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By Alameda County Environmental Health at 3:58 pm, Jan 31, 2013

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 *Remediation Status Report, Fourth Quarter 2012* 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,



Balaji Angle
B&C Gas Mini Mart



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

January 21, 2012
Project No. 2146-2008-01

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

Re: Quarterly Status Update Report, Fourth Quarter 2011, for B&C Gas Mini Mart, located at 2008 First Street, Livermore, California (ACEHS Case No. RO0000278)

Dear Mr. Wickham:

Stratus Environmental, Inc. (Stratus) is submitting the attached report, on behalf of Mr. Balaji Angle, to document an update of work performed during the fourth quarter 2011 at the B&C Gas Mini Mart, located at 2008 First Street, Livermore, California. This report has been prepared in compliance with Alameda County Environmental Health Services (ACEHS) requirements for underground storage tank (UST) investigations.

If you have any questions regarding this report, please contact Scott Bittinger at (530) 676-2062 or Gowri Kowtha at (530) 676-6001.

Sincerely,

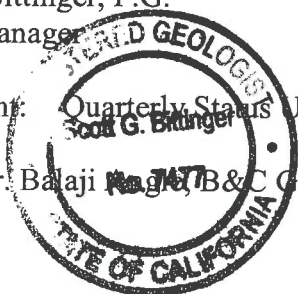
STRATUS ENVIRONMENTAL, INC.

Scott G. Bittinger, P.G.
Project Manager

Gowri S. Kowtha, P.E.
Principal Engineer

Attachment: Quarterly Status Update Report, Fourth Quarter 2011

cc: Mr. Balaji Angle, B&C Gas Mini Mart



**B&C GAS MINI MART
QUARTERLY STATUS UPDATE REPORT**

Facility Address: 2008 First Street, Livermore, California

Consulting Co./Contact Person: Stratus Environmental, Inc. / Scott Bittinger, P.G.

Consultant Project No: 2146-2008-01

Primary Agency/Regulatory ID No: Alameda County Environmental Health Department (ACEHD) / Case No. RO0000278

WORK PERFORMED THIS PERIOD (Fourth Quarter 2011):

1. In accordance with SWRCB Resolution No. 2009-0042, this site is under a semi-annual groundwater monitoring and sampling program, with these activities performed during the first and third quarters of each calendar year; therefore, no groundwater monitoring/sampling was conducted during the fourth quarter 2011.
2. Stratus and Mr. Angle met with ACEHD personnel on December 8, 2011 to discuss future management of the environmental case for the subject property.
3. Stratus visited the site on December 28, 2011 to check on the operational status of an ozone injection system installed and operated by a previous company representing Mr. Angle (Golder Associates). At the time of the visit, the ozone injection system was non-operational, apparently due to a mechanical failure (compressor motor failure). A field data sheet for the December 28, 2011 site visit is attached to this document. It is our understanding that Golder Associates did not visit the site during the fourth quarter 2011 in order to perform operation and maintenance on the ozone injection system

WORK PROPOSED FOR NEXT PERIOD (First Quarter 2012):

1. Stratus will conduct semi-annual groundwater monitoring and sampling activities during the first quarter 2012. During this event all monitoring wells will be gauged for depth to water and evaluated for the presence of free product. Following gauging, all wells will be purged and sampled. Samples will be forwarded to a state-certified analytical laboratory for analysis.
2. Stratus will repair and restart the ozone injection system. At least two site visits per month will be performed in order to verify operation of the system, and collect field parameter measurements, as appropriate.
3. During the December 8, 2011 meeting, ACEHD personnel indicated interest in expanding the ozone injection system offsite for connection to wells SP-5A/B/C and SP-6A/B/C, in order to allow for remediation of dissolved fuel contaminants across a larger area of the subsurface (see Figure 2 for well locations). Stratus concurs with ACEHD's assessment that the groundwater treatment area should be expanded. However, at this time, California's Underground Storage Tank Cleanup Fund (USTCF) has not allocated sufficient funds to cover costs associated with an expansion of the ozone injection system. We are hopeful that in the future, funding to perform offsite remediation work can become available, however, for the current fiscal year (2011/2012), cleanup efforts will likely be limited to injection of ozone through the wells currently connected to the system (SP-1A/B through SP-4A/B).

