October 26, 2017

Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Attention: Mark Detterman

Subject: Report of Soil Gas Sampling Activities
3800 San Pablo Avenue, Emeryville, California
ACEH RO# 00003237; Global ID: T10000010062

Ladies and Gentlemen:

Attached please find a copy of the *Report of Soil Gas Sampling Activities*, prepared by Gribi Associates. I have read and acknowledge the content, recommendations and/or conclusions contained in the attached document or report submitted on my behalf to ACDEH's FTP server and the SWRCB's GeoTracker website.

Very truly yours,

Kevin Brown
3800 San Pablo LLC
1201 Pine Street, #151
Oakland, CA 94507

GRIBI
ASSOCIATES

October 26, 2017

Alameda County Department of
Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Attention: Mr. Mark Detterman

Subject: Report of Soil Gas Sampling Activities
3800 San Pablo Avenue, Emeryville, California
ACEH Fuel Leak Case RO# 00003237; Global ID: T10000010062

Ladies and Gentlemen:

Gribi Associates is pleased to submit this letter report documenting the installation and sampling of two temporary soil gas wells on behalf of the site owners for the property located at 3800 San Pablo Avenue in Emeryville, California (Site) (see Figure 1 and Figure 2).

1.0 INTRODUCTION

1.1 General Site Description

According to the USGS Oakland, West, California 7.5-Minute Quadrangle Map, the Site lies on a gently southwest-sloping plain approximately one mile east from San Francisco Bay. The elevation at the Site is approximately 40 feet above mean sea level. Based on site topography and location, we would expect groundwater flow in the site area to generally be to the west towards San Francisco Bay.

Subsurface soils at the site and in the site area generally consist of clays, with occasional thin, discontinuous silts, sands, and gravels. Groundwater at the site is generally encountered at depths below 15 feet below surface grade, held under confining pressure.

1.2 Site Background

In April 2012, a 1,000-gallon UST was discovered in the West MacArthur Boulevard sidewalk on the south side of the Site ("MacArthur Boulevard UST") (see Figure 3). A date stamp in the overlying concrete sidewalk indicated that this UST may have pre-dated the mid-1930s. This

UST was removed on August 9, 2012. The tank showed no evidence of leakage, and soils beneath the removed UST exhibited slight to occasionally moderate hydrocarbon odors. Laboratory analytical results from sidewall and pit bottom soil samples showed no significant hydrocarbon detections (see Table 1). The only hydrocarbon detection in any of the samples was 0.520 milligrams per kilogram (mg/kg) (detection level = 0.500 mg/kg) of Total Petroleum Hydrocarbons as Gasoline (TPH-G) in the north sidewall soil sample. Subsequent soil gas sampling in SG-4, located immediately north from the former UST, showed elevated concentrations of TPH-G and methane.

During soil gas and sub-slab vapor sampling in 2014 and 2015, elevated concentrations of methane were encountered in soil gas well SG-4 and sub-slab vapor well SS-7, located adjacent to the former MacArthur Boulevard UST. Methane concentrations in these vapor wells ranged from 0.0121 percent (%) to 43 %.

On September 25, 2015, AEI Consultants excavated soil immediately north of the MacArthur Boulevard UST, between the UST excavation cavity and the Site building (see Figure 3). The goal of the soil removal activities was to attempt to mitigate continued generation of methane vapor concentrations present in shallow soils in the vicinity of soil gas well SG-4 and SS-7. The excavation extended south from the Site building footing to the former UST excavation cavity and measured approximately 15 feet by 6 feet by 9.5 feet in depth. Soils from the excavation generally consisted of dense brown to olive grey clays. Soils exhibited no unusual staining and no hydrocarbon odors. The pit bottom and sidewall samples showed no detectable concentrations of TPH-G/BTEX, TPH-D, and TOG. Upon completion, the excavation cavity was backfilled with clean imported fill and re-surfaced with concrete.

In April 2016, an area measuring approximately 12 feet by 6 feet was excavated inside the Site building in the area of SG-4, immediately north from the former MacArthur Boulevard UST excavation and September 2015 excavation (see Figure 3). The area was excavated to a maximum depth of approximately 10 feet below surface grade. Soils encountered during excavation activities generally consisted of 1 to 2 feet of base rock and gravel, followed by dark grey to black clayey silt (Bay Mud) to 5 feet in depth, and then by olive grey to brown silt and silty clay to 10 feet, the total excavation depth. Very slight hydrocarbon odors were noted in soils from 8 to 10 feet in depth. Groundwater did not enter the excavation cavity. In total, approximately 41 tons of excavated soil was profiled and transported to Keller Canyon Landfill for disposal. Upon completion, the excavation cavity was backfilled with clean imported fill and left unpaved.

2.0 DESCRIPTION OF FIELD ACTIVITIES

On September 29, 2017, Gribi Associates installed and sampled two temporary soil gas wells, VS-1 and VS-2, at the Site. All vapor sampling activities were conducted in accordance with

Guidance for the Evaluation and Mitigation of Subsurface Vapor Intrusion to Indoor Air (DTSC, Final, October 2011) and *Advisory - Active Soil Vapor Investigations* (DTSC, July 2015).

2.1 Location of Soil Gas Samples

Locations of the two soil gas samples, VS-1 and VS-2, are shown on Figure 3. VS-1 was located in the concrete-paved West MacArthur Boulevard sidewalk immediately adjacent to the Site building, in the approximate location of former sub-slab vapor well SS-7. VS-2 was located in the within the former April 2016 backfilled excavation area inside the southwest corner of the Site building, in the approximate location of former soil gas well SG-4.

2.2 Installation and Sampling of Temporary Soil Gas Wells

On September 27, 2017, two soil gas wells (VS-1 and VS-2) were installed and sampled as follows:

- Soil gas sampling was not to be collected within 72 hours following a significant (>0.5 inches rain) precipitation event.

- An electric hand drill was used to drill a 1.5-inch diameter hole to approximately 18-inchs in depth.

- Approximately 2-inches of filter sand was placed at the bottom of the hole, and a vapor sampling diffuser connected to 1/4-inch diameter Teflon tubing was placed at the bottom of the hole. Approximately 4-inches of sand was then added to fully cover the diffuser to a depth of approximately 12 inches. Approximately 2-inches of dry, granular bentonite was then placed above the sand followed by wet, pourable/pliable bentonite to the surface.

- A "T" valve was placed in line at the ground surface to allow for system purging and for pressure testing of the above ground portion of the sampling train. The sampling tubing was attached to a 200-milliliter (ml) per minute maximum flow controller, then a one liter laboratory-supplied Summa Canister™ (evacuated to 29 inches mercury vacuum) with vacuum pressure valve.

- In order to ensure sample train integrity, the above-ground portion of the sample train was pressure tested using a separate Summa Canister. Pressure was maintained on the sample train for at least five minutes.

- Prior to and during sampling, the entire probe and sampling train was then placed under a shroud and a leak test was conducted. Helium from a compressed gas cylinder was

pumped into the shroud, and the helium concentration inside the shroud was maintained at approximately 10,000 ppmV (the detection level for the ASTM Method D-1946 is 100 ppmV). Helium monitoring was conducted using a Mark Radiodetection MGD-2002 helium detector with internal pump (or equivalent). For the sampling train leak test, the helium monitor was attached to the purge tube and the T-valve opened. No positive readings of helium were detected, thus indicating no leaks in the sampling train prior to sampling.

- After allowing the soil gas sampling wells to equilibrate for a minimum of two hour, the wells were purged of approximately three purge volumes using a dedicated Summa Canister.

- Following purging, the soil gas sample was collected by opening the sampling Summa Canister and allowing the soil gas to fill the canister until the vacuum pressure in the canister reaches approximately 20 percent of initial (approximately 5 to 6 inches mercury). A flow controller (200 ml per minute or less) was placed inline on the Summa Canister to ensure the canister filled fill slowly so that a representative soil gas sample would be obtained. Prior to, at start time and during sampling, periodic vacuum measurements were recorded on a field data sheet, and initial and final vacuum pressures were noted on chain-of-custody records.

2.3 Laboratory Analysis of Soil Gas Samples

Two vapor samples were analyzed for the following parameters with appropriate detection levels which were below regulatory environmental screening levels (ESLs).

- USEPA TO-3/TO-14M Total Petroleum Hydrocarbons as Gasoline
- USEPA TO-15 Volatile Organic Compounds
- ASTM D1946-90 Oxygen, Carbon Dioxide, Helium

All analyses were conducted by McCampbell Analytical, a California-certified analytical laboratory, with standard turnaround on results.

3.0 RESULTS OF INVESTIGATION

Soil gas laboratory analytical results are summarized in Table 1 and on Figure 3. The laboratory data reports are provided as Attachment A.

The soil gas sample from VS-1 showed 1,200 micrograms per cubic meter (µg/m^3) of TPH-G, nondetectable benzene, 2.8 µg/m^3 of toluene, and nondetectable ethylbenzene and total xylenes. This sample also showed 0.016 % of methane and 14 % of oxygen.

