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By Alameda County Environmental Health 2:02 pm, Nov 30, 2015

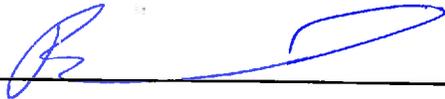
November 19, 2015

Mr. Mark Detterman
Alameda County Environmental Health
1131 Harbor Bay Parkway
Alameda, CA 94502-6540

I, Reid Settlemier, hereby authorize ERAS Environmental, Inc. to submit the Soil Gas and Sub Slab Investigation report for 3037-3115 Adeline St., Oakland in Oakland, California, dated November 23, 2015 to the Alameda County Health Care Services Agency.

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.

Signature: _____



Printed Name: _____

B. REID SETTLEMIER

11-19-15

Reid Settlemier
RWW Properties LLC
6114 LaSalle Avenue, #535
Oakland, CA 94611
reid@rww-llc.com



Environmental, Inc.

1533 B Street

Hayward, CA 94541

(510) 247-9885 Facsimile: (510) 886-5399

info@eras.biz

November 23, 2015

Mr. John Murray
John Murray Productions
1196 32nd Street
Oakland, CA 94608

**Subject: Report of Soil Gas and Sub Slab Soil Gas Investigation
3037-3115 Adeline Street
Oakland, California
ERAS Project Number 14-002-04**

Dear Mr. Murray:

ERAS Environmental, Inc. (ERAS) is pleased to present the results of a soil gas and sub slab soil gas investigation for the subject site (the "Property"). This work was requested by Mark Detterman with the Alameda County Health Care Services Agency on October 9, 2015 via a phone call. A work plan was subsequently prepared by ERAS dated October 12, 2015 and was approved by Mr. Detterman.

Field Work Performed

The following is the work performed for this investigation.

- ERAS marked two sample locations which included one close to the previous boring PES-B2 and one just inside the building as proposed in the work plan
- Ross Tinline with SVC Environmental of San Carlos, California was contracted to collect samples per the work plan and the samples were collected on October 23, 2015
- The sample collected in the vicinity of PES-B2 was collected at a depth of 5 feet below the bottom of the foundation for the building (approximately 6 feet bgs)
- The sample just inside the building was collected from just below the concrete slab foundation of the building
- A shroud was utilized during sample collection and a sample of the shroud contents was collected during sample collection

- The samples were submitted to a state certified laboratory for analysis for benzene toluene, ethylbenzene, and xylenes (BTEX), naphthalene, and 2-propanol (isopropyl alcohol) by EPA Method TO-15. The samples were also analyzed for methane (CH₄)/CO₂/O₂ by ASTM D-1946
- The shroud sample was analyzed for 2-propanol (isopropyl alcohol) by TO-15.

Sampling Results

The results of the sampling indicated detectable vapor concentrations of naphthalene in the soil vapor from the boring outside the building at 60 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$), below the Regional Water Quality Control Board Environmental Screening Level of $360 \mu\text{g}/\text{m}^3$. The concentration naphthalene under the building was at a much lower concentration of $<5 \mu\text{g}/\text{m}^3$. A concentration of methane was detected in the outside sample at a concentration of 9% which is above the lower explosive limit (LEL) for methane. The presence of the methane at the measured concentration represents degradation of the heavy hydrocarbons in soil and represents a possible future hazard to structures or to occupants in the area of the Property just outside the building.

A map showing the sample soil gas sample locations is included as **Attachment A**. The sampling results are summarized in the soil gas analytical results tables in **Attachment B** prepared by ERAS. Also included is the table from SVC summarizing the results of the sampling for 2-propanol (isopropyl alcohol). Copies of the laboratory results are included as **Attachment C**.

Recommendations

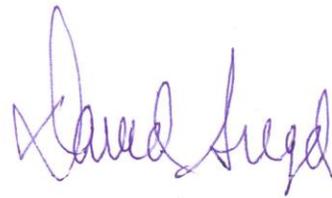
ERAS recommends the installation of a venting system that will mitigate the hazard by extracting and removing built up methane gas in the subsurface. ERAS proposes to install a trench, approximately 3 feet deep along the outside edge of the southwest corner of the building in the area of PES-B2 and VP-1. A perforated PVC pipe will be installed and will be connected to a riser to be attached to the building that will extend a minimum of 10 feet above the ground surface. The trench will be backfilled with clean coarse sand and the area re-paved.

Based on the density of methane ($0.656 \text{ kg}/\text{m}^3$) in comparison to the density of air ($1.285 \text{ kg}/\text{m}^3$), we believe this passive system would sufficiently mitigate the mobile and light methane gas in the subsurface on an on-going basis. This could be confirmed by testing of effluent from the mitigation system or by additional soil gas sampling. Should the venting system be shown to be less than the predicted effectiveness, then an in-line fan could be installed into the vent riser to promote a negative air pressure and induce additional flow of methane out of the system. The Site Management Plan (SMP) for the Property would be amended to include the on-going maintenance of the system to ensure proper operation.

3037-3115 Adeline St., Oakland
November 23, 2015
Page 2

If you have questions or comments regarding this addendum of the information in the workplan please contact me at 510-247-9885 x304, or by e-mail dave@eras.biz. ERAS thanks you for the opportunity to serve you.

Sincerely,
ERAS Environmental, Inc.

