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By Alameda County Environmental Health at 8:58 am, Feb 07, 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 15, 2013
Project No. 2146-2008-01

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

Re: **Remediation Status Report, Fourth Quarter 2012**, Former B&C Gas Mini Mart, located at 2008 First Street, Livermore, California (ACEHD Case No. RO0000278)

Dear Mr. Wickham:

Stratus Environmental, Inc. (Stratus) is submitting the attached report, on behalf of Mr. Balaji Angle, to document work performed during the fourth quarter 2012 at the former B&C Gas Mini Mart, located at 2008 First Street, Livermore, California. This report has been prepared in compliance with Alameda County Environmental Health Department (ACEHD) requirements for underground storage tank (UST) investigations. Stratus representatives, whose signatures appear below, declare under penalty of perjury, that the information contained in the attached report are true and correct to the best of our knowledge.

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

Sincerely,

STRATUS ENVIRONMENTAL, INC.



Scott G. Bittinger, P.G.
Project Manager

Gowri S. Kowtha, P.E.
Principal Engineer

Attachment: Remediation Status Report, Fourth Quarter 2012

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

Date January 15, 2013

B&C GAS MINI MART REMEDATION STATUS 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 2012):

1. During the fourth quarter 2012, Stratus continued operation of the ozone (O₃) injection groundwater remediation system. Stratus completed a total of six site visits to verify system operation, conduct routine maintenance, and to periodically collect monitoring data from the well array to gauge system effectiveness and maintain permit compliance. Operational parameters and field data collected are summarized in Tables 1 and 2. Field data sheets prepared during each site visit are included as Appendix A.
2. Between December 17 and 27, 2012, Stratus directed the overdrilling of damaged well MW-6, and construction of wells SVE-2, SVE-3A/B, and SVE-4A/B.
3. Stratus submitted an application to Pacific Gas & Electric Company (PG&E) requesting a 3-phase power supply to enable performance of future soil vapor extraction (SVE) remedial work.

WORK PROPOSED FOR NEXT PERIOD (First Quarter 2013):

1. Continue operation of the O₃ remediation system during the first quarter 2013. Stratus will continue to visit the site at least every other week to verify operation, conduct maintenance, and periodically collect monitoring data/samples from observation wells to gauge system effectiveness. Nearby wells SVE-3A/B and SVE-4A/B will be added to the well network used to assess the effectiveness of the current remediation system.
2. The first quarter 2013 groundwater monitoring and sampling event will be performed. Wells SVE-3A/B and SVE-4A/B will be developed prior to the scheduled monitoring and sampling date.
3. A well installation and destruction report will be prepared and submitted to document the recent drilling work.
4. Stratus will continue to implement work activities necessary to begin SVE remedial efforts, including obtaining a power supply for the equipment.

Current Phase of Project: Groundwater Monitoring, Onsite Ozone Injection (CAP/REM – O&M), near source SVE has been approved by ACEHD.

Frequency of Groundwater Sampling: MW-2 though MW-5, MW-7 MW-13, CMT-1 Z1, CMT-2 Z1, CMT-3 Z1, and CMT-4 Z2= semi-annually (first & third calendar quarter); MW-8 through MW-12 and D-2 = annually (first calendar quarter); wells SVE-3A/B and SVE-4A/B to be sampled periodically, exact schedule will be dependent upon whether or not SVE remediation is being performed using these wells for extraction.

