October 8, 2007
*Project No.*: *015-01-032*



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

**SUBJECT: Submittal of Soil Vapor Extraction Data for Fuel Leak Case No. RO0000324, Livermore Gas and Mini Mart, 160 Holmes Street, Livermore, California**

Dear Mr. Wickham:

On behalf of the Responsible Party (RP), Allterra Environmental, Inc. (Allterra) has prepared this letter to provide Alameda County Environmental Health Services (County) with data collected from recent soil vapor extraction (SVE) activities completed at the above-referenced site (Site). A brief description of recent SVE field activities and resulting data are provided below.

Rationale for SVE Activities

The County suspects that a significant contaminant source remains in soil beneath the Site in the suspected "smear-zone" between depths of 24 and 30 feet below ground surface (bgs). Allterra concurs with the County's conclusion. However, existing site investigation and pilot testing data (including SVE data) is insufficient to determine which remedial technology is most appropriate for addressing smear zone soil contamination.

Allterra determined that another SVE test was warranted for two reasons: 1) well EW-3 was installed with a screen interval from 25 to 30 feet bgs, which spans the targeted smear zone; and 2) water levels are the lowest they have been in at least 5 years, which could allow the sandy clay smear zone to dry out and provide increased vapor flow rates. Therefore, in order to take advantage of well EW-3's ideal screen interval and the depressed water table, Allterra completed a short-term (3 hours) SVE pilot test at well EW-3. The results were positive and a description is provided below.

SVE Field Operations and Data Collection

On September 27, 2007, Allterra personnel performed a short-term SVE pilot test using well EW-3. The SVE test was completed using a generator, a vacuum blower with a wellhead adaptor, vapor phase carbon filters for abatement, a vacuum gauge, and an anemometer. During testing, Allterra personnel recorded vacuum and soil vapor flow rates measurements from well EW-3. Additionally, three soil vapor samples were collected from the influent vapor stream. Influent vapor samples were collected at SVE test startup (EW-3-0), after 1.5 hours of operation (EW-3-1.5) and after 2.5 hours (EW-3-2.5). Vapor samples were collected in Tedlar bags from an influent vapor stream sample port. Field logs from pilot testing activities are included as Appendix A.

*Laboratory Analyses*
Vapor samples collected during pilot testing activities were submitted under chain-of-custody protocol to McCampbell Analytical, Inc. (DHS Certification #1644) of Pacheco, California. Vapor samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg) by EPA Method 8015Cm and benzene, toluene, ethylbenzene, xylenes (BTEX) and methyl tertiary butyl ether (MTBE) by EPA Method 8021B. Certified laboratory reports with chain of custody documentation for the vapor samples are included in Appendix B.

SVE Pilot Test Results
*Soil Vapor Extraction*
During the pilot test, an induced vacuum ranging from 64.4 to 65.1 inches of $H_2O$ was observed at well EW-3, resulting in an average flow rate of 131 standard cubic feet per minute (scfm). Soil vapor flow rates and data are presented in Table 1A.

*Vapor Analytical Data*
Influent vapor sample analytical results from EW-3 indicated TPHg levels up to 72,000 milligrams per cubic meter ($mg/m^3$), benzene levels up to 630 $mg/m^3$ and MTBE at levels up to 8,600 $mg/m^3$. Soil vapor analytical results are presented in Table 1B and the certified analytical results and chain of custody documentation are included as Appendix B.

*Contaminant Mass Removal Estimate*
Based on the average vapor extraction rate and the average influent vapor concentrations, approximately 94 pounds of TPHg, 0.80 pounds of benzene, and 10 pounds of MTBE were removed from EW-3 during the 3-hour test. The test data extrapolated to a 24-hour period results in daily mass removal estimates of approximately 750 pounds per day (ppd) for TPHg, 6.4 ppd for benzene, and 80 ppd for MTBE.

