

RECEIVED

By Alameda County Environmental Health at 3:48 pm, Oct 08, 2014



3330 Cameron Park Drive, Ste 550
Cameron Park, California 95682
(530) 676-6004 ~ Fax: (530) 676-6005

TRANSMITTAL

Date October 7, 2014

To:

Mr. Jerry Wickham

Alameda County Environmental Health Department

1131 Harbor Bay Parkway, Suite 250

Alameda, CA 94502

Re: Verification Groundwater Monitoring Report, ACEHD Fuel Leak Case No. RO0000278, 2008 First Street, Livermore, California

On behalf of Mr. Balaji Angle, Stratus Environmental, Inc. (Stratus) has prepared this report to document a limited groundwater monitoring and sampling event performed at 2008 First Street, Livermore, California (the Site, see Figures 1 through 3). In a letter dated September 15, 2014, Alameda County Environmental Health Department (ACEHD) requested that a limited groundwater monitoring and sampling event be performed, at three existing offsite groundwater monitoring wells (MW-5, MW-7, and MW-13), as part of an ongoing process of evaluating the site's environmental case for potential closure. In response to this request, Stratus personnel visited the site on September 24, 2014 to gauge depth to groundwater levels and collect groundwater samples from these wells.

At the time of the September 24, 2014 site visit, only one of the three wells (well MW-13) contained sufficient groundwater thickness within the well casing to allow for collection of a well sample. A purge groundwater sample was collected from well MW-13 and submitted to a state certified analytical laboratory for analytical testing. Field data sheets documenting the measurements collected by the Stratus representative on September 24, 2014, a certified analytical report for the MW-13 well sample, and documentation of data uploading of the MW-13 analytical result to the State of California's GeoTracker website, are attached to this document. No petroleum hydrocarbons or fuel oxygenates were detected in the MW-13 well sample.

Groundwater monitoring and sampling has been performed at this site for over 23 years. Over time, fuel contaminants appear to have attenuated significantly based on the historically available groundwater analytical data set. In the September 15, 2014 letter, ACEHD indicated that collection of data from wells MW-5, MW-7, and MW-13 would be useful for further evaluating 'plume stability', which is a requirement for environmental case closure under the State Water Resources Control Board's 'Low

Mr. Jerry Wickham
Alameda County
Environmental Health Department
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577


Re: B&C Gas Mini Mart, 2008 First Street, Livermore, California
(ACEHD Case No. RO0000278)

Dear Mr. Wickham:

Stratus Environmental, Inc. (Stratus) has recently prepared a document titled *Verification Groundwater Monitoring Report* on my behalf. The report was prepared in regards to Alameda County Fuel Leak Case No. RO0000278, located at 2008 First Street, Livermore, California.

I have reviewed a copy of this report, sent to me by representatives of Stratus, and "I declare, under penalty of perjury, that the information and or/recommendations contained in the attached document or report is true and correct to the best of my knowledge."

Sincerely,



10/2/14

Balaji Angle
B&C Gas Mini Mart

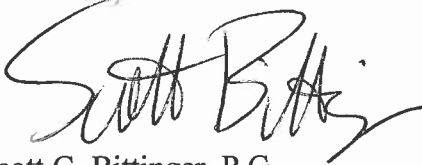
cc:

October 7, 2014

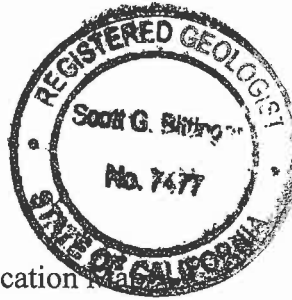
Threat Closure Policy'. While data could not be collected from wells MW-5 and MW-7 due to low groundwater levels, the absence of petroleum hydrocarbons and fuel oxygenates in well MW-13 allows for lateral definition of the downgradient extent of contaminant impact to shallow groundwater, and supports our position that the contaminant plume is stable.

If you have any questions regarding the enclosed materials, please contact me at (530) 676-2062 or at sbittinger@stratusinc.net.

