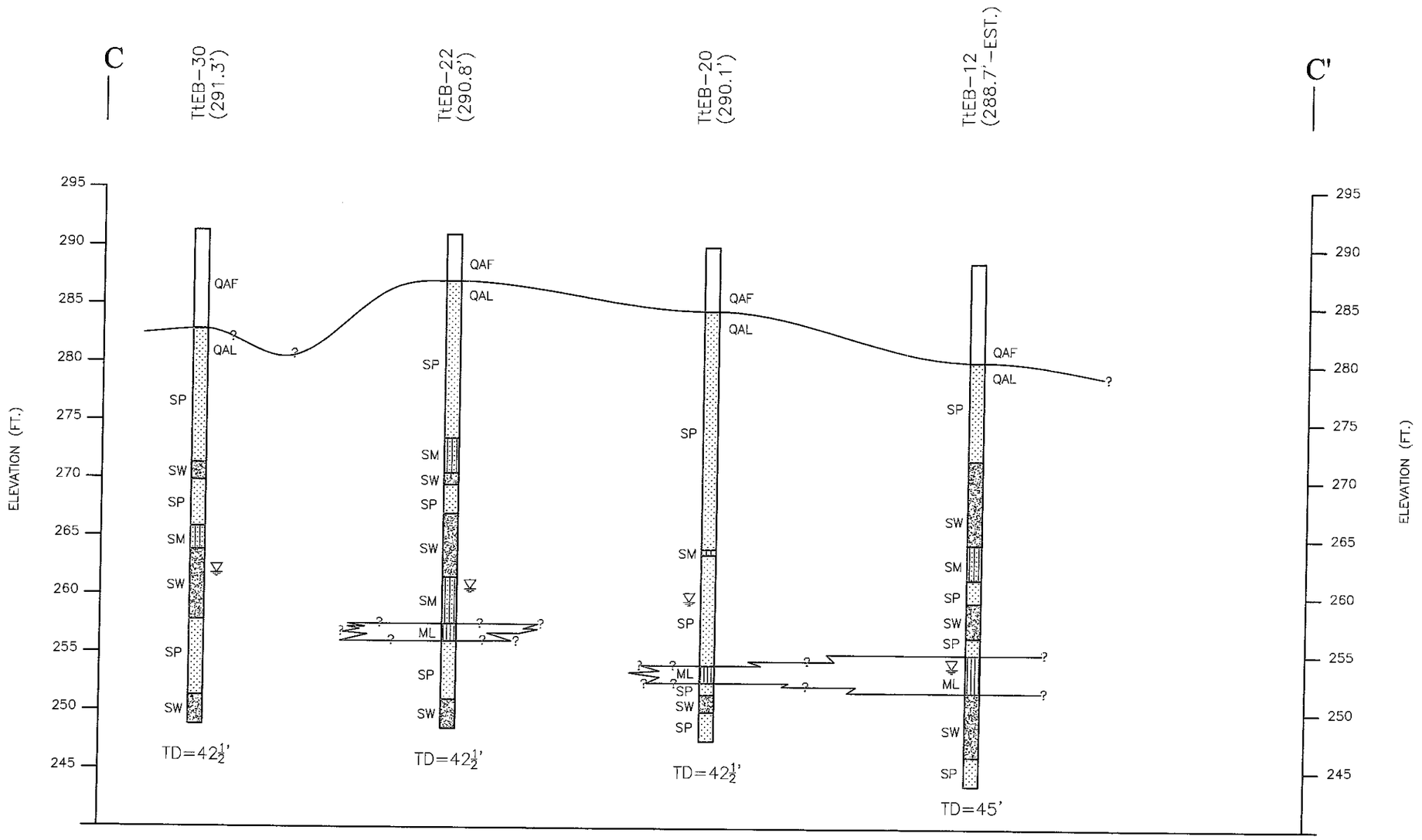
Southern California Gas Company
Former Aliso MGP Site - Sector E

CROSS SECTION B - B'

Tetra Tech, Inc.

INTERPRETATION BY: David Bramwell
Stephen Anderson
REVIEW BY:
FILE: 14239-01X-Section-B.dwg
DATE: July 2002

Fig. 4-4c



SCALE
HORIZONTAL: 1"=40'
VERTICAL: 1"=10'

CROSS SECTION C - C'

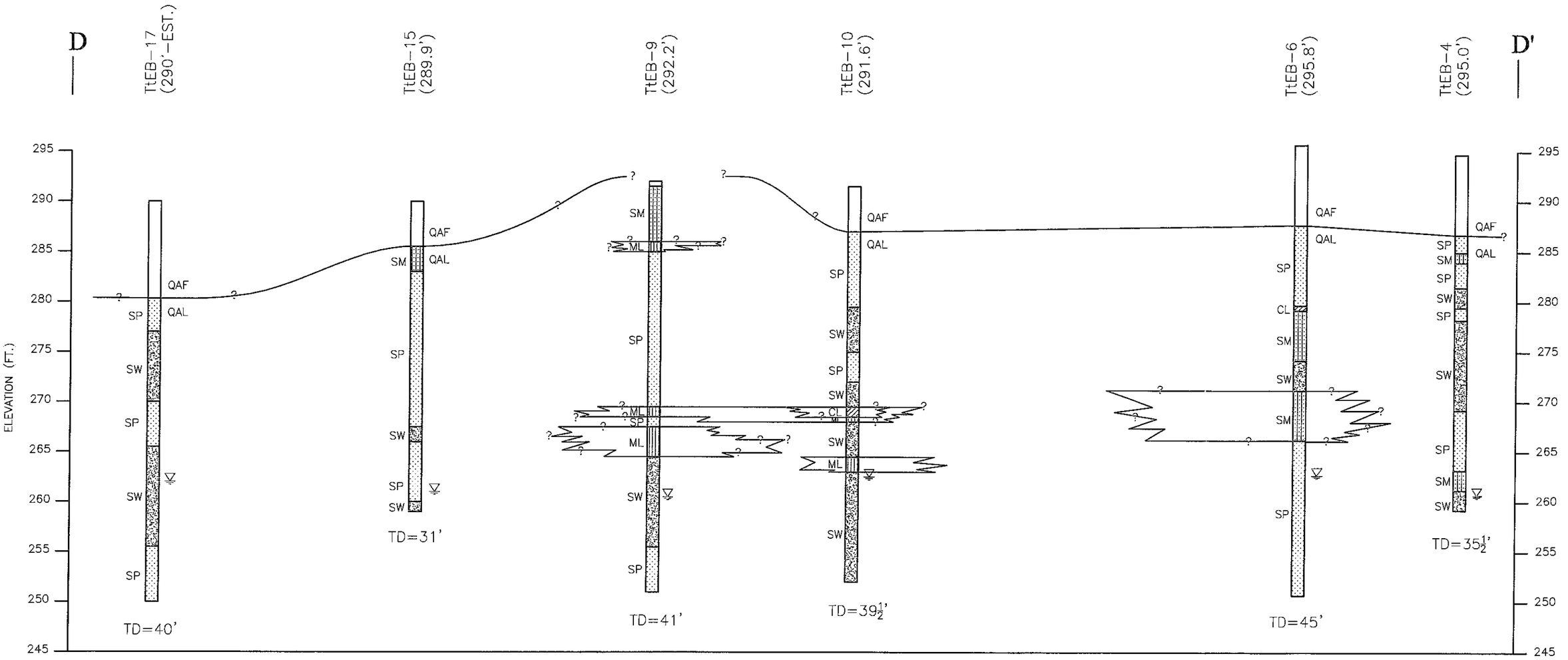
Southern California Gas Company
Former Aliso MGP Site - Sector E

CROSS SECTION C - C'

INTERPRETATION BY: David Bramwell, Stephen Anderson
REVIEW BY:
FILE: 14239-01X-Section-C.dwg
DATE: July 2002

Tetra Tech, Inc.

Fig. 4-4d



LEGEND

(CL)– INORGANIC CLAYS		WATER TABLE AT BORING COMPLETION
(ML)– INORGANIC SILTS	QAL	QUATERNARY ALLUVIUM
(SP)– POORLY GRADED SANDS	QAF	QUATERNARY ARTIFICIAL FILL
(SW)– WELL GRADED SANDS		
(SM)– SILTY SANDS		

CROSS SECTION D - D'

SCALE
HORIZONTAL: 1"=40'
VERTICAL: 1"=10'

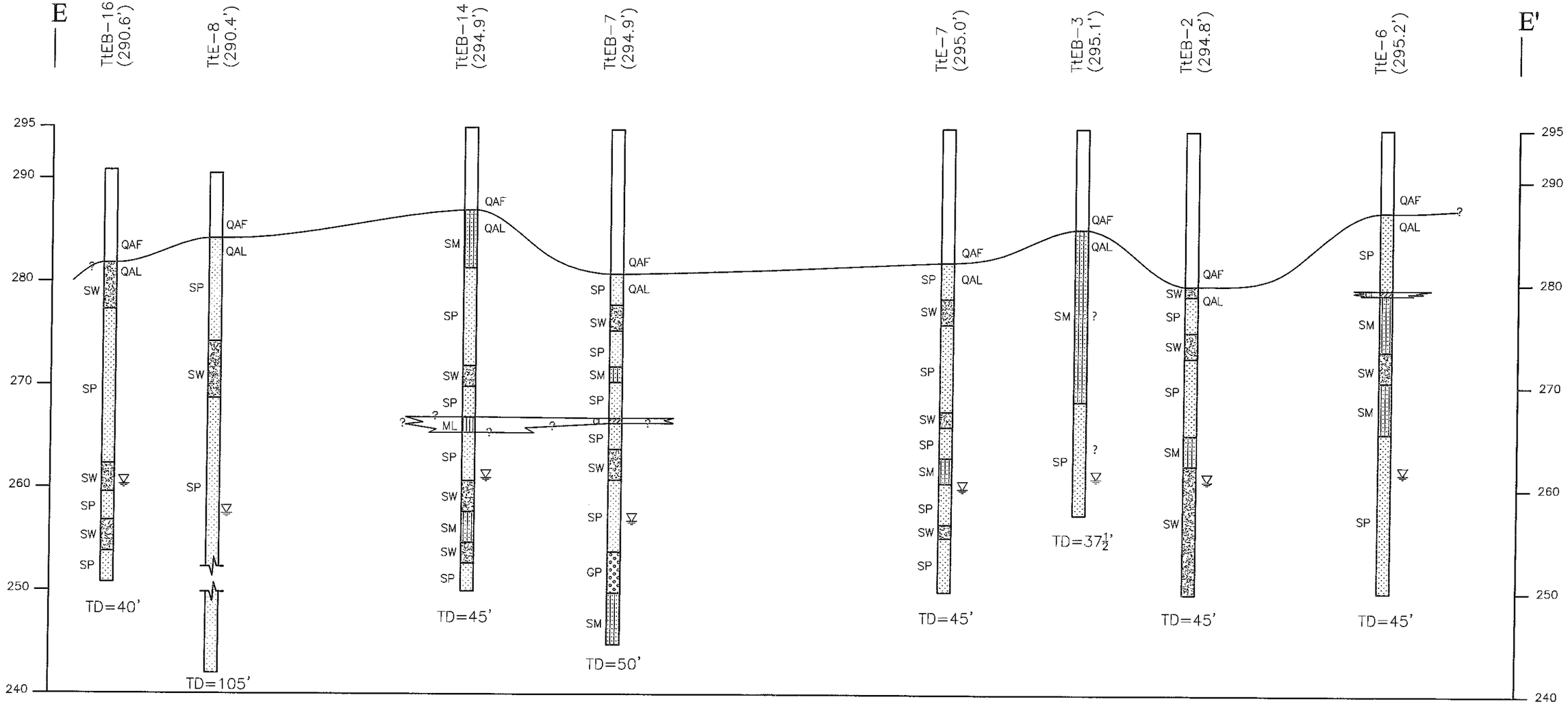
Southern California Gas Company
Former Aliso MGP Site - Sector E

CROSS SECTION D - D'

Tetra Tech, Inc.

INTERPRETATION BY: David Bramwell
Stephen Anderson
REVIEW BY:
FILE: 14239-01X-Section-A.dwg
DATE: July 2002

Fig. 4-4e



LEGEND

- (CL)– INORGANIC CLAYS
- (ML)– INORGANIC SILTS & VERY FINE SANDS
- (SP)– POORLY GRADED SANDS
- (SW)– WELL GRADED SANDS
- (SM)– SILTY SANDS
- (GP)– POORLY GRADED GRAVELS
- WATER TABLE AT BORING COMPLETION
- QAL – QUATERNARY ALLUVIUM
- QAF – QUATERNARY ARTIFICIAL FILL

CROSS SECTION E - E'

SCALE
HORIZONTAL: 1"=40'
VERTICAL: 1"=10'

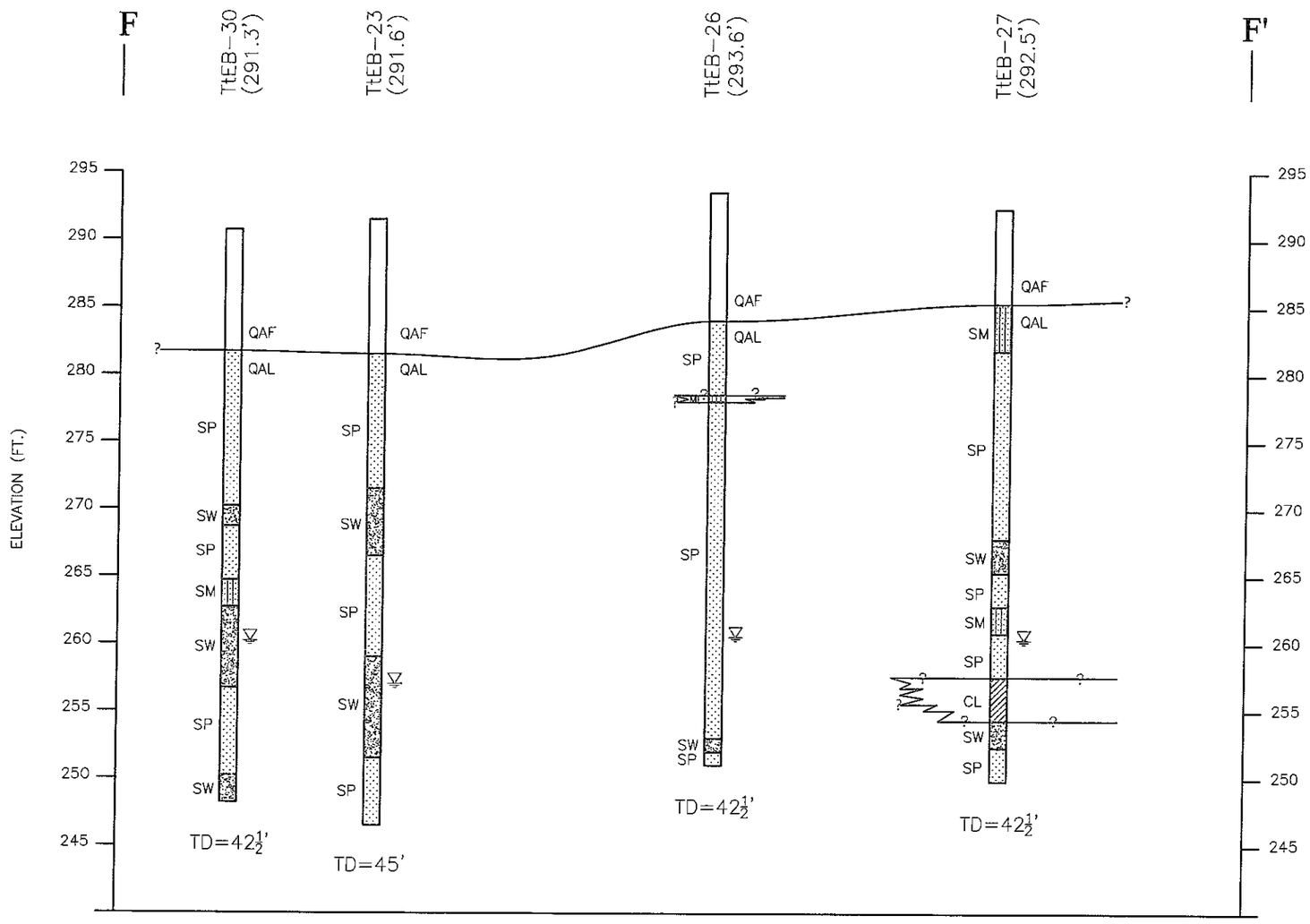
Southern California Gas Company
Former Aliso MGP Site - Sector E

CROSS SECTION E - E'

Tetra Tech, Inc.

INTERPRETATION BY: David Bramwell
Stephen Anderson
REVIEW BY:
FILE: 14239-01X-Section-E.dwg
DATE: July 2002

Fig. 4-4f



LEGEND

- (CL)– INORGANIC CLAYS
- (ML)– INORGANIC SILTS
- (SP)– POORLY GRADED SANDS
- (SW)– WELL GRADED SANDS
- (SM)– SILTY SANDS
- WATER TABLE AT BORING COMPLETION
- QAL QUATERNARY ALLUVIUM
- QAF QUATERNARY ARTIFICIAL FILL

SCALE
HORIZONTAL: 1"=40'
VERTICAL: 1"=10'

CROSS SECTION F - F'

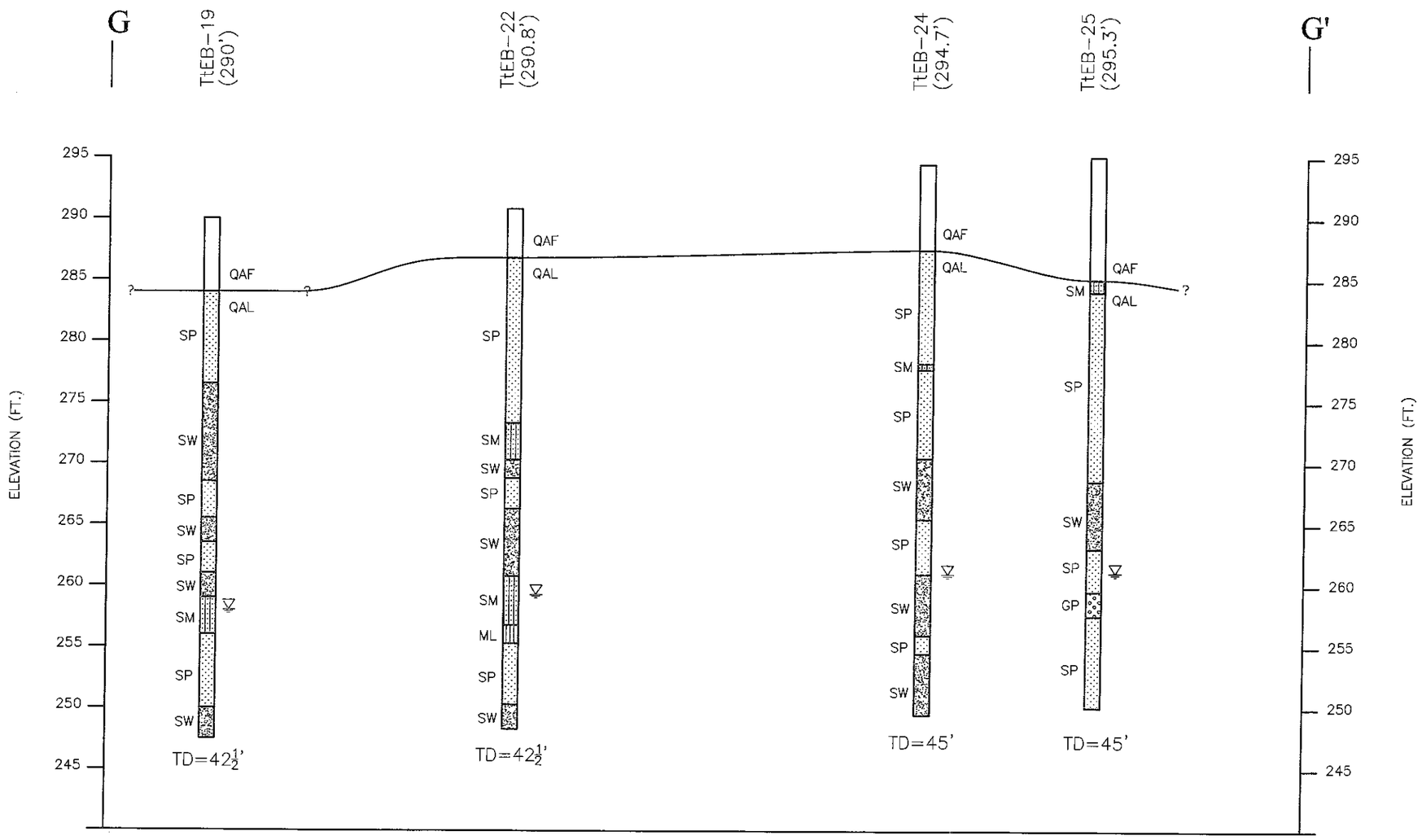
Southern California Gas Company
Former Aliso MGP Site - Sector E

CROSS SECTION F - F'

INTERPRETATION BY: David Bramwell
Stephen Anderson
REVIEW BY:
FILE: 14239-01X-Section-F.dwg
DATE: July 2002

Tetra Tech, Inc.

Fig. 4-4g



LEGEND

- (CL)– INORGANIC CLAYS
- (ML)– INORGANIC SILTS
- (SP)– POORLY GRADED SANDS
- (SW)– WELL GRADED SANDS
- (SM)– SILTY SANDS
- (GP)– POORLY GRADED GRAVELS
- WATER TABLE AT BORING COMPLETION
- QAL QUATERNARY ALLUVIUM
- QAF QUATERNARY ARTIFICIAL FILL

CROSS SECTION G - G'

SCALE
HORIZONTAL: 1"=40'
VERTICAL: 1"=10'

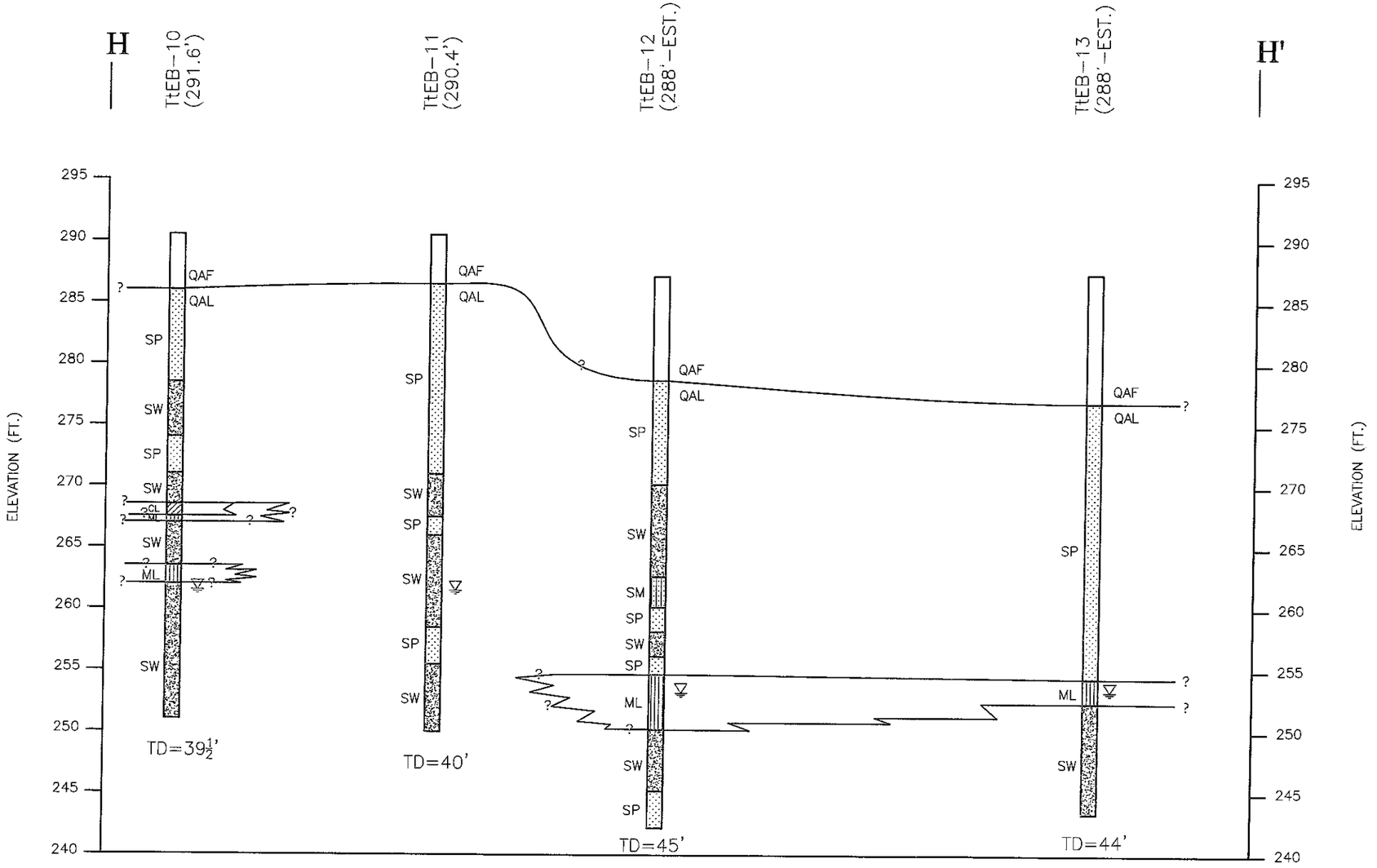
Southern California Gas Company
Former Aliso MGP Site - Sector E

CROSS SECTION G - G'

Tetra Tech, Inc.

INTERPRETATION BY: David Bramwell
Stephen Anderson
REVIEW BY:
FILE: 14239-01X-Section-G.dwg
DATE: July 2002

Fig. 4-4h



LEGEND

- (CL)– INORGANIC CLAYS
- (ML)– INORGANIC SILTS
- (SP)– POORLY GRADED SANDS
- (SW)– WELL GRADED SANDS
- (SM)– SILTY SANDS
- WATER TABLE AT BORING COMPLETION
- QAL QUATERNARY ALLUVIUM
- QAF QUATERNARY ARTIFICIAL FILL

SCALE
HORIZONTAL: 1"=40'
VERTICAL: 1"=10'

CROSS SECTION H - H'

Southern California Gas Company
Former Aliso MGP Site - Sector E

CROSS SECTION H - H'

Tetra Tech, Inc.

INTERPRETATION BY: David Bramwell
Stephen Anderson
REVIEW BY:
FILE: 14239-01X-Section-H.dwg
DATE: July 2002

Fig. 4-4i

Table 4-1. GEOLOGY AND SUMMARY OF BORINGS
ALISO SECTOR E

Boring #	Fill (feet bgs)	Bedrock (feet bgs)	Groundwater (feet bgs)	Concrete (feet bgs)	Lithology Fill	Lithology Rock	Alluvium	Product (feet bgs)
TtEB-2	15.0	---	33.5	4 to 4.6	SP and SC / Brown and gray	---	SP / SW / SM	---
TtEB-3	10.0	---	28.5	---	SP/ SC / Brown	---	SM / SP	32 Product
TtEB-3A	10.5	---	34.0	---	SM / ML/ Brown	---	SP / ML	---
TtEB-4	8.0	---	34.0	---	SM / CL / Brown	---	SP / SM / SW	---
TtEB-6	8.0	---	33.0	---	SM / CL / Brown	---	SM / SP / SW	---
TtEB-7	13.0	---	38.0	---	SM / Brown	---	SP / SW / SM / CL	---
TtEB-9	---	---	31.0	---	---	---	SM / ML/ SW / CL	---
TtEB-10	4.0	---	29.0	.5-1.5?---	SP / Brown	---	SP / ML / SP / SW	28.5 -32.5 Product
TtEB-11	4.0	---	28.5	---	ML / Brown	---	SP / SW	30 Product Smell
TtEB-12	8.5	---	34.0	---	ML / SM / Brown	---	SP / SW / SM / ML	---
TtEB13	10.5	---	33.5	---	ML / CL / SP / Brown and Gray	---	SP / ML / SW	33-38 Product
TtEB-14	7.5	---	33.0	---	SM / SP / Brown	---	SM / SP / SW / MH	---
TtEB-15	4.5	---	28.5	---	ML / SP / Dark Brown	---	SM / SP / SW	---
TtEB-16	9.0	---	30.0	1-2.5	SM / Brown	---	SW / SP	3 Asphalt and Tar
TtEB-17	9.0	---	28.0	7.0 -9.0	SM/ SP/ Brown	---	SP / SW	---
TtEB-18	8.0	---	31.0	---	ML / Brown	---	SP / SW	---
TtEB-19	6.0	---	32.0	---	ML / SP / SM / Brown	---	SP / SW / SM	26.5 Product
TtEB-20	5.5	---	31.0	---	ML / SM / Brown	---	SP / SW / SM / ML	---
TtEB-21	8.0	---	36.0	---	ML / Very Dark Gray Brown	---	SP / SW	33-35 Product
TtEB-22	4.0	---	31.5	---	ML / Brown	---	SP / SM / SW / ML	---
TtEB-23	3.0	---	34.5	---	SC / ML / Brown	---	SP / SW	---
TtEB-24	6.5	---	33.5	---	ML / Brown	---	SP / SM / SW	---
TtEB-25	10.0	---	34.0	---	ML / Brown	---	SM / SP / SW / GP	5.5 Carb. Mat., 35.5 Product
TtEB-26	9.5	---	33.0	---	SM / Brown	---	SP / ML / SW	---
TtEB-27	7	---	32.0	---	ML / Brown	---	SM / SP / SW / SM / CL	35.5 Product
TtEB-28	16.5	---	31.5	---	SM / Brown and Gray	---	SW / SP	28.0 Product
TtEB-29	2.5	---	32.5	---	ML/ Brown	---	SM / SP / SW / ML	---
TtEB-30	8.5	---	30.5	---	ML / SM / Brown	---	SP / SW / SM	30 Product
TtEB-31	8.0	---	33.5	---	ML / Brown	---	SP / ML / SW	33 Product
TtEB-32	8.0	---	---	---	SM / SP	---	SP	35.5 Product
TtEB-33	6.5	---	36.5	---	ML / SM Brown	---	ML / SM / SP / SW / CL	---
TtEB-34	8.0	---	31.5	---	SM / Brown	---	SP / ML	32.5 Product
TtEB-35	6.5	---	29.0	---	ML / Brown	---	SP / SM	---
TtEB-36	8.5	---	28.5	---	ML / SM / Brown	---	SP / ML	---
TtEB-37	5.5	---	35.5	---	SM / Brown	---	SP / SM	---
TtEB-38	6.5	---	32.5	---	SM / Brown	---	SP / ML	28.5 Product Sheen
TtEB-39	7.5	---	34.5	---	ML / Brown	---	SP	33-35.5 Product
TtEB-40	5.5	---	34	---	ML / Brown	---	SP	31-35 Product
TtEB-41	9	---	34.5	---	ML / Brown	---	SP	35-38 Product
TtEB-42	7.5	---	35.0	---	ML / Brown	---	SP	35-38 Product
TtEB-43	8	---	33.5	---	ML / Brown	---	SP / SM	33-36 Product
TtEB-44	7.5	---	35.0	---	ML / Brown	---	SP / SM	---
TtEB-45	---	---	---	---	---	---	SP	---
TtE-6	8.0	---	33.0	---	SC / SM / Brown / Black	---	SP / CL / SM / SW	---
TtE-8	6.0	---	31.0	---	SC / Brown	---	SP / SW	---
TtE-9	9.5	---	34.0	---	ML / Brown	---	SP	---
TtE-10	6.5	---	33.5	---	ML / Brown	---	SP	33, 42.5 Product
TtE-11	7.0	---	33.0	---	ML/ Brown	---	SP	---
TtS-1	---	129	---	---	---	Mudstone, Claystone, Siltstone/Gray	---	---
TtS-2	---	145	---	---	---	Mudstone, Claystone, Siltstone/Gray	---	---
TtS-7	---	142	---	---	---	Mudstone, Claystone, Siltstone/Gray	---	4.5-10 Oily Sheen / 35.5 Product

SUMMARY OF PHYSICAL PROPERTIES OF BEDROCK
TABLE 4-2. ALISO STREET (SECTOR E) MGP SITE

Boring	A/B	Depth* (feet)	Soil Type	Dry Density	Sp. Gravity	Total Porosity	Moisture	Effective Permeability	Air Conductivity	WB (%)	Saturated Hydraulic Conductivity
TtS-1-132	B	132.0	CL	100.6	2.765	41.69	24.1	0.062	4.0E-09	3.98	6.8E-09
TtS-1-145	B	145.0	CL	145.8	2.771	15.66	4.4	0.047	3.1E-09	4.02	1.4E-09
TtS-2-150	B	150.0	CL	96.5	2.776	44.29	27.2	0.162	1.1E-08	6.09	1.2E-08
TtS-2-165	B	165.0	CL	105.1	2.758	38.93	18.9	0.141	9.3E-09	4.76	2.3E-08
TtS-7-144	B	144.0	CL	92.7	2.760	46.17	33.3	0.14	9.0E-09	5.30	2.8E-08
TtS-7-165	B	165.0	CL	98.2	2.798	43.76	26.7	0.136	8.9E-09	3.65	1.2E-08

A = Alluvium
B = Bedrock (Puente Formation)
WB = Walkley-Black
* = Depths of sample analyzed for a particular test may vary because of the amount of core required.

496 Bauchet Street and 490 Bauchet Street
LAND USE COVENANT
ANNUAL INSPECTION REPORT

This annual inspection report is in response to Land Use Covenant (LUC) and Agreement regarding environmental restriction (herein after is referred to "Covenant") on the subject Site between the Department of Toxic Substances Control (Department) and the Owner, dated January 6, 2014 (date signed by Department). Item 4.6 of the Covenant, requires SoCalGas to submit an Annual Status Report to the Department certifying whether the Owner is in compliance with the use restrictions specified in Section 4.1 of the Covenant. Based on the SoCalGas inspection of the Property as detailed below, the SoCalGas representative as identified below hereby certifies that to the best of its knowledge, any and all use of the Property for the calendar year preceding the date of this report has been in conformance with Section 4.1 of said Covenant.

Site Name: 496 Bauchet Street and 490 Bauchet Street

Site Address: 496 / 490 Bauchet Street, Los Angeles, California 90012

Assessor parcel Number: 5409-019-906 and 5409-019-907

DTSC Site Code: 301002-11 and 300626-11

Current Site Owner: Metropolitan Transportation Authority (Metro)

Date and Times of Inspection: Thursday April 30, 2015

Name(s) of individual(s) who performed inspection: Salar Niku of Tetra Tech, on behalf of SoCalGas

How inspection observations were made (e.g. drive-by, fly-over, walking the Property)**:** Drive-by

1. Since the last annual inspection, has there been a change in the land use, such that there are now residences, a hospital for humans, a public or private school for persons under 21 years of age, or a day care center for children on the restricted Property?

   ☐ Yes ☑ No ☐ Not an applicable restriction

   No, the land use has not changed. After closure of remedial activities, Metro constructed a new building covering most of these two adjacent properties. The building is used as a warehouse.

2. Since the last annual inspection, has soil been disturbed below a depth of 25 feet on the restricted Property? Was evidence of soil disturbance observed on the restricted Property during the inspection?

   ☐ Yes ☑ No ☐ Not an applicable restriction

   During the new construction, some shallow excavation must have been performed; however, there is no evidence that any soil was excavated beyond 25 feet below surface.

3. Since the last annual inspection, has there been any drilling on the restricted Property? Was evidence of drilling observed on the restricted Property during the inspection?

   ☐ Yes ☑ No ☐ Not an applicable restriction

Cap Condition [This item is not applicable to the Covenant]

4. Since the last annual inspection, has there been any damage to, disturbance of, or modifications to the existing building foundation and/or surrounding pavement that serves as the cap over contaminated soil?

   ☐ Yes ☐ No

5. Has there been any damage to, disturbance of, or modifications to the asphalt/concrete Cap covering the restricted Property?

   ☐ Yes ☐ No

Land Use Covenant Compliance

6. Has there been a change in the land use of the property?

   ☐ Yes ☑ No

If the response to any of the above questions is yes, describe the circumstances.

Photos should be attached to this report that show the use of the Restricted Property at the time of the inspection and the condition of any Caps on the restricted Property. Photos showing any cracks in or damage to the Cap should also be included.
Note: Photos of the Property is attached (total 4).

I certify under penalty of law that this document and all attachments were prepared by me or under my direction or supervision. With the exception of any areas of non-compliance noted above, all uses and activities on the restricted Property were found to be in compliance with the restrictions and requirements of the Land Use Covenant. Based on my personal knowledge or inquiry of the person or persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

5/14/15

Signature of Property Owner or Representative — Date

Masood Hosseini — Senior Project Manager, SoCalGas

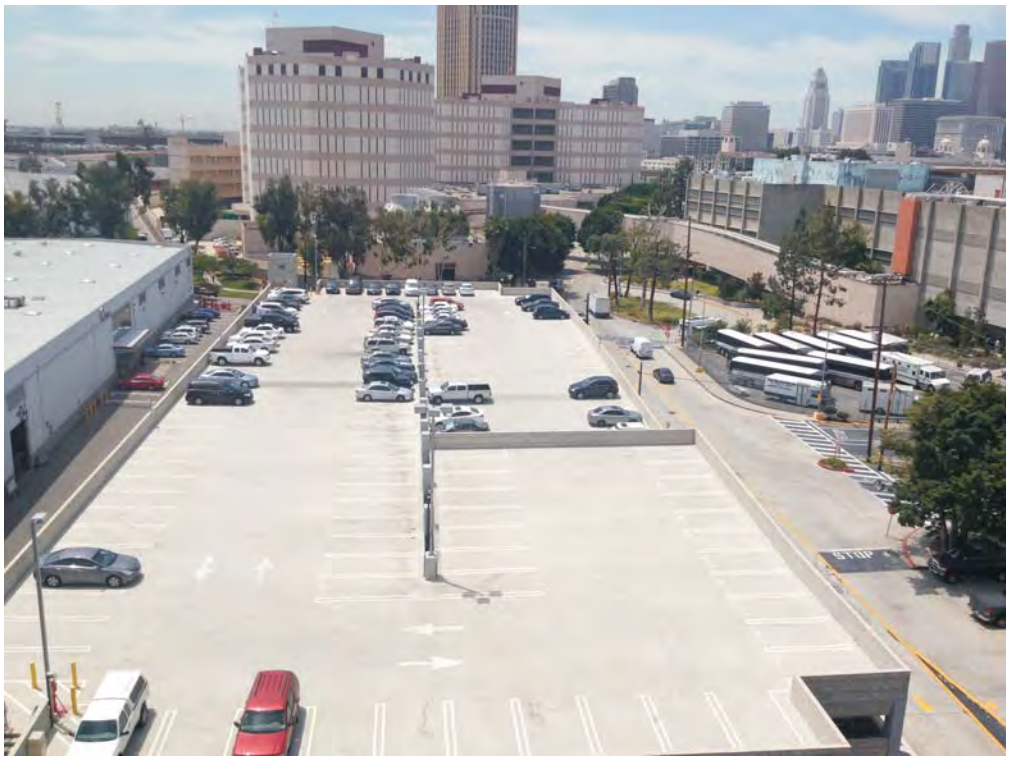
Print Name — Title

490/496 Bauchet Current Site Condition Photos

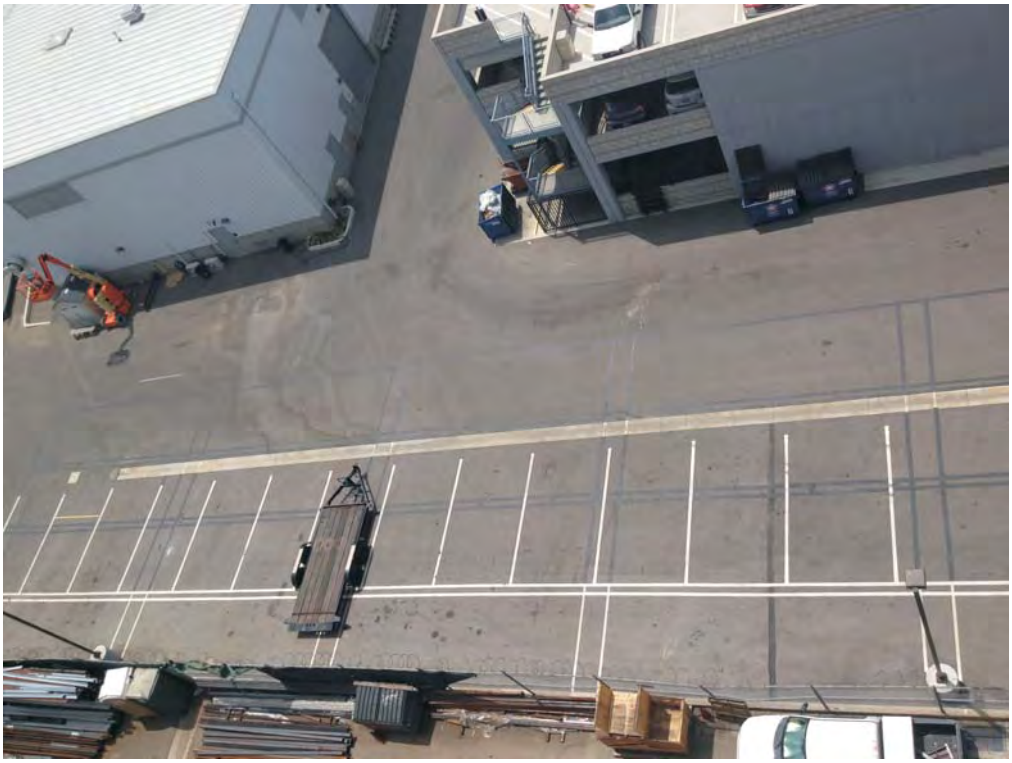
Aerial of entire site

Looking south-east from top of parking structure

490/496 Bauchet Current Site Condition Photos



Looking south-west from top of parking structure



Looking at north end from top of parking structure

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J-47 - LATC, 750 Lamar Street

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Underground Storage Tank Removal Report

Prepared for

Union Pacific Railroad Company

9451 Atkinson Street, Suite 100

Roseville, California

February 2014

Underground Storage Tank Removal Report

Los Angeles Transit Center
Los Angeles, California

Prepared for

Union Pacific Railroad Company
9451 Atkinson Street, Suite 100
Roseville, California

February 24, 2014

Approved by

Matthew S. Mayry, PG - Project Hydrogeologist — February 24, 2014 Date

David G. Poley – Project Manager — February 24, 2014 Date

Contents

Acronyms and Abbreviations

µg/kg	microgram per liter
bgs	below ground surface
CAM	California Administrative Manual
CH2M HILL	CH2M HILL Engineers, Inc.
CHHSL	California human health screening level
CIH	certified industrial hygienist
CIP	capital improvement project
COC	chain of custody
CUPA	Certified Unified Program Agency
DTSC	California Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
FBP No. 41	Los Angeles Fire Department Underground Storage Tank Program FPB Requirement No. 41
LATC	Los Angeles Transit Center
mg/kg	milligram per kilogram
PCB	polychlorinated biphenyl
PID	photo-ionization detector
ppmv	parts per million by volume
Regional Water Board	Los Angeles Regional Water Quality Control Board
RSL	regional screening level
SSL	soil screening level
TPH	total petroleum hydrocarbon
United	United Pumping Service, Inc.
UPRR	Union Pacific Railroad Company
UST	underground storage tank
VOC	volatile organic compound

SECTION 1

Introduction

On behalf of Union Pacific Railroad Company (UPRR), CH2M HILL Engineers, Inc. (CH2M HILL) has prepared this Underground Storage Tank Removal Report for the Los Angeles Transit Center (LATC) in Los Angeles, California (property; Figure 1). This report presents the details of the procedures and controls followed during the removal and disposal of one underground storage tank (UST) from the property. Procedures and controls were performed in compliance with the Los Angeles Fire Department (Certified Unified Program Agency [CUPA]), Underground Storage Tank Program, Fire Prevention Bureau Requirement No. 41 (FPB No. 41), as prescribed by the California Department of Toxic Substances (DTSC), the agency providing regulatory oversight of an environmental investigation at the western portion of the property.