Frequency of Groundwater Monitoring: MW-2, MW-3, MW-4, SVE-3A, SVE-3B, SVE-4A, SVE-4B = quarterly
All wells = semi-annual (1st & 3rd)

IN-SITU GROUNDWATER REMEDIATION SYSTEM

| | |
|--------------------------------|---|
| Equipment Inventory: | Calcon Environmental (Calcon) HiPro™ 2500 Ozone Injection System |
| Ozone Injection System Status: | Non-Operational until February 28, 2012; Operational since February 28, 2012. |
| Injection wells: | SP-1A/B, SP-2A/B, SP-4A/B (ozone not being injected into well SP-3A/B). Offsite wells SP-5 A/B/C and SP-6 A/B/C not connected to remediation system). |

DISCUSSION: REMEDIATION SYSTEM

Ozone Injection System Description Fourth Quarter 2012 Operation and Maintenance

A Calcon HiPro™ 2500 ozone injection system is currently being used to inject air and ozone to mitigate petroleum hydrocarbon impact to the groundwater. The remediation system is situated within a locked, fenced remedial compound located immediately adjacent to the convenience store building on the property (see Figure 2). The system is currently configured to cyclically inject an air/ozone mixture into wells SP-1A/B, SP-2A/B, and SP-4A/B. Subgrade piping with conveyance tubing extends from the remediation compound area to well SP-3A/B, however, this tubing is not currently connected to the ozone injection system. Conveyance piping and tubing has not been installed to offsite wells SP-5A/B/C or SP-6A/B/C.

Stratus personnel visited the site on October 1 and 16, November 5 and 19, and December 4 and 18, 2012 in order to inspect and repair the ozone injection system, re-start the system for continuous operation, and perform operation and maintenance visits on the equipment. Field data sheets documenting observations and work performed by Stratus personnel are included in Appendix A.

During the fourth quarter 2012, there were no monitoring wells available down gradient of the area of injection to evaluate the effectiveness of the ozone injection wells, SP-1, SP-2 and SP-4. The closest monitoring well that was being used to record and evaluate the effectiveness of ozone is MW-2. In addition, Stratus is collecting field parameters (pH, DO, ORP and temperature) at offsite wells MW-5 and injection well SP-5 A/B/C. The data collected from these wells does not yield adequate information to evaluate the effectiveness of the system (the monitoring points are either up gradient or too far down gradient). Installation of SVE-3A/B and SVE-4A/B, and adding these wells to the monitoring program, should improve our ability to evaluate performance of the ozone injection system.

ATTACHMENTS:

- Table 1 Ozone Injection System – Operational Summary
- Table 2 Ozone Injection System – Summary of Field Data
- Figure 1 Site Location Map
- Figure 2 Site Plan
- Figure 3 Site Vicinity Map
- Appendix A Field Data Sheets

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 | -- | -- | -- | -- | -- | -- |

