

**POSTGRADING METHANE SURVEY FOR THE PROPOSED
CLOVERDALE RESIDENTIAL DEVELOPMENT,
13311 LIMONITE AVENUE, CITY OF EASTVALE,
RIVERSIDE COUNTY, CALIFORNIA, ASSESSOR
PARCEL NUMBER (APN) 164-030-019**

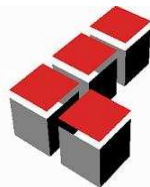
Prepared For:

WILLIAM LYON HOMES

1265 Corona Pointe Court, Suite 105
Corona, California 92879

Project No. 10815.003

December 11, 2014



Leighton and Associates, Inc.

A LEIGHTON GROUP COMPANY



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December 11, 2014

Project No. 10815.003

To: William Lyon Homes
1265 Corona Pointe Court, Suite 105
Corona, California 92879

Attention: Mr. Bryan Bergeron

Subject: Postgrading Methane Survey for the Proposed Cloverdale Residential Development, 13311 Limonite Avenue, City of Eastvale, Riverside County, California, Assessor Parcel Number (APN) 164-030-019

INTRODUCTION

Leighton and Associates, Inc. (Leighton) is pleased to present this report summarizing the postgrading methane survey conducted for the proposed Cloverdale development, APN 164-030-019, located northeast of the intersection of Limonite Avenue and Sumner Avenue in the City of Eastvale, California (subject site, Figure 1). This report was produced in general accordance with the County of Riverside Department of Building and Safety methane protocol, dated November 1, 2004 (Riverside County, 2004) and as adopted by the City of Eastvale.

The subject site is 7.64 acres and is bounded by a residential tract to the north and east, Valencia Street to the northeast, Limonite Avenue to the south, and Sumner Avenue to the west. The surrounding land is occupied by single-family residential development.

BACKGROUND

Historically, the subject site has been used for agricultural purposes and as a dairy. The southern portion of the subject site was occupied by the former dairy's waste

ponds. The remainder of the subject site was used as pasture land or for row crop agriculture.

SCOPE OF METHANE MONITORING WORK

The scope of our work for the soil gas sampling was based on the recommendations provided in the guidelines by the County of Riverside Building and Safety Department Methane Investigation Protocols (County of Riverside, 2004). The City of Eastvale has adopted the methane investigation protocols established by the County of Riverside Building and Safety Department. This protocol describes testing of individual lots; however it is Leighton's belief that testing of areas of similar use history can be accomplished through selective sampling and extending these results to adjoining lots. The methane investigation was performed in general accordance with the guidelines of Riverside County, and included the following:

- Oversight of soil gas probe installation and initial sampling by a mobile laboratory.
- Measurement of methane, fixed gases, and differential pressure using the GEM-2000 landfill gas analyzer (GEM 2000).
- Collection of 10 percent duplicate soil gas samples in Tedlar™ bags for methane analysis by a fixed laboratory.
- Preparation of this report summarizing our findings and conclusions, including tables, illustrations, and appendices.

FIELD ACTIVITIES

SOIL GAS PROBE INSTALLATION

A total of 16 soil gas probes were installed across the subject site. The locations of soil gas probes were chosen based on the proposed development plan for the subject site. The plan includes 32 multi-family residential structures arranged in 16 blocks. One probe was installed in the location of each of the 16 blocks. Soil gas probe locations 5 through 9 (Figure 2) are located within the area occupied by the former dairy waste pond.

On October 24, 2014, Leighton contracted with Millennium Environmental to install the 16 single sample port soil gas probes below the native soil and fill interface, at depths ranging from 5 to 12 feet below ground surface (bgs). Utilizing current grading plans, each probe

was advanced approximately 1 foot below the compacted fill into the undisturbed native material.

The distribution of the probes, and therefore the soil gas samples, is considered to be representative of the planned development at the subject site. The soil gas probe consisted of 1/4 inch Nylaflow™ tubing tipped with an Airstone™ soil gas probe implant tip. The soil gas probes were sealed with rubber end caps. The soil gas probes were installed with a minimum of six inches of sand filter pack above and below the probe depth. A six-inch layer of hydrated granular bentonite was placed above the sand filter pack to seal the soil gas probe from leakage to the atmosphere. The remainder of the soil boring was backfilled to the surface with alternating layers of hydrated and dry granular bentonite.

SOIL GAS PROBE MONITORING

On October 24, 2014, the first soil gas sampling event was conducted by an A&R mobile laboratory. A volume of soil gas that was calculated to be equivalent to three times the volume of the tubing and pore space of the sand filter pack was purged from each soil gas probe prior to collecting a representative soil gas sample. During the initial sampling event, Leighton and A&R collected and analyzed duplicate samples to check soil gas results.

Soil gas pressure readings were obtained by the laboratory from each soil gas probe prior to sampling. A magnahelic pressure gauge was used to make the relative soil gas pressure measurements. Barometric pressure readings were noted prior to sampling the probes during the sampling event. Three additional field monitoring events were conducted on October 31, November 10, and November 14, 2014, using a Landtec™ GEM-2000. Soil methane concentrations in soil gas probes SGP-5-12 through SGP-8-12 were not measured during the subsequent monitoring events as their methane concentrations were found to be greater than the 15,000 parts per million by volume (ppmv) action level specified in the Riverside County Methane Investigation Protocol (Riverside County, 2004) (Table 1) during the first event.

The depths of the soil vapor probe and soil vapor analytical data is presented in Table 1. The locations of the soil vapor probes are shown on the Sample Plan (Figure 2).

DUPLICATE SAMPLES

During the initial and subsequent sampling events, one duplicate soil gas sample was collected from 10 percent of the soil vapor probes as part of quality control protocols.

When possible, duplicate samples were collected from the probe with the highest field measured concentrations of methane.

SAMPLE ANALYSIS

Methane soil gas samples were initially collected and analyzed by A&R mobile laboratory personnel. The samples were analyzed on-site by a mobile laboratory using U.S. Environmental Protection Agency (EPA) Method 8015M for methane. Subsequent rounds of soil gas sampling were performed by Leighton personnel in the field using a Landtec™ GEM-2000 calibrated with standard gas canisters for methane, carbon dioxide, and oxygen. Duplicate samples were collected in one liter Tedlar™ bags and shipped under chain of custody procedures to A&R for analysis. Duplicate samples were analyzed by U.S. EPA Method 8015M for methane. During the October 31, 2014 sampling event, a “rotten egg” odor was detected during the purging of the soil gas probes. On November 10, 2014, two Tedlar™ bag samples were collected, one sample from soil gas probe SGP-10-10 and one from soil gas probe SGP-6-12. Both samples were analyzed for methane by US EPA Method 8015M and hydrogen sulfide by US EPA Method 16 to investigate the source of the odor. A copy of the laboratory analytical reports and chain-of-custody documents are included in Appendix B.

RESULTS

Following sampling by the mobile laboratory, the soil gas probes were sampled using the GEM-2000. One duplicate soil gas sample (SGP-9-12) was taken on October 31, 2014, two duplicate soil gas samples (SGP-6-12 and SGP-10-10) were collected on November 10, 2014, and one duplicate soil gas sample (SGP-12-10) was collected on November 14, 2014. With the exception of SGP-6-12, each of the duplicate samples contained concentrations of methane below the methane action level of 15,000 ppmv.

The subsequent rounds of field monitoring using the GEM-2000 did not identify methane at concentrations greater than 15,000 ppmv in the soil gas probes on the subject site with the exception of probes SGP-5-12 through SGP-8-12. The duplicate samples were analyzed by A&R. The methane concentrations reported by the fixed laboratory ranged from 2,390 ppmv in SGP-10-10 to 40,500 ppmv in SGP-6-12

Hydrogen sulfide concentrations ranged between <1.0 ppmv in SGP-10-10 and 11 ppmv in SGP-6-12.

In order to quantitatively compare the GEM 2000 field instrument data and the laboratory analytical data, a percent difference calculation was performed for each sample for which there were field instrument data and laboratory analytical data. The maximum relative percent difference calculated for the subject site data was 55%. A relative percent difference of less than 100% indicates good agreement between laboratory data and GEM 2000 monitoring data. Therefore, the relative percent difference calculations show acceptable agreement between laboratory analyses and the corresponding GEM 2000 data (Table 1).

RECOMMENDATIONS

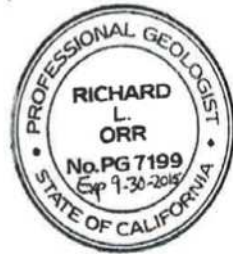
Portions of the subject site have been evaluated to contain methane concentrations greater than the action level of 15,000 ppmv set by the County of Riverside Department of Building and Safety for mitigation design engineering requirements. Based on detected methane concentrations in soil gas probes SGP-5 through SGP-8, Leighton recommends that the lots in that area receive a sub-slab ventilation system, trench dams, and vapor barrier in accordance with a detailed methane mitigation design, installation and inspection. In addition, utilities open to living space atmosphere, such as electrical and communications, should have a vapor plug inside of the utility above the slab.

The residential blocks that will be constructed in areas with subsurface methane concentrations between 1,000 and 15,000 ppmv should also have methane mitigation design, installation and inspection. The design should include a 10-mil vapor retarder and seals on all utility conduit penetration points. In addition, utilities open to living space atmosphere, such as electrical and communications, should have a vapor plug inside of the utility above the slab.

Leighton recommends the client submit a copy of this report to the City of Eastvale Department of Building and Safety for their review and approval.