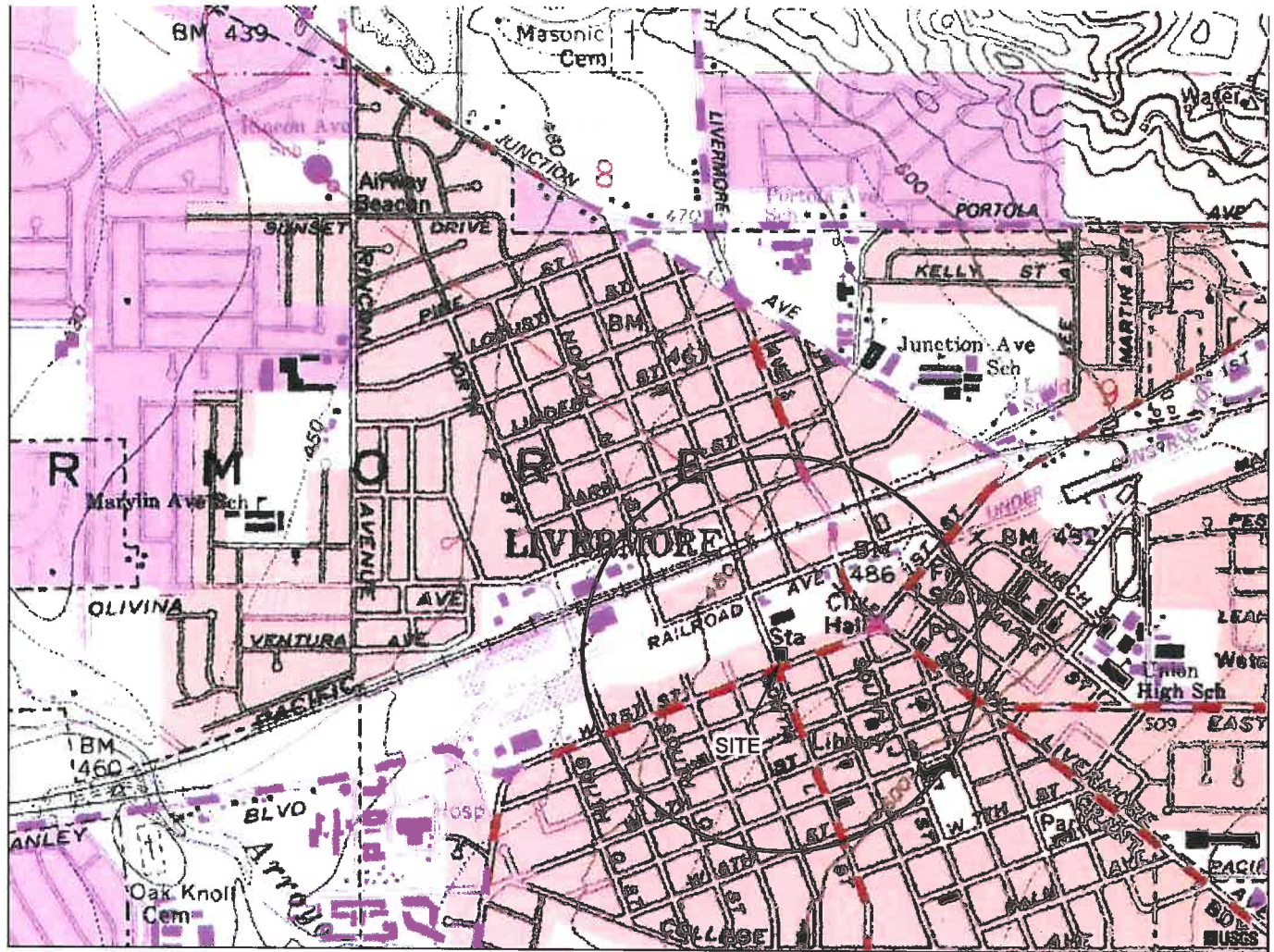
Sincerely,



Scott G. Bittinger, P.G.
Project Manager



Attachments: Figure 1 Site Location Map
Figure 2 Site Plan
Figure 3 Site Vicinity Map
Field Data Sheets
Analytical Laboratory Report & GeoTracker Upload Confirmation



GENERAL NOTES:
 BASE MAP FROM U.S.G.S.
 LIVERMORE, CA.
 7.5 MINUTE TOPOGRAPHIC
 PHOTOREVISED 1999



APPROXIMATE SCALE



QUADRANGLE LOCATION

STRATUS
 ENVIRONMENTAL, INC.