ATTACHMENTS: Figure 1 Site Location Map
 Figure 2 Site Plan
 Figure 3 Site Vicinity Map
 December 28, 2011 Field Data Sheet

TABLE 1
Ozone Injection System --- Operational Summary
 B&C Gas Mini Mart, 2008 First Street, Livermore, CA

Date	O ₃ System Status (arrive/depart)	Hour Meter Reading	O ₃ plus air Flowrate	Injection Pressure	Oxygen Flowrate
			(scfm)	(psi)	(scfh)
02/28/12	Off/On ¹	0.0	1.2	15.0	--
03/06/12	On/On	--	1.0	37.0	--
03/29/12	Off/On ²	0.8	3.8	6.0	12.0
04/10/12	Off/On ³	6.7	4.0	11.0	11.0
04/23/12	On/On	214.2	2.5	5.0	13.0
05/07/12	On/On	365.6	2.6	8.0	12.0
05/22/12	Off/On ³	372.0	4.1	6.0	12.0
05/31/12	Off/On ⁴	380.0	4.4	12.0	12.0
06/04/12	Off/On ⁵	386.0	4.4	13.0	12.0
06/20/12	Off/On ⁶	387.4	4.2	12.0	12.0
07/03/12	Off/On	396.7	4.4	9.0	12.0
07/23/12	Off/On ⁴	397.1	5.0	13.0	12.0
08/06/12	Off/On ⁴	399.3	3.4	14.0	12.0
08/23/12	Off/On ⁴	402.0	2.0	5.0	12.0
09/03/12	Off/On	408.5	3.2	3.0	12.0
09/20/12	Off/Off	540.0	--	--	--
10/01/12	On/On	634.7	4.1	4.0	12.0
10/16/12	On/On	985.7	4.5	16.0	12.0
11/05/12	On/On	1410.0	4.4	6.0	18.0
11/19/12	Off/On ⁷	1521.4	4.5	14.0	12.0
12/04/12	On/On ⁸	1522.9	4.3	40.0	12.0
12/18/12	Off/On ⁹	0.50	5.0	26.0	12.0
Average			3.7	13.4	12.3
Legend:					
O ₃ = ozone					
psi = pounds per square inch					
scfm = standard cubic feet per minute					
scfh = standard cubic feet per hour					
-- = not measured/not applicable					

Notes:

¹ System was originally shut down on December 28, 2011 due to a bad compressor. On January 18, 2012 a field visit to repair the compressor was completed, however, the existing compressor was unable to be repaired. Remediation system re-started February 28, 2012 after replacing the compressor. Ozone system was re-started with a zero hour meter reading.

² System down upon arrival, compressor replaced.

³ System down upon arrival, due to high temp, restart system.

⁴ System down upon arrival, restart system.

⁵ System down upon arrival due to lack of power, restart system.

⁶ System down upon arrival due to high temp, tarp installed over compound to shade unit from sun, and restart system.

⁷ System down upon arrival. Loose wire on compressor. Repair, restart system.

⁸ System hour meter reset to zero, prior to departure.

⁹ System down upon arrival due to high air flow, restart system.

1. Ozone system has a total of 8 ports available, six are currently connected to injection wells (SP-1A/B, SP-2A/B, and SP-4A/B) as of May 22, 2012.

2. Ozone injection duration set at 10 minutes per well.

TABLE 2
Ozone Injection System --- Summary of Field Data
 B&C Gas Mini Mart, 2008 First Street, Livermore, CA