If you have any questions regarding our report, please contact this office. We appreciate this opportunity to be of service.

Respectfully submitted,



LEIGHTON AND ASSOCIATES, INC.

A handwritten signature in blue ink that reads "Richard L. Orr".

Richard L. Orr, PG 7199
Associate Geologist

ZAF/RLO/rsm

Attachments: Figure 1 - Site Location Map

Figure 2 - Soil Gas Probe Locations

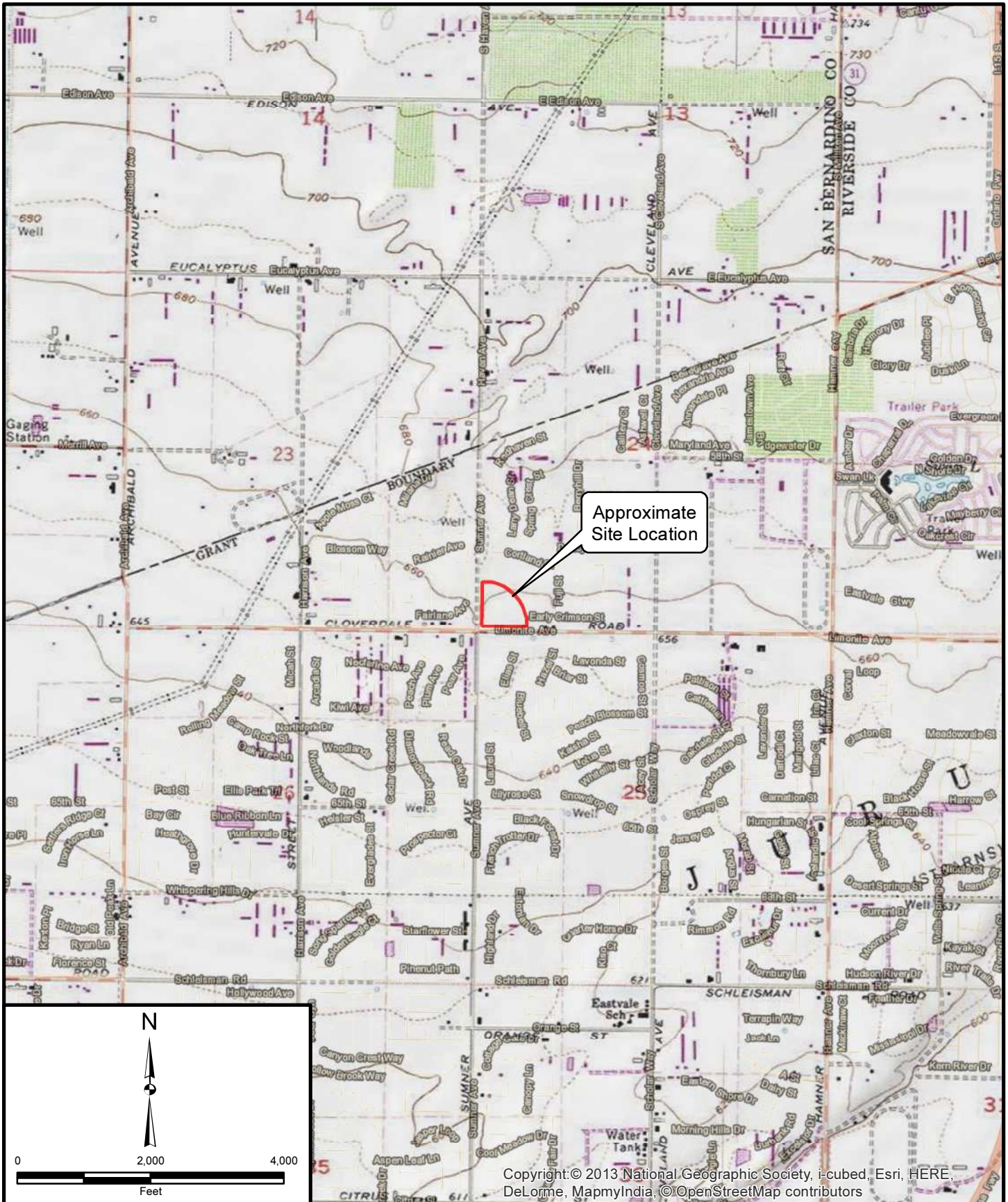
Figure 3 - Methane Soil Gas Survey Analytical Results

Table 1 - Summary of Methane Analyses

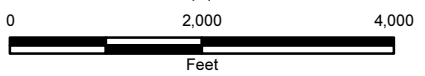
Appendix A - References

Appendix B - Analytical Results and Chain of Custody Documentation

Distribution: (3) Addressee + CD ROM



Approximate Site Location



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Project: 10815.003	Eng/Geol: RLO
Scale: 1" = 2,000'	Date: October 2014
Base Map: ESRI ArcGIS Online 2014	
Thematic Information: Leighton	
Author: Leighton Geomatics (cgiovando)	

SITE LOCATION MAP

William Lyon Cloverdale
NE of the Intersection of Sumner Ave and Limonite Ave
Eastvale, California

Figure 1

Leighton



Legend

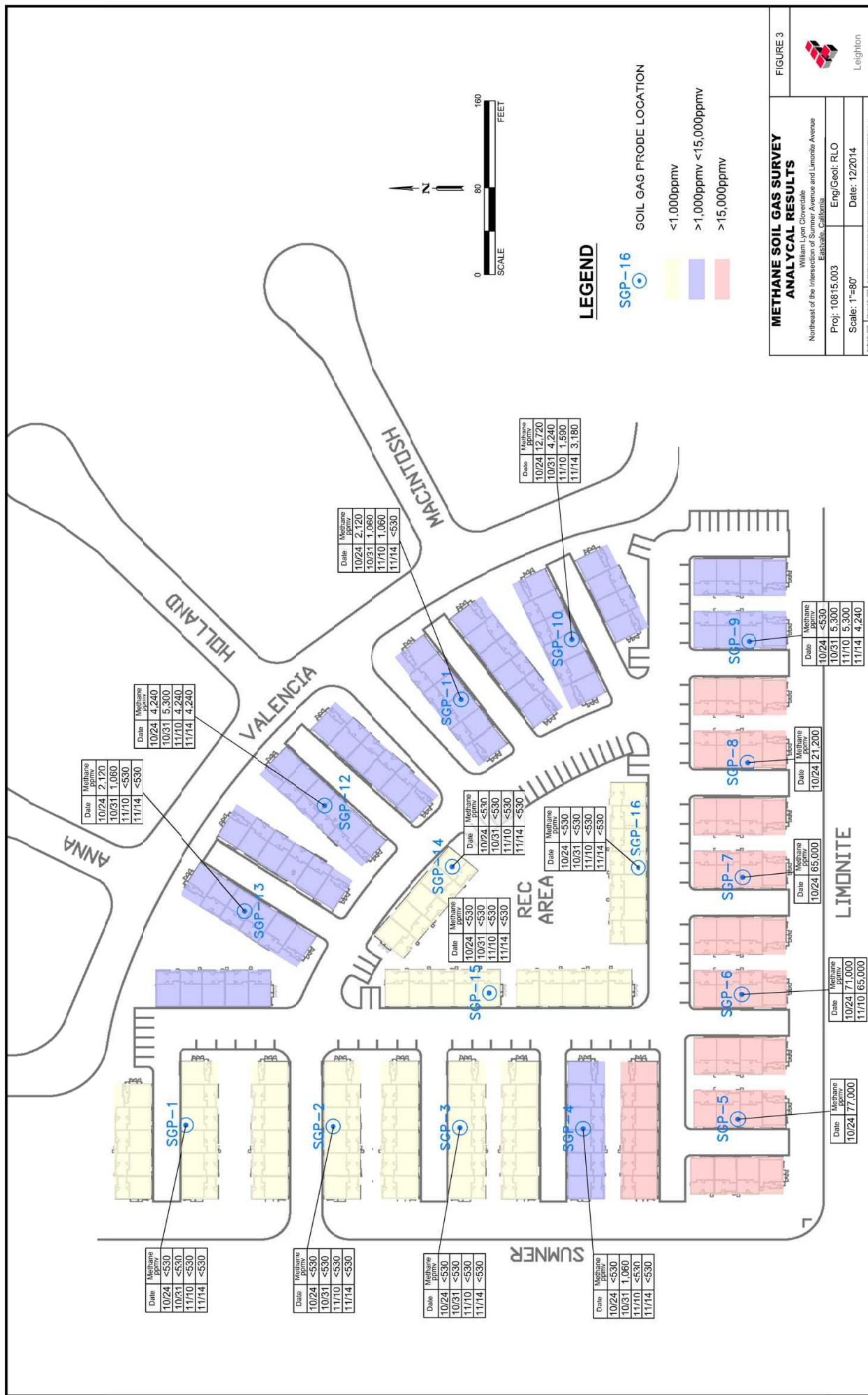
- Approximate Site Boundary
- Soil Gas Probe Location

N

0 80 160
Feet

Project: 10815.003	Eng/Geol: RLO
Scale: 1" = 80'	Date: October 2014
Base Map: ESRI ArcGIS Online 2014	
Thematic Information: Leighton	
Author: Leighton Geomatics (gpoivando)	

SOIL GAS PROBE LOCATIONS
 William Lyon Cloverdale
 Northeast of the intersection of Summer Avenue and Limonite Avenue
 Eastvale, California