B & C GAS MINI MART
 2008 FIRST STREET
 LIVERMORE, CALIFORNIA

SITE LOCATION MAP

FIGURE

1

PROJECT NO.
 2146-2008-01



- LEGEND:
- MW-1 MONITORING WELL LOCATION
 - SV-MW-2 SOIL VAPOR EXTRACTION WELL
 - SP-1A/B OZONE SPARGE WELL
 - AB-1 ANGLE BORING LOCATION

GROTH BROTHERS
SHOWROOM

PLANTER
SP-5A/B
SV-MIP-8
SP-5C

SIDEWALK

DRIVEWAY

SIDEWALK

PLANTER

SOUTH L STREET

SIDEWALK

SP-3A/B

SV-MW-2

MW-2

SVE-3A/B

SP-2A/B

SP-1A/B

SP-4A/B

CMT4

SIDEWALK

SVE-2

SVE-1

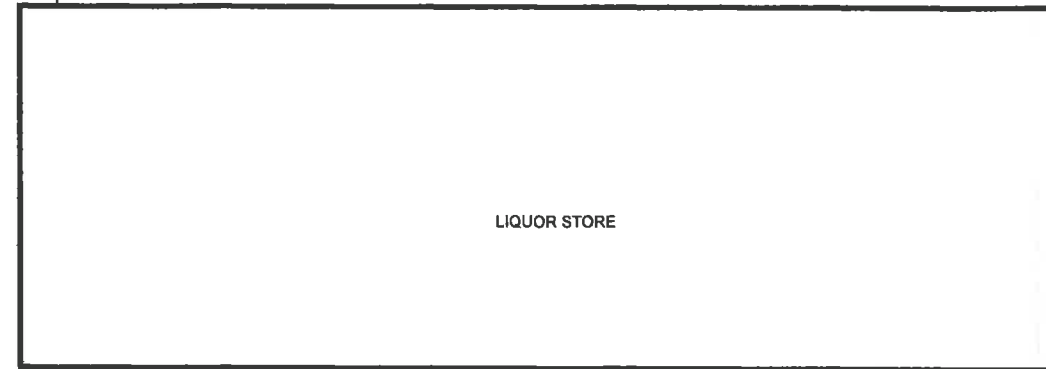
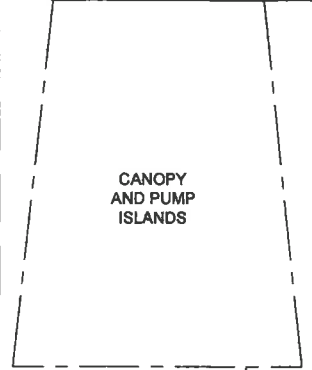
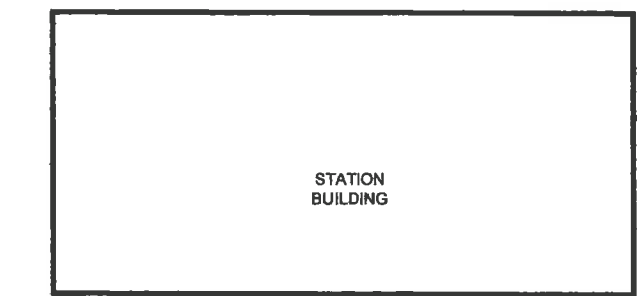
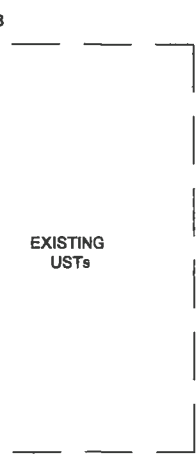
MW-3

AB-1

AB-2

EXISTING
USTs

CANOPY
AND PUMP
ISLANDS



SVE-4A/B

MW-5

SP-6A/B

SP-6C

LIQUOR STORE

STATION
BUILDING

BUILDING

MW-4

NOTE: LOCATIONS OF FEATURES DEPICTED ON THIS FIGURE ARE APPROXIMATE.