The soil gas sample from VS-2 showed 200,000 µg/m^3 of TPH-G, 75 µg/m^3 of benzene, 73 µg/m^3 of toluene, 63 µg/m^3 of ethylbenzene, and 180 µg/m^3 of total xylenes. This sample also showed 0.00022 % of methane and 14 % of oxygen.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Whereas vapor samples from previous soil gas/sub-slab vapor wells at SS-7 and SG-4 showed elevated methane concentrations, samples VS-1 and VS-2 from this investigation showed very low concentrations of methane. In addition, both vapor samples showed relatively high levels of oxygen. Based on these results, it appears that soil removal actions in the former UST area in September 2015 and April 2016 were effective in mitigating methane impacts in shallow soil gas beneath the Site. Further, since oxygen degrades methane to carbon dioxide, the presence of high levels of oxygen in shallow soil vapors in these areas will act as a reactive barrier against upward methane migration, in the event that biogenic methane is ever generated in the future.

Based on these results and conclusions, we recommend that the previously-proposed and approved sub-slab depressurization system (SSDS) not be required for this Site.

We appreciate this opportunity to provide this report for your review. Please contact us if there are questions or if additional information is required.

Very truly yours,

Matthew A. Rosman
Project Engineer

James E. Gribi
Professional Geologist
California No. 5843

c: Mr. Bill Banker
Mr. Tom Graf, GrafCon

TABLES

Table 1
CUMULATIVE SOIL GAS LABORATORY ANALYTICAL RESULTS
Former Maz Glass UST Site

Sample ID	Date	Sample Depth	TPH-D (ug/m^3)	TPH-G (ug/m^3)	B (ug/m^3)	T (ug/m^3)	E (ug/m^3)	X (ug/m^3)	Other (ug/m^3)	Methane (%)	CO_2 (%)	N (%)	O_2 (%)	Helium (%)
SOIL GAS SAMPLES														
SG-1	8/28/2014	5.5 ft	NA	<7,170	<3.3	<3.8	<4.4	<8.8	Heptane = **5.1**	<0.00081	<1.62	**62.1**	**14.2**	<1.62
	12/7/2014	Sucked water; did not sample												
	1/29/2015	Sucked water; did not sample												
SG-2	9/15/2014	5.5 ft	NA	**7,600**	<3.3	<3.8	<4.4	<8.8	Cyclohexane = **310** Heptane = **46** Hexane = **1,000** 1,3,5-TMB = **56**	**0.017**	**3.87**	**51.0**	**13.2**	<1.57
	9/25/2014	5.5 ft	NA	<7,170	<160	<190	<220	<220	Cyclohexane = **1,900** Hexane = **1,000**	**0.0077**	**5.3**	**58.3**	**2.01**	0.00
	12/7/2014	Sucked water; did not sample												
	1/29/2015		NA	<7,170	<3.3	<3.8	<4.4	<8.8	Cyclohexane = **53** Heptane = **14** Hexane = **42** TCE = **16**	**0.0493**	<1.75	**59.2**	**2.11**	0.00
SG-3	8/28/2014	5.5 ft	NA	<7,170	<3.3	<3.8	<4.4	<8.8	All ND	<0.00076	<1.51	**49.7**	**16.6**	<1.51
	12/7/2014	Did not attempt to sample due to shallow groundwater depths												
	1/29/2015	Sucked water; did not sample												
SG-4	8/28/2014	5.5 ft	NA	<7,170	<3.3	<3.8	<4.4	<8.8	1,2,4-TMB = **13**	**0.024**	<1.54	**52.3**	**5.87**	<1.54
	12/7/2014	Did not attempt to sample due to shallow groundwater depths												
	1/29/2015		NA	**440,000**	<160	<190	<220	<220	Cyclohexane = **52,000** Heptane = **9,800** Hexane = **26,000**	**0.0121**	**6.49**	**64.5**	<1.72	0.00
	3/11/2015		**120,000 (A)**	**420,000**	<160	<190	<220	<220	Cyclohexane = **35,000** Heptane = **150,000** Hexane = **9,700**	**38**	**8.01**	**68.5**	**2.08**	0.00
(Dup)	3/11/2015		NA	**485,000**	<160	<190	<220	<220	Cyclohexane = **48,000** Heptane = **37,000** Hexane = **20,000**	**43**	**8.64**	**70.9**	<1.72	0.00

Table 1
CUMULATIVE SOIL GAS LABORATORY ANALYTICAL RESULTS
Former Maz Glass UST Site

Sample ID	Date	Sample Depth	TPH-D (ug/m^3)	TPH-G (ug/m^3)	B (ug/m^3)	T (ug/m^3)	E (ug/m^3)	X (ug/m^3)	Other (ug/m^3)	Methane (%)	CO_2 (%)	N (%)	O_2 (%)	Helium (%)
	3/18/2015		NA	NA	<10,000	<10,000	<10,000	<10,000	All ND	**26**	**14.0**	NA	**0.93**	0.00
	10/13/2015		NA	**174,000**	<3.3	<3.8	<4.4	<8.8	All ND	**1.3**	NA	NA	NA	NA
(Dup)	10/13/2015		NA	**201,000**	<3.3	<3.8	<4.4	<8.8	All ND	**1.5**	NA	NA	NA	NA
	11/18/2015		NA	**576,000**	<160	<190	<220	<220	All ND	**0.34**	**3.84**	**80.6**	<1.0	<5.0
SG-5	8/28/2014	5.5 ft	NA	<7,170	**1,700**	**5,600**	**1,200**	**4,570**	All ND	**0.015**	<1.53	**49.7**	**12.5**	<1.53
	9/25/2014		NA	<7,170	<3.3	<3.8	<4.4	<8.8	All ND	**0.0018**	**2.01**	**54.7**	**9.28**	0.00
(Dup)	9/25/2014		NA	<7,170	<3.3	<3.8	<4.4	<8.9	All ND	<0.00079	**2.01**	**53.5**	**10.8**	0.00
	12/7/2014	Sucked water; did not sample												
	1/29/2015		NA	<7,170	<3.3	<3.8	<4.4	<8.8	Tetrahydrofuran = **47** Tetrachloroethene = **8.7** 2-Butanone (MEK) = **47**	**0.00031**	<1.54	**41.9**	**2.1**	0.00
	3/11/2015		<1,000	<7,170	<3.3	<3.8	<4.4	<8.8	Heptane = **4.8** Hexane = **4.0** Tetrachloroethene = **39** 1,1,2-Trichloroethane = **17** Trichloroethene = **11**	**0.17**	<1.85	**71.1**	**11**	0.00
VS-1	9/27/2017	1.5 ft	NA	**1,200**	<1.6	**2.8**	<2.2	<6.6	Ethyl Acetate = **3.6**	**0.016**	<0.0040	NA	**14**	<0.050
VS-2	9/27/2017	1.5 ft	NA	**200,000**	**75**	**73**	**63**	**180**	Cyclohexane = **260** Hexane = **440** 1,1,1,2-Tetrachloroethane = **8,300** 1,2,4-Trimethylbenzene = **29**	**0.00022**	**0.35**	NA	**14**	**2.2**
SUB-SLAB VAPOR SAMPLES														
SS-1	3/18/2015	0.5 ft	NA	NA	**17**	**23**	<22	<66	All ND	**5.8**	**10.0**	NA	**1.0**	0.00
	10/13/2015	0.5 FT	NA	<7,170	<3.3	<3.8	<4.4	<8.8	All ND	<0.00050	NA	NA	NA	NA
	11/18/2015	0.5 ft	NA	<7,170	<3.3	<3.8	<4.4	<8.8	All ND	**0.44**	**4.14**	**88.7**	<1.0	<5.0

Table 1
CUMULATIVE SOIL GAS LABORATORY ANALYTICAL RESULTS
Former Maz Glass UST Site

Sample ID	Date	Sample Depth	TPH-D (ug/m^3)	TPH-G (ug/m^3)	B (ug/m^3)	T (ug/m^3)	E (ug/m^3)	X (ug/m^3)	Other (ug/m^3)	Methane (%)	CO_2 (%)	N (%)	O_2 (%)	Helium (%)
SS-2	3/18/2015	0.5 ft	NA	NA	<16	**35**	<22	**130**	Chloroform = **36** 4-Ethyltoluene = **31** 1,2,4-Trimethylbenzene = **140** 1,3,5-Trimethylbenzene = **74**	**0.0047**	**3.2**	NA	**14**	0.00
SS-3	3/18/2015	0.5 ft	NA	NA	**4.0**	**4.3**	**5.4**	**32**	Chloroform = **27** 4-Ethyltoluene = **6.3** MIBK = **5.1** Tetrachloroethene = **4.3** 1,2,4-Trimethylbenzene = **19** 1,3,5-Trimethylbenzene = **6.8**	**0.0003**	**9.6**	NA	**9.0**	0.00
SS-4	3/25/2015	0.5 ft	NA	**1,100**	**8.6**	**86**	**40**	**330**	Acetone = **66** 2-Butanone (MEK) = **19** 4-Methyl-2-pentanone = **1,300** Cumene = **6.1** 4-Ethyltoluene = **7.6** 1,2,4-Trimethylbenzene = **19**	<0.00021	**6.8**	NA	**12**	<0.11
SS-5	3/25/2015	0.5 ft	NA	<430	<3.4	<4.0	<4.6	<4.6	Acetone = **27** 4-Methyl-2-pentanone = **5.9**	<0.00021	**5.7**	NA	**14**	<0.11
SS-6	3/25/2015	0.5 ft	NA	**9,000**	<3.4	**25**	**30**	**252**	Acetone = **120** 2-Butanone (MEK) = **14** Tetrahydrofuran = **7.7** 2,2,4-Trimethylpentane = **16** 4-Methyl-2-pentanone = **500** 4-Ethyltoluene = **5.4** 1,2,4-Trimethylbenzene =**8.1**	**0.32**	**13**	NA	**1.6**	<0.11
SS-7	3/25/2015	0.5 ft	NA	**260,000**	<27	<32	<37	<37	Acetone = **410**	**20**	**9.9**	NA	**1.1**	<0.14
SS-8	3/25/2015	0.5 ft	NA	**490**	<3.4	<4.0	<4.6	<4.6	4-Methyl-2-pentanone = **5.8**	**0.015**	**0.58**	NA	**20**	<0.13