1.1 Background

On January 23, 2014, and when demolishing and excavating a former building foundation as part of a site-wide capital improvement projects (CIP), UPRR contractors discovered a UST buried in the former Mission Coach Yard Complex of the property. The area around the UST was immediately cordoned off and reported to UPRR officials for proper assessment and removal.

UPRR requested that CH2M HILL conduct the initial environmental response to confirm the presence of the UST and to coordinate a rapid response for UST removal so that CIP demolition, excavation, and construction activities could continue on schedule. CH2M HILL performed an initial response on January 23, 2014, and confirmed that a UST was present. On January 23, 2014, CH2M HILL notified the DTSC of the UST, and on January 24, 2014, Mr. Javier Hinojosa, DTSC's Unit Chief in Chatsworth, California, granted CH2M HILL (personal communication with Mr. David Poley) a waiver for a UST removal permit from the CUPA so that CIP construction would not be delayed. Although a waiver for obtaining a CUPA permit was granted, the DTSC requested that all field activities be otherwise performed according to CUPA requirements, including preparation of this UST removal report for the DTSC.

1.2 Site Setting

The LATC property is located at 750 Lamar Street, Los Angeles, California, and is situated on approximately 150 acres (Figure 1). The property is bounded by the Los Angeles River to the west; Mission Road and Richmond Street to the south and southeast, respectively; U.S. Interstate 5 to the northeast; and the Los Angeles Brewery, San Antonio Winery, and a UPS Distribution Center to the north. The site is an active rail yard, owned and operated by UPRR.

The northern and central portion of the LATC Yard was previously occupied by the Southern Pacific Railroad Alhambra Roundhouse and the Los Angeles Shops complex, which were constructed in the late 19th Century. The Mission Coach Yard complex is located in the southern portion of the existing yard and was constructed in the late 1930s to handle passenger car maintenance and stocking for the Southern Pacific Railroad. This portion of the property was active until 1968. Following the Mission Coach Yard closure, the southern portion of the yard was modified to handle freight operations, including intermodal containers and truck trailers. The yard's use has changed over time from maintenance of locomotives, freight cars, and passenger cars to that of freight storage and movement (Shannon and Wilson, 2012).

The property is situated on unconsolidated fill deposits and reworked alluvium, directly underlain by Holocene alluvial-fan deposits consisting of unconsolidated boulders, cobbles, gravel, sand, and silt (Yerkes and Campbell, 2005). The southern boundary of the site may include old alluvial-fan deposits that are slightly to moderately consolidated with moderately to well-developed pedogenic soils (Yerkes and Campbell, 2005). Depth to groundwater beneath the property is approximately 35 to 40 feet below ground surface (bgs).

SECTION 2

Objectives and Scope of Work

This section identifies the objectives and scope of work related to removal of the UST.

2.1 Project Objectives

The objectives of the UST removal included:

- Assess, inspect, and report on the UST prior to removal of the UST.
- Communicate and follow guidelines and requirements set forth by DTSC and UPRR to properly execute the UST removal and disposal.
- Inform the DTSC and UPRR of any changes in field conditions as the UST is assessed and removed.
- Follow FBP No. 41 to remove the UST safely and as quickly as possible to minimize delays to CIP construction.
- Document and report on the UST removal action.

2.2 Scope of Work

The general scope of work included:

- Assessing and inspecting the UST prior to removal
- Notifying the DTSC about the discovery of the UST
- Requesting that the DTSC waive the CUPA's UST removal permit requirement to allow for the rapid removal of the UST, but otherwise comply with FPB No. 41
- Preparing the UST for removal and offsite disposal by containing UST contents and cleaning the UST prior to removal
- Coordinating inspection of the UST by a certified industrial hygienist (CIH) for certification of UST closure
- Unearthing and removing the UST for offsite disposal
- Collecting samples of UST contents, collecting confirmation samples from the UST excavation (floor and sidewall soil samples), and collecting samples of stockpiled soil from the UST excavation
- Submitting collected environmental samples under chain-of-custody (COC) documentation to TestAmerica Analytical Laboratory (TestAmerica; State Certification 2706) for analyses of total petroleum hydrocarbon (TPH) by U.S. Environmental Protection Agency (EPA) Method 8015B, volatile organic compounds (VOCs) by EPA Method 8260B, polychlorinated biphenyls (PCBs) by EPA Method 8082, and California Administrative Manual (CAM) 17 Metals by EPA Method 6010B/7471A

- Evaluating analytical results and preparing this UST removal report documenting the field activities and the proper disposal of the UST.

SECTION 3

Procedures

This section documents the procedures for cleaning, excavating, and disposing of the UST. Included are pre-removal planning, excavation and removal, and confirmation soil sampling with laboratory analysis. Photographs of the UST, excavation, and removal processes are provided in Appendix A.

3.1 Pre-Removal Activities

As part of the pre-removal activities performed during the initial response on January 23, 2014, the following steps were taken to plan for UST removal and to comply with FPB No. 41:

- CH2M HILL visually inspected the construction site to confirm that a UST had been encountered. Photographs were taken of the top of the UST and surrounding area.
- The top of the UST was 7.5 feet in diameter with two 2-inch-diameter pipe openings. The UST appeared to be filled with water and a sand/gravel mixture, which had a light kerosene odor.
- The findings of the initial site visit were provided to UPRR's construction and environmental managers. CH2M HILL recommended that the UST be further exposed to determine its size and whether or not there was any additional ancillary piping.
- Verbal notification of the UST findings was provided to the DTSC.

As UPRR's waste management contractor, United Pumping Service, Inc. (United) was tasked with exposing and cleaning the UST. On January 23, 2014, United mobilized to the site in order to assess the UST and its contents. The following activities were additionally performed:

- The upper portion of the UST was further exposed and cold-cut to allow better access to the UST for inspection.
- The UST contents were removed with a vacuum truck and were containerized in roll-off bins.
- The UST (single wall, 2,000-gallon capacity) was found to be circular and made of 3/8-inch-thick, riveted steel with a diameter of 7.5 feet and a depth of 6.5 feet below grade. The UST appeared to be in good condition; no holes or punctures were observed and no ancillary piping was present.
- The UST contents were sampled for waste characterization and disposal purposes. The waste sample (S-1) was submitted to TestAmerica for analysis of TPHs by EPA Method 8015B, VOCs by EPA Method 8260B, PCBs by EPA Method 8082, and CAM 17 Metals by EPA 6010B/7471A.
- Air monitoring and soil screening was performed with a photo-ionization detector (PID). Initial PID readings of soil from the upper rim of the UST were less than 2 parts per million by volume (ppmv).
- The UST was pressure-washed (triple-rinsed) and then sealed pending its excavation and removal.
- Temporary fencing and caution tape were placed around the UST.

3.2 Excavation and UST Removal Activities

The UST was excavated and removed on January 28, 2014. Prior to excavation and removal, health and safety protocols were reviewed and discussed with the field team.

A CIH confirmed that the UST was clean and issued a Tank Closure Certification (Appendix B). After the CIH certified the UST as clean, United excavated the UST with a backhoe and then extracted the UST with a crane. Air monitoring and soil screening was performed with a PID as excavation of the UST proceeded; there were no PID readings detected greater than 2 ppmv.

Dirt was removed from the exterior of the UST upon its removal from the excavation. No holes or damage to the UST were observed upon inspection. The UST was made inert with dry ice and subsequently loaded and secured onto a flatbed truck in preparation for shipping. The UST was transported El Monte, California, for disposal by SA Recycling, which issued a Certificate of Destruction (Appendix B).

3.3 Confirmation Soil Sampling Activities

CH2M HILL collected soil samples from the excavation to confirm that the UST had not leaked. A backhoe was used to collect soil samples from the floor and sidewalls of the excavation. Two floor samples (Floor East; Floor West) were collected 2 feet below the bottom of the UST (approximately 9 feet bgs), and four sidewall samples (North Side Wall; South Side Wall; East Side Wall; West Side Wall) were collected approximately 6 feet bgs from the north, south, east, and west sides of the excavation.

To access the UST for removal, approximately 40 cubic yards of soil was excavated from around the UST. All excavated soil was stockpiled onto visqueen. CH2M HILL collected a composite sample (Stockpile) of the stockpiled soil for waste profiling purposes and for further confirmation that the UST had not leaked.

All soil samples were submitted under COC documentation to TestAmerica for 24-hour turn-around-time analysis of TPHs by EPA Method 8015B, VOCs by EPA Method 8260B, PCBs by EPA Method 8082, and CAM 17 Metals by EPA 6010B/7471A.

SECTION 4

Sampling Results and Findings

This section discusses the analytical results from: sampling of the UST contents, confirmation sampling of the UST excavation floor and sidewalls, and sampling of the stockpiled soil from the UST excavation. Appendix C contains the analytical laboratory reports along with a data evaluation report for the subject samples.

4.1 UST Content Sampling Results

The analytical results of the UST contents, which are presented in Table 1, were used to profile the UST contents as a nonhazardous waste solid. The UST contents were transported on February 12, 2014, to Waste Management Solution's State-licensed facility in Simi Valley, California. Copies of the waste manifests are presented in Appendix D.

The predominant TPHs detected were in the gasoline range at a concentration of 210 milligrams per kilogram (mg/kg). PCBs were not detected; metals were not detected at concentrations of concern. Taken together, these analytical results indicate that the UST was not used to contain waste oils. The only VOCs detected were 1,2,4-trimethylbenzene (5.3 mg/kg), 1,3,5-trimethylbenzene (0.52 mg/kg), naphthalene (12 mg/kg), n-butylbenzene (estimated at 0.910 mg/kg), and o-xylene (estimated at 0.460 mg/kg); these results indicate that the UST was not used to contain solvents.

4.2 Confirmation Sampling Results

The analytical results from confirmation sampling of the UST excavation are presented in Table 1. CH2M HILL recommended that the UST excavation be backfilled because TPHs, PCBs, and VOCs were not detected in the excavation floor and sidewall samples, the PID readings of excavated soil indicated no release of tank contents, and the UST was in good condition upon removal.

The analytical results of the soil stockpile, which are also presented in Table 1, were used to evaluate the suitability of the stockpiled soil for use as backfill in the UST excavation. The stockpile sample did not contain PCBs but, like the UST contents, did contain low levels of naphthalene (11 micrograms per kilogram [µg/kg]) and 1,2,4-trimethylbenzene (2.1 µg/kg). No other VOCs were detected. The VOC detections were compared to, and were found to be below, the EPA Region 9 regional screening levels (RSLs) for naphthalene and 1,2,4-trimethylbenzene in industrial soil (naphthalene RSL is 18 mg/kg; 1,2,4-trimethyl benzene RSL is 26 mg/kg) (EPA, 2013).

The soil stockpile sample contained TPHs in the diesel (27 mg/kg) and oil (7.6 mg/kg) ranges. These TPH concentrations are below the Los Angeles Regional Water Quality Control Board (Regional Water Board) soil screening levels (SSLs) for the diesel (1,000 mg/kg) and oil (10,000 mg/kg) ranges (Regional Water Board, 1996).

Metals were detected in the floor, sidewall, and stockpile samples. Except for arsenic, none of the soil samples contained metals at concentrations that exceeded the more stringent of the EPA Region 9 RSLs for industrial soil (EPA, 2013) or California human health screening levels (CHHSLs) for industrial soil (OEHHA, 2010). The arsenic concentrations detected in the northern and western sidewall samples (1.6 and 2.8 mg/kg, respectively) did not exceed background levels (9 mg/kg) for the Los Angeles area (DTSC, 2008).

The CIP construction crew was instructed to backfill the UST excavation with the stockpiled soil because: the stockpiled soil did not contain TPHs, VOCs, PCBs, and metals at concentrations above the most stringent soil screening levels (SSLs, RSLs, and/or CHHSLs), PID readings of stockpiled soil indicated no release of UST contents, and the UST appeared to be in good condition upon removal. The CIP construction crew also used clean soil from the surrounding site, as needed, to backfill the excavation to surface grade.

SECTION 5

Conclusions

The removal and proper disposal of the UST and its contents were successfully completed as documented in this Underground Storage Tank Removal Report. The analytical results from the UST excavation and from stockpiled soil were all below the most stringent screening levels for industrial soil. All soil samples associated with the UST met regulatory requirements; therefore, no further investigation or remedial action at the UST site is warranted. CH2M HILL recommends that the DTSC grant no further action for this UST removal.

SECTION 6

Works Cited

California Department of Toxic Substances Control (DTSC). 2008. *Review of the Risk Assessment Work Plan for Honeywell Turbo Technologies, Torrance, California*. Prepared by Human and Ecological Risk Division, Chatsworth, California. December.

California Office of Health Hazard and Human Assessment (OEHHA) 2010. *California Human Health Screening Levels for Industrial Soil*. September. Available at: http://oehha.ca.gov/risk/chhsltable.html.

Los Angeles Fire Department. 2011. *Los Angeles Fire Department Underground Storage Tank Program Abandonment of Underground Storage Tanks*. FPB Requirement No. 41. Available at: http://lafd.org/cupa/471-cupa-forms-and-documents.

Los Angeles Regional Water Quality Control Board (Regional Water Board) (California Regional Water Quality Control Board—Los Angeles and Ventura Counties, Region 4). 1996. *Interim Site Assessment and Cleanup Guidebook*. May.

Shannon and Wilson. 2012. *Geotechnical Design Report, Los Angeles Transportation Center Intermodal Facility Modernization, Union Pacific Railroad Company, Los Angeles, California*. June.

U.S. Environmental Protection Agency (EPA). 2013. *Pacific Southwest, Region 9 Regional Screening Levels – RSL Tables Industrial Soil*. November. Available at: http://www.epa.gov/region9/superfund/prg/.

Yerkes and Campbell. 2005. *Preliminary Geologic Map of the Los Angeles 30'x60' Quadrangle, Southern California*. Version 1.

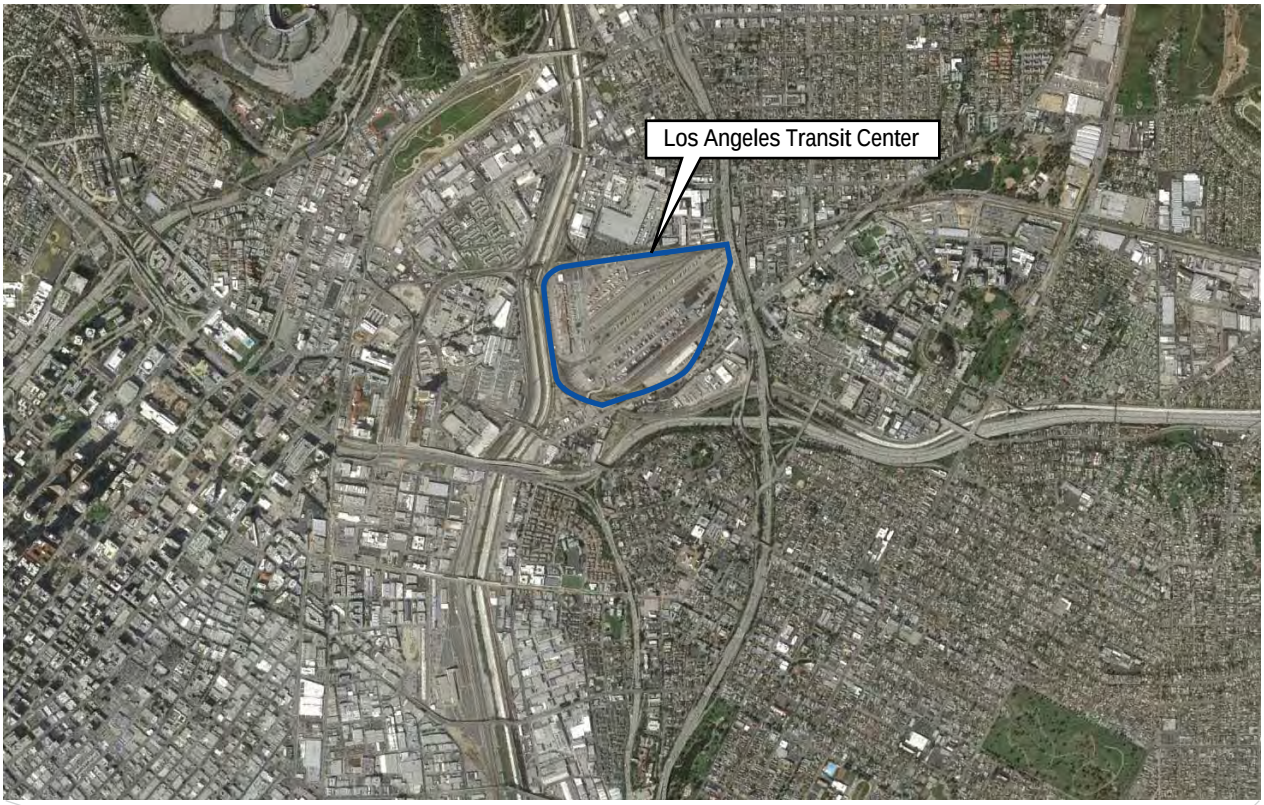
Table

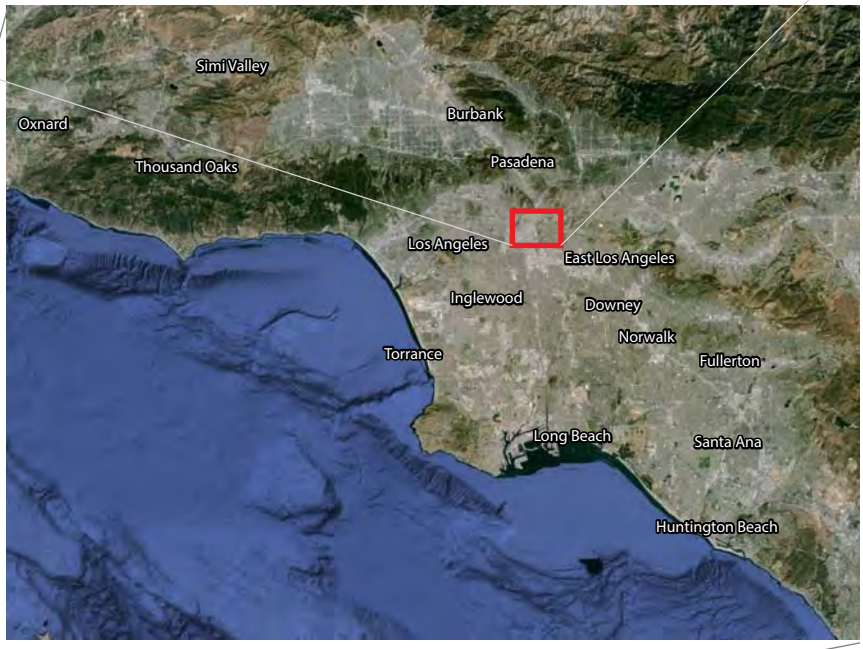
TABLE 1
Analytical Detections
Underground Storage Tank (UST) Removal Report
Los Angeles Transit Center, Los Angeles, California

Sample ID	Sample Date	TPHs				VOCs					Metals															
		TPHs (C4-C12)	TPHs (C13-C22)	TPHs (C23-C40)		1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Naphthalene	n-Butylbenzene	o-Xylene	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc
UST Content Results																											
S-1	1/23/2014	**210**	**2.0**	**<0.25**		**5.3**	**0.52**	**12**	**0.910 J**	**0.460 J**	<10	**2.2J**	**73**	**1.5**	<0.50	**6.2**	**4.2**	**22**	**3.2**	<2.0	<2.0	**4.9**	<3.0	**<1.5**	<10	**32**	**63**
Confirmation Sampling and Stockpile Results																											
Bottom East	1/28/2014	<0.39	<5.0	<5.0		<0.0022	<0.0022	<0.0054	<0.0054	<0.0022	<10	<3.0	**49**	**1.5**	<0.50	**7.6**	**2.9**	**8.5**	**2.4**	**0.052**	<2.0	**4.2**	<3.0	<1.5	<10	**31**	**24**
Bottom West	1/28/2014	<0.37	<5.0	<5.0		<0.0024	<0.0024	<0.0059	<0.0059	<0.0024	<10	<3.0	**28**	**0.91**	<0.50	**5.0**	**2.5**	**5.8**	**1.4**	**0.054**	<2.0	**2.3**	<3.0	<1.5	<10	**26**	**16**
East Side Wall	1/28/2014	<0.33	<5.0	<5.0		<0.0017	<0.0017	<0.0043	<0.0043	<0.0017	<10	<3.0	**68**	**1.5**	**0.31**	**15**	**5.1**	**16**	**3.8**	**0.038**	<2.0	**12**	<3.0	<1.5	<10	**30**	**40**
North Side Wall	1/28/2014	<0.40	<5.0	<5.0		<0.0018	<0.0018	<0.0044	<0.0044	<0.0018	<10	**1.6**	**68**	**2.0**	<0.50	**12**	**6.3**	**14**	**3.0**	**0.054**	<2.0	**9.6**	<3.0	<1.5	<10	**38**	**35**
South Side Wall	1/28/2014	<0.35	<5.0	<5.0		<0.0018	<0.0018	<0.0044	<0.0044	<0.0018	<10	<3.0	**76**	**2.8**	<0.50	**20**	**7.5**	**22**	**5.5**	**0.100**	<2.0	**12**	<3.0	<1.5	<10	**45**	**61**
West Side Wall	1/28/2014	<0.36	<5.0	<5.0		<0.0018	<0.0018	<0.0046	<0.0046	<0.0018	<10	**2.8**	**82**	**3.5**	**0.27**	**18**	**7.5**	**20**	**4.2**	**0.120**	<2.0	**14**	<3.0	<1.5	<10	**50**	**51**
Stockpile	1/28/2014	<0.34	**27**	**7.6**		**0.0021**	<0.0017	**0.011**	<0.0042	<0.0017	<9.9	<3.0	**52**	**1.6**	<0.49	**8.7**	**3.9**	**12**	**8.5**	**0.056**	<2.0	**5.6**	<3.0	<1.5	<9.9	**27**	**34**
	SSL	**500**	**1,000**	**10,000**	**RSL**	**260**	**10,000**	**18**	**51,000**	**3,000**	410	**12**[a]	190,000	2,000	800	180,000	**300**	41,000	**800**	**43**	5,100	20,000	5,100	5,100	**10**	**5,100**	310,000
					CHHSL	--	--	--	--	--	**380**		**63,000**	**190**	**7.5**	**37**	3,200	**38,000**	320	180	**4,800**	**16,000**	**4,800**	**4,800**	63	6,700	**100,000**

All concentrations are presented in milligrams per kilogram (mg/kg) and were analyzed by the following USEPA Methods:
TPHs - Total Petroleum Hydrocarbons by EPA Method 8015B
VOCs - Volatile Organic Compounds by EPA Method 8260B
Metals by EPA Method 6010B/7471A
Polychlorinated biphenyls (PCBs) by EPA Method 8082 were not detected above 0.050 mg/kg
The soil screening levels listed in **bold** above are based on the most stringent of the screening levels referenced below.
EPA - U.S. Environmental Protection Agency
SSL - Soil Screening Level based on Los Angeles Regional Water Quality Control Board (Regional Water Board, 1996).
RSL - EPA Region 9 Regional Screening Level for industrial soil (EPA, 2013).
CHHSL - California Human Health Screening Level for industrial soil (OEHHA, 2010).
[a]Background level for Los Angeles County (DTSC, 2008).

Figures





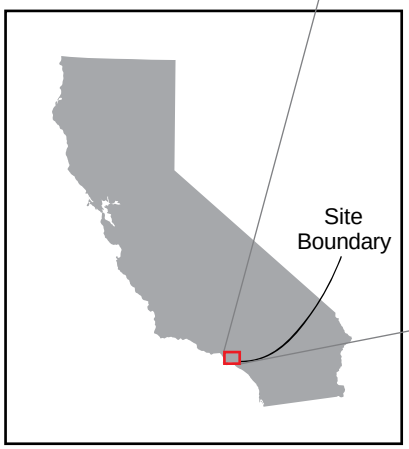
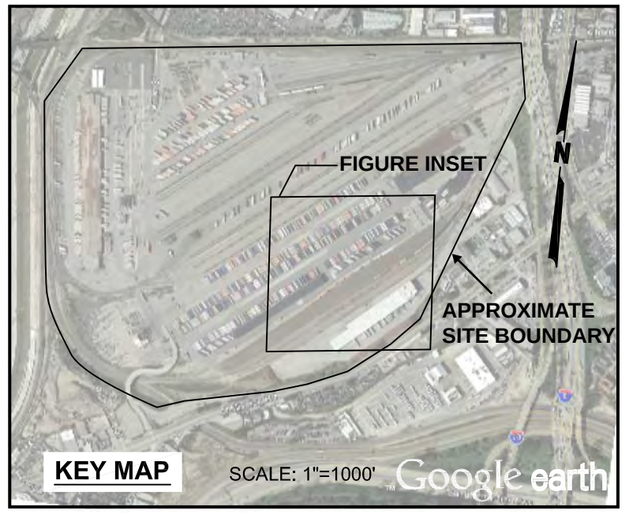


FIGURE 1
Site Vicinity Map
Los Angeles Transit Center
Los Angeles, California

CH2MHILL

LEGEND

Approximate location of UST



NOTE

Map adapted from aerial imagery provided by Google Earth Pro, reproduced by permission granted by Google Earth ™ Mapping Service.

FIGURE 2
Approximate UST Location
Los Angeles Transit Center
Los Angeles, California

CH2MHILL

Appendix A

Photographs


HPJX


UPS


E3028


0128
1/2


CAUTION

Appendix B

Tank Closure Certification and Certificate of Destruction

UNIFIED PROGRAM CONSOLIDATED FORM

HAZARDOUS WASTE

HAZARDOUS WASTE TANK CLOSURE CERTIFICATION

Page 1 of 1

CGI: QRAE II, serial number 181-113831

RIVETED SINGLE-WALL STEEL TANK, ~2,000-GALLON CAPACITY

I. FACILITY IDENTIFICATION

BUSINESS NAME (Same as FACILITY NAME or DBA – Doing Business As) 3

FACILITY ID# 1

TANK OWNER NAME: UNION PACIFIC 740

TANK OWNER ADDRESS: 945 RICHMOND STREET 741

TANK OWNER CITY: LOS ANGELES 742 | STATE: CALIFORNIA 743 | ZIP CODE: 90033 744

II. TANK CLOSURE INFORMATION

TANK INTERIOR ATMOSPHERE READINGS	Tank ID # (Attach additional copies of this page for more than three tanks)	Concentration of Flammable Vapor, %			Concentration of Oxygen, %		
		Top	Center	Bottom	Top	Center	Bottom
1	0128/2 745	<1 746a	<1 746b	<1 746c	20.9 747a	20.9 747b	20.9 747c
2	748	749a	749b	749c	750a	750b	750c
3	751	752a	752b	752c	753a	753b	753c

III. CERTIFICATION

On examination of the tank, I certify the tank is visually free from product, sludge, scale (thin, flaky residual of tank contents), rinseate and debris. I further certify that the information provided herein is true and accurate to the best of my knowledge.

SIGNATURE OF CERTIFIER: Nancy G. Carraway

NAME OF CERTIFIER (Print) 754: Nancy G. Carraway

TITLE OF CERTIFIER 755: Certified Industrial Hygienist

ADDRESS 756: 991 East California Boulevard

CITY 757: Pasadena, California 91106

PHONE 758: 626 676 7681

DATE 759: 01/28/2014

CERTIFICATION TIME: 11:45am - 11:48am

STATUS OR AFFILIATION OF CERTIFYING PERSON

Certifier is a representative of the CUPA, authorized agency, or LIA: 760 ☐ Yes ☐ No

Name of CUPA, authorized agency, or LIA: 761 —

If certifier is other than CUPA / LIA check appropriate box below: 762

- ☒ a. Certified Industrial Hygienist (CIH)
- ☐ b. Certified Safety Professional (CSP)
- ☐ c. Certified Marine Chemist (CMC)
- ☐ d. Registered Environmental Health Specialist (REHS)
- ☐ e. Professional Engineer (PE)
- ☐ f. Class II Registered Environmental Assessor
- ☐ g. Contractors' State License Board licensed contractor (with hazardous substance removal certification)

TANK PREVIOUSLY HELD FLAMMABLE OR COMBUSTIBLE MATERIALS: PETROLEUM PRODUCTS 763

(If yes, the tank interior atmosphere shall be re-checked with a combustible gas indicator prior to work being conducted on the tank.) ☑ Yes ☐ No

CERTIFIER'S TANK MANAGEMENT INSTRUCTIONS FOR SCRAP DEALER, DISPOSAL FACILITY, ETC: 764

INERT TANK INTERIOR BEFORE TORCH CUTTING OR USING SPARKING TOOLS ON OR NEAR TANK. TANK IS NOT SUITABLE FOR FOOD OR POTABLE WATER STORAGE, FOR PERSONNEL ENTRY, OR FOR HOT WORK. TANK IS SUITABLE FOR COLD WORK.

A copy of this certificate shall accompany the tank to the recycling / disposal facility and be provided to the CUPA. If there is no CUPA, copies shall be submitted to the LIA and authorized agency; owner / operator of the tank system; removal contractor; and the recycling / disposal facility.

CERTIFICATE OF DESTRUCTION

COMPANY NAME: UNITED PUMPING SERVICES

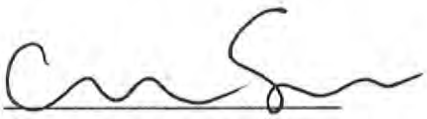
ADDRESS: 14000 E VALLEY BLVD

GENERATOR: UNION PACIFIC RAILROAD

DESCRIPTION: SINGLE WALL STEEL TANK

Miscellaneous metals have been destroyed by shear for re-melting purposes at SA Recycling LLC., El Monte, CA 91732, On January 28, 2014.

TK# Tlsttf

Signature: 

Title: MANAGER/OFFICE MANAGER

Date: January 28, 2014

SA RECYCLING, LLC
El Monte
12301 East Valley Blvd
El Monte, CA 91732
(626) 444- 9530

Appendix C

Analytical Data Reports

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-68291-1
Client Project/Site: UPRR-LATC Yard

For:
CH2M Hill, Inc.
1000 Wilshire Boulevard
Suite 2100
Los Angeles, California 90017

Attn: Dave Poley

Heather Clark

Authorized for release by:
1/27/2014 5:39:48 PM

Heather Clark, Project Manager I
(949)261-1022
heather.clark@testamericainc.com

Table of Contents

Sample Summary

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68291-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-68291-1	S-1	Solid	01/23/14 20:00	01/24/14 15:40

Job ID: 440-68291-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-68291-1

Comments
No additional comments.

Receipt
The sample was received on 1/24/2014 3:40 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.2º C.

GC/MS VOA
No analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

GC Semi VOA
Method(s) 8015B: The following sample required a dilution due to the nature of the sample matrix: S-1 (440-68291-1). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

Method(s) 8082: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for batch 158448 were outside control limits. Sample matrix interference is suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits. (440-68291-1 MSD)

Method(s) 8082: The matrix spike / matrix spike duplicate / sample duplicate (MS/MSD/DUP) precision for batch 158448 was outside control limits due to sample matrix effects. (440-68291-1 MSD)

No other analytical or quality issues were noted.

Metals
Method(s) 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for antimony for the following sample associated with batch 158383 were outside control limits: (440-68299-1 MS), (440-68299-1 MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

VOA Prep
No analytical or quality issues were noted.

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68291-1

Client Sample ID: S-1
Date Collected: 01/23/14 20:00
Date Received: 01/24/14 15:40

Lab Sample ID: 440-68291-1
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Styrene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
cis-1,3-Dichloropropene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
trans-1,3-Dichloropropene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
N-Propylbenzene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
n-Butylbenzene	**910**	**J**	1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
4-Chlorotoluene	ND		1300	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,4-Dichlorobenzene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,2-Dibromoethane (EDB)	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,2-Dichloroethane	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
4-Methyl-2-pentanone (MIBK)	ND		2500	1000	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Isopropyl Ether (DIPE)	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,3,5-Trimethylbenzene	**520**		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Bromobenzene	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Toluene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Chlorobenzene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,2,4-Trichlorobenzene	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Dibromochloromethane	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Tetrachloroethene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Xylenes, Total	ND		1000	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
sec-Butylbenzene	ND		1300	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
m,p-Xylene	ND		1000	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,3-Dichloropropane	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
cis-1,2-Dichloroethene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
trans-1,2-Dichloroethene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Methyl-t-Butyl Ether (MTBE)	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,3-Dichlorobenzene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Carbon tetrachloride	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,1-Dichloropropene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
2-Hexanone	ND		6300	2500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
2,2-Dichloropropane	ND		1000	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,1,1,2-Tetrachloroethane	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Ethyl-t-butyl ether (ETBE)	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Acetone	ND		10000	5500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Chloroform	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Benzene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,1,1-Trichloroethane	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Bromomethane	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Chloromethane	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Dibromomethane	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Bromochloromethane	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Chloroethane	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Vinyl chloride	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Methylene Chloride	ND		5000	2500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Bromoform	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Bromodichloromethane	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,1-Dichloroethane	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,1-Dichloroethene	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
tert-Butyl alcohol (TBA)	ND		25000	13000	ug/Kg		01/26/14 09:59	01/26/14 14:47	250

Client Sample ID: S-1
Date Collected: 01/23/14 20:00
Date Received: 01/24/14 15:40

Lab Sample ID: 440-68291-1
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Dichlorodifluoromethane	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,2-Dichloropropane	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
2-Butanone (MEK)	ND		5000	2500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,1,2-Trichloroethane	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Trichloroethene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,1,2,2-Tetrachloroethane	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,2,3-Trichlorobenzene	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Hexachlorobutadiene	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Naphthalene	**12000**		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
o-Xylene	**460**	**J**	500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
2-Chlorotoluene	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,2-Dichlorobenzene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,2,4-Trimethylbenzene	**5300**		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,2-Dibromo-3-Chloropropane	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
1,2,3-Trichloropropane	ND		2500	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
tert-Butylbenzene	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Isopropylbenzene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
Tert-amyl-methyl ether (TAME)	ND		1300	500	ug/Kg		01/26/14 09:59	01/26/14 14:47	250
p-Isopropyltoluene	ND		500	250	ug/Kg		01/26/14 09:59	01/26/14 14:47	250

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*111*		*60 - 140*	*01/26/14 09:59*	*01/26/14 14:47*	*250*
4-Bromofluorobenzene (Surr)	*111*		*65 - 140*	*01/26/14 09:59*	*01/26/14 14:47*	*250*
Dibromofluoromethane (Surr)	*97*		*55 - 140*	*01/26/14 09:59*	*01/26/14 14:47*	*250*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	**210000**		160000	60000	ug/Kg		01/26/14 09:59	01/27/14 13:28	200

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*113*		*65 - 140*	*01/26/14 09:59*	*01/27/14 13:28*	*200*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**2000**		250	120	mg/Kg		01/24/14 19:52	01/27/14 12:01	50
C23-C40	ND		250	120	mg/Kg		01/24/14 19:52	01/27/14 12:01	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*96*		*40 - 140*	*01/24/14 19:52*	*01/27/14 12:01*	*50*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 16:38	1
Aroclor 1221	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 16:38	1
Aroclor 1232	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 16:38	1
Aroclor 1242	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 16:38	1
Aroclor 1248	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 16:38	1
Aroclor 1254	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 16:38	1
Aroclor 1260	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 16:38	1

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68291-1

Client Sample ID: S-1
Date Collected: 01/23/14 20:00
Date Received: 01/24/14 15:40

Lab Sample ID: 440-68291-1
Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*75*		*45 - 120*	*01/27/14 11:20*	*01/27/14 16:38*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	5.0	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Arsenic	**2.2**	**J**	3.0	1.5	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Barium	**73**		1.5	0.75	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Beryllium	**1.5**		0.50	0.25	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Cadmium	ND		0.50	0.25	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Chromium	**6.2**		1.0	0.50	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Cobalt	**4.2**		1.0	0.50	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Copper	**22**		2.0	1.0	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Lead	**3.2**		2.0	1.0	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Molybdenum	ND		2.0	1.0	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Nickel	**4.9**		2.0	1.0	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Selenium	ND		3.0	1.5	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Thallium	ND		10	5.0	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Vanadium	**32**		1.0	0.50	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Zinc	**63**		5.0	2.5	mg/Kg		01/27/14 08:43	01/27/14 14:31	5
Silver	ND		1.5	0.75	mg/Kg		01/27/14 08:43	01/27/14 14:31	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.022**		0.020	0.012	mg/Kg		01/27/14 11:58	01/27/14 16:16	1

Method Summary

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68291-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8015B	Gasoline Range Organics - (GC)	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL IRV
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
7471A	Mercury (CVAA)	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68291-1

Client Sample ID: S-1
Date Collected: 01/23/14 20:00
Date Received: 01/24/14 15:40

Lab Sample ID: 440-68291-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5030B			4.99 g	10 mL	158329	01/26/14 09:59	TN	TAL IRV
Total/NA	Analysis	8260B		250	4.99 g	10 mL	158327	01/26/14 14:47	TN	TAL IRV
Total/NA	Prep	5030B			4.99 g	10 mL	158329	01/26/14 09:59	TN	TAL IRV
Total/NA	Analysis	8015B		200	4.99 g	10 mL	158449	01/27/14 13:28	TL	TAL IRV
Total/NA	Prep	CA LUFT			30.04 g	1 mL	158264	01/24/14 19:52	AB	TAL IRV
Total/NA	Analysis	8015B		50	30.04 g	1 mL	158435	01/27/14 12:01	EI	TAL IRV
Total/NA	Prep	3546			15.03 g	2 mL	158448	01/27/14 11:20	QCT	TAL IRV
Total/NA	Analysis	8082		1	15.03 g	2 mL	158505	01/27/14 16:38	CN	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	158383	01/27/14 08:43	DT	TAL IRV
Total/NA	Analysis	6010B		5	2.01 g	50 mL	158512	01/27/14 14:31	EN	TAL IRV
Total/NA	Prep	7471A			0.51 g	50 mL	158408	01/27/14 11:58	JS1	TAL IRV
Total/NA	Analysis	7471A		1	0.51 g	50 mL	158539	01/27/14 16:16	DB	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-158327/3
Matrix: Solid
Analysis Batch: 158327

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	ND		100	50	ug/Kg			01/26/14 10:38	100
Styrene	ND		100	50	ug/Kg			01/26/14 10:38	100
cis-1,3-Dichloropropene	ND		100	50	ug/Kg			01/26/14 10:38	100
trans-1,3-Dichloropropene	ND		100	50	ug/Kg			01/26/14 10:38	100
N-Propylbenzene	ND		100	50	ug/Kg			01/26/14 10:38	100
n-Butylbenzene	ND		250	100	ug/Kg			01/26/14 10:38	100
4-Chlorotoluene	ND		250	50	ug/Kg			01/26/14 10:38	100
1,4-Dichlorobenzene	ND		100	50	ug/Kg			01/26/14 10:38	100
1,2-Dibromoethane (EDB)	ND		100	50	ug/Kg			01/26/14 10:38	100
1,2-Dichloroethane	ND		100	50	ug/Kg			01/26/14 10:38	100
4-Methyl-2-pentanone (MIBK)	ND		500	200	ug/Kg			01/26/14 10:38	100
Isopropyl Ether (DIPE)	ND		250	100	ug/Kg			01/26/14 10:38	100
1,3,5-Trimethylbenzene	ND		100	50	ug/Kg			01/26/14 10:38	100
Bromobenzene	ND		250	100	ug/Kg			01/26/14 10:38	100
Toluene	ND		100	50	ug/Kg			01/26/14 10:38	100
Chlorobenzene	ND		100	50	ug/Kg			01/26/14 10:38	100
1,2,4-Trichlorobenzene	ND		250	100	ug/Kg			01/26/14 10:38	100
Dibromochloromethane	ND		100	50	ug/Kg			01/26/14 10:38	100
Tetrachloroethene	ND		100	50	ug/Kg			01/26/14 10:38	100
Xylenes, Total	ND		200	100	ug/Kg			01/26/14 10:38	100
sec-Butylbenzene	ND		250	50	ug/Kg			01/26/14 10:38	100
m,p-Xylene	ND		200	100	ug/Kg			01/26/14 10:38	100
1,3-Dichloropropane	ND		100	50	ug/Kg			01/26/14 10:38	100
cis-1,2-Dichloroethene	ND		100	50	ug/Kg			01/26/14 10:38	100
trans-1,2-Dichloroethene	ND		100	50	ug/Kg			01/26/14 10:38	100
Methyl-t-Butyl Ether (MTBE)	ND		250	100	ug/Kg			01/26/14 10:38	100
1,3-Dichlorobenzene	ND		100	50	ug/Kg			01/26/14 10:38	100
Carbon tetrachloride	ND		250	100	ug/Kg			01/26/14 10:38	100
1,1-Dichloropropene	ND		100	50	ug/Kg			01/26/14 10:38	100
2-Hexanone	ND		1300	500	ug/Kg			01/26/14 10:38	100
2,2-Dichloropropane	ND		200	100	ug/Kg			01/26/14 10:38	100
1,1,1,2-Tetrachloroethane	ND		250	100	ug/Kg			01/26/14 10:38	100
Ethyl-t-butyl ether (ETBE)	ND		250	100	ug/Kg			01/26/14 10:38	100
Acetone	ND		2000	1100	ug/Kg			01/26/14 10:38	100
Chloroform	ND		100	50	ug/Kg			01/26/14 10:38	100
Benzene	ND		100	50	ug/Kg			01/26/14 10:38	100
1,1,1-Trichloroethane	ND		100	50	ug/Kg			01/26/14 10:38	100
Bromomethane	ND		250	100	ug/Kg			01/26/14 10:38	100
Chloromethane	ND		250	100	ug/Kg			01/26/14 10:38	100
Dibromomethane	ND		100	50	ug/Kg			01/26/14 10:38	100
Bromochloromethane	ND		250	100	ug/Kg			01/26/14 10:38	100
Chloroethane	ND		250	100	ug/Kg			01/26/14 10:38	100
Vinyl chloride	ND		250	100	ug/Kg			01/26/14 10:38	100
Methylene Chloride	ND		1000	500	ug/Kg			01/26/14 10:38	100
Bromoform	ND		250	100	ug/Kg			01/26/14 10:38	100
Bromodichloromethane	ND		100	50	ug/Kg			01/26/14 10:38	100
1,1-Dichloroethane	ND		100	50	ug/Kg			01/26/14 10:38	100
1,1-Dichloroethene	ND		250	100	ug/Kg			01/26/14 10:38	100

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-158327/3
Matrix: Solid
Analysis Batch: 158327