Date	Methane ppmv
10/24	2,120
10/31	1,060
11/10	<530
11/14	<530

Date	Methane ppmv
10/24	4,240
10/31	5,300
11/10	4,240
11/14	4,240

Date	Methane ppmv
10/24	2,120
10/31	1,060
11/10	1,060
11/14	<530

Date	Methane ppmv
10/24	12,720
10/31	4,240
11/10	1,580
11/14	3,180

Date	Methane ppmv
10/24	<530
10/31	<530
11/10	<530
11/14	<530

Date	Methane ppmv
10/24	<530
10/31	<530
11/10	<530
11/14	<530

Date	Methane ppmv
10/24	<530
10/31	<530
11/10	<530
11/14	<530

Date	Methane ppmv
10/24	<530
10/31	1,060
11/10	<530
11/14	<530

Date	Methane ppmv
10/24	77,000

Date	Methane ppmv
10/24	71,000
11/10	65,000

Date	Methane ppmv
10/24	21,200

Date	Methane ppmv
10/24	<530
10/31	5,300
11/10	5,300
11/14	4,240

LEGEND

SGP-16

SOIL GAS PROBE LOCATION

- <1,000ppmv
- >1,000ppmv <15,000ppmv
- >15,000ppmv

**METHANE SOIL GAS SURVEY
ANALYTICAL RESULTS**

William Lynn Cloverdale
Northeast of the Intersection of Summer Avenue and Limonite Avenue
Escondido, California

Proj: 10815.003 Eng/Geol: RLO

Scale: 1"=80' Date: 12/2014

FIGURE 3



Leighton

Table 1
Summary of Methane Analyses
William Lyon Cloverdale
City of Eastvale, California

10815.003

Soil Gas Probe ID	Soil Gas Probe Depth Feet bgs	Graded Soil to Native Interface	Date	Field Testing Methane (ppmv)	Lab Analytical Methane (ppmv)	Lab Analytical Hydrogen Sulfide (ppmv)	Mobile Lab Analytical Methane (ppmv)	Carbon Dioxide (% volume)	Oxygen (% volume)	Nitrogen (% volume)	Barometric Pressure (Inches of Mercury)	Relative Pressure (Inches of Water)	Relative Percent Difference	
SGP-1-10	10	10	10/24/2014	<530	-	-	350	2.0	15.2	82.8	29.12	-0.09	NA	
			10/31/2014	<530	-	-	-	14.5	9.7	75.8	29.30	-0.12	-	
			11/10/2014	<530	-	-	-	-	12.7	11.1	76.2	29.08	-0.05	-
			11/14/2014	<530	-	-	-	-	13.4	12.9	73.7	29.28	-0.03	-
SGP-2-10	10	10	10/24/2014	<530	-	-	<10	9.5	7.5	83.0	29.12	0.05	NA	
			10/31/2014	<530	-	-	-	16.6	6.6	76.8	29.30	-0.14	-	
			11/10/2014	<530	-	-	-	-	16.6	5.8	77.6	29.08	-0.04	-
			11/14/2014	<530	-	-	-	-	15.2	9.1	75.7	29.28	-0.05	-
SGP-3-10	10	9	10/24/2014	<530	-	-	290	22.1	0.0	77.9	29.12	0.13	NA	
			10/31/2014	<530	-	-	-	22.4	0.6	77.0	29.30	-0.15	-	
			11/10/2014	<530	-	-	-	-	22.7	0.0	77.3	29.08	-0.04	-
			11/14/2014	<530	-	-	-	-	21.8	0.8	77.4	29.28	0.01	-
SGP-4-10	10	10	10/24/2014	<530	-	-	930	22.8	0.3	76.9	29.12	0.12	NA	
			10/31/2014	1,060	-	-	-	23.8	0.3	75.8	29.30	-0.14	-	
			11/10/2014	<530	-	-	-	-	23.8	0.0	76.2	29.08	-0.04	-
			11/14/2014	<530	-	-	-	-	23.0	0.7	76.3	29.28	-0.02	-
SGP-5-12 1PV	12	12	10/24/2014	-	-	-	58,000	-	-	-	29.12	-	-	
SGP-5-12 3PV	12	12	10/24/2014	-	-	-	61,000	-	-	-	29.12	-	-	
SGP-5-12 10PV	12	12	10/24/2014	77,000	-	-	65,000	31.7	1.0	56.6	29.12	0.00	17	
			10/31/2014	-	-	-	-	-	-	-	-	29.30	-	-
			11/10/2014	-	-	-	-	-	-	-	-	29.08	-	-
			11/14/2014	-	-	-	-	-	-	-	-	29.28	-	-
SGP-6-12	12	12	10/24/2014	64,000	-	-	62,000	25.4	2.9	65.3	29.12	0.10	3	
			10/31/2014	-	-	-	-	-	-	-	-	29.30	-	-
			11/10/2014	71,000	40,500	11	-	32.3	0.0	60.6	29.10	-0.71	55	
			11/14/2014	-	-	-	-	-	-	-	-	29.28	-	-
SGP-7-12	12	12	10/24/2014	65,000	-	-	62,000	26.9	3.2	63.4	29.12	0.00	5	
			10/31/2014	-	-	-	-	-	-	-	-	29.30	-	-
			11/10/2014	-	-	-	-	-	-	-	-	29.08	-	-
			11/14/2014	-	-	-	-	-	-	-	-	29.28	-	-
SGP-8-12	12	12	10/24/2014	21,200	-	-	35,000	14.1	8.9	75.0	29.12	-0.42	49	
			10/31/2014	-	-	-	-	-	-	-	-	29.30	-	-
			11/10/2014	-	-	-	-	-	-	-	-	29.08	-	-
			11/14/2014	-	-	-	-	-	-	-	-	29.28	-	-
SGP-9-12	12	12	10/24/2014	<530	-	-	220	2.2	14.0	83.8	29.12	0.03	-	
			10/31/2014	5,300	6,100	-	-	26.3	1.7	71.5	29.30	-0.02	14	
			11/10/2014	5,300	-	-	-	29.2	0.1	70.2	29.08	-0.01	-	
			11/17/2014	4,240	-	-	-	28.8	0.4	70.8	29.28	-0.68	-	
SGP-10-10	10	10	10/24/2014	12,720	-	-	11,000	25.3	0.2	73.3	29.12	-0.03	15	
			10/31/2014	4,240	-	-	-	15.6	9.1	74.9	29.30	-0.07	-	
			11/10/2014	1,590	2,390	<1.0	-	19.9	9.1	74.7	29.07	-0.01	40	
			11/17/2014	3,180	-	-	-	17.4	7.6	74.7	29.28	0.66	-	
SGP-11-10	10	10	10/24/2014	2,120	-	-	2,100	22.4	0.8	76.6	29.12	0.10	1	
			10/31/2014	1,060	-	-	-	19.8	5.4	74.7	29.30	0.00	-	
			11/10/2014	1,060	-	-	-	20.6	6.9	72.4	29.07	-0.15	-	
			11/14/2014	<530	-	-	-	22.4	0.7	76.9	29.28	0.02	-	
SGP-12-10	10	10	10/24/2014	4,240	-	-	6,200	22.4	1.0	76.2	29.12	0.10	38	
			10/31/2014	5,300	-	-	-	25.0	0.4	74.1	29.30	0.00	-	
			11/10/2014	4,240	-	-	-	24.9	0.5	74.2	29.08	0.00	-	
			11/14/2014	4,240	7,400	-	-	24.3	0.6	74.7	29.28	0.05	54	
SGP-13-10	10	10	10/24/2014	2,120	-	-	1,400	15.1	1.5	83.2	29.12	0.04	41	
			10/31/2014	1,060	-	-	-	18.9	1.1	79.9	29.30	-0.11	-	
			11/10/2014	<530	-	-	-	18.6	2.3	79.1	29.08	-0.05	-	
			11/14/2014	<530	-	-	-	17.9	2.0	80.1	29.28	-0.04	-	
SGP-14-10	10	10	10/24/2014	<530	-	-	550	21.5	0.6	77.9	29.12	0.17	-	
			10/31/2014	<530	-	-	-	22.0	1.2	76.8	29.30	-0.16	-	
			11/10/2014	<530	-	-	-	22.5	0.7	76.8	29.08	0.00	-	
			11/14/2014	<530	-	-	-	21.8	0.7	77.5	29.28	-0.02	-	
SGP-15-5	5	5	10/24/2014	<530	-	-	<10	7.5	11.5	81.0	29.12	0.11	-	
			10/31/2014	<530	-	-	-	6.5	15.9	77.6	29.30	0.00	-	
			11/10/2014	<530	-	-	-	6.0	16.7	77.3	29.08	0.00	-	
			11/14/2014	<530	-	-	-	5.1	18.2	76.7	29.28	-0.03	-	
SGP-15-5-DUP	5	3	10/24/2014	-	-	-	<10	-	-	-	29.12	-	-	
SGP-16-5	5	3	10/24/2014	<530	-	-	<10	12.1	7.2	80.7	29.12	0.10	-	
			10/31/2014	<530	-	-	-	8.9	13.5	77.6	29.30	0.03	-	
			11/10/2014	<530	-	-	-	8.2	14.5	77.3	29.08	0.00	-	
			11/14/2014	<530	-	-	-	6.9	17.0	76.1	29.28	0.04	-	

Notes:

ppmv = parts per million by volume bgs = below ground surface
 ND<10 = Non-detect, concentration is below the mobile laboratory reporting limit
 ND<530 = Non-detect, concentration is below the detection limit of the GEM-2000 landfill gas analyzer

APPENDIX A

REFERENCES

APPENDIX A

References

California Environmental Protection Agency, Department of Toxic Substances Control, 2003, *Advisory – Active Soil Gas Investigations, Department of Toxic Substances Control and the California Regional Water Quality Control Board, Los Angeles Region*, dated January 28, 2003.