Table 1
CUMULATIVE SOIL GAS LABORATORY ANALYTICAL RESULTS
Former Maz Glass UST Site

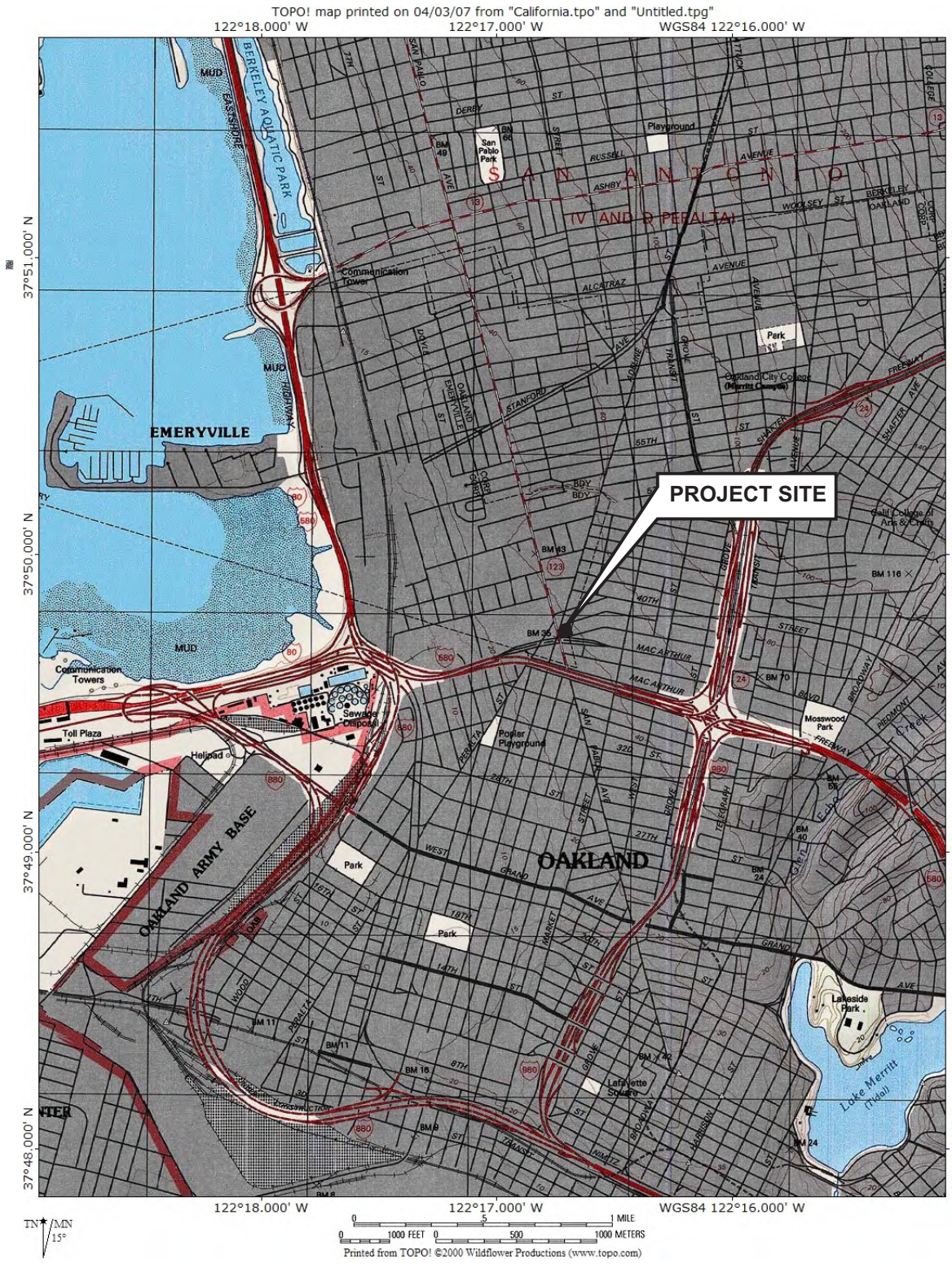
Sample ID	Date	Sample Depth	TPH-D (ug/m^3)	TPH-G (ug/m^3)	B (ug/m^3)	T (ug/m^3)	E (ug/m^3)	X (ug/m^3)	Other (ug/m^3)	Methane (%)	CO_2 (%)	N (%)	O_2 (%)	Helium (%)
SS-9	3/25/2015	0.5 ft	NA	<430	**4.6**	<4.0	<4.6	**6.5**	Acetone = **34** Chloroform = **9.1** Carbon Tetrachloride = **78** 4-Methyl-2-pentanone = **12**	<0.00021	**1.2**	NA	**19**	<0.10
SS-10	3/25/2015	0.5 ft	NA	**2,500**	<3.4	**6.6**	**5.5**	**48**	4-Methyl-2-pentanone = **34**	<0.00021	**0.12**		**20**	<0.10
SS-11	3/25/2015	0.5 ft	NA	<440	**6.0**	**6.2**	**6.0**	**28**	Aceton = **38** Carbon Disulfide = **68** 4-Methyl-2-pentanone = **52** Tetrachloroethene = **62**	<0.00021	**0.14**	NA	**19**	<0.11
Soil Gas ESL			**2.5E+06**	**2.5E+06**	**420**	**1.3E+06**	**4,900**	**4.4E+05**	Various	**LEL = 4.4**	--	--	--	--

Table Notes

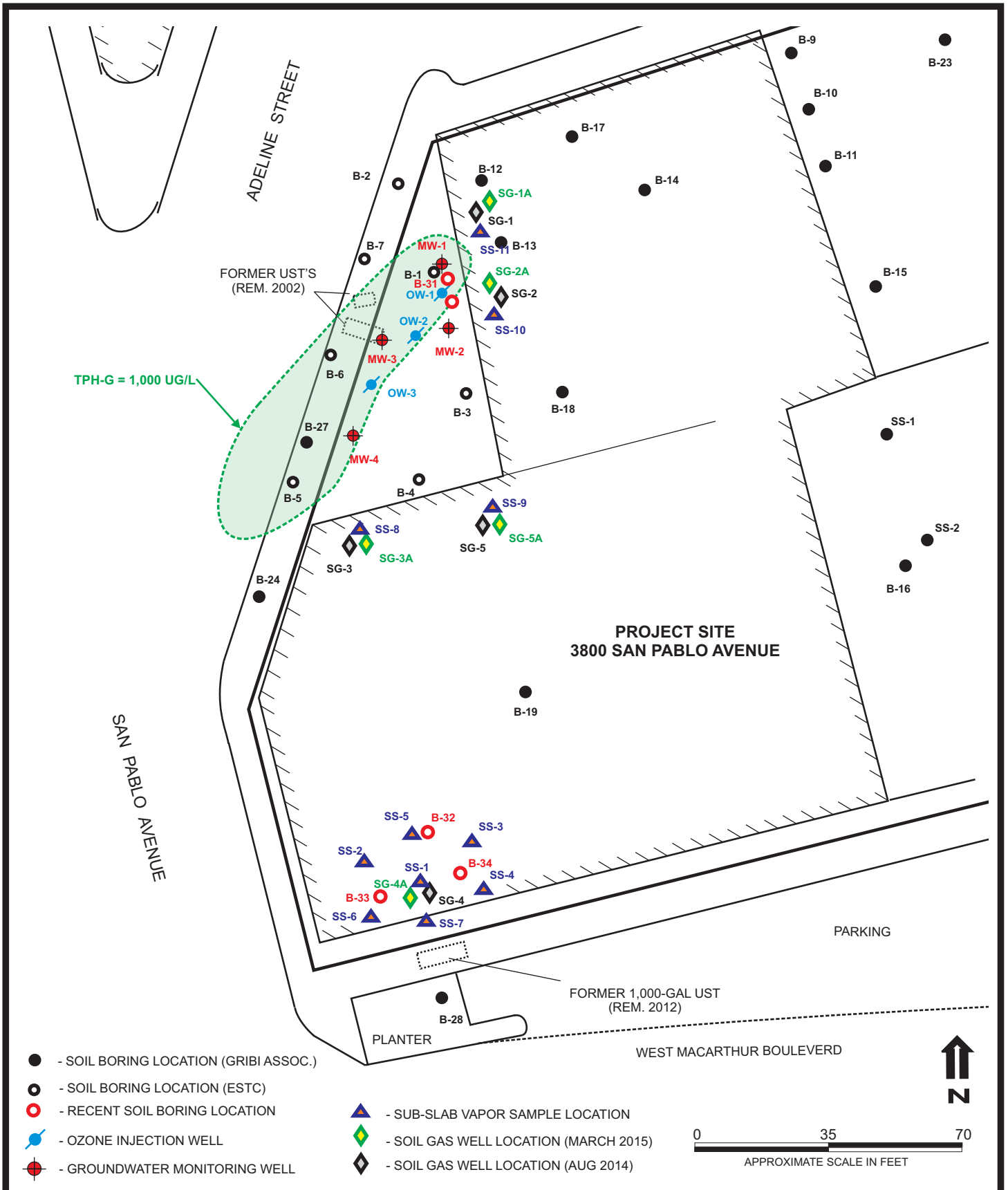
B = Benzene
T = Toluene
E = Ethylhbenzene
X = Xylenes
1,2,4-TMB = 1,2,4-Trimethylbenzene
ug/m3 = micrograms per cubic meter
ppmv = parts per million by volume
% = Percent
Other = Other VOCs, includes approxmately 47 individual VOC compounds
<7,170 = Not detected at or above the expressed value.
ND = Not detected above laboratory detection levels.
NA = Not analyzed for this analyte