Well Number	Date ¹	Number of Days Since Re-Start	Depth to Water (ft)	DO (mg/L)	Temp. (°C)	pH	Specific Conductivity (µS/cm)	ORP (mV)
MW-2	04/10/12	42	38.56	1.05	17.8	7.39	797	327
	04/23/12	55	36.84	2.26	19.1	7.16	738	168
	05/07/12	69	37.11	3.75	19.3	6.58	696	302
	05/22/12	84	37.81	1.06	18	6.94	706	303
	05/31/12	93	--	--	--	--	--	--
	06/04/12	97	38.37	2.77	18.8	7.01	694	217
	06/20/12	113	--	--	--	--	--	--
	07/03/12	126	39.94	2.13	18.7	6.73	687	209
	07/23/12	146	40.55	4.35	19.0	6.96	644	371
	08/06/12	160	--	--	--	--	--	--
	08/23/12	177	41.05	1.33	18.9	7.03	576	333
	09/03/12	188	--	--	--	--	--	--
	09/20/12	205	41.40	1.92	17.7	7.00	502	326
	10/01/12	216	39.62	2.83	18.9	7.23	498	333
	10/16/12	231	39.60	3.48	19.1	6.97	500	374
	11/05/12	251	40.68	4.50	19.1	7.06	452	361
	11/19/12	265	40.23	0.75	18.8	7.59	430	349
	12/04/12	280	36.82	3.80	18.5	6.86	403	377
12/18/12	294	34.65	0.73	17.8	7.02	415	357	
MW-3	04/10/12	42	37.69	0.60	18.1	6.89	721	357
	04/23/12	55	35.90	1.26	18.9	6.99	706	166
	05/07/12	69	36.25	1.95	18.8	6.71	701	297
	05/22/12	84	36.89	1.29	18.1	7.08	702	305
	05/31/12	93	--	--	--	--	--	--
	06/04/12	97	37.41	2.00	18.6	7.12	688	214
	06/20/12	113	--	--	--	--	--	--
	07/03/12	126	38.98	2.50	18.3	7.04	7	199
	07/23/12	146	39.52	4.36	18.7	6.93	630	368
	08/06/12	160	--	--	--	--	--	--
	08/23/12	177	40.23	0.96	18.5	7.04	553	331
	09/03/12	188	--	--	--	--	--	--
	09/20/12	205	40.35	1.25	17.1	6.96	488	315
	10/01/12	216	40.28	0.80	18.5	7.19	493	337
	10/16/12	231	40.03	0.93	18.7	6.90	498	376
	11/05/12	251	39.52	0.80	18.6	7.02	450	362
	11/19/12	265	39.24	0.45	18.4	7.23	427	351
	12/04/12	280	35.77	0.73	18.0	7.00	404	376
12/18/12	294	33.72	1.00	17.5	7.11	411	359	
MW-5	04/10/12	42	--	--	--	--	--	--
	04/23/12	55	--	--	--	--	--	--
	05/07/12	69	--	--	--	--	--	--
	05/22/12	84	37.27	1.24	18.1	6.94	910	259
	05/31/12	93	--	--	--	--	--	--
	06/04/12	97	--	--	--	--	--	--
	06/20/12	113	--	--	--	--	--	--

TABLE 2
Ozone Injection System --- Summary of Field Data
 B&C Gas Mini Mart, 2008 First Street, Livermore, CA

Well Number	Date ¹	Number of Days Since Re-Start	Depth to Water (ft)	DO (mg/L)	Temp. (°C)	pH	Specific Conductivity (µS/cm)	ORP (mV)
	07/03/12	126	38.75	12.20	18.3	7.20	814	282
	07/23/12	146	--	--	--	--	--	--
	08/06/12	160	--	--	--	--	--	--
	08/23/12	177	--	--	--	--	--	--
	09/03/12	188	--	--	--	--	--	--
	09/20/12	205	39.00			<i>Dry</i>		
	10/01/12	216	--	--	--	--	--	--
	10/16/12	231	--			<i>Dry</i>		
	11/05/12	251	--			<i>Dry</i>		
	11/19/12	265	--	--	--	--	--	--
	12/04/12	280	--	--	--	--	--	--
	12/18/12	294	--	--	--	--	--	--
SP-5A	04/10/12	42	37.87	1.94	18.1	6.69	924	334
	04/23/12	55	36.15	1.80	19.2	6.83	538	174
	05/07/12	69	36.58	1.81	18.8	6.49	716	323
	05/22/12	84	36.75	0.94	18.0	6.61	745	292
	05/31/12	93	--	--	--	--	--	--
	06/04/12	97	36.70	3.31	18.2	7.02	872	299
	06/20/12	113	--	--	--	--	--	--
	07/03/12	126	38.82			<i>Dry</i>		
	07/23/12	146	--			<i>Dry</i>		
	08/06/12	160	--	--	--	--	--	--
	08/23/12	177	--			<i>Dry</i>		
	09/03/12	188	--	--	--	--	--	--
	09/20/12	205	--	--	--	--	--	--
	10/01/12	216	39.00			<i>Dry</i>		
	10/16/12	231	--			<i>Dry</i>		
	11/05/12	251	--			<i>Dry</i>		
	11/19/12	265	--	--	--	--	--	--
	12/04/12	280	36.90	1.50	17.8	7.09	126.8	360
	12/18/12	294	34.18	1.04	17.2	6.97	415.0	359
SP-5B	04/10/12	42	37.99	1.59	18.6	6.76	692	298
	04/23/12	55	36.02	1.65	18.8	7.15	691	128
	05/07/12	69	36.37	2.06	18.1	6.33	1420	290
	05/22/12	84	37.02	0.97	18.8	6.24	151.5	278
	05/31/12	93	--	--	--	--	--	--
	06/04/12	97	37.58	3.06	18.1	7.44	692	334
	06/20/12	113	--	--	--	--	--	--
	07/03/12	126	39.15	7.14	18.6	6.99	467	188
	07/23/12	146	39.65	4.33	19.3	7.49	220	346
	08/06/12	160	--	--	--	--	--	--
	08/23/12	177	40.33	0.94	18.9	7.66	384	322
	09/03/12	188	--	--	--	--	--	--
	09/20/12	205	--	--	--	--	--	--
	10/01/12	216	42.50	0.82	18.8	7.42	415	316