STRATUS
ENVIRONMENTAL, INC.

PATH NAME: B&C Minimart
DRAFTER INITIALS: JMP
DATE LAST REVISED: August 19, 2014
FILENAME: B&C Siteplan



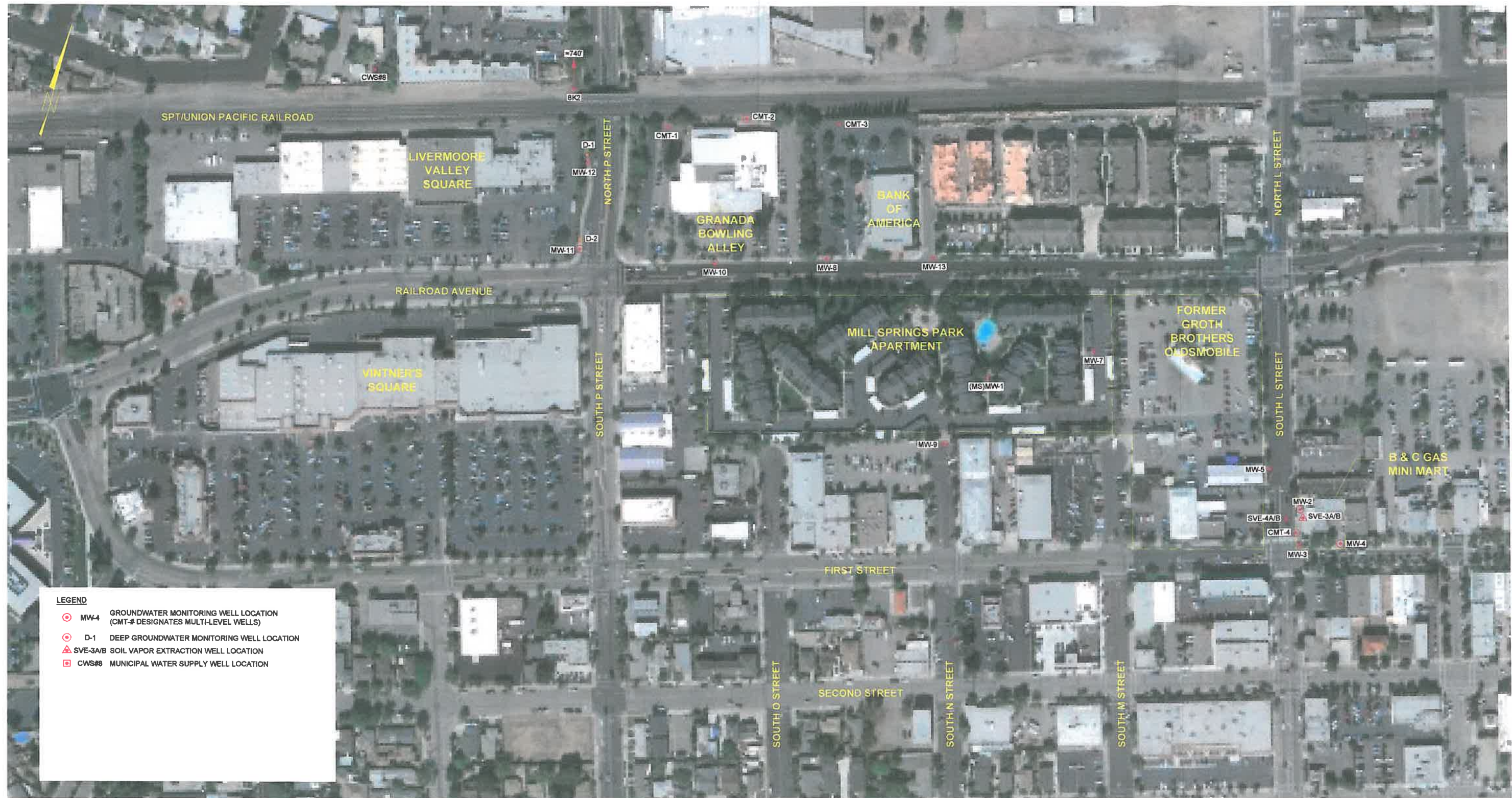
B & C GAS MINI MART
2008 1st STREET
LIVERMORE, CALIFORNIA