County of Riverside Building and Safety Department, 2004, *Memorandum – Subject: Methane Protocol*, http://www.rctlma.org/building/content/docs/methane_protocol_design_guide.pdf, dated November 1, 2004, accessed October 9, 2013.

APPENDIX B

LABORATORY ANALYTICAL REPORTS
AND CHAIN OF CUSTODY DOCUMENTATION



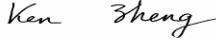
A & R Laboratories

Formerly Microbac Southern California
 1650 S. GROVE AVE., SUITE C
 ONTARIO, CA 91761
 951-779-0310 FAX 951-779-0344
 www.arlaboratories.com office@arlaboratories.com

FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

CHEMISTRY · MICROBIOLOGY · FOOD SAFETY · MOBILE LABORATORIES
 FOOD · COSMETICS · WATER · SOIL · SOIL VAPOR · WASTES

CASE NARRATIVE

Authorized Signature Name / Title (print)	Ken Zheng, President
Signature / Date	 Ken Zheng, President 10/28/2014 10:55:41
Laboratory Job No. (Certificate of Analysis No.)	1410-00108
Project Name / No.	Limonite & Sumner, Eastvale, CA 10815.003
Dates Sampled (from/to)	10/24/14 To 10/24/14
Dates Received (from/to)	10/24/14 To 10/24/14
Dates Reported (from/to)	10/28/14 To 10/28/2014
Chains of Custody Received	Yes

Comments:

Subcontracting

Organic Analyses

No analyses sub-contracted

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

Sample	Analyte	Result	Qual	Units	RL	Result	Qual	Units	RL	
SGP-5-12-1PV	Methane	58000		ppmv	15	SGP-5-12-3PV	Methane	61000	ppmv	15
SGP-5-12-10PV	Methane	65000		ppmv	15	SGP-6-12	Methane	62000	ppmv	15
SGP-7-12	Methane	62000		ppmv	15	SGP-8-12	Methane	35000	ppmv	15
SGP-9-12	Methane	220		ppmv	15	SGP-10-10	Methane	11000	ppmv	15
SGP-11-10	Methane	2100		ppmv	15	SGP-12-10	Methane	6200	ppmv	15
SGP-13-10	Methane	1400		ppmv	15	SGP-1-10	Methane	350	ppmv	15
SGP-3-10	Methane	290		ppmv	15	SGP-4-10	Methane	930	ppmv	15
SGP-14-10	Methane	550		ppmv	15					



A & R Laboratories

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 1650 S. GROVE AVE., SUITE C
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 951-779-0310
 www.arlaboratories.com

FAX 951-779-0344
 office@arlaboratories.com

FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

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 FOOD · COSMETICS · WATER · SOIL · SOIL VAPOR · WASTES

CERTIFICATE OF ANALYSIS

1410-00108

LEIGHTON AND ASSOCIATES
 Zach Freeman
 10532 ACACIA STREET, SUITE B-6
 RANCHO CUCAMONGA, CA 91730

Date Reported 10/28/14
 Date Received 10/24/14
 Invoice No. 72461
 Cust # 2155
 Permit Number
 Customer P.O. 10815.003

Project: Limonite & Sumner, Eastvale, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 001 SGP-5-12-1PV Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @	9:24	
Methane	58000		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 002 SGP-5-12-3PV Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @	9:36	
Methane	61000		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 003 SGP-5-12-10PV Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @	9:59	
Methane	65000		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 004 SGP-6-12 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @	10:34	
Methane	62000		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 005 SGP-7-12 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @	10:41	
Methane	62000		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 006 SGP-8-12 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @	11:01	
Methane	35000		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 007 SGP-9-12 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @	11:10	
Methane	220		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 008 SGP-10-10 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @	11:30	
Methane	11000		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 009 SGP-11-10 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @	11:45	
Methane	2100		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 010 SGP-12-10 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @	12:20	

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CERTIFICATE OF ANALYSIS

1410-00108

LEIGHTON AND ASSOCIATES
Zach Freeman
10532 ACACIA STREET, SUITE B-6
RANCHO CUCAMONGA, CA 91730

Date Reported 10/28/14
 Date Received 10/24/14
 Invoice No. 72461
 Cust # 2155
 Permit Number
 Customer P.O. 10815.003

Project: Limonite & Sumner, Eastvale, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 010 SGP-12-10 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @ 12:20		
Methane	6200		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 011 SGP-13-10 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @ 13:04		
Methane	1400		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 012 SGP-1-10 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @ 13:25		
Methane	350		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 013 SGP-2-10 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @ 13:47		
Methane	<10		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 014 SGP-3-10 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @ 14:14		
Methane	290		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 015 SGP-4-10 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @ 14:36		
Methane	930		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 016 SGP-14-10 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @ 15:05		
Methane	550		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 017 SGP-16-5 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @ 15:26		
Methane	<10		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 018 SGP-15-5 Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @ 15:44		
Methane	<10		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE
Sample: 019 SGP-15-5-DUP Sample Matrix: Soil Vapor								Date & Time Sampled: 10/24/14 @ 15:44		

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CERTIFICATE OF ANALYSIS

1410-00108

LEIGHTON AND ASSOCIATES
 Zach Freeman
 10532 ACACIA STREET, SUITE B-6
 RANCHO CUCAMONGA, CA 91730

Date Reported 10/28/14
 Date Received 10/24/14
 Invoice No. 72461
 Cust # 2155
 Permit Number
 Customer P.O. 10815.003

Project: Limonite & Sumner, Eastvale, CA

Analysis	Result	Qual	Units	Method	DF	MDL	RL	Date	Time	Tech
Sample: 019 SGP-15-5-DUP								Date & Time Sampled: 10/24/14 @ 15:44		
Sample Matrix: Soil Vapor										
Methane	<10		ppmv	EPA 8015B	1	10	15	10/24/14	8:30	HXE

Respectfully Submitted: Ken Zheng
 Ken Zheng - President

QUALIFIERS

- B = Detected in the associated Method Blank at a concentration above the routine RL.
- B1 = BOD dilution water is over specifications . The reported result may be biased high.
- D = Surrogate recoveries are not calculated due to sample dilution.
- E = Estimated value; Value exceeds calibration level of instrument.
- H = Analyte was prepared and/or analyzed outside of the analytical method holding time
- I = Matrix Interference.
- J = Analyte concentration detected between RL and MDL.
- Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
- S = Customer provided specification limit exceeded.

ABBREVIATIONS

- DF = Dilution Factor
- RL = Reporting Limit, Adjusted by DF
- MDL = Method Detection Limit, Adjusted by DF
- Qual = Qualifier
- Tech = Technician

As regulatory limits change frequently, A & R Laboratories advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Marilu Escher, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at arlab@arlaboratories.com.



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QUALITY CONTROL DATA REPORT

LEIGHTON AND ASSOCIATES
RANCHO CUCAMONGA, CA 91730

1410-00108

Date Reported 10/28/2014
Date Received 10/24/2014
Date Sampled 10/24/2014
Invoice No. 72461
Customer # 2155
Customer P.O. 10815.003

Project: Limonite & Sumner, Eastvale, CA

Method #	EPA 8015B																				
QC Reference #	44929	Date Analyzed:	10/24/2014	Technician:	HXE																
Samples	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019		
Results	LCS %REC			LCS %DUP	LCS %RPD	Control Ranges															
	LCS %REC			LCS %DUP	LCS %RPD	LCS %REC		LCS %RPD													
Methane			90	96	7	70 - 130		0 - 25													

Method blank results

Ref	Test Name	Result	Qualif	Units	MDL	Ref	Test Name	Result	Qualif	Units	MDL
44929	Methane	<10		ppmv	10						

Respectfully Submitted:

Ken Zheng - President

For any feedback concerning our services, please contact Marilu Escher, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at arlab@arlaboratories.com.