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butyl alcohol (TBA)	ND		5000	2500	ug/Kg			01/26/14 10:38	100
Trichlorofluoromethane	ND		250	100	ug/Kg			01/26/14 10:38	100
Dichlorodifluoromethane	ND		250	100	ug/Kg			01/26/14 10:38	100
1,2-Dichloropropane	ND		100	50	ug/Kg			01/26/14 10:38	100
2-Butanone (MEK)	ND		1000	500	ug/Kg			01/26/14 10:38	100
1,1,2-Trichloroethane	ND		100	50	ug/Kg			01/26/14 10:38	100
Trichloroethene	ND		100	50	ug/Kg			01/26/14 10:38	100
1,1,2,2-Tetrachloroethane	ND		100	50	ug/Kg			01/26/14 10:38	100
1,2,3-Trichlorobenzene	ND		250	100	ug/Kg			01/26/14 10:38	100
Hexachlorobutadiene	ND		250	100	ug/Kg			01/26/14 10:38	100
Naphthalene	ND		250	100	ug/Kg			01/26/14 10:38	100
o-Xylene	ND		100	50	ug/Kg			01/26/14 10:38	100
2-Chlorotoluene	ND		250	100	ug/Kg			01/26/14 10:38	100
1,2-Dichlorobenzene	ND		100	50	ug/Kg			01/26/14 10:38	100
1,2,4-Trimethylbenzene	ND		100	50	ug/Kg			01/26/14 10:38	100
1,2-Dibromo-3-Chloropropane	ND		250	100	ug/Kg			01/26/14 10:38	100
1,2,3-Trichloropropane	ND		500	100	ug/Kg			01/26/14 10:38	100
tert-Butylbenzene	ND		250	100	ug/Kg			01/26/14 10:38	100
Isopropylbenzene	ND		100	50	ug/Kg			01/26/14 10:38	100
Tert-amyl-methyl ether (TAME)	ND		250	100	ug/Kg			01/26/14 10:38	100
p-Isopropyltoluene	ND		100	50	ug/Kg			01/26/14 10:38	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*121*		*60 - 140*		*01/26/14 10:38*	*100*
4-Bromofluorobenzene (Surr)	*113*		*65 - 140*		*01/26/14 10:38*	*100*
Dibromofluoromethane (Surr)	*102*		*55 - 140*		*01/26/14 10:38*	*100*

Lab Sample ID: LCS 440-158327/4
Matrix: Solid
Analysis Batch: 158327

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ethylbenzene	2500	2550		ug/Kg		102	80 - 120
Styrene	2500	2550		ug/Kg		102	70 - 135
cis-1,3-Dichloropropene	2500	2710		ug/Kg		108	70 - 130
trans-1,3-Dichloropropene	2500	2820		ug/Kg		113	65 - 135
N-Propylbenzene	2500	2570		ug/Kg		103	70 - 130
n-Butylbenzene	2500	2650		ug/Kg		106	70 - 130
4-Chlorotoluene	2500	2490		ug/Kg		100	70 - 125
1,4-Dichlorobenzene	2500	2500		ug/Kg		100	70 - 125
1,2-Dibromoethane (EDB)	2500	2570		ug/Kg		103	70 - 130
1,2-Dichloroethane	2500	2460		ug/Kg		98	60 - 145
4-Methyl-2-pentanone (MIBK)	2500	2150		ug/Kg		86	40 - 145
Isopropyl Ether (DIPE)	2500	2190		ug/Kg		88	60 - 140
1,3,5-Trimethylbenzene	2500	2600		ug/Kg		104	70 - 125
Bromobenzene	2500	2500		ug/Kg		100	70 - 120
Toluene	2500	2400		ug/Kg		96	80 - 120
Chlorobenzene	2500	2550		ug/Kg		102	70 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-158327/4
Matrix: Solid
Analysis Batch: 158327

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,4-Trichlorobenzene	2500	2660		ug/Kg		107	65 - 135
Dibromochloromethane	2500	2580		ug/Kg		103	65 - 140
Tetrachloroethene	2500	2740		ug/Kg		109	65 - 125
sec-Butylbenzene	2500	2660		ug/Kg		106	70 - 125
m,p-Xylene	5000	5150		ug/Kg		103	70 - 125
1,3-Dichloropropane	2500	2520		ug/Kg		101	65 - 130
cis-1,2-Dichloroethene	2500	2560		ug/Kg		102	65 - 130
trans-1,2-Dichloroethene	2500	2480		ug/Kg		99	65 - 130
Methyl-t-Butyl Ether (MTBE)	2500	2360		ug/Kg		94	55 - 145
1,3-Dichlorobenzene	2500	2490		ug/Kg		99	70 - 125
Carbon tetrachloride	2500	2600		ug/Kg		104	65 - 145
1,1-Dichloropropene	2500	2620		ug/Kg		105	70 - 130
2-Hexanone	2500	2060		ug/Kg		82	35 - 140
2,2-Dichloropropane	2500	2430		ug/Kg		97	60 - 145
1,1,1,2-Tetrachloroethane	2500	2700		ug/Kg		108	70 - 140
Ethyl-t-butyl ether (ETBE)	2500	2270		ug/Kg		91	60 - 140
Acetone	2500	1660	J	ug/Kg		66	25 - 135
Chloroform	2500	2400		ug/Kg		96	75 - 130
Benzene	2500	2350		ug/Kg		94	65 - 120
1,1,1-Trichloroethane	2500	2370		ug/Kg		95	65 - 140
Bromomethane	2500	2280		ug/Kg		91	30 - 140
Chloromethane	2500	2150		ug/Kg		86	30 - 140
Dibromomethane	2500	2520		ug/Kg		101	65 - 130
Bromochloromethane	2500	2510		ug/Kg		100	65 - 125
Chloroethane	2500	2460		ug/Kg		98	40 - 140
Vinyl chloride	2500	626		ug/Kg		25	10 - 120
Methylene Chloride	2500	2470		ug/Kg		99	60 - 140
Bromoform	2500	2350		ug/Kg		94	50 - 130
Bromodichloromethane	2500	2520		ug/Kg		101	65 - 135
1,1-Dichloroethane	2500	2280		ug/Kg		91	65 - 130
1,1-Dichloroethene	2500	2690		ug/Kg		108	75 - 140
tert-Butyl alcohol (TBA)	12500	11000		ug/Kg		88	65 - 140
Trichlorofluoromethane	2500	3050		ug/Kg		122	50 - 145
Dichlorodifluoromethane	2500	2290		ug/Kg		92	10 - 155
1,2-Dichloropropane	2500	2540		ug/Kg		102	75 - 125
2-Butanone (MEK)	2500	2160		ug/Kg		87	40 - 145
1,1,2-Trichloroethane	2500	2490		ug/Kg		100	65 - 130
Trichloroethene	2500	2600		ug/Kg		104	70 - 130
1,1,2,2-Tetrachloroethane	2500	2480		ug/Kg		99	55 - 135
1,2,3-Trichlorobenzene	2500	2620		ug/Kg		105	60 - 135
Hexachlorobutadiene	2500	2850		ug/Kg		114	60 - 135
Naphthalene	2500	2470		ug/Kg		99	50 - 140
o-Xylene	2500	2570		ug/Kg		103	70 - 125
2-Chlorotoluene	2500	2390		ug/Kg		96	70 - 125
1,2-Dichlorobenzene	2500	2490		ug/Kg		100	70 - 120
1,2,4-Trimethylbenzene	2500	2650		ug/Kg		106	70 - 125
1,2-Dibromo-3-Chloropropane	2500	2130		ug/Kg		85	45 - 135
1,2,3-Trichloropropane	2500	2490		ug/Kg		99	55 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-158327/4
Matrix: Solid
Analysis Batch: 158327

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
tert-Butylbenzene	2500	2590		ug/Kg		104	70 - 125
Isopropylbenzene	2500	2540		ug/Kg		102	70 - 125
Tert-amyl-methyl ether (TAME)	2500	2300		ug/Kg		92	60 - 145
p-Isopropyltoluene	2500	2740		ug/Kg		110	70 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*110*		*60 - 140*
4-Bromofluorobenzene (Surr)	*100*		*65 - 140*
Dibromofluoromethane (Surr)	*96*		*55 - 140*

Lab Sample ID: LCSD 440-158327/5
Matrix: Solid
Analysis Batch: 158327

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ethylbenzene	2500	2580		ug/Kg		103	80 - 120	1	20
Styrene	2500	2600		ug/Kg		104	70 - 135	2	20
cis-1,3-Dichloropropene	2500	2810		ug/Kg		112	70 - 130	4	20
trans-1,3-Dichloropropene	2500	2880		ug/Kg		115	65 - 135	2	20
N-Propylbenzene	2500	2570		ug/Kg		103	70 - 130	0	20
n-Butylbenzene	2500	2680		ug/Kg		107	70 - 130	1	20
4-Chlorotoluene	2500	2480		ug/Kg		99	70 - 125	0	20
1,4-Dichlorobenzene	2500	2480		ug/Kg		99	70 - 125	1	20
1,2-Dibromoethane (EDB)	2500	2550		ug/Kg		102	70 - 130	1	20
1,2-Dichloroethane	2500	2530		ug/Kg		101	60 - 145	3	20
4-Methyl-2-pentanone (MIBK)	2500	2120		ug/Kg		85	40 - 145	1	30
Isopropyl Ether (DIPE)	2500	2280		ug/Kg		91	60 - 140	4	20
1,3,5-Trimethylbenzene	2500	2600		ug/Kg		104	70 - 125	0	20
Bromobenzene	2500	2500		ug/Kg		100	70 - 120	0	20
Toluene	2500	2480		ug/Kg		99	80 - 120	3	20
Chlorobenzene	2500	2560		ug/Kg		102	70 - 125	0	20
1,2,4-Trichlorobenzene	2500	2670		ug/Kg		107	65 - 135	0	20
Dibromochloromethane	2500	2730		ug/Kg		109	65 - 140	6	20
Tetrachloroethene	2500	2800		ug/Kg		112	65 - 125	2	20
sec-Butylbenzene	2500	2650		ug/Kg		106	70 - 125	0	20
m,p-Xylene	5000	5200		ug/Kg		104	70 - 125	1	20
1,3-Dichloropropane	2500	2570		ug/Kg		103	65 - 130	2	20
cis-1,2-Dichloroethene	2500	2670		ug/Kg		107	65 - 130	4	20
trans-1,2-Dichloroethene	2500	2550		ug/Kg		102	65 - 130	3	20
Methyl-t-Butyl Ether (MTBE)	2500	2470		ug/Kg		99	55 - 145	5	25
1,3-Dichlorobenzene	2500	2500		ug/Kg		100	70 - 125	0	20
Carbon tetrachloride	2500	2710		ug/Kg		108	65 - 145	4	20
1,1-Dichloropropene	2500	2720		ug/Kg		109	70 - 130	3	20
2-Hexanone	2500	2110		ug/Kg		85	35 - 140	3	30
2,2-Dichloropropane	2500	2540		ug/Kg		102	60 - 145	5	25
1,1,1,2-Tetrachloroethane	2500	2790		ug/Kg		112	70 - 140	3	20
Ethyl-t-butyl ether (ETBE)	2500	2380		ug/Kg		95	60 - 140	5	20
Acetone	2500	1500	J	ug/Kg		60	25 - 135	10	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-158327/5
Matrix: Solid
Analysis Batch: 158327

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloroform			2500	2470		ug/Kg		99	75 - 130	3	20
Benzene			2500	2400		ug/Kg		96	65 - 120	2	20
1,1,1-Trichloroethane			2500	2490		ug/Kg		100	65 - 140	5	20
Bromomethane			2500	2380		ug/Kg		95	30 - 140	4	30
Chloromethane			2500	2110		ug/Kg		85	30 - 140	2	25
Dibromomethane			2500	2540		ug/Kg		101	65 - 130	1	20
Bromochloromethane			2500	2640		ug/Kg		106	65 - 125	5	20
Chloroethane			2500	2560		ug/Kg		102	40 - 140	4	25
Vinyl chloride			2500	643		ug/Kg		26	10 - 120	3	30
Methylene Chloride			2500	2500		ug/Kg		100	60 - 140	2	20
Bromoform			2500	2370		ug/Kg		95	50 - 130	1	25
Bromodichloromethane			2500	2630		ug/Kg		105	65 - 135	4	20
1,1-Dichloroethane			2500	2390		ug/Kg		96	65 - 130	5	20
1,1-Dichloroethene			2500	2700		ug/Kg		108	75 - 140	0	20
tert-Butyl alcohol (TBA)			12500	10900		ug/Kg		87	65 - 140	1	20
Trichlorofluoromethane			2500	3070		ug/Kg		123	50 - 145	1	25
Dichlorodifluoromethane			2500	2310		ug/Kg		92	10 - 155	1	30
1,2-Dichloropropane			2500	2600		ug/Kg		104	75 - 125	2	20
2-Butanone (MEK)			2500	2170		ug/Kg		87	40 - 145	0	30
1,1,2-Trichloroethane			2500	2550		ug/Kg		102	65 - 130	2	20
Trichloroethene			2500	2690		ug/Kg		108	70 - 130	3	20
1,1,2,2-Tetrachloroethane			2500	2440		ug/Kg		98	55 - 135	1	25
1,2,3-Trichlorobenzene			2500	2660		ug/Kg		107	60 - 135	2	20
Hexachlorobutadiene			2500	2850		ug/Kg		114	60 - 135	0	20
Naphthalene			2500	2470		ug/Kg		99	50 - 140	0	25
o-Xylene			2500	2610		ug/Kg		104	70 - 125	2	20
2-Chlorotoluene			2500	2400		ug/Kg		96	70 - 125	0	20
1,2-Dichlorobenzene			2500	2510		ug/Kg		100	70 - 120	1	20
1,2,4-Trimethylbenzene			2500	2650		ug/Kg		106	70 - 125	0	20
1,2-Dibromo-3-Chloropropane			2500	2090		ug/Kg		84	45 - 135	2	25
1,2,3-Trichloropropane			2500	2420		ug/Kg		97	55 - 130	3	25
tert-Butylbenzene			2500	2600		ug/Kg		104	70 - 125	0	20
Isopropylbenzene			2500	2530		ug/Kg		101	70 - 125	0	20
Tert-amyl-methyl ether (TAME)			2500	2430		ug/Kg		97	60 - 145	6	25
p-Isopropyltoluene			2500	2720		ug/Kg		109	70 - 125	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*112*		*60 - 140*
4-Bromofluorobenzene (Surr)	*103*		*65 - 140*
Dibromofluoromethane (Surr)	*99*		*55 - 140*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 440-158449/4
Matrix: Solid
Analysis Batch: 158449

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		40000	15000	ug/Kg			01/27/14 12:59	100

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*65 - 140*		*01/27/14 12:59*	*100*

Lab Sample ID: LCS 440-158449/2
Matrix: Solid
Analysis Batch: 158449

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
GRO (C4-C12)	160000	157000		ug/Kg		98	70 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*65 - 140*

Lab Sample ID: LCSD 440-158449/3
Matrix: Solid
Analysis Batch: 158449

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	160000	159000		ug/Kg		99	70 - 135	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*104*		*65 - 140*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 440-158264/1-A
Matrix: Solid
Analysis Batch: 158433

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 158264

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		01/24/14 19:52	01/27/14 09:04	1
C23-C40	ND		5.0	2.5	mg/Kg		01/24/14 19:52	01/27/14 09:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*76*		*40 - 140*	*01/24/14 19:52*	*01/27/14 09:04*	*1*

Lab Sample ID: LCS 440-158264/2-A
Matrix: Solid
Analysis Batch: 158433

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 158264

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28	33.3	24.4		mg/Kg		73	45 - 115

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: LCS 440-158264/2-A
Matrix: Solid
Analysis Batch: 158433

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 158264

Surrogate	LCS %Recovery	LCS Qualifier	Limits
n-Octacosane	80		40 - 140

Lab Sample ID: 440-68210-A-3-B MS
Matrix: Solid
Analysis Batch: 158433

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 158264

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28	3.4	J	33.3	25.2		mg/Kg		65	40 - 120

Surrogate	MS %Recovery	MS Qualifier	Limits
n-Octacosane	79		40 - 140

Lab Sample ID: 440-68210-A-3-C MSD
Matrix: Solid
Analysis Batch: 158433

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 158264

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	3.4	J	33.3	33.7		mg/Kg		91	40 - 120	29	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
n-Octacosane	84		40 - 140

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 440-158448/1-A
Matrix: Solid
Analysis Batch: 158505

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 158448

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 15:37	1
Aroclor 1221	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 15:37	1
Aroclor 1232	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 15:37	1
Aroclor 1242	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 15:37	1
Aroclor 1248	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 15:37	1
Aroclor 1254	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 15:37	1
Aroclor 1260	ND		50	17	ug/Kg		01/27/14 11:20	01/27/14 15:37	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	75		45 - 120	01/27/14 11:20	01/27/14 15:37	1

Lab Sample ID: LCS 440-158448/2-A
Matrix: Solid
Analysis Batch: 158505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 158448

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	133	98.9		ug/Kg		74	65 - 115
Aroclor 1260	133	104		ug/Kg		78	65 - 115

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: LCS 440-158448/2-A
Matrix: Solid
Analysis Batch: 158505

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 158448

Surrogate	LCS %Recovery	LCS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	77		45 - 120

Lab Sample ID: 440-68291-1 MS
Matrix: Solid
Analysis Batch: 158505

Client Sample ID: S-1
Prep Type: Total/NA
Prep Batch: 158448

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	ND		132	145		ug/Kg		110	50 - 120
Aroclor 1260	ND		132	99.6		ug/Kg		75	50 - 125

Surrogate	MS %Recovery	MS Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	81		45 - 120

Lab Sample ID: 440-68291-1 MSD
Matrix: Solid
Analysis Batch: 158505

Client Sample ID: S-1
Prep Type: Total/NA
Prep Batch: 158448

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016	ND		132	218	F1 F2	ug/Kg		165	50 - 120	40	30
Aroclor 1260	ND		132	89.1		ug/Kg		68	50 - 125	10	30

Surrogate	MSD %Recovery	MSD Qualifier	Limits
DCB Decachlorobiphenyl (Surr)	72		45 - 120

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-158383/1-A ^5
Matrix: Solid
Analysis Batch: 158502

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 158383

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		9.9	5.0	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Arsenic	ND		3.0	1.5	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Barium	ND		1.5	0.74	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Beryllium	ND		0.50	0.25	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Cadmium	ND		0.50	0.25	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Chromium	ND		0.99	0.50	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Cobalt	ND		0.99	0.50	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Copper	ND		2.0	0.99	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Lead	ND		2.0	0.99	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Molybdenum	ND		2.0	0.99	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Nickel	ND		2.0	0.99	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Selenium	ND		3.0	1.5	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Thallium	ND		9.9	5.0	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Vanadium	ND		0.99	0.50	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Zinc	ND		5.0	2.5	mg/Kg		01/27/14 08:43	01/27/14 13:45	5
Silver	ND		1.5	0.74	mg/Kg		01/27/14 08:43	01/27/14 13:45	5

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-158383/2-A ^5
Matrix: Solid
Analysis Batch: 158502

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 158383

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	49.8	43.7		mg/Kg		88	80 - 120
Arsenic	49.8	43.2		mg/Kg		87	80 - 120
Barium	49.8	46.2		mg/Kg		93	80 - 120
Beryllium	49.8	44.5		mg/Kg		89	80 - 120
Cadmium	49.8	44.1		mg/Kg		89	80 - 120
Chromium	49.8	44.8		mg/Kg		90	80 - 120
Cobalt	49.8	47.9		mg/Kg		96	80 - 120
Copper	49.8	46.5		mg/Kg		93	80 - 120
Lead	49.8	45.3		mg/Kg		91	80 - 120
Molybdenum	49.8	44.8		mg/Kg		90	80 - 120
Nickel	49.8	45.4		mg/Kg		91	80 - 120
Selenium	49.8	39.9		mg/Kg		80	80 - 120
Thallium	49.8	43.4		mg/Kg		87	80 - 120
Vanadium	49.8	45.9		mg/Kg		92	80 - 120
Zinc	49.8	43.3		mg/Kg		87	80 - 120
Silver	24.9	22.7		mg/Kg		91	80 - 120

Lab Sample ID: 440-68299-A-1-B MS ^5
Matrix: Solid
Analysis Batch: 158502

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 158383

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		49.3	29.5	F1	mg/Kg		60	75 - 125
Arsenic	3.9		49.3	46.2		mg/Kg		86	75 - 125
Barium	140		49.3	206		mg/Kg		125	75 - 125
Beryllium	0.37	J	49.3	44.0		mg/Kg		89	75 - 125
Cadmium	7.8		49.3	49.7		mg/Kg		85	75 - 125
Chromium	45		49.3	91.1		mg/Kg		94	75 - 125
Cobalt	4.8		49.3	47.9		mg/Kg		88	75 - 125
Copper	350		49.3	448	4	mg/Kg		191	75 - 125
Lead	25		49.3	67.9		mg/Kg		87	75 - 125
Molybdenum	14		49.3	56.7		mg/Kg		86	75 - 125
Nickel	39		49.3	81.8		mg/Kg		88	75 - 125
Selenium	9.2		49.3	49.5		mg/Kg		82	75 - 125
Thallium	ND		49.3	37.6		mg/Kg		76	75 - 125
Vanadium	81		49.3	134		mg/Kg		106	75 - 125
Zinc	1500		49.3	1710	4	mg/Kg		342	75 - 125
Silver	6.8		24.6	29.5		mg/Kg		92	75 - 125

Lab Sample ID: 440-68299-A-1-C MSD ^5
Matrix: Solid
Analysis Batch: 158502

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 158383

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		49.3	30.4	F1	mg/Kg		62	75 - 125	3	20
Arsenic	3.9		49.3	46.5		mg/Kg		86	75 - 125	1	20
Barium	140		49.3	202		mg/Kg		118	75 - 125	2	20
Beryllium	0.37	J	49.3	44.8		mg/Kg		90	75 - 125	2	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-68299-A-1-C MSD ^5 — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 158502 — **Prep Batch: 158383**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	7.8		49.3	50.2		mg/Kg		86	75 - 125	1	20
Chromium	45		49.3	91.7		mg/Kg		96	75 - 125	1	20
Cobalt	4.8		49.3	48.5		mg/Kg		89	75 - 125	1	20
Copper	350		49.3	457	4	mg/Kg		210	75 - 125	2	20
Lead	25		49.3	68.4		mg/Kg		88	75 - 125	1	20
Molybdenum	14		49.3	57.6		mg/Kg		88	75 - 125	2	20
Nickel	39		49.3	82.4		mg/Kg		89	75 - 125	1	20
Selenium	9.2		49.3	50.4		mg/Kg		84	75 - 125	2	20
Thallium	ND		49.3	37.4		mg/Kg		76	75 - 125	0	20
Vanadium	81		49.3	136		mg/Kg		111	75 - 125	2	20
Zinc	1500		49.3	1770	4	mg/Kg		448	75 - 125	3	20
Silver	6.8		24.6	29.5		mg/Kg		92	75 - 125	0	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 440-158408/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 158539 — **Prep Batch: 158408**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.012	mg/Kg		01/27/14 11:58	01/27/14 15:59	1

Lab Sample ID: LCS 440-158408/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 158539 — **Prep Batch: 158408**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.800	0.750		mg/Kg		94	80 - 120

Lab Sample ID: 440-68191-A-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 158539 — **Prep Batch: 158408**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.024		0.800	0.741		mg/Kg		90	70 - 130
Mercury			0.800	0.741		mg/Kg			

Lab Sample ID: 440-68191-A-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 158539 — **Prep Batch: 158408**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.024		0.800	0.750		mg/Kg		91	70 - 130	1	20

GC/MS VOA

Analysis Batch: 158327

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68291-1	S-1	Total/NA	Solid	8260B	158329
LCS 440-158327/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 440-158327/5	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 440-158327/3	Method Blank	Total/NA	Solid	8260B	

Prep Batch: 158329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68291-1	S-1	Total/NA	Solid	5030B	

GC VOA

Prep Batch: 158329

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68291-1	S-1	Total/NA	Solid	5030B	

Analysis Batch: 158449

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68291-1	S-1	Total/NA	Solid	8015B	158329
LCS 440-158449/2	Lab Control Sample	Total/NA	Solid	8015B	
LCSD 440-158449/3	Lab Control Sample Dup	Total/NA	Solid	8015B	
MB 440-158449/4	Method Blank	Total/NA	Solid	8015B	

GC Semi VOA

Prep Batch: 158264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68210-A-3-B MS	Matrix Spike	Total/NA	Solid	CA LUFT	
440-68210-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	CA LUFT	
440-68291-1	S-1	Total/NA	Solid	CA LUFT	
LCS 440-158264/2-A	Lab Control Sample	Total/NA	Solid	CA LUFT	
MB 440-158264/1-A	Method Blank	Total/NA	Solid	CA LUFT	

Analysis Batch: 158433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68210-A-3-B MS	Matrix Spike	Total/NA	Solid	8015B	158264
440-68210-A-3-C MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	158264
LCS 440-158264/2-A	Lab Control Sample	Total/NA	Solid	8015B	158264
MB 440-158264/1-A	Method Blank	Total/NA	Solid	8015B	158264

Analysis Batch: 158435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68291-1	S-1	Total/NA	Solid	8015B	158264

Prep Batch: 158448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68291-1	S-1	Total/NA	Solid	3546	
440-68291-1 MS	S-1	Total/NA	Solid	3546	
440-68291-1 MSD	S-1	Total/NA	Solid	3546	
LCS 440-158448/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 440-158448/1-A	Method Blank	Total/NA	Solid	3546	

GC Semi VOA (Continued)

Analysis Batch: 158505

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68291-1	S-1	Total/NA	Solid	8082	158448
440-68291-1 MS	S-1	Total/NA	Solid	8082	158448
440-68291-1 MSD	S-1	Total/NA	Solid	8082	158448
LCS 440-158448/2-A	Lab Control Sample	Total/NA	Solid	8082	158448
MB 440-158448/1-A	Method Blank	Total/NA	Solid	8082	158448

Metals

Prep Batch: 158383

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68291-1	S-1	Total/NA	Solid	3050B	
440-68299-A-1-B MS ^5	Matrix Spike	Total/NA	Solid	3050B	
440-68299-A-1-C MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	3050B	
LCS 440-158383/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
MB 440-158383/1-A ^5	Method Blank	Total/NA	Solid	3050B	

Prep Batch: 158408

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68191-A-1-G MS	Matrix Spike	Total/NA	Solid	7471A	
440-68191-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	
440-68291-1	S-1	Total/NA	Solid	7471A	
LCS 440-158408/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 440-158408/1-A	Method Blank	Total/NA	Solid	7471A	

Analysis Batch: 158502

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68299-A-1-B MS ^5	Matrix Spike	Total/NA	Solid	6010B	158383
440-68299-A-1-C MSD ^5	Matrix Spike Duplicate	Total/NA	Solid	6010B	158383
LCS 440-158383/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	158383
MB 440-158383/1-A ^5	Method Blank	Total/NA	Solid	6010B	158383

Analysis Batch: 158512

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68291-1	S-1	Total/NA	Solid	6010B	158383

Analysis Batch: 158539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68191-A-1-G MS	Matrix Spike	Total/NA	Solid	7471A	158408
440-68191-A-1-H MSD	Matrix Spike Duplicate	Total/NA	Solid	7471A	158408
440-68291-1	S-1	Total/NA	Solid	7471A	158408
LCS 440-158408/2-A	Lab Control Sample	Total/NA	Solid	7471A	158408
MB 440-158408/1-A	Method Blank	Total/NA	Solid	7471A	158408

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

GC Semi VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits
F2	MS/MSD RPD exceeds control limits

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery exceeds the control limits
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68291-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-14
Arizona	State Program	9	AZ0671	10-13-14
California	LA Cty Sanitation Districts	9	10256	01-31-15
California	NELAP	9	1108CA	01-31-14
California	State Program	9	2706	06-30-14
Guam	State Program	9	Cert. No. 12.002r	01-23-14 *
Hawaii	State Program	9	N/A	01-31-14
Nevada	State Program	9	CA015312007A	07-31-14
New Mexico	State Program	6	N/A	01-31-14
Northern Mariana Islands	State Program	9	MP0002	01-31-14
Oregon	NELAP	10	4005	09-12-14
USDA	Federal		P330-09-00080	06-06-14
USEPA UCMR	Federal	1	CA01531	01-31-15

* Expired certification is currently pending renewal and is considered valid.

CC 01/24/14

6203

UNITED PUMPING SERVICE, INC.

AN ENVIRONMENTAL REMEDIATION FIRM

CERTIFIED - STATE APPROVED

CHAIN OF CUSTODY RECORD

* Bill to: Union Pacific Railroad
Jim Diel

Lab-Test America

FOR LABORATORY USE ONLY
Laboratory Project No.
Storage Refrigerator ID: _____ Secured Yes / No
Storage Freezer ID: _____

Project Name: UPRR LA-TC Project #: Buried Tank Sampler: Ed Perry III (Print Here) Ed Perry III (Signature)

Relinquished by: (Signature and Printed Name) Ed Perry III	Received by: (Signature and Printed Name) Mabel Curiel	Date: 1.24.14	Time: 1335
Relinquished by: (Signature and Printed Name) Mabel Curiel	Received by: (Signature and Printed Name)	Date: 1.24.14	Time: 1540
Relinquished by: (Signature and Printed Name)	Received by: (Signature and Printed Name) Olga Omeles	Date: 1/24/14	Time: 18:40
Relinquished by: (Signature and Printed Name)	Received by: (Signature and Printed Name)	Date:	Time:

SHIP TO:
UNITED PUMPING SERVICE INC
14000 EAST VALLEY BLVD.
CITY OF INDUSTRY, CALIFORNIA 91746
PHONE: (626) 961-9326
FAX (626) 336-7734
FAX (626) 961-3799
www.unitedpumpingcom

Method of Shipment:

Shipment ID

Circle or Add Analysis(es) Requested

a) Identify specific metals requested under Special Instructions

Sample ID Number	Sample Description: Date	Time	Description	601/8010 (Halogenated Volatiles-GC)	602/8020 (Aromatic Volatiles-GC)	604/8040 (Phenols-GC)	608/8080 (Pesticides/PCB-GC)	610/8100 (PNA-GC)	624/8240 (Volatiles-GC/MS)	625/8270 (BNA-GC/MS)	TPH/G (Gasoline-GC)	TPH/D (Diesel-GC)	418.1 (IR)	8015 Modified (GC) TPH-Oil/Gas/Diesel	Metals Soluble a	Fluoride/Perchlorate	Chloride/pH	TDS/Percent Solid	Specific Conductivity (EC)	VOCs	CAM 17 Metals	TAT	Container(s) #	Container(s) Type	FOR LABORATORY USE ONLY Lab ID
1 SV1	1/23	2000	soil										X	X PCB's				X	X	X		1	G	
2																								
3																								
4																								
5																								
6																								
7																								
8																								
9																								
10																								

Special Instuctions Comments *24 hr. rush *

sample Archive/Disposal:
☒ Laboratory Standard
☐ Other _____

TAT (Analytical Turn Around Times) 1 = 24 hours 2 = 48 hours 3 = 1 week 4 = 2 weeks
Container Types: B-Brass Tube. V=VOA Vial, A-1-Liter Amber, G=Glass Jar, C=Cassette, O = Other _____

SEND DOCUMENTATION AND RESULTS TO (Check one).
☒ Project Manager/Office: Bob Rico
☐ Clent Name: _____
Company: _____
Address: _____
Phone: ___(___)_____ Fax: _____

FOR LABORATORY USE ONLY. Sample Condition Upon Receipt _____

3.4°C / 2.2°C

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1/27/2014

Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 440-68291-1

Login Number: 68291

List Source: TestAmerica Irvine

List Number: 1

Creator: Kim, Guerry

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Irvine
17461 Derian Ave
Suite 100
Irvine, CA 92614-5817
Tel: (949)261-1022

TestAmerica Job ID: 440-68480-1
Client Project/Site: UPRR-LATC Yard

For:
CH2M Hill, Inc.
1000 Wilshire Boulevard
Suite 2100
Los Angeles, California 90017

Attn: Dave Poley

Heather Clark

Authorized for release by:
1/29/2014 5:38:43 PM

Heather Clark, Project Manager I
(949)261-1022
heather.clark@testamericainc.com

Table of Contents

Sample Summary

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
440-68480-1	North Side Wall	Solid	01/28/14 12:30	01/28/14 15:40
440-68480-2	South Side Wall	Solid	01/28/14 12:40	01/28/14 15:40
440-68480-3	East Side Wall	Solid	01/28/14 12:45	01/28/14 15:40
440-68480-4	West Side Wall	Solid	01/28/14 12:33	01/28/14 15:40
440-68480-5	Bottom East	Solid	01/28/14 12:25	01/28/14 15:40
440-68480-6	Bottom West	Solid	01/28/14 12:35	01/28/14 15:40
440-68480-7	Stockpile	Solid	01/28/14 12:50	01/28/14 15:40
440-68480-8	Trip Blank	Water	01/28/14 13:00	01/28/14 15:40

Job ID: 440-68480-1

Laboratory: TestAmerica Irvine

Narrative

Job Narrative
440-68480-1

Comments
No additional comments.

Receipt
The samples were received on 1/28/2014 3:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.7º C.

GC/MS VOA
Method(s) 8260B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with batch 158810 were outside control limits: (440-68294-5 MS). The associated laboratory control sample (LCS) recovery met acceptance criteria.

Method(s) 8260B: The sample size used in the preparation of the matrix spike/matrix spike duplicate (MS/MSD) associated with batch 158884 was outside the 10% difference. As the relative percent difference (RPD) calculation is based upon the MS/MSD concentration as opposed to the MS/MSD percent recovery, elevated %RPD values were obtained.

No other analytical or quality issues were noted.

GC VOA
No analytical or quality issues were noted.

GC Semi VOA
Method(s) 8082: The continuing calibration verification (CCV) associated with batch 158808 recovered above the upper control limit for 1260. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The following samples are impacted: (CCV 440-158808/23), (CCVRT 440-158808/8), Bottom East (440-68480-5), Bottom West (440-68480-6), East Side Wall (440-68480-3), North Side Wall (440-68480-1), South Side Wall (440-68480-2), Stockpile (440-68480-7), West Side Wall (440-68480-4).

No other analytical or quality issues were noted.

Metals
Method(s) 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for the following sample associated with batch 158963 were outside control limits for antimony: (440-68480-1 MS), (440-68480-1 MSD). The associated laboratory control sample (LCS) recovery met acceptance criteria.

No other analytical or quality issues were noted.

Organic Prep
No analytical or quality issues were noted.

VOA Prep
No analytical or quality issues were noted.

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Client Sample ID: North Side Wall
Date Collected: 01/28/14 12:30
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-1
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,1,1-Trichloroethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,1,2-Trichloroethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,1-Dichloroethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,1-Dichloroethene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,1-Dichloropropene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,2,3-Trichlorobenzene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,2,4-Trimethylbenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,2-Dibromo-3-Chloropropane	ND		4.4	1.8	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,2-Dibromoethane (EDB)	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,2-Dichlorobenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,2-Dichloroethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,2-Dichloropropane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,3,5-Trimethylbenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,3-Dichlorobenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,3-Dichloropropane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,4-Dichlorobenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
2,2-Dichloropropane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
2-Chlorotoluene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
4-Chlorotoluene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
p-Isopropyltoluene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Benzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Bromobenzene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Dibromochloromethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Bromochloromethane	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Bromoform	ND		4.4	1.8	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Bromomethane	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Carbon tetrachloride	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Chlorobenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Chloroethane	ND		4.4	1.8	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Chloroform	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Chloromethane	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
cis-1,2-Dichloroethene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
cis-1,3-Dichloropropene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Bromodichloromethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Dibromomethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Dichlorodifluoromethane	ND		4.4	1.8	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Ethylbenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Isopropyl Ether (DIPE)	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Methyl-t-Butyl Ether (MTBE)	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Tert-amyl-methyl ether (TAME)	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Ethyl-t-butyl ether (ETBE)	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Hexachlorobutadiene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
m,p-Xylene	ND		3.5	1.8	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Methylene Chloride	ND		18	4.4	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Naphthalene	ND		4.4	1.8	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
n-Butylbenzene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
N-Propylbenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1

Client Sample ID: North Side Wall
Date Collected: 01/28/14 12:30
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-1
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
sec-Butylbenzene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Styrene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
tert-Butyl alcohol (TBA)	ND		88	8.8	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
tert-Butylbenzene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Tetrachloroethene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Toluene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
trans-1,2-Dichloroethene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
trans-1,3-Dichloropropene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Trichloroethene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Trichlorofluoromethane	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Vinyl chloride	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Xylenes, Total	ND		3.5	1.8	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Acetone	ND		18	7.0	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
2-Hexanone	ND		22	4.4	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
4-Methyl-2-pentanone (MIBK)	ND		4.4	2.2	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
2-Butanone (MEK)	ND		8.8	4.4	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
Isopropylbenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,2,3-Trichloropropane	ND		8.8	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1
1,2,4-Trichlorobenzene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/29/14 12:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*79 - 120*	*01/28/14 18:25*	*01/29/14 12:00*	*1*
Dibromofluoromethane (Surr)	*101*		*60 - 120*	*01/28/14 18:25*	*01/29/14 12:00*	*1*
Toluene-d8 (Surr)	*111*		*79 - 123*	*01/28/14 18:25*	*01/29/14 12:00*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		400	150	ug/Kg		01/28/14 18:25	01/29/14 01:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*65 - 140*	*01/28/14 18:25*	*01/29/14 01:49*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/28/14 23:26	1
C23-C40	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/28/14 23:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*76*		*40 - 140*	*01/28/14 17:50*	*01/28/14 23:26*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:09	1
Aroclor 1221	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:09	1
Aroclor 1232	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:09	1
Aroclor 1242	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:09	1
Aroclor 1248	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:09	1
Aroclor 1254	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:09	1
Aroclor 1260	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:09	1

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Client Sample ID: North Side Wall

Lab Sample ID: 440-68480-1

Date Collected: 01/28/14 12:30

Matrix: Solid

Date Received: 01/28/14 15:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	69		45 - 120	01/28/14 17:34	01/28/14 21:09	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Arsenic	**1.6**	**J**	3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Barium	**68**		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Beryllium	**2.0**		0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Cadmium	ND		0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Chromium	**12**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Cobalt	**6.3**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Copper	**14**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Lead	**3.0**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Molybdenum	ND		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Nickel	**9.6**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Selenium	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Thallium	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Vanadium	**38**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Zinc	**35**		5.0	2.5	mg/Kg		01/29/14 10:40	01/29/14 15:14	5
Silver	ND		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:14	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.054**		0.020	0.012	mg/Kg		01/29/14 11:05	01/29/14 12:45	1

Client Sample ID: South Side Wall

Lab Sample ID: 440-68480-2

Date Collected: 01/28/14 12:40

Matrix: Solid

Date Received: 01/28/14 15:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,1,1-Trichloroethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,1,2-Trichloroethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,1-Dichloroethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,1-Dichloroethene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,1-Dichloropropene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,2,3-Trichlorobenzene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,2,4-Trimethylbenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,2-Dibromo-3-Chloropropane	ND		4.4	1.8	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,2-Dibromoethane (EDB)	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,2-Dichlorobenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,2-Dichloroethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,2-Dichloropropane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,3,5-Trimethylbenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,3-Dichlorobenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,3-Dichloropropane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,4-Dichlorobenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
2,2-Dichloropropane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
2-Chlorotoluene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Client Sample ID: South Side Wall
Date Collected: 01/28/14 12:40
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-2
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
p-Isopropyltoluene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Benzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Bromobenzene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Dibromochloromethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Bromochloromethane	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Bromoform	ND		4.4	1.8	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Bromomethane	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Carbon tetrachloride	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Chlorobenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Chloroethane	ND		4.4	1.8	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Chloroform	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Chloromethane	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
cis-1,2-Dichloroethene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
cis-1,3-Dichloropropene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Bromodichloromethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Dibromomethane	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Dichlorodifluoromethane	ND		4.4	1.8	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Ethylbenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Isopropyl Ether (DIPE)	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Methyl-t-Butyl Ether (MTBE)	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Tert-amyl-methyl ether (TAME)	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Ethyl-t-butyl ether (ETBE)	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Hexachlorobutadiene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
m,p-Xylene	ND		3.5	1.8	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Methylene Chloride	ND		18	4.4	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Naphthalene	ND		4.4	1.8	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
n-Butylbenzene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
N-Propylbenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
o-Xylene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
sec-Butylbenzene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Styrene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
tert-Butyl alcohol (TBA)	ND		88	8.8	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
tert-Butylbenzene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Tetrachloroethene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Toluene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
trans-1,2-Dichloroethene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
trans-1,3-Dichloropropene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Trichloroethene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Trichlorofluoromethane	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Vinyl chloride	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Xylenes, Total	ND		3.5	1.8	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Acetone	ND		18	7.0	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
2-Hexanone	ND		22	4.4	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
4-Methyl-2-pentanone (MIBK)	ND		4.4	2.2	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
2-Butanone (MEK)	ND		8.8	4.4	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
Isopropylbenzene	ND		1.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,2,3-Trichloropropane	ND		8.8	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1
1,2,4-Trichlorobenzene	ND		4.4	0.88	ug/Kg		01/28/14 18:25	01/28/14 23:42	1

Client Sample ID: South Side Wall
Date Collected: 01/28/14 12:40
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-2
Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*107*		*79 - 120*	*01/28/14 18:25*	*01/28/14 23:42*	*1*
Dibromofluoromethane (Surr)	*105*		*60 - 120*	*01/28/14 18:25*	*01/28/14 23:42*	*1*
Toluene-d8 (Surr)	*109*		*79 - 123*	*01/28/14 18:25*	*01/28/14 23:42*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		350	130	ug/Kg		01/28/14 18:25	01/29/14 02:15	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*97*		*65 - 140*	*01/28/14 18:25*	*01/29/14 02:15*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/28/14 23:46	1
C23-C40	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/28/14 23:46	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	*75*		*40 - 140*	*01/28/14 17:50*	*01/28/14 23:46*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:25	1
Aroclor 1221	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:25	1
Aroclor 1232	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:25	1
Aroclor 1242	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:25	1
Aroclor 1248	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:25	1
Aroclor 1254	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:25	1
Aroclor 1260	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:25	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	*45*		*45 - 120*	*01/28/14 17:34*	*01/28/14 21:25*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Arsenic	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Barium	**76**		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Beryllium	**2.8**		0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Cadmium	ND		0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Chromium	**20**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Cobalt	**7.5**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Copper	**22**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Lead	**5.5**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Molybdenum	ND		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Nickel	**12**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Selenium	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Thallium	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Vanadium	**45**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Zinc	**61**		5.0	2.5	mg/Kg		01/29/14 10:40	01/29/14 15:26	5
Silver	ND		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:26	5

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Client Sample ID: South Side Wall

Lab Sample ID: 440-68480-2

Date Collected: 01/28/14 12:40

Matrix: Solid

Date Received: 01/28/14 15:40

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.10		0.020	0.012	mg/Kg		01/29/14 11:05	01/29/14 12:53	1