SITE PLAN

FIGURE

2

PROJECT NO.
2146-2008-01

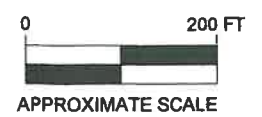


LEGEND

- MW-4 GROUNDWATER MONITORING WELL LOCATION (CMT-# DESIGNATES MULTI-LEVEL WELLS)
- D-1 DEEP GROUNDWATER MONITORING WELL LOCATION
- △ SVE-3A/B SOIL VAPOR EXTRACTION WELL LOCATION
- CWS#8 MUNICIPAL WATER SUPPLY WELL LOCATION

STRATUS
ENVIRONMENTAL, INC.

PATH NAME: B&C Minimart
 DRAFTER INITIALS: JMP
 DATE LAST REVISED: August 19, 2014
 FILENAME: B&C Site Vicinity Map



B & C GAS MINI MART
 2008 1st STREET
 LIVERMORE, CALIFORNIA
 SITE VICINITY MAP

FIGURE
3
 PROJECT NO.
 2146-2008-01



Site Address 2008 First Street
 City Livermore, CA
 Sampled By: Carl Schulze
 Signature [Signature]

Site Number B+C Gas Mini Meet
 Project Number 2146-2008-01
 Project PM S. Bittinger
 DATE 09/24/19

Well ID <u>MLW-13</u>					Well ID				
Purge start time			Odor Y N		Purge start time			Odor Y N	
	Temp C	pH	cond	gallons		Temp C	pH	cond	gallons
time	<u>0719</u>	<u>19.0</u>	<u>7.24</u>	<u>94.9</u>	<u>0</u>				
time	<u>0724</u>	<u>18.9</u>	<u>7.29</u>	<u>95.2</u>	<u>0.5</u>				
time	<u>0734</u>	<u>18.7</u>	<u>7.36</u>	<u>95.8</u>	<u>1</u>				
time									
purge stop time			DO: <u>1.44</u>		ORP <u>60</u>		ORP		
Well ID					Well ID				
Purge start time			Odor Y N		Purge start time			Odor Y N	
	Temp C	pH	cond	gallons		Temp C	pH	cond	gallons
time									
time									
time									
time									
purge stop time			ORP		purge stop time			ORP	
Well ID					Well ID				
Purge start time			Odor Y N		Purge start time			Odor Y N	
	Temp C	pH	cond	gallons		Temp C	pH	cond	gallons
time									
time									
time									
time									
purge stop time			ORP		purge stop time			ORP	
Well ID					Well ID				
Purge start time			Odor Y N		Purge start time			Odor Y N	
	Temp C	pH	cond	gallons		Temp C	pH	cond	gallons
time									
time									
time									
time									
purge stop time			ORP		purge stop time			ORP	



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

ANALYTICAL REPORT

Stratus Environmental
3330 Cameron Park Drive
Cameron Park, CA 956828861

Attn: Scott Bittinger
Phone: (530) 676-2062
Fax: (530) 676-6005
Date Received : 09/25/14

Job: 2146-2008-01/B & C Gas Mini Mart

Total Petroleum Hydrocarbons - Purgeable (TPH-P) EPA Method SW8015B / SW8260B
Volatile Organic Compounds (VOCs) EPA Method SW8260B

Parameter	Concentration	Reporting Limit	Date Extracted	Date Analyzed
Client ID : MW-13				
Lab ID : STR14092541-01A	TPH-P (GRO)	ND	10/01/14	10/01/14
Date Sampled 09/24/14 07:34	Tertiary Butyl Alcohol (TBA)	ND	10/01/14	10/01/14
	Methyl tert-butyl ether (MTBE)	ND	10/01/14	10/01/14
	Benzene	0.50 µg/L	10/01/14	10/01/14
	Toluene	0.50 µg/L	10/01/14	10/01/14
	Ethylbenzene	0.50 µg/L	10/01/14	10/01/14
	m,p-Xylene	0.50 µg/L	10/01/14	10/01/14
	o-Xylene	0.50 µg/L	10/01/14	10/01/14

Gasoline Range Organics (GRO) C4-C13

ND = Not Detected

Reported in micrograms per Liter, per client request.