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CHAIN OF CUS

1410 - 108

e 1 of 2

Client Name		Chilled		Analyses requested										Turn Around Time Requested			
Leighton and Associates		<input type="checkbox"/>												<input type="checkbox"/> Rush 8 12 24 48 Hours			
E-mail: <i>zfreeman@leightongroup.com</i>		<input checked="" type="checkbox"/> Intact												<input checked="" type="checkbox"/> Normal MOBILE			
Address: 10732 Avenida St. Ste 56		<input type="checkbox"/> Sample Seal															
Rancho Cucamonga, CA 91730																	
Report Attention: <i>Freeman</i>																	
Phone: #909-484-2205																	
Fax: #909-484-2170																	
Project No./Name: 10815.003																	
Project Site: <i>Chromite and Sulfur, Foothills, CA</i>																	
Lab # (Lab use)	Client Sample ID	Sample Collection		Matrix Type	Sample Preserve	No., type* & size of container	EPA8260B (VOCs & Oxygenates)	EPA2260B (BTEX & Oxygenates)	LUF / 8015 (Gasoline)	LUF / 8015 (Diesel)	EPA8081A (Organochlorine Pesticides)	EPA 8082 (PCBs)	EPA 8015M (Carbon Chain C4-C40)	EPA 6010B/700 (CAM 17 Metals)	Micro: Plate Cnt., Coliform, E-Coli	Remarks	
		Date	Time														
1	SGP-5-12-1PV	10/24/14	9:24	soil vapor	No	125cc glass bulb											
2	SGP-5-12-3PV		9:36														
3	SGP-5-12-10PV		9:59														
4	SGP-6-12		10:34														
5	SGP-7-12		10:41														
6	SGP-8-12		11:01														
7	SGP-9-12		11:10														
8	SGP-10-10		11:30														
9	SGP-11-10		11:45														
10	SGP-12-10		12:20														
11	SGP-13-10		13:04														
12	SGP-1-10		13:25														
13	SGP-2-10		13:47														
14	SGP-3-10		14:14														
15	SGP-4-10		14:36														
Relinquished By: <i>Rif</i>		Company: <i>Leighton</i>		Date: 10/24/14		Time: 1600		Received By: <i>[Signature]</i>		Company: <i>AR</i>		Date: 10/24/14		Time: 16:00		Note: Samples are discarded 30 days after results are reported unless other arrangements are made.	
Relinquished By: <i>[Signature]</i>		Company: <i>Leighton</i>		Date: 10/24/14		Time: 1600		Received By: <i>[Signature]</i>		Company: <i>AR</i>		Date: 10/24/14		Time: 16:00			

Matrix Code: DW=Drinking Water, GW=Ground Water, WW=Waste Water, SD=Solid Waste
 SL=Sludge, SS=Soil/Sediment, AR=Air, PP=Pure Product
 Preservative Code: IC=Ice, HC=HCl, HN=HNO3
 SH=NaOH, ST=Na2S2O3, HS=H2SO4
 * Sample Container Types: T=Tedlar Air Bag, G=Glass Container, ST=Steel Tube, B=Brass Tube, P=Plastic Bottle, V=VOA Vial, E=EnCore



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CHAIN OF CUSTODY

A & R Work Order #:

1410-100

Page 2 of 2

Client Name <i>Leighton and Associates</i> E-mail <i>zfreeman@leighlabgroup.com</i> Address <i>10732 Avenida ST Ste B-C</i> <i>Rancho Cucamonga, CA</i> Report Attention <i>zfreeman</i> Phone # <i>(909) 484-2205</i> Fax # <i>(909) 484-2170</i> Project No. / Name <i>10815.003</i> Project Site <i>Summer and Linnette, Eastvale, CA</i>			<input type="checkbox"/> Chilled <input checked="" type="checkbox"/> Intact <input type="checkbox"/> Sample Seal														
Project No. / Name Client Sample ID Sample Collection Date Time Matrix Type Sample Preserve No., type* & size of container			Turn Around Time Requested <input type="checkbox"/> Rush 8 12 24 48 Hours <input checked="" type="checkbox"/> Normal <i>MOBILE</i>														
16	SGP-14-10	10/24/14	15:05	oil vapor	No	125 cc glass bottle	EP48260B (VOCs & Oxygenates)	EP48260B (TEX & Oxygenates)	LUFF / 8015 (Gasoline)	LUFF / 8015 (Diesel)	EP48081A (Organochlorine Pesticides)	EP48082 (PCBs)	EP48015M (Carbon Chain C4-C40)	EP46010B/7000 (CAM 17 Metals)	Micro: Plate Cnl., Coliform, E-Coli	Analyses Requested <i>CH4</i>	Remarks
17	SGP-16-5	↓	15:26	↓	↓	↓											
18	SGP-15-5	↓	15:44	↓	↓	↓											
19	SGP-15-5-DUP	↓	15:44	↓	↓	↓											
<div style="border: 1px solid black; width: 100%; height: 100%; transform: rotate(45deg); opacity: 0.5;"></div>																	
Relinquished By <i>zfreeman</i>	Company <i>Leighton</i>	Date <i>10/24/14</i>	Time <i>1600</i>	Received By <i>[Signature]</i>	Company <i>AR</i>	Date <i>10/24/14</i>	Time <i>16:00</i>										
Relinquished By	Company	Date	Time	Received By	Company	Date	Time										

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.

Matrix Code: DW=Drinking Water SL=Sludge SS=Soil/Sediment
 GW=Ground Water WW=Waste Water AR=Air
 SD=Solid Waste PP=Pure Product

Preservative Code: IC=Ice HC=HCl HN=HNO₃

Sample Container Types: SH=NaOH ST=Na₂S₂O₃ HS=H₂SO₄
 T=Tedlar Air Bag G=Glass Container ST=Steel Tube
 B=Brass Tube P=Plastic Bottle V=VOA Vial
 E=EnCore



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CASE NARRATIVE

Authorized Signature Name / Title (print)

Ken Zheng, President

Signature / Date

Ken Zheng

Ken Zheng, President
11/03/2014 11:50:31

Laboratory Job No. (Certificate of Analysis No.)

1410-00137

Project Name / No.

LIMONITE & SUMNER, EASTVALE, CA 10815.003

Dates Sampled (from/to)

10/31/14 To 10/31/14

Dates Received (from/to)

10/31/14 To 10/31/14

Dates Reported (from/to)

11/03/14 To 11/3/2014

Chains of Custody Received

Yes

Comments:

Subcontracting

Organic Analyses

No analyses sub-contracted

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

Sample	Analyte	Result	Qual	Units	RL	Result	Qual	Units	RL
SGP-9-12	Methane	6100		ppmv	15				



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CERTIFICATE OF ANALYSIS

1410-00137

LEIGHTON & ASSOCIATES
RICHARD L. ORR
10532 ACACIA STREET, SUITE B-6
RANCHO CUCAMONGA, CA 91730

Date Reported 11/03/14
Date Received 10/31/14
Invoice No. 72484
Cust # 2155
Permit Number
Customer P.O. 10815.003

Project: LIMONITE & SUMNER, EASTVALE, CA

Analysis	Result	Qual	Units	Method	DF	RL	Date	Tech
Sample: 001 SGP-9-12							Date & Time Sampled: 10/31/14 @ 9:45	
Sample Matrix: Soil Vapor								
Methane	6100		ppmv	EPA 8015B	1	15	10/31/14	HXE

Respectfully Submitted:

Ken Zheng

Ken Zheng - Lab Director

QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
B1 = BOD dilution water is over specifications . The reported result may be biased high.
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QUALITY CONTROL DATA REPORT

LEIGHTON & ASSOCIATES
 RANCHO CUCAMONGA, CA 91730

1410-00137

Date Reported 11/03/2014
 Date Received 10/31/2014
 Date Sampled 10/31/2014
 Invoice No. 72484
 Customer # 2155
 Customer P.O. 10815.003

Project: LIMONITE & SUMNER, EASTVALE, CA

Method #	EPA 8015B		
QC Reference #	44990	Date Analyzed: 10/31/2014	Technician: HXE
Samples	001		
Results	LCS %REC	LCS %DUP	LCS %RPD
	Methane	93	95
Control Ranges		LCS %REC	LCS %RPD
		70 - 130	0 - 25

No method blank results were above reporting limit

Respectfully Submitted:

Ken Zheng - President

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 E-mail: office@arlaboratories.com

CHAIN OF CUST 1410 - 137

1 of 1

Client Name <i>Leighton and Associates</i>		Chilled <input type="checkbox"/>		Analyses Requested										Turn Around Time Requested													
E-mail <i>zfreeman@leightoncorp.com</i>		Intact <input checked="" type="checkbox"/>												<input type="checkbox"/> Rush 8 12 24 48 Hours <input checked="" type="checkbox"/> Normal													
Address <i>10532 Arroyo St, Ste B-6, Rancho Cucamonga, CA</i>		Sample Seal <input type="checkbox"/>																									
Report Attention <i>R. Reed Our</i>		Sampled By <i>ZAF</i>																									
Phone # <i>(909) 484-2105</i>		Project Site <i>Limnite and Summit, Eastvale, CA</i>																									
Fax # <i>(909) 484-2170</i>		No./ Name <i>10815-003</i>																									
Client Sample ID <i>SGP-9-12</i>		Matrix Type <i>Air</i>		Sample Preserve <i>N/A</i>		No., type & size of container <i>1 yellow</i>																					
Sample Collection Date <i>10/31/14</i>		Time <i>0945</i>		EPA 8260B (VOCs & Oxygenates)		EPA 8260B (BTEX & Oxygenates)		LUFT / 8015 (Gasoline)		LUFT / 8015 (Diesel)		EPA 8081A (Organochlorine Pesticides)		EPA 8082 (PCBs)		EPA 8015M (Carbon Chain C4-C40)		EPA 6010B/7000 (CAM 17 Metals)		Micro: Plate Cnt, Coliform, E-Coli		<i>8015 metals</i>					
Date <i>10/31/14</i>		Time <i>1023</i>		Received By <i>ZAF</i>		Company <i>ARL</i>		Date <i>10-31-14</i>		Time <i>1023</i>																	
Relinquished By <i>Leighton</i>		Company <i>Leighton</i>		Date <i>10/31/14</i>		Time <i>1023</i>		Received By <i>ZAF</i>		Company <i>ARL</i>		Date <i>10-31-14</i>		Time <i>1023</i>													
Matrix Code:		DW=Drinking Water		SL=Sludge		IC=Ice		SH=NaOH		ST=Na2S2O3		* Sample Container Types:															
GW=Ground Water		SS=Soil/Sediment		HC=HCl		HN=HNO3		ST=Na2S2O3		HS=H2SO4		T=Tedlar Air Bag															
WW=Waste Water		AR=Air		HN=HNO3		HN=HNO3		HS=H2SO4		HS=H2SO4		G=Glass Container															
SD=Solid Waste		PP=Pure Product		PP=Pure Product		PP=Pure Product		PP=Pure Product		PP=Pure Product		ST=Steel Tube															
		B=Brass Tube		B=Brass Tube		B=Brass Tube		B=Brass Tube		B=Brass Tube		P=Plastic Bottle															
		V=VOA Vial		V=VOA Vial		V=VOA Vial		V=VOA Vial		V=VOA Vial		V=VOA Vial															

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.