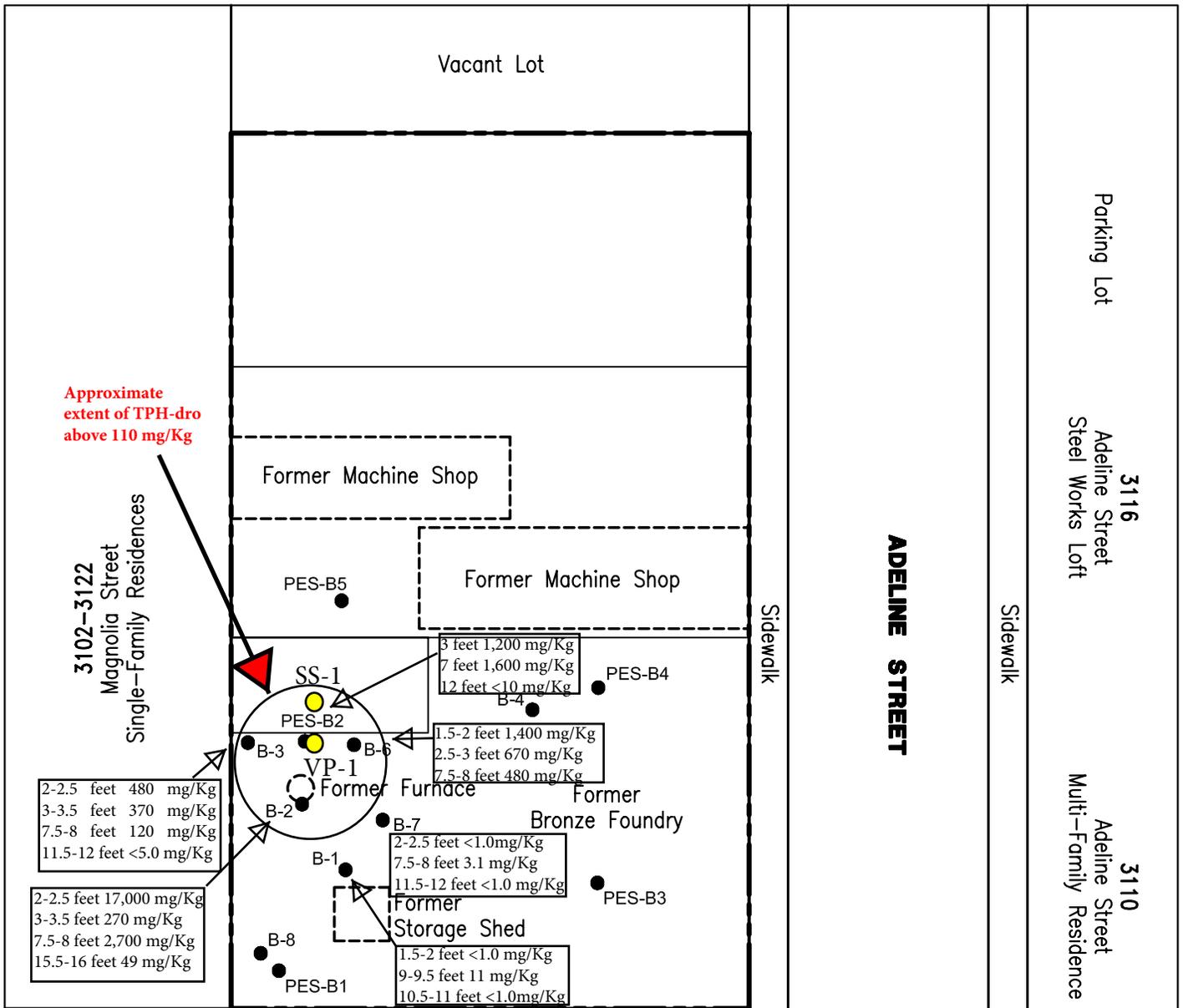


Curtis Payton
California Registered Professional Geologist 5608

David Siegel
Senior Program Manager

Attachments: A – Figure 1
B - Tables
C - Laboratory Results

ATTACHMENT A
FIGURES



Approximate extent of TPH-dro above 110 mg/Kg

3102-3122 Magnolia Street Single-Family Residences

2-2.5 feet 480 mg/Kg
3-3.5 feet 370 mg/Kg
7.5-8 feet 120 mg/Kg
11.5-12 feet <5.0 mg/Kg

2-2.5 feet 17,000 mg/Kg
3-3.5 feet 270 mg/Kg
7.5-8 feet 2,700 mg/Kg
15.5-16 feet 49 mg/Kg

5 feet 1,200 mg/Kg
7 feet 1,600 mg/Kg
12 feet <10 mg/Kg

1.5-2 feet 1,400 mg/Kg
2.5-3 feet 670 mg/Kg
7.5-8 feet 480 mg/Kg

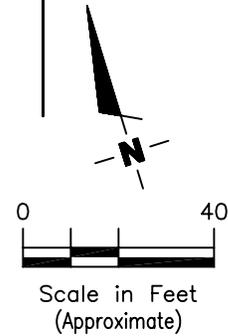
2-2.5 feet <1.0mg/Kg
7.5-8 feet 3.1 mg/Kg
11.5-12 feet <1.0 mg/Kg

1.5-2 feet <1.0 mg/Kg
9-9.5 feet 11 mg/Kg
10.5-11 feet <1.0mg/Kg

EXPLANATION

- PES- Previous boring location (Partner 2013)
- B- boring locations (ERAS 2014)
- Vapor boring locations - SVC 10/23/15

TPH-dro EXTENT & BORING LOCATION MAP



3031 Adeline Street Vacant Commercial Building

Parking Lot
3116 Adeline Street Steel Works Loft
3110 Adeline Street Multi-Family Residence

ADELINE STREET

REVIEWED BY AS

3037, 3101 & 3115 Adeline Street
Oakland, California

FIGURE 1

ERAS Environmental Inc.

**ATTACHMENT B
TABLES**

SOIL GAS ANALYTICAL RESULTS

3037 Adeline Street, Oakland, California

| Boring | benzene | toluene | ethylbenzene | m,p-xylenes | o-xylenes | napthalene # | napthalene * | oxygen | methane | carbon dioxide |
|-----------------|-------------------|-----------|--------------|-------------|-----------|--------------|--------------|--------|----------|----------------|
| | µg/m ³ | | | | | | | % | | |
| SS-1 (sub slab) | <3.9 | <4.6 | <5.2 | <5.2 | <5.2 | <25 | <5.0 | 13 | <0.00024 | 6.6 |
| VP-1 (soil gas) | 90 | 90 | 59 | <54 | 73 | <260 | 60 | 4.0 | 9.0 | 13 |
| ESL IAxAF | 8 | 26,000 | 98 | 8,800 | 8,800 | 7.2 | 7.2 | | | |
| ESL com | 420 | 1,300,000 | 4,900 | 440,000 | 440,000 | 360 | 360 | | | |

Notes

- napthalene by EPA Method TO-15

* - napthalene by EPA Method TO-17

µg/m³ - micro grams per cubic meter

% - percent

ESL IAxAF - Regional Water Quality Control Board Environmental Screening Levels for Indoor Air at a Commercial Property multiplied by the Department of Toxic Substances Attenuation Factor of 20

ESL com - Regional Water Quality Control Board Environmental Screening Levels for Soil Gas on a Commercial Property

Table A-1
Soil Vapor Analytical Data and Measurements for 2-Propanol

Adeline Foundry
 3037 Adeline Street, Oakland
 by Modified EPA Method TO-15 using GC/MS in full scan mode

| Soil Vapor Sample Designation | Date Sampled | Approximate Depth (feet) | 2-Propanol ($\mu\text{g}/\text{m}^3$) | 2-Propanol in Shroud ($\mu\text{g}/\text{m}^3$) | Average Measured PID 2- Propanol Shroud Concentration during Shroud Sample using CF=6 ($\mu\text{g}/\text{m}^3$) | Relative Percent Difference between PID measurement & Lab Result (Percent) | Average Measured 2-Propanol Shroud Concentration PID using CF=6 ($\mu\text{g}/\text{m}^3$) | Drops of Isopropyl Alcohol in Shroud (drops) | Maximum leakage based on detection limit (Percent) |
|----------------------------------|-----------------|--------------------------------|--|---|---|---|--|--|---|
| Sub-Slab Soil Vapor | | | | Shroud Atmosphere | | | | | |
| | | | | Lab Analytical Results | | | | | |
| SS-1 | 10/23/15 | 0.5 | 300 | 110,000 | 104,992 | -4.7% | 114,896 | 12 | 0.26% |
| VP-1 | 10/23/15 | 6.0 | 330 | -- | -- | -- | 214,831 | 14 | 0.15% |