Roger Scholl *Randy Gardner* *Walter Hinchman*

Roger L. Scholl, Ph.D., Laboratory Director • Randy Gardner, Laboratory Manager • Walter Hinchman, Quality Assurance Officer
Sacramento, CA • (916) 366-9089 / Las Vegas, NV • (702) 281-4848 / Carson, CA • (714) 386-2901 / info@alpha-analytical.com

Alpha Analytical, Inc. certifies that the test results meet all requirements of NELAC unless footnoted otherwise.

Statement of Data Authenticity : Alpha Analytical, Inc. attests that the data reported has not been altered in any way.

Alpha Analytical, Inc. currently holds appropriate and available California (#2019) and NELAC (01154CA) certifications for the data reported. Test results relate only to reported samples.



✓
10/2/14

Report Date



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

VOC Sample Preservation Report

Work Order: STR14092541

Job: 2146-2008-01/B & C Gas Mini Mart

Alpha's Sample ID	Client's Sample ID	Matrix	pH
14092541-01A	MW-13	Aqueous	2

10/2/14

Report Date



Alpha Analytical, Inc.

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Date:
02-Oct-14

QC Summary Report

Work Order:
14092541

Method Blank		Type	Test Code: EPA Method SW8015B/C / SW8260B							
File ID: 14100106.D			Batch ID: MS09W1001B				Analysis Date: 10/01/2014 11:24			
Sample ID:	MBLK MS09W1001B	Units : µg/L	Run ID: MSD_09_141001A				Prep Date: 10/01/2014 11:24			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	ND	50								
Surr: 1,2-Dichloroethane-d4	10.4		10		104	70	130			
Surr: Toluene-d8	9.58		10		96	70	130			
Surr: 4-Bromofluorobenzene	11.9		10		119	70	130			

Laboratory Control Spike		Type	Test Code: EPA Method SW8015B/C / SW8260B							
File ID: 14100105.D			Batch ID: MS09W1001B				Analysis Date: 10/01/2014 10:55			
Sample ID:	GLCS MS09W1001B	Units : µg/L	Run ID: MSD_09_141001A				Prep Date: 10/01/2014 10:55			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	433	50	400		108	70	130			
Surr: 1,2-Dichloroethane-d4	10.6		10		106	70	130			
Surr: Toluene-d8	9.77		10		98	70	130			
Surr: 4-Bromofluorobenzene	11.3		10		113	70	130			

Sample Matrix Spike		Type	Test Code: EPA Method SW8015B/C / SW8260B							
File ID: 14100120.D			Batch ID: MS09W1001B				Analysis Date: 10/01/2014 17:01			
Sample ID:	14092541-01AGS	Units : µg/L	Run ID: MSD_09_141001A				Prep Date: 10/01/2014 17:01			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	2620	250	2000		0	131	54	143		
Surr: 1,2-Dichloroethane-d4	57.5		50		115	70	130			
Surr: Toluene-d8	44.4		50		89	70	130			
Surr: 4-Bromofluorobenzene	58.3		50		117	70	130			

Sample Matrix Spike Duplicate		Type	Test Code: EPA Method SW8015B/C / SW8260B							
File ID: 14100121.D			Batch ID: MS09W1001B				Analysis Date: 10/01/2014 17:25			
Sample ID:	14092541-01AGSD	Units : µg/L	Run ID: MSD_09_141001A				Prep Date: 10/01/2014 17:25			
Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
TPH-P (GRO)	2130	250	2000		0	107	54	143	2615	20.3(23)
Surr: 1,2-Dichloroethane-d4	55.1		50		110	70	130			
Surr: Toluene-d8	45.8		50		92	70	130			
Surr: 4-Bromofluorobenzene	59		50		118	70	130			

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Reported in micrograms per Liter, per client request.



Alpha Analytical, Inc.