Client Sample ID: East Side Wall

Lab Sample ID: 440-68480-3

Date Collected: 01/28/14 12:45

Matrix: Solid

Date Received: 01/28/14 15:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,1,1-Trichloroethane	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,1,2,2-Tetrachloroethane	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,1,2-Trichloroethane	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,1-Dichloroethane	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,1-Dichloroethene	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,1-Dichloropropene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,2,3-Trichlorobenzene	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,2,4-Trimethylbenzene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,2-Dibromo-3-Chloropropane	ND		4.3	1.7	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,2-Dibromoethane (EDB)	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,2-Dichlorobenzene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,2-Dichloroethane	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,2-Dichloropropane	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,3,5-Trimethylbenzene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,3-Dichlorobenzene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,3-Dichloropropane	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,4-Dichlorobenzene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
2,2-Dichloropropane	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
2-Chlorotoluene	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
4-Chlorotoluene	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
p-Isopropyltoluene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Benzene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Bromobenzene	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Dibromochloromethane	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Bromochloromethane	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Bromoform	ND		4.3	1.7	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Bromomethane	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Carbon tetrachloride	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Chlorobenzene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Chloroethane	ND		4.3	1.7	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Chloroform	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Chloromethane	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
cis-1,2-Dichloroethene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
cis-1,3-Dichloropropene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Bromodichloromethane	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Dibromomethane	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Dichlorodifluoromethane	ND		4.3	1.7	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Ethylbenzene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Isopropyl Ether (DIPE)	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Methyl-t-Butyl Ether (MTBE)	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Tert-amyl-methyl ether (TAME)	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1

Client Sample ID: East Side Wall
Date Collected: 01/28/14 12:45
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-3
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl-t-butyl ether (ETBE)	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Hexachlorobutadiene	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
m,p-Xylene	ND		3.4	1.7	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Methylene Chloride	ND		17	4.3	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Naphthalene	ND		4.3	1.7	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
n-Butylbenzene	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
N-Propylbenzene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
o-Xylene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
sec-Butylbenzene	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Styrene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
tert-Butyl alcohol (TBA)	ND		86	8.6	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
tert-Butylbenzene	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Tetrachloroethene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Toluene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
trans-1,2-Dichloroethene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
trans-1,3-Dichloropropene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Trichloroethene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Trichlorofluoromethane	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Vinyl chloride	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Xylenes, Total	ND		3.4	1.7	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Acetone	ND		17	6.9	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
2-Hexanone	ND		21	4.3	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
4-Methyl-2-pentanone (MIBK)	ND		4.3	2.1	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
2-Butanone (MEK)	ND		8.6	4.3	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
Isopropylbenzene	ND		1.7	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,2,3-Trichloropropane	ND		8.6	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1
1,2,4-Trichlorobenzene	ND		4.3	0.86	ug/Kg		01/28/14 18:25	01/29/14 00:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*79 - 120*	*01/28/14 18:25*	*01/29/14 00:11*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 120*	*01/28/14 18:25*	*01/29/14 00:11*	*1*
Toluene-d8 (Surr)	*110*		*79 - 123*	*01/28/14 18:25*	*01/29/14 00:11*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		330	130	ug/Kg		01/28/14 18:25	01/29/14 02:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*65 - 140*	*01/28/14 18:25*	*01/29/14 02:41*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/29/14 00:06	1
C23-C40	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/29/14 00:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*64*		*40 - 140*	*01/28/14 17:50*	*01/29/14 00:06*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:40	1

Client Sample ID: East Side Wall

Lab Sample ID: 440-68480-3

Date Collected: 01/28/14 12:45

Matrix: Solid

Date Received: 01/28/14 15:40

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1221	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:40	1
Aroclor 1232	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:40	1
Aroclor 1242	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:40	1
Aroclor 1248	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:40	1
Aroclor 1254	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:40	1
Aroclor 1260	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*57*		*45 - 120*	*01/28/14 17:34*	*01/28/14 21:40*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Arsenic	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Barium	**68**		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Beryllium	**1.5**		0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Cadmium	**0.31**	**J**	0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Chromium	**15**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Cobalt	**5.1**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Copper	**16**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Lead	**3.8**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Molybdenum	ND		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Nickel	**12**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Selenium	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Thallium	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Vanadium	**30**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Zinc	**40**		5.0	2.5	mg/Kg		01/29/14 10:40	01/29/14 15:28	5
Silver	ND		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:28	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.038**		0.020	0.012	mg/Kg		01/29/14 11:05	01/29/14 12:55	1

Client Sample ID: West Side Wall

Lab Sample ID: 440-68480-4

Date Collected: 01/28/14 12:33

Matrix: Solid

Date Received: 01/28/14 15:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,1,1-Trichloroethane	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,1,2,2-Tetrachloroethane	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,1,2-Trichloroethane	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,1-Dichloroethane	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,1-Dichloroethene	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,1-Dichloropropene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,2,3-Trichlorobenzene	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,2,4-Trimethylbenzene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,2-Dibromo-3-Chloropropane	ND		4.6	1.8	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,2-Dibromoethane (EDB)	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Client Sample ID: West Side Wall
Date Collected: 01/28/14 12:33
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-4
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlorobenzene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,2-Dichloroethane	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,2-Dichloropropane	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,3,5-Trimethylbenzene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,3-Dichlorobenzene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,3-Dichloropropane	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,4-Dichlorobenzene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
2,2-Dichloropropane	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
2-Chlorotoluene	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
4-Chlorotoluene	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
p-Isopropyltoluene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Benzene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Bromobenzene	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Dibromochloromethane	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Bromochloromethane	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Bromoform	ND		4.6	1.8	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Bromomethane	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Carbon tetrachloride	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Chlorobenzene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Chloroethane	ND		4.6	1.8	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Chloroform	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Chloromethane	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
cis-1,2-Dichloroethene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
cis-1,3-Dichloropropene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Bromodichloromethane	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Dibromomethane	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Dichlorodifluoromethane	ND		4.6	1.8	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Ethylbenzene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Isopropyl Ether (DIPE)	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Methyl-t-Butyl Ether (MTBE)	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Tert-amyl-methyl ether (TAME)	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Ethyl-t-butyl ether (ETBE)	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Hexachlorobutadiene	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
m,p-Xylene	ND		3.7	1.8	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Methylene Chloride	ND		18	4.6	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Naphthalene	ND		4.6	1.8	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
n-Butylbenzene	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
N-Propylbenzene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
o-Xylene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
sec-Butylbenzene	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Styrene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
tert-Butyl alcohol (TBA)	ND		92	9.2	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
tert-Butylbenzene	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Tetrachloroethene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Toluene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
trans-1,2-Dichloroethene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
trans-1,3-Dichloropropene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Trichloroethene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Trichlorofluoromethane	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1

Client Sample ID: West Side Wall
Date Collected: 01/28/14 12:33
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-4
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Xylenes, Total	ND		3.7	1.8	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Acetone	ND		18	7.4	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
2-Hexanone	ND		23	4.6	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
4-Methyl-2-pentanone (MIBK)	ND		4.6	2.3	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
2-Butanone (MEK)	ND		9.2	4.6	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
Isopropylbenzene	ND		1.8	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,2,3-Trichloropropane	ND		9.2	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1
1,2,4-Trichlorobenzene	ND		4.6	0.92	ug/Kg		01/28/14 18:25	01/29/14 00:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*109*		*79 - 120*	*01/28/14 18:25*	*01/29/14 00:40*	*1*
Dibromofluoromethane (Surr)	*102*		*60 - 120*	*01/28/14 18:25*	*01/29/14 00:40*	*1*
Toluene-d8 (Surr)	*109*		*79 - 123*	*01/28/14 18:25*	*01/29/14 00:40*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		360	140	ug/Kg		01/28/14 18:25	01/29/14 03:06	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*95*		*65 - 140*	*01/28/14 18:25*	*01/29/14 03:06*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/29/14 00:26	1
C23-C40	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/29/14 00:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*75*		*40 - 140*	*01/28/14 17:50*	*01/29/14 00:26*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:55	1
Aroclor 1221	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:55	1
Aroclor 1232	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:55	1
Aroclor 1242	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:55	1
Aroclor 1248	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:55	1
Aroclor 1254	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:55	1
Aroclor 1260	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 21:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*71*		*45 - 120*	*01/28/14 17:34*	*01/28/14 21:55*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Arsenic	**2.8**	**J**	3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Barium	**82**		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Beryllium	**3.5**		0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Cadmium	**0.27**	**J**	0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Chromium	**18**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:30	5

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Client Sample ID: West Side Wall

Lab Sample ID: 440-68480-4

Date Collected: 01/28/14 12:33

Matrix: Solid

Date Received: 01/28/14 15:40

Method: 6010B - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**7.5**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Copper	**20**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Lead	**4.2**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Molybdenum	ND		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Nickel	**14**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Selenium	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Thallium	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Vanadium	**50**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Zinc	**51**		5.0	2.5	mg/Kg		01/29/14 10:40	01/29/14 15:30	5
Silver	ND		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:30	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.12**		0.020	0.012	mg/Kg		01/29/14 11:05	01/29/14 13:03	1

Client Sample ID: Bottom East

Lab Sample ID: 440-68480-5

Date Collected: 01/28/14 12:25

Matrix: Solid

Date Received: 01/28/14 15:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,1,1-Trichloroethane	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,1,2,2-Tetrachloroethane	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,1,2-Trichloroethane	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,1-Dichloroethane	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,1-Dichloroethene	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,1-Dichloropropene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,2,3-Trichlorobenzene	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,2,4-Trimethylbenzene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,2-Dibromo-3-Chloropropane	ND		5.4	2.2	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,2-Dibromoethane (EDB)	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,2-Dichlorobenzene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,2-Dichloroethane	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,2-Dichloropropane	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,3,5-Trimethylbenzene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,3-Dichlorobenzene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,3-Dichloropropane	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,4-Dichlorobenzene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
2,2-Dichloropropane	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
2-Chlorotoluene	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
4-Chlorotoluene	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
p-Isopropyltoluene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Benzene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Bromobenzene	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Dibromochloromethane	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Bromochloromethane	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Bromoform	ND		5.4	2.2	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Bromomethane	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Carbon tetrachloride	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1

Client Sample ID: Bottom East
Date Collected: 01/28/14 12:25
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-5
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Chloroethane	ND		5.4	2.2	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Chloroform	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Chloromethane	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
cis-1,2-Dichloroethene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
cis-1,3-Dichloropropene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Bromodichloromethane	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Dibromomethane	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Dichlorodifluoromethane	ND		5.4	2.2	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Ethylbenzene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Isopropyl Ether (DIPE)	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Methyl-t-Butyl Ether (MTBE)	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Tert-amyl-methyl ether (TAME)	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Ethyl-t-butyl ether (ETBE)	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Hexachlorobutadiene	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
m,p-Xylene	ND		4.4	2.2	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Methylene Chloride	ND		22	5.4	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Naphthalene	ND		5.4	2.2	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
n-Butylbenzene	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
N-Propylbenzene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
o-Xylene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
sec-Butylbenzene	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Styrene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
tert-Butyl alcohol (TBA)	ND		110	11	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
tert-Butylbenzene	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Tetrachloroethene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Toluene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
trans-1,2-Dichloroethene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
trans-1,3-Dichloropropene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Trichloroethene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Trichlorofluoromethane	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Vinyl chloride	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Xylenes, Total	ND		4.4	2.2	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Acetone	ND		22	8.7	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
2-Hexanone	ND		27	5.4	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
4-Methyl-2-pentanone (MIBK)	ND		5.4	2.7	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
2-Butanone (MEK)	ND		11	5.4	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
Isopropylbenzene	ND		2.2	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,2,3-Trichloropropane	ND		11	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1
1,2,4-Trichlorobenzene	ND		5.4	1.1	ug/Kg		01/28/14 18:25	01/29/14 01:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*79 - 120*	*01/28/14 18:25*	*01/29/14 01:08*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 120*	*01/28/14 18:25*	*01/29/14 01:08*	*1*
Toluene-d8 (Surr)	*109*		*79 - 123*	*01/28/14 18:25*	*01/29/14 01:08*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		390	150	ug/Kg		01/28/14 18:25	01/29/14 03:32	1

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Client Sample ID: Bottom East
Date Collected: 01/28/14 12:25
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-5
Matrix: Solid

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	*99*		*65 - 140*	*01/28/14 18:25*	*01/29/14 03:32*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/29/14 00:47	1
C23-C40	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/29/14 00:47	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
n-Octacosane	*64*		*40 - 140*	*01/28/14 17:50*	*01/29/14 00:47*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:10	1
Aroclor 1221	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:10	1
Aroclor 1232	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:10	1
Aroclor 1242	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:10	1
Aroclor 1248	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:10	1
Aroclor 1254	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:10	1
Aroclor 1260	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:10	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	*82*		*45 - 120*	*01/28/14 17:34*	*01/28/14 22:10*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Arsenic	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Barium	**49**		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Beryllium	**1.5**		0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Cadmium	ND		0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Chromium	**7.6**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Cobalt	**2.9**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Copper	**8.5**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Lead	**2.4**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Molybdenum	ND		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Nickel	**4.2**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Selenium	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Thallium	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Vanadium	**31**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Zinc	**24**		5.0	2.5	mg/Kg		01/29/14 10:40	01/29/14 15:32	5
Silver	ND		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:32	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.052**		0.020	0.012	mg/Kg		01/29/14 11:05	01/29/14 13:05	1

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Client Sample ID: Bottom West
Date Collected: 01/28/14 12:35
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-6
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,1,1-Trichloroethane	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,1,2,2-Tetrachloroethane	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,1,2-Trichloroethane	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,1-Dichloroethane	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,1-Dichloroethene	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,1-Dichloropropene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,2,3-Trichlorobenzene	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,2,4-Trimethylbenzene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,2-Dibromo-3-Chloropropane	ND		5.9	2.4	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,2-Dibromoethane (EDB)	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,2-Dichlorobenzene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,2-Dichloroethane	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,2-Dichloropropane	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,3,5-Trimethylbenzene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,3-Dichlorobenzene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,3-Dichloropropane	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,4-Dichlorobenzene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
2,2-Dichloropropane	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
2-Chlorotoluene	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
4-Chlorotoluene	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
p-Isopropyltoluene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Benzene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Bromobenzene	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Dibromochloromethane	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Bromochloromethane	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Bromoform	ND		5.9	2.4	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Bromomethane	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Carbon tetrachloride	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Chlorobenzene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Chloroethane	ND		5.9	2.4	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Chloroform	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Chloromethane	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
cis-1,2-Dichloroethene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
cis-1,3-Dichloropropene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Bromodichloromethane	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Dibromomethane	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Dichlorodifluoromethane	ND		5.9	2.4	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Ethylbenzene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Isopropyl Ether (DIPE)	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Methyl-t-Butyl Ether (MTBE)	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Tert-amyl-methyl ether (TAME)	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Ethyl-t-butyl ether (ETBE)	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Hexachlorobutadiene	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
m,p-Xylene	ND		4.7	2.4	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Methylene Chloride	ND		24	5.9	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Naphthalene	ND		5.9	2.4	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
n-Butylbenzene	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
N-Propylbenzene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1

Client Sample ID: Bottom West
Date Collected: 01/28/14 12:35
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-6
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
sec-Butylbenzene	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Styrene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
tert-Butyl alcohol (TBA)	ND		120	12	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
tert-Butylbenzene	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Tetrachloroethene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Toluene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
trans-1,2-Dichloroethene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
trans-1,3-Dichloropropene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Trichloroethene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Trichlorofluoromethane	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Vinyl chloride	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Xylenes, Total	ND		4.7	2.4	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Acetone	ND		24	9.4	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
2-Hexanone	ND		29	5.9	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
4-Methyl-2-pentanone (MIBK)	ND		5.9	2.9	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
2-Butanone (MEK)	ND		12	5.9	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
Isopropylbenzene	ND		2.4	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,2,3-Trichloropropane	ND		12	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1
1,2,4-Trichlorobenzene	ND		5.9	1.2	ug/Kg		01/28/14 18:25	01/29/14 01:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*79 - 120*	*01/28/14 18:25*	*01/29/14 01:37*	*1*
Dibromofluoromethane (Surr)	*107*		*60 - 120*	*01/28/14 18:25*	*01/29/14 01:37*	*1*
Toluene-d8 (Surr)	*109*		*79 - 123*	*01/28/14 18:25*	*01/29/14 01:37*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		370	140	ug/Kg		01/28/14 18:25	01/29/14 03:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*94*		*65 - 140*	*01/28/14 18:25*	*01/29/14 03:58*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/29/14 01:07	1
C23-C40	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/29/14 01:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*79*		*40 - 140*	*01/28/14 17:50*	*01/29/14 01:07*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:26	1
Aroclor 1221	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:26	1
Aroclor 1232	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:26	1
Aroclor 1242	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:26	1
Aroclor 1248	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:26	1
Aroclor 1254	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:26	1
Aroclor 1260	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:26	1

Client Sample ID: Bottom West

Lab Sample ID: 440-68480-6

Date Collected: 01/28/14 12:35

Matrix: Solid

Date Received: 01/28/14 15:40

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
DCB Decachlorobiphenyl (Surr)	75		45 - 120	01/28/14 17:34	01/28/14 22:26	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Arsenic	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Barium	**28**		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Beryllium	**0.91**		0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Cadmium	ND		0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Chromium	**5.0**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Cobalt	**2.5**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Copper	**5.8**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Lead	**1.4**	**J**	2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Molybdenum	ND		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Nickel	**2.3**		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Selenium	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Thallium	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Vanadium	**26**		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Zinc	**16**		5.0	2.5	mg/Kg		01/29/14 10:40	01/29/14 15:33	5
Silver	ND		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:33	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.054**		0.020	0.012	mg/Kg		01/29/14 11:05	01/29/14 13:08	1

Client Sample ID: Stockpile

Lab Sample ID: 440-68480-7

Date Collected: 01/28/14 12:50

Matrix: Solid

Date Received: 01/28/14 15:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,1,1-Trichloroethane	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,1,2,2-Tetrachloroethane	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,1,2-Trichloroethane	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,1-Dichloroethane	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,1-Dichloroethene	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,1-Dichloropropene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,2,3-Trichlorobenzene	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,2,4-Trimethylbenzene	**2.1**		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,2-Dibromo-3-Chloropropane	ND		4.2	1.7	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,2-Dibromoethane (EDB)	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,2-Dichlorobenzene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,2-Dichloroethane	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,2-Dichloropropane	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,3,5-Trimethylbenzene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,3-Dichlorobenzene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,3-Dichloropropane	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,4-Dichlorobenzene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
2,2-Dichloropropane	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
2-Chlorotoluene	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Client Sample ID: Stockpile
Date Collected: 01/28/14 12:50
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-7
Matrix: Solid

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
p-Isopropyltoluene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Benzene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Bromobenzene	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Dibromochloromethane	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Bromochloromethane	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Bromoform	ND		4.2	1.7	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Bromomethane	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Carbon tetrachloride	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Chlorobenzene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Chloroethane	ND		4.2	1.7	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Chloroform	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Chloromethane	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
cis-1,2-Dichloroethene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
cis-1,3-Dichloropropene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Bromodichloromethane	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Dibromomethane	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Dichlorodifluoromethane	ND		4.2	1.7	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Ethylbenzene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Isopropyl Ether (DIPE)	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Methyl-t-Butyl Ether (MTBE)	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Tert-amyl-methyl ether (TAME)	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Ethyl-t-butyl ether (ETBE)	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Hexachlorobutadiene	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
m,p-Xylene	ND		3.4	1.7	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Methylene Chloride	ND		17	4.2	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Naphthalene	**11**		4.2	1.7	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
n-Butylbenzene	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
N-Propylbenzene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
o-Xylene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
sec-Butylbenzene	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Styrene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
tert-Butyl alcohol (TBA)	ND		84	8.4	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
tert-Butylbenzene	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Tetrachloroethene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Toluene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
trans-1,2-Dichloroethene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
trans-1,3-Dichloropropene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Trichloroethene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Trichlorofluoromethane	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Vinyl chloride	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Xylenes, Total	ND		3.4	1.7	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Acetone	ND		17	6.7	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
2-Hexanone	ND		21	4.2	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
4-Methyl-2-pentanone (MIBK)	ND		4.2	2.1	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
2-Butanone (MEK)	ND		8.4	4.2	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
Isopropylbenzene	ND		1.7	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,2,3-Trichloropropane	ND		8.4	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1
1,2,4-Trichlorobenzene	ND		4.2	0.84	ug/Kg		01/28/14 18:25	01/29/14 02:05	1

Client Sample ID: Stockpile
Date Collected: 01/28/14 12:50
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-7
Matrix: Solid

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*79 - 120*	*01/28/14 18:25*	*01/29/14 02:05*	*1*
Dibromofluoromethane (Surr)	*104*		*60 - 120*	*01/28/14 18:25*	*01/29/14 02:05*	*1*
Toluene-d8 (Surr)	*111*		*79 - 123*	*01/28/14 18:25*	*01/29/14 02:05*	*1*

Method: 8015B - Gasoline Range Organics - (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		340	130	ug/Kg		01/28/14 18:25	01/29/14 04:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*91*		*65 - 140*	*01/28/14 18:25*	*01/29/14 04:23*	*1*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	**27**		5.0	2.5	mg/Kg		01/28/14 17:50	01/29/14 04:25	1
C23-C40	**7.6**		5.0	2.5	mg/Kg		01/28/14 17:50	01/29/14 04:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*81*		*40 - 140*	*01/28/14 17:50*	*01/29/14 04:25*	*1*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:41	1
Aroclor 1221	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:41	1
Aroclor 1232	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:41	1
Aroclor 1242	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:41	1
Aroclor 1248	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:41	1
Aroclor 1254	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:41	1
Aroclor 1260	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 22:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*76*		*45 - 120*	*01/28/14 17:34*	*01/28/14 22:41*	*1*

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		9.9	4.9	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Arsenic	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Barium	**52**		1.5	0.74	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Beryllium	**1.6**		0.49	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Cadmium	ND		0.49	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Chromium	**8.7**		0.99	0.49	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Cobalt	**3.9**		0.99	0.49	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Copper	**12**		2.0	0.99	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Lead	**8.5**		2.0	0.99	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Molybdenum	ND		2.0	0.99	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Nickel	**5.6**		2.0	0.99	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Selenium	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Thallium	ND		9.9	4.9	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Vanadium	**27**		0.99	0.49	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Zinc	**34**		4.9	2.5	mg/Kg		01/29/14 10:40	01/29/14 15:35	5
Silver	ND		1.5	0.74	mg/Kg		01/29/14 10:40	01/29/14 15:35	5

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Client Sample ID: Stockpile

Lab Sample ID: 440-68480-7

Date Collected: 01/28/14 12:50

Matrix: Solid

Date Received: 01/28/14 15:40

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.056		0.020	0.012	mg/Kg		01/29/14 11:05	01/29/14 13:10	1

Client Sample ID: Trip Blank

Lab Sample ID: 440-68480-8

Date Collected: 01/28/14 13:00

Matrix: Water

Date Received: 01/28/14 15:40

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			01/28/14 22:18	1
1,1,1-Trichloroethane	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,1,2-Trichloroethane	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,1-Dichloroethane	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,1-Dichloroethene	ND		5.0	0.25	ug/L			01/28/14 22:18	1
1,1-Dichloropropene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,2,3-Trichlorobenzene	ND		5.0	0.25	ug/L			01/28/14 22:18	1
1,2,4-Trimethylbenzene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/28/14 22:18	1
1,2-Dibromoethane (EDB)	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,2-Dichlorobenzene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,2-Dichloroethane	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,2-Dichloropropane	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,3,5-Trimethylbenzene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,3-Dichlorobenzene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,3-Dichloropropane	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,4-Dichlorobenzene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
2,2-Dichloropropane	ND		2.0	0.25	ug/L			01/28/14 22:18	1
2-Chlorotoluene	ND		5.0	0.25	ug/L			01/28/14 22:18	1
4-Chlorotoluene	ND		5.0	0.25	ug/L			01/28/14 22:18	1
p-Isopropyltoluene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
Benzene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
Bromobenzene	ND		5.0	0.25	ug/L			01/28/14 22:18	1
Dibromochloromethane	ND		2.0	0.25	ug/L			01/28/14 22:18	1
Bromochloromethane	ND		5.0	0.25	ug/L			01/28/14 22:18	1
Bromoform	ND		5.0	0.25	ug/L			01/28/14 22:18	1
Bromomethane	ND		5.0	0.25	ug/L			01/28/14 22:18	1
Carbon tetrachloride	ND		5.0	0.25	ug/L			01/28/14 22:18	1
Chlorobenzene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
Chloroethane	ND		5.0	0.25	ug/L			01/28/14 22:18	1
Chloroform	ND		2.0	0.25	ug/L			01/28/14 22:18	1
Chloromethane	ND		5.0	0.25	ug/L			01/28/14 22:18	1
cis-1,2-Dichloroethene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
cis-1,3-Dichloropropene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
Bromodichloromethane	ND		2.0	0.25	ug/L			01/28/14 22:18	1
Dibromomethane	ND		2.0	0.25	ug/L			01/28/14 22:18	1
Dichlorodifluoromethane	ND		5.0	0.25	ug/L			01/28/14 22:18	1
Ethylbenzene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
Isopropyl Ether (DIPE)	ND		5.0	0.25	ug/L			01/28/14 22:18	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/28/14 22:18	1
Tert-amyl-methyl ether (TAME)	ND		5.0	0.25	ug/L			01/28/14 22:18	1

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Client Sample ID: Trip Blank
Date Collected: 01/28/14 13:00
Date Received: 01/28/14 15:40

Lab Sample ID: 440-68480-8
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethyl-t-butyl ether (ETBE)	ND		5.0	0.25	ug/L			01/28/14 22:18	1
Hexachlorobutadiene	ND		5.0	0.25	ug/L			01/28/14 22:18	1
m,p-Xylene	ND		2.0	0.50	ug/L			01/28/14 22:18	1
Methylene Chloride	ND		5.0	1.1	ug/L			01/28/14 22:18	1
Naphthalene	ND		5.0	0.25	ug/L			01/28/14 22:18	1
n-Butylbenzene	ND		5.0	0.25	ug/L			01/28/14 22:18	1
N-Propylbenzene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
o-Xylene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
sec-Butylbenzene	ND		5.0	0.25	ug/L			01/28/14 22:18	1
Styrene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
tert-Butyl alcohol (TBA)	ND		10	5.0	ug/L			01/28/14 22:18	1
tert-Butylbenzene	ND		5.0	0.25	ug/L			01/28/14 22:18	1
Tetrachloroethene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
Toluene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
trans-1,2-Dichloroethene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
trans-1,3-Dichloropropene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
Trichloroethene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
Trichlorofluoromethane	ND		5.0	0.25	ug/L			01/28/14 22:18	1
Vinyl chloride	ND		5.0	0.25	ug/L			01/28/14 22:18	1
Xylenes, Total	ND		2.0	0.50	ug/L			01/28/14 22:18	1
Acetone	ND		10	4.5	ug/L			01/28/14 22:18	1
2-Hexanone	ND		10	2.5	ug/L			01/28/14 22:18	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.5	ug/L			01/28/14 22:18	1
2-Butanone (MEK)	ND		10	2.5	ug/L			01/28/14 22:18	1
Isopropylbenzene	ND		2.0	0.25	ug/L			01/28/14 22:18	1
1,2,3-Trichloropropane	ND		10	0.25	ug/L			01/28/14 22:18	1
1,2,4-Trichlorobenzene	ND		5.0	0.25	ug/L			01/28/14 22:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*112*		*80 - 120*		*01/28/14 22:18*	*1*
Dibromofluoromethane (Surr)	*102*		*76 - 132*		*01/28/14 22:18*	*1*
Toluene-d8 (Surr)	*113*		*80 - 128*		*01/28/14 22:18*	*1*

Method Summary

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
8015B	Gasoline Range Organics - (GC)	SW846	TAL IRV
8015B	Diesel Range Organics (DRO) (GC)	SW846	TAL IRV
8082	Polychlorinated Biphenyls (PCBs) by Gas Chromatography	SW846	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
7471A	Mercury (CVAA)	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Client Sample ID: North Side Wall

Lab Sample ID: 440-68480-1

Date Collected: 01/28/14 12:30

Matrix: Solid

Date Received: 01/28/14 15:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.68 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8260B		1	5.68 g	10 mL	158884	01/29/14 12:00	YK	TAL IRV
Total/NA	Prep	5035			5.02 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8015B		1	5.02 g	10 mL	158873	01/29/14 01:49	TL	TAL IRV
Total/NA	Prep	CA LUFT			29.97 g	1 mL	158834	01/28/14 17:50	LBP	TAL IRV
Total/NA	Analysis	8015B		1	29.97 g	1 mL	158789	01/28/14 23:26	KW	TAL IRV
Total/NA	Prep	3546			15.08 g	2 mL	158828	01/28/14 17:34	AB	TAL IRV
Total/NA	Analysis	8082		1	15.08 g	2 mL	158808	01/28/14 21:09	JM	TAL IRV
Total/NA	Prep	7471A			0.49 g	50 mL	158962	01/29/14 11:05	JS1	TAL IRV
Total/NA	Analysis	7471A		1	0.49 g	50 mL	159024	01/29/14 12:45	DB	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	158963	01/29/14 10:40	DT	TAL IRV
Total/NA	Analysis	6010B		5	2.01 g	50 mL	159092	01/29/14 15:14	EN	TAL IRV

Client Sample ID: South Side Wall

Lab Sample ID: 440-68480-2

Date Collected: 01/28/14 12:40

Matrix: Solid

Date Received: 01/28/14 15:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.69 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8260B		1	5.69 g	10 mL	158810	01/28/14 23:42	MP	TAL IRV
Total/NA	Prep	5035			5.64 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8015B		1	5.64 g	10 mL	158873	01/29/14 02:15	TL	TAL IRV
Total/NA	Prep	CA LUFT			30.01 g	1 mL	158834	01/28/14 17:50	LBP	TAL IRV
Total/NA	Analysis	8015B		1	30.01 g	1 mL	158789	01/28/14 23:46	KW	TAL IRV
Total/NA	Prep	3546			15.01 g	2 mL	158828	01/28/14 17:34	AB	TAL IRV
Total/NA	Analysis	8082		1	15.01 g	2 mL	158808	01/28/14 21:25	JM	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	158962	01/29/14 11:05	JS1	TAL IRV
Total/NA	Analysis	7471A		1	0.50 g	50 mL	159024	01/29/14 12:53	DB	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	158963	01/29/14 10:40	DT	TAL IRV
Total/NA	Analysis	6010B		5	2.01 g	50 mL	159092	01/29/14 15:26	EN	TAL IRV

Client Sample ID: East Side Wall

Lab Sample ID: 440-68480-3

Date Collected: 01/28/14 12:45

Matrix: Solid

Date Received: 01/28/14 15:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.83 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8260B		1	5.83 g	10 mL	158810	01/29/14 00:11	MP	TAL IRV
Total/NA	Prep	5035			6 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8015B		1	6 g	10 mL	158873	01/29/14 02:41	TL	TAL IRV
Total/NA	Prep	CA LUFT			29.99 g	1 mL	158834	01/28/14 17:50	LBP	TAL IRV
Total/NA	Analysis	8015B		1	29.99 g	1 mL	158789	01/29/14 00:06	KW	TAL IRV
Total/NA	Prep	3546			15.07 g	2 mL	158828	01/28/14 17:34	AB	TAL IRV

Client Sample ID: East Side Wall

Lab Sample ID: 440-68480-3

Date Collected: 01/28/14 12:45

Matrix: Solid

Date Received: 01/28/14 15:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8082		1	15.07 g	2 mL	158808	01/28/14 21:40	JM	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	158962	01/29/14 11:05	JS1	TAL IRV
Total/NA	Analysis	7471A		1	0.50 g	50 mL	159024	01/29/14 12:55	DB	TAL IRV
Total/NA	Prep	3050B			2.00 g	50 mL	158963	01/29/14 10:40	DT	TAL IRV
Total/NA	Analysis	6010B		5	2.00 g	50 mL	159092	01/29/14 15:28	EN	TAL IRV

Client Sample ID: West Side Wall

Lab Sample ID: 440-68480-4

Date Collected: 01/28/14 12:33

Matrix: Solid

Date Received: 01/28/14 15:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.44 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8260B		1	5.44 g	10 mL	158810	01/29/14 00:40	MP	TAL IRV
Total/NA	Prep	5035			5.48 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8015B		1	5.48 g	10 mL	158873	01/29/14 03:06	TL	TAL IRV
Total/NA	Prep	CA LUFT			29.99 g	1 mL	158834	01/28/14 17:50	LBP	TAL IRV
Total/NA	Analysis	8015B		1	29.99 g	1 mL	158789	01/29/14 00:26	KW	TAL IRV
Total/NA	Prep	3546			15.09 g	2 mL	158828	01/28/14 17:34	AB	TAL IRV
Total/NA	Analysis	8082		1	15.09 g	2 mL	158808	01/28/14 21:55	JM	TAL IRV
Total/NA	Prep	7471A			0.51 g	50 mL	158962	01/29/14 11:05	JS1	TAL IRV
Total/NA	Analysis	7471A		1	0.51 g	50 mL	159024	01/29/14 13:03	DB	TAL IRV
Total/NA	Prep	3050B			1.99 g	50 mL	158963	01/29/14 10:40	DT	TAL IRV
Total/NA	Analysis	6010B		5	1.99 g	50 mL	159092	01/29/14 15:30	EN	TAL IRV

Client Sample ID: Bottom East

Lab Sample ID: 440-68480-5

Date Collected: 01/28/14 12:25

Matrix: Solid

Date Received: 01/28/14 15:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.59 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8260B		1	4.59 g	10 mL	158810	01/29/14 01:08	MP	TAL IRV
Total/NA	Prep	5035			5.11 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8015B		1	5.11 g	10 mL	158873	01/29/14 03:32	TL	TAL IRV
Total/NA	Prep	CA LUFT			30.05 g	1 mL	158834	01/28/14 17:50	LBP	TAL IRV
Total/NA	Analysis	8015B		1	30.05 g	1 mL	158789	01/29/14 00:47	KW	TAL IRV
Total/NA	Prep	3546			15.04 g	2 mL	158828	01/28/14 17:34	AB	TAL IRV
Total/NA	Analysis	8082		1	15.04 g	2 mL	158808	01/28/14 22:10	JM	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	158962	01/29/14 11:05	JS1	TAL IRV
Total/NA	Analysis	7471A		1	0.50 g	50 mL	159024	01/29/14 13:05	DB	TAL IRV
Total/NA	Prep	3050B			2.00 g	50 mL	158963	01/29/14 10:40	DT	TAL IRV
Total/NA	Analysis	6010B		5	2.00 g	50 mL	159092	01/29/14 15:32	EN	TAL IRV

Lab Chronicle

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Client Sample ID: Bottom West

Lab Sample ID: 440-68480-6

Date Collected: 01/28/14 12:35
Matrix: Solid
Date Received: 01/28/14 15:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			4.25 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8260B		1	4.25 g	10 mL	158810	01/29/14 01:37	MP	TAL IRV
Total/NA	Prep	5035			5.36 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8015B		1	5.36 g	10 mL	158873	01/29/14 03:58	TL	TAL IRV
Total/NA	Prep	CA LUFT			29.99 g	1 mL	158834	01/28/14 17:50	LBP	TAL IRV
Total/NA	Analysis	8015B		1	29.99 g	1 mL	158789	01/29/14 01:07	KW	TAL IRV
Total/NA	Prep	3546			15.01 g	2 mL	158828	01/28/14 17:34	AB	TAL IRV
Total/NA	Analysis	8082		1	15.01 g	2 mL	158808	01/28/14 22:26	JM	TAL IRV
Total/NA	Prep	7471A			0.49 g	50 mL	158962	01/29/14 11:05	JS1	TAL IRV
Total/NA	Analysis	7471A		1	0.49 g	50 mL	159024	01/29/14 13:08	DB	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	158963	01/29/14 10:40	DT	TAL IRV
Total/NA	Analysis	6010B		5	2.01 g	50 mL	159092	01/29/14 15:33	EN	TAL IRV

Client Sample ID: Stockpile

Lab Sample ID: 440-68480-7

Date Collected: 01/28/14 12:50
Matrix: Solid
Date Received: 01/28/14 15:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	5035			5.94 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8260B		1	5.94 g	10 mL	158810	01/29/14 02:05	MP	TAL IRV
Total/NA	Prep	5035			5.82 g	10 mL	158846	01/28/14 18:25	WC	TAL IRV
Total/NA	Analysis	8015B		1	5.82 g	10 mL	158873	01/29/14 04:23	TL	TAL IRV
Total/NA	Prep	CA LUFT			29.99 g	1 mL	158834	01/28/14 17:50	LBP	TAL IRV
Total/NA	Analysis	8015B		1	29.99 g	1 mL	158792	01/29/14 04:25	KW	TAL IRV
Total/NA	Prep	3546			15.03 g	2 mL	158828	01/28/14 17:34	AB	TAL IRV
Total/NA	Analysis	8082		1	15.03 g	2 mL	158808	01/28/14 22:41	JM	TAL IRV
Total/NA	Prep	7471A			0.49 g	50 mL	158962	01/29/14 11:05	JS1	TAL IRV
Total/NA	Analysis	7471A		1	0.49 g	50 mL	159024	01/29/14 13:10	DB	TAL IRV
Total/NA	Prep	3050B			2.03 g	50 mL	158963	01/29/14 10:40	DT	TAL IRV
Total/NA	Analysis	6010B		5	2.03 g	50 mL	159092	01/29/14 15:35	EN	TAL IRV

Client Sample ID: Trip Blank

Lab Sample ID: 440-68480-8

Date Collected: 01/28/14 13:00
Matrix: Water
Date Received: 01/28/14 15:40

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	158822	01/28/14 22:18	AA	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-158810/8
Matrix: Solid
Analysis Batch: 158810

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,2,3-Trichlorobenzene	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			01/28/14 19:54	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
2-Chlorotoluene	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
Benzene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
Bromobenzene	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
Bromochloromethane	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
Bromoform	ND		5.0	2.0	ug/Kg			01/28/14 19:54	1
Bromomethane	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
Chlorobenzene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
Chloroethane	ND		5.0	2.0	ug/Kg			01/28/14 19:54	1
Chloroform	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
Chloromethane	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
Dibromomethane	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			01/28/14 19:54	1
Ethylbenzene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
Hexachlorobutadiene	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			01/28/14 19:54	1
Methylene Chloride	ND		20	5.0	ug/Kg			01/28/14 19:54	1
Naphthalene	ND		5.0	2.0	ug/Kg			01/28/14 19:54	1
n-Butylbenzene	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-158810/8
Matrix: Solid
Analysis Batch: 158810

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Propylbenzene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
o-Xylene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
sec-Butylbenzene	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
Styrene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg			01/28/14 19:54	1
tert-Butylbenzene	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
Toluene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
Trichloroethene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
Vinyl chloride	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			01/28/14 19:54	1
Acetone	ND		20	8.0	ug/Kg			01/28/14 19:54	1
2-Hexanone	ND		25	5.0	ug/Kg			01/28/14 19:54	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/Kg			01/28/14 19:54	1
2-Butanone (MEK)	ND		10	5.0	ug/Kg			01/28/14 19:54	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg			01/28/14 19:54	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg			01/28/14 19:54	1
1,2,4-Trichlorobenzene	ND		5.0	1.0	ug/Kg			01/28/14 19:54	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*107*		*79 - 120*		*01/28/14 19:54*	*1*
Dibromofluoromethane (Surr)	*103*		*60 - 120*		*01/28/14 19:54*	*1*
Toluene-d8 (Surr)	*110*		*79 - 123*		*01/28/14 19:54*	*1*

Lab Sample ID: LCS 440-158810/4
Matrix: Solid
Analysis Batch: 158810

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	57.6		ug/Kg		115	70 - 130
1,1,1-Trichloroethane	50.0	50.1		ug/Kg		100	65 - 135
1,1,2,2-Tetrachloroethane	50.0	53.1		ug/Kg		106	55 - 140
1,1,2-Trichloroethane	50.0	54.2		ug/Kg		108	65 - 135
1,1-Dichloroethane	50.0	49.2		ug/Kg		98	70 - 130
1,1-Dichloroethene	50.0	56.7		ug/Kg		113	70 - 125
1,1-Dichloropropene	50.0	52.9		ug/Kg		106	70 - 130
1,2,3-Trichlorobenzene	50.0	53.9		ug/Kg		108	60 - 130
1,2,4-Trimethylbenzene	50.0	52.0		ug/Kg		104	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	48.1		ug/Kg		96	50 - 135
1,2-Dibromoethane (EDB)	50.0	56.0		ug/Kg		112	70 - 130
1,2-Dichlorobenzene	50.0	51.2		ug/Kg		102	75 - 120
1,2-Dichloroethane	50.0	52.2		ug/Kg		104	60 - 140
1,2-Dichloropropane	50.0	53.5		ug/Kg		107	70 - 130
1,3,5-Trimethylbenzene	50.0	50.6		ug/Kg		101	70 - 125
1,3-Dichlorobenzene	50.0	50.0		ug/Kg		100	75 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-158810/4
Matrix: Solid
Analysis Batch: 158810

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,3-Dichloropropane	50.0	52.7		ug/Kg		105	70 - 125
1,4-Dichlorobenzene	50.0	50.5		ug/Kg		101	75 - 120
2,2-Dichloropropane	50.0	51.7		ug/Kg		103	60 - 145
2-Chlorotoluene	50.0	47.2		ug/Kg		94	70 - 125
4-Chlorotoluene	50.0	49.1		ug/Kg		98	75 - 125
p-Isopropyltoluene	50.0	52.8		ug/Kg		106	75 - 125
Benzene	50.0	48.5		ug/Kg		97	65 - 120
Bromobenzene	50.0	50.9		ug/Kg		102	75 - 120
Dibromochloromethane	50.0	59.3		ug/Kg		119	65 - 140
Bromochloromethane	50.0	57.2		ug/Kg		114	70 - 135
Bromoform	50.0	54.5		ug/Kg		109	55 - 135
Bromomethane	50.0	55.5		ug/Kg		111	60 - 145
Carbon tetrachloride	50.0	53.0		ug/Kg		106	65 - 140
Chlorobenzene	50.0	51.7		ug/Kg		103	75 - 120
Chloroethane	50.0	53.8		ug/Kg		108	60 - 140
Chloroform	50.0	51.5		ug/Kg		103	70 - 130
Chloromethane	50.0	49.5		ug/Kg		99	45 - 145
cis-1,2-Dichloroethene	50.0	55.7		ug/Kg		111	70 - 125
cis-1,3-Dichloropropene	50.0	59.9		ug/Kg		120	75 - 125
Bromodichloromethane	50.0	55.7		ug/Kg		111	70 - 135
Dibromomethane	50.0	55.3		ug/Kg		111	70 - 130
Dichlorodifluoromethane	50.0	55.2		ug/Kg		110	35 - 160
Ethylbenzene	50.0	50.1		ug/Kg		100	70 - 125
Isopropyl Ether (DIPE)	50.0	44.5		ug/Kg		89	60 - 140
Methyl-t-Butyl Ether (MTBE)	50.0	51.7		ug/Kg		103	60 - 140
Tert-amyl-methyl ether (TAME)	50.0	52.1		ug/Kg		104	60 - 145
Ethyl-t-butyl ether (ETBE)	50.0	48.9		ug/Kg		98	60 - 140
Hexachlorobutadiene	50.0	54.3		ug/Kg		109	60 - 135
m,p-Xylene	100	101		ug/Kg		101	70 - 125
Methylene Chloride	50.0	61.9		ug/Kg		124	55 - 135
Naphthalene	50.0	53.1		ug/Kg		106	55 - 135
n-Butylbenzene	50.0	50.3		ug/Kg		101	70 - 130
N-Propylbenzene	50.0	49.8		ug/Kg		100	70 - 130
o-Xylene	50.0	51.1		ug/Kg		102	70 - 125
sec-Butylbenzene	50.0	51.2		ug/Kg		102	70 - 125
Styrene	50.0	52.9		ug/Kg		106	75 - 130
tert-Butyl alcohol (TBA)	250	246		ug/Kg		98	70 - 135
tert-Butylbenzene	50.0	50.5		ug/Kg		101	70 - 125
Tetrachloroethene	50.0	54.3		ug/Kg		109	70 - 125
Toluene	50.0	50.3		ug/Kg		101	70 - 125
trans-1,2-Dichloroethene	50.0	53.5		ug/Kg		107	70 - 125
trans-1,3-Dichloropropene	50.0	62.4		ug/Kg		125	70 - 135
Trichloroethene	50.0	54.6		ug/Kg		109	70 - 125
Trichlorofluoromethane	50.0	62.0		ug/Kg		124	60 - 145
Vinyl chloride	50.0	50.0		ug/Kg		100	55 - 135
Acetone	50.0	54.7		ug/Kg		109	25 - 145
2-Hexanone	50.0	50.7		ug/Kg		101	40 - 150
4-Methyl-2-pentanone (MIBK)	50.0	48.8		ug/Kg		98	40 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-158810/4
Matrix: Solid
Analysis Batch: 158810