$\mu\text{g}/\text{m}^3$ = Micrograms per cubic meter

< = Not Detected, less than laboratory reporting limit

CF = Correction Factor for 2-propanol from isobutylene detected by PID (Literature Value = 6)

PID = Photoionization detector (MiniRae 3000)

2-Propanol = 91% Isopropyl alcohol utilized as leak check compound

**ATTACHMENT C
LABORATORY RESULTS**

10/27/2015
Mr. Ross Tinline
SVC Environmental, Inc.
11 Kenton Ave

San Carlos CA 94070

Project Name: Adeline Foundry
Project #:
Workorder #: 1510433A

Dear Mr. Ross Tinline

The following report includes the data for the above referenced project for sample(s) received on 10/23/2015 at Air Toxics Ltd.

The data and associated QC analyzed by TO-15 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori
Project Manager

WORK ORDER #: 1510433A

Work Order Summary

| | | | |
|------------------------|--|------------------|--|
| CLIENT: | Mr. Ross Tinline SVC Environmental, Inc. 11 Kenton Ave San Carlos, CA 94070 | BILL TO: | Mr. Ross Tinline SVC Environmental, Inc. 11 Kenton Ave San Carlos, CA 94070 |
| PHONE: | 650-218-3766 | P.O. # | |
| FAX: | | PROJECT # | Adeline Foundry |
| DATE RECEIVED: | 10/23/2015 | CONTACT: | Kyle Vagadori |
| DATE COMPLETED: | 10/27/2015 | | |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u> | <u>RECEIPT VAC./PRES.</u> | <u>FINAL PRESSURE</u> |
|-------------------|-------------|-------------|-------------------------------|---------------------------|
| 01A | SS-1 | TO-15 | 5.0 "Hg | 15 psi |
| 02A | VP-1 | TO-15 | 5.5 "Hg | 15 psi |
| 03A | Lab Blank | TO-15 | NA | NA |
| 03B | Lab Blank | TO-15 | NA | NA |
| 04A | CCV | TO-15 | NA | NA |
| 04B | CCV | TO-15 | NA | NA |
| 05A | LCS | TO-15 | NA | NA |
| 05AA | LCSD | TO-15 | NA | NA |
| 05B | LCS | TO-15 | NA | NA |
| 05BB | LCSD | TO-15 | NA | NA |

CERTIFIED BY: 

 Technical Director

DATE: 10/27/15

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

This report shall not be reproduced, except in full, without the written approval of Eurofins Air Toxics, Inc.

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 9563
 (916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
SVC Environmental, Inc.
Workorder# 1510433A

Two 1 Liter Summa Canister samples were received on October 23, 2015. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

All Quality Control Limit exceedances and affected sample results are noted by flags. Each flag is defined at the bottom of this Case Narrative and on each Sample Result Summary page.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds
EPA METHOD TO-15 GC/MS FULL SCAN**

Client Sample ID: SS-1

Lab ID#: 1510433A-01A

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|-----------------|--------------------------|----------------------|---------------------------|-----------------------|
| 2-Propanol | 4.8 | 120 | 12 | 300 |

Client Sample ID: VP-1

Lab ID#: 1510433A-02A

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|-----------------|--------------------------|----------------------|---------------------------|-----------------------|
| 2-Propanol | 49 | 130 | 120 | 330 |
| Benzene | 12 | 28 | 39 | 90 |
| Toluene | 12 | 24 | 46 | 90 |
| Ethyl Benzene | 12 | 14 | 54 | 59 |
| o-Xylene | 12 | 17 | 54 | 73 |



Air Toxics

Client Sample ID: SS-1

Lab ID#: 1510433A-01A

EPA METHOD TO-15 GC/MS FULL SCAN

| | | | |
|--------------|---------|---------------------|---------------------|
| File Name: | a102608 | Date of Collection: | 10/23/15 2:43:00 PM |
| Dil. Factor: | 2.42 | Date of Analysis: | 10/26/15 01:36 PM |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------|-------------------|---------------|--------------------|----------------|
| 2-Propanol | 4.8 | 120 | 12 | 300 |
| Benzene | 1.2 | Not Detected | 3.9 | Not Detected |
| Toluene | 1.2 | Not Detected | 4.6 | Not Detected |
| Ethyl Benzene | 1.2 | Not Detected | 5.2 | Not Detected |
| m,p-Xylene | 1.2 | Not Detected | 5.2 | Not Detected |
| o-Xylene | 1.2 | Not Detected | 5.2 | Not Detected |
| Naphthalene | 4.8 | Not Detected | 25 | Not Detected |

Container Type: 1 Liter Summa Canister

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8 | 100 | 70-130 |
| 1,2-Dichloroethane-d4 | 103 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

Client Sample ID: VP-1

Lab ID#: 1510433A-02A

EPA METHOD TO-15 GC/MS

| | | | |
|--------------|----------|---------------------|---------------------|
| File Name: | 14102414 | Date of Collection: | 10/23/15 4:17:00 PM |
| Dil. Factor: | 2.47 | Date of Analysis: | 10/24/15 04:45 PM |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------|-------------------|---------------|--------------------|----------------|
| 2-Propanol | 49 | 130 | 120 | 330 |
| Benzene | 12 | 28 | 39 | 90 |
| Toluene | 12 | 24 | 46 | 90 |
| Ethyl Benzene | 12 | 14 | 54 | 59 |
| m,p-Xylene | 12 | Not Detected | 54 | Not Detected |
| o-Xylene | 12 | 17 | 54 | 73 |
| Naphthalene | 49 | Not Detected | 260 | Not Detected |

Container Type: 1 Liter Summa Canister

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 124 | 70-130 |
| Toluene-d8 | 108 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |

Client Sample ID: Lab Blank

Lab ID#: 1510433A-03A

EPA METHOD TO-15 GC/MS

| | | |
|--------------|----------|-------------------------------------|
| File Name: | 14102407 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/24/15 01:33 PM |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------|-------------------|---------------|--------------------|----------------|
| 2-Propanol | 20 | Not Detected | 49 | Not Detected |
| Benzene | 5.0 | Not Detected | 16 | Not Detected |
| Toluene | 5.0 | Not Detected | 19 | Not Detected |
| Ethyl Benzene | 5.0 | Not Detected | 22 | Not Detected |
| m,p-Xylene | 5.0 | Not Detected | 22 | Not Detected |
| o-Xylene | 5.0 | Not Detected | 22 | Not Detected |
| Naphthalene | 20 | Not Detected | 100 | Not Detected |