Conclusions and Recommendations
Based on the results of SVE testing, Allterra concludes the following:

- Water levels beneath the Site are the lowest they have been in at least 5 years.
- SVE flow rates and contaminant levels were conducive for soil vapor extraction.
- With its screen interval from 25 to 30 feet bgs, well EW-3 is ideal for using vapor extraction to target the contaminated smear zone.
- Allterra recommends taking advantage of the low water levels by starting an interim SVE and abatement program.

**Limitations**

Allterra prepared this report for the use of Livermore Gas and Mini Mart and Alameda County in evaluating groundwater quality at selected on-site locations at the time of this study. Statements, conclusions, and recommendations in this report are based solely on the field observations and analytical results related to work performed by Allterra and there is no warranty, expressed or implied. Site conditions and data can change over time; therefore, data presented in this report is only applicable to the timeframe of this study. Allterra's services have been performed in accordance with environmental principles generally accepted at this time and location.

Should you have any questions, please contact Allterra at (831) 425-2608.

Sincerely,
Allterra Environmental, Inc.

James Allen, R.E.A.II
Project Manager

Michael Killoran, P.G. 6670
Senior Geologist

PROFESSIONAL GEOLOGIST
MICHAEL J. KILLORAN
No. 6670
STATE OF CALIFORNIA

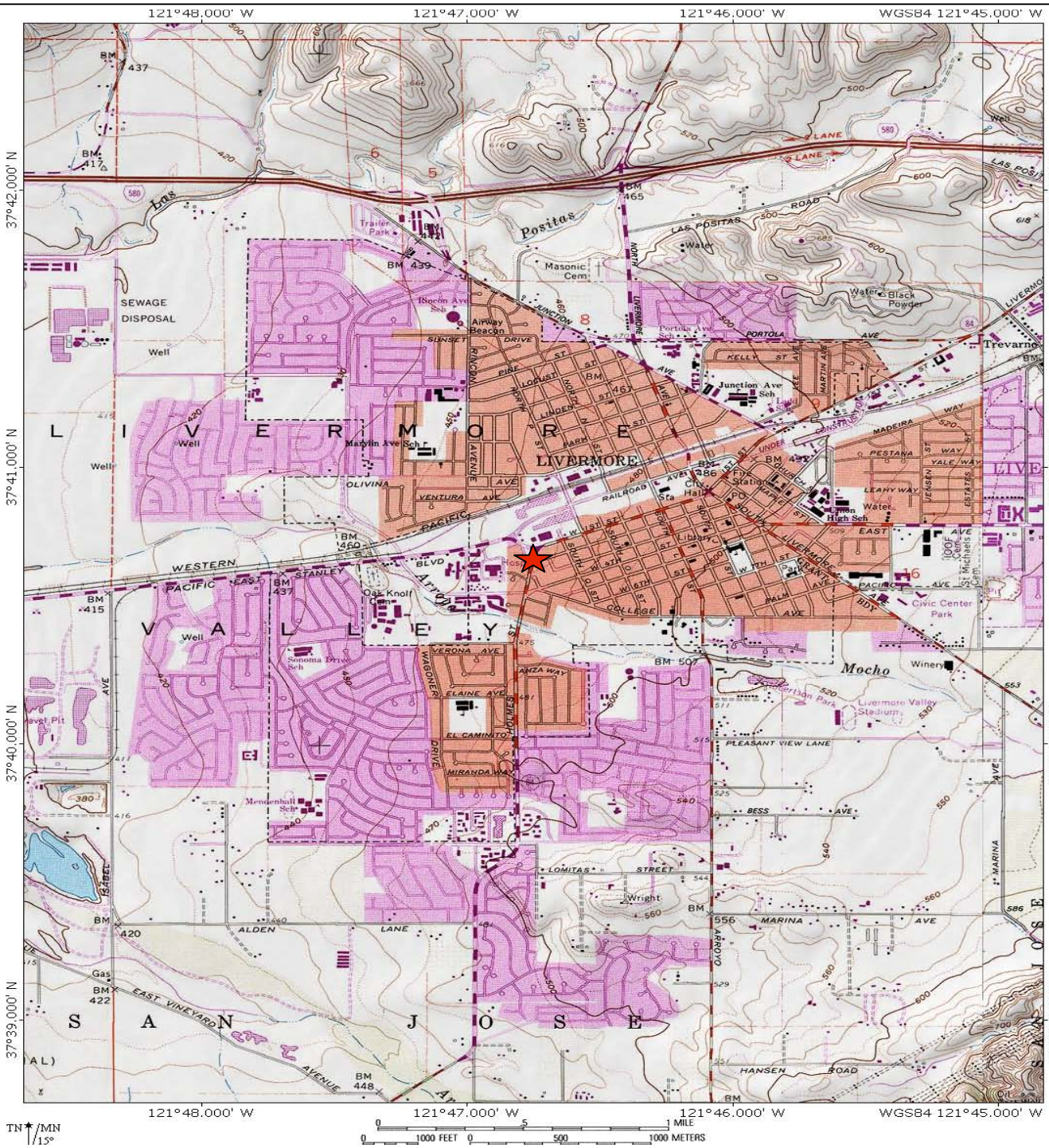
Attachments:
Figure 1, Site Vicinity Map
Figure 2, Site Plan