(A) = The McCampbell Analytical report states: "Due to the high organic content observed in the sample, a quantification of the internal standards were unobtainable. The quantitated TPH-diesel and naphthalene concentrations are calculated using a modified TO-17 analytical procedure which includes an external calibration. The TPH-diesel and naphthalene results are estimated. It is noted that the majority of the calculated TPH-diesel concentration is derived from an observed lighter eluting TPH-gas range pattern."

FIGURES

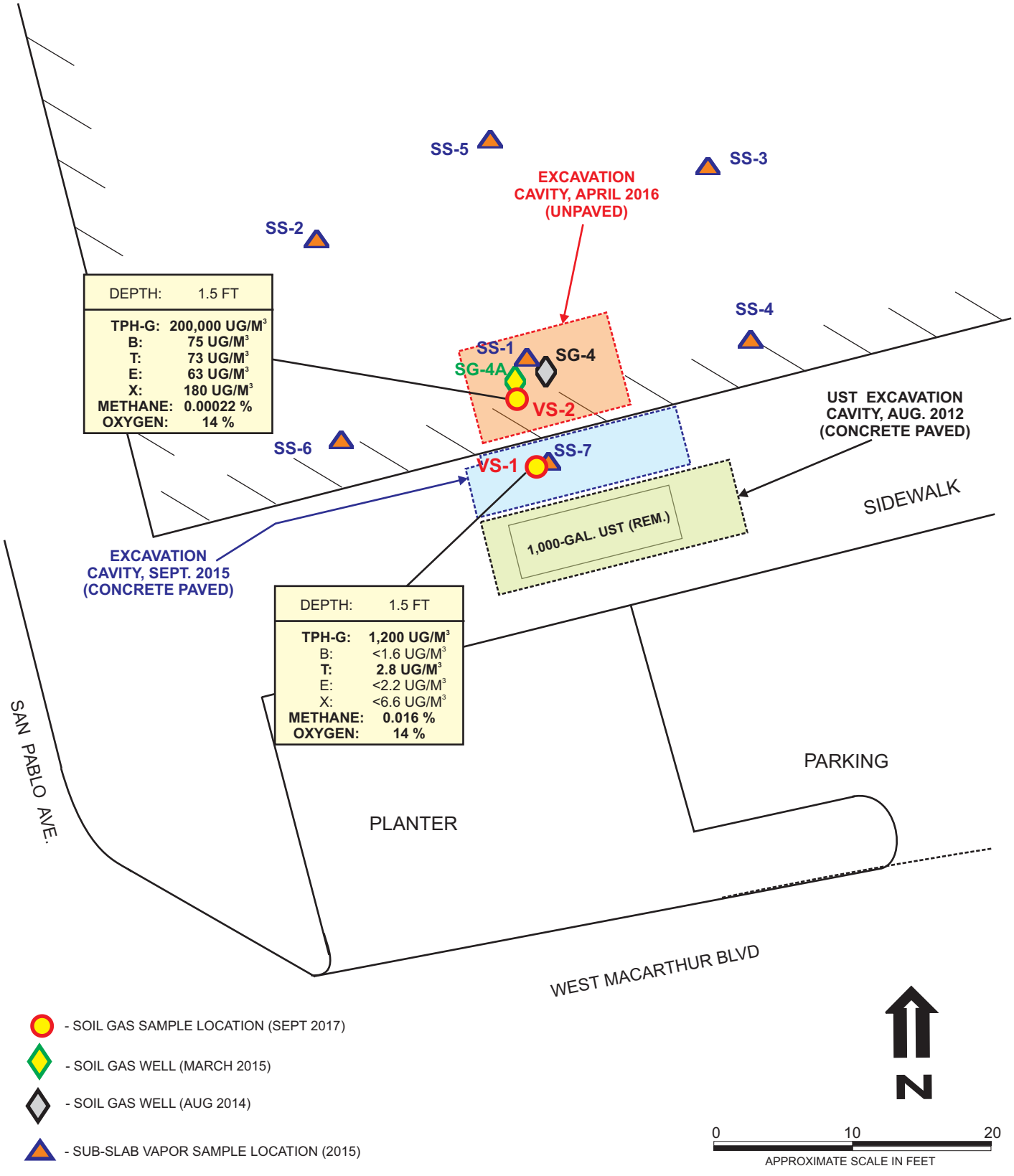


DESIGNED BY:	CHECKED BY: JG	**SITE VICINITY MAP**	DATE: 10/25/2017	FIGURE: 1
DRAWN BY: MR	SCALE:			
PROJECT NO:		3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA		



- SOIL BORING LOCATION (GRIBI ASSOC.)
- SOIL BORING LOCATION (ESTC)
- RECENT SOIL BORING LOCATION
- OZONE INJECTION WELL
- GROUNDWATER MONITORING WELL
- SUB-SLAB VAPOR SAMPLE LOCATION
- SOIL GAS WELL LOCATION (MARCH 2015)
- SOIL GAS WELL LOCATION (AUG 2014)

DESIGNED BY:	CHECKED BY: JG	**SITE PLAN**	DATE: 10/25/2017 FIGURE: **2**
DRAWN BY: MR	SCALE:		
PROJECT NO:		3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA	GRIBI



DESIGNED BY:	CHECKED BY: JG	**SOIL GAS SAMPLE LOCATIONS & RESULTS**	DATE: 10/25/2017
DRAWN BY: MR	SCALE:		FIGURE: **3**
PROJECT NO:		3800 SAN PABLO AVENUE EMERYVILLE, CALIFORNIA	GRIBI

ATTACHMENT A

LABORATORY DATA REPORT AND
CHAIN-OF-CUSTODY RECORDS

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1709B87

Report Created for: Gribi Associates

1090 Adams St., Suite K
Benicia, CA 94510

Project Contact: Jim Gribi
Project P.O.:
Project Name: Holliday Development

Project Received: 09/27/2017

Analytical Report reviewed & approved for release on 10/09/2017 by:

Angela Rydelius,
Laboratory Manager

1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com
CA ELAP 1644 ♦ NELAP 4033 ORELAP

McCampbell Analytical, Inc.
"When Quality Counts"
1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Gribi Associates
Project: Holliday Development
WorkOrder: 1709B87

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Gribi Associates
Project: Holliday Development
WorkOrder: 1709B87

Analytical Qualifiers

S	Surrogate spike recovery outside accepted recovery limits
c2	Surrogate recovery outside of the control limits due to matrix interference.
j1	See attached narrative

Quality Control Qualifiers

F2	LCS/LCSD recovery and/or RPD is out of acceptance criteria.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Case Narrative

Client: Gribi Associates
Project: Holliday Development

Work Order: 1709B87
October 06, 2017

TO-15 ANALYSIS

All summa canisters are EVACUATED 5 days after the reporting of the results. Please call or email if a longer retention time is required.

In an effort to attain the lowest reporting limits possible for the majority of the TO-15 target list, high level compounds may be analyzed using EPA Method 8260B.

Polymer (Tedlar) bags are not recommended for TO15 samples. The disadvantages are listed in Appendix B of the DTSC Active Soil Gas Advisory of July 2015.