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 107 | 70-130 |
| Toluene-d8 | 101 | 70-130 |
| 4-Bromofluorobenzene | 95 | 70-130 |

Client Sample ID: Lab Blank

Lab ID#: 1510433A-03B

EPA METHOD TO-15 GC/MS FULL SCAN

| | | |
|--------------|---------|-------------------------------------|
| File Name: | a102607 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/26/15 12:30 PM |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|---------------|-------------------|---------------|--------------------|----------------|
| 2-Propanol | 2.0 | Not Detected | 4.9 | Not Detected |
| Benzene | 0.50 | Not Detected | 1.6 | Not Detected |
| Toluene | 0.50 | Not Detected | 1.9 | Not Detected |
| Ethyl Benzene | 0.50 | Not Detected | 2.2 | Not Detected |
| m,p-Xylene | 0.50 | Not Detected | 2.2 | Not Detected |
| o-Xylene | 0.50 | Not Detected | 2.2 | Not Detected |
| Naphthalene | 2.0 | Not Detected | 10 | Not Detected |

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8 | 105 | 70-130 |
| 1,2-Dichloroethane-d4 | 102 | 70-130 |
| 4-Bromofluorobenzene | 95 | 70-130 |

Client Sample ID: CCV

Lab ID#: 1510433A-04A

EPA METHOD TO-15 GC/MS

| | | |
|--------------|----------|-------------------------------------|
| File Name: | 14102402 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/24/15 10:41 AM |

| Compound | %Recovery |
|---------------|-----------|
| 2-Propanol | 95 |
| Benzene | 101 |
| Toluene | 99 |
| Ethyl Benzene | 98 |
| m,p-Xylene | 100 |
| o-Xylene | 98 |
| Naphthalene | 64 |

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 102 | 70-130 |
| Toluene-d8 | 104 | 70-130 |
| 4-Bromofluorobenzene | 102 | 70-130 |

Client Sample ID: CCV

Lab ID#: 1510433A-04B

EPA METHOD TO-15 GC/MS FULL SCAN

| | | |
|--------------|---------|-------------------------------------|
| File Name: | a102606 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/26/15 11:42 AM |

| Compound | %Recovery |
|---------------|-----------|
| 2-Propanol | 110 |
| Benzene | 109 |
| Toluene | 112 |
| Ethyl Benzene | 114 |
| m,p-Xylene | 115 |
| o-Xylene | 118 |
| Naphthalene | 99 |

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8 | 104 | 70-130 |
| 1,2-Dichloroethane-d4 | 96 | 70-130 |
| 4-Bromofluorobenzene | 102 | 70-130 |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1510433A-05A

EPA METHOD TO-15 GC/MS

| | | |
|--------------|----------|-------------------------------------|
| File Name: | 14102403 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/24/15 11:11 AM |

| Compound | %Recovery | Method Limits |
|---------------|-----------|---------------|
| 2-Propanol | 93 | 70-130 |
| Benzene | 96 | 70-130 |
| Toluene | 95 | 70-130 |
| Ethyl Benzene | 92 | 70-130 |
| m,p-Xylene | 90 | 70-130 |
| o-Xylene | 95 | 70-130 |
| Naphthalene | 55 Q | 60-140 |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 105 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1510433A-05AA

EPA METHOD TO-15 GC/MS

| | | |
|--------------|----------|-------------------------------------|
| File Name: | 14102404 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/24/15 12:09 PM |

| Compound | %Recovery | Method Limits |
|---------------|-----------|---------------|
| 2-Propanol | 90 | 70-130 |
| Benzene | 95 | 70-130 |
| Toluene | 92 | 70-130 |
| Ethyl Benzene | 93 | 70-130 |
| m,p-Xylene | 91 | 70-130 |
| o-Xylene | 92 | 70-130 |
| Naphthalene | 51 Q | 60-140 |

Q = Exceeds Quality Control limits.

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 104 | 70-130 |
| Toluene-d8 | 103 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |

Client Sample ID: LCS

Lab ID#: 1510433A-05B

EPA METHOD TO-15 GC/MS FULL SCAN

| | | |
|--------------|---------|-------------------------------------|
| File Name: | a102604 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/26/15 10:41 AM |

| Compound | %Recovery | Method Limits |
|---------------|-----------|---------------|
| 2-Propanol | 118 | 70-130 |
| Benzene | 116 | 70-130 |
| Toluene | 110 | 70-130 |
| Ethyl Benzene | 116 | 70-130 |
| m,p-Xylene | 111 | 70-130 |
| o-Xylene | 122 | 70-130 |
| Naphthalene | 82 | 60-140 |

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8 | 101 | 70-130 |
| 1,2-Dichloroethane-d4 | 98 | 70-130 |
| 4-Bromofluorobenzene | 90 | 70-130 |

Client Sample ID: LCSD

Lab ID#: 1510433A-05BB

EPA METHOD TO-15 GC/MS FULL SCAN

| | | |
|--------------|---------|-------------------------------------|
| File Name: | a102605 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/26/15 11:15 AM |

| Compound | %Recovery | Method Limits |
|---------------|-----------|---------------|
| 2-Propanol | 118 | 70-130 |
| Benzene | 114 | 70-130 |
| Toluene | 116 | 70-130 |
| Ethyl Benzene | 117 | 70-130 |
| m,p-Xylene | 118 | 70-130 |
| o-Xylene | 127 | 70-130 |
| Naphthalene | 83 | 60-140 |

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| Toluene-d8 | 104 | 70-130 |
| 1,2-Dichloroethane-d4 | 98 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |



Air Toxics

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922

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FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Ross Timeline
Collected by: (Print and Sign) Ross Timeline
Company SVC Environmental Email ross@svcenv.com
Address 11 Kerton Ave City San Carlos State CA Zip 94070
Phone 650 218 3766 Fax

Project Info: P.O. #, Project #, Project Name Adeline Foundry
Turn Around Time: Normal, Rush 24-hour specify
Lab Use Only: Pressurized by, Date, Pressurization Gas: N2, He

Table with columns: Lab I.D., Field Sample I.D. (Location), Can #, Date of Collection, Time of Collection, Analyses Requested, Canister Pressure/Vacuum (Initial, Final, Receipt, Final (psi)). Includes handwritten entries for samples 01A, 02A, and 03A.