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CASE NARRATIVE

Authorized Signature Name / Title (print)

Ken Zheng, President

Signature / Date

Ken Zheng

Ken Zheng, President
11/20/2014 9:26:51

Laboratory Job No. (Certificate of Analysis No.)

1411-00026

Project Name / No.

CLOVERDALE METHANE SURVEY 10815.003

Dates Sampled (from/to)

11/10/14 To 11/10/14

Dates Received (from/to)

11/10/14 To 11/10/14

Dates Reported (from/to)

11/20/14 To 11/20/2014

Chains of Custody Received

Yes

Comments:

Subcontracting

Organic Analyses

2 EPA 16 sample(s) reported by technician CEL were contracted to CALSCIENCE ENV LABORATORY

All results for sub-contracted analyses may be sent separately

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

Sample	Analyte	Result	Qual Units	RL	Result	Qual Units	RL		
SGP-10-10	Methane	2390	ppmv	15	SGP-6-12	Methane	40500	ppmv	15



A & R Laboratories

Formerly Microbac Southern California

1650 S. GROVE AVE., SUITE C
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951-779-0310

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FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

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CERTIFICATE OF ANALYSIS

1411-00026

LEIGHTON & ASSOCIATES

Richard L. Orr

10532 ACACIA STREET, SUITE B-6
RANCHO CUCAMONGA, CA 91730

Date Reported 11/20/14

Date Received 11/10/14

Invoice No. 72546

Cust # 2155

Permit Number

Customer P.O. 10815.003

Project: CLOVERDALE METHANE SURVEY

Analysis	Result	Qual	Units	Method	DF	RL	Date	Tech
Sample: 001 SGP-10-10 Sample Matrix: Soil Vapor							Date & Time Sampled: 11/10/14 @ 7:58	
Methane	2390		ppmv	EPA 8015B	1	15	11/10/14	KZ
Sample: 002 SGP-6-12 Sample Matrix: Soil Vapor							Date & Time Sampled: 11/10/14 @ 8:15	
Methane	40500		ppmv	EPA 8015B	1	15	11/10/14	KZ

Respectfully Submitted:

Ken Zheng

Ken Zheng - Lab Director

QUALIFIERS

B = Detected in the associated Method Blank at a concentration above the routine RL.
B1 = BOD dilution water is over specifications . The reported result may be biased high.
D = Surrogate recoveries are not calculated due to sample dilution.
E = Estimated value; Value exceeds calibration level of instrument.
H = Analyte was prepared and/or analyzed outside of the analytical method holding time
I = Matrix Interference.
J = Analyte concentration detected between RL and MDL.
Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
S = Customer provided specification limit exceeded.

ABBREVIATIONS

DF = Dilution Factor
RL = Reporting Limit, Adjusted by DF
MDL = Method Detection Limit, Adjusted by DF
Qual = Qualifier
Tech = Technician

As regulatory limits change frequently, A & R Laboratories advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Marilu Escher, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at arlab@arlaboratories.com.



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	2122

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QUALITY CONTROL DATA REPORT

LEIGHTON & ASSOCIATES
RANCHO CUCAMONGA, CA 91730

1411-00026

Date Reported 11/20/2014
Date Received 11/10/2014
Date Sampled 11/10/2014
Invoice No. 72546
Customer # 2155
Customer P.O. 10815.003

Project: CLOVERDALE METHANE SURVEY

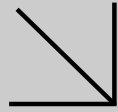
Method #	EPA 8015B		
QC Reference #	45051	Date Analyzed: 11/10/2014	Technician: KZ
Samples	001 002		
Results			Control Ranges
	LCS %REC	LCS %DUP	LCS %RPD
Methane	86	90	5
			LCS %REC
			LCS %RPD
			70 - 130
			0 - 25

No method blank results were above reporting limit

Respectfully Submitted:

Ken Zheng - President

For any feedback concerning our services, please contact Marilu Escher, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at arlab@arlaboratories.com.



WORK ORDER NUMBER: 14-11-0719

The difference is service



AIR | SOIL | WATER | MARINE CHEMISTRY

Analytical Report For

Client: A&R Laboratories, Inc.

Client Project Name: Cloverdale Methane Survey / 1411-00026

Attention: Jennifer Iniguez
1650-C South Grove Avenue
Ontario, CA 91761-4018

A handwritten signature in black ink, appearing to read "S. Nowak".

Approved for release on 11/19/2014 by:
Stephen Nowak
Project Manager

ResultLink ▶

Email your PM ▶



Eurofins Calscience, Inc. (Calscience) certifies that the test results provided in this report meet all NELAC requirements for parameters for which accreditation is required or available. Any exceptions to NELAC requirements are noted in the case narrative. The original report of subcontracted analyses, if any, is attached to this report. The results in this report are limited to the sample(s) tested and any reproduction thereof must be made in its entirety. The client or recipient of this report is specifically prohibited from making material changes to said report and, to the extent that such changes are made, Calscience is not responsible, legally or otherwise. The client or recipient agrees to indemnify Calscience for any defense to any litigation which may arise.

Contents

Client Project Name: Cloverdale Methane Survey / 1411-00026
Work Order Number: 14-11-0719

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Condition Upon Receipt:

Samples were received under Chain-of-Custody (COC) on 11/10/14. They were assigned to Work Order 14-11-0719.

Unless otherwise noted on the Sample Receiving forms all samples were received in good condition and within the recommended EPA temperature criteria for the methods noted on the COC. The COC and Sample Receiving Documents are integral elements of the analytical report and are presented at the back of the report.

Holding Times:

All samples were analyzed within prescribed holding times (HT) and/or in accordance with the Calscience Sample Acceptance Policy unless otherwise noted in the analytical report and/or comprehensive case narrative, if required.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

Quality Control:

All quality control parameters (QC) were within established control limits except where noted in the QC summary forms or described further within this report.

Additional Comments:

Air - Sorbent-extracted air methods (EPA TO-4A, EPA TO-10, EPA TO-13A, EPA TO-17): Analytical results are converted from mass/sample basis to mass/volume basis using client-supplied air volumes.

New York NELAP air certification does not certify for all reported methods and analytes, reference the accredited items here: http://www.calscience.com/PDF/New_York.pdf

Solid - Unless otherwise indicated, solid sample data is reported on a wet weight basis, not corrected for % moisture. All QC results are always reported on a wet weight basis.

Subcontractor Information:

Unless otherwise noted below (or on the subcontract form), no samples were subcontracted.

Sample Summary

Client: A&R Laboratories, Inc. 1650-C South Grove Avenue Ontario, CA 91761-4018	Work Order: 14-11-0719 Project Name: Cloverdale Methane Survey / 1411-00026 PO Number: Date/Time Received: 11/10/14 12:34 Number of Containers: 2
Attn: Jennifer Iniguez	

Sample Identification	Lab Number	Collection Date and Time	Number of Containers	Matrix
SGP-10-10	14-11-0719-1	11/10/14 07:58	1	Air
SGP-6-12	14-11-0719-2	11/10/14 08:15	1	Air

Detections Summary

Client: A&R Laboratories, Inc. 1650-C South Grove Avenue Ontario, CA 91761-4018	Work Order: 14-11-0719 Project Name: Cloverdale Methane Survey / 1411-00026 Received: 11/10/14
---	--

Attn: Jennifer Iniguez

Page 1 of 1

Client SampleID

<u>Analyte</u>	<u>Result</u>	<u>Qualifiers</u>	<u>RL</u>	<u>Units</u>	<u>Method</u>	<u>Extraction</u>
SGP-6-12 (14-11-0719-2) Hydrogen Sulfide	11		1.0	ppm (v/v)	EPA 16	N/A

Subcontracted analyses, if any, are not included in this summary.

Analytical Report

A&R Laboratories, Inc.
1650-C South Grove Avenue
Ontario, CA 91761-4018

Date Received: 11/10/14
Work Order: 14-11-0719
Preparation: N/A
Method: EPA 16
Units: ppm (v/v)

Project: Cloverdale Methane Survey / 1411-00026

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Client Sample Number	Lab Sample Number	Date/Time Collected	Matrix	Instrument	Date Prepared	Date/Time Analyzed	QC Batch ID
SGP-10-10	14-11-0719-1-A	11/10/14 07:58	Air	GC 54	N/A	11/10/14 14:43	141110L01
<u>Parameter</u>		<u>Result</u>		<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>
Hydrogen Sulfide		ND		1.0		1.00	
SGP-6-12	14-11-0719-2-A	11/10/14 08:15	Air	GC 54	N/A	11/10/14 15:53	141110L01
<u>Parameter</u>		<u>Result</u>		<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>
Hydrogen Sulfide		11		1.0		1.00	
Method Blank	099-12-166-821	N/A	Air	GC 54	N/A	11/10/14 14:39	141110L01
<u>Parameter</u>		<u>Result</u>		<u>RL</u>		<u>DF</u>	<u>Qualifiers</u>
Hydrogen Sulfide		ND		1.0		1.00	

Return to Contents

RL: Reporting Limit. DF: Dilution Factor. MDL: Method Detection Limit.