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2-Butanone (MEK)	50.0	49.2		ug/Kg		98	40 - 145
Isopropylbenzene	50.0	49.4		ug/Kg		99	75 - 130
1,2,3-Trichloropropane	50.0	52.9		ug/Kg		106	60 - 135
1,2,4-Trichlorobenzene	50.0	52.8		ug/Kg		106	70 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*79 - 120*
Dibromofluoromethane (Surr)	*107*		*60 - 120*
Toluene-d8 (Surr)	*111*		*79 - 123*

Lab Sample ID: 440-68294-A-5 MS
Matrix: Solid
Analysis Batch: 158810

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		50.1	60.1		ug/Kg		120	65 - 145
1,1,1-Trichloroethane	ND		50.1	53.9		ug/Kg		108	65 - 145
1,1,2,2-Tetrachloroethane	ND		50.1	52.2		ug/Kg		104	40 - 160
1,1,2-Trichloroethane	ND		50.1	56.3		ug/Kg		112	65 - 140
1,1-Dichloroethane	ND		50.1	49.8		ug/Kg		99	65 - 135
1,1-Dichloroethene	ND		50.1	60.7		ug/Kg		121	65 - 135
1,1-Dichloropropene	ND		50.1	58.9		ug/Kg		118	65 - 135
1,2,3-Trichlorobenzene	ND		50.1	52.0		ug/Kg		104	45 - 145
1,2,4-Trimethylbenzene	ND		50.1	55.9		ug/Kg		112	65 - 140
1,2-Dibromo-3-Chloropropane	ND		50.1	47.6		ug/Kg		95	40 - 150
1,2-Dibromoethane (EDB)	ND		50.1	56.2		ug/Kg		112	65 - 140
1,2-Dichlorobenzene	ND		50.1	52.7		ug/Kg		105	70 - 130
1,2-Dichloroethane	ND		50.1	52.8		ug/Kg		105	60 - 150
1,2-Dichloropropane	ND		50.1	54.6		ug/Kg		109	65 - 130
1,3,5-Trimethylbenzene	ND		50.1	56.0		ug/Kg		112	65 - 135
1,3-Dichlorobenzene	ND		50.1	52.2		ug/Kg		104	70 - 130
1,3-Dichloropropane	ND		50.1	53.3		ug/Kg		106	65 - 140
1,4-Dichlorobenzene	ND		50.1	51.9		ug/Kg		104	70 - 130
2,2-Dichloropropane	ND		50.1	54.1		ug/Kg		108	65 - 150
2-Chlorotoluene	ND		50.1	50.5		ug/Kg		101	60 - 135
4-Chlorotoluene	ND		50.1	52.4		ug/Kg		105	65 - 135
p-Isopropyltoluene	ND		50.1	57.8		ug/Kg		115	60 - 140
Benzene	ND		50.1	50.8		ug/Kg		101	65 - 130
Bromobenzene	ND		50.1	54.0		ug/Kg		108	65 - 140
Dibromochloromethane	ND		50.1	60.1		ug/Kg		120	60 - 145
Bromochloromethane	ND		50.1	56.5		ug/Kg		113	65 - 145
Bromoform	ND		50.1	55.4		ug/Kg		111	50 - 145
Bromomethane	ND		50.1	59.9		ug/Kg		120	60 - 155
Carbon tetrachloride	ND		50.1	60.3		ug/Kg		120	60 - 145
Chlorobenzene	ND		50.1	56.0		ug/Kg		112	70 - 130
Chloroethane	ND		50.1	54.7		ug/Kg		109	60 - 150
Chloroform	ND		50.1	52.6		ug/Kg		105	65 - 135
Chloromethane	ND		50.1	48.7		ug/Kg		97	40 - 145

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-68294-A-5 MS
Matrix: Solid
Analysis Batch: 158810

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
cis-1,2-Dichloroethene	ND		50.1	55.7		ug/Kg		111	65 - 135
cis-1,3-Dichloropropene	ND		50.1	61.0		ug/Kg		122	70 - 135
Bromodichloromethane	ND		50.1	56.4		ug/Kg		113	65 - 145
Dibromomethane	ND		50.1	55.9		ug/Kg		112	65 - 140
Dichlorodifluoromethane	ND		50.1	58.8		ug/Kg		117	30 - 160
Ethylbenzene	ND		50.1	54.7		ug/Kg		109	70 - 135
Isopropyl Ether (DIPE)	ND		50.1	44.6		ug/Kg		89	60 - 150
Methyl-t-Butyl Ether (MTBE)	ND		50.1	50.5		ug/Kg		101	55 - 155
Tert-amyl-methyl ether (TAME)	ND		50.1	51.6		ug/Kg		103	60 - 150
Ethyl-t-butyl ether (ETBE)	ND		50.1	48.5		ug/Kg		97	60 - 145
Hexachlorobutadiene	ND		50.1	48.1		ug/Kg		96	50 - 145
m,p-Xylene	ND		100	110		ug/Kg		109	70 - 130
Methylene Chloride	ND		50.1	54.2		ug/Kg		108	55 - 145
Naphthalene	ND		50.1	55.6		ug/Kg		111	40 - 150
n-Butylbenzene	ND		50.1	59.8		ug/Kg		119	55 - 145
N-Propylbenzene	ND		50.1	56.9		ug/Kg		114	65 - 140
o-Xylene	ND		50.1	55.9		ug/Kg		112	65 - 130
sec-Butylbenzene	1.3	J	50.1	64.5		ug/Kg		126	60 - 135
Styrene	ND		50.1	56.2		ug/Kg		112	70 - 140
tert-Butyl alcohol (TBA)	ND		251	244		ug/Kg		97	65 - 145
tert-Butylbenzene	ND		50.1	56.6		ug/Kg		113	60 - 140
Tetrachloroethene	ND		50.1	58.7		ug/Kg		117	65 - 135
Toluene	ND		50.1	53.0		ug/Kg		106	70 - 130
trans-1,2-Dichloroethene	ND		50.1	56.3		ug/Kg		112	70 - 135
trans-1,3-Dichloropropene	ND		50.1	63.3		ug/Kg		126	60 - 145
Trichloroethene	ND		50.1	58.3		ug/Kg		116	65 - 140
Trichlorofluoromethane	ND		50.1	67.9		ug/Kg		136	55 - 155
Vinyl chloride	ND		50.1	52.4		ug/Kg		105	55 - 140
Acetone	ND		50.1	80.5	F1	ug/Kg		161	20 - 145
2-Hexanone	ND		50.1	46.4		ug/Kg		93	35 - 160
4-Methyl-2-pentanone (MIBK)	ND		50.1	49.8		ug/Kg		99	40 - 155
2-Butanone (MEK)	ND		50.1	52.0		ug/Kg		104	25 - 170
Isopropylbenzene	ND		50.1	56.6		ug/Kg		113	70 - 145
1,2,3-Trichloropropane	ND		50.1	53.1		ug/Kg		106	50 - 150
1,2,4-Trichlorobenzene	ND		50.1	51.5		ug/Kg		103	50 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*109*		*79 - 120*
Dibromofluoromethane (Surr)	*102*		*60 - 120*
Toluene-d8 (Surr)	*113*		*79 - 123*

Lab Sample ID: 440-68294-A-5 MSD
Matrix: Solid
Analysis Batch: 158810

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		49.3	58.8		ug/Kg		119	65 - 145	2	20
1,1,1-Trichloroethane	ND		49.3	52.6		ug/Kg		107	65 - 145	2	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-68294-A-5 MSD
Matrix: Solid
Analysis Batch: 158810

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,2,2-Tetrachloroethane	ND		49.3	50.3		ug/Kg		102	40 - 160	4	30
1,1,2-Trichloroethane	ND		49.3	52.3		ug/Kg		106	65 - 140	7	30
1,1-Dichloroethane	ND		49.3	48.7		ug/Kg		99	65 - 135	2	25
1,1-Dichloroethene	ND		49.3	59.1		ug/Kg		120	65 - 135	3	25
1,1-Dichloropropene	ND		49.3	57.5		ug/Kg		117	65 - 135	2	20
1,2,3-Trichlorobenzene	ND		49.3	54.6		ug/Kg		111	45 - 145	5	30
1,2,4-Trimethylbenzene	ND		49.3	53.9		ug/Kg		109	65 - 140	4	25
1,2-Dibromo-3-Chloropropane	ND		49.3	46.5		ug/Kg		94	40 - 150	2	30
1,2-Dibromoethane (EDB)	ND		49.3	54.6		ug/Kg		111	65 - 140	3	25
1,2-Dichlorobenzene	ND		49.3	51.0		ug/Kg		103	70 - 130	3	25
1,2-Dichloroethane	ND		49.3	51.6		ug/Kg		105	60 - 150	2	25
1,2-Dichloropropane	ND		49.3	53.9		ug/Kg		109	65 - 130	1	20
1,3,5-Trimethylbenzene	ND		49.3	53.6		ug/Kg		109	65 - 135	4	25
1,3-Dichlorobenzene	ND		49.3	49.7		ug/Kg		101	70 - 130	5	25
1,3-Dichloropropane	ND		49.3	53.4		ug/Kg		108	65 - 140	0	25
1,4-Dichlorobenzene	ND		49.3	49.7		ug/Kg		101	70 - 130	4	25
2,2-Dichloropropane	ND		49.3	54.3		ug/Kg		110	65 - 150	0	25
2-Chlorotoluene	ND		49.3	48.4		ug/Kg		98	60 - 135	4	25
4-Chlorotoluene	ND		49.3	50.2		ug/Kg		102	65 - 135	4	25
p-Isopropyltoluene	ND		49.3	55.6		ug/Kg		113	60 - 140	4	25
Benzene	ND		49.3	50.0		ug/Kg		101	65 - 130	2	20
Bromobenzene	ND		49.3	51.8		ug/Kg		105	65 - 140	4	25
Dibromochloromethane	ND		49.3	59.5		ug/Kg		121	60 - 145	1	25
Bromochloromethane	ND		49.3	55.4		ug/Kg		112	65 - 145	2	25
Bromoform	ND		49.3	56.0		ug/Kg		114	50 - 145	1	30
Bromomethane	ND		49.3	52.9		ug/Kg		107	60 - 155	12	25
Carbon tetrachloride	ND		49.3	59.3		ug/Kg		120	60 - 145	2	25
Chlorobenzene	ND		49.3	52.7		ug/Kg		107	70 - 130	6	25
Chloroethane	ND		49.3	52.5		ug/Kg		107	60 - 150	4	25
Chloroform	ND		49.3	50.7		ug/Kg		103	65 - 135	4	20
Chloromethane	ND		49.3	48.1		ug/Kg		98	40 - 145	1	25
cis-1,2-Dichloroethene	ND		49.3	54.8		ug/Kg		111	65 - 135	2	25
cis-1,3-Dichloropropene	ND		49.3	60.6		ug/Kg		123	70 - 135	1	25
Bromodichloromethane	ND		49.3	56.3		ug/Kg		114	65 - 145	0	20
Dibromomethane	ND		49.3	53.9		ug/Kg		109	65 - 140	4	25
Dichlorodifluoromethane	ND		49.3	56.5		ug/Kg		115	30 - 160	4	35
Ethylbenzene	ND		49.3	53.2		ug/Kg		108	70 - 135	3	25
Isopropyl Ether (DIPE)	ND		49.3	44.0		ug/Kg		89	60 - 150	1	25
Methyl-t-Butyl Ether (MTBE)	ND		49.3	50.3		ug/Kg		102	55 - 155	1	35
Tert-amyl-methyl ether (TAME)	ND		49.3	50.6		ug/Kg		103	60 - 150	2	25
Ethyl-t-butyl ether (ETBE)	ND		49.3	47.7		ug/Kg		97	60 - 145	2	30
Hexachlorobutadiene	ND		49.3	54.0		ug/Kg		110	50 - 145	12	35
m,p-Xylene	ND		98.6	108		ug/Kg		109	70 - 130	2	25
Methylene Chloride	ND		49.3	52.8		ug/Kg		107	55 - 145	3	25
Naphthalene	ND		49.3	54.4		ug/Kg		110	40 - 150	2	40
n-Butylbenzene	ND		49.3	53.4		ug/Kg		108	55 - 145	11	30
N-Propylbenzene	ND		49.3	52.5		ug/Kg		106	65 - 140	8	25
o-Xylene	ND		49.3	54.2		ug/Kg		110	65 - 130	3	25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-68294-A-5 MSD
Matrix: Solid
Analysis Batch: 158810

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
sec-Butylbenzene	1.3	J	49.3	54.2		ug/Kg		107	60 - 135	17	25
Styrene	ND		49.3	55.3		ug/Kg		112	70 - 140	2	25
tert-Butyl alcohol (TBA)	ND		247	232		ug/Kg		94	65 - 145	5	30
tert-Butylbenzene	ND		49.3	53.6		ug/Kg		109	60 - 140	5	25
Tetrachloroethene	ND		49.3	57.8		ug/Kg		117	65 - 135	2	25
Toluene	ND		49.3	51.6		ug/Kg		105	70 - 130	3	20
trans-1,2-Dichloroethene	ND		49.3	54.2		ug/Kg		110	70 - 135	4	25
trans-1,3-Dichloropropene	ND		49.3	62.5		ug/Kg		127	60 - 145	1	25
Trichloroethene	ND		49.3	56.5		ug/Kg		114	65 - 140	3	25
Trichlorofluoromethane	ND		49.3	64.9		ug/Kg		132	55 - 155	4	25
Vinyl chloride	ND		49.3	51.2		ug/Kg		104	55 - 140	2	30
Acetone	ND		49.3	65.7		ug/Kg		133	20 - 145	20	40
2-Hexanone	ND		49.3	47.7		ug/Kg		97	35 - 160	3	40
4-Methyl-2-pentanone (MIBK)	ND		49.3	44.6		ug/Kg		90	40 - 155	11	40
2-Butanone (MEK)	ND		49.3	47.5		ug/Kg		96	25 - 170	9	40
Isopropylbenzene	ND		49.3	52.7		ug/Kg		107	70 - 145	7	25
1,2,3-Trichloropropane	ND		49.3	51.2		ug/Kg		104	50 - 150	4	30
1,2,4-Trichlorobenzene	ND		49.3	54.7		ug/Kg		111	50 - 140	6	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*79 - 120*
Dibromofluoromethane (Surr)	*104*		*60 - 120*
Toluene-d8 (Surr)	*112*		*79 - 123*

Lab Sample ID: MB 440-158822/4
Matrix: Water
Analysis Batch: 158822

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	0.25	ug/L			01/28/14 19:19	1
1,1,1-Trichloroethane	ND		2.0	0.25	ug/L			01/28/14 19:19	1
1,1,2,2-Tetrachloroethane	ND		2.0	0.25	ug/L			01/28/14 19:19	1
1,1,2-Trichloroethane	ND		2.0	0.25	ug/L			01/28/14 19:19	1
1,1-Dichloroethane	ND		2.0	0.25	ug/L			01/28/14 19:19	1
1,1-Dichloroethene	ND		5.0	0.25	ug/L			01/28/14 19:19	1
1,1-Dichloropropene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
1,2,3-Trichlorobenzene	ND		5.0	0.25	ug/L			01/28/14 19:19	1
1,2,4-Trimethylbenzene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
1,2-Dibromo-3-Chloropropane	ND		5.0	0.50	ug/L			01/28/14 19:19	1
1,2-Dibromoethane (EDB)	ND		2.0	0.25	ug/L			01/28/14 19:19	1
1,2-Dichlorobenzene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
1,2-Dichloroethane	ND		2.0	0.25	ug/L			01/28/14 19:19	1
1,2-Dichloropropane	ND		2.0	0.25	ug/L			01/28/14 19:19	1
1,3,5-Trimethylbenzene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
1,3-Dichlorobenzene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
1,3-Dichloropropane	ND		2.0	0.25	ug/L			01/28/14 19:19	1
1,4-Dichlorobenzene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
2,2-Dichloropropane	ND		2.0	0.25	ug/L			01/28/14 19:19	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-158822/4
Matrix: Water
Analysis Batch: 158822

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Chlorotoluene	ND		5.0	0.25	ug/L			01/28/14 19:19	1
4-Chlorotoluene	ND		5.0	0.25	ug/L			01/28/14 19:19	1
p-Isopropyltoluene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
Benzene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
Bromobenzene	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Dibromochloromethane	ND		2.0	0.25	ug/L			01/28/14 19:19	1
Bromochloromethane	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Bromoform	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Bromomethane	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Carbon tetrachloride	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Chlorobenzene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
Chloroethane	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Chloroform	ND		2.0	0.25	ug/L			01/28/14 19:19	1
Chloromethane	ND		5.0	0.25	ug/L			01/28/14 19:19	1
cis-1,2-Dichloroethene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
cis-1,3-Dichloropropene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
Bromodichloromethane	ND		2.0	0.25	ug/L			01/28/14 19:19	1
Dibromomethane	ND		2.0	0.25	ug/L			01/28/14 19:19	1
Dichlorodifluoromethane	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Ethylbenzene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
Isopropyl Ether (DIPE)	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Methyl-t-Butyl Ether (MTBE)	ND		1.0	0.25	ug/L			01/28/14 19:19	1
Tert-amyl-methyl ether (TAME)	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Hexachlorobutadiene	ND		5.0	0.25	ug/L			01/28/14 19:19	1
m,p-Xylene	ND		2.0	0.50	ug/L			01/28/14 19:19	1
Methylene Chloride	ND		5.0	1.1	ug/L			01/28/14 19:19	1
Naphthalene	ND		5.0	0.25	ug/L			01/28/14 19:19	1
n-Butylbenzene	ND		5.0	0.25	ug/L			01/28/14 19:19	1
N-Propylbenzene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
o-Xylene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
sec-Butylbenzene	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Styrene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
tert-Butyl alcohol (TBA)	ND		10	5.0	ug/L			01/28/14 19:19	1
tert-Butylbenzene	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Tetrachloroethene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
Toluene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
trans-1,2-Dichloroethene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
trans-1,3-Dichloropropene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
Trichloroethene	ND		2.0	0.25	ug/L			01/28/14 19:19	1
Trichlorofluoromethane	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Vinyl chloride	ND		5.0	0.25	ug/L			01/28/14 19:19	1
Xylenes, Total	ND		2.0	0.50	ug/L			01/28/14 19:19	1
Acetone	ND		10	4.5	ug/L			01/28/14 19:19	1
2-Hexanone	ND		10	2.5	ug/L			01/28/14 19:19	1
4-Methyl-2-pentanone (MIBK)	ND		10	2.5	ug/L			01/28/14 19:19	1
2-Butanone (MEK)	ND		10	2.5	ug/L			01/28/14 19:19	1
Isopropylbenzene	ND		2.0	0.25	ug/L			01/28/14 19:19	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-158822/4
Matrix: Water
Analysis Batch: 158822

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		10	0.25	ug/L			01/28/14 19:19	1
1,2,4-Trichlorobenzene	ND		5.0	0.25	ug/L			01/28/14 19:19	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*114*		*80 - 120*		*01/28/14 19:19*	*1*
Dibromofluoromethane (Surr)	*107*		*76 - 132*		*01/28/14 19:19*	*1*
Toluene-d8 (Surr)	*114*		*80 - 128*		*01/28/14 19:19*	*1*

Lab Sample ID: LCS 440-158822/5
Matrix: Water
Analysis Batch: 158822

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	29.0		ug/L		116	60 - 141
1,1,1-Trichloroethane	25.0	28.6		ug/L		115	70 - 130
1,1,2,2-Tetrachloroethane	25.0	28.4		ug/L		114	63 - 130
1,1,2-Trichloroethane	25.0	28.9		ug/L		116	70 - 130
1,1-Dichloroethane	25.0	26.8		ug/L		107	64 - 130
1,1-Dichloroethene	25.0	30.8		ug/L		123	70 - 130
1,1-Dichloropropene	25.0	27.9		ug/L		112	70 - 130
1,2,3-Trichlorobenzene	25.0	28.5		ug/L		114	60 - 140
1,2,4-Trimethylbenzene	25.0	28.0		ug/L		112	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	26.7		ug/L		107	52 - 140
1,2-Dibromoethane (EDB)	25.0	27.8		ug/L		111	70 - 130
1,2-Dichlorobenzene	25.0	26.9		ug/L		108	70 - 130
1,2-Dichloroethane	25.0	29.6		ug/L		118	57 - 138
1,2-Dichloropropane	25.0	27.8		ug/L		111	67 - 130
1,3,5-Trimethylbenzene	25.0	27.6		ug/L		110	70 - 136
1,3-Dichlorobenzene	25.0	26.5		ug/L		106	70 - 130
1,3-Dichloropropane	25.0	26.5		ug/L		106	70 - 130
1,4-Dichlorobenzene	25.0	26.5		ug/L		106	70 - 130
2,2-Dichloropropane	25.0	27.7		ug/L		111	68 - 141
2-Chlorotoluene	25.0	26.0		ug/L		104	70 - 130
4-Chlorotoluene	25.0	26.5		ug/L		106	70 - 130
p-Isopropyltoluene	25.0	28.4		ug/L		114	70 - 132
Benzene	25.0	25.3		ug/L		101	68 - 130
Bromobenzene	25.0	26.0		ug/L		104	70 - 130
Dibromochloromethane	25.0	27.6		ug/L		110	69 - 145
Bromochloromethane	25.0	28.1		ug/L		113	70 - 130
Bromoform	25.0	28.7		ug/L		115	60 - 148
Bromomethane	25.0	27.2		ug/L		109	64 - 139
Carbon tetrachloride	25.0	29.5		ug/L		118	60 - 150
Chlorobenzene	25.0	26.1		ug/L		104	70 - 130
Chloroethane	25.0	27.3		ug/L		109	64 - 135
Chloroform	25.0	29.0		ug/L		116	70 - 130
Chloromethane	25.0	27.2		ug/L		109	47 - 140
cis-1,2-Dichloroethene	25.0	29.3		ug/L		117	70 - 133
cis-1,3-Dichloropropene	25.0	29.8		ug/L		119	70 - 133

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-158822/5
Matrix: Water
Analysis Batch: 158822

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Bromodichloromethane	25.0	30.0		ug/L		120	70 - 132
Dibromomethane	25.0	29.4		ug/L		118	70 - 130
Dichlorodifluoromethane	25.0	29.1		ug/L		116	29 - 150
Ethylbenzene	25.0	27.9		ug/L		112	70 - 130
Isopropyl Ether (DIPE)	25.0	27.5		ug/L		110	58 - 139
Methyl-t-Butyl Ether (MTBE)	25.0	26.0		ug/L		104	63 - 131
Tert-amyl-methyl ether (TAME)	25.0	26.4		ug/L		106	57 - 139
Ethyl-t-butyl ether (ETBE)	25.0	25.7		ug/L		103	60 - 136
Hexachlorobutadiene	25.0	28.2		ug/L		113	10 - 150
m,p-Xylene	50.0	53.6		ug/L		107	70 - 130
Methylene Chloride	25.0	28.5		ug/L		114	52 - 130
Naphthalene	25.0	28.8		ug/L		115	60 - 140
n-Butylbenzene	25.0	28.8		ug/L		115	65 - 150
N-Propylbenzene	25.0	26.6		ug/L		106	67 - 139
o-Xylene	25.0	26.7		ug/L		107	70 - 130
sec-Butylbenzene	25.0	27.1		ug/L		108	70 - 138
Styrene	25.0	27.7		ug/L		111	70 - 134
tert-Butyl alcohol (TBA)	125	118		ug/L		94	70 - 130
tert-Butylbenzene	25.0	26.9		ug/L		107	70 - 130
Tetrachloroethene	25.0	26.0		ug/L		104	70 - 130
Toluene	25.0	27.0		ug/L		108	70 - 130
trans-1,2-Dichloroethene	25.0	28.8		ug/L		115	70 - 130
trans-1,3-Dichloropropene	25.0	32.2		ug/L		129	70 - 132
Trichloroethene	25.0	27.4		ug/L		110	70 - 130
Trichlorofluoromethane	25.0	35.5		ug/L		142	60 - 150
Vinyl chloride	25.0	28.0		ug/L		112	59 - 133
Acetone	25.0	24.4		ug/L		98	10 - 150
2-Hexanone	25.0	30.2		ug/L		121	10 - 150
4-Methyl-2-pentanone (MIBK)	25.0	31.4		ug/L		125	59 - 149
2-Butanone (MEK)	25.0	27.4		ug/L		110	44 - 150
Isopropylbenzene	25.0	27.1		ug/L		108	70 - 136
1,2,3-Trichloropropane	25.0	27.9		ug/L		112	63 - 130
1,2,4-Trichlorobenzene	25.0	27.9		ug/L		112	60 - 140

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*80 - 120*
Dibromofluoromethane (Surr)	*112*		*76 - 132*
Toluene-d8 (Surr)	*114*		*80 - 128*

Lab Sample ID: 440-68377-A-2 MS
Matrix: Water
Analysis Batch: 158822

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		25.0	29.3		ug/L		117	60 - 149
1,1,1-Trichloroethane	ND		25.0	29.5		ug/L		118	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	27.6		ug/L		111	63 - 130
1,1,2-Trichloroethane	ND		25.0	27.9		ug/L		112	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-68377-A-2 MS
Matrix: Water
Analysis Batch: 158822

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	ND		25.0	26.8		ug/L		107	65 - 130
1,1-Dichloroethene	ND		25.0	30.6		ug/L		122	70 - 130
1,1-Dichloropropene	ND		25.0	28.6		ug/L		114	64 - 130
1,2,3-Trichlorobenzene	ND		25.0	28.6		ug/L		114	60 - 140
1,2,4-Trimethylbenzene	ND		25.0	28.4		ug/L		113	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	25.7		ug/L		103	48 - 140
1,2-Dibromoethane (EDB)	ND		25.0	27.5		ug/L		110	70 - 131
1,2-Dichlorobenzene	ND		25.0	27.1		ug/L		108	70 - 130
1,2-Dichloroethane	ND		25.0	29.0		ug/L		116	56 - 146
1,2-Dichloropropane	ND		25.0	27.6		ug/L		110	69 - 130
1,3,5-Trimethylbenzene	ND		25.0	27.8		ug/L		111	70 - 130
1,3-Dichlorobenzene	ND		25.0	26.6		ug/L		107	70 - 130
1,3-Dichloropropane	ND		25.0	26.4		ug/L		105	70 - 130
1,4-Dichlorobenzene	ND		25.0	26.5		ug/L		106	70 - 130
2,2-Dichloropropane	ND		25.0	29.2		ug/L		117	69 - 138
2-Chlorotoluene	ND		25.0	26.3		ug/L		105	70 - 130
4-Chlorotoluene	ND		25.0	27.4		ug/L		110	70 - 130
p-Isopropyltoluene	ND		25.0	29.4		ug/L		118	70 - 130
Benzene	ND		25.0	25.8		ug/L		103	66 - 130
Bromobenzene	ND		25.0	26.4		ug/L		105	70 - 130
Dibromochloromethane	ND		25.0	27.5		ug/L		110	70 - 148
Bromochloromethane	ND		25.0	27.9		ug/L		111	70 - 130
Bromoform	ND		25.0	28.0		ug/L		112	59 - 150
Bromomethane	ND		25.0	27.2		ug/L		109	62 - 131
Carbon tetrachloride	ND		25.0	30.6		ug/L		122	60 - 150
Chlorobenzene	ND		25.0	26.4		ug/L		106	70 - 130
Chloroethane	ND		25.0	28.3		ug/L		113	68 - 130
Chloroform	ND		25.0	28.7		ug/L		115	70 - 130
Chloromethane	ND		25.0	28.2		ug/L		113	39 - 144
cis-1,2-Dichloroethene	ND		25.0	29.4		ug/L		118	70 - 130
cis-1,3-Dichloropropene	ND		25.0	29.4		ug/L		118	70 - 133
Bromodichloromethane	ND		25.0	30.0		ug/L		120	70 - 138
Dibromomethane	ND		25.0	28.4		ug/L		114	70 - 130
Dichlorodifluoromethane	ND		25.0	28.1		ug/L		113	25 - 142
Ethylbenzene	ND		25.0	28.3		ug/L		113	70 - 130
Isopropyl Ether (DIPE)	ND		25.0	26.8		ug/L		107	64 - 138
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.9		ug/L		100	70 - 130
Tert-amyl-methyl ether (TAME)	ND		25.0	25.7		ug/L		103	68 - 133
Ethyl-t-butyl ether (ETBE)	ND		25.0	24.9		ug/L		100	70 - 130
Hexachlorobutadiene	ND		25.0	28.9		ug/L		116	10 - 150
m,p-Xylene	ND		50.0	54.5		ug/L		109	70 - 133
Methylene Chloride	ND		25.0	27.2		ug/L		109	52 - 130
Naphthalene	ND		25.0	28.5		ug/L		114	60 - 140
n-Butylbenzene	ND		25.0	29.5		ug/L		118	61 - 149
N-Propylbenzene	ND		25.0	27.3		ug/L		109	66 - 135
o-Xylene	ND		25.0	27.2		ug/L		109	70 - 133
sec-Butylbenzene	ND		25.0	28.0		ug/L		112	67 - 134
Styrene	ND		25.0	24.3		ug/L		97	29 - 150

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-68377-A-2 MS
Matrix: Water
Analysis Batch: 158822

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
tert-Butyl alcohol (TBA)	ND		125	115		ug/L		92	70 - 130
tert-Butylbenzene	ND		25.0	27.7		ug/L		111	70 - 130
Tetrachloroethene	ND		25.0	26.9		ug/L		107	70 - 137
Toluene	ND		25.0	27.4		ug/L		110	70 - 130
trans-1,2-Dichloroethene	ND		25.0	28.6		ug/L		114	70 - 130
trans-1,3-Dichloropropene	ND		25.0	31.4		ug/L		126	70 - 138
Trichloroethene	ND		25.0	27.4		ug/L		109	70 - 130
Trichlorofluoromethane	ND		25.0	36.5		ug/L		146	60 - 150
Vinyl chloride	ND		25.0	28.5		ug/L		114	50 - 137
Acetone	ND		25.0	17.2		ug/L		69	10 - 150
2-Hexanone	ND		25.0	25.5		ug/L		102	10 - 150
4-Methyl-2-pentanone (MIBK)	ND		25.0	29.1		ug/L		116	52 - 150
2-Butanone (MEK)	ND		25.0	22.2		ug/L		89	48 - 140
Isopropylbenzene	ND		25.0	27.6		ug/L		110	70 - 132
1,2,3-Trichloropropane	ND		25.0	26.7		ug/L		107	60 - 130
1,2,4-Trichlorobenzene	ND		25.0	28.3		ug/L		113	60 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*112*		*80 - 120*
Dibromofluoromethane (Surr)	*109*		*76 - 132*
Toluene-d8 (Surr)	*112*		*80 - 128*

Lab Sample ID: 440-68377-A-2 MSD
Matrix: Water
Analysis Batch: 158822

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		25.0	29.7		ug/L		119	60 - 149	2	20
1,1,1-Trichloroethane	ND		25.0	28.7		ug/L		115	70 - 130	3	20
1,1,2,2-Tetrachloroethane	ND		25.0	28.5		ug/L		114	63 - 130	3	30
1,1,2-Trichloroethane	ND		25.0	27.2		ug/L		109	70 - 130	3	25
1,1-Dichloroethane	ND		25.0	25.7		ug/L		103	65 - 130	4	20
1,1-Dichloroethene	ND		25.0	30.2		ug/L		121	70 - 130	1	20
1,1-Dichloropropene	ND		25.0	28.6		ug/L		114	64 - 130	0	20
1,2,3-Trichlorobenzene	ND		25.0	28.6		ug/L		115	60 - 140	0	20
1,2,4-Trimethylbenzene	ND		25.0	29.1		ug/L		116	70 - 130	3	25
1,2-Dibromo-3-Chloropropane	ND		25.0	26.5		ug/L		106	48 - 140	3	30
1,2-Dibromoethane (EDB)	ND		25.0	27.7		ug/L		111	70 - 131	0	25
1,2-Dichlorobenzene	ND		25.0	27.2		ug/L		109	70 - 130	1	20
1,2-Dichloroethane	ND		25.0	28.4		ug/L		114	56 - 146	2	20
1,2-Dichloropropane	ND		25.0	26.9		ug/L		108	69 - 130	2	20
1,3,5-Trimethylbenzene	ND		25.0	28.7		ug/L		115	70 - 130	3	20
1,3-Dichlorobenzene	ND		25.0	27.1		ug/L		108	70 - 130	2	20
1,3-Dichloropropane	ND		25.0	26.4		ug/L		106	70 - 130	0	25
1,4-Dichlorobenzene	ND		25.0	27.1		ug/L		109	70 - 130	2	20
2,2-Dichloropropane	ND		25.0	29.0		ug/L		116	69 - 138	1	25
2-Chlorotoluene	ND		25.0	26.8		ug/L		107	70 - 130	2	20
4-Chlorotoluene	ND		25.0	27.9		ug/L		112	70 - 130	2	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-68377-A-2 MSD
Matrix: Water
Analysis Batch: 158822

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
p-Isopropyltoluene	ND		25.0	29.8		ug/L		119	70 - 130	1	20
Benzene	ND		25.0	25.3		ug/L		101	66 - 130	2	20
Bromobenzene	ND		25.0	26.7		ug/L		107	70 - 130	1	20
Dibromochloromethane	ND		25.0	28.1		ug/L		112	70 - 148	2	25
Bromochloromethane	ND		25.0	26.7		ug/L		107	70 - 130	4	25
Bromoform	ND		25.0	28.9		ug/L		116	59 - 150	3	25
Bromomethane	ND		25.0	26.6		ug/L		106	62 - 131	2	25
Carbon tetrachloride	ND		25.0	31.0		ug/L		124	60 - 150	1	25
Chlorobenzene	ND		25.0	26.7		ug/L		107	70 - 130	1	20
Chloroethane	ND		25.0	26.5		ug/L		106	68 - 130	6	25
Chloroform	ND		25.0	27.6		ug/L		110	70 - 130	4	20
Chloromethane	ND		25.0	27.4		ug/L		109	39 - 144	3	25
cis-1,2-Dichloroethene	ND		25.0	28.2		ug/L		113	70 - 130	4	20
cis-1,3-Dichloropropene	ND		25.0	28.9		ug/L		115	70 - 133	2	20
Bromodichloromethane	ND		25.0	29.7		ug/L		119	70 - 138	1	20
Dibromomethane	ND		25.0	27.5		ug/L		110	70 - 130	3	25
Dichlorodifluoromethane	ND		25.0	27.6		ug/L		111	25 - 142	2	30
Ethylbenzene	ND		25.0	28.9		ug/L		116	70 - 130	2	20
Isopropyl Ether (DIPE)	ND		25.0	25.5		ug/L		102	64 - 138	5	25
Methyl-t-Butyl Ether (MTBE)	ND		25.0	24.0		ug/L		96	70 - 130	4	25
Tert-amyl-methyl ether (TAME)	ND		25.0	24.5		ug/L		98	68 - 133	4	30
Ethyl-t-butyl ether (ETBE)	ND		25.0	23.7		ug/L		95	70 - 130	5	25
Hexachlorobutadiene	ND		25.0	29.3		ug/L		117	10 - 150	1	20
m,p-Xylene	ND		50.0	56.1		ug/L		112	70 - 133	3	25
Methylene Chloride	ND		25.0	25.5		ug/L		102	52 - 130	6	20
Naphthalene	ND		25.0	28.8		ug/L		115	60 - 140	1	30
n-Butylbenzene	ND		25.0	29.9		ug/L		119	61 - 149	1	20
N-Propylbenzene	ND		25.0	28.1		ug/L		112	66 - 135	3	20
o-Xylene	ND		25.0	27.6		ug/L		111	70 - 133	2	20
sec-Butylbenzene	ND		25.0	28.6		ug/L		114	67 - 134	2	20
Styrene	ND		25.0	22.3		ug/L		89	29 - 150	9	35
tert-Butyl alcohol (TBA)	ND		125	119		ug/L		95	70 - 130	4	25
tert-Butylbenzene	ND		25.0	28.3		ug/L		113	70 - 130	2	20
Tetrachloroethene	ND		25.0	27.9		ug/L		112	70 - 137	4	20
Toluene	ND		25.0	27.2		ug/L		109	70 - 130	1	20
trans-1,2-Dichloroethene	ND		25.0	28.0		ug/L		112	70 - 130	2	20
trans-1,3-Dichloropropene	ND		25.0	31.3		ug/L		125	70 - 138	0	25
Trichloroethene	ND		25.0	27.6		ug/L		110	70 - 130	1	20
Trichlorofluoromethane	ND		25.0	35.8		ug/L		143	60 - 150	2	25
Vinyl chloride	ND		25.0	27.6		ug/L		110	50 - 137	3	30
Acetone	ND		25.0	16.7		ug/L		67	10 - 150	3	35
2-Hexanone	ND		25.0	26.4		ug/L		105	10 - 150	3	35
4-Methyl-2-pentanone (MIBK)	ND		25.0	28.7		ug/L		115	52 - 150	2	35
2-Butanone (MEK)	ND		25.0	21.6		ug/L		87	48 - 140	2	40
Isopropylbenzene	ND		25.0	28.7		ug/L		115	70 - 132	4	20
1,2,3-Trichloropropane	ND		25.0	27.4		ug/L		110	60 - 130	2	30
1,2,4-Trichlorobenzene	ND		25.0	28.3		ug/L		113	60 - 140	0	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-68377-A-2 MSD
Matrix: Water
Analysis Batch: 158822

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Surrogate	MSD %Recovery	MSD Qualifier	Limits
4-Bromofluorobenzene (Surr)	*110*		*80 - 120*
Dibromofluoromethane (Surr)	*105*		*76 - 132*
Toluene-d8 (Surr)	*112*		*80 - 128*

Lab Sample ID: MB 440-158884/3
Matrix: Solid
Analysis Batch: 158884

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
1,1,1-Trichloroethane	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,1,2,2-Tetrachloroethane	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,1,2-Trichloroethane	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,1-Dichloroethane	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,1-Dichloroethene	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
1,1-Dichloropropene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,2,3-Trichlorobenzene	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
1,2,4-Trimethylbenzene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0	2.0	ug/Kg			01/29/14 07:55	1
1,2-Dibromoethane (EDB)	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,2-Dichlorobenzene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,2-Dichloroethane	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,2-Dichloropropane	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,3,5-Trimethylbenzene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,3-Dichlorobenzene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,3-Dichloropropane	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,4-Dichlorobenzene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
2,2-Dichloropropane	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
2-Chlorotoluene	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
4-Chlorotoluene	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
p-Isopropyltoluene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
Benzene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
Bromobenzene	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
Dibromochloromethane	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
Bromochloromethane	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
Bromoform	ND		5.0	2.0	ug/Kg			01/29/14 07:55	1
Bromomethane	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
Carbon tetrachloride	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
Chlorobenzene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
Chloroethane	ND		5.0	2.0	ug/Kg			01/29/14 07:55	1
Chloroform	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
Chloromethane	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
cis-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
cis-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
Bromodichloromethane	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
Dibromomethane	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
Dichlorodifluoromethane	ND		5.0	2.0	ug/Kg			01/29/14 07:55	1
Ethylbenzene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-158884/3
Matrix: Solid
Analysis Batch: 158884

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl Ether (DIPE)	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
Methyl-t-Butyl Ether (MTBE)	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
Tert-amyl-methyl ether (TAME)	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
Ethyl-t-butyl ether (ETBE)	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
Hexachlorobutadiene	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
m,p-Xylene	ND		4.0	2.0	ug/Kg			01/29/14 07:55	1
Methylene Chloride	ND		20	5.0	ug/Kg			01/29/14 07:55	1
Naphthalene	ND		5.0	2.0	ug/Kg			01/29/14 07:55	1
n-Butylbenzene	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
N-Propylbenzene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
o-Xylene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
sec-Butylbenzene	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
Styrene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
tert-Butyl alcohol (TBA)	ND		100	10	ug/Kg			01/29/14 07:55	1
tert-Butylbenzene	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
Tetrachloroethene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
Toluene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
trans-1,2-Dichloroethene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
trans-1,3-Dichloropropene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
Trichloroethene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
Trichlorofluoromethane	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
Vinyl chloride	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1
Xylenes, Total	ND		4.0	2.0	ug/Kg			01/29/14 07:55	1
Acetone	ND		20	8.0	ug/Kg			01/29/14 07:55	1
2-Hexanone	ND		25	5.0	ug/Kg			01/29/14 07:55	1
4-Methyl-2-pentanone (MIBK)	ND		5.0	2.5	ug/Kg			01/29/14 07:55	1
2-Butanone (MEK)	ND		10	5.0	ug/Kg			01/29/14 07:55	1
Isopropylbenzene	ND		2.0	1.0	ug/Kg			01/29/14 07:55	1
1,2,3-Trichloropropane	ND		10	1.0	ug/Kg			01/29/14 07:55	1
1,2,4-Trichlorobenzene	ND		5.0	1.0	ug/Kg			01/29/14 07:55	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*79 - 120*		*01/29/14 07:55*	*1*
Dibromofluoromethane (Surr)	*98*		*60 - 120*		*01/29/14 07:55*	*1*
Toluene-d8 (Surr)	*109*		*79 - 123*		*01/29/14 07:55*	*1*

Lab Sample ID: LCS 440-158884/4
Matrix: Solid
Analysis Batch: 158884

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	50.0	57.1		ug/Kg		114	70 - 130
1,1,1-Trichloroethane	50.0	48.0		ug/Kg		96	65 - 135
1,1,2,2-Tetrachloroethane	50.0	52.1		ug/Kg		104	55 - 140
1,1,2-Trichloroethane	50.0	52.7		ug/Kg		105	65 - 135
1,1-Dichloroethane	50.0	45.2		ug/Kg		90	70 - 130
1,1-Dichloroethene	50.0	54.1		ug/Kg		108	70 - 125
1,1-Dichloropropene	50.0	53.5		ug/Kg		107	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-158884/4
Matrix: Solid
Analysis Batch: 158884