Relinquished by: (signature) Date/Time
Received by: (signature) Date/Time
Notes:

Lab Use Only: Shipper Name M/D, Air Bill #, Temp (C) N/A, Condition Good, Custody Seals Intact? Yes No None, Work Order # 1510433

10/26/2015
Mr. Ross Tinline
SVC Environmental, Inc.
11 Kenton Ave

San Carlos CA 94070

Project Name: Adeline Foundry
Project #:
Workorder #: 1510433B

Dear Mr. Ross Tinline

The following report includes the data for the above referenced project for sample(s) received on 10/23/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-14A/15 (5&20 ppbv) are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori
Project Manager

WORK ORDER #: 1510433B

Work Order Summary

| | | | |
|------------------------|--|------------------|--|
| CLIENT: | Mr. Ross Tinline SVC Environmental, Inc. 11 Kenton Ave San Carlos, CA 94070 | BILL TO: | Mr. Ross Tinline SVC Environmental, Inc. 11 Kenton Ave San Carlos, CA 94070 |
| PHONE: | 650-218-3766 | P.O. # | |
| FAX: | | PROJECT # | Adeline Foundry |
| DATE RECEIVED: | 10/23/2015 | CONTACT: | Kyle Vagadori |
| DATE COMPLETED: | 10/26/2009 | | |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u> | <u>RECEIPT VAC./PRES.</u> | <u>FINAL PRESSURE</u> |
|-------------------|-------------|---------------------------|-------------------------------|---------------------------|
| 03A | SS-1 (IPA) | Modified TO-14A/15 (5&20) | 3.0 "Hg | 15 psi |
| 04A | Lab Blank | Modified TO-14A/15 (5&20) | NA | NA |
| 05A | CCV | Modified TO-14A/15 (5&20) | NA | NA |
| 06A | LCS | Modified TO-14A/15 (5&20) | NA | NA |
| 06AA | LCSD | Modified TO-14A/15 (5&20) | NA | NA |

CERTIFIED BY: 

 Technical Director

DATE: 10/26/15

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
EPA Method TO-15 Soil Gas
SVC Environmental, Inc.
Workorder# 1510433B

One PAC250 Canister sample was received on October 23, 2015. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode. The method involves concentrating up to 50 mLs of air. The concentrated aliquot is then flash vaporized and swept through a water management system to remove water vapor. Following dehumidification, the sample passes directly into the GC/MS for analysis.

This workorder was independently validated prior to submittal using 'USEPA National Functional Guidelines' as generally applied to the analysis of volatile organic compounds in air. A rules-based, logic driven, independent validation engine was employed to assess completeness, evaluate pass/fail of relevant project quality control requirements and verification of all quantified amounts.

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Dilution was performed on sample SS-1 (IPA) due to the presence of high level target species.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

B - Compound present in laboratory blank greater than reporting limit (background subtraction not performed).

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

**Summary of Detected Compounds
EPA METHOD TO-15 GC/MS**

Client Sample ID: SS-1 (IPA)

Lab ID#: 1510433B-03A

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|-----------------|------------------------------|--------------------------|-------------------------------|---------------------------|
| 2-Propanol | 2200 | 46000 | 5500 | 110000 |

Client Sample ID: SS-1 (IPA)

Lab ID#: 1510433B-03A

EPA METHOD TO-15 GC/MS

| | | | |
|--------------|----------|---------------------|---------------------|
| File Name: | 14102413 | Date of Collection: | 10/23/15 2:41:00 PM |
| Dil. Factor: | 112 | Date of Analysis: | 10/24/15 04:20 PM |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------|-------------------|---------------|--------------------|----------------|
| 2-Propanol | 2200 | 46000 | 5500 | 110000 |

Container Type: PAC250 Canister

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 105 | 70-130 |
| Toluene-d8 | 99 | 70-130 |
| 4-Bromofluorobenzene | 97 | 70-130 |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1510433B-04A

EPA METHOD TO-15 GC/MS

| | | | | |
|--------------|----------|---------------------|-------------------|--|
| File Name: | 14102407 | Date of Collection: | NA | |
| Dil. Factor: | 1.00 | Date of Analysis: | 10/24/15 01:33 PM | |

| Compound | Rpt. Limit (ppbv) | Amount (ppbv) | Rpt. Limit (ug/m3) | Amount (ug/m3) |
|------------|-------------------|---------------|--------------------|----------------|
| 2-Propanol | 20 | Not Detected | 49 | Not Detected |

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 107 | 70-130 |
| Toluene-d8 | 101 | 70-130 |
| 4-Bromofluorobenzene | 95 | 70-130 |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1510433B-05A

EPA METHOD TO-15 GC/MS

| | | |
|--------------|----------|-------------------------------------|
| File Name: | 14102402 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/24/15 10:41 AM |

| Compound | %Recovery |
|------------|-----------|
| 2-Propanol | 95 |

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 102 | 70-130 |
| Toluene-d8 | 104 | 70-130 |
| 4-Bromofluorobenzene | 102 | 70-130 |

Client Sample ID: LCS

Lab ID#: 1510433B-06A

EPA METHOD TO-15 GC/MS

| | | |
|--------------|----------|-------------------------------------|
| File Name: | 14102403 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/24/15 11:11 AM |

| Compound | %Recovery | Method Limits |
|------------|-----------|---------------|
| 2-Propanol | 93 | 70-130 |

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 105 | 70-130 |
| Toluene-d8 | 102 | 70-130 |
| 4-Bromofluorobenzene | 100 | 70-130 |

Client Sample ID: LCSD

Lab ID#: 1510433B-06AA

EPA METHOD TO-15 GC/MS

| | | |
|--------------|----------|-------------------------------------|
| File Name: | 14102404 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/24/15 12:09 PM |

| Compound | %Recovery | Method Limits |
|------------|-----------|---------------|
| 2-Propanol | 90 | 70-130 |

Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|-----------------------|-----------|---------------|
| 1,2-Dichloroethane-d4 | 104 | 70-130 |
| Toluene-d8 | 103 | 70-130 |
| 4-Bromofluorobenzene | 99 | 70-130 |

10/27/2015
Mr. Ross Tinline
SVC Environmental, Inc.
11 Kenton Ave

San Carlos CA 94070

Project Name: Adeline Foundry
Project #:
Workorder #: 1510433C

Dear Mr. Ross Tinline

The following report includes the data for the above referenced project for sample(s) received on 10/23/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified ASTM D-1946 are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori
Project Manager

WORK ORDER #: 1510433C

Work Order Summary

| | | | |
|------------------------|--|------------------|--|
| CLIENT: | Mr. Ross Tinline SVC Environmental, Inc. 11 Kenton Ave San Carlos, CA 94070 | BILL TO: | Mr. Ross Tinline SVC Environmental, Inc. 11 Kenton Ave San Carlos, CA 94070 |
| PHONE: | 650-218-3766 | P.O. # | |
| FAX: | | PROJECT # | Adeline Foundry |
| DATE RECEIVED: | 10/23/2015 | CONTACT: | Kyle Vagadori |
| DATE COMPLETED: | 10/27/2015 | | |