Calscience

Quality Control - Sample Duplicate

A&R Laboratories, Inc.
1650-C South Grove Avenue
Ontario, CA 91761-4018

Date Received: 11/10/14
Work Order: 14-11-0719
Preparation: N/A
Method: EPA 16

Project: Cloverdale Methane Survey / 1411-00026

Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	Duplicate Batch Number
SGP-6-12	Sample	Air	GC 54	N/A	11/10/14 15:53	141110D01
SGP-6-12	Sample Duplicate	Air	GC 54	N/A	11/10/14 14:56	141110D01
<u>Parameter</u>		<u>Sample Conc.</u>	<u>DUP Conc.</u>	<u>RPD</u>	<u>RPD CL</u>	<u>Qualifiers</u>
Hydrogen Sulfide		11.16	11.29	1	0-20	

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RPD: Relative Percent Difference. CL: Control Limits

Quality Control - LCS

A&R Laboratories, Inc.
1650-C South Grove Avenue
Ontario, CA 91761-4018

Date Received: 11/10/14
Work Order: 14-11-0719
Preparation: N/A
Method: EPA 16

Project: Cloverdale Methane Survey / 1411-00026

Page 1 of 1

Quality Control Sample ID	Type	Matrix	Instrument	Date Prepared	Date Analyzed	LCS Batch Number
099-12-166-821	LCS	Air	GC 54	N/A	11/10/14 14:34	141110L01

<u>Parameter</u>	<u>Spike Added</u>	<u>Conc. Recovered</u>	<u>LCS %Rec.</u>	<u>%Rec. CL</u>	<u>Qualifiers</u>
Hydrogen Sulfide	5.080	5.887	116	80-120	

Sample Analysis Summary Report

Work Order: 14-11-0719

Page 1 of 1

<u>Method</u>	<u>Extraction</u>	<u>Chemist ID</u>	<u>Instrument</u>	<u>Analytical Location</u>
EPA 16	N/A	930	GC 54	2


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Glossary of Terms and Qualifiers

Work Order: 14-11-0719

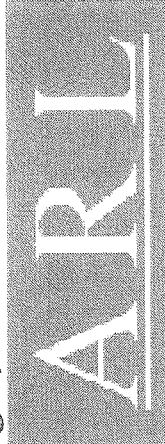
Page 1 of 1

<u>Qualifiers</u>	<u>Definition</u>
*	See applicable analysis comment.
<	Less than the indicated value.
>	Greater than the indicated value.
1	Surrogate compound recovery was out of control due to a required sample dilution. Therefore, the sample data was reported without further clarification.
2	Surrogate compound recovery was out of control due to matrix interference. The associated method blank surrogate spike compound was in control and, therefore, the sample data was reported without further clarification.
3	Recovery of the Matrix Spike (MS) or Matrix Spike Duplicate (MSD) compound was out of control due to suspected matrix interference. The associated LCS recovery was in control.
4	The MS/MSD RPD was out of control due to suspected matrix interference.
5	The PDS/PDSO or PES/PESO associated with this batch of samples was out of control due to suspected matrix interference.
6	Surrogate recovery below the acceptance limit.
7	Surrogate recovery above the acceptance limit.
B	Analyte was present in the associated method blank.
BU	Sample analyzed after holding time expired.
BV	Sample received after holding time expired.
E	Concentration exceeds the calibration range.
ET	Sample was extracted past end of recommended max. holding time.
HD	The chromatographic pattern was inconsistent with the profile of the reference fuel standard.
HDH	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but heavier hydrocarbons were also present (or detected).
HDL	The sample chromatographic pattern for TPH matches the chromatographic pattern of the specified standard but lighter hydrocarbons were also present (or detected).
J	Analyte was detected at a concentration below the reporting limit and above the laboratory method detection limit. Reported value is estimated.
JA	Analyte positively identified but quantitation is an estimate.
ME	LCS Recovery Percentage is within Marginal Exceedance (ME) Control Limit range (+/- 4 SD from the mean).
ND	Parameter not detected at the indicated reporting limit.
Q	Spike recovery and RPD control limits do not apply resulting from the parameter concentration in the sample exceeding the spike concentration by a factor of four or greater.
SG	The sample extract was subjected to Silica Gel treatment prior to analysis.
X	% Recovery and/or RPD out-of-range.
Z	Analyte presence was not confirmed by second column or GC/MS analysis.

Any parameter identified in 40CFR Part 136.3 Table II that is designated as "analyze immediately" with a holding time of ≤ 15 minutes (40CFR-136.3 Table II, footnote 4), is considered a "field" test and the reported results will be qualified as being received outside of the stated holding time unless received at the laboratory within 15 minutes of the collection time.

A calculated total result (Example: Total Pesticides) is the summation of each component concentration and/or, if "J" flags are reported, estimated concentration. Component concentrations showing not detected (ND) are summed into the calculated total result as zero concentrations.

CEL



A & R Laboratories
 1650-C S. Grove Avenue
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 office@arlaboratories.com

Chain of Custody Record
14-11-0719

A & R Work Order #: **1411-00026**

Page 1 of 1

Project No: 1411-00026		Project Name: Cloverdale Methane Survey		Turn Around <input type="radio"/> 24hr RUSH* <input type="radio"/> 48hr RUSH* <input checked="" type="radio"/> Normal <input type="radio"/> Other _____														
Project Manager: Jennifer Iniguez		Phone: 951-779-0310		Fax: 951-779-0344														
Customer Name: (Report and Billing) A & R Laboratories		Street Address: (Report and Billing) 1650-C S. Grove Ave.		Special Instructions *PRIOR approval, additional fee, work received after 4 pm will be processed next work day.														
Email: jennifer.iniguez@arlaboratories.com		City, State Zip Ontario, CA 91761		Special Instructions														
Lab #	Sample ID (As it should appear on report)	Grab/Comp	Date sampled	Time sampled	Sample matrix	Container # & Type	Micro: Plate Cnt, Coliform, E-Coli	Chem: BOD, TSS, VSS, TDS, pH, EC	Chem: Cyanide, Ammonia, TKN, Oil & Greas	IC: Br, SO4, PO4, NO3, NO2, Cl	Metals: Title 22 (CAM) or RCRA	LUFT Gas or 8015 GRO or C4-C12	LUFT Diesel or 8015 DRO or C13-C40	VOCs by GCMS: 8260 or 624	VOCs by GCMS: BTEX, OXYS	SVOCs: 8270 or 625	Analyses Requested (circle appropriate)	
1	SGP-10-10		11/10/2014	7:58	Vapor	1-Tedlar Bag	Preserved											
2	SGP-6-12			8:15														X
																		X
1) Relinquished by: (Sampler's Signature) <i>[Signature]</i>		Date: 11/10/14		3) Relinquished by:		Date:		5) Relinquished by:		Date:		6) Received for Laboratory by:		Date:		Disposal <input type="radio"/> Return <input checked="" type="radio"/> Lab Disposal Unless other arrangements are made samples will be disposed of 60 days after receipt.		
2) Received by: <i>[Signature]</i>		Date: 11/10/14		4) Received by:		Date:		6) Received for Laboratory by: <i>[Signature]</i>		Date: 11/10/14		Time: 12:34		Report Delivery Formats <input type="checkbox"/> Paper <input checked="" type="checkbox"/> EMAIL <input type="checkbox"/> XLS <input type="checkbox"/> EDD, Type _____ <input type="checkbox"/> EDF, EPA Site ID _____				

Laboratory Notes: **please cc: richard.acaylar@arlaboratories.com**

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The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.



Calscience

WORK ORDER #: 14-11-0719

SAMPLE RECEIPT FORM

Cooler 0 of 0

CLIENT: ARL

DATE: 11/10/14

TEMPERATURE: Thermometer ID: SC2 (Criteria: 0.0°C – 6.0°C, not frozen except sediment/tissue)

Temperature _____ °C - 0.2°C (CF) = _____ °C Blank Sample

Sample(s) outside temperature criteria (PM/APM contacted by: _____)

Sample(s) outside temperature criteria but received on ice/chilled on same day of sampling.

Received at ambient temperature, placed on ice for transport by Courier.