Table 1A, Soil Vapor Extraction Pilot Test Data for EW-3
Table 1B, Soil Vapor Analytical Results for EW-3
Table 2, SVE Contaminant Mass Removal Data

APPENDIX A, Field Data Sheet
APPENDIX B, Certified Analytical Report and Chain of Custody

cc: Jerry Wickham, ACEHS

FIGURES 1-2



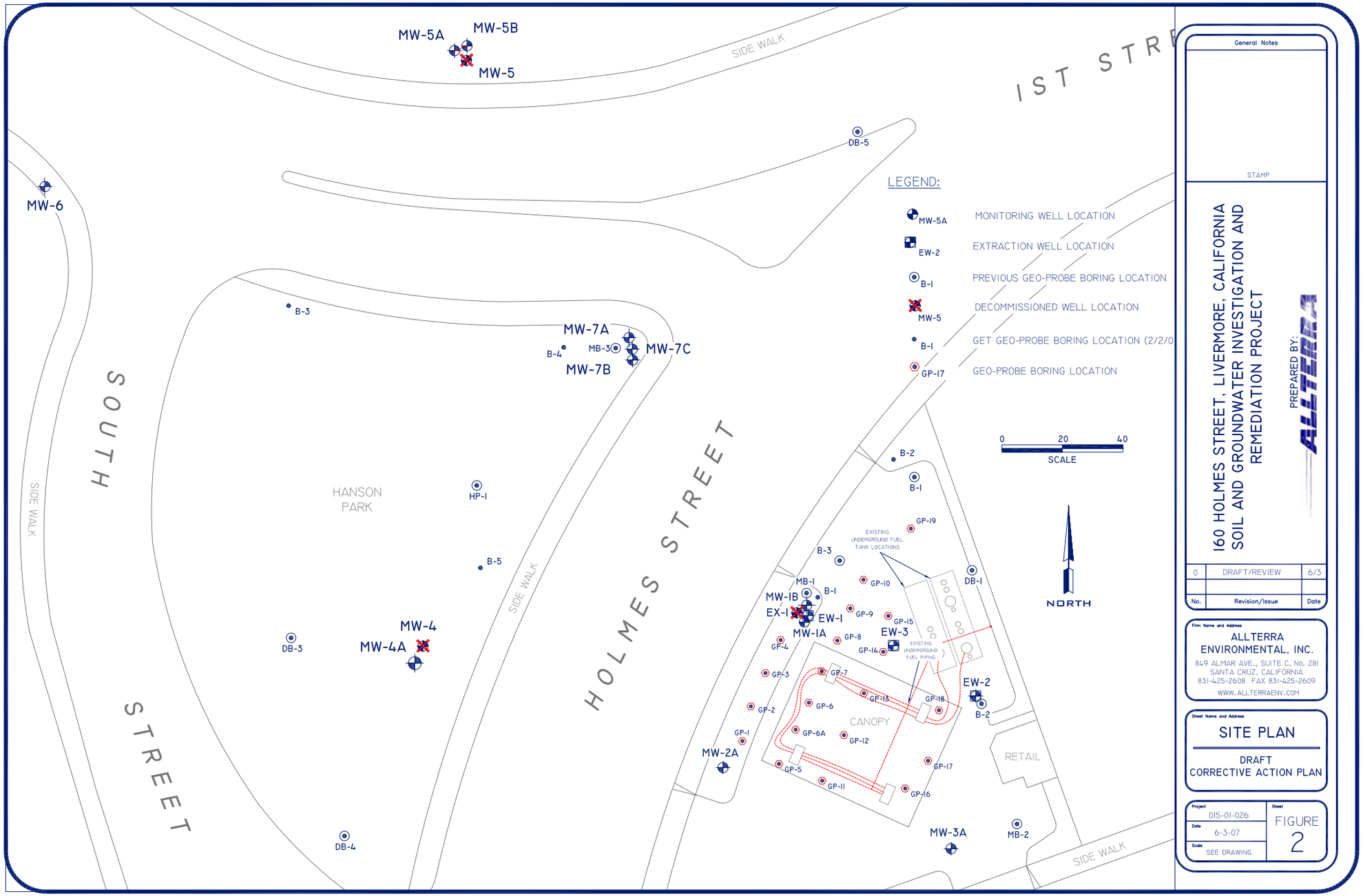

# Vicinity Map

Livermore Gas and Mini-mart
160 Holmes Street
Livermore, California

Figure 1

3/31/06

ALLTERRA
849 Almar Avenue, Suite C, No. 281
Santa Cruz, California
http://www.allterraenv.com




General Notes

STAMP

160 HOLMES STREET, LIVERMORE, CALIFORNIA
SOIL AND GROUNDWATER INVESTIGATION AND REMEDIATION PROJECT

PREPARED BY: ALLTERRA

| No. | Revision/Issue | Date |
|---|---|---|
| 0 | DRAFT/REVIEW | 6/3 |


Firm Name and Address
ALLTERRA ENVIRONMENTAL, INC.
849 ALMAR AVE., SUITE C, No. 281
SANTA CRUZ, CALIFORNIA
831-425-2608 FAX 831-425-2609
WWW.ALLTERRAENV.COM


Sheet Name and Address
SITE PLAN

DRAFT
CORRECTIVE ACTION PLAN

| Project | Sheet |
|---|---|
| 015-01-026 | FIGURE 2 |
| Date: 6-3-07 | |
| Scale: SEE DRAWING | |