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Date:
02-Oct-14

QC Summary Report

Work Order:
14092541

Method Blank

Type **MBLK** Test Code: **EPA Method SW8260B**

File ID: **14100106.D**

Batch ID: **MS09W1001A**

Analysis Date: **10/01/2014 11:24**

Sample ID: **MBLK MS09W1001A**

Units: **µg/L**

Run ID: **MSD_09_141001A**

Prep Date: **10/01/2014 11:24**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Tertiary Butyl Alcohol (TBA)	ND	10								
Methyl tert-butyl ether (MTBE)	ND	0.5								
Benzene	ND	0.5								
Toluene	ND	0.5								
Ethylbenzene	ND	0.5								
m,p-Xylene	ND	0.5								
o-Xylene	ND	0.5								
Surr: 1,2-Dichloroethane-d4	10.4		10		104	70	130			
Surr: Toluene-d8	9.58		10		96	70	130			
Surr: 4-Bromofluorobenzene	11.9		10		119	70	130			

Laboratory Control Spike

Type **LCS** Test Code: **EPA Method SW8260B**

File ID: **14100104.D**

Batch ID: **MS09W1001A**

Analysis Date: **10/01/2014 10:31**

Sample ID: **LCS MS09W1001A**

Units: **µg/L**

Run ID: **MSD_09_141001A**

Prep Date: **10/01/2014 10:31**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	10.2	0.5	10		102	63	137			
Benzene	10.2	0.5	10		102	70	130			
Toluene	8.79	0.5	10		88	80	120			
Ethylbenzene	10	0.5	10		100	80	120			
m,p-Xylene	8.67	0.5	10		87	65	139			
o-Xylene	8.17	0.5	10		82	70	130			
Surr: 1,2-Dichloroethane-d4	11.5		10		115	70	130			
Surr: Toluene-d8	8.71		10		87	70	130			
Surr: 4-Bromofluorobenzene	10.5		10		105	70	130			

Sample Matrix Spike

Type **MS** Test Code: **EPA Method SW8260B**

File ID: **14100210.D**

Batch ID: **MS09W1001A**

Analysis Date: **10/02/2014 12:47**

Sample ID: **14092541-01AMS**

Units: **µg/L**

Run ID: **MSD_09_141001A**

Prep Date: **10/02/2014 12:47**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	41.7	1.3	50	0	83	56	140			
Benzene	46.3	1.3	50	0	93	67	134			
Toluene	45.7	1.3	50	0	91	38	130			
Ethylbenzene	48.8	1.3	50	0	98	70	130			
m,p-Xylene	43.5	1.3	50	0	87	65	139			
o-Xylene	41.2	1.3	50	0	82	69	130			
Surr: 1,2-Dichloroethane-d4	42.2		50		84	70	130			
Surr: Toluene-d8	49		50		98	70	130			
Surr: 4-Bromofluorobenzene	52.6		50		105	70	130			

Sample Matrix Spike Duplicate

Type **MSD** Test Code: **EPA Method SW8260B**

File ID: **14100211.D**

Batch ID: **MS09W1001A**

Analysis Date: **10/02/2014 13:11**

Sample ID: **14092541-01AMSD**

Units: **µg/L**

Run ID: **MSD_09_141001A**

Prep Date: **10/02/2014 13:11**

Analyte	Result	PQL	SpkVal	SpkRefVal	%REC	LCL(ME)	UCL(ME)	RPDRefVal	%RPD(Limit)	Qual
Methyl tert-butyl ether (MTBE)	45.1	1.3	50	0	90	56	140	41.69	7.8(40)	
Benzene	49.3	1.3	50	0	99	67	134	46.25	6.3(21)	
Toluene	48.6	1.3	50	0	97	38	130	45.65	6.2(20)	
Ethylbenzene	51.7	1.3	50	0	103	70	130	48.77	5.9(20)	
m,p-Xylene	45.9	1.3	50	0	92	65	139	43.53	5.4(20)	
o-Xylene	43.5	1.3	50	0	87	69	130	41.21	5.4(20)	
Surr: 1,2-Dichloroethane-d4	43		50		86	70	130			
Surr: Toluene-d8	48.8		50		98	70	130			
Surr: 4-Bromofluorobenzene	52.8		50		106	70	130			



Alpha Analytical, Inc.