1709B87-002A:
The value of 1,1,1,2-Tetrachloroethane is estimated due to coelution with another peak(s) / cluttered chromatogram.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Received:	9/27/17 14:10	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	10/2/17-10/9/17	**Analytical Method:**	ASTM D 1946-90
Project:	Holliday Development	**Unit:**	%

Helium

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-1	**1709B87-001A**	**SoilGas**	**09/27/2017 11:36**	**GC26 1002171205.D**	**146412**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.47	**24.95**	**HK**

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	10/02/2017 13:30

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-2	**1709B87-002A**	**SoilGas**	**09/27/2017 12:42**	**GC26 1009170906.D**	**146412**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.78	**23.55**	**HK**

Analytes	Result	RL	DF	Date Analyzed
Helium	**2.2**	1.7	34	10/09/2017 10:27

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Received:	9/27/17 14:10	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	9/29/17	**Analytical Method:**	ASTM D 1946-90
Project:	Holliday Development	**Unit:**	%

Light Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-1	**1709B87-001A**	**SoilGas**	**09/27/2017 11:36**	**GC26 0929170606.D**	**146373**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.47	**24.95**	**HK**

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	ND	0.0040	1	09/29/2017 09:26
Methane	**0.016**	0.00020	1	09/29/2017 09:26

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-2	**1709B87-002A**	**SoilGas**	**09/27/2017 12:42**	**GC26 0929170608.D**	**146373**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.78	**23.55**	**HK**

Analytes	Result	RL	DF	Date Analyzed
Carbon Dioxide	**0.35**	0.0040	1	09/29/2017 10:00
Methane	**0.00022**	0.00020	1	09/29/2017 10:00

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Received:	9/27/17 14:10	**Extraction Method:**	TO15
Date Prepared:	10/6/17	**Analytical Method:**	TO15
Project:	Holliday Development	**Unit:**	µg/m³

TPH gas

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-1	**1709B87-001A**	**SoilGas**	**09/27/2017 11:36**	**GC43 10051722.D**	**146647**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.47	**24.95**	**HK**

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**1200**	720	1	10/06/2017 10:26

Surrogates	REC (%)	Limits	
1,2-DCA-d4	113	70-130	10/06/2017 10:26

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-2	**1709B87-002A**	**SoilGas**	**09/27/2017 12:42**	**GC43 10051720.D**	**146647**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.78	**23.55**	**HK**

Analytes	Result	RL	DF	Date Analyzed
TPH(g)	**200,000**	7200	10	10/06/2017 08:59

Surrogates	REC (%)	Limits	
1,2-DCA-d4	112	70-130	10/06/2017 08:59

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Received:	9/27/17 14:10	**Extraction Method:**	TO15
Date Prepared:	10/6/17	**Analytical Method:**	TO15
Project:	Holliday Development	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-1	1709B87-001A	SoilGas	09/27/2017 11:36	GC43 10051722.D	146647

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.47	11.78	HK

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	60	1	10/06/2017 10:26
Acrolein	ND	5.8	1	10/06/2017 10:26
Acrylonitrile	ND	1.1	1	10/06/2017 10:26
tert-Amyl methyl ether (TAME)	ND	2.1	1	10/06/2017 10:26
Benzene	ND	1.6	1	10/06/2017 10:26
Benzyl chloride	ND	2.6	1	10/06/2017 10:26
Bromodichloromethane	ND	3.5	1	10/06/2017 10:26
Bromoform	ND	5.2	1	10/06/2017 10:26
Bromomethane	ND	2.0	1	10/06/2017 10:26
1,3-Butadiene	ND	1.1	1	10/06/2017 10:26
2-Butanone (MEK)	ND	75	1	10/06/2017 10:26
t-Butyl alcohol (TBA)	ND	31	1	10/06/2017 10:26
Carbon Disulfide	ND	1.6	1	10/06/2017 10:26
Carbon Tetrachloride	ND	3.2	1	10/06/2017 10:26
Chlorobenzene	ND	2.4	1	10/06/2017 10:26
Chloroethane	ND	1.3	1	10/06/2017 10:26
Chloroform	ND	2.4	1	10/06/2017 10:26
Chloromethane	ND	1.0	1	10/06/2017 10:26
Cyclohexane	ND	18	1	10/06/2017 10:26
Dibromochloromethane	ND	4.4	1	10/06/2017 10:26
1,2-Dibromo-3-chloropropane	ND	0.12	1	10/06/2017 10:26
1,2-Dibromoethane (EDB)	ND	3.9	1	10/06/2017 10:26
1,2-Dichlorobenzene	ND	3.0	1	10/06/2017 10:26
1,3-Dichlorobenzene	ND	3.0	1	10/06/2017 10:26
1,4-Dichlorobenzene	ND	3.0	1	10/06/2017 10:26
Dichlorodifluoromethane	ND	2.5	1	10/06/2017 10:26
1,1-Dichloroethane	ND	2.0	1	10/06/2017 10:26
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	10/06/2017 10:26
1,1-Dichloroethene	ND	2.0	1	10/06/2017 10:26
cis-1,2-Dichloroethene	ND	2.0	1	10/06/2017 10:26
trans-1,2-Dichloroethene	ND	2.0	1	10/06/2017 10:26
1,2-Dichloropropane	ND	2.4	1	10/06/2017 10:26
cis-1,3-Dichloropropene	ND	2.3	1	10/06/2017 10:26
trans-1,3-Dichloropropene	ND	2.3	1	10/06/2017 10:26

(Cont.)

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Received:	9/27/17 14:10	**Extraction Method:**	TO15
Date Prepared:	10/6/17	**Analytical Method:**	TO15
Project:	Holliday Development	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-1	1709B87-001A	SoilGas	09/27/2017 11:36	GC43 10051722.D	146647

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.47	11.78	HK

Analytes	Result	RL	DF	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	10/06/2017 10:26
Diisopropyl ether (DIPE)	ND	2.1	1	10/06/2017 10:26
1,4-Dioxane	ND	1.8	1	10/06/2017 10:26
Ethanol	ND	96	1	10/06/2017 10:26
Ethyl acetate	**3.6**	1.8	1	10/06/2017 10:26
Ethyl tert-butyl ether (ETBE)	ND	2.1	1	10/06/2017 10:26
Ethylbenzene	ND	2.2	1	10/06/2017 10:26
4-Ethyltoluene	ND	2.5	1	10/06/2017 10:26
Freon 113	ND	3.9	1	10/06/2017 10:26
Heptane	ND	21	1	10/06/2017 10:26
Hexachlorobutadiene	ND	5.4	1	10/06/2017 10:26
Hexane	ND	18	1	10/06/2017 10:26
2-Hexanone	ND	2.1	1	10/06/2017 10:26
4-Methyl-2-pentanone (MIBK)	ND	2.1	1	10/06/2017 10:26
Methyl-t-butyl ether (MTBE)	ND	1.8	1	10/06/2017 10:26
Methylene chloride	ND	8.8	1	10/06/2017 10:26
Methyl methacrylate	ND	2.1	1	10/06/2017 10:26
Naphthalene	ND	5.3	1	10/06/2017 10:26
Propene	ND	88	1	10/06/2017 10:26
Styrene	ND	2.2	1	10/06/2017 10:26
1,1,1,2-Tetrachloroethane	ND	3.5	1	10/06/2017 10:26
1,1,2,2-Tetrachloroethane	ND	3.5	1	10/06/2017 10:26
Tetrachloroethene	ND	3.4	1	10/06/2017 10:26
Tetrahydrofuran	ND	3.0	1	10/06/2017 10:26
Toluene	**2.8**	1.9	1	10/06/2017 10:26
1,2,4-Trichlorobenzene	ND	3.8	1	10/06/2017 10:26
1,1,1-Trichloroethane	ND	2.8	1	10/06/2017 10:26
1,1,2-Trichloroethane	ND	2.8	1	10/06/2017 10:26
Trichloroethene	ND	2.8	1	10/06/2017 10:26
Trichlorofluoromethane	ND	2.8	1	10/06/2017 10:26
1,2,4-Trimethylbenzene	ND	2.5	1	10/06/2017 10:26
1,3,5-Trimethylbenzene	ND	2.5	1	10/06/2017 10:26
Vinyl Acetate	ND	18	1	10/06/2017 10:26
Vinyl Chloride	ND	1.3	1	10/06/2017 10:26

(Cont.)

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Received:	9/27/17 14:10	**Extraction Method:**	TO15
Date Prepared:	10/6/17	**Analytical Method:**	TO15
Project:	Holliday Development	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-1	**1709B87-001A**	**SoilGas**	**09/27/2017 11:36**	**GC43 10051722.D**	**146647**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.47	**11.78**	**HK**

Analytes	Result	RL	DF	Date Analyzed
Xylenes, Total	ND	6.6	1	10/06/2017 10:26
Surrogates	**REC (%)**	**Limits**		
1,2-DCA-d4	125	70-130		10/06/2017 10:26
Toluene-d8	96	70-130		10/06/2017 10:26
4-BFB	119	70-130		10/06/2017 10:26

(Cont.)