USER REVDATE FNAME

# TABLES 1A, 1B, and 2

# Table 1A
## Soil Vapor Extraction Pilot Test Data for EW-3
160 Holmes Street, Livermore, California

| Well ID | Well Casing Diameter (inches) | Time | Soil Vapor Flow Rate (ft/min) | Soil Vapor Flow Rate (scfm) | Average Vacuum (Inches of Water) |
|---|---|---|---|---|---|
| EW-3 | 4.0 | 11:00 | 6,000 | 131 | -64.4 |
| EW-3 | 4.0 | 12:30 | 6,000 | 131 | -65.1 |
| EW-3 | 4.0 | 1:30 | 6,000 | 131 | -64.9 |

Notes:
scfm: standard cubic feet per minute
ft/min = feet per minute

# Table 1B
## Soil Vapor Analytical Results for EW-3
160 Holmes Street, Livermore, California

| Sample ID | Test Hour | Date | Total Petroleum Hydrocarbons as Gasoline | Aromatic Volatile Organic Compounds | | | | MTBE |
|---|---|---|---|---|---|---|---|---|
| | | | | Benzene | Toluene | Ethyl-benzene | Xylenes | |
| EW-3-0 | 0 | 9/27/07 | 72,000 | 630 | 1,800 | 280 | 560 | 8,600 |
| EW-3-1.5 | 1.5 | 9/27/07 | 61,000 | 520 | 1,800 | 260 | 580 | 5,600 |
| EW-3-2.5 | 2.5 | 9/27/07 | 59,000 | 490 | 1,800 | 280 | 680 | 6,700 |