TABLE 2
Ozone Injection System --- Summary of Field Data
 B&C Gas Mini Mart, 2008 First Street, Livermore, CA

Well Number	Date ¹	Number of Days Since Re-Start	Depth to Water (ft)	DO (mg/L)	Temp. (°C)	pH	Specific Conductivity (µS/cm)	ORP (mV)
	10/16/12	231	40.27	1.70	18.7	7.02	482	360
	11/05/12	251	39.77	1.00	18.5	7.16	382	364
	11/19/12	265	--	--	--	--	--	--
	12/04/12	280	36.11	0.92	17.3	7.44	393	358
	12/18/12	294	34.02	1.15	16.4	7.58	526	349
SP-5C	04/10/12	42	37.62	2.04	18.6	7.14	697	366
	04/23/12	55	35.77	2.00	18.4	7.50	578	10
	05/07/12	69	36.00	3.23	18.6	6.37	189	242
	05/22/12	84	36.53	1.65	18.4	6.65	182	264
	05/31/12	93	--	--	--	--	--	--
	06/04/12	97	37.35	3.10	18.6	7.51	216	328
	06/20/12	113	--	--	--	--	--	--
	07/03/12	126	38.84	13.09	18.2	6.82	320	192
	07/23/12	146	40.53	4.88	19.1	8.00	301	314
	08/06/12	160	--	--	--	--	--	--
	08/23/12	177	39.99	0.97	18.4	8.24	529	318
	09/03/12	188	--	--	--	--	--	--
	09/20/12	205	--	--	--	--	--	--
	10/01/12	216	42.30	100.00	18.5	7.54	517	290
	10/16/12	231	39.95	1.57	18.6	7.01	432	349
	11/05/12	251	39.56	1.30	18.1	7.21	435	369
	11/19/12	265	--	--	--	--	--	--
	12/04/12	280	35.90	1.90	17.3	8.00	262	345
	12/18/12	294	35.75	1.15	16.3	7.94	82.1	347

Legend:

ft = feet

DO = dissolved oxygen

mg/L = milligrams per liter

Temp. = temperature

°C = degrees Celsius

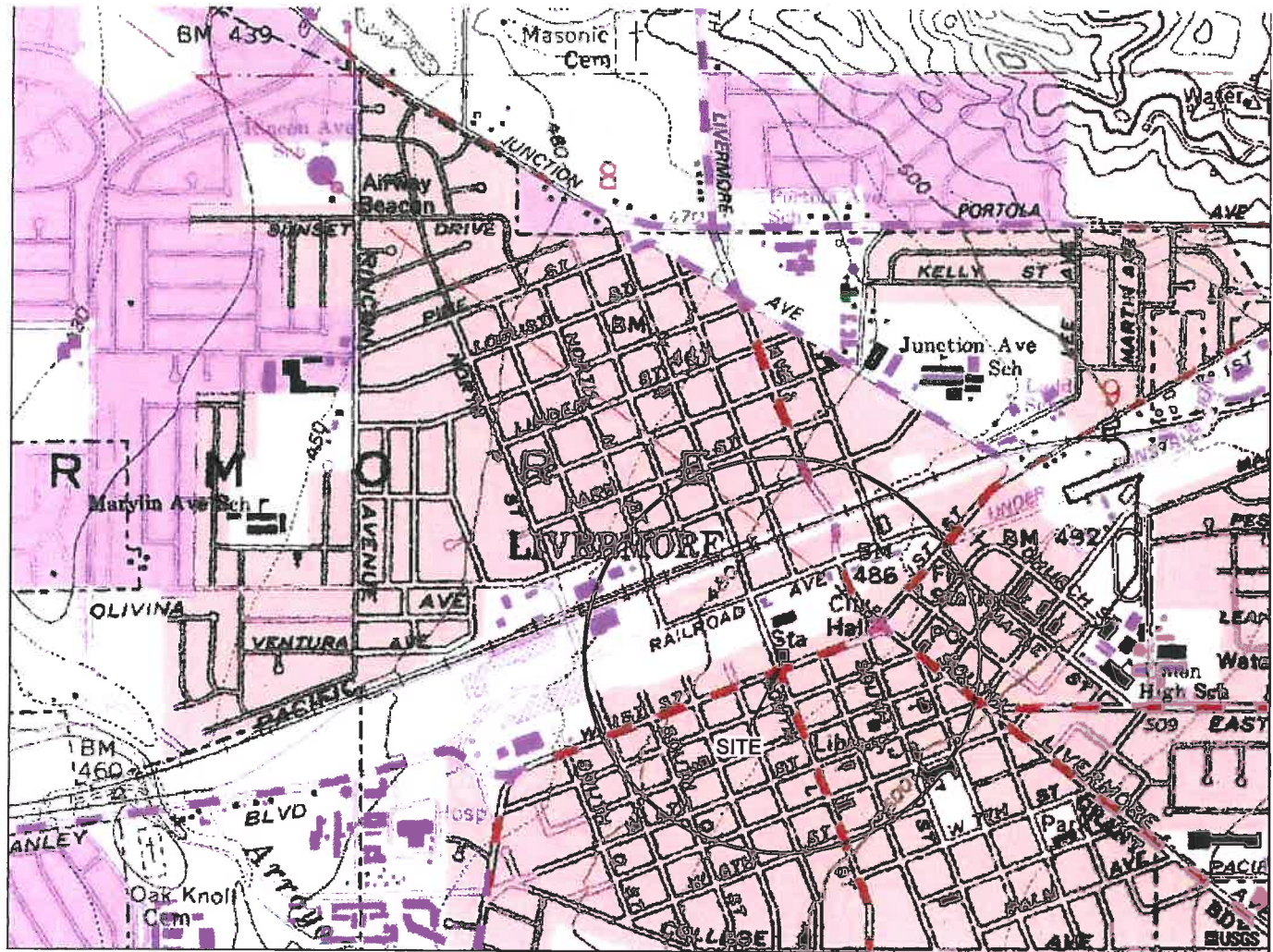
µS/cm = microSiemens per centimeter

ORP = oxidation reduction potential

mV = millivolts

Temp., pH, specific conductivity, and ORP measurements recorded without purging.

¹ System was originally shut down on December 28, 2011 and re-started February 28, 2012. Additional field parameters to monitor ozone systems remediation on groundwater were attained beginning April 10, 2012.



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

GROTH BROTHERS SHOWROOM

PLANTER

SP-5A/B ⊗ SV-MIP-8 ●
SP-5C ⊗

MW-5 ●
SP-6A/B ⊗
SP-6C ⊗

SIDEWALK

DRIVEWAY

SIDEWALK

PLANTER

SOUTH L STREET

SIDEWALK

LIQUOR STORE

SPARGING EQUIPMENT ENCLOSURE

SP-3A/B ⊗

SV-MW-2 ●

MW-2 ●

SVE-3A/B ●

MW-1 ●

SP-2A/B ⊗

STATION BUILDING

SVE-4A/B ●

SP-1A/B ⊗

SP-4A/B ⊗

CMT4 ●

EXISTING USTs

SVE-2 ●

SIDEWALK

CANOPY AND PUMP ISLANDS

BUILDING

MW-3 ●

MW-4 ●

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

STRATUS ENVIRONMENTAL, INC.