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Received:	9/27/17 14:10	**Extraction Method:**	TO15
Date Prepared:	10/6/17	**Analytical Method:**	TO15
Project:	Holliday Development	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-2	1709B87-002A	SoilGas	09/27/2017 12:42	GC43 10051720.D	146647

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.78	23.55	HK

Analytes	Result	RL	DF	Date Analyzed
Acetone	ND	600	10	10/06/2017 08:59
Acrolein	ND	58	10	10/06/2017 08:59
Acrylonitrile	ND	11	10	10/06/2017 08:59
tert-Amyl methyl ether (TAME)	ND	21	10	10/06/2017 08:59
Benzene	**75**	16	10	10/06/2017 08:59
Benzyl chloride	ND	26	10	10/06/2017 08:59
Bromodichloromethane	ND	35	10	10/06/2017 08:59
Bromoform	ND	52	10	10/06/2017 08:59
Bromomethane	ND	20	10	10/06/2017 08:59
1,3-Butadiene	ND	11	10	10/06/2017 08:59
2-Butanone (MEK)	ND	750	10	10/06/2017 08:59
t-Butyl alcohol (TBA)	ND	310	10	10/06/2017 08:59
Carbon Disulfide	ND	16	10	10/06/2017 08:59
Carbon Tetrachloride	ND	32	10	10/06/2017 08:59
Chlorobenzene	ND	24	10	10/06/2017 08:59
Chloroethane	ND	13	10	10/06/2017 08:59
Chloroform	ND	24	10	10/06/2017 08:59
Chloromethane	ND	10	10	10/06/2017 08:59
Cyclohexane	**260**	180	10	10/06/2017 08:59
Dibromochloromethane	ND	44	10	10/06/2017 08:59
1,2-Dibromo-3-chloropropane	ND	1.2	10	10/06/2017 08:59
1,2-Dibromoethane (EDB)	ND	39	10	10/06/2017 08:59
1,2-Dichlorobenzene	ND	30	10	10/06/2017 08:59
1,3-Dichlorobenzene	ND	30	10	10/06/2017 08:59
1,4-Dichlorobenzene	ND	30	10	10/06/2017 08:59
Dichlorodifluoromethane	ND	25	10	10/06/2017 08:59
1,1-Dichloroethane	ND	20	10	10/06/2017 08:59
1,2-Dichloroethane (1,2-DCA)	ND	20	10	10/06/2017 08:59
1,1-Dichloroethene	ND	20	10	10/06/2017 08:59
cis-1,2-Dichloroethene	ND	20	10	10/06/2017 08:59
trans-1,2-Dichloroethene	ND	20	10	10/06/2017 08:59
1,2-Dichloropropane	ND	24	10	10/06/2017 08:59
cis-1,3-Dichloropropene	ND	23	10	10/06/2017 08:59
trans-1,3-Dichloropropene	ND	23	10	10/06/2017 08:59

(Cont.)

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Received:	9/27/17 14:10	**Extraction Method:**	TO15
Date Prepared:	10/6/17	**Analytical Method:**	TO15
Project:	Holliday Development	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-2	1709B87-002A	SoilGas	09/27/2017 12:42	GC43 10051720.D	146647

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.78	23.55	HK

Analytes	Result	RL	DF	Date Analyzed
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	36	10	10/06/2017 08:59
Diisopropyl ether (DIPE)	ND	21	10	10/06/2017 08:59
1,4-Dioxane	ND	18	10	10/06/2017 08:59
Ethanol	ND	960	10	10/06/2017 08:59
Ethyl acetate	ND	18	10	10/06/2017 08:59
Ethyl tert-butyl ether (ETBE)	ND	21	10	10/06/2017 08:59
Ethylbenzene	**63**	22	10	10/06/2017 08:59
4-Ethyltoluene	ND	25	10	10/06/2017 08:59
Freon 113	ND	39	10	10/06/2017 08:59
Heptane	ND	210	10	10/06/2017 08:59
Hexachlorobutadiene	ND	54	10	10/06/2017 08:59
Hexane	**440**	180	10	10/06/2017 08:59
2-Hexanone	ND	21	10	10/06/2017 08:59
4-Methyl-2-pentanone (MIBK)	ND	21	10	10/06/2017 08:59
Methyl-t-butyl ether (MTBE)	ND	18	10	10/06/2017 08:59
Methylene chloride	ND	88	10	10/06/2017 08:59
Methyl methacrylate	ND	21	10	10/06/2017 08:59
Naphthalene	ND	53	10	10/06/2017 08:59
Propene	ND	880	10	10/06/2017 08:59
Styrene	ND	22	10	10/06/2017 08:59
1,1,1,2-Tetrachloroethane	**8300**	35	10	10/06/2017 08:59
1,1,2,2-Tetrachloroethane	ND	35	10	10/06/2017 08:59
Tetrachloroethene	ND	34	10	10/06/2017 08:59
Tetrahydrofuran	ND	30	10	10/06/2017 08:59
Toluene	**73**	19	10	10/06/2017 08:59
1,2,4-Trichlorobenzene	ND	38	10	10/06/2017 08:59
1,1,1-Trichloroethane	ND	28	10	10/06/2017 08:59
1,1,2-Trichloroethane	ND	28	10	10/06/2017 08:59
Trichloroethene	ND	28	10	10/06/2017 08:59
Trichlorofluoromethane	ND	29	10	10/06/2017 08:59
1,2,4-Trimethylbenzene	**29**	25	10	10/06/2017 08:59
1,3,5-Trimethylbenzene	ND	25	10	10/06/2017 08:59
Vinyl Acetate	ND	180	10	10/06/2017 08:59
Vinyl Chloride	ND	13	10	10/06/2017 08:59

(Cont.)

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Received:	9/27/17 14:10	**Extraction Method:**	TO15
Date Prepared:	10/6/17	**Analytical Method:**	TO15
Project:	Holliday Development	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-2	**1709B87-002A**	**SoilGas**	**09/27/2017 12:42**	**GC43 10051720.D**	**146647**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.78	**23.55**	**HK**

Analytes	Result	RL	DF	Date Analyzed
Xylenes, Total	**180**	66	10	10/06/2017 08:59

Surrogates	REC (%)	Qualifiers	Limits	
1,2-DCA-d4	117		70-130	10/06/2017 08:59
Toluene-d8	98		70-130	10/06/2017 08:59
4-BFB	142	S	70-130	10/06/2017 08:59

Analytical Comments: c2,j1

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Prepared:	10/2/17	**BatchID:**	146412
Date Analyzed:	10/2/17	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	Soilgas	**Unit:**	%
Project:	Holliday Development	**Sample ID:**	MB/LCS-146412

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Helium	ND	0.110	0.025	0.10	-	109	60-140

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Prepared:	9/29/17	**BatchID:**	146373
Date Analyzed:	9/29/17	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	SoilGas	**Unit:**	%
Project:	Holliday Development	**Sample ID:**	MB/LCS-146373

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Carbon Dioxide	ND	0.00946	0.0020	0.010	-	95	70-130
Methane	ND	0.00896	0.00010	0.010	-	90	70-130

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Prepared:	10/5/17 - 10/6/17	**BatchID:**	146647
Date Analyzed:	10/5/17 - 10/6/17	**Extraction Method:**	TO15
Instrument:	GC43	**Analytical Method:**	TO15
Matrix:	Soilgas	**Unit:**	µg/m³
Project:	Holliday Development	**Sample ID:**	MB/LCS-146647

QC Summary Report for TO15

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
TPH(g)	ND	360	-	-	-
Surrogate Recovery					
1,2-DCA-d4	534.3		500	107	70-130

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Prepared:	10/5/17 - 10/6/17	**BatchID:**	146647
Date Analyzed:	10/5/17 - 10/6/17	**Extraction Method:**	TO15
Instrument:	GC43	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	Holliday Development	**Sample ID:**	MB/LCS-146647

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Acetone	ND	75.4	30	60	-	126	60-140
Acrolein	ND	48.6	2.9	58.25	-	83	60-140
Acrylonitrile	ND	49.3	0.55	55	-	90	60-140
tert-Amyl methyl ether (TAME)	ND	106	1.0	105	-	100	60-140
Benzene	ND	63.9	0.80	80	-	80	60-140
Benzyl chloride	ND	107	1.3	132.5	-	81	60-140
Bromodichloromethane	ND	170	1.8	175	-	97	60-140
Bromoform	ND	264	2.6	262.5	-	100	60-140
Bromomethane	ND	69.7	1.0	97.5	-	71	60-140
1,3-Butadiene	ND	28.3	0.55	55	-	52, F2	60-140
2-Butanone (MEK)	ND	65.7	38	75	-	88	60-140
t-Butyl alcohol (TBA)	ND	77.4	16	77.5	-	100	60-140
Carbon Disulfide	ND	78.5	0.80	80	-	98	60-140
Carbon Tetrachloride	ND	168	1.6	160	-	105	60-140
Chlorobenzene	ND	109	1.2	117.5	-	93	60-140
Chloroethane	ND	60.7	0.65	67.5	-	90	60-140
Chloroform	ND	114	1.2	122.5	-	93	60-140
Chloromethane	ND	54.9	0.50	52.5	-	105	60-140
Cyclohexane	ND	85.4	9.0	87.5	-	98	60-140
Dibromochloromethane	ND	219	2.2	217.5	-	101	60-140
1,2-Dibromo-3-chloropropane	ND	206	0.060	245	-	84	60-140
1,2-Dibromoethane (EDB)	ND	171	2.0	195	-	87	60-140
1,2-Dichlorobenzene	ND	158	1.5	152.5	-	103	60-140
1,3-Dichlorobenzene	ND	158	1.5	152.5	-	104	60-140
1,4-Dichlorobenzene	ND	141	1.5	152.5	-	92	60-140
Dichlorodifluoromethane	ND	132	1.2	125	-	105	60-140
1,1-Dichloroethane	ND	98.1	1.0	102.5	-	96	60-140
1,2-Dichloroethane (1,2-DCA)	ND	103	1.0	102.5	-	101	60-140
1,1-Dichloroethene	ND	90.5	1.0	100	-	91	60-140
cis-1,2-Dichloroethene	ND	95.7	1.0	100	-	96	60-140
trans-1,2-Dichloroethene	ND	92.9	1.0	100	-	93	60-140
1,2-Dichloropropane	ND	95.6	1.2	117.5	-	81	60-140
cis-1,3-Dichloropropene	ND	117	1.2	115	-	101	60-140
trans-1,3-Dichloropropene	ND	115	1.2	115	-	100	60-140
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	149	1.8	177.5	-	84	60-140
Diisopropyl ether (DIPE)	ND	93.5	1.0	105	-	89	60-140
1,4-Dioxane	ND	80.2	0.90	92.5	-	87	60-140

(Cont.)