255 Glendale Ave. • Suite 21 • Sparks, Nevada 89431-5778
(775) 355-1044 • (775) 355-0406 FAX • 1-800-283-1183

Date:
02-Oct-14

QC Summary Report

Work Order:
14092541

Comments:

Calculations are based off of raw (non-rounded) data. However, for reporting purposes, all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.

Billing Information :

CHAIN-OF-CUSTODY RECORD

CA

WorkOrder : STR14092541

Report Due By : 5:00 PM On : 02-Oct-14

Alpha Analytical, Inc.
 255 Glendale Avenue, Suite 21 Sparks, Nevada 89431-5778
 TEL: (775) 355-1044 FAX: (775) 355-0406

Client:
 Stratus Environmental
 3330 Cameron Park Drive
 Suite 550
 Cameron Park, CA 95682-8861

Report Attention	Phone Number	EMail Address
Scott Bittinger	(530) 676-2062 x	sbittinger@stratusinc.net

EDD Required : Yes

Sampled by : Carl Schulze

PO :
 Client's COC # : 12256 Job : 2146-2008-01/B & C Gas Mini Mart

Cooler Temp	Samples Received	Date Printed
3 °C	25-Sep-14	25-Sep-14

QC Level : S3 = Final Rpt, MBLK, LCS, MS/MSD With Surrogates

Alpha Sample ID	Client Sample ID	Collection Matrix	No. of Bottles Alpha Sub TAT	Requested Tests						Sample Remarks	
				TPHP_W	VOC_W						
STR14092541-01A	MW-13	AQ 09/24/14 07:34	5 0 5	GAS-C	BTXE/MTB A_C						

Comments: Security seals intact. Frozen ice. :

Signature	Print Name	Company	Date/Time
	ALIADNA CHACON	Alpha Analytical, Inc.	9/25/14 1037

NOTE: Samples are discarded 60 days after results are reported unless other arrangements are made. Hazardous samples will be returned to client or disposed of at client expense. The report for the analysis of the above samples is applicable only to those samples received by the laboratory with this COC. The liability of the laboratory is limited to the amount paid for the report.

Matrix Type : AQ(Aqueous) AR(Air) SO(Soil) WS(Waste) DW(Drinking Water) OT(Other) Bottle Type: L-Liter V-Voa S-Soil Jar O-Orbo T-Tedlar B-Brass P-Plastic OT-Other

STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER ESI

UPLOADING A EDF FILE

SUCCESS

**Processing is complete. No errors were found!
Your file has been successfully submitted!**

<u>Submittal Type:</u>	EDF
<u>Report Title:</u>	Verification Groundwater Monitoring Report
<u>Report Type:</u>	Monitoring Report - Other
<u>Facility Global ID:</u>	T0600100930
<u>Facility Name:</u>	DESERT PETROLEUM #795
<u>File Name:</u>	14092541_EDF.zip
<u>Organization Name:</u>	Stratus Environmental, Inc.
<u>Username:</u>	STRATUS NOCAL
<u>IP Address:</u>	50.192.223.97
<u>Submittal Date/Time:</u>	10/6/2014 1:26:58 PM
<u>Confirmation Number:</u>	7599428296

[VIEW QC REPORT](#)

[VIEW DETECTIONS REPORT](#)

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STATE WATER RESOURCES CONTROL BOARD
GEOTRACKER ESI

UPLOADING A EDF FILE

SUCCESS

**Processing is complete. No errors were found!
Your file has been successfully submitted!**

<u>Submittal Type:</u>	EDF
<u>Report Title:</u>	Verification Groundwater Monitoring Report
<u>Report Type:</u>	Monitoring Report - Other
<u>Facility Global ID:</u>	T0600100930
<u>Facility Name:</u>	DESERT PETROLEUM #795
<u>File Name:</u>	14092541_EDF.zip
<u>Organization Name:</u>	Stratus Environmental, Inc.
<u>Username:</u>	STRATUS NOCAL
<u>IP Address:</u>	50.192.223.97
<u>Submittal Date/Time:</u>	10/6/2014 1:26:58 PM
<u>Confirmation Number:</u>	7599428296

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