Notes:
Sampes analyzed for Total Petroleum Hydrocarbons as Gasoline by EPA Method 8015CM and benzene, toluene, ethylbenzene, and xylenes and MTBE by EPA Method 8021B
All concentrations listed in micrograms per liter (mg/m3)
MTBE = methyl tertiary butyl ether
For sample results in ppmv see lab report in Appendix B

# Table 2
## SVE Contaminant Mass Removal Data
160 Holmes Street, Livermore, California

| Date | Influent Concentration* | | | Total Cubic Feet Processed** | Mass Removed (pounds) | | |
|---|---|---|---|---|---|---|---|
| | TPHg | Benzene | MTBE | | TPHg | Benzene | MTBE |
| 9/27/07 | 64,000 | 547 | 6,967 | 23,580 | 94 | 0.80 | 10 |

Definitions and Notes:

All concentrations listed in micrograms per liter (mg/m3)

All masses listed in pounds (lb)

TPHg = total petroleum hydrocarbons as gasoline

MTBE = methyl tertiary butyl ether

* = average concentration from three influent samples

** = total cubic feet processed determined by the average vapor flow rate of 131 scfm multipied by 3 hours (test duration)

# APPENDIX A
## Field Data Sheet

ALLTERRA

# Field Notes for 160 Holmes SVE Pilot Test From EW-3
## 9/27/07

* Start: 11:00 am

* Sample Times: 11:15, 12:30, 1:30

| * Applied Vacuum | time | flow Rate |
|---|---|---|
| -64.4 | 11:15 | 6,000 |
| -65.1 | 12:30 | 6,000 |
| -64.9 | 1:30 | 6,000 |

* Surrounding well depths @ 12:30: MW-1A - dry
MW-1B - 46.0
MW-7B - 46.76
MW-7C - 46.82

Allterra Environmental, Inc., 849 Almar Avenue, Suite C, No. 281, Santa Cruz, California 95060
Phone: (831) 425-2608 • Fax: (831) 425-2609 • http://www.allterraenv.com

# APPENDIX B
## Certified Analytical Report and Chain of Custody

**McCampbell Analytical, Inc.**
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

| | | |
|---|---|---|
| Allterra Environmental, Inc<br>849 Almar Ave, Ste. C #281<br>Santa Cruz, CA 95060 | Client Project ID: #015-01; Livermore | Date Sampled: 09/27/07 |
| | | Date Received: 09/27/07 |
| | Client Contact: Erik Allen | Date Reported: 10/02/07 |
| | Client P.O.: | Date Completed: 10/02/07 |

**WorkOrder: 0709659**

October 02, 2007

Dear Erik:

Enclosed are:

1). the results of **3** analyzed samples from your **#015-01; Livermore project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Best regards,

Angela Rydelius, Lab Manager

0709659 ATRS

ALLTERRA
849 Almar Avenue, Suite C, #281
Santa Cruz, California 95060
Website: www.allterraenv.com
Phone: (831) 425-2608 Facsimile: (831) 425-2609

# Chain of Custody Record

Turn Around Time (circle one) RUSH 24HR 48HR 72HR (5 Day)

Report and Bill to: Allterra Environmental, Inc.
Project Number: 015-01
Project Location: 160 Holmes St
Project Name: Livermore
Sampler Signature: Erik Allen

| Sample ID | Sample Collection: Date | Sample Collection: Time | Sample Containers: Number of Containers | Sample Containers: Container Type | Matrix: Air | Matrix: Water | Matrix: Soil | Matrix: Sludge | Matrix: Other | Preservation: Ice | Preservation: HCl | Preservation: HNO3 | Preservation: Other | TPHg/ BTEX/ MTBE (EPA 8015/8021) | BTEX (EPA 8020) | TPHd (EPA 8015) | 5-fuel oxys (EPA 8260) | Ethanol and Methanol (EPA 8260) | Lead Scavengers (8260) | Total HVOC's (EPA 8260) | Hardness/Total dissolved solids | CAM-17 Metals (EPA 6010/6020) | LUFT 5 Metals (EPA 6010/6020) | PAH's/ PNA's (EPA 8270,625/8310) | Fish Toxicity/Bioassay | Lead (EPA 6010/200.9/200.8) | | EDF required |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| EW-3-0 | 9/27/07 | | 1 | Tedlar | X | | | | | | | | | X | | | | | | | | | | | | | | X |
| EW-3-1.5 | 1 | | 1 | 1 | 1 | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |
| EW-3-2.5 | 1 | | 1 | 1 | 1 | | | | | | | | | 1 | | | | | | | | | | | | | | 1 |