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

SITE PLAN

FIGURE
2
PROJECT NO.
2146-2008-01



STRATUS
ENVIRONMENTAL, INC.



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

SITE VICINITY MAP

FIGURE

3

PROJECT NO.
2146-2008-01

APPENDIX A
FIELD DATA SHEETS

B+C GAS Mini Mart
2008 First Street, Livermore

ORIGINAL

Ozone Injection System

Date: 10-1-12
Onsite Time: 0640
Offsite Time: 0735
Equipment Manufacturer/Model#: _____

Technician: PHILL
Weather Conditions: Clear
Ambient Temperature: 60

Ozone Generator Panel:

System Status Upon Arrival: Operational Non-operational
System Status Upon Arrival: Operational Non-operational

Hour Meter Reading: 634.7 Oxygen flow rate: 12 SCFH
Injection Pressure: 4 PSI Air + ozone flow rate: 4.1 CFM

Field Measurements							
Well ID	Time	DTW	pH	DO	Cond.	ORP	Temp
		feet bgs	units	mg/L	msiemen	mV	deg F
SP 5A		39.00	DIRTY				
}	5B	42.50	7.42	0.82	415	316	18.5
	5C	42.30	7.54	1.00	517	290	18.5
				1.00			
mw 2		39.62	7.23	2.83	498	333	18.9
mw 3		40.28	7.19	2.80	493	337	18.5

10 min Each well

Signature: PHILL Date: 10-1-12

System was Restarted

B+C GAS Mini Mart
 2008 First Street, Livermore
 Ozone Injection System

ORIGINAL

Date: 10-16-12
 Onsite Time: 0615
 Offsite Time: 0730
 Equipment Manufacturer/Model#: _____

Technician: CHILL
 Weather Conditions: CLG
 Ambient Temperature: 55

Ozone Generator Panel:

System Status Upon Arrival: Operational Non-operational
 System Status Upon Arrival: Operational Non-operational

Hour Meter Reading: 985.7 Oxygen flow rate: 12 scf/h
 Injection Pressure: 16 #3 Air + ozone flow rate: 4.5 cfm

Field Measurements

Well ID	Time	DTW	pH	DO	Cond.	ORP	Temp
		feet bgs	units	mg/L	msiemens	mV	deg F
SP-5C		39.95	7.01	1.57	432	349	18.6
" 5B		40.27	7.02	1.70	482	360	18.7
SW		DPH					
MW 1		DPH					
MW 2		39.60	6.97	3.48	500	374	19.1
MW 3		40.03	6.40	18.93	498	376	18.7

Signature: CHILL

Date: 10-16-12

PTI
 PBA-50g-DI-120V-12-400w-50 PSI-10 Lpm-DZ1

B+C GAS Mini Mart
2008 First Street, Livermore

ORIGINAL

Ozone Injection System

Date: 12-4-12
Onsite Time: 0655
Offsite Time: 0845
Equipment Manufacturer/Model#: _____

Technician: CHILL
Weather Conditions: clear
Ambient Temperature: 50

Ozone Generator Panel:

System Status Upon Arrival: Operational Non-operational
System Status Upon Arrival: Operational Non-operational
Hour Meter Reading: 1522.9 Oxygen flow rate: 12
Injection Pressure: 40 Air + ozone flow rate: 4.3 #3

Field Measurements							
Well ID	Time	DTW	pH	DO	Cond.	ORP	Temp
		feet bgs	units	mg/L	msiemens	mV	deg F
SP 5C		35.90	8.00	1.90	242	345	17.3
5B		36.11	7.44	2.92	393	358	17.3
5B		36.90	7.09	1.50	126.8	360	17.8
MW 2		36.82	6.86	3.80	403	377	18.5
MW 3		35.77	7.00	2.73	404	376	18.0

Reset Hour meter to zero

Signature: CHILL

Date: 12/4/12