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u> | <u>RECEIPT VAC./PRES.</u> | <u>FINAL PRESSURE</u> |
|-------------------|-------------|----------------------|-------------------------------|---------------------------|
| 01A | SS-1 | Modified ASTM D-1946 | 5.0 "Hg | 15 psi |
| 02A | VP-1 | Modified ASTM D-1946 | 5.5 "Hg | 15 psi |
| 03A | Lab Blank | Modified ASTM D-1946 | NA | NA |
| 04A | LCS | Modified ASTM D-1946 | NA | NA |
| 04AA | LCSD | Modified ASTM D-1946 | NA | NA |

CERTIFIED BY: 

 Technical Director

DATE: 10/27/15

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
 TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
 Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
 Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

Eurofins Air Toxics Inc. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified ASTM D-1946
SVC Environmental, Inc.
Workorder# 1510433C

Two 1 Liter Summa Canister samples were received on October 23, 2015. The laboratory performed analysis via Modified ASTM Method D-1946 for Methane and fixed gases in air using GC/FID or GC/TCD. The method involves direct injection of 1.0 mL of sample.

On the analytical column employed for this analysis, Oxygen coelutes with Argon. The corresponding peak is quantitated as Oxygen.

Method modifications taken to run these samples are summarized in the table below. Specific project requirements may over-ride the ATL modifications.

| <i>Requirement</i> | <i>ASTM D-1946</i> | <i>ATL Modifications</i> |
|-------------------------|--|--|
| Calibration | A single point calibration is performed using a reference standard closely matching the composition of the unknown. | A minimum of 5-point calibration curve is performed. Quantitation is based on average Response Factor. |
| Reference Standard | The composition of any reference standard must be known to within 0.01 mol % for any component. | The standards used by ATL are blended to a $\geq 95\%$ accuracy. |
| Sample Injection Volume | Components whose concentrations are in excess of 5 % should not be analyzed by using sample volumes greater than 0.5 mL. | The sample container is connected directly to a fixed volume sample loop of 1.0 mL on the GC. Linear range is defined by the calibration curve. Bags are loaded by vacuum. |
| Normalization | Normalize the mole percent values by multiplying each value by 100 and dividing by the sum of the original values. The sum of the original values should not differ from 100% by more than 1.0%. | Results are not normalized. The sum of the reported values can differ from 100% by as much as 15%, either due to analytical variability or an unusual sample matrix. |
| Precision | Precision requirements established at each concentration level. | Duplicates should agree within 25% RPD for detections $> 5 X$'s the RL. |

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

Seven qualifiers may have been used on the data analysis sheets and indicate as follows:

B - Compound present in laboratory blank greater than reporting limit.

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the detection limit.

M - Reported value may be biased due to apparent matrix interferences.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

Summary of Detected Compounds
MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

Client Sample ID: SS-1

Lab ID#: 1510433C-01A

| Compound | Rpt. Limit (%) | Amount (%) |
|-----------------|-----------------------|-------------------|
| Oxygen | 0.24 | 13 |
| Carbon Dioxide | 0.024 | 6.6 |

Client Sample ID: VP-1

Lab ID#: 1510433C-02A

| Compound | Rpt. Limit (%) | Amount (%) |
|-----------------|-----------------------|-------------------|
| Oxygen | 0.25 | 4.0 |
| Methane | 0.00025 | 9.0 |
| Carbon Dioxide | 0.025 | 13 |



Air Toxics

Client Sample ID: SS-1

Lab ID#: 1510433C-01A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

| | | | |
|--------------|----------|---------------------|---------------------|
| File Name: | 10102406 | Date of Collection: | 10/23/15 2:43:00 PM |
| Dil. Factor: | 2.42 | Date of Analysis: | 10/24/15 10:20 AM |

| Compound | Rpt. Limit (%) | Amount (%) |
|-----------------|-----------------------|-------------------|
| Oxygen | 0.24 | 13 |
| Methane | 0.00024 | Not Detected |
| Carbon Dioxide | 0.024 | 6.6 |

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: VP-1

Lab ID#: 1510433C-02A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

| | | | |
|--------------|----------|---------------------|---------------------|
| File Name: | 10102407 | Date of Collection: | 10/23/15 4:17:00 PM |
| Dil. Factor: | 2.47 | Date of Analysis: | 10/24/15 10:48 AM |

| Compound | Rpt. Limit (%) | Amount (%) |
|-----------------|-----------------------|-------------------|
| Oxygen | 0.25 | 4.0 |
| Methane | 0.00025 | 9.0 |
| Carbon Dioxide | 0.025 | 13 |

Container Type: 1 Liter Summa Canister



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1510433C-03A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

| | | | |
|--------------|----------|---------------------|-------------------|
| File Name: | 10102405 | Date of Collection: | NA |
| Dil. Factor: | 1.00 | Date of Analysis: | 10/24/15 09:48 AM |

| Compound | Rpt. Limit (%) | Amount (%) |
|-----------------|-----------------------|-------------------|
| Oxygen | 0.10 | Not Detected |
| Methane | 0.00010 | Not Detected |
| Carbon Dioxide | 0.010 | Not Detected |

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCS

Lab ID#: 1510433C-04A

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

| | | |
|--------------|----------|-------------------------------------|
| File Name: | 10102402 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/24/15 08:21 AM |

| Compound | %Recovery | Method Limits |
|-----------------|------------------|----------------------|
| Oxygen | 99 | 85-115 |
| Methane | 105 | 85-115 |
| Carbon Dioxide | 98 | 85-115 |

Container Type: NA - Not Applicable



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1510433C-04AA

MODIFIED NATURAL GAS ANALYSIS BY ASTM D-1946

| | | |
|--------------|----------|-------------------------------------|
| File Name: | 10102422 | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/24/15 04:53 PM |

| Compound | %Recovery | Method Limits |
|-----------------|------------------|----------------------|
| Oxygen | 99 | 85-115 |
| Methane | 107 | 85-115 |
| Carbon Dioxide | 98 | 85-115 |

Container Type: NA - Not Applicable

10/27/2015
Mr. Ross Tinline
SVC Environmental, Inc.
11 Kenton Ave

San Carlos CA 94070

Project Name: Adeline Foundry
Project #:
Workorder #: 1510435

Dear Mr. Ross Tinline

The following report includes the data for the above referenced project for sample(s) received on 10/23/2015 at Air Toxics Ltd.