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2,3-Trichlorobenzene	50.0	50.6		ug/Kg		101	60 - 130
1,2,4-Trimethylbenzene	50.0	51.7		ug/Kg		103	70 - 125
1,2-Dibromo-3-Chloropropane	50.0	45.3		ug/Kg		91	50 - 135
1,2-Dibromoethane (EDB)	50.0	53.4		ug/Kg		107	70 - 130
1,2-Dichlorobenzene	50.0	49.9		ug/Kg		100	75 - 120
1,2-Dichloroethane	50.0	50.9		ug/Kg		102	60 - 140
1,2-Dichloropropane	50.0	51.7		ug/Kg		103	70 - 130
1,3,5-Trimethylbenzene	50.0	51.0		ug/Kg		102	70 - 125
1,3-Dichlorobenzene	50.0	49.0		ug/Kg		98	75 - 125
1,3-Dichloropropane	50.0	52.2		ug/Kg		104	70 - 125
1,4-Dichlorobenzene	50.0	49.6		ug/Kg		99	75 - 120
2,2-Dichloropropane	50.0	51.5		ug/Kg		103	60 - 145
2-Chlorotoluene	50.0	47.7		ug/Kg		95	70 - 125
4-Chlorotoluene	50.0	49.4		ug/Kg		99	75 - 125
p-Isopropyltoluene	50.0	51.9		ug/Kg		104	75 - 125
Benzene	50.0	47.7		ug/Kg		95	65 - 120
Bromobenzene	50.0	50.9		ug/Kg		102	75 - 120
Dibromochloromethane	50.0	58.7		ug/Kg		117	65 - 140
Bromochloromethane	50.0	52.7		ug/Kg		105	70 - 135
Bromoform	50.0	54.3		ug/Kg		109	55 - 135
Bromomethane	50.0	49.9		ug/Kg		100	60 - 145
Carbon tetrachloride	50.0	55.4		ug/Kg		111	65 - 140
Chlorobenzene	50.0	50.4		ug/Kg		101	75 - 120
Chloroethane	50.0	49.9		ug/Kg		100	60 - 140
Chloroform	50.0	48.3		ug/Kg		97	70 - 130
Chloromethane	50.0	42.6		ug/Kg		85	45 - 145
cis-1,2-Dichloroethene	50.0	51.5		ug/Kg		103	70 - 125
cis-1,3-Dichloropropene	50.0	59.0		ug/Kg		118	75 - 125
Bromodichloromethane	50.0	54.2		ug/Kg		108	70 - 135
Dibromomethane	50.0	53.2		ug/Kg		106	70 - 130
Dichlorodifluoromethane	50.0	46.1		ug/Kg		92	35 - 160
Ethylbenzene	50.0	49.4		ug/Kg		99	70 - 125
Isopropyl Ether (DIPE)	50.0	40.8		ug/Kg		82	60 - 140
Methyl-t-Butyl Ether (MTBE)	50.0	46.8		ug/Kg		94	60 - 140
Tert-amyl-methyl ether (TAME)	50.0	46.8		ug/Kg		94	60 - 145
Ethyl-t-butyl ether (ETBE)	50.0	44.3		ug/Kg		89	60 - 140
Hexachlorobutadiene	50.0	48.0		ug/Kg		96	60 - 135
m,p-Xylene	100	98.9		ug/Kg		99	70 - 125
Methylene Chloride	50.0	49.8		ug/Kg		100	55 - 135
Naphthalene	50.0	48.7		ug/Kg		97	55 - 135
n-Butylbenzene	50.0	49.2		ug/Kg		98	70 - 130
N-Propylbenzene	50.0	50.1		ug/Kg		100	70 - 130
o-Xylene	50.0	49.5		ug/Kg		99	70 - 125
sec-Butylbenzene	50.0	50.7		ug/Kg		101	70 - 125
Styrene	50.0	50.7		ug/Kg		101	75 - 130
tert-Butyl alcohol (TBA)	250	232		ug/Kg		93	70 - 135
tert-Butylbenzene	50.0	50.6		ug/Kg		101	70 - 125
Tetrachloroethene	50.0	54.3		ug/Kg		109	70 - 125

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-158884/4
Matrix: Solid
Analysis Batch: 158884

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	50.0	49.1		ug/Kg		98	70 - 125
trans-1,2-Dichloroethene	50.0	50.3		ug/Kg		101	70 - 125
trans-1,3-Dichloropropene	50.0	60.3		ug/Kg		121	70 - 135
Trichloroethene	50.0	53.9		ug/Kg		108	70 - 125
Trichlorofluoromethane	50.0	59.6		ug/Kg		119	60 - 145
Vinyl chloride	50.0	46.7		ug/Kg		93	55 - 135
Acetone	50.0	42.2		ug/Kg		84	25 - 145
2-Hexanone	50.0	42.1		ug/Kg		84	40 - 150
4-Methyl-2-pentanone (MIBK)	50.0	42.7		ug/Kg		85	40 - 145
2-Butanone (MEK)	50.0	42.0		ug/Kg		84	40 - 145
Isopropylbenzene	50.0	50.2		ug/Kg		100	75 - 130
1,2,3-Trichloropropane	50.0	51.2		ug/Kg		102	60 - 135
1,2,4-Trichlorobenzene	50.0	50.5		ug/Kg		101	70 - 135

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*79 - 120*
Dibromofluoromethane (Surr)	*101*		*60 - 120*
Toluene-d8 (Surr)	*112*		*79 - 123*

Lab Sample ID: LCSD 440-158884/5
Matrix: Solid
Analysis Batch: 158884

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	57.8		ug/Kg		116	70 - 130	1	20
1,1,1-Trichloroethane	50.0	52.4		ug/Kg		105	65 - 135	9	20
1,1,2,2-Tetrachloroethane	50.0	48.9		ug/Kg		98	55 - 140	6	30
1,1,2-Trichloroethane	50.0	49.8		ug/Kg		100	65 - 135	6	20
1,1-Dichloroethane	50.0	47.6		ug/Kg		95	70 - 130	5	20
1,1-Dichloroethene	50.0	58.1		ug/Kg		116	70 - 125	7	20
1,1-Dichloropropene	50.0	58.1		ug/Kg		116	70 - 130	8	20
1,2,3-Trichlorobenzene	50.0	49.7		ug/Kg		99	60 - 130	2	20
1,2,4-Trimethylbenzene	50.0	53.7		ug/Kg		107	70 - 125	4	20
1,2-Dibromo-3-Chloropropane	50.0	41.6		ug/Kg		83	50 - 135	8	30
1,2-Dibromoethane (EDB)	50.0	51.4		ug/Kg		103	70 - 130	4	20
1,2-Dichlorobenzene	50.0	50.5		ug/Kg		101	75 - 120	1	20
1,2-Dichloroethane	50.0	47.9		ug/Kg		96	60 - 140	6	20
1,2-Dichloropropane	50.0	51.8		ug/Kg		104	70 - 130	0	20
1,3,5-Trimethylbenzene	50.0	53.7		ug/Kg		107	70 - 125	5	20
1,3-Dichlorobenzene	50.0	50.4		ug/Kg		101	75 - 125	3	20
1,3-Dichloropropane	50.0	50.0		ug/Kg		100	70 - 125	4	20
1,4-Dichlorobenzene	50.0	50.2		ug/Kg		100	75 - 120	1	20
2,2-Dichloropropane	50.0	56.0		ug/Kg		112	60 - 145	8	20
2-Chlorotoluene	50.0	49.9		ug/Kg		100	70 - 125	4	20
4-Chlorotoluene	50.0	51.5		ug/Kg		103	75 - 125	4	20
p-Isopropyltoluene	50.0	55.0		ug/Kg		110	75 - 125	6	20
Benzene	50.0	49.2		ug/Kg		98	65 - 120	3	20
Bromobenzene	50.0	51.5		ug/Kg		103	75 - 120	1	20

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-158884/5
Matrix: Solid
Analysis Batch: 158884

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dibromochloromethane	50.0	57.6		ug/Kg		115	65 - 140	2	20
Bromochloromethane	50.0	51.8		ug/Kg		104	70 - 135	2	20
Bromoform	50.0	52.0		ug/Kg		104	55 - 135	4	25
Bromomethane	50.0	52.6		ug/Kg		105	60 - 145	5	20
Carbon tetrachloride	50.0	61.5		ug/Kg		123	65 - 140	10	20
Chlorobenzene	50.0	51.5		ug/Kg		103	75 - 120	2	20
Chloroethane	50.0	51.1		ug/Kg		102	60 - 140	2	25
Chloroform	50.0	49.0		ug/Kg		98	70 - 130	1	20
Chloromethane	50.0	44.1		ug/Kg		88	45 - 145	3	25
cis-1,2-Dichloroethene	50.0	52.9		ug/Kg		106	70 - 125	3	20
cis-1,3-Dichloropropene	50.0	58.1		ug/Kg		116	75 - 125	2	20
Bromodichloromethane	50.0	53.9		ug/Kg		108	70 - 135	0	20
Dibromomethane	50.0	50.3		ug/Kg		101	70 - 130	6	20
Dichlorodifluoromethane	50.0	50.0		ug/Kg		100	35 - 160	8	30
Ethylbenzene	50.0	52.1		ug/Kg		104	70 - 125	5	20
Isopropyl Ether (DIPE)	50.0	40.7		ug/Kg		81	60 - 140	0	20
Methyl-t-Butyl Ether (MTBE)	50.0	44.3		ug/Kg		89	60 - 140	5	25
Tert-amyl-methyl ether (TAME)	50.0	44.9		ug/Kg		90	60 - 145	4	20
Ethyl-t-butyl ether (ETBE)	50.0	42.9		ug/Kg		86	60 - 140	3	20
Hexachlorobutadiene	50.0	48.5		ug/Kg		97	60 - 135	1	20
m,p-Xylene	100	105		ug/Kg		105	70 - 125	6	20
Methylene Chloride	50.0	50.0		ug/Kg		100	55 - 135	0	20
Naphthalene	50.0	46.4		ug/Kg		93	55 - 135	5	25
n-Butylbenzene	50.0	51.8		ug/Kg		104	70 - 130	5	20
N-Propylbenzene	50.0	53.9		ug/Kg		108	70 - 130	7	20
o-Xylene	50.0	51.7		ug/Kg		103	70 - 125	4	20
sec-Butylbenzene	50.0	53.4		ug/Kg		107	70 - 125	5	20
Styrene	50.0	51.4		ug/Kg		103	75 - 130	1	20
tert-Butyl alcohol (TBA)	250	234		ug/Kg		93	70 - 135	1	20
tert-Butylbenzene	50.0	53.3		ug/Kg		107	70 - 125	5	20
Tetrachloroethene	50.0	59.3		ug/Kg		119	70 - 125	9	20
Toluene	50.0	51.2		ug/Kg		102	70 - 125	4	20
trans-1,2-Dichloroethene	50.0	53.6		ug/Kg		107	70 - 125	6	20
trans-1,3-Dichloropropene	50.0	58.2		ug/Kg		116	70 - 135	4	20
Trichloroethene	50.0	56.2		ug/Kg		112	70 - 125	4	20
Trichlorofluoromethane	50.0	65.9		ug/Kg		132	60 - 145	10	25
Vinyl chloride	50.0	50.4		ug/Kg		101	55 - 135	8	25
Acetone	50.0	36.0		ug/Kg		72	25 - 145	16	30
2-Hexanone	50.0	40.0		ug/Kg		80	40 - 150	5	35
4-Methyl-2-pentanone (MIBK)	50.0	39.0		ug/Kg		78	40 - 145	9	35
2-Butanone (MEK)	50.0	38.8		ug/Kg		78	40 - 145	8	35
Isopropylbenzene	50.0	54.0		ug/Kg		108	75 - 130	7	20
1,2,3-Trichloropropane	50.0	48.2		ug/Kg		96	60 - 135	6	25
1,2,4-Trichlorobenzene	50.0	50.2		ug/Kg		100	70 - 135	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*79 - 120*
Dibromofluoromethane (Surr)	*100*		*60 - 120*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 440-158884/5
Matrix: Solid
Analysis Batch: 158884

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
Toluene-d8 (Surr)	*112*		*79 - 123*

Lab Sample ID: 440-68446-A-2 MS
Matrix: Solid
Analysis Batch: 158884

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	ND		49.9	59.8		ug/Kg		120	65 - 145
1,1,1-Trichloroethane	ND		49.9	54.3		ug/Kg		109	65 - 145
1,1,2,2-Tetrachloroethane	ND		49.9	58.2		ug/Kg		117	40 - 160
1,1,2-Trichloroethane	ND		49.9	56.2		ug/Kg		113	65 - 140
1,1-Dichloroethane	ND		49.9	50.2		ug/Kg		101	65 - 135
1,1-Dichloroethene	ND		49.9	61.6		ug/Kg		123	65 - 135
1,1-Dichloropropene	ND		49.9	58.9		ug/Kg		118	65 - 135
1,2,3-Trichlorobenzene	ND		49.9	48.3		ug/Kg		97	45 - 145
1,2,4-Trimethylbenzene	8.2		49.9	53.0		ug/Kg		90	65 - 140
1,2-Dibromo-3-Chloropropane	ND		49.9	53.0		ug/Kg		106	40 - 150
1,2-Dibromoethane (EDB)	ND		49.9	58.2		ug/Kg		117	65 - 140
1,2-Dichlorobenzene	ND		49.9	50.6		ug/Kg		101	70 - 130
1,2-Dichloroethane	ND		49.9	52.6		ug/Kg		105	60 - 150
1,2-Dichloropropane	ND		49.9	54.6		ug/Kg		109	65 - 130
1,3,5-Trimethylbenzene	22		49.9	55.2		ug/Kg		67	65 - 135
1,3-Dichlorobenzene	ND		49.9	49.5		ug/Kg		99	70 - 130
1,3-Dichloropropane	ND		49.9	56.1		ug/Kg		112	65 - 140
1,4-Dichlorobenzene	ND		49.9	50.0		ug/Kg		100	70 - 130
2,2-Dichloropropane	ND		49.9	57.4		ug/Kg		115	65 - 150
2-Chlorotoluene	ND		49.9	49.3		ug/Kg		99	60 - 135
4-Chlorotoluene	ND		49.9	50.6		ug/Kg		101	65 - 135
p-Isopropyltoluene	1.4	J	49.9	53.2		ug/Kg		104	60 - 140
Benzene	ND		49.9	50.8		ug/Kg		102	65 - 130
Bromobenzene	ND		49.9	53.1		ug/Kg		106	65 - 140
Dibromochloromethane	ND		49.9	62.3		ug/Kg		125	60 - 145
Bromochloromethane	ND		49.9	55.4		ug/Kg		111	65 - 145
Bromoform	ND		49.9	57.4		ug/Kg		115	50 - 145
Bromomethane	ND		49.9	55.1		ug/Kg		110	60 - 155
Carbon tetrachloride	ND		49.9	60.7		ug/Kg		122	60 - 145
Chlorobenzene	ND		49.9	52.9		ug/Kg		106	70 - 130
Chloroethane	ND		49.9	54.0		ug/Kg		108	60 - 150
Chloroform	ND		49.9	51.7		ug/Kg		104	65 - 135
Chloromethane	ND		49.9	48.3		ug/Kg		97	40 - 145
cis-1,2-Dichloroethene	ND		49.9	55.6		ug/Kg		111	65 - 135
cis-1,3-Dichloropropene	ND		49.9	60.1		ug/Kg		120	70 - 135
Bromodichloromethane	ND		49.9	56.6		ug/Kg		113	65 - 145
Dibromomethane	ND		49.9	56.1		ug/Kg		112	65 - 140
Dichlorodifluoromethane	ND		49.9	53.2		ug/Kg		107	30 - 160
Ethylbenzene	ND		49.9	53.1		ug/Kg		106	70 - 135
Isopropyl Ether (DIPE)	ND		49.9	44.1		ug/Kg		88	60 - 150
Methyl-t-Butyl Ether (MTBE)	ND		49.9	51.5		ug/Kg		103	55 - 155

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-68446-A-2 MS
Matrix: Solid
Analysis Batch: 158884

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Tert-amyl-methyl ether (TAME)	ND		49.9	50.5		ug/Kg		101	60 - 150
Ethyl-t-butyl ether (ETBE)	ND		49.9	47.7		ug/Kg		96	60 - 145
Hexachlorobutadiene	ND		49.9	44.0		ug/Kg		88	50 - 145
m,p-Xylene	5.0		99.8	106		ug/Kg		101	70 - 130
Methylene Chloride	ND		49.9	53.9		ug/Kg		108	55 - 145
Naphthalene	ND		49.9	52.7		ug/Kg		106	40 - 150
n-Butylbenzene	ND		49.9	50.0		ug/Kg		100	55 - 145
N-Propylbenzene	ND		49.9	52.1		ug/Kg		104	65 - 140
o-Xylene	17		49.9	55.7		ug/Kg		77	65 - 130
sec-Butylbenzene	1.0	J	49.9	52.1		ug/Kg		104	60 - 135
Styrene	ND		49.9	52.3		ug/Kg		105	70 - 140
tert-Butyl alcohol (TBA)	ND		250	242		ug/Kg		97	65 - 145
tert-Butylbenzene	ND		49.9	51.6		ug/Kg		103	60 - 140
Tetrachloroethene	ND		49.9	57.9		ug/Kg		116	65 - 135
Toluene	ND		49.9	51.7		ug/Kg		104	70 - 130
trans-1,2-Dichloroethene	ND		49.9	56.0		ug/Kg		112	70 - 135
trans-1,3-Dichloropropene	ND		49.9	61.8		ug/Kg		124	60 - 145
Trichloroethene	ND		49.9	57.9		ug/Kg		116	65 - 140
Trichlorofluoromethane	ND		49.9	67.9		ug/Kg		136	55 - 155
Vinyl chloride	ND		49.9	53.2		ug/Kg		107	55 - 140
Acetone	ND		49.9	51.9		ug/Kg		104	20 - 145
2-Hexanone	ND		49.9	52.0		ug/Kg		104	35 - 160
4-Methyl-2-pentanone (MIBK)	ND		49.9	49.0		ug/Kg		98	40 - 155
2-Butanone (MEK)	ND		49.9	53.0		ug/Kg		106	25 - 170
Isopropylbenzene	ND		49.9	53.4		ug/Kg		107	70 - 145
1,2,3-Trichloropropane	ND		49.9	59.6		ug/Kg		119	50 - 150
1,2,4-Trichlorobenzene	ND		49.9	48.4		ug/Kg		97	50 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*79 - 120*
Dibromofluoromethane (Surr)	*103*		*60 - 120*
Toluene-d8 (Surr)	*109*		*79 - 123*

Lab Sample ID: 440-68446-A-2 MSD
Matrix: Solid
Analysis Batch: 158884

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND		50.6	57.6		ug/Kg		114	65 - 145	11	20
1,1,1-Trichloroethane	ND		50.6	48.9		ug/Kg		97	65 - 145	11	20
1,1,2,2-Tetrachloroethane	ND		50.6	61.7		ug/Kg		122	40 - 160	20	30
1,1,2-Trichloroethane	ND		50.6	53.3		ug/Kg		105	65 - 140	13	30
1,1-Dichloroethane	ND		50.6	45.8		ug/Kg		91	65 - 135	10	25
1,1-Dichloroethene	ND		50.6	55.4		ug/Kg		109	65 - 135	11	25
1,1-Dichloropropene	ND		50.6	52.5		ug/Kg		104	65 - 135	12	20
1,2,3-Trichlorobenzene	ND		50.6	41.4		ug/Kg		82	45 - 145	30	30
1,2,4-Trimethylbenzene	8.2		50.6	50.9	F2	ug/Kg		84	65 - 140	32	25
1,2-Dibromo-3-Chloropropane	ND		50.6	60.8		ug/Kg		120	40 - 150	8	30

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-68446-A-2 MSD
Matrix: Solid
Analysis Batch: 158884

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,2-Dibromoethane (EDB)	ND		50.6	57.7		ug/Kg		114	65 - 140	15	25
1,2-Dichlorobenzene	ND		50.6	47.3		ug/Kg		93	70 - 130	23	25
1,2-Dichloroethane	ND		50.6	50.0		ug/Kg		99	60 - 150	15	25
1,2-Dichloropropane	ND		50.6	52.4		ug/Kg		103	65 - 130	9	20
1,3,5-Trimethylbenzene	22		50.6	74.3		ug/Kg		104	65 - 135	4	25
1,3-Dichlorobenzene	ND		50.6	45.2		ug/Kg		89	70 - 130	22	25
1,3-Dichloropropane	ND		50.6	55.5		ug/Kg		110	65 - 140	15	25
1,4-Dichlorobenzene	ND		50.6	45.8		ug/Kg		90	70 - 130	20	25
2,2-Dichloropropane	ND		50.6	51.7		ug/Kg		102	65 - 150	15	25
2-Chlorotoluene	ND		50.6	46.6		ug/Kg		92	60 - 135	20	25
4-Chlorotoluene	ND		50.6	47.5		ug/Kg		94	65 - 135	21	25
p-Isopropyltoluene	1.4		50.6	46.6	F2	ug/Kg		89	60 - 140	29	25
Benzene	ND		50.6	45.8		ug/Kg		91	65 - 130	15	20
Bromobenzene	ND		50.6	50.7		ug/Kg		100	65 - 140	20	25
Dibromochloromethane	ND		50.6	61.2		ug/Kg		121	60 - 145	10	25
Bromochloromethane	ND		50.6	51.1		ug/Kg		101	65 - 145	15	25
Bromoform	ND		50.6	56.6		ug/Kg		112	50 - 145	7	30
Bromomethane	ND		50.6	48.6		ug/Kg		96	60 - 155	15	25
Carbon tetrachloride	ND		50.6	55.1		ug/Kg		109	60 - 145	9	25
Chlorobenzene	ND		50.6	49.0		ug/Kg		97	70 - 130	15	25
Chloroethane	ND		50.6	48.5		ug/Kg		96	60 - 150	11	25
Chloroform	ND		50.6	47.7		ug/Kg		94	65 - 135	10	20
Chloromethane	ND		50.6	44.2		ug/Kg		87	40 - 145	3	25
cis-1,2-Dichloroethene	ND		50.6	50.3		ug/Kg		99	65 - 135	10	25
cis-1,3-Dichloropropene	ND		50.6	56.0		ug/Kg		111	70 - 135	10	25
Bromodichloromethane	ND		50.6	53.0		ug/Kg		105	65 - 145	10	20
Dibromomethane	ND		50.6	53.9		ug/Kg		106	65 - 140	13	25
Dichlorodifluoromethane	ND		50.6	48.5		ug/Kg		96	30 - 160	7	35
Ethylbenzene	ND		50.6	47.8		ug/Kg		94	70 - 135	19	25
Isopropyl Ether (DIPE)	ND		50.6	41.0		ug/Kg		81	60 - 150	12	25
Methyl-t-Butyl Ether (MTBE)	ND		50.6	49.1		ug/Kg		97	55 - 155	11	35
Tert-amyl-methyl ether (TAME)	ND		50.6	48.4		ug/Kg		96	60 - 150	11	25
Ethyl-t-butyl ether (ETBE)	ND		50.6	44.9		ug/Kg		89	60 - 145	10	30
Hexachlorobutadiene	ND		50.6	30.7	F2	ug/Kg		61	50 - 145	45	35
m,p-Xylene	5.0		101	96.2		ug/Kg		90	70 - 130	21	25
Methylene Chloride	ND		50.6	48.7		ug/Kg		96	55 - 145	9	25
Naphthalene	ND		50.6	50.4		ug/Kg		100	40 - 150	27	40
n-Butylbenzene	ND		50.6	45.0		ug/Kg		89	55 - 145	24	30
N-Propylbenzene	ND		50.6	47.5	F2	ug/Kg		94	65 - 140	26	25
o-Xylene	17		50.6	69.4		ug/Kg		103	65 - 130	3	25
sec-Butylbenzene	1.0		50.6	45.1	F2	ug/Kg		89	60 - 135	28	25
Styrene	ND		50.6	47.3		ug/Kg		93	70 - 140	14	25
tert-Butyl alcohol (TBA)	ND		253	222		ug/Kg		88	65 - 145	16	30
tert-Butylbenzene	ND		50.6	46.6	F2	ug/Kg		92	60 - 140	27	25
Tetrachloroethene	ND		50.6	52.1		ug/Kg		103	65 - 135	17	25
Toluene	ND		50.6	46.9		ug/Kg		93	70 - 130	16	20
trans-1,2-Dichloroethene	ND		50.6	50.6		ug/Kg		100	70 - 135	9	25
trans-1,3-Dichloropropene	ND		50.6	57.5		ug/Kg		114	60 - 145	12	25

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 440-68446-A-2 MSD
Matrix: Solid
Analysis Batch: 158884

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Trichloroethene	ND		50.6	53.2		ug/Kg		105	65 - 140	11	25
Trichlorofluoromethane	ND		50.6	61.8		ug/Kg		122	55 - 155	10	25
Vinyl chloride	ND		50.6	47.9		ug/Kg		95	55 - 140	12	30
Acetone	ND		50.6	63.4		ug/Kg		125	20 - 145	18	40
2-Hexanone	ND		50.6	48.5		ug/Kg		96	35 - 160	28	40
4-Methyl-2-pentanone (MIBK)	ND		50.6	51.3		ug/Kg		101	40 - 155	10	40
2-Butanone (MEK)	ND		50.6	51.7		ug/Kg		102	25 - 170	16	40
Isopropylbenzene	ND		50.6	49.4		ug/Kg		98	70 - 145	25	25
1,2,3-Trichloropropane	ND		50.6	62.5		ug/Kg		123	50 - 150	21	30
1,2,4-Trichlorobenzene	ND		50.6	42.5		ug/Kg		84	50 - 140	25	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*79 - 120*
Dibromofluoromethane (Surr)	*99*		*60 - 120*
Toluene-d8 (Surr)	*107*		*79 - 123*

Method: 8015B - Gasoline Range Organics - (GC)

Lab Sample ID: MB 440-158873/27
Matrix: Solid
Analysis Batch: 158873

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
GRO (C4-C12)	ND		400	150	ug/Kg			01/29/14 01:23	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*96*		*65 - 140*		*01/29/14 01:23*	*1*

Lab Sample ID: LCS 440-158873/25
Matrix: Solid
Analysis Batch: 158873

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
GRO (C4-C12)			1600	1530		ug/Kg		95	70 - 135		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*102*		*65 - 140*

Lab Sample ID: LCSD 440-158873/26
Matrix: Solid
Analysis Batch: 158873

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)			1600	1540		ug/Kg		96	70 - 135	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*100*		*65 - 140*

Method: 8015B - Gasoline Range Organics - (GC) (Continued)

Lab Sample ID: 440-68446-A-1 MS
Matrix: Solid
Analysis Batch: 158873

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
GRO (C4-C12)	ND		1550	1220		ug/Kg		78	60 - 140

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*85*		*65 - 140*

Lab Sample ID: 440-68446-A-1 MSD
Matrix: Solid
Analysis Batch: 158873

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
GRO (C4-C12)	ND		1540	1190		ug/Kg		77	60 - 140	2	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*83*		*65 - 140*

Method: 8015B - Diesel Range Organics (DRO) (GC)

Lab Sample ID: MB 440-158834/1-A
Matrix: Solid
Analysis Batch: 158789

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 158834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
C13-C22	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/28/14 22:06	1
C23-C40	ND		5.0	2.5	mg/Kg		01/28/14 17:50	01/28/14 22:06	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
n-Octacosane	*72*		*40 - 140*	*01/28/14 17:50*	*01/28/14 22:06*	*1*

Lab Sample ID: LCS 440-158834/2-A
Matrix: Solid
Analysis Batch: 158789

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 158834

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28			33.3	18.9		mg/Kg		57	45 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
n-Octacosane	*59*		*40 - 140*

Lab Sample ID: 440-68480-1 MS
Matrix: Solid
Analysis Batch: 158789

Client Sample ID: North Side Wall
Prep Type: Total/NA
Prep Batch: 158834

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
C10-C28	ND		33.2	24.5		mg/Kg		74	40 - 120

Method: 8015B - Diesel Range Organics (DRO) (GC) (Continued)

Lab Sample ID: 440-68480-1 MS
Matrix: Solid
Analysis Batch: 158789

Client Sample ID: North Side Wall
Prep Type: Total/NA
Prep Batch: 158834

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
n-Octacosane	*74*		*40 - 140*

Lab Sample ID: 440-68480-1 MSD
Matrix: Solid
Analysis Batch: 158789

Client Sample ID: North Side Wall
Prep Type: Total/NA
Prep Batch: 158834

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
C10-C28	ND		33.3	21.3		mg/Kg		64	40 - 120	14	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
n-Octacosane	*65*		*40 - 140*

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 440-158828/1-A
Matrix: Solid
Analysis Batch: 158808

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 158828

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Aroclor 1016	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 20:09	1
Aroclor 1221	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 20:09	1
Aroclor 1232	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 20:09	1
Aroclor 1242	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 20:09	1
Aroclor 1248	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 20:09	1
Aroclor 1254	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 20:09	1
Aroclor 1260	ND		50	17	ug/Kg		01/28/14 17:34	01/28/14 20:09	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)	*83*		*45 - 120*	*01/28/14 17:34*	*01/28/14 20:09*	*1*

Lab Sample ID: LCS 440-158828/2-A
Matrix: Solid
Analysis Batch: 158808

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 158828

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016			133	102		ug/Kg		76	65 - 115
Aroclor 1260			133	112		ug/Kg		84	65 - 115

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*81*		*45 - 120*

Lab Sample ID: 440-68480-1 MS
Matrix: Solid
Analysis Batch: 158808

Client Sample ID: North Side Wall
Prep Type: Total/NA
Prep Batch: 158828

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1016	ND		133	89.1		ug/Kg		67	50 - 120

Method: 8082 - Polychlorinated Biphenyls (PCBs) by Gas Chromatography (Continued)

Lab Sample ID: 440-68480-1 MS
Matrix: Solid
Analysis Batch: 158808

Client Sample ID: North Side Wall
Prep Type: Total/NA
Prep Batch: 158828

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Aroclor 1260	ND		133	96.6		ug/Kg		73	50 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*68*		*45 - 120*

Lab Sample ID: 440-68480-1 MSD
Matrix: Solid
Analysis Batch: 158808

Client Sample ID: North Side Wall
Prep Type: Total/NA
Prep Batch: 158828

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Aroclor 1016	ND		133	72.7		ug/Kg		55	50 - 120	20	30
Aroclor 1260	ND		133	73.5		ug/Kg		55	50 - 125	27	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
DCB Decachlorobiphenyl (Surr)	*49*		*45 - 120*

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-158963/1-A ^5
Matrix: Solid
Analysis Batch: 159092

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 158963

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Arsenic	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Barium	ND		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Beryllium	ND		0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Cadmium	ND		0.50	0.25	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Chromium	ND		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Cobalt	ND		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Copper	ND		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Lead	ND		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Molybdenum	ND		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Nickel	ND		2.0	1.0	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Selenium	ND		3.0	1.5	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Thallium	ND		10	5.0	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Vanadium	ND		1.0	0.50	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Zinc	ND		5.0	2.5	mg/Kg		01/29/14 10:40	01/29/14 15:09	5
Silver	ND		1.5	0.75	mg/Kg		01/29/14 10:40	01/29/14 15:09	5

Lab Sample ID: LCS 440-158963/2-A ^5
Matrix: Solid
Analysis Batch: 159092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 158963

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	49.5	45.8		mg/Kg		92	80 - 120
Arsenic	49.5	44.1		mg/Kg		89	80 - 120
Barium	49.5	45.9		mg/Kg		93	80 - 120

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-158963/2-A ^5
Matrix: Solid
Analysis Batch: 159092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 158963

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	49.5	44.0		mg/Kg		89	80 - 120
Cadmium	49.5	43.6		mg/Kg		88	80 - 120
Chromium	49.5	45.1		mg/Kg		91	80 - 120
Cobalt	49.5	47.5		mg/Kg		96	80 - 120
Copper	49.5	46.5		mg/Kg		94	80 - 120
Lead	49.5	44.8		mg/Kg		91	80 - 120
Molybdenum	49.5	45.3		mg/Kg		91	80 - 120
Nickel	49.5	45.8		mg/Kg		93	80 - 120
Selenium	49.5	40.3		mg/Kg		81	80 - 120
Thallium	49.5	43.8		mg/Kg		88	80 - 120
Vanadium	49.5	45.8		mg/Kg		93	80 - 120
Zinc	49.5	43.5		mg/Kg		88	80 - 120
Silver	24.8	22.7		mg/Kg		92	80 - 120

Lab Sample ID: 440-68480-1 MS
Matrix: Solid
Analysis Batch: 159092

Client Sample ID: North Side Wall
Prep Type: Total/NA
Prep Batch: 158963

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND		49.5	18.5	F1	mg/Kg		37	75 - 125
Arsenic	1.6	J	49.5	44.1		mg/Kg		86	75 - 125
Barium	68		49.5	123		mg/Kg		111	75 - 125
Beryllium	2.0		49.5	46.1		mg/Kg		89	75 - 125
Cadmium	ND		49.5	40.9		mg/Kg		83	75 - 125
Chromium	12		49.5	61.8		mg/Kg		100	75 - 125
Cobalt	6.3		49.5	50.8		mg/Kg		90	75 - 125
Copper	14		49.5	62.6		mg/Kg		99	75 - 125
Lead	3.0		49.5	45.0		mg/Kg		85	75 - 125
Molybdenum	ND		49.5	40.8		mg/Kg		82	75 - 125
Nickel	9.6		49.5	52.8		mg/Kg		87	75 - 125
Selenium	ND		49.5	40.4		mg/Kg		82	75 - 125
Thallium	ND		49.5	39.4		mg/Kg		80	75 - 125
Vanadium	38		49.5	92.9		mg/Kg		111	75 - 125
Zinc	35		49.5	85.1		mg/Kg		100	75 - 125
Silver	ND		24.8	20.8		mg/Kg		84	75 - 125

Lab Sample ID: 440-68480-1 MSD
Matrix: Solid
Analysis Batch: 159092

Client Sample ID: North Side Wall
Prep Type: Total/NA
Prep Batch: 158963

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND		50.0	21.7	F1	mg/Kg		43	75 - 125	16	20
Arsenic	1.6	J	50.0	45.6		mg/Kg		88	75 - 125	3	20
Barium	68		50.0	115		mg/Kg		94	75 - 125	7	20
Beryllium	2.0		50.0	47.7		mg/Kg		91	75 - 125	3	20
Cadmium	ND		50.0	41.9		mg/Kg		84	75 - 125	2	20
Chromium	12		50.0	61.6		mg/Kg		99	75 - 125	0	20
Cobalt	6.3		50.0	51.4		mg/Kg		90	75 - 125	1	20
Copper	14		50.0	62.9		mg/Kg		99	75 - 125	1	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 440-68480-1 MSD — **Client Sample ID: North Side Wall**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 159092 — **Prep Batch: 158963**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	3.0		50.0	46.2		mg/Kg		86	75 - 125	3	20
Molybdenum	ND		50.0	42.3		mg/Kg		85	75 - 125	4	20
Nickel	9.6		50.0	53.1		mg/Kg		87	75 - 125	1	20
Selenium	ND		50.0	41.6		mg/Kg		83	75 - 125	3	20
Thallium	ND		50.0	40.9		mg/Kg		82	75 - 125	4	20
Vanadium	38		50.0	92.9		mg/Kg		110	75 - 125	0	20
Zinc	35		50.0	81.4		mg/Kg		92	75 - 125	4	20
Silver	ND		25.0	21.5		mg/Kg		86	75 - 125	3	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 440-158962/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 159024 — **Prep Batch: 158962**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.012	mg/Kg		01/29/14 11:05	01/29/14 12:40	1

Lab Sample ID: LCS 440-158962/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 159024 — **Prep Batch: 158962**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.800	0.747		mg/Kg		93	80 - 120

Lab Sample ID: 440-68480-1 MS — **Client Sample ID: North Side Wall**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 159024 — **Prep Batch: 158962**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.054		0.784	0.821		mg/Kg		98	70 - 130

Lab Sample ID: 440-68480-1 MSD — **Client Sample ID: North Side Wall**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 159024 — **Prep Batch: 158962**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	0.054		0.816	0.905		mg/Kg		104	70 - 130	10	20

GC/MS VOA

Analysis Batch: 158810

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68294-A-5 MS	Matrix Spike	Total/NA	Solid	8260B	
440-68294-A-5 MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	
440-68480-2	South Side Wall	Total/NA	Solid	8260B	158846
440-68480-3	East Side Wall	Total/NA	Solid	8260B	158846
440-68480-4	West Side Wall	Total/NA	Solid	8260B	158846
440-68480-5	Bottom East	Total/NA	Solid	8260B	158846
440-68480-6	Bottom West	Total/NA	Solid	8260B	158846
440-68480-7	Stockpile	Total/NA	Solid	8260B	158846
LCS 440-158810/4	Lab Control Sample	Total/NA	Solid	8260B	
MB 440-158810/8	Method Blank	Total/NA	Solid	8260B	

Analysis Batch: 158822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68377-A-2 MS	Matrix Spike	Total/NA	Water	8260B	
440-68377-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260B	
440-68480-8	Trip Blank	Total/NA	Water	8260B	
LCS 440-158822/5	Lab Control Sample	Total/NA	Water	8260B	
MB 440-158822/4	Method Blank	Total/NA	Water	8260B	

Prep Batch: 158846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68480-1	North Side Wall	Total/NA	Solid	5035	
440-68480-2	South Side Wall	Total/NA	Solid	5035	
440-68480-3	East Side Wall	Total/NA	Solid	5035	
440-68480-4	West Side Wall	Total/NA	Solid	5035	
440-68480-5	Bottom East	Total/NA	Solid	5035	
440-68480-6	Bottom West	Total/NA	Solid	5035	
440-68480-7	Stockpile	Total/NA	Solid	5035	

Analysis Batch: 158884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68446-A-2 MS	Matrix Spike	Total/NA	Solid	8260B	
440-68446-A-2 MSD	Matrix Spike Duplicate	Total/NA	Solid	8260B	
440-68480-1	North Side Wall	Total/NA	Solid	8260B	158846
LCS 440-158884/4	Lab Control Sample	Total/NA	Solid	8260B	
LCSD 440-158884/5	Lab Control Sample Dup	Total/NA	Solid	8260B	
MB 440-158884/3	Method Blank	Total/NA	Solid	8260B	

GC VOA

Prep Batch: 158846

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68480-1	North Side Wall	Total/NA	Solid	5035	
440-68480-2	South Side Wall	Total/NA	Solid	5035	
440-68480-3	East Side Wall	Total/NA	Solid	5035	
440-68480-4	West Side Wall	Total/NA	Solid	5035	
440-68480-5	Bottom East	Total/NA	Solid	5035	
440-68480-6	Bottom West	Total/NA	Solid	5035	
440-68480-7	Stockpile	Total/NA	Solid	5035	

GC VOA (Continued)

Analysis Batch: 158873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68446-A-1 MS	Matrix Spike	Total/NA	Solid	8015B	
440-68446-A-1 MSD	Matrix Spike Duplicate	Total/NA	Solid	8015B	
440-68480-1	North Side Wall	Total/NA	Solid	8015B	158846
440-68480-2	South Side Wall	Total/NA	Solid	8015B	158846
440-68480-3	East Side Wall	Total/NA	Solid	8015B	158846
440-68480-4	West Side Wall	Total/NA	Solid	8015B	158846
440-68480-5	Bottom East	Total/NA	Solid	8015B	158846
440-68480-6	Bottom West	Total/NA	Solid	8015B	158846
440-68480-7	Stockpile	Total/NA	Solid	8015B	158846
LCS 440-158873/25	Lab Control Sample	Total/NA	Solid	8015B	
LCSD 440-158873/26	Lab Control Sample Dup	Total/NA	Solid	8015B	
MB 440-158873/27	Method Blank	Total/NA	Solid	8015B	

GC Semi VOA

Analysis Batch: 158789

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68480-1	North Side Wall	Total/NA	Solid	8015B	158834
440-68480-1 MS	North Side Wall	Total/NA	Solid	8015B	158834
440-68480-1 MSD	North Side Wall	Total/NA	Solid	8015B	158834
440-68480-2	South Side Wall	Total/NA	Solid	8015B	158834
440-68480-3	East Side Wall	Total/NA	Solid	8015B	158834
440-68480-4	West Side Wall	Total/NA	Solid	8015B	158834
440-68480-5	Bottom East	Total/NA	Solid	8015B	158834
440-68480-6	Bottom West	Total/NA	Solid	8015B	158834
LCS 440-158834/2-A	Lab Control Sample	Total/NA	Solid	8015B	158834
MB 440-158834/1-A	Method Blank	Total/NA	Solid	8015B	158834

Analysis Batch: 158792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68480-7	Stockpile	Total/NA	Solid	8015B	158834

Analysis Batch: 158808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68480-1	North Side Wall	Total/NA	Solid	8082	158828
440-68480-1 MS	North Side Wall	Total/NA	Solid	8082	158828
440-68480-1 MSD	North Side Wall	Total/NA	Solid	8082	158828
440-68480-2	South Side Wall	Total/NA	Solid	8082	158828
440-68480-3	East Side Wall	Total/NA	Solid	8082	158828
440-68480-4	West Side Wall	Total/NA	Solid	8082	158828
440-68480-5	Bottom East	Total/NA	Solid	8082	158828
440-68480-6	Bottom West	Total/NA	Solid	8082	158828
440-68480-7	Stockpile	Total/NA	Solid	8082	158828
LCS 440-158828/2-A	Lab Control Sample	Total/NA	Solid	8082	158828
MB 440-158828/1-A	Method Blank	Total/NA	Solid	8082	158828

Prep Batch: 158828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68480-1	North Side Wall	Total/NA	Solid	3546	
440-68480-1 MS	North Side Wall	Total/NA	Solid	3546	

GC Semi VOA (Continued)

Prep Batch: 158828 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68480-1 MSD	North Side Wall	Total/NA	Solid	3546	
440-68480-2	South Side Wall	Total/NA	Solid	3546	
440-68480-3	East Side Wall	Total/NA	Solid	3546	
440-68480-4	West Side Wall	Total/NA	Solid	3546	
440-68480-5	Bottom East	Total/NA	Solid	3546	
440-68480-6	Bottom West	Total/NA	Solid	3546	
440-68480-7	Stockpile	Total/NA	Solid	3546	
LCS 440-158828/2-A	Lab Control Sample	Total/NA	Solid	3546	
MB 440-158828/1-A	Method Blank	Total/NA	Solid	3546	

Prep Batch: 158834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68480-1	North Side Wall	Total/NA	Solid	CA LUFT	
440-68480-1 MS	North Side Wall	Total/NA	Solid	CA LUFT	
440-68480-1 MSD	North Side Wall	Total/NA	Solid	CA LUFT	
440-68480-2	South Side Wall	Total/NA	Solid	CA LUFT	
440-68480-3	East Side Wall	Total/NA	Solid	CA LUFT	
440-68480-4	West Side Wall	Total/NA	Solid	CA LUFT	
440-68480-5	Bottom East	Total/NA	Solid	CA LUFT	
440-68480-6	Bottom West	Total/NA	Solid	CA LUFT	
440-68480-7	Stockpile	Total/NA	Solid	CA LUFT	
LCS 440-158834/2-A	Lab Control Sample	Total/NA	Solid	CA LUFT	
MB 440-158834/1-A	Method Blank	Total/NA	Solid	CA LUFT	

Metals

Prep Batch: 158962

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68480-1	North Side Wall	Total/NA	Solid	7471A	
440-68480-1 MS	North Side Wall	Total/NA	Solid	7471A	
440-68480-1 MSD	North Side Wall	Total/NA	Solid	7471A	
440-68480-2	South Side Wall	Total/NA	Solid	7471A	
440-68480-3	East Side Wall	Total/NA	Solid	7471A	
440-68480-4	West Side Wall	Total/NA	Solid	7471A	
440-68480-5	Bottom East	Total/NA	Solid	7471A	
440-68480-6	Bottom West	Total/NA	Solid	7471A	
440-68480-7	Stockpile	Total/NA	Solid	7471A	
LCS 440-158962/2-A	Lab Control Sample	Total/NA	Solid	7471A	
MB 440-158962/1-A	Method Blank	Total/NA	Solid	7471A	

Prep Batch: 158963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68480-1	North Side Wall	Total/NA	Solid	3050B	
440-68480-1 MS	North Side Wall	Total/NA	Solid	3050B	
440-68480-1 MSD	North Side Wall	Total/NA	Solid	3050B	
440-68480-2	South Side Wall	Total/NA	Solid	3050B	
440-68480-3	East Side Wall	Total/NA	Solid	3050B	
440-68480-4	West Side Wall	Total/NA	Solid	3050B	
440-68480-5	Bottom East	Total/NA	Solid	3050B	
440-68480-6	Bottom West	Total/NA	Solid	3050B	

Metals (Continued)

Prep Batch: 158963 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68480-7	Stockpile	Total/NA	Solid	3050B	
LCS 440-158963/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
MB 440-158963/1-A ^5	Method Blank	Total/NA	Solid	3050B	

Analysis Batch: 159024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68480-1	North Side Wall	Total/NA	Solid	7471A	158962
440-68480-1 MS	North Side Wall	Total/NA	Solid	7471A	158962
440-68480-1 MSD	North Side Wall	Total/NA	Solid	7471A	158962
440-68480-2	South Side Wall	Total/NA	Solid	7471A	158962
440-68480-3	East Side Wall	Total/NA	Solid	7471A	158962
440-68480-4	West Side Wall	Total/NA	Solid	7471A	158962
440-68480-5	Bottom East	Total/NA	Solid	7471A	158962
440-68480-6	Bottom West	Total/NA	Solid	7471A	158962
440-68480-7	Stockpile	Total/NA	Solid	7471A	158962
LCS 440-158962/2-A	Lab Control Sample	Total/NA	Solid	7471A	158962
MB 440-158962/1-A	Method Blank	Total/NA	Solid	7471A	158962

Analysis Batch: 159092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
440-68480-1	North Side Wall	Total/NA	Solid	6010B	158963
440-68480-1 MS	North Side Wall	Total/NA	Solid	6010B	158963
440-68480-1 MSD	North Side Wall	Total/NA	Solid	6010B	158963
440-68480-2	South Side Wall	Total/NA	Solid	6010B	158963
440-68480-3	East Side Wall	Total/NA	Solid	6010B	158963
440-68480-4	West Side Wall	Total/NA	Solid	6010B	158963
440-68480-5	Bottom East	Total/NA	Solid	6010B	158963
440-68480-6	Bottom West	Total/NA	Solid	6010B	158963
440-68480-7	Stockpile	Total/NA	Solid	6010B	158963
LCS 440-158963/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	158963
MB 440-158963/1-A ^5	Method Blank	Total/NA	Solid	6010B	158963

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
F1	MS and/or MSD Recovery exceeds the control limits
F2	MS/MSD RPD exceeds control limits

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery exceeds the control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Certification Summary

Client: CH2M Hill, Inc.
Project/Site: UPRR-LATC Yard

TestAmerica Job ID: 440-68480-1

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-14
Arizona	State Program	9	AZ0671	10-13-14
California	LA Cty Sanitation Districts	9	10256	01-31-15
California	NELAP	9	1108CA	01-31-14
California	State Program	9	2706	06-30-14
Guam	State Program	9	Cert. No. 12.002r	01-23-14 *
Hawaii	State Program	9	N/A	01-31-14
Nevada	State Program	9	CA015312007A	07-31-14
New Mexico	State Program	6	N/A	01-31-14
Northern Mariana Islands	State Program	9	MP0002	01-31-14
Oregon	NELAP	10	4005	09-12-14
USDA	Federal		P330-09-00080	06-06-14
USEPA UCMR	Federal	1	CA01531	01-31-15

* Expired certification is currently pending renewal and is considered valid.