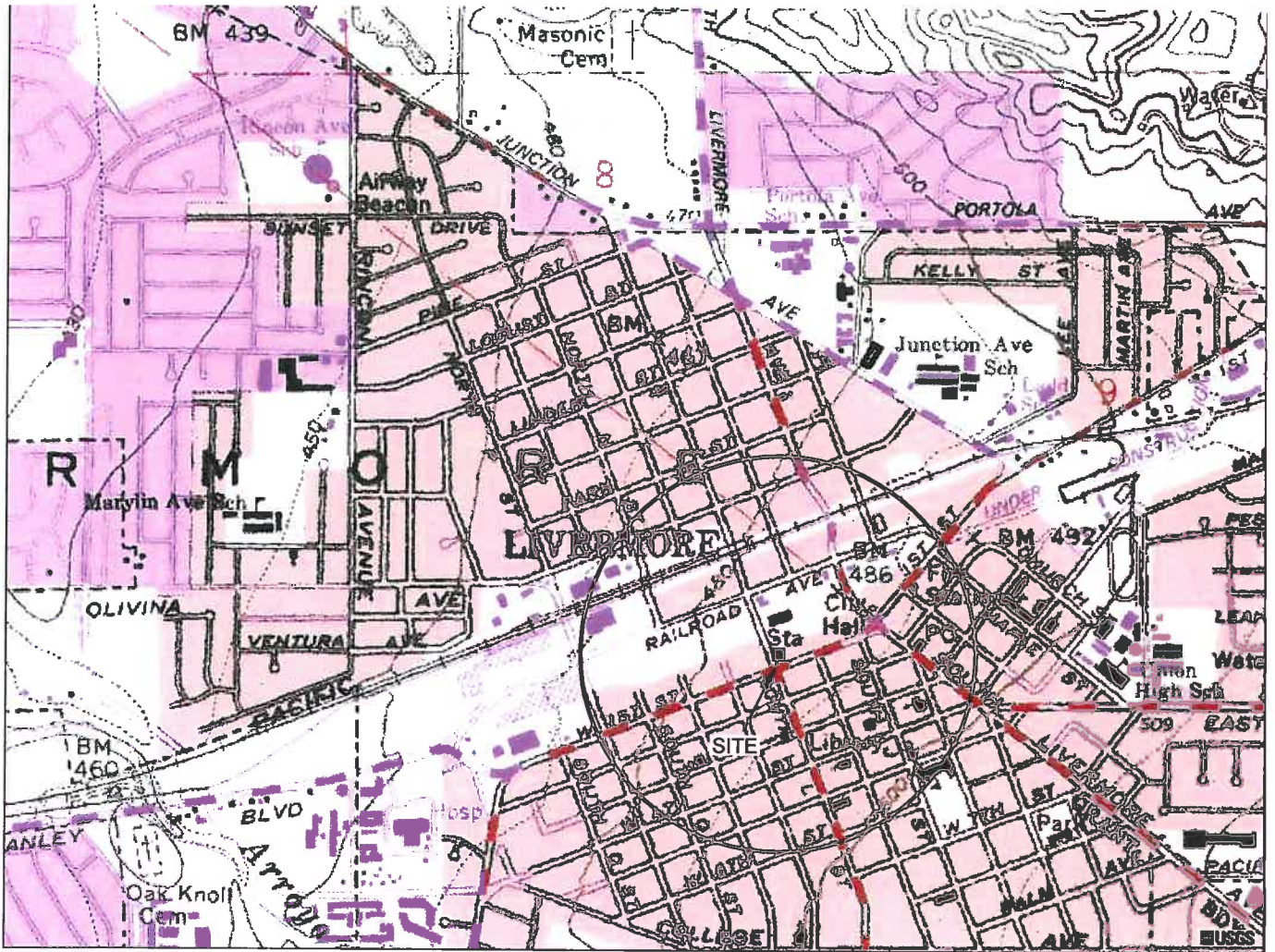
TABLE 2
Ozone Injection System --- Summary of Field Data
 B&C Gas Mini Mart, 2008 First Street, Livermore, CA

| 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 ⊗

PLANTER

SIDEWALK

DRIVEWAY

SIDEWALK

PLANTER

SOUTH L STREET

SIDEWALK

LIQUOR STORE

SP-3A/B ⊗

SV-MW-2 ●

MW-2 ⊕

SVE-3A/B ●

SP-2A/B ⊗

MW-1 ⊕

SVE-4A/B ●

SP-1A/B ⊗

SP-4A/B ⊗

CMT4 ⊕

SIDEWALK

SVE-2 ●

EXISTING USTs

SPARGING EQUIPMENT ENCLOSURE

STATION BUILDING

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 | DIM | | | | |
| 5B | | 42.50 | 7.42 | 0.82 | 415 | 316 | 18.5 |
| | | 42.30 | 7.54 | 1.00 | 517 | 290 | 18.5 |
| | | | | 1.00 | | | |
| mw2 | | 39.62 | 7.23 | 2.83 | 498 | 333 | 18.9 |
| mw 3 | | 40.25 | 7.19 | 0.80 | 493 | 337 | 18.5 |
| | | | | | | | |
| | | | | | | | |
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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 SCFH
 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 |
| 5A | | 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 |
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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: 11-5-12
Onsite Time: 0720
Offsite Time: 0830
Equipment Manufacturer/Model#: _____

Technician: CHILL
Weather Conditions: Clear
Ambient Temperature: 58

Ozone Generator Panel:

System Status Upon Arrival: Operational Non-operational

System Status Upon Arrival: Operational Non-operational

Hour Meter Reading: 1,410 Oxygen flow rate: 18 scfh

Injection Pressure: 6 Air + ozone flow rate: 4.4 scfm

| Field Measurements | | | | | | | |
|--------------------|------|----------|-------|------|----------|-----|-------|
| Well ID | Time | DTW | pH | DO | Cond. | ORP | Temp |
| | | feet bgs | units | mg/L | msiemens | mV | deg F |
| SP 5C | | 39.56 | 7.21 | 1.30 | 435 | 369 | 18.1 |
| 5B | | 39.77 | 7.16 | 1.00 | 382 | 364 | 18.5 |
| 5A | | DRY | | | | | |
| MW 5 | | DRY | | | | | |
| MW 2 | | 40.68 | 7.06 | 4.50 | 452 | 361 | 19.1 |
| MW 3 | | 39.52 | 7.02 | 2.80 | 450 | 362 | 18.6 |
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Signature: CHILL

Date: 11-5-12

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

Date: 11/19/12
 Onsite Time: 0930
 Offsite Time: 1030
 Equipment Manufacturer/Model#: _____

Technician: CHILK
 Weather Conditions: Clear
 Ambient Temperature: 65

Ozone Generator Panel:

System Status Upon Arrival: Operational Non-operational
 System Status Upon Arrival: Operational Non-operational
 Hour Meter Reading: 1521.4 Oxygen flow rate: 12
 Injection Pressure: 14 #3 Air + ozone flow rate: 4.5

| Field Measurements | | | | | | | |
|--------------------|------------|----------|-------|------|----------|-----|-------|
| Well ID | Time | DTW | pH | DO | Cond. | ORP | Temp |
| | | feet bgs | units | mg/L | msiemens | mV | deg F |
| SP5C | | | | | | | |
| 5B | Touch area | | | | | | |
| 5A | | | | | | | |
| MW 2 | | 40.23 | 7.59 | 2.79 | 430 | 349 | 18.8 |
| MW 3 | | 39.24 | 7.23 | 2.45 | 427 | 351 | 18.4 |
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Loose wire on comp. Repair Running good

Signature: CHILK

Date: 11/19/12

B+C GAS Mini Maut
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 | msiemen | 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 |
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Reset Hour meter to zero

Signature: CHILL

Date: 12412

B+C GAS Mini Mart
2008 First Street, Livermore

Ozone Injection System

ORIGINAL

Date: 12-18-12

Technician: CHILL

Onsite Time: 0700

Weather Conditions: Cloudy

Offsite Time: 0700

Ambient Temperature: 50

Equipment Manufacturer/Model#: _____

Ozone Generator Panel:

System Status Upon Arrival: Operational Non-operational *High Air Flow*

System Status Upon Arrival: Operational Non-operational

Hour Meter Reading: 2.5 Oxygen flow rate: 12

Injection Pressure: 26 Air + ozone flow rate: 5.0 #1

| Field Measurements | | | | | | | |
|--------------------|------|----------|-------|------|----------|-----|-------|
| Well ID | Time | DTW | pH | DO | Cond. | ORP | Temp |
| | | feet bgs | units | mg/L | msiemens | mV | deg F |
| SP-5C | | 35.75 | 7.94 | 1.15 | 82.1 | 347 | 16.3 |
| 53 | | 34.02 | 7.58 | 1.15 | 52.6 | 349 | 16.4 |
| 5A | | 34.18 | 6.97 | 1.04 | 41.5 | 359 | 17.2 |
| MW 2 | | 34.65 | 7.02 | 0.73 | 41.5 | 357 | 17.8 |
| MW 3 | | 33.72 | 7.11 | 1.00 | 41.1 | 359 | 17.5 |
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Signature: CHILL

Date: 12/18/12