The data and associated QC analyzed by Modified TO-17 VI are compliant with the project requirements or laboratory criteria with the exception of the deviations noted in the attached case narrative.

Thank you for choosing Eurofins Air Toxics Inc. for your air analysis needs. Eurofins Air Toxics Inc. is committed to providing accurate data of the highest quality. Please feel free to the Project Manager: Kyle Vagadori at 916-985-1000 if you have any questions regarding the data in this report.

Regards,



Kyle Vagadori
Project Manager

WORK ORDER #: 1510435

Work Order Summary

CLIENT: Mr. Ross Tinline
SVC Environmental, Inc.
11 Kenton Ave
San Carlos, CA 94070

BILL TO: Mr. Ross Tinline
SVC Environmental, Inc.
11 Kenton Ave
San Carlos, CA 94070

PHONE: 650-218-3766

FAX:

DATE RECEIVED: 10/23/2015

DATE COMPLETED: 10/27/2015

P.O. #

PROJECT # Adeline Foundry

CONTACT: Kyle Vagadori

| <u>FRACTION #</u> | <u>NAME</u> | <u>TEST</u> |
|-------------------|-------------|-------------------|
| 01A | SS-1 | Modified TO-17 VI |
| 02A | VP-1 | Modified TO-17 VI |
| 03A | Trip Blank | Modified TO-17 VI |
| 04A | Lab Blank | Modified TO-17 VI |
| 05A | CCV | Modified TO-17 VI |
| 06A | LCS | Modified TO-17 VI |
| 06AA | LCSD | Modified TO-17 VI |

CERTIFIED BY:



Technical Director

DATE: 10/27/15

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704343-14-7, UT NELAP CA009332014-5, VA NELAP - 460197, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2014, Expiration date: 10/17/2015.

Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
Modified EPA Method TO-17 (VI Tubes)
SVC Environmental, Inc.
Workorder# 1510435

Three TO-17 VI Tube samples were received on October 23, 2015. The laboratory performed the analysis via modified EPA Method TO-17 using GC/MS in the full scan mode. TO-17 'VI' sorbent tubes are thermally desorbed onto a secondary trap. The trap is thermally desorbed to elute the components into the GC/MS system for compound separation and detection.

A modification that may be applied to EPA Method TO-17 at the client's discretion is the requirement to transport sorbent tubes at 4 deg C. Laboratory studies demonstrate a high level of stability for VOCs on the TO-17 'VI' tube at room temperature for periods of up to 14 days. Tubes can be shipped to and from the field site at ambient conditions as long as the 14-day sample hold time is upheld. Trip blanks and field surrogate spikes are used as additional control measures to monitor recovery and background contribution during tube transport.

Since the TO-17 VI application significantly extends the scope of target compounds addressed in EPA Method TO-15 and TO-17, the laboratory has implemented several method modifications outlined in the table below. Specific project requirements may over-ride the laboratory modifications.

| <i>Requirement</i> | <i>TO-17</i> | <i>ATL Modifications</i> |
|--------------------------|--|--|
| Initial Calibration | %RSD \leq 30% with 2 allowed out up to 40% | VOC list: %RSD \leq 30% with 2 allowed out up to 40% SVOC list: %RSD \leq 30% with 2 allowed out up to 40% |
| Daily Calibration | %D for each target compound within \pm 30%. | Fluorene, Phenanthrene, Anthracene, Fluoranthene, and Pyrene within \pm 40%D |
| Audit Accuracy | 70-130% | Second source recovery limits for Fluorene, Phenanthrene, Anthracene, Fluoranthene, and Pyrene = 60-140%. |
| Distributed Volume Pairs | Collection of distributed volume pairs required for monitoring ambient air to insure high quality. | If site is well-characterized or performance previously verified, single tube sampling may be appropriate. Distributed pairs may be impractical for soil gas collection due to configuration and volume constraints. |
| Analytical Precision | \leq 20% RPD | $<$ 30% RPD for Fluorene, Phenanthrene, Anthracene, Fluoranthene, and Pyrene. |

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

A sampling volume of 0.200 L was used to convert ng to ug/m³ for the associated Lab Blank and sample Trip Blank.

Definition of Data Qualifying Flags

Eight qualifiers may have been used on the data analysis sheets and indicates as follows:

- B - Compound present in blank (subtraction not performed).
- J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

U - Compound analyzed for but not detected above the reporting limit, LOD, or MDL value. See data page for project specific U-flag definition.

UJ- Non-detected compound associated with low bias in the CCV

N - The identification is based on presumptive evidence.

File extensions may have been used on the data analysis sheets and indicates as follows:

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue



Air Toxics

Summary of Detected Compounds EPA METHOD TO-17

Client Sample ID: SS-1

Lab ID#: 1510435-01A

No Detections Were Found.

Client Sample ID: VP-1

Lab ID#: 1510435-02A

| Compound | Rpt. Limit (ng) | Rpt. Limit (ug/m3) | Amount (ng) | Amount (ug/m3) |
|-----------------|----------------------------|-------------------------------|------------------------|---------------------------|
| Naphthalene | 1.0 | 5.0 | 12 | 60 |

Client Sample ID: Trip Blank

Lab ID#: 1510435-03A

No Detections Were Found.



Air Toxics

Client Sample ID: SS-1

Lab ID#: 1510435-01A

EPA METHOD TO-17

| | | | | |
|--------------|----------|---------------------|-----------------------|---------------------|
| File Name: | 18102612 | Date of Extraction: | NADate of Collection: | 10/23/15 3:05:00 PM |
| Dil. Factor: | 1.00 | | Date of Analysis: | 10/26/15 05:13 PM |

| Compound | Rpt. Limit (ng) | Rpt. Limit (ug/m3) | Amount (ng) | Amount (ug/m3) |
|-------------|-----------------|--------------------|--------------|----------------|
| Naphthalene | 1.0 | 5.0 | Not Detected | Not Detected |

Air Sample Volume(L): 0.200
Container Type: TO-17 VI Tube

| Surrogates | %Recovery | Method Limits |
|----------------|-----------|---------------|
| Naphthalene-d8 | 90 | 50-150 |



Air Toxics

Client Sample ID: VP-1

Lab ID#: 1510435-02A

EPA METHOD TO-17

| | | | |
|--------------|----------|-------------------------------------|---|
| File Name: | 18102613 | Date of Extraction: NA | Date of Collection: 10/23/15 4:31:00 PM |
| Dil. Factor: | 1.00 | Date of Analysis: 10/26/15 05:54 PM | |

| Compound | Rpt. Limit (ng) | Rpt. Limit (ug/m3) | Amount (ng) | Amount (ug/m3) |
|-------------|-----------------|--------------------|-------------|----------------|
| Naphthalene | 1.0 | 5.0 | 12 | 60 |