Ambient Temperature: Air Filter

Checked by: 689

CUSTODY SEALS INTACT:

Cooler _____ No (Not Intact) Not Present N/A Checked by: 689

Sample _____ No (Not Intact) Not Present Checked by: 689

SAMPLE CONDITION:	Yes	No	N/A
Chain-Of-Custody (COC) document(s) received with samples.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC document(s) received complete.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Collection date/time, matrix, and/or # of containers logged in based on sample labels.			
<input type="checkbox"/> No analysis requested. <input type="checkbox"/> Not relinquished. <input type="checkbox"/> No date/time relinquished.			
Sampler's name indicated on COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container label(s) consistent with COC.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Sample container(s) intact and good condition.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Proper containers and sufficient volume for analyses requested.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Analyses received within holding time.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Aqueous samples received within 15-minute holding time			
<input type="checkbox"/> pH <input type="checkbox"/> Residual Chlorine <input type="checkbox"/> Dissolved Sulfides <input type="checkbox"/> Dissolved Oxygen..... <input type="checkbox"/>			
Proper preservation noted on COC or sample container.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> Unpreserved vials received for Volatiles analysis			
Volatile analysis container(s) free of headspace.....	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Tedlar bag(s) free of condensation.....	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
CONTAINER TYPE:			
Solid: <input type="checkbox"/> 4ozCGJ <input type="checkbox"/> 8ozCGJ <input type="checkbox"/> 16ozCGJ <input type="checkbox"/> Sleeve (____) <input type="checkbox"/> EnCores® <input type="checkbox"/> TerraCores® <input type="checkbox"/> _____			
Aqueous: <input type="checkbox"/> VOA <input type="checkbox"/> VOAh <input type="checkbox"/> VOAna ₂ <input type="checkbox"/> 125AGB <input type="checkbox"/> 125AGBh <input type="checkbox"/> 125AGBp <input type="checkbox"/> 1AGB <input type="checkbox"/> 1AGBna ₂ <input type="checkbox"/> 1AGBs			
<input type="checkbox"/> 500AGB <input type="checkbox"/> 500AGJ <input type="checkbox"/> 500AGJs <input type="checkbox"/> 250AGB <input type="checkbox"/> 250CGB <input type="checkbox"/> 250CGBs <input type="checkbox"/> 1PB <input type="checkbox"/> 1PBna <input type="checkbox"/> 500PB			
<input type="checkbox"/> 250PB <input type="checkbox"/> 250PBn <input type="checkbox"/> 125PB <input type="checkbox"/> 125PBzanna <input type="checkbox"/> 100PJ <input type="checkbox"/> 100PJna ₂ <input type="checkbox"/> _____ <input type="checkbox"/> _____ <input type="checkbox"/> _____			
Air: <input checked="" type="checkbox"/> Tedlar® <input type="checkbox"/> Canister Other: <input type="checkbox"/> _____ Trip Blank Lot#: _____ Labeled/Checked by: <u>619</u>			
Container: C: Clear A: Amber P: Plastic G: Glass J: Jar B: Bottle Z: Ziploc/Resealable Bag E: Envelope Reviewed by: <u>862</u>			
Preservative: h: HCL n: HNO ₃ na ₂ : Na ₂ S ₂ O ₃ na: NaOH p: H ₃ PO ₄ s: H ₂ SO ₄ u: Ultra-pure zanna: ZnAc ₂ +NaOH f: Filtered Scanned by: <u>862</u>			

Return to Contents

Chain of Custody Record

AR LABORATORIES, Inc.

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 Ontario, CA 91761
 Voice: 951.779.0310 • 800.798.9336
 Fax: 951.779.0344

www.arlaboratories.com info@arlaboratories.com

Project No: 10815.003		Project Name: Cloverdale Methane Survey		8015M: Diesel, Fuel Screen, Carbon Chain	
Project Manager: Richard Orr		Phone: (909) 484-2205		8015M: Gas only	
Client Name: Leighton and Associates 10532 Archer St Rancho Cucamonga, CA 91730		Fax: (909) 454-2170		8021B: BTEX/MIBE Only	
Address: 10532 Archer St Rancho Cucamonga, CA 91730		Address: 10532 Archer St Rancho Cucamonga, CA 91730		418.1 (TRPH), 413.2, 1664	
Sample ID (As it should appear on report)		Time sampled		GC or GCMS Volatiles by 5035*	
Date sampled		Sample matrix		GCMS: 8260B, 8021B, 624, 524.2	
Centrum ID (Lab use only)		Site location		GCMS: MIBE Conf. Only, BTEX/Oxygenates Only	
1 SGP-10-10		1 yellow		8080: Pesticides, PCBs, PestPCB	
2 SGP-10-12		1		Metals: Title 22 (CAM), RCRA, PP	
				PH, TDS, TSS, Conductivity	
				Flashpoint, Hex Cr	
				Turn-Around Time	
				<input type="checkbox"/> 24 Hr. RUSH* <input type="checkbox"/> 48 Hr. RUSH* <input checked="" type="checkbox"/> Normal TAT	
				* Requires PRIOR approval, additional charges apply	
				Requested due date: _____	
				Remarks/Special Instructions	

Please Circle Analyses Requested		To be completed by Laboratory personnel:	
8015M: Diesel, Fuel Screen, Carbon Chain	<input checked="" type="checkbox"/>	Samples chilled? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	<input type="checkbox"/> From Field
8021B: BTEX/MIBE Only	<input checked="" type="checkbox"/>	Custody seals? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
418.1 (TRPH), 413.2, 1664	<input checked="" type="checkbox"/>	All sample containers intact? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
GC or GCMS Volatiles by 5035*	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Courier <input type="checkbox"/> UPS/Fed Ex <input type="checkbox"/> Hand carried	
GCMS: 8260B, 8021B, 624, 524.2	<input type="checkbox"/>		
GCMS: MIBE Conf. Only, BTEX/Oxygenates Only	<input type="checkbox"/>		
8080: Pesticides, PCBs, PestPCB	<input type="checkbox"/>		
Metals: Title 22 (CAM), RCRA, PP	<input type="checkbox"/>		
PH, TDS, TSS, Conductivity	<input type="checkbox"/>		
Flashpoint, Hex Cr	<input type="checkbox"/>		

1) Relinquished by: (Sampler's Signature)	Date: 11/10/14	Time: 9:38	3) Relinquished by:	Date: 11/10	Time: 10:07
2) Received by:	Date: 11/10/14	Time: 9:38	4) Received by:	Date: 11/10/14	Time: 10:07
			5) Relinquished by:	Date: 11/10/14	Time: 10:07
			6) Received for Laboratory by:	Date: 11/10/14	Time: 10:07

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

Laboratory Notes:



A & R Laboratories

Formerly Microbac Southern California

1650 S. GROVE AVE., SUITE C
ONTARIO, CA 91761

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FAX 951-779-0344

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FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

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FOOD · COSMETICS · WATER · SOIL · SOIL VAPOR · WASTES

CASE NARRATIVE

Authorized Signature Name / Title (print)

Ken Zheng, President

Signature / Date

Ken Zheng

Ken Zheng, President
11/19/2014 11:05:33

Laboratory Job No. (Certificate of Analysis No.)

1411-00050

Project Name / No.

NEC LIMONITE AVE. & SUMNER AVE., EASTVALE, CA
10815.003

Dates Sampled (from/to)

11/17/14 To 11/17/14

Dates Received (from/to)

11/17/14 To 11/17/14

Dates Reported (from/to)

11/19/14 To 11/19/2014

Chains of Custody Received

Yes

Comments:

Subcontracting

Organic Analyses

No analyses sub-contracted

Sample Condition(s)

All samples intact

Positive Results (Organic Compounds)

Sample	Analyte	Result	Qual	Units	RL	Result	Qual	Units	RL
SGP-12-10	Methane	7400		ppmv	15				



A & R Laboratories

Formerly Microbac Southern California

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FDA#	2030513
LA City#	10261
ELAP#s	2789
	2790
	2122

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CERTIFICATE OF ANALYSIS

1411-00050

LEIGHTON & ASSOCIATES
RICHARD L. ORR
 10532 ACACIA STREET, SUITE B-6
 RANCHO CUCAMONGA, CA 91730

Date Reported 11/19/14
 Date Received 11/17/14
 Invoice No. 72543
 Cust # 2155
 Permit Number
 Customer P.O. 10815.003

Project: NEC LIMONITE AVE. & SUMNER AVE., EASTVALE, CA

Analysis	Result	Qual	Units	Method	DF	RL	Date	Tech
Sample: 001 SGP-12-10							Date & Time Sampled: 11/17/14 @ 15:30	
Sample Matrix: Soil Vapor								
Methane	7400		ppmv	EPA 8015B	1	15	11/18/14	JEN

Respectfully Submitted:

Ken Zheng - Lab Director

QUALIFIERS

- B = Detected in the associated Method Blank at a concentration above the routine RL.
- B1 = BOD dilution water is over specifications . The reported result may be biased high.
- D = Surrogate recoveries are not calculated due to sample dilution.
- E = Estimated value; Value exceeds calibration level of instrument.
- H = Analyte was prepared and/or analyzed outside of the analytical method holding time
- I = Matrix Interference.
- J = Analyte concentration detected between RL and MDL.
- Q = One or more quality control criteria did not meet specifications. See Comments for further explanation.
- S = Customer provided specification limit exceeded.

ABBREVIATIONS

- DF = Dilution Factor
- RL = Reporting Limit, Adjusted by DF
- MDL = Method Detection Limit, Adjusted by DF
- Qual = Qualifier
- Tech = Technician

As regulatory limits change frequently, A & R Laboratories advises the recipient of this report to confirm such limits with the appropriate federal, state, or local authorities before acting in reliance on the regulatory limits provided.

For any feedback concerning our services, please contact Marilu Escher, Project Manager at 951.779.0310. You may also contact Ken Zheng, President at arlab@arlaboratories.com.



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QUALITY CONTROL DATA REPORT

LEIGHTON & ASSOCIATES
 RANCHO CUCAMONGA, CA 91730

1411-00050

Date Reported 11/19/2014
 Date Received 11/17/2014
 Date Sampled 11/17/2014
 Invoice No. 72543
 Customer # 2155
 Customer P.O. 10815.003

Project: NEC LIMONITE AVE. & SUMNER AVE.,
 EASTVALE, CA

Method # EPA 8015B

QC Reference # 45138 Date Analyzed: 11/18/2014 Technician: JEN

Samples 001

Results

LCS %REC LCS %DUP LCS %RPD

Methane 92 90 2

Control Ranges

LCS %REC LCS %RPD

70 - 130 0 - 25

No method blank results were above reporting limit

Respectfully Submitted:

Ken Zheng - President

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