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY FORM

17461 Derian Ave., #100, Irvine, CA 92614 (949) 261-1022 FAX (949) 260-3297

TAL-0013 (0513)

Client Name / Address: CH2M HILL, Wilshire Blvd, Los Angeles, CA

Project / PO Number: UPRR LATC

Project Manager: Dave Poley

Phone Number: 424-238-5307

Fax Number:

Sampler: M. Mayry

Sample Description	Sample Matrix	Container Type	# of Cont.	Sampling Date	Sampling Time	Preservatives	Analysis Required: VOCs 8260B	PCBs	CAM 17 Metals	TPHg and TPHd	Special Instructions
North Side Wall	Soil	Various	8oz jars	1-28-14	1230	None	X	X	X	X	
South Side Wall					1240						
East Side Wall					1245						
West Side Wall					1233						
Bottom East					1225						
Bottom West					1235						
Stockpile					1250						
Trip Blank	AQ	VOA	3		1300	HCl	X				

A-C 1-28-14

440-68480 Chain of Custody

Relinquished By:	Date / Time: 1-28-14 / 1540	Received By:	Date / Time:	Turnaround Time: (Check)	
Relinquished By:	Date / Time:	Received By:	Date / Time:	same day	72 hours
				24 hours X	5 days
				48 hours	normal
Relinquished By:	Date / Time:	Received in Lab By:	Date / Time: 01/28/14 15:40	Sample Integrity: (Check)	
				intact X	on ice X

Note: By relinquishing samples to TestAmerica, client agrees to pay for the services requested on this chain of custody form and any additional analyses performed on this project. Payment for services is due within 30 days from the date of invoice. Sample(s) will be disposed of after 30 days.

3.9°C
2.7°C
10-63

1/29/2014

Login Sample Receipt Checklist

Client: CH2M Hill, Inc.

Job Number: 440-68480-1

Login Number: 68480

List Source: TestAmerica Irvine

List Number: 1

Creator: King, Ronald

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

CONESTOGA-ROVERS & ASSOCIATES

20818 44th Avenue West, Suite 190
Lynnwood, WA 98036
Telephone: (206) 914-3141
www.CRAworld.com

MEMORANDUM

TO:	David Poley	REF. NO.:	058324-1776
FROM:	Jeffrey Cloud/eew/471-NF	DATE:	February 14, 2014
CC:	Matthew Mayry, Jesse Orth, Julie Lidstone		

RE: Analytical Results and Reduced Validation of Reports J68291 & J68480
LATC UST
Union Pacific Railroad (UPRR) - LATC UST
Los Angeles, California
January 2014

1.0 Introduction

The following document details a reduced validation of analytical results for soil samples collected in support of the LATC UST sampling at the LATC UST Site in Los Angeles, California during January 2014. Samples were submitted to Test America, located in Irvine, California. A sample collection and analysis summary is presented in Table 1. A summary of the analytical methodology is presented in Table 2. The validated analytical results are summarized in Table 3.

Standard Conestoga-Rovers & Associates (CRA) report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody forms, finished report forms, method blank data, recovery data from surrogate spikes, laboratory control samples (LCS), matrix spikes (MS), and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

i) "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review", United States Environmental Protection Agency (USEPA) 540/R-99-008, October 1999

ii) "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review", USEPA 540/R-94-013, February 1994

These items will subsequently be referred to as the "Guidelines" in this Memorandum.

2.0 Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 2. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly delivered on ice, and stored by the laboratory at the required temperature (<6°C).

3.0 Laboratory Method Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

4.0 Surrogate Spike Recoveries - Organic Analyses

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample extraction. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for volatile organic compound (VOC), gasoline range organics (GRO), diesel range organics (DRO)/motor oil range organics (ORO) and polychlorinated biphenyl (PCB) analysis were spiked with the appropriate number of surrogate compounds prior to sample extraction.

Surrogate recoveries were assessed against the associated control limits. All surrogate recoveries met the above criteria.

5.0 Laboratory Control Sample (LCS) Analyses

LCS and/or laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

Organic Analyses

The LCS/LCSD contained the compounds specified in the method. All LCS recoveries and RPDs were within the associated control limits, demonstrating acceptable analytical accuracy and precision (where applicable).

Inorganic Analyses

The LCS contained all analytes of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries were within the control limits, demonstrating acceptable analytical accuracy.

6.0 Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the extraction or digestion process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as specified in Table 1. The laboratory performed additional site-specific MS/MSD analyses internally.

Organic Analyses

The MS/MSD samples were spiked with the compounds specified in the method. All percent recoveries and RPD values were within the associated control limits, demonstrating acceptable analytical accuracy and precision with the exceptions of one high recovery and one high RPD. The associated sample results were non-detect and would not have been impacted by the implied high bias. No qualification of the data was deemed necessary.

Inorganic Analyses

The MS/MSD samples were spiked with the analytes of interest, and the results were evaluated using the "Guidelines". All percent recoveries and RPD values were within the control limits, demonstrating acceptable analytical accuracy and precision with the exceptions of two low antimony recoveries. The associated sample results were qualified as estimate due to the implied low bias (see Table 4).

7.0 Field QA/QC Samples

The field QA/QC consisted of one trip blank sample.

Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank was submitted to the laboratory for analysis. All results were non-detect for the compounds of interest.

8.0 Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. Positive analyte detections less than the practical quantitation limit (PQL) but greater than the MDL were qualified as estimated (J) in Table 3 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the PQL in Table 3.

All soil results were reported on a wet weight basis.

9.0 Conclusion

Based on the assessment detailed in the foregoing, the summarized data are acceptable with the specific qualifications noted herein.

TABLE 1

SAMPLE COLLECTION AND ANALYSIS SUMMARY
LATC UST
UNION PACIFIC RAILROAD (UPRR) - LATC UST
LOS ANGELES, CALIFORNIA
JANUARY 2014

								Analysis/Parameters					
Sample Identification	***Location***	***Matrix***	***Initial Sample Depth (ft. bgs)***	***Final Sample Depth (ft. bgs)***	***QC Samples***	***Collection Date***	***Collection Time***	***SW6010***	***SW7471A***	***SW8015D***	***SW8015V***	***SW8082***	***SW8260***
S-1	UST	Soil	1	6		01/23/2014	20:00	X	X	X	X	X	X
North Side Wall	UST Sidewall	Soil	5.5	6	MS/MSD	01/28/2014	12:30	X	X	X	X	X	X
South Side Wall	UST Sidewall	Soil	5.5	6		01/28/2014	12:40	X	X	X	X	X	X
East Side Wall	UST Sidewall	Soil	5.5	6		01/28/2014	12:45	X	X	X	X	X	X
West Side Wall	UST Sidewall	Soil	5.5	6		01/28/2014	12:33	X	X	X	X	X	X
Bottom East	UST Footwall	Soil	9	9.5		01/28/2014	12:25	X	X	X	X	X	X
Bottom West	UST Footwall	Soil	9	9.5		01/28/2014	12:35	X	X	X	X	X	X
Stockpile	Temporary Stockpile	Soil				01/28/2014	12:50	X	X	X	X	X	X
Trip Blank	Trip Blank	Water				01/28/2014	13:00						X

Notes:

MS/MSD-P - Matrix Spike/Matrix Spike Duplicate (Partial parameters)
QC - Quality Control

TABLE 2

SUMMARY OF ANALYTICAL METHODS, HOLDING TIME PERIODS, AND PRESERVATIVES
LATC UST
UNION PACIFIC RAILROAD (UPRR) - LATC UST
LOS ANGELES, CALIFORNIA
JANUARY 2014

Parameter	*Method* [1]	*Matrix*	*Holding Time*	*Preservation* [2]
Volatile Organic Compounds (VOCs)	SW-846 8260B	Water	14 days from sample collection to completion of analysis	pH < 2 and Iced, ≤ 6° C
		Soil	14 days from sample collection to completion of analysis	Iced, ≤ 6° C
GRO	SW-846 8260B	Soil	14 days from sample collection to completion of analysis	Iced, ≤ 6° C
DRO/ORO	SW-846 8015B	Soil	14 days from sample collection to extraction 40 days from extraction to completion of analysis	Iced, ≤ 6° C
Polychlorinated Biphenyls (PCBs)	SW-846 8082	Soil	14 days from sample collection to extraction	Iced, ≤ 6° C
Metals	SW-846 6010B	Soil	180 days from sample collection to completion of analysis	Iced, ≤ 6° C
Mercury	SW-846 7471A	Soil	28 days from sample collection to completion of analysis	Iced, ≤ 6° C

Notes

[1] Method References:
SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, 3rd Edition, and Promulgated updates, November 1986
[2] pH preservation is not required in soil samples.
DRO - Diesel Range Organics
GRO - Gasoline Range Organics
ORO - Motor Oil Range Organics

TABLE 3

ANALYTICAL RESULTS SUMMARY
LATC UST
UNION PACIFIC RAILROAD (UPRR) - LATC UST
LOS ANGELES, CALIFORNIA
JANUARY 2014

Sample Location:		*Temporary Stockpile*	*UST*	*UST Footwall*	*UST Footwall*	*UST Sidewall*	*UST Sidewall*	*UST Sidewall*	*UST Sidewall*
Sample ID:		*Stockpile*	*S-1*	*Bottom East*	*Bottom West*	*East Side Wall*	*North Side Wall*	*South Side Wall*	*West Side Wall*
Sample Date:		*1/28/2014*	*1/23/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*
Sample Depth:		*-*	*1-6 ft bgs*	*9-9.5 ft bgs*	*9-9.5 ft bgs*	*5.5-6 ft bgs*	*5.5-6 ft bgs*	*5.5-6 ft bgs*	*5.5-6 ft bgs*
Parameters	***Units***								
Volatile Organic Compounds									
1,1,1,2-Tetrachloroethane	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
1,1,1-Trichloroethane	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
1,1,2,2-Tetrachloroethane	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
1,1,2-Trichloroethane	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
1,1-Dichloroethane	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
1,1-Dichloroethene	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
1,1-Dichloropropene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
1,2,3-Trichlorobenzene	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
1,2,3-Trichloropropane	µg/kg	<8.4	<2500	<11	<12	<8.6	<8.8	<8.8	<9.2
1,2,4-Trichlorobenzene	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
1,2,4-Trimethylbenzene	µg/kg	2.1	5300	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
1,2-Dibromo-3-chloropropane (DBCP)	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
1,2-Dibromoethane (Ethylene dibromide)	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
1,2-Dichlorobenzene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
1,2-Dichloroethane	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
1,2-Dichloropropane	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
1,3,5-Trimethylbenzene	µg/kg	<1.7	520	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
1,3-Dichlorobenzene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
1,3-Dichloropropane	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
1,4-Dichlorobenzene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
2,2-Dichloropropane	µg/kg	<1.7	<1000	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
2-Butanone (Methyl ethyl ketone) (MEK)	µg/kg	<8.4	<5000	<11	<12	<8.6	<8.8	<8.8	<9.2
2-Chlorotoluene	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
2-Hexanone	µg/kg	<21	<6300	<27	<29	<21	<22	<22	<23
2-Phenylbutane (sec-Butylbenzene)	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
4-Chlorotoluene	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/kg	<4.2	<2500	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6

TABLE 3

ANALYTICAL RESULTS SUMMARY
LATC UST
UNION PACIFIC RAILROAD (UPRR) - LATC UST
LOS ANGELES, CALIFORNIA
JANUARY 2014

Sample Location:		*Temporary Stockpile*	*UST*	*UST Footwall*	*UST Footwall*	*UST Sidewall*	*UST Sidewall*	*UST Sidewall*	*UST Sidewall*
Sample ID:		*Stockpile*	*S-1*	*Bottom East*	*Bottom West*	*East Side Wall*	*North Side Wall*	*South Side Wall*	*West Side Wall*
Sample Date:		*1/28/2014*	*1/23/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*
Sample Depth:		*-*	*1-6 ft bgs*	*9-9.5 ft bgs*	*9-9.5 ft bgs*	*5.5-6 ft bgs*	*5.5-6 ft bgs*	*5.5-6 ft bgs*	*5.5-6 ft bgs*
Parameters	***Units***								
Volatile Organic Compounds (Continued)									
Acetone	µg/kg	<17	<10000	<22	<24	<17	<18	<18	<18
Benzene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
Bromobenzene	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
Bromodichloromethane	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
Bromoform	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
Bromomethane (Methyl bromide)	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
Carbon tetrachloride	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
Chlorobenzene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
Chlorobromomethane	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
Chloroethane	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
Chloroform (Trichloromethane)	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
Chloromethane (Methyl chloride)	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
cis-1,2-Dichloroethene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
cis-1,3-Dichloropropene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
Cymene (p-Isopropyltoluene)	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
Dibromochloromethane	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
Dibromomethane	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
Dichlorodifluoromethane (CFC-12)	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
Diisopropyl ether	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
Ethylbenzene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
Hexachlorobutadiene	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
Isopropyl benzene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
m&p-Xylenes	µg/kg	<3.4	<1000	<4.4	<4.7	<3.4	<3.5	<3.5	<3.7
Methyl tert butyl ether (MTBE)	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
Methylene chloride	µg/kg	<17	<5000	<22	<24	<17	<18	<18	<18
Naphthalene	µg/kg	11	12000	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
N-Butylbenzene	µg/kg	<4.2	910 J	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6

TABLE 3

ANALYTICAL RESULTS SUMMARY
LATC UST
UNION PACIFIC RAILROAD (UPRR) - LATC UST
LOS ANGELES, CALIFORNIA
JANUARY 2014

Sample Location:		*Temporary Stockpile*	*UST*	*UST Footwall*	*UST Footwall*	*UST Sidewall*	*UST Sidewall*	*UST Sidewall*	*UST Sidewall*
Sample ID:		*Stockpile*	*S-1*	*Bottom East*	*Bottom West*	*East Side Wall*	*North Side Wall*	*South Side Wall*	*West Side Wall*
Sample Date:		*1/28/2014*	*1/23/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*
Sample Depth:		*-*	*1-6 ft bgs*	*9-9.5 ft bgs*	*9-9.5 ft bgs*	*5.5-6 ft bgs*	*5.5-6 ft bgs*	*5.5-6 ft bgs*	*5.5-6 ft bgs*
Parameters	***Units***								
Volatile Organic Compounds (Continued)									
N-Propylbenzene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
o-Xylene	µg/kg	<1.7	460 J	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
Styrene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
tert-Amyl methyl ether	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
tert-Butyl alcohol	µg/kg	<84	<25000	<110	<120	<86	<88	<88	<92
tert-Butyl ethyl ether	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
tert-Butylbenzene	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
Tetrachloroethene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
Toluene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
trans-1,2-Dichloroethene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
trans-1,3-Dichloropropene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
Trichloroethene	µg/kg	<1.7	<500	<2.2	<2.4	<1.7	<1.8	<1.8	<1.8
Trichlorofluoromethane (CFC-11)	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
Vinyl chloride	µg/kg	<4.2	<1300	<5.4	<5.9	<4.3	<4.4	<4.4	<4.6
Xylenes (total)	µg/kg	<3.4	<1000	<4.4	<4.7	<3.4	<3.5	<3.5	<3.7
Metals									
Antimony	mg/kg	<9.9 J	<10	<10 J	<10 J	<10 J	<10 J	<10 J	<10 J
Arsenic	mg/kg	<3.0	2.2 J	<3.0	<3.0	<3.0	1.6 J	<3.0	2.8 J
Barium	mg/kg	52	73	49	28	68	68	76	82
Beryllium	mg/kg	1.6	1.5	1.5	0.91	1.5	2.0	2.8	3.5
Cadmium	mg/kg	<0.49	<0.50	<0.50	<0.50	0.31 J	<0.50	<0.50	0.27 J
Chromium	mg/kg	8.7	6.2	7.6	5.0	15	12	20	18
Cobalt	mg/kg	3.9	4.2	2.9	2.5	5.1	6.3	7.5	7.5
Copper	mg/kg	12	22	8.5	5.8	16	14	22	20
Lead	mg/kg	8.5	3.2	2.4	1.4 J	3.8	3.0	5.5	4.2
Mercury	mg/kg	0.056	0.022	0.052	0.054	0.038	0.054	0.10	0.12

TABLE 3

ANALYTICAL RESULTS SUMMARY
LATC UST
UNION PACIFIC RAILROAD (UPRR) - LATC UST
LOS ANGELES, CALIFORNIA
JANUARY 2014

Sample Location:		*Temporary Stockpile*	*UST*	*UST Footwall*	*UST Footwall*	*UST Sidewall*	*UST Sidewall*	*UST Sidewall*	*UST Sidewall*
Sample ID:		*Stockpile*	*S-1*	*Bottom East*	*Bottom West*	*East Side Wall*	*North Side Wall*	*South Side Wall*	*West Side Wall*
Sample Date:		*1/28/2014*	*1/23/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*	*1/28/2014*
Sample Depth:		*-*	*1-6 ft bgs*	*9-9.5 ft bgs*	*9-9.5 ft bgs*	*5.5-6 ft bgs*	*5.5-6 ft bgs*	*5.5-6 ft bgs*	*5.5-6 ft bgs*
Parameters	***Units***								
Metals (Continued)									
Molybdenum	mg/kg	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Nickel	mg/kg	5.6	4.9	4.2	2.3	12	9.6	12	14
Selenium	mg/kg	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0	<3.0
Silver	mg/kg	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
Thallium	mg/kg	<9.9	<10	<10	<10	<10	<10	<10	<10
Vanadium	mg/kg	27	32	31	26	30	38	45	50
Zinc	mg/kg	34	63	24	16	40	35	61	51
Petroleum Products									
Total Petroleum Hydrocarbons (C4-C12) GRO	µg/kg	<340	210000	<390	<370	<330	<400	<350	<360
Total Petroleum Hydrocarbons (C13-C22) Extractable	mg/kg	27	2000	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Total Petroleum Hydrocarbons (C23-C40) ORO	mg/kg	7.6	<250	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
PCBs									
Aroclor-1016 (PCB-1016)	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Aroclor-1221 (PCB-1221)	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Aroclor-1232 (PCB-1232)	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Aroclor-1242 (PCB-1242)	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Aroclor-1248 (PCB-1248)	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Aroclor-1254 (PCB-1254)	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50
Aroclor-1260 (PCB-1260)	µg/kg	<50	<50	<50	<50	<50	<50	<50	<50

Notes:

ft bgs - Feet Below Ground Surface
GRO - Gasoline Range Organics
J - Estimated concentration
ORO- Motor Oil Range Organics

TABLE 4

QUALIFIED SAMPLE RESULTS DUE TO OUTLYING MATRIX SPIKE/MATRIX SPIKE DUPLICATE RESULTS
LATC UST
UNION PACIFIC RAILROAD (UPRR) - LATC UST
LOS ANGELES, CALIFORNIA
JANUARY 2014

Parameter	*Analyte*	*MS %Rec*	*MSD %Rec*	*RPD*	*Control Limits %Rec*	*Control Limits RPD*	*Associated Sample ID*	*Qualified Result*	*Units*
SW6010	Antimony	37	43	16	75-125	20	Bottom East	10 UJ	mg/kg
SW6010	Antimony	37	43	16	75-125	20	Bottom West	10 UJ	mg/kg
SW6010	Antimony	37	43	16	75-125	20	East Side Wall	10 UJ	mg/kg
SW6010	Antimony	37	43	16	75-125	20	North Side Wall	10 UJ	mg/kg
SW6010	Antimony	37	43	16	75-125	20	South Side Wall	10 UJ	mg/kg
SW6010	Antimony	37	43	16	75-125	20	Stockpile	9.9 UJ	mg/kg
SW6010	Antimony	37	43	16	75-125	20	West Side Wall	10 UJ	mg/kg

Notes:

UJ - Not detected; associated reporting limit is estimated
MS - Matrix Spike
MSD - Matrix Spike Duplicate
RPD - Relative Percent Difference
%Rec - Percent Recovery

Appendix D

Waste Disposal Manifests

MR-473-PL

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 0.5.8.2.1

2. Page 1 of 1

105821

GENERATOR

3. Generator's Name and Mailing Address
UNION PACIFIC RAILROAD
10031 FOOTHILL BLVD.
ROSEVILLE CA 95747

750 LAMAR ST.
LOS ANGELES CA 90033

4. Generator's Phone (9 1 6) 7 8 9 - 6 4 8 1

5. Transporter 1 Company Name
UNITED PUMPING SERVICE, INC.

6. US EPA ID Number
C.A.D.0.7.2.9.5.3.7.7.1

A. Transporter's Phone
626 961-9326

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
WASTE MANAGEMENT-SIMI VALLEY
2801 MADERA RD.
SIMI VALLEY CA 93065

10. US EPA ID Number

C. Facility's Phone

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. NON HAZARDOUS WASTE SOLID	001	CM	15	Y
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
1) SOIL, SAND, GRAVEL, ABSORBENT PROFILE# 81650CA

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
24 HOUR EMERGENCY PHONE#: 626/961-9326 WEAR APPRORIATE PROTECTIVE EQUIPMENT
WO# 96958-2

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Roger Hellene UON Behalf of UPRR		2	3	14

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Jose A. Arce		2	3	14

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Shawn Brown		2	2	14

TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065 Ph: (805) 579-7267

Original
Ticket# 1191557

Customer Name:UNITED PUMPING SERVICE INC UN
Ticket Date 02/12/2014
Payment Type Credit Account
Billing# 0000149
Manual Ticket#
PO#
Contract

Carrier UNITED PUMPING United Pumping Servic
Vehicle# 250
Container
Generator Name 144-UNIONPACIFICRAILROADLA UNIO
Profile 616506CA (UNION PACIFIC RAILROAD~SOI
Manifest# 105820/105821

	Time	Scale	Operator
In	02/12/2014 14:17:10	2	Shawn
Out	02/12/2014 16:06:16	2	Shawn

Gross	77940 lb
Tare	40720 lb
Net	37220 lb
Tons	18.61

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Special Waste-Tons-Speci	100	18.61	Tons				LOSA

Eduardo Cardenas

Driver's Signature

Total Tax
Total Ticket

203WM

[redacted]

MR-504-PL

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No. . . . . | Manifest Document No. 0.5.5.2.0 | 2. Page 1 of 1 | 105820

GENERATOR

3. Generator's Name and Mailing Address
UNION PACIFIC RAILROAD
10031 FOOTHILL BLVD.
ROSEVILLE CA 95747

750 LAMAR ST.
LOS ANGELES CA 90033

4. Generator's Phone (9 1 6) 7 8 9 - 6 4 8 1

5. Transporter 1 Company Name: UNITED PUMPING SERVICE, INC.
6. US EPA ID Number: C.A.D.0.7.2.9.5.3.7.7.1
A. Transporter's Phone: 626 961-9326

7. Transporter 2 Company Name:
8. US EPA ID Number: . . . . . .
B. Transporter's Phone:

9. Designated Facility Name and Site Address
WASTE MANAGEMENT-SIMI VALLEY
2801 MADERA RD.
SIMI VALLEY CA 93065

10. US EPA ID Number: . . . . . .
C. Facility's Phone:

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. NON HAZARDOUS WASTE SOLID	001	CM	15.	Y
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above
1) SOIL, SAND, GRAVEL, ABSORBENT PROFILE# 61650GCA

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
24 HOUR EMERGENCY PHONE#: 626/961-9326 WEAR APPRORIATE PROTECTIVE EQUIPMENT
WO# 96958-1

TRANSPORTER

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
Roger Arellano on behalf of UPRR		2	3	14

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Jorge A Flores	Jorge A Flores	2	3	14

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
		.	.	.

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest as noted in Item 19.

Printed/Typed Name	Signature	Month	Day	Year
Shawn Brown	Shawn Brown	2	12	14

TRANSPORTER #2

WASTE MANAGEMENT

Simi Valley Landfill and Recycling Center
2801 Madera Road
Simi Valley, CA, 93065
Ph: (805) 579-7267

Original
Ticket# 1191557

Customer Name:UNITED PUMPING SERVICE INC UN
Ticket Date 02/12/2014
Payment Type Credit Account
Billing# 0000149
Manual Ticket#
PO#
Contract

Carrier UNITED PUMPING United Pumping Servic
Vehicle# 250
Container
Generator Name 144-UNIONPACIFICRAILROADLA UNIO
Profile 616506CA (UNION PACIFIC RAILROAD~SOI
Manifest# 105820/105821

	Time	Scale	Operator
In	02/12/2014 14:17:10	2	Shawn
Out	02/12/2014 16:06:16	2	Shawn

Gross	77940 lb
Tare	40720 lb
Net	37220 lb
Tons	18.61

Comments

Customer assumes all risks & liability to self and vehicle.

	Product	LD%	Qty	UOM	Rate	Tax	Amount	Origin
1	Special Waste-Tons-Speci	100	18.61	Tons				LOSA

Eduardo Cardenas

Driver's Signature

Total Tax
Total Ticket

203WM

[redacted]

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J-49 - Chevron Station, 901 Alameda Street

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State of California
Environmental Protection Agency

UNDERGROUND STORAGE TANK
LOW RISK CASE REVIEW FORM

Los Angeles Regional
Water Quality Control Board

Case reviewer: Arman Toumari AT	Unit Chief: Yi Lu	Section Chief: Yue Rong YR	Acting AEO: Rebecca Chou	EO: Samuel Unger
Date: 7/18/11	Date: 8/30/11	Date: 8-30-11	Date: 8/30/11	Date: 8/31/11

LUSTIS File No. 900120516		Investigation and Cleanup Priority: D-1	
Site Name/Address: **Chevron Service Station 9-8815 901 North Alameda Street Los Angeles, CA 90012**	Responsible parties: **Joe Bezerra Magdalena Bezerra**	Address: **2321 Hacienda Boulevard Hacienda Heights CA 91745**	Phone no.:

I. CASE INFORMATION (N/A = Not Applicable)

Tank No	Size in Gallons	Contents	Closed in-place/Removed/Active?	Date
1-2	10,000	Gasoline	Active	N/A
3	10,000	Diesel	Active	N/A
4	Unknown	Waste Oil	Removed	1983

II. SITE CHARACTERIZATION INFORMATION (GW=groundwater, --- =Not Reported, N/A = Not Applicable)

GW Basin: Los Angeles	Beneficial uses: Mun, Ind, Proc, Agr	Note:	
Distance to nearest municipal supply well: 16,248 ft			
GW highest depth: 35	GW lowest depth: 35	Well screen interval: N/A	Flow direction: ---
Soil types: Silty sand (0-20'), Silty Clay (20'-35')		Maximum soil depth sampled: 35 ft bgs	

III. SITE INSPECTION

Pre-closure site inspection: N/A	Is there sensitive receptor next to the site (school, church, hospital, kindergarten etc.) No (according to Google map) If yes, brief description: N/A

IV. MAXIMUM DOCUMENTED CONTAMINANT CONCENTRATIONS -- Initial and Latest

Contaminant	Soil (mg/kg)		EPA SLs*		Soil Screening Levels** (mg/kg)	Water (µg/L)***		MCLs/AL (µg/L)
	Initial (9/94)	Latest (1/11)	Residential (mg/kg)	Industrial (mg/kg)	Depth to gw (ft) = 35 Type of soil = Clay	Initial*** (1/11)	Latest***	
TPH (Gas)	5,200	ND	NE	NE	500	ND	NRQ	NE
TPH (Diesel)	NA	ND	NE	NE	1000	ND	NRQ	NE
Benzene	3.8	ND	1.1	5.4	0.143	ND	NRQ	1
Toluene	15	ND	5,000	45,000	7.5	0.65	NRQ	150
Ethylbenzene	91	0.063	5.4	27	30	5.23	NRQ	300
Xylenes	600	0.048	630	2,700	83	3.29	NRQ	1,750
MTBE	0.77 (5/00)	ND	43	220	0.156	0.5	NRQ	13 (Primary) 5 (Secondary)
DIPE	NA	ND	2,400	10,000	NE	ND	NRQ	NE
ETBE	NA	ND	NE	NE	NE	ND	NRQ	NE
TAME	NA	ND	NE	NE	NE	ND	NRQ	NE
TBA	NA	ND	NE	NE	NE	ND	NRQ	12 (NL)
Ethanol	NA	NA	NE	NE	NE	ND	NRQ	NE

NE = Not Established. NL = Notification Level. NA = Not Analyzed NRQ = Not Required.
* SLs = USEPA Risk-Based Screening Levels (May 2011). ** Please see the attached table 4 –1 ***grab samples - only one event was performed.

V. FREE PRODUCT

Was free product encountered? No	Has free product been totally removed? N/A
When was free product recovery project completed? N/A	

Site Name/Address: 901 N. Alameda St., Los Angeles, CA	Staff Initial: AT

VI. SOIL REMEDIATION

Method: Excavation and disposal	Duration of remediation: September 16, 1994
Waste manifest document: Yes	Volume of soil disposal/mass removal: 108 cubic yards

VII. GROUNDWATER REMEDIATION

Method: None	Duration of remediation: N/A

VIII. COMMENTS AND JUSTIFICATION FOR RECOMMENDED ACTION

Site History

The site is located at the intersection of North Alameda Street, North Main Street, and East Cesar Chavez Avenue. The site is a Chevron service station with two 10,000-gallon gasoline underground storage tanks (USTs) and one 10,000-gallon diesel UST. A waste oil tank with unknown capacity was removed during the station upgrade in 1983. The City of Los Angeles Fire Department transferred the case to this Regional Board on May 10, 2011.

Data Summary

Site Assessment Summary

September 14, 1994 – Thirteen soil samples (DW-1, DE-2, DE-4 through DE-6, DW-1 through DW-6, LE-3, and LW3) were collected from beneath the product piping and the dispenser islands during the underground product piping replacement. Soil samples detected TPHg up to 5,200 mg/kg and benzene up to 3.3 mg/kg. Oxygenates were not analyzed. See Table 1 for soil data.

September 16, 1994 – Fifteen soil samples (DW-M1 through DW-M3, DW-N1 through DW-N3, DE-S1 through DE-S3, DE-N1 through DE-N3, and DW-S1 through DW-S3) were collected during the over-excavation of impacted soil in the area of the two dispenser islands. Soil samples detected TPHg up to 1,900 mg/kg and benzene up to 3.8 mg/kg. Oxygenates were not analyzed. See Table 2 for soil data.

May 2000 – Five soil borings (B-1 through B-5) were drilled to 30 ft bgs. Soil samples detected toluene up to 0.006 mg/kg and MTBE up to 0.77 mg/kg. No other petroleum constituents were detected. See Table 3 for soil data.

January 2011 – Six soil boring (B-1 through B6) were drilled to 35 ft bgs. Soil samples detected ethylbenzene up to 0.063 mg/kg and xylenes up to 0.048 mg/kg. No other petroleum constituents or MTBE was detected. The soil samples were also analyzed for full scan VOCs. No chlorinated VOCs were detected. Six soil vapor samples were also collected at 15 ft and 20 ft bgs. No petroleum constituents or MTBE was detected in the vapor samples. See Table 4 for soil data.

Groundwater Monitoring Summary

There are no groundwater monitoring wells at the site. One grab groundwater sampling was performed in January 2011 during which up to 0.5 µg/L of MTBE was detected in the groundwater. No benzene or TPHg was detected. The grab samples were also analyzed for full scan VOCs. No chlorinated VOCs were detected. The groundwater table was not measured, and flow direction is unknown. Based on the above soil and groundwater analytical results, future soil and/or groundwater monitoring and remedial actions were not required.

Subsurface Lithology

According to the boring logs, the subsurface lithology of the site consists of sand from the surface to 20 ft bgs, silty clay from 20 ft to 40 ft bgs, and gravelly sand from 40 ft to 42 ft bgs, the maximum depth explored.

Contaminant Exposure Pathways Evaluation

Direct Contact

There are no risks of affecting human health via direct contact because the fuel constituent concentrations and MTBE in the soil are all below their respective EPA SLs.

Protection of Drinking Water Aquifer

There are no risks of contaminating the regional groundwater supplies because the fuel constituent concentrations and MTBE in the soil are all below their respective SSLs, and the fuel constituent concentrations and MTBE in the groundwater are all below their respective MCLs.

Site Name/Address: 901 N. Alameda St., Los Angeles, CA	Staff Initial: AT

Plume Migration

The grab sampling data show that there is no dissolved phase plume.

Vapor Intrusion

The residual concentrations of gasoline constituents in the soil beneath the site do not cause any vapor intrusion concerns, because

- No fuel constituent concentrations or MTBE was detected in the soil vapor samples collected at 15 ft or 20 ft bgs.
- The latest soil data show that benzene was detected below the interim vapor intrusion guidance (180 µg/kg of benzene at five ft bgs), and the ground surface is paved.

Factors Supporting Low Risk Closure

Based on the above assessment, staff recommends to grant a low-risk closure for the site for the following reasons:

- The source of the gasoline leak has been removed from the site as all of the USTs have either been upgraded or removed.
- The extent of soil and groundwater contamination has been adequately defined.
- Over-excavation removed 108 cubic yards of impacted soil from the site.
- The residual soil and groundwater contamination are unlikely to cause significant human health and environmental risks via major pathways, such as direct contact, drinking water ingestion, and vapor intrusion.

IX. MTBE FATE & TRANSPORT PLUME LENGTH MODELING ANALYSIS

Plume length is not required because MTBE was not detected at any of the grab samples.

X. ELECTRONIC DELIVERABLE FORMAT (EDF) SUBMISSION

Has electronic data reporting requirement been met? Yes

XI. AB 681 REQUIREMENT (Land Owner Notification)

Verify property ownership http://assessor.lacounty.gov/extranet/DataMaps/Pais.aspx (date) : 06/22/11
Have requirements for landowner or impacted site notification been met? N/A
Owner(s): Mr. Joe Bezerra/Mrs. Magdalena Bezerra
Responsible party: Mr. Joe Bezerra/Mrs. Magdalena Bezerra
Pre-closure letter sent date: N/A

Site Name/Address: 901 N. Alameda St., Los Angeles, CA	Staff Initial: AT

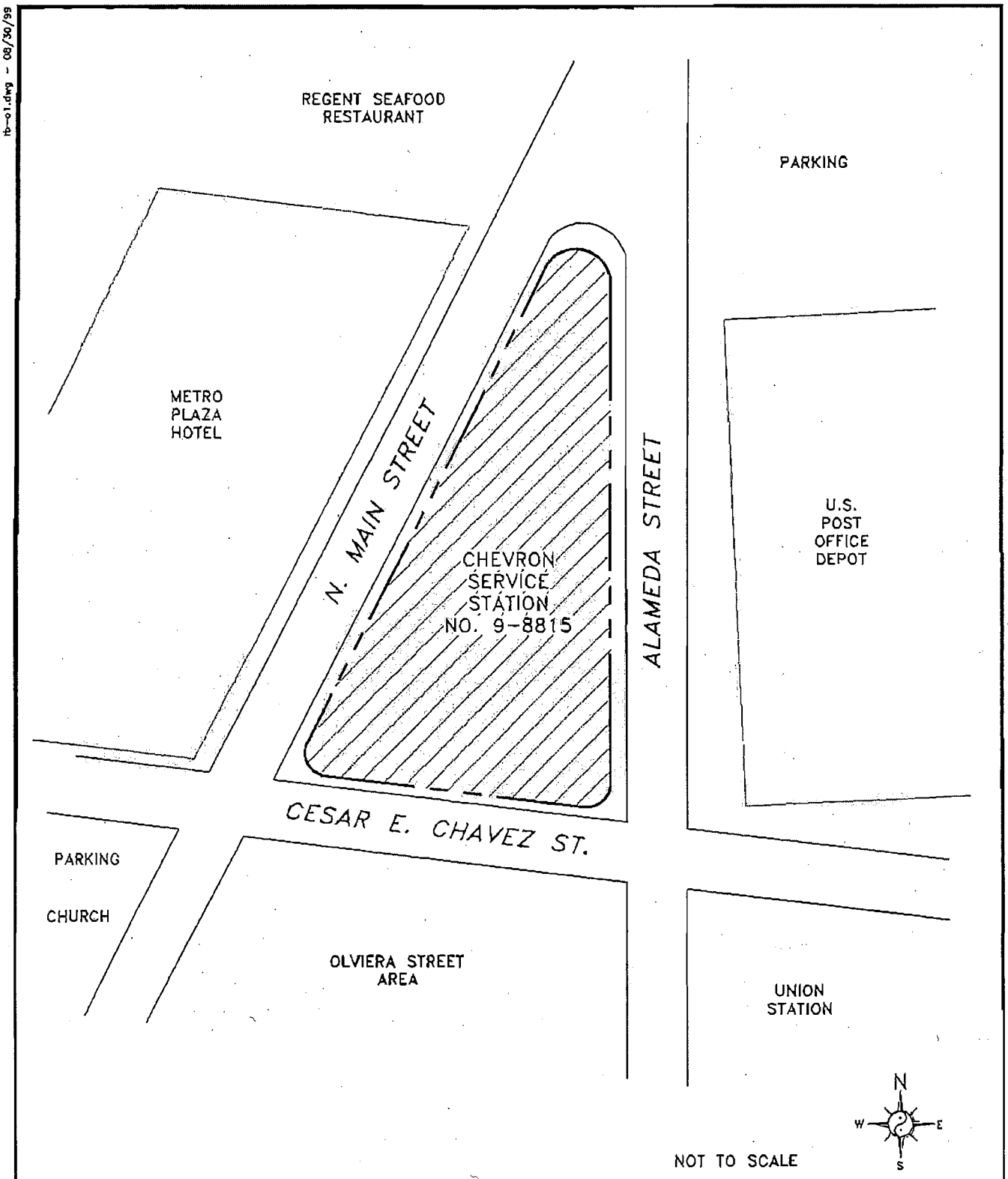
Table 4-1: Maximum Soil Screening Levels (mg/kg) for TPH, BTEX and MTBE above Drinking Water Aquifers

	Distance Above Groundwater	Carbon Range		
		C4-C12	C13-C22	C23-C32
TPH	>150 feet	1,000	10,000	50,000
	20-150 feet	500	1,000	10,000
	<20 feet	100	100	1,000

	Distance Above Groundwater	Lithology			
		Gravel	Sand	Silt	Clay
BTEX & MTBE	150 feet	B=0.044 T=2 E=8 X=23 MTBE = 0.039	B=0.077 T=4 E=17 X=48 MTBE = 0.078	B=0.165 T=9 E=34 X=93 MTBE = 0.156	B=0.8 T=43 E=170 X=465 MTBE = 0.78
	120 feet	B=0.035 T=1.57 E=6.3 X=17.9 MTBE = 0.028	B=0.058 T=3.1 E=12.7 X=36 MTBE = 0.061	B=0.123 T=7 E=25.9 X=70.3 MTBE = 0.117	B=0.603 T=32 E=128 X=351 MTBE = 0.591
	100 feet	B=0.028 T=1.3 E=5.1 X=14.4 MTBE = 0.020	B=0.046 T=2.57 E=9.86 X=28 MTBE = 0.05	B=0.094 T=5.4 E=20.4 X=55.1 MTBE = 0.091	B=0.471 T=25 E=101 X=276 MTBE = 0.464
	80 feet	B=0.022 T=1 E=4 X=11 MTBE = 0.013	B=0.033 T=2 E=7 X=20 MTBE = 0.039	B=0.066 T=4 E=15 X=40 MTBE = 0.065	B=0.34 T=18 E=73 X=200 MTBE = 0.338
	60 feet	B=0.018 T=0.72 E=2.9 X=7.9 MTBE = 0.013	B=0.026 T=1.4 E=4.9 X=13.9 MTBE = 0.03	B=0.048 T=2.8 E=10.7 X=28.4 MTBE = 0.048	B=0.241 T=13 E=52 X=141.5 MTBE = 0.247
	40 feet	B=0.015 T=0.43 E=1.8 X=4.8 MTBE = 0.013	B=0.018 T=0.87 E=2.8 X=7.8 MTBE = 0.022	B=0.029 T=1.6 E=6.3 X=16.9 MTBE = 0.03	B=0.143 T=7.5 E=30 X=83 MTBE = 0.156
	20 feet	B=0.011 T=0.15 E=0.7 X=1.75 MTBE = 0.013	B=0.011 T=0.3 E=0.7 X=1.75 MTBE = 0.013	B=0.011 T=0.45 E=2 X=5.3 MTBE = 0.013	B=0.044 T=2.3 E=9 X=24.5 MTBE = 0.065

- TPH = Total petroleum hydrocarbons.
- BTEX = benzene, toluene, ethylbenzene, and xylenes, respectively. MTBE = methyl tertiary butyl ether.
- Respective MCLs (ppm): B=0.001, T=0.15, E=0.7, X=1.75, MTBE=0.013.
- BTEX screening concentrations determined per the attenuation factor method as described in RWQCB Guidance for VOC Impacted Sites (March 1996), with a natural degradation factor of 11 for BTEX and of 3 for MTBE. Table values can be linearly interpolated between distance above groundwater and are proportional to fraction of each lithological thickness.
- Values in Table 4-1 are for soils above drinking water aquifers. All groundwaters are considered as drinking water resources unless exempted by one of the criteria as defined under SWRCB Resolution 88-63 (TDS>3000 mg/L, or deliverability <200 gal/day, or existing contamination that cannot be reasonably treated). Regional Board staff will make a determination of potential water use at a particular site considering water quality objectives and beneficial uses. For non-drinking water aquifers, regardless of depth, TPH for ">150 feet" category in the table should be used;
- Distance above groundwater must be measured from the highest anticipated water level. Lithology is based on the USCS scale.
- In areas of naturally-occurring hydrocarbons, Regional Board staff will make determinations on TPH levels.