Air Sample Volume(L): 0.200
Container Type: TO-17 VI Tube

| Surrogates | %Recovery | Method Limits |
|----------------|-----------|---------------|
| Naphthalene-d8 | 100 | 50-150 |



Air Toxics

Client Sample ID: Trip Blank

Lab ID#: 1510435-03A

EPA METHOD TO-17

| | | | |
|--------------|----------|-------------------------------------|------------------------------|
| File Name: | 18102611 | Date of Extraction: NA | Date of Collection: 10/23/15 |
| Dil. Factor: | 1.00 | Date of Analysis: 10/26/15 04:31 PM | |

| Compound | Rpt. Limit (ng) | Rpt. Limit (ug/m3) | Amount (ng) | Amount (ug/m3) |
|-------------|-----------------|--------------------|--------------|----------------|
| Naphthalene | 1.0 | 5.0 | Not Detected | Not Detected |

Air Sample Volume(L): 0.200
Container Type: TO-17 VI Tube

| Surrogates | %Recovery | Method Limits |
|----------------|-----------|---------------|
| Naphthalene-d8 | 100 | 50-150 |



Air Toxics

Client Sample ID: Lab Blank

Lab ID#: 1510435-04A

EPA METHOD TO-17

| | | | |
|--------------|----------|-------------------------------------|------------------------|
| File Name: | 18102609 | Date of Extraction: NA | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/26/15 02:24 PM | |

| Compound | Rpt. Limit (ng) | Rpt. Limit (ug/m3) | Amount (ng) | Amount (ug/m3) |
|-------------|--------------------|-----------------------|----------------|-------------------|
| Naphthalene | 1.0 | 5.0 | Not Detected | Not Detected |

Air Sample Volume(L): 0.200
Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|----------------|-----------|------------------|
| Naphthalene-d8 | 84 | 50-150 |



Air Toxics

Client Sample ID: CCV

Lab ID#: 1510435-05A

EPA METHOD TO-17

| | | | |
|--------------|----------|-------------------------------------|------------------------|
| File Name: | 18102603 | Date of Extraction: NA | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/26/15 10:14 AM | |

| Compound | %Recovery |
|-------------|-----------|
| Naphthalene | 110 |

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|----------------|-----------|---------------|
| Naphthalene-d8 | 100 | 50-150 |



Air Toxics

Client Sample ID: LCS

Lab ID#: 1510435-06A

EPA METHOD TO-17

| | | | |
|--------------|----------|-------------------------------------|------------------------|
| File Name: | 18102604 | Date of Extraction: NA | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/26/15 10:55 AM | |

| Compound | %Recovery | Method Limits |
|-------------|-----------|---------------|
| Naphthalene | 118 | 70-130 |

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|----------------|-----------|---------------|
| Naphthalene-d8 | 101 | 50-150 |



Air Toxics

Client Sample ID: LCSD

Lab ID#: 1510435-06AA

EPA METHOD TO-17

| | | | |
|--------------|----------|-------------------------------------|------------------------|
| File Name: | 18102605 | Date of Extraction: NA | Date of Collection: NA |
| Dil. Factor: | 1.00 | Date of Analysis: 10/26/15 11:37 AM | |

| Compound | %Recovery | Method Limits |
|-------------|-----------|---------------|
| Naphthalene | 114 | 70-130 |

Air Sample Volume(L): 1.00
Container Type: NA - Not Applicable

| Surrogates | %Recovery | Method Limits |
|----------------|-----------|---------------|
| Naphthalene-d8 | 100 | 50-150 |

TO-17 SAMPLE COLLECTION



CHAIN-OF-CUSTODY RECORD

Sample Transportation Notice

Relinquishing signature on this document indicates that sample is being shipped in compliance with all applicable local, State, Federal, national, and international laws, regulations and ordinances of any kind. Air Toxics Limited assumes no liability with respect to the collection, handling or shipping of these samples. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Air Toxics Limited against any claim, demand, or action, of any kind, related to the collection, handling, or shipping of samples. D.O.T. Hotline (800) 467-4922.

**180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630**

(916) 985-1000 FAX (916) 985-1020

Page 1 of 1

Project Manager Ross Triline
 Collected by: (Print and Sign) Ross Triline
 Company SVC Environmental Email rossr@svcenv.com
 Address 11 Kenton Ave City San Carlos State CA Zip 94070
 Phone 650 218 3766 Fax _____

| | | | |
|-------------------------------------|-----------------|--|--------------------------------|
| Project Info: | | Turn Around Time: | Reporting Units: |
| P.O. # _____ | Project # _____ | <input type="checkbox"/> Normal | <input type="checkbox"/> ppmv |
| Project Name <u>Adeline Foundry</u> | | <input checked="" type="checkbox"/> Rush <u>24-Hour</u> <small>specify</small> | <input type="checkbox"/> ppbv |
| | | | <input type="checkbox"/> µg/m3 |
| | | | <input type="checkbox"/> mg/m3 |

| Lab I.D. | Field Sample I.D. (Location) | Engraved or Stamped Tube # | Date of Collection (mm/dd/yy) | Start Time (hr:min) | End Time (hr:min) | Pre-Test Flow Rate | Post-Test Flow Rate | Volume | Indoor/Outdoor | | Indoor Air | Outdoor Air | Soil Vapor | Other () |
|----------|------------------------------|----------------------------|-------------------------------|---------------------|-------------------|--------------------|---------------------|--------|----------------|------|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| | | | | | | | | | % RH | Temp | | | | |
| 01A | SS-1 | G0141363 | 10/23/15 | 1502 | 1505 | — | — | 200mL | | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 02A | VP-1 | G0143448 | 10/23/15 | 1627 | 1631 | — | — | 200mL | | | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 03A | Trip Blank | G0132025 | 10/23/15 | — | — | — | — | — | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| | | | | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | | | | | | | | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

| | | |
|---|---|-------------------------------------|
| Relinquished by: (signature) <u>Ross Triline</u> Date/Time <u>10/23/15 1745</u> | Received by: (signature) <u>Adeline Cruz</u> Date/Time <u>10/23/15 1945</u> | Notes: <u>TO17 for Naphthalene.</u> |
| Relinquished by: (signature) _____ Date/Time _____ | Received by: (signature) _____ Date/Time _____ | |
| Relinquished by: (signature) _____ Date/Time _____ | Received by: (signature) _____ Date/Time _____ | |

| Lab Use Only | Shipper Name | Air Bill # | Temp (°C) | Condition | Custody Seals Intact? | Work Order # |
|--------------|--------------|------------|--------------|-------------|-----------------------|----------------|
| | <u>M/D</u> | | <u>4.1°C</u> | <u>Good</u> | Yes No <u>None</u> | <u>1510435</u> |