| | | | |
|---|---|---|---|
| Sampled By: Erik Allen | Date: 9/27/07 | Time: 5:11pm | Received By: |
| Received By: | Date: | Time: | Received By: |
| Received By: | Date: | Time: | Received By: |

Comments:

N/A

ICE / t° ✓
GOOD CONDITION ____ APPROPRIATE ✓
HEAD SPACE ABSENT ____ CONTAINERS ____
DECHLORINATED IN LAB ____ PRESERVED IN LAB ____
PRESERVATION VOAS | O & G | METALS | OTHER

**McCampbell Analytical, Inc.**
1534 Willow Pass Rd
Pittsburg, CA 94565-1701
(925) 252-9262

# CHAIN-OF-CUSTODY RECORD



**WorkOrder: 0709659** **ClientID: ATRS**

☑ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty

**Report to:**
Erik Allen
Allterra Environmental, Inc
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060

Email: erik@allterraenv.com
TEL: 831-425-2608 FAX: 831-425-2609
ProjectNo: #015-01; Livermore
PO:

**Bill t**
Accounts Payable
Allterra Environmental
849 Almar Ave, Ste. C #281
Santa Cruz, CA 95060
amanda@allterraenv.com

**Requested TAT: 5 days**

***Date Received*** **09/27/2007**
***Date Printed:*** **09/27/2007**

| Sample ID | ClientSampID | Matrix | Collection Date | Hold | Requested Tests (See legend below) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 0709659-001 | EW-3-0 | Air | 9/27/2007 | ☐ | A | A | | | | | | | | | | |
| 0709659-002 | EW-3-1.5 | Air | 9/27/2007 | ☐ | A | | | | | | | | | | | |
| 0709659-003 | EW-3-2.5 | Air | 9/27/2007 | ☐ | A | | | | | | | | | | | |

**Test Legend:**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 1 | G-MBTEX_AIR | 2 | PREDF REPORT | 3 | | 4 | | 5 | |
| 6 | | 7 | | 8 | | 9 | | 10 | |
| 11 | | 12 | | | | | | | |

The following SampIDs: 001A, 002A, 003A contain testgroup.

**Prepared by: Chloe Lam**

**Comments:**

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.

**McCampbell Analytical, Inc.**
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

# Sample Receipt Checklist

Client Name: **Allterra Environmental, Inc**

Date and Time Received: **9/27/2007 5:12:35 PM**

Project Name: **#015-01; Livermore**

Checklist completed and reviewed by: Chloe Lam

WorkOrder N°: **0709659** Matrix Air

Carrier: Client Drop-In

## Chain of Custody (COC) Information

| | | |
|---|---|---|
| Chain of custody present? | Yes ☑ | No ☐ |
| Chain of custody signed when relinquished and received? | Yes ☑ | No ☐ |
| Chain of custody agrees with sample labels? | Yes ☑ | No ☐ |
| Sample IDs noted by Client on COC? | Yes ☑ | No ☐ |
| Date and Time of collection noted by Client on COC? | Yes ☑ | No ☐ |
| Sampler's name noted on COC? | Yes ☑ | No ☐ |

## Sample Receipt Information

| | | | |
|---|---|---|---|
| Custody seals intact on shipping container/cooler? | Yes ☐ | No ☐ | NA ☑ |
| Shipping container/cooler in good condition? | Yes ☑ | No ☐ | |
| Samples in proper containers/bottles? | Yes ☑ | No ☐ | |
| Sample containers intact? | Yes ☑ | No ☐ | |
| Sufficient sample volume for indicated test? | Yes ☑ | No ☐ | |