(revised 1/7/05)

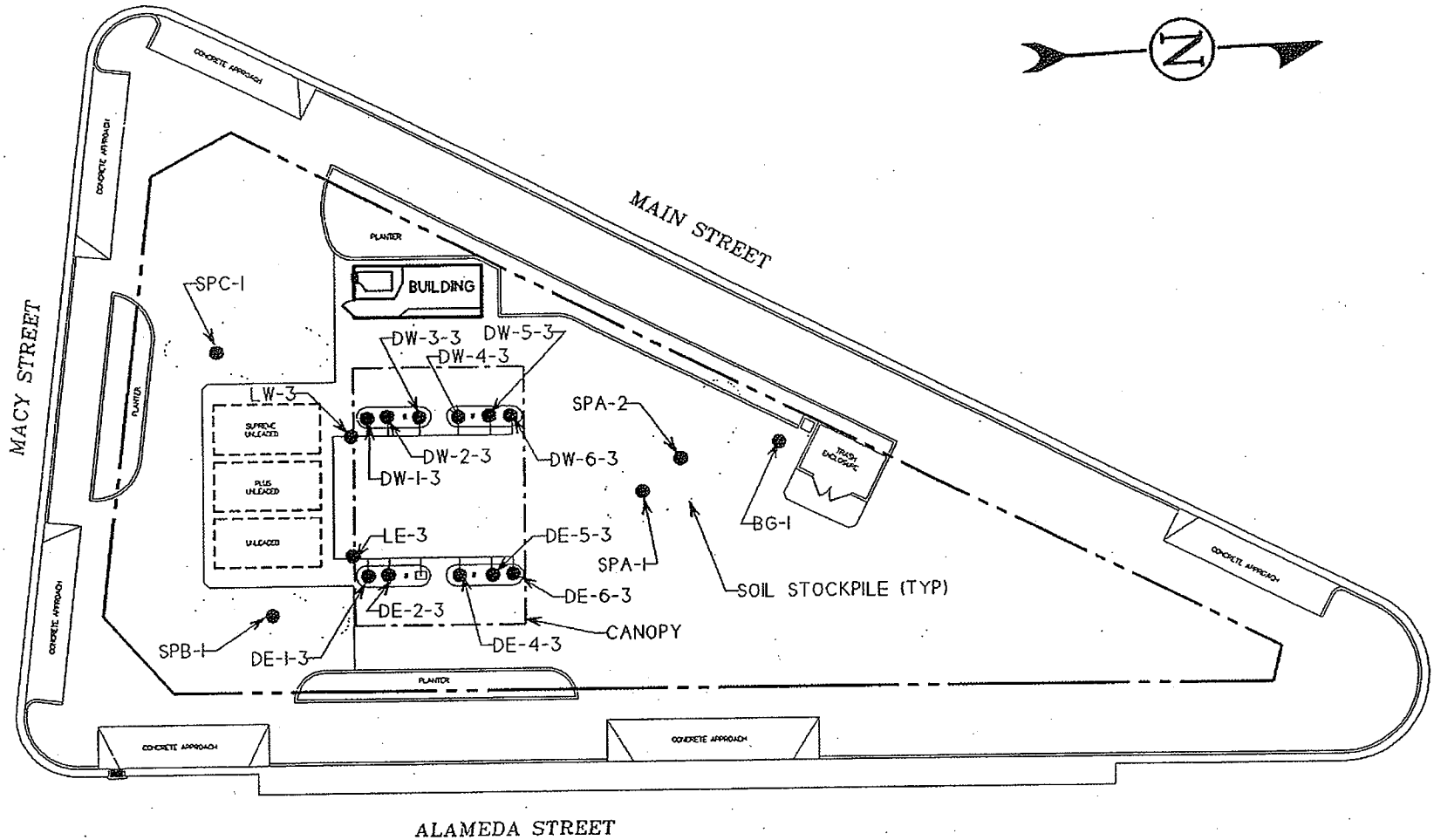


Environmental Science & Engineering, Inc. A MACTEC Company 3545 HOWARD WAY, 2ND FLOOR COSTA MESA, CA 92626-1418	DWG BY NMM DATE 05/16/00 REV BY REVISED	VICINITY MAP CHEVRON STATION NO. 9-8815 901 N. ALAMEDA STREET LOS ANGELES, CA.	FIGURE NO. 2 PROJECT NO. 64-00134

DATE PLOTTED: 05/16/00

FILE: K:\DWGS\CHEVRON\9-8815\VICINITY MAP

fb-01.dwg - 08/30/99



LEGEND

● INDICATES BORING LOCATION

DE - 1 - 3

- DEPTH BELOW GRADE
- SAMPLE I.D
- SAMPLE LOCATION (D=DISPENSER, L=LINE BG= BACKGROUND)

30 15 0 30

SCALE IN FEET

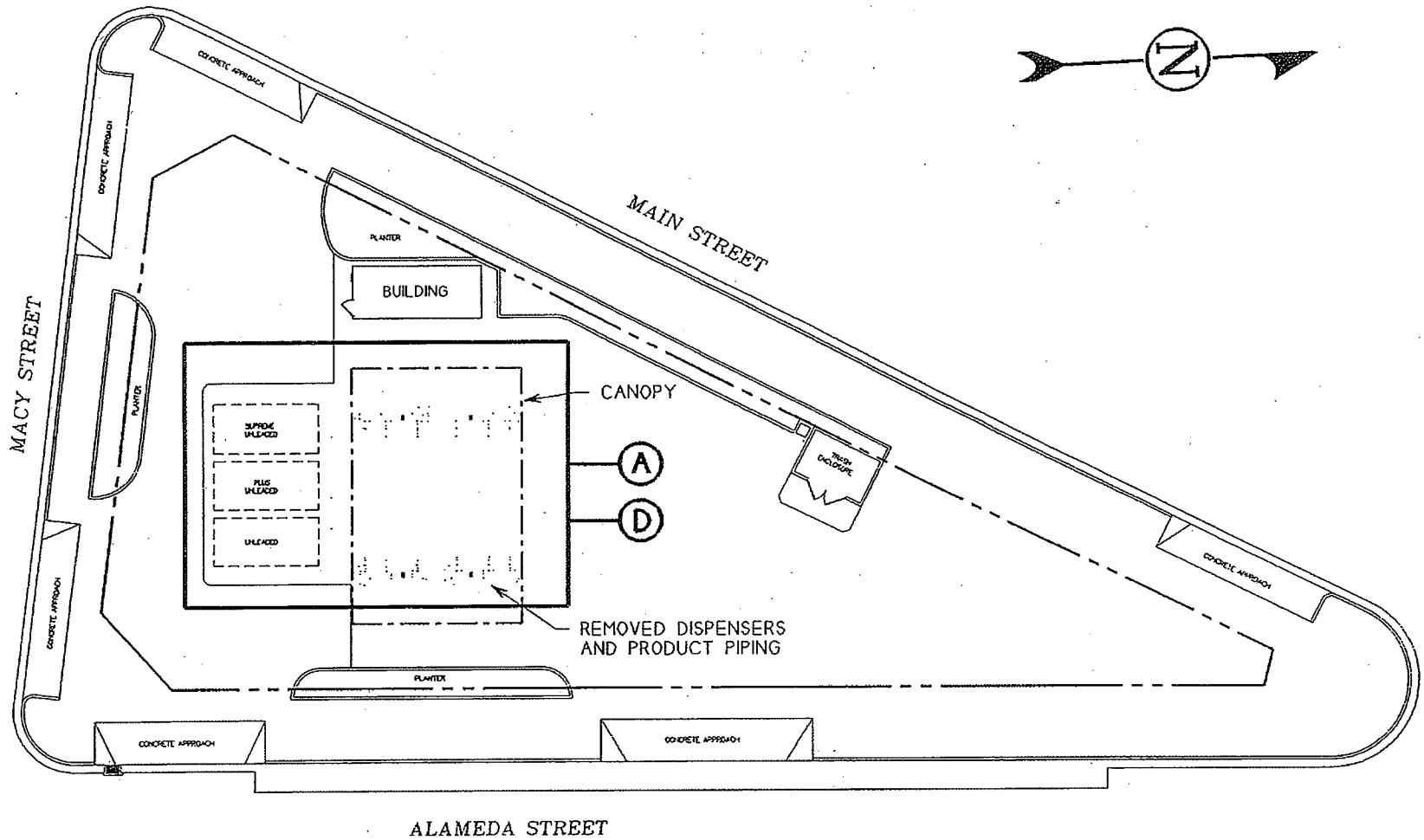
DRAWING TAKEN FROM:
CHEVRON SOUTHWEST REGION, PIPING AND SITE PLAN, 1022/93

DISPENSER AND PRODUCT PIPING SAMPLES (OBTAINED 9/14/94)

CHEVRON SERVICE STATION #8815
901 NORTH ALAMEDA STREET
LOS ANGELES, CALIFORNIA

Thomas Hill & Associates
CONSULTING ENGINEERS
NEWPORT BEACH, CALIFORNIA

DATE: 11/7/94
SCALE: AS SHOWN
PROJECT: 4CU068
DRAWN BY: TMM
CHECKED BY: JPB



30 15 0 30

SCALE IN FEET

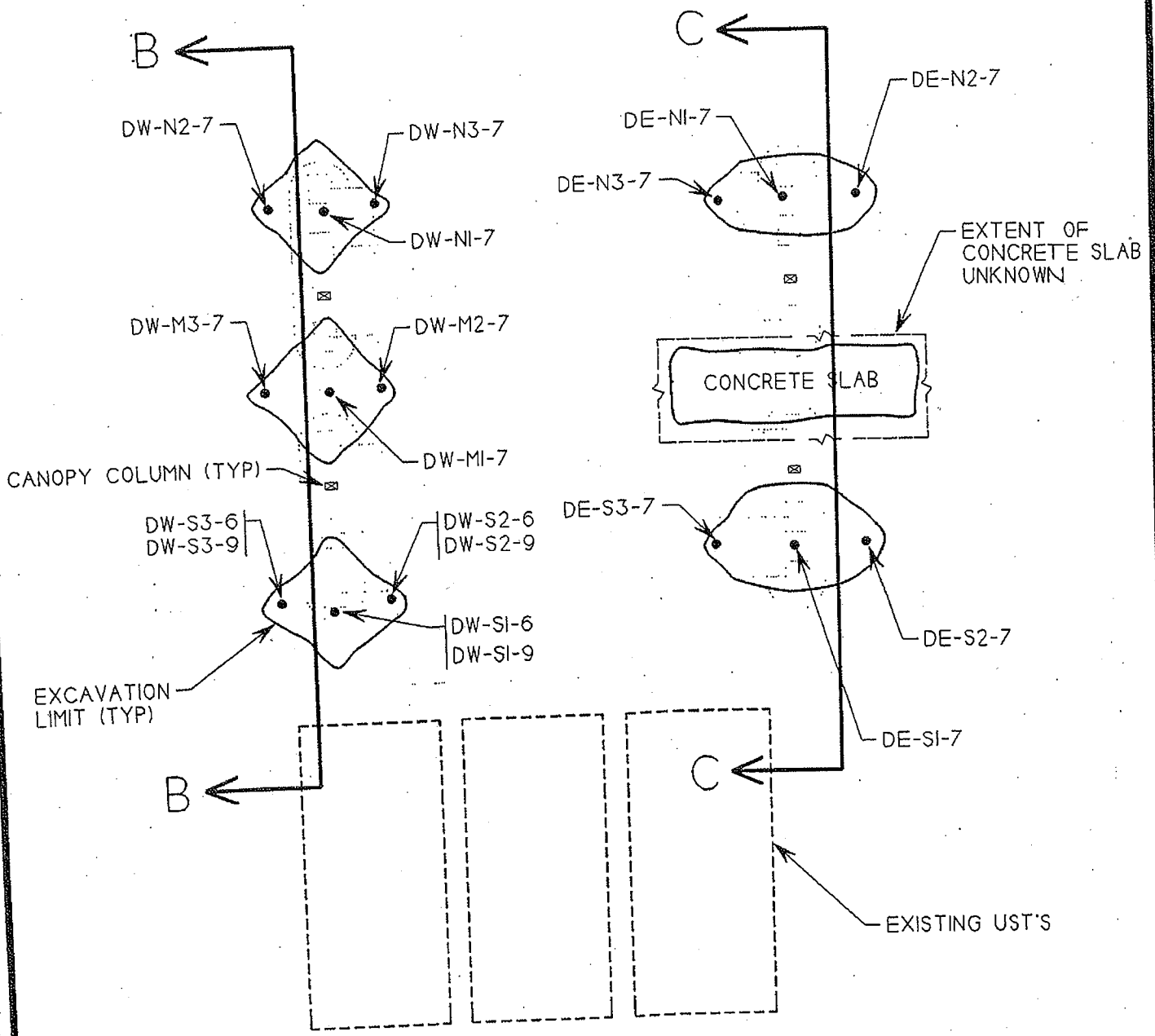
DRAWING TAKEN FROM:
CHEVRON SOUTHWEST REGION, PIPING SITE PLAN, 10/22/93

SITE PLAN

CHEVRON SERVICE STATION #8815
901 NORTH ALAMEDA STREET
LOS ANGELES, CALIFORNIA

Thomas Hill & Associates
CONSULTING ENGINEERS
NEWPORT BEACH, CALIFORNIA

DATE: 10/20/94
SCALE: AS SHOWN
PROJECT: 4CU072
DRAWN BY: TMM
CHECKED BY: JPB



10 5 0 10

SCALE IN FEET

LEGEND

- TYPICAL SAMPLE LOCATION

DW-M3-7

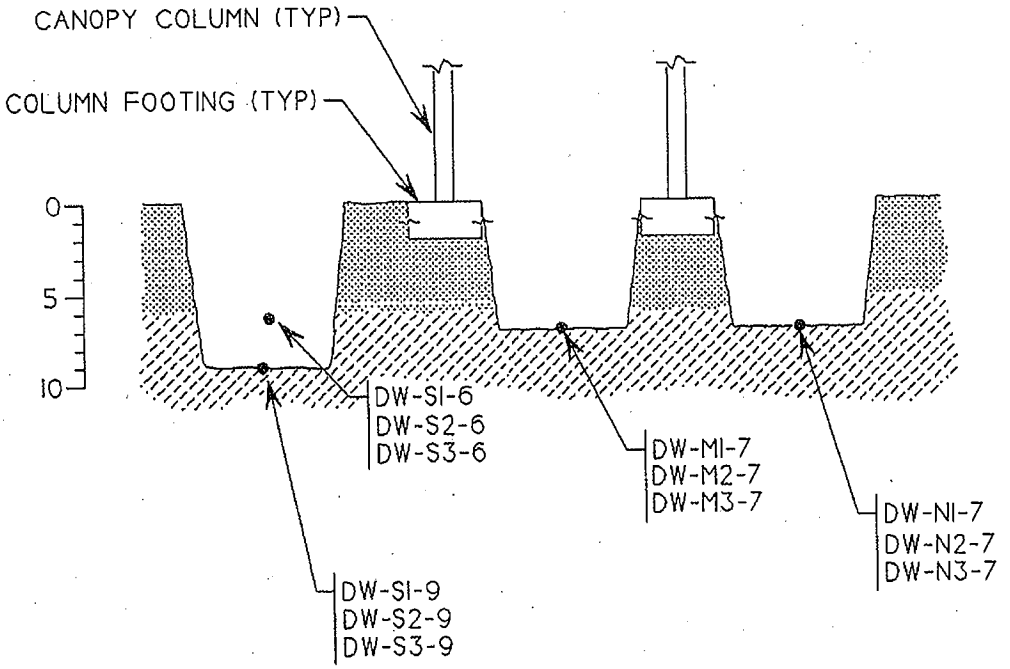
- DEPTH BELOW GRADE
- SAMPLE I.D.
- SAMPLE LOCATION

DETAIL A

CHEVRON SERVICE STATION #8815
901 NORTH ALAMEDA STREET
LOS ANGELES CA

Thomas Hill & Associates
CONSULTING ENGINEERS
NEWPORT BEACH, CALIFORNIA

DATE: 10/20/94
SCALE: AS SHOWN
PROJECT: 4CU072
DRAWN BY: DPB
CHECKED BY: JPB



DARK GREY SILTY CLAY
OF LOW TO MEDIUM PLASTICITY

POORLY GRADED
MEDIUM TO COARSE SAND

10 5 0 10

SCALE IN FEET

LEGEND

● TYPICAL SAMPLE LOCATION

DW-M3-7

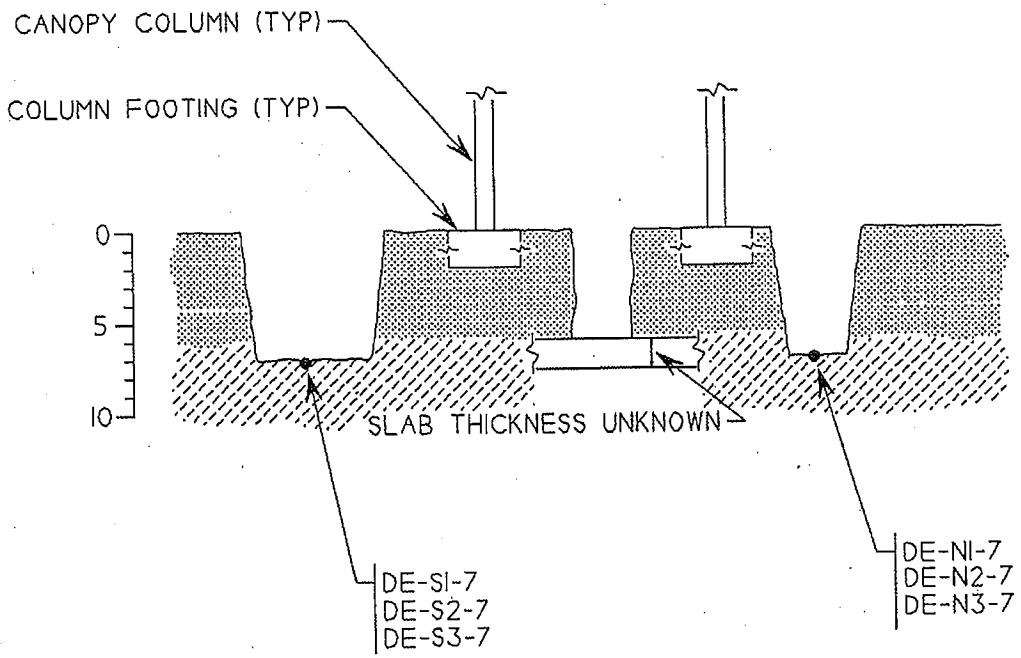
- DEPTH BELOW GRADE
- SAMPLE I.D.
- SAMPLE LOCATION

SECTION B-B

CHEVRON SERVICE STATION #8815
901 NORTH ALAMEDA STREET
LOS ANGELES CA

Thomas Hill & Associates
CONSULTING ENGINEERS
NEWPORT BEACH, CALIFORNIA

DATE: 11/7/94
SCALE: AS SHOWN
PROJECT: 4CU072
DRAWN BY: DPB
CHECKED BY: JPB



DARK GREY SILTY CLAY
OF LOW TO MEDIUM PLASTICITY

POORLY GRADED
MEDIUM TO COARSE SAND

10 5 0 10

SCALE IN FEET

LEGEND

● TYPICAL SAMPLE LOCATION

DW-M3-7

- DW: SAMPLE LOCATION
- M3: SAMPLE I.D.
- 7: DEPTH BELOW GRADE

SECTION C-C

CHEVRON SERVICE STATION #8815
901 NORTH ALAMEDA STREET
LOS ANGELES CA

Thomas Hill & Associates
CONSULTING ENGINEERS
NEWPORT BEACH, CALIFORNIA

DATE: 11/7/94
SCALE: AS SHOWN
PROJECT: 4CU072
DRAWN BY: DPB
CHECKED BY: JPB

GEOTEST

An Environmental Monitoring and Testing Service

(310)498-9515 (800)624-5744

LABORATORY REPORT

ANALYST : RG,AM,RV

GEOTEST PROJECT NO.: 95624-18

CLIENT ID: 4CU068

PREP. METHOD: 5030

DATE PREPARED: 09/14,15/94

MATRIX: SOIL 901 N. Alameda, Los Angeles

ANALYSIS OF VOLATILE ORGANICS BY GAS CHROMATOGRAPHY/FID/PID

GASOLINE (TPH-G) BY DOHS METHOD / BTEX BY EPA METHOD 8020

COMPONENTS:		TPH-G	BENZENE	TOLUENE	ETHYL BENZENE	TOTAL XYLENES	SURROGATE RECOVERY
UNITS:		mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg	%
DETECTION LIMITS:		1.0	0.005	0.005	0.005	0.015	
SAMPLE ID	DATE ANALYZED						
METHOD BLANK	09/14/94	ND	ND	ND	ND	ND	100
METHOD BLANK	09/14/94	ND	ND	ND	ND	ND	100
METHOD BLANK	09/15/94	ND	ND	ND	ND	ND	100
DE-2-3	09/14/94	ND	ND	ND	ND	ND	94
DE-6-3	09/14/94	40	0.005	0.11	0.40	0.63	102
DE-5-3	09/14/94	7.2	ND	0.018	0.084	0.17	107
DE-4-3	09/14/94	2300	3.3	7.9	33	110	134*
DE-1-3	09/14/94	ND	ND	ND	ND	ND	90
DW-1-3	09/14/94	40	0.009	ND	0.85	4.7	127
DW-2-3	09/14/94	5200	2.0	11	100	600	114
DW-3-3	09/14,15/94	270	0.11	0.44	1.6	31	104
DW-4-3	09/14/94	15	0.037	0.055	0.67	3.0	117
DW-5-3	09/14/94	ND	ND	ND	ND	0.021	97
DW-6-3	09/14/94	1.1	ND	ND	0.021	0.18	96
LE-3	09/14/94	ND	ND	ND	ND	ND	93
LW-3	09/14/94	26	ND	ND	0.21	1.3	129

* - Matrix interference due to presence of gasoline.

Surrogate : a,a,a-Trifluorotoluene

Acceptable Range (%) : 70-130

TABLE 2

LABORATORY TEST RESULTS FOR SOIL SAMPLES COLLECTED DURING OVEREXCAVTION ACTIVITIES

SEPTEMBER 16, 1994

SAMPLE	TPH	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	LEAD
Detection Limits	1.0	0.005	0.005	0.005	0.015	10
DW-S1-6	100	0.34	1.2	2.8	20	-
DW-S2-6	1,300	0.28	1.4	91	49	-
DW-S3-6	1,900	3.8	15	60	420	-
DW-S1-9	ND	ND	ND	ND	0.015	ND
DW-S2-9	360	0.006	0.033	1.0	5.0	ND
DW-S3-9	ND	ND	0.020	0.010	0.062	11
DW-M1-7	3.7	0.008	0.016	0.022	0.16	ND
DW-M2-7	ND	ND	ND	ND	ND	ND
DW-M3-7	ND	ND	ND	ND	ND	ND
DW-N1-7	ND	ND	ND	ND	ND	ND
DW-N2-7	ND	ND	ND	ND	ND	ND
DW-N3-7	ND	ND	ND	ND	ND	ND
DE-S1-7	ND	ND	ND	ND	ND	ND
DE-S2-7	ND	ND	ND	ND	ND	ND
DE-S3-7	ND	ND	ND	ND	0.041	ND
DE-N1-7	ND	ND	ND	ND	ND	ND
DE-N2-7	ND	ND	ND	ND	ND	ND
DE-N3-7	ND	ND	ND	ND	ND	ND
SPX-1	120	0.019	0.31	5.0	26	-
SPX-2	57	0.12	1.1	2.1	10	-

analyses results in mg/kg

ND indicates below detection limits

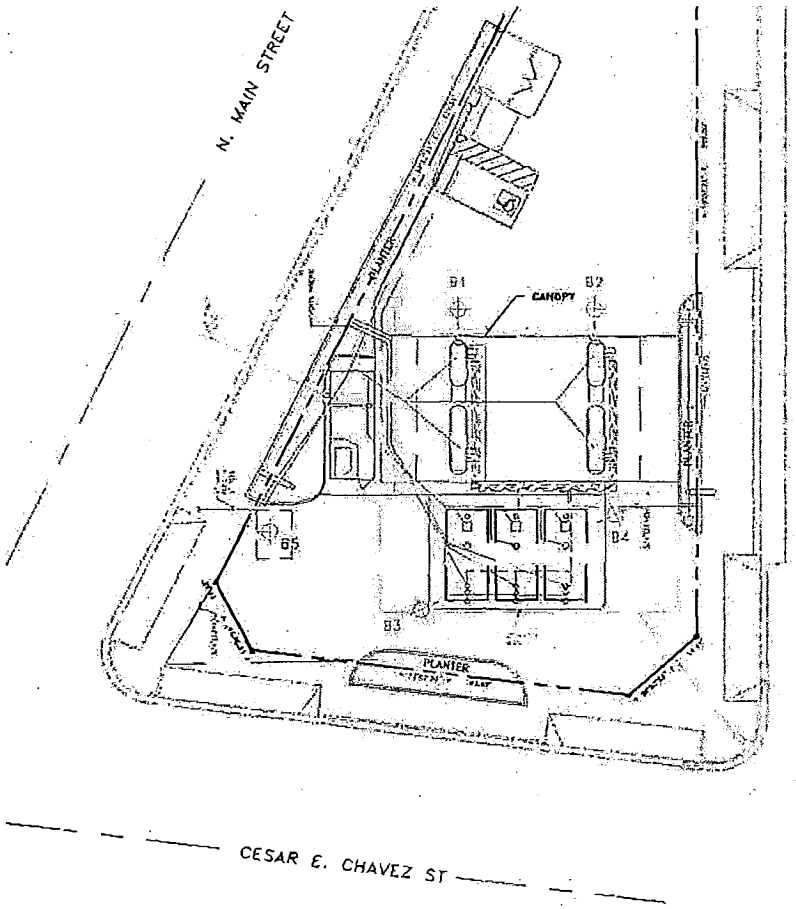
TABLE 3. ANALYTICAL RESULTS FOR SOIL SAMPLES – MAY 11, 2000

SAMPLE ID	DEPTH (FEET)	EPA METHOD (mg/kg)							
		8015M	418.1	8021B					7420
		TPH	TRPH	B	T	E	X	MTBE	TOTAL LEAD
B1-5	5	ND	NA	ND	ND	ND	ND	ND	230
B1-10	10	ND	NA	ND	ND	ND	ND	ND	ND
B1-15	15	ND	NA	ND	ND	ND	ND	ND	ND
B1-20	20	ND	NA	ND	ND	ND	ND	ND	ND
B1-25	25	ND	NA	ND	ND	ND	ND	ND	ND
B1-30	30	ND	NA	ND	ND	ND	ND	ND	ND
B2-5	5	ND	NA	ND	ND	ND	ND	ND	ND
B2-10	10	ND	NA	ND	ND	ND	ND	ND	ND
B2-15	15	ND	NA	ND	ND	ND	ND	ND	ND
B2-20	20	ND	NA	ND	ND	ND	ND	ND	ND
B2-25	25	ND	NA	ND	ND	ND	ND	ND	ND
B2-30	30	ND	NA	ND	ND	ND	ND	ND	ND
B3-5	5	ND	NA	ND	ND	ND	ND	ND	ND
B3-10	10	ND	NA	ND	ND	ND	ND	ND	ND
B3-15	15	ND	NA	ND	ND	ND	ND	ND	ND
B3-20	20	ND	NA	ND	0.006	ND	ND	0.076	ND
B3-25	25	ND	NA	ND	ND	ND	ND	0.56	ND
B3-30	30	ND	NA	ND	ND	ND	ND	0.77	ND
B4-5	5	ND	NA	ND	ND	ND	ND	ND	ND
B4-10	10	ND	NA	ND	ND	ND	ND	ND	ND
B4-15	15	ND	NA	ND	ND	ND	ND	ND	ND
B4-20	20	ND	NA	ND	ND	ND	ND	ND	ND
B4-25	25	ND	NA	ND	ND	ND	ND	ND	ND
B4-30	30	ND	NA	ND	ND	ND	ND	ND	ND
B5-5	5	NA	ND	NA	NA	NA	NA	NA	NA
B5-10	10	NA	ND	NA	NA	NA	NA	NA	NA
B5-15	15	NA	ND	NA	NA	NA	NA	NA	NA
B5-20	20	NA	ND	NA	NA	NA	NA	NA	NA
B5-25	25	NA	ND	NA	NA	NA	NA	NA	NA
B5-30	30	NA	ND	NA	NA	NA	NA	NA	NA
DL		5	10	0.05	0.05	0.05	0.015	0.035	0.25

NOTES:

mg/kg	- milligrams per kilogram	ND	- not detected
EPA	- U.S. Environmental Protection Agency	TPH	- total petroleum hydrocarbons as gasoline
DL	- lowest detection limit, see laboratory report for actual values	NA	- not analyzed
BTEX	- benzene, toluene, ethyl benzene and total xylenes	MTBE	- methyl tert-butyl ether
TRPH	- total recoverable petroleum hydrocarbons	M	- modified

2000



EXPLANATION

- B1 — ANGLE BORING
- B5 — VERTICAL SOIL BORING
- PRODUCT PIPING
- VENT PIPING
- 10,000 GALLON DOUBLE WALL GASOLINE STORAGE TANK
- FORMER USED OIL UST
- ELECTRICAL CONDUIT
- PROPERTY LINE

N

TABLE

Summary of Soil Sampling Results (mg/Kg)

Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TPH-Oil	TPHd	TPHg
Sampled January 28-31, 2011								
B1-15	ND	ND	ND	ND	ND	---	---	ND
B1-20	ND	ND	ND	ND	ND	---	---	ND
B1-30	ND	ND	ND	ND	ND	---	---	ND
B1-40	ND	ND	ND	ND	ND	---	---	ND
B2-10	ND	ND	ND	ND	ND	---	---	ND
B2-20	ND	ND	ND	ND	ND	---	---	ND
B2-30	ND	ND	ND	ND	ND	---	---	ND
B2-35	ND	ND	ND	ND	ND	---	---	ND
B3-10	ND	ND	ND	ND	ND	---	---	ND
B3-20	ND	ND	ND	ND	ND	---	---	ND
B3-30	ND	ND	ND	ND	ND	---	---	ND
B3-35	ND	ND	ND	ND	ND	---	---	ND
B4-10	ND	ND	ND	ND	ND	---	---	ND
B4-20	ND	ND	ND	ND	ND	---	---	ND
B4-30	ND	ND	ND	ND	ND	---	---	ND
B4-35	ND	ND	ND	ND	ND	---	---	ND
B5-10	ND	ND	ND	ND	ND	ND	ND	ND
B5-20	ND	ND	ND	ND	ND	ND	ND	ND
B5-30	ND	ND	0.063	0.048	ND	ND	ND	ND
B5-35	ND	ND	ND	ND	ND	ND	ND	ND
B6-10	ND	ND	ND	ND	ND	ND	ND	ND
B6-20	ND	ND	ND	ND	ND	ND	ND	ND
B6-30	ND	ND	ND	ND	ND	ND	ND	ND

TPH-Oil - C24-C40, TPHd - C12-C24, TPHg - C4-C12.
ND = Not Detected by analysis.

TABLE 2

Summary of Soil Gas Sampling Results (ug/L)

Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TPHg
Sampled January 28-31, 2011						
B1-20	ND	ND	ND	ND	ND	ND
B2- 15	ND	ND	ND	ND	ND	ND
B3- 15	ND	ND	ND	ND	ND	ND
B4- 15	ND	ND	ND	ND	ND	ND
B5- 20	ND	ND	ND	ND	ND	ND
B6- 20	ND	ND	ND	ND	ND	77.6
CHHSLs	***0.12***	***380***	***1.4***	***880***	***13***	---

CHHSL - California Human Health Screening Levels for Soil Gas developed by CalEPA - Industrial Scenario. ND = Not detected by analysis.

TABLE 3

Summary of Groundwater Sampling Results (ug/L)

Sample ID	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TPH-Oil	TPHd	TPHg
Sampled January 28-31, 2011								
B1-W	ND	0.65	ND	ND	ND	---	----	ND
B2-W	ND	ND	ND	ND	ND	---	----	ND
B4-W	ND	0.5	ND	ND	0.5	---	----	ND
B5-W	ND	ND	5.23	3.29	ND	ND	ND	ND
MCL	***1.0***	***150***	***680***	***1,750***	***13***	---	---	---

2011

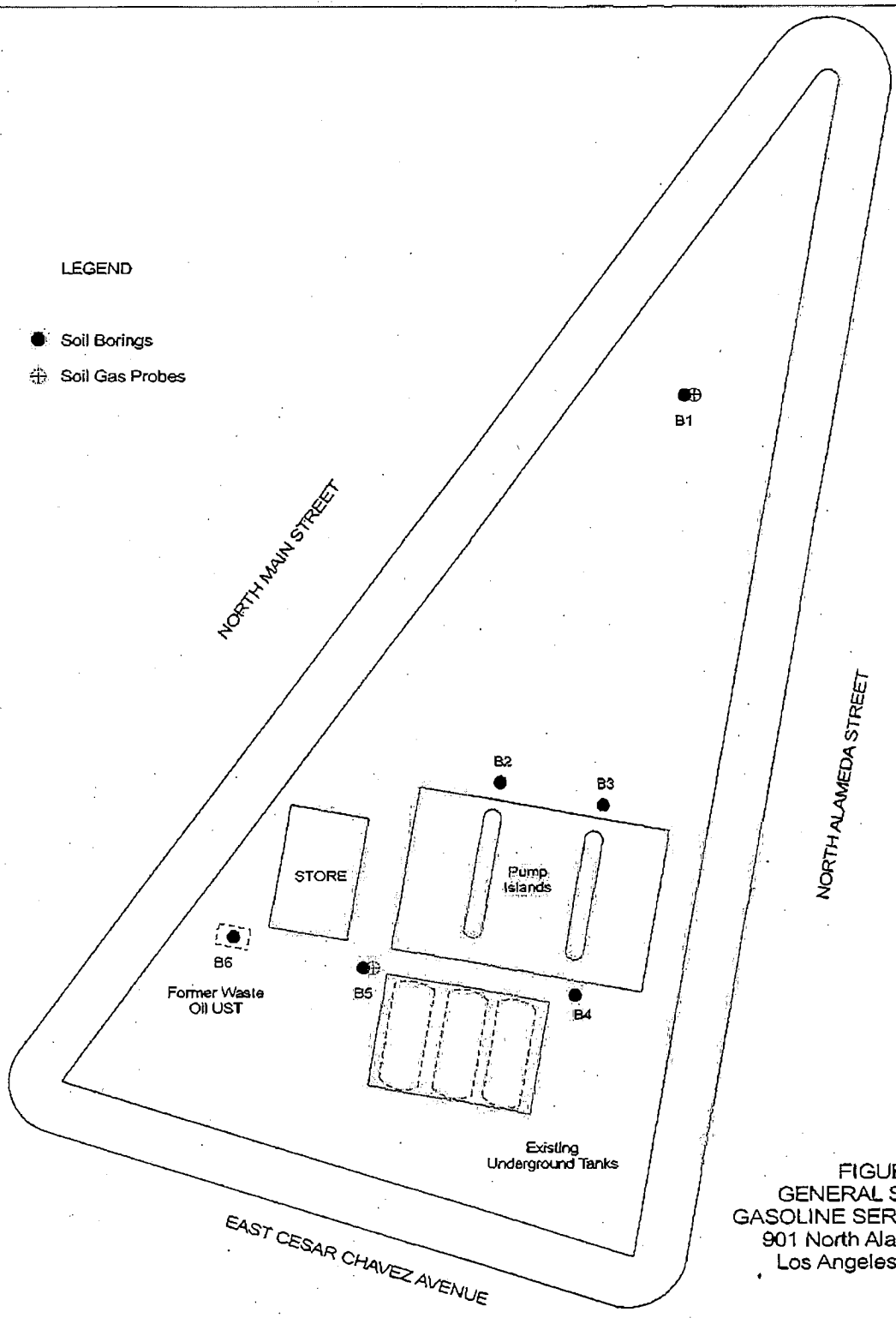


FIGURE 1
GENERAL SITE PLAN
GASOLINE SERVICE STATION
901 North Alameda Street
Los Angeles, California

SCALE	APPROXIMATE SCALE IN FEET 0 30 60		NORTH	Envirodox, Inc.
DRAWN BY	J. NICOLICHI	1/29/11	N W E S	
CHECKED BY	D. LOUKS	1/31/11		
REVISED BY				

DRILL/LITHOLOGIC LOG

BORING/WELL NUMBER B1

PROJECT Gasoline Service Station
OWNER
LOCATION 901 N. Alameda Street, Los Angeles, California
PROJECT NUMBER
DATE DRILLED 1/28/11
TOTAL DEPTH OF HOLE 40 Feet
SURFACE ELEVATION
DEPTH TO WATER 35 Feet
SCREEN: DIA. LENGTH SLOT SIZE
CASING: DIA. LENGTH TYPE
DRILLING COMPANY Kehoe
DRILL METHOD GeoProbe
DRILLER Jose
LOG BY Dan Louks

DEPTH (FEET)	WELL CONST		PID (PPM)	SAMPLES		SOIL CLASS	DESCRIPTION/SOIL CLASSIFICATION (COLOR, TEXTURE, STRUCTURES)
	PIPE	FILL		NUMBER	BLOW	(USCS)	
5							
10			<1	B1-10		SW	SAND: light gray, very fine to coarse grained, poorly sorted, dry, no odor.
15			<1	B1-15		SW	SAND; light gray, very fine to medium grained, poorly sorted, dry, no odor.
20			<1	B1-20		CL	Silty CLAY; dark gray, medium plasticity, lens of fine sand, no odor
25							
30			<1	B1-30		CL	Silty CLAY; dark gray, medium plasticity, no odor.
35							
40			<1	B1-40		SW	Gravelly SAND; dark gray, very fine to medium grained, poorly sorted, wet, no odor.
							Set soil gas probe at 20 feet, install sand pack and seal with bentonite.
							Set HydroPunch probe at 38-42 feet and collect groundwater sample.

ABC Environmental Laboratories

Client:	Envirodox, Inc.	Lab Job No.:	EV11A052
Project:	Chevron-901 Alameda, LA	Date Sampled:	1/31/2011
Project Site:	Chevron-901 Alameda, LA	Date Received:	1/31/2011
Matrix:	Soil	Date Analyzed:	2/1/2011
Batch No.:	0201-VOCS	Date Reported:	2/3/2011

EPA 8260B (VOCs & Oxy.) by GC/MS, Page 1 of 2

Reporting Unit: mg/kg (PPM)

Date Analyzed			02/01/11	02/01/11	02/01/11	02/01/11	02/01/11
Dilution Factor			1	1	1	1	1
Lab Sample I.D.			EV11A052-1	EV11A052-2	EV11A052-3	EV11A052-4	EV11A052-5
Client Sample I.D.			B5-10	B5-20	B5-30	B5-35	B6-10
Compound	MDL	RL					
Dichlorodifluoromethane	0.0018	0.005	ND	ND	ND	ND	ND
Chloromethane	0.0018	0.005	ND	ND	ND	ND	ND
Vinyl Chloride	0.0018	0.005	ND	ND	ND	ND	ND
Bromomethane	0.0018	0.005	ND	ND	ND	ND	ND
Chloroethane	0.0018	0.005	ND	ND	ND	ND	ND
Trichlorofluoromethane	0.0018	0.005	ND	ND	ND	ND	ND
1,1-Dichloroethene	0.0018	0.005	ND	ND	ND	ND	ND
Carbon disulfide	0.0018	0.005	ND	ND	ND	ND	ND
Methylene chloride	0.0018	0.005	ND	ND	ND	ND	ND
Trans-1,2-Dichloroethene	0.0018	0.005	ND	ND	ND	ND	ND
1,1-Dichloroethane	0.0018	0.005	ND	ND	ND	ND	ND
2,2-Dichloropropane	0.0018	0.005	ND	ND	ND	ND	ND
Cis-1,2-Dichloroethene	0.0018	0.005	ND	ND	ND	ND	ND
Bromochloromethane	0.0018	0.005	ND	ND	ND	ND	ND
Chloroform	0.0018	0.005	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	0.0018	0.005	ND	ND	ND	ND	ND
Vinyl acetate	0.0018	0.005	ND	ND	ND	ND	ND
Carbontetrachloride	0.0018	0.005	ND	ND	ND	ND	ND
1,1-Dichloropropene	0.0018	0.005	ND	ND	ND	ND	ND
1,2-Dichloroethane	0.0018	0.005	ND	ND	ND	ND	ND
Benzene	0.001	0.002	ND	ND	ND	ND	ND
Trichloroethene	0.0018	0.005	ND	ND	ND	ND	ND
1,2-Dichlorpropane	0.0018	0.005	ND	ND	ND	ND	ND
Methyl methacrylate	0.0018	0.005	ND	ND	ND	ND	ND
Dibromomethane	0.0018	0.005	ND	ND	ND	ND	ND
Bromodichloromethane	0.0018	0.005	ND	ND	ND	ND	ND
2-Chloroethyl Vinyl Ether	0.0018	0.005	ND	ND	ND	ND	ND
Cis-1,3-Dichloropropene	0.0018	0.005	ND	ND	ND	ND	ND
Toluene	0.001	0.002	ND	ND	ND	ND	ND
Trans-1,3-Dichloropropene	0.0018	0.005	ND	ND	ND	ND	ND
Ethylmethacrylate	0.0018	0.005	ND	ND	ND	ND	ND
1,1,2-Trichloroethane	0.0018	0.005	ND	ND	ND	ND	ND
Dibromochloromethane	0.0018	0.005	ND	ND	ND	ND	ND
1,2-Dibromoethane (EDB)	0.0018	0.005	ND	ND	ND	ND	ND
Tetrachloroethene	0.0018	0.005	ND	ND	ND	ND	ND
1,3-Dichloropropane	0.0018	0.005	ND	ND	ND	ND	ND
Chlorobenzene	0.0018	0.005	ND	ND	ND	ND	ND

RL=Reporting Limit; ND=Not Detected (Below MDL); MDL= Method Detection Limit.
J= Value Detected Bewteen MDL and RL.

1640 South Grove Ave., Suite B
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