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Prepared:	10/5/17 - 10/6/17	**BatchID:**	146647
Date Analyzed:	10/5/17 - 10/6/17	**Extraction Method:**	TO15
Instrument:	GC43	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	Holliday Development	**Sample ID:**	MB/LCS-146647

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Ethanol	ND	32.8	48	47.5	-	69	60-140
Ethyl acetate	ND	85.2	0.90	92.5	-	92	60-140
Ethyl tert-butyl ether (ETBE)	ND	108	1.0	105	-	103	60-140
Ethylbenzene	ND	110	1.1	110	-	100	60-140
4-Ethyltoluene	ND	143	1.2	125	-	115	60-140
Freon 113	ND	179	2.0	195	-	92	60-140
Heptane	ND	97.4	10	105	-	93	60-140
Hexachlorobutadiene	ND	172	2.7	270	-	64	60-140
Hexane	ND	94.9	9.0	90	-	105	60-140
2-Hexanone	ND	90.6	1.0	105	-	86	60-140
Isopropyl Alcohol	ND	60.4	25	62.5	-	97	60-140
4-Methyl-2-pentanone (MIBK)	ND	94.8	1.0	105	-	90	60-140
Methyl-t-butyl ether (MTBE)	ND	96.7	0.90	92.5	-	105	60-140
Methylene chloride	ND	77.5	4.4	87.5	-	89	60-140
Methyl methacrylate	ND	89.9	1.0	104	-	86	60-140
Naphthalene	ND	205	2.6	265	-	77	60-140
Propene	ND	44.2	44	42.5	-	104	60-140
Styrene	ND	97.5	1.1	107.5	-	91	60-140
1,1,1,2-Tetrachloroethane	ND	157	1.8	175	-	90	60-140
1,1,2,2-Tetrachloroethane	ND	145	1.8	175	-	83	60-140
Tetrachloroethene	ND	167	1.7	172	-	97	60-140
Tetrahydrofuran	ND	73.1	1.5	75	-	97	60-140
Toluene	ND	89.7	0.95	95	-	94	60-140
1,2,4-Trichlorobenzene	ND	165	1.9	187.5	-	88	60-140
1,1,1-Trichloroethane	ND	150	1.4	137.5	-	109	60-140
1,1,2-Trichloroethane	ND	120	1.4	137.5	-	87	60-140
Trichloroethene	ND	118	1.4	137.5	-	85	60-140
Trichlorofluoromethane	ND	151	1.4	142.5	-	106	60-140
1,2,4-Trimethylbenzene	ND	146	1.2	125	-	117	60-140
1,3,5-Trimethylbenzene	ND	136	1.2	125	-	109	60-140
Vinyl Acetate	ND	112	9.0	90	-	124	60-140
Vinyl Chloride	ND	35.7	0.65	65	-	55, F2	60-140
Xylenes, Total	ND	316	3.3	330	-	96	60-140

(Cont.)

QA/QC Officer

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Prepared:	10/5/17 - 10/6/17	**BatchID:**	146647
Date Analyzed:	10/5/17 - 10/6/17	**Extraction Method:**	TO15
Instrument:	GC43	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	Holliday Development	**Sample ID:**	MB/LCS-146647

QC Summary Report for TO15

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Surrogate Recovery							
1,2-DCA-d4	538.6	557		500	108	111	70-130
Toluene-d8	487.3	477		500	97	95	70-130
4-BFB	537.3	546		500	107	109	70-130

QA/QC Officer

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1709B87 **ClientCode: GRIB**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☒ EQuIS ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Jim Gribi
Gribi Associates
1090 Adams St., Suite K
Benicia, CA 94510
(707) 748-7743 FAX: (707) 748-7763

Email: jgribi@gribiassociates.com; TFerrell@gribi
cc/3rd Party:
PO:
ProjectNo: Holliday Development

Bill to:
Terry Ferrell
Gribi Associates
1090 Adams St., Suite K
Benicia, CA 94510

Requested TAT: **5 days;**

Date Received: **09/27/2017**
Date Logged: **09/28/2017**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1709B87-001	VS-1	SoilGas	9/27/2017 11:36	☐	A	A	A	A	A							
1709B87-002	VS-2	SoilGas	9/27/2017 12:42	☐	A	A	A	A	A							

Test Legend:

1	HELIUM_LC_SOILGAS(%)	2	LG_SUMMA_SOILGAS(%)	3	TO15_Scan-SIM_SOIL(UG/M3) [N]	4	TO15-8260_SOIL(UG/M3) [N]
5	TO15GAS_Scan-SIM_SOIL(UG/M3)	6		7		8	
9		10		11		12	

Prepared by: Jena Alfaro

The following SampIDs: 001A, 002A contain testgroup TO15He_gas_O2_CO2_Ch4_SG.

Comments:

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: GRIBI ASSOCIATES
Client Contact: Jim Gribi
Contact's Email: jgribi@gribiassociates.com; TFerrell@gribiassociates.com

Project: Holliday Development
Comments:

Work Order: 1709B87
QC Level: LEVEL 2
Date Logged: 9/28/2017

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	De-chlorinated	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1709B87-001A	VS-1	SoilGas	TO15+GAS w/ Helium, O2, CO2 and Methane	1	1L Summa	☐	9/27/2017 11:36	5 days		☐	
1709B87-002A	VS-2	SoilGas	TO15+GAS w/ Helium, O2, CO2 and Methane	1	1L Summa	☐	9/27/2017 12:42	5 days		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

Summa COC

MAI Work Order # 1709887

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD

Turn Around Time:	1 Day Rush		2 Day Rush		3 Day Rush		STD	X	Quote #						
J-Flag / MDL		ESL		Cleanup Approved					Bottle Order #						
Delivery Format:	PDF		GeoTracker EDF		EDD		Write On (DW)		EQuIS						

Report To: Jim Gribi Bill To:
Company: Gribi Associates
Email: JGribi@gribiassociates.com
Alt Email: Tele:
Project Name: Holliday Development Project#:
Project Location: 3800 San Pablo Ave PO #
Sampler Signature:

Analysis Requested

SAMPLE ID Location / Field Point	Sampling Start Date	Sampling Start Time	End Time	Canister SN#	Sample Kit / Manifold #	VOCs TO-15 (µg/m³) - See Notes	8010 by TO-15 (µg/m³)	TPH(g) (µg/m³)	LEED: (inc. 4PCH, Formaldehyde, CO, Total VOCs)	Fixed Gas (CO_2, Methane, Ethane, Ethylene, Acetylene,Propane, CO) %	Fixed Gas: (O_2, N_2) % CO_2	APH: Aliphatic and/or Aromatic (circle one) µg/m³	Helium Leak Check %	Leak Check (IPA, Norflorane, 1,1-difluroethane) µg/m³	methane	Matrix: Soilgas	Matrix: Indoor Air	Matrix:	Canister Pressure / Vacuum: Initial	Canister Pressure / Vacuum: Final
VS-1	9/27	1130	1136	5806-737		X		X			X		X		X	X			29	5
VS-2	9/27	1235	1242	5808-739		X		X			X		X		X	X			29	5

Helium Shroud SN#

Leak Check Default is IPA

Notes: Please specify units if different than default: VOCs is reported in µg/m³, fixed is reported in %.

**MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time	Comments / Instructions
MAR	9/27/2017	1400		9/27/17	1410	

Page ___ of ___

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Sample Receipt Checklist

Client Name:	**Gribi Associates**	Date and Time Received	**9/27/2017 14:10**
Project Name:	**Holliday Development**	Date Logged:	**9/28/2017**
		Received by:	Jena Alfaro
WorkOrder №:	**1709B87** Matrix: SoilGas	Logged by:	Jena Alfaro
Carrier:	Client Drop-In		

Chain of Custody (COC) Information

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

Sample Receipt Information

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

Sample Preservation and Hold Time (HT) Information

All samples received within holding time?	Yes	☑	No	☐	NA ☐
Sample/Temp Blank temperature	Temp:				NA ☑
Water - VOA vials have zero headspace / no bubbles?	Yes	☐	No	☐	NA ☑
Sample labels checked for correct preservation?	Yes	☑	No	☐	
pH acceptable upon receipt (Metal: <2; 522: <4; 218.7: >8)?	Yes	☐	No	☐	NA ☑
Samples Received on Ice?	Yes	☐	No	☑	

UCMR Samples:

Total Chlorine tested and acceptable upon receipt for EPA 522?	Yes	☐	No	☐	NA ☑
Free Chlorine tested and acceptable upon receipt for EPA 218.7, 300.1, 537, 539?	Yes	☐	No	☐	NA ☑

Comments:

McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1709B87 A

Report Created for: Gribi Associates

1090 Adams St., Suite K
Benicia, CA 94510

Project Contact: Jim Gribi
Project P.O.:
Project Name: Holliday Development

Project Received: 09/27/2017

Analytical Report reviewed & approved for release on 10/10/2017 by:

Angela Rydelius,
Laboratory Manager

1534 Willow Pass Rd. Pittsburg, CA 94565 ♦ TEL: (877) 252-9262 ♦ FAX: (925) 252-9269 ♦ www.mccampbell.com
CA ELAP 1644 ♦ NELAP 4033 ORELAP

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: Gribi Associates
Project: Holliday Development
WorkOrder: 1709B87 A

Glossary Abbreviation

%D	Serial Dilution Percent Difference
95% Interval	95% Confident Interval
DF	Dilution Factor
DI WET	(DISTLC) Waste Extraction Test using DI water
DISS	Dissolved (direct analysis of 0.45 µm filtered and acidified water sample)
DLT	Dilution Test (Serial Dilution)
DUP	Duplicate
EDL	Estimated Detection Limit
ERS	External reference sample. Second source calibration verification.
ITEF	International Toxicity Equivalence Factor
LCS	Laboratory Control Sample
MB	Method Blank
MB % Rec	% Recovery of Surrogate in Method Blank, if applicable
MDL	Method Detection Limit
ML	Minimum Level of Quantitation
MS	Matrix Spike
MSD	Matrix Spike Duplicate
N/A	Not Applicable
ND	Not detected at or above the indicated MDL or RL
NR	Data Not Reported due to matrix interference or insufficient sample amount.
PDS	Post Digestion Spike
PDSD	Post Digestion Spike Duplicate
PF	Prep Factor
RD	Relative Difference
RL	Reporting Limit (The RL is the lowest calibration standard in a multipoint calibration.)
RPD	Relative Percent Deviation
RRT	Relative Retention Time
SPK Val	Spike Value
SPKRef Val	Spike Reference Value
SPLP	Synthetic Precipitation Leachate Procedure
ST	Sorbent Tube
TCLP	Toxicity Characteristic Leachate Procedure
TEQ	Toxicity Equivalents
WET (STLC)	Waste Extraction Test (Soluble Threshold Limit Concentration)

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Analytical Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Received:	9/27/17 14:10	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	10/10/17	**Analytical Method:**	ASTM D 1946-90
Project:	Holliday Development	**Unit:**	%

Atmospheric Gases

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-1	**1709B87-001A**	**SoilGas**	**09/27/2017 11:36**	**GC26 1010170912.D**	**146830**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.47	**24.95**	**HK**

Analytes	Result	RL	DF	Date Analyzed
Oxygen	**14**	0.40	1	10/10/2017 11:53

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
VS-2	**1709B87-002A**	**SoilGas**	**09/27/2017 12:42**	**GC26 1010170914.D**	**146830**

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
11.78	**23.55**	**HK**

Analytes	Result	RL	DF	Date Analyzed
Oxygen	**14**	0.68	1.7	10/10/2017 12:14

Angela Rydelius, Lab Manager

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

Quality Control Report

Client:	Gribi Associates	**WorkOrder:**	1709B87
Date Prepared:	10/10/17	**BatchID:**	146830
Date Analyzed:	10/10/17	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	SoilGas	**Unit:**	%
Project:	Holliday Development	**Sample ID:**	MB/LCS-146830

QC Summary Report for ASTM D1946-90

Analyte	MB Result	LCS Result	RL	SPK Val	MB SS %REC	LCS %REC	LCS Limits
Oxygen	ND	0.570	0.20	0.70	-	81	70-130

QA/QC Officer

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

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1709B87 A **ClientCode: GRIB**

☐ WaterTrax ☐ WriteOn ☐ EDF ☐ Excel ☐ Fax ☑ Email ☐ HardCopy ☐ ThirdParty ☐ J-flag
☒ Detection Summary ☒ Dry-Weight

Report to:
Jim Gribi
Gribi Associates
1090 Adams St., Suite K
Benicia, CA 94510
(707) 748-7743 FAX: (707) 748-7763

Email: jgribi@gribiassociates.com; TFerrell@gribi
cc/3rd Party:
PO:
ProjectNo: Holliday Development

Bill to:
Terry Ferrell
Gribi Associates
1090 Adams St., Suite K
Benicia, CA 94510

Requested TAT: 5 days;

Date Received: **09/27/2017**
Date Logged: **09/28/2017**
Date Add-On: **10/10/2017**

Lab ID	Client ID	Matrix	Collection Date	Hold	Requested Tests (See legend below)											
					1	2	3	4	5	6	7	8	9	10	11	12
1709B87-001	VS-1	SoilGas	9/27/2017 11:36	☐	A											
1709B87-002	VS-2	SoilGas	9/27/2017 12:42	☐	A											

Test Legend:

1	ATMOSPHERICGAS_SG(%)	2		3		4	
5		6		7		8	
9		10		11		12	

Prepared by: Jena Alfaro

Add-On Prepared By: Jena Alfaro

Comments: O2 added 10/10/17 STAT

NOTE: Soil samples are discarded 60 days after results are reported unless other arrangements are made (Water samples are 30 days).
Hazardous samples will be returned to client or disposed of at client expense.

McCampbell Analytical, Inc.
"When Quality Counts"

1534 Willow Pass Road, Pittsburg, CA 94565-1701
Toll Free Telephone: (877) 252-9262 / Fax: (925) 252-9269
http://www.mccampbell.com / E-mail: main@mccampbell.com

WORK ORDER SUMMARY

Client Name: GRIBI ASSOCIATES
Client Contact: Jim Gribi
Contact's Email jgribi@gribiassociates.com; TFerrell@gribiassociates.com

Project: Holliday Development
Comments: O2 added 10/10/17 STAT

Work Order: 1709B87
QC Level: LEVEL 2
Date Logged: 9/28/2017
Date Add-On: 10/10/2017

Lab ID	Client ID	Matrix	Test Name	Containers /Composites	Bottle & Preservative	Collection Date & Time	TAT	Sediment Content	Hold	SubOut
1709B87-001A	VS-1	SoilGas	ASTM D1946-90 (N2 O2) <Oxygen>	1	1L Summa	9/27/2017 11:36	5 days		☐	
1709B87-002A	VS-2	SoilGas	ASTM D1946-90 (N2 O2) <Oxygen>	1	1L Summa	9/27/2017 12:42	5 days		☐	

NOTES: - STLC and TCLP extractions require 2 days to complete; therefore, all TATs begin after the extraction is completed (i.e., One-day TAT yields results in 3 days from sample submission).

- MAI assumes that all material present in the provided sampling container is considered part of the sample - MAI does not exclude any material from the sample prior to sample preparation unless requested in writing by the client.

Summa COC

MAI Work Order # 1709887

McCAMPBELL ANALYTICAL, INC.

1534 Willow Pass Rd. Pittsburg, Ca. 94565-1701
Telephone: (877) 252-9262 / Fax: (925) 252-9269
www.mccampbell.com main@mccampbell.com

CHAIN OF CUSTODY RECORD

Turn Around Time: 1 Day Rush | 2 Day Rush | 3 Day Rush | STD X | Quote #
J-Flag / MDL | ESL | Cleanup Approved | Bottle Order #
Delivery Format: PDF | GeoTracker EDF | EDD | Write On (DW) | EQuIS

Report To: Jim Gribi
Company: Gribi Associates
Email: JGribi@gribiassociates.com
Alt Email: Tele:
Project Name: Holliday Development Project#:
Project Location: 3800 San Pablo Ave PO #
Sampler Signature: MAR

Bill To:

Analysis Requested

Helium Shroud SN#

Leak Check Default is IPA

Notes: Please specify units if different than default: VOCs is reported in µg/m³, fixed is reported in %.

SAMPLE ID Location / Field Point	Sampling Start Date	Sampling Start Time	End Time	Canister SN#	Sample Kit / Manifold #	VOCs TO-15 (µg/m³) - See Notes	8010 by TO-15 (µg/m³)	TPH(g) (µg/m³)	LEED: (inc. 4PCH, Formaldehyde, CO, Total VOCs)	Fixed Gas (CO_2, Methane, Ethane, Ethylene, Acetylene, Propane, CO) %	Fixed Gas: (O_2, N_2) % CO_2	APH: Aliphatic and/or Aromatic (circle one) µg/m³	Helium Leak Check %	Leak Check (IPA, Norflurane, 1,1-difluroethane) µg/m³	Methane		Matrix: Soilgas	Matrix: Indoor Air	Matrix:	Canister Pressure / Vacuum: Initial	Canister Pressure / Vacuum: Final
VS-1	9/27	1130	1136	5806-737		X		X			X		X		X		X			29	5
VS-2	9/27	1235	1242	5808-739		X		X			X		X		X		X			29	5

**MAI clients MUST disclose any dangerous chemicals known to be present in their submitted samples in concentrations that may cause immediate harm or serious future health endangerment as a result of brief, gloved, open air, sample handling by MAI staff. Non-disclosure incurs an immediate $250 surcharge and the client is subject to full legal liability for harm suffered. Thank you for your understanding and for allowing us to work safely.

Relinquished By / Company Name	Date	Time	Received By / Company Name	Date	Time	Comments / Instructions
MAR	9/27/2017	1400		9/27/17	1410	O2 Added 10/10/17 STAT

Page ___ of ___