## Sample Preservation and Hold Time (HT) Information

| | | | |
|---|---|---|---|
| All samples received within holding time? | Yes ☑ | No ☐ | |
| Container/Temp Blank temperature | Cooler Temp: | | NA ☑ |
| Water - VOA vials have zero headspace / no bubbles? | Yes ☐ | No ☐ | No VOA vials submitted ☑ |
| Sample labels checked for correct preservation? | Yes ☑ | No ☐ | |
| TTLC Metal - pH acceptable upon receipt (pH<2)? | Yes ☐ | No ☐ | NA ☑ |

Client contacted: Date contacted: Contacted by:

Comments:

**McCampbell Analytical, Inc.**
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Web: www.mccampbell.com E-mail: main@mccampbell.com
Telephone: 877-252-9262 Fax: 925-252-9269

| | | |
|---|---|---|
| Allterra Environmental, Inc | Client Project ID: #015-01; Livermore | Date Sampled: 09/27/07 |
| 849 Almar Ave, Ste. C #281 | | Date Received: 09/27/07 |
| Santa Cruz, CA 95060 | Client Contact: Erik Allen | Date Extracted: 09/27/07 |
| | Client P.O.: | Date Analyzed: 09/27/07 |

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with BTEX and MTBE***

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0709659

| Lab ID | Client ID | Matrix | TPH(g) | MTBE | Benzene | Toluene | Ethylbenzene | Xylenes | DF | % SS |
|---|---|---|---|---|---|---|---|---|---|---|
| 001A | EW-3-0 | A | 72,000,a | 8600 | 630 | 1800 | 280 | 560 | 100 | 96 |
| 002A | EW-3-1.5 | A | 61,000,a | 5600 | 520 | 1800 | 260 | 580 | 100 | 102 |
| 003A | EW-3-2.5 | A | 59,000,a | 6700 | 490 | 1800 | 280 | 680 | 100 | 95 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Reporting Limit for DF =1; ND means not detected at or above the reporting limit | A | 25 | 2.5 | 0.25 | 0.25 | 0.25 | 0.25 | 1 | µg/L |
| | S | NA | NA | NA | NA | NA | NA | 1 | mg/Kg |

* water and vapor samples are reported in µg/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

**McCampbell Analytical, Inc.**
"When Quality Counts"

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| | | |
|---|---|---|
| Allterra Environmental, Inc | Client Project ID: #015-01; Livermore | Date Sampled: 09/27/07 |
| 849 Almar Ave, Ste. C #281 | | Date Received: 09/27/07 |
| Santa Cruz, CA 95060 | Client Contact: Erik Allen | Date Extracted: 09/27/07 |
| | Client P.O.: | Date Analyzed: 09/27/07 |

**Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline with MTBE and BTEX in ppmv***

Extraction method: SW5030B Analytical methods: SW8021B/8015Cm Work Order: 0709659

| Lab ID | Client ID | Matrix | TPH(g) | MTBE | Benzene | Toluene | Ethylbenzene | Xylenes | DF | % SS |
|---|---|---|---|---|---|---|---|---|---|---|
| 001A | EW-3-0 | A | 20,000,a | 2300 | 190 | 480 | 64 | 130 | 100 | 96 |
| 002A | EW-3-1.5 | A | 17,000,a | 1500 | 160 | 470 | 59 | 130 | 100 | 102 |
| 003A | EW-3-2.5 | A | 16,000,a | 1800 | 150 | 460 | 64 | 150 | 100 | 95 |
| | | | | | | | | | | |
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ppm (mg/L) to ppmv (ul/L) conversion for TPH(g) assumes the molecular weight of gasoline to be equal to that of hexane.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Reporting Limit for DF =1; ND means not detected at or above the reporting limit | A | 7.0 | 0.68 | 0.077 | 0.065 | 0.057 | 0.057 | 1 | uL/L |
| | S | NA | NA | NA | NA | NA | NA | 1 | mg/Kg |

* vapor samples are reported in µL/L, soil/sludge/solid samples in mg/kg, wipe samples in µg/wipe, product/oil/non-aqueous liquid samples in mg/L, water samples and all TCLP & SPLP extracts are reported in µg/L.

# cluttered chromatogram; sample peak coelutes with surrogate peak.

+The following descriptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible for their interpretation: a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range compounds are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are significant; d) gasoline range compounds having broad chromatographic peaks are significant; biologically altered gasoline?; e) TPH pattern that does not appear to be derived from gasoline (stoddard solvent / mineral spirit?); f) one to a few isolated non-target peaks present; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen/product is present; i) liquid sample that contains greater than ~1 vol. % sediment; j) reporting limit raised due to high organic / MTBE content; k) TPH pattern that does not appear to be derived from gasoline (aviation gas). m) no recognizable pattern.

DHS ELAP Certification N° 1644

Angela Rydelius, Lab Manager

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# QC SUMMARY REPORT FOR SW8021B/8015Cm

W.O. Sample Matrix: Air/Air QC Matrix: Water WorkOrder: 0709659

| EPA Method SW8021B/8015Cm | Extraction SW5030B | | | | BatchID: 30910 | | | Spiked Sample ID: 0709645-001A | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Analyte | Sample | Spiked | MS | MSD | MS-MSD | LCS | LCSD | LCS-LCSD | Acceptance Criteria (%) | | | |
| | µg/L | µg/L | % Rec. | % Rec. | % RPD | % Rec. | % Rec. | % RPD | MS / MSD | RPD | LCS/LCSD | RPD |
| TPH(btex)£ | ND | 60 | 101 | 119 | 16.1 | 99.5 | 100 | 0.663 | 70 - 130 | 30 | 70 - 130 | 30 |
| MTBE | ND | 10 | 102 | 108 | 5.73 | 104 | 111 | 6.21 | 70 - 130 | 30 | 70 - 130 | 30 |
| Benzene | ND | 10 | 94.2 | 90.7 | 3.81 | 94.3 | 95.1 | 0.803 | 70 - 130 | 30 | 70 - 130 | 30 |
| Toluene | ND | 10 | 86.6 | 92.8 | 7.01 | 104 | 105 | 1.24 | 70 - 130 | 30 | 70 - 130 | 30 |
| Ethylbenzene | ND | 10 | 95.6 | 91 | 4.93 | 102 | 103 | 0.709 | 70 - 130 | 30 | 70 - 130 | 30 |
| Xylenes | ND | 30 | 91.7 | 86.3 | 5.99 | 113 | 113 | 0 | 70 - 130 | 30 | 70 - 130 | 30 |
| %SS: | 93 | 10 | 100 | 107 | 6.33 | 97 | 96 | 1.14 | 70 - 130 | 30 | 70 - 130 | 30 |

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

BATCH 30910 SUMMARY

| Sample ID | Date Sampled | Date Extracted | Date Analyzed | Sample ID | Date Sampled | Date Extracted | Date Analyzed |
|---|---|---|---|---|---|---|---|
| 0709659-001A | 09/27/07 | 09/27/07 | 09/27/07 10:28 PM | 0709659-001A | 09/27/07 | 09/27/07 | 09/27/07 10:28 PM |
| 0709659-002A | 09/27/07 | 09/27/07 | 09/27/07 11:01 PM | 0709659-002A | 09/27/07 | 09/27/07 | 09/27/07 11:01 PM |
| 0709659-003A | 09/27/07 | 09/27/07 | 09/27/07 11:34 PM | 0709659-003A | 09/27/07 | 09/27/07 | 09/27/07 11:34 PM |

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS - MSD) / ((MS + MSD) / 2).

MS / MSD spike recoveries and / or %RPD may fall outside of laboratory acceptance criteria due to one or more of the following reasons: a) the sample is inhomogenous AND contains significant concentrations of analyte relative to the amount spiked, or b) the spiked sample's matrix interferes with the spike recovery.

£ TPH(btex) = sum of BTEX areas from the FID.

# cluttered chromatogram; sample peak coelutes with surrogate peak.