Nowell, Keith, Env. Health

From: Michael Harrison <mharrison@enviroassets.com>
Sent: Friday, September 07, 2018 3:24 PM
To: Roe, Dilan, Env. Health; Nowell, Keith, Env. Health
Cc: Alexander, Jeriann; ronpatelvidge@gmail.com; Nowell, Keith, Env. Health; dwood@wshblaw.com; pton@ww-envlaw.com; Khatri, Paresh, Env. Health; dsobelman@downeybrand.com; epoppler@behblaw.com; Donna Cresswell; Jonathan W. Redding; Nowell, Keith, Env. Health; George Mead; Matt Harband
Subject: RE: ACDEH Responsive Environmental Investigation And Request For No Further Action - T10000011188 (corrected email address for George Mead)
Attachments: Lab Report-Bouzos Property Samples.pdf

Dear Ms. Roe:
I hope that you had a great vacation. During your absence, we received the results of the August 2018 sampling by LRM Consulting on the Bouzos property (attached). These sampling results are consistent with the conclusions presented to the County in the *ACDEH Responsive Environmental Investigation And Request For No Further Action* provided to the County on July 17, 2018, that the Bouzos property should be provided a No Further Action letter and retain its no-case status.

Water Sampling
The water sample collected from the groundwater monitoring well at the southwestern (downgradient) edge of the property, MW-1, contained 0.52 µg/L of PCE. This is substantially below the drinking water standard of 5 µg/L. The only other chemical detected in that groundwater sample was chloroform at 0.54 µg/L. Chloroform is not a chemical of concern.

Vapor Sampling
Vapor samples were also collected on August 3rd from the shallow (SG12-7) and deeper (SG12-15) soil vapor sampling points installed near MW-1 by LRM. PCE was not detected in the sample collected from SG12-7 at a detection limit of <3.4 µg/m^3. PCE was detected at 26 µg/m^3 from the sample collected from the SG12-15. These detections are de minimis. No other chemicals were detected from samples collected at either location.

Can you please provide your estimate of your timing to review the July 17, 2018, *ACDEH Responsive Environmental Investigation And Request For No Further Action* report?

Sincerely,

Michael Harrison, P.E., QSD/QSP, LEED AP
Principal
EnviroAssets, Inc.
Voice: (510) 346-9500
Fax: (510) 346-9501
Email: mharrison@enviroassets.com
Web: http://www.enviroassets.com/
==========

not the intended recipient please contact the sender by return electronic mail and delete all copies of this communication.

From: Roe, Dilan, Env. Health <Dilan.Roe@acgov.org>
Sent: Thursday, July 26, 2018 1:12 PM
To: Michael Harrison <mharrison@enviroassets.com>; Nowell, Keith, Env. Health <Keith.Nowell@acgov.org>
Cc: George Mead <gmead@enviroassets.com>; Matt Harband <mharband@enviroassets.com>
Subject: RE: ACDEH Responsive Environmental Investigation And Request For No Further Action - T10000011188 (corrected email address for George Mead)

Good Afternoon Michael:

We have received the report. I am leaving on early next week for vacation and will not be returning until the last week of August so we will not likely review the report until after my return.

Dilan Roe, PE, C73703
Chief – Land Water Division
Alameda County Department of Environmental Health
1131 Harbor Bay Parkway
Alameda, CA
510.567.6767; Ext. 36767
QIC: 30440
dilan.roe@acgov.org

From: Michael Harrison [mailto:mharrison@enviroassets.com]
Sent: Wednesday, July 25, 2018 11:45 AM
To: Nowell, Keith, Env. Health <Keith.Nowell@acgov.org>; Roe, Dilan, Env. Health <Dilan.Roe@acgov.org>
Cc: George Mead <gmead@enviroassets.com>; Matt Harband <mharband@enviroassets.com>
Subject: FW: ACDEH Responsive Environmental Investigation And Request For No Further Action - T10000011188 (corrected email address for George Mead)

Dear Dilan and Keith:
I hope this email finds you well.

Can you please confirm that you received the attached report and request for closure? I note that the GeoTracker submittal is still listed as “pending”, and does not show up under the project. Can you please update us on the status of this submittal?

Sincerely,

Michael Harrison, P.E., QSD/QSP, LEED AP
Principal
EnviroAssets, Inc.
(888) 748-8820
Web: http://www.enviroassets.com/

From: Michael Harrison
Sent: Tuesday, July 17, 2018 6:15 PM
To: 'Nowell, Keith, Env. Health' <Keith.Nowell@acgov.org>; 'Roe, Dilan, Env. Health' <Dilan.Roe@acgov.org>
Cc: 'Alexander, Jeriann' <jalexander@fugro.com>; 'dwood@wshblaw.com' <dwood@wshblaw.com>; 'Khatri, Paresh, Env. Health' <paresh.khatri@acgov.org>; 'dsobelman@downeybrand.com' <dsobelman@downeybrand.com>;

'epoppler@behblaw.com' <epoppler@behblaw.com>; 'Donna Cresswell' <DCresswell@wendel.com>; George Mead <gmead@enviroassets.com>; 'Nowell, Keith, Env. Health' <Keith.Nowell@acgov.org>; 'John Till' <jtill@paladinlaw.com>; 'Jonathan W. Redding' <JRedding@wendel.com>
Subject: ACDEH Responsive Environmental Investigation And Request For No Further Action - T10000011188 (corrected email address for George Mead)

Dear Dilan and Keith:
This email has the corrected email address for George Mead. Please use this email list for a reply.

This email translates the EnviroAssets, *ACDEH Responsive Environmental Investigation And Request For No Further Action* for the "non-case" at 305 and 307 63rd Street; and 6251, 6253, and 6255 College Avenue, Oakland (T10000011188). The document is attached and also available for download at https://enviroassetsinc.box.com/s/s5mtwsxagqz371abzyiezjq1orv7sg2v

The document will also be uploaded to GeoTracker today.

Due to Mr. Till's absence, I have transmitted this document to the larger distribution list found in prior emails from Paladin Law. I will also be travelling after today and will not be available to answer questions regarding this report for approximately three weeks. In the intervening time, George Mead (gmead@enviroassets.com) is available to support the project in concert with the owners and Ms. Poppler should the need arise.

Sincerely,

Michael Harrison, P.E., QSD/QSP, LEED AP
Principal
EnviroAssets, Inc.
Voice: (510) 346-9500
Fax: (510) 346-9501
Email: mharrison@enviroassets.com
Web: http://www.enviroassets.com/
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McCampbell Analytical, Inc.

"When Quality Counts"

Analytical Report

WorkOrder: 1808184 **Amended:** 08/22/2018

Report Created for: LRM Consulting, Inc.

1534 Plaza Lane, #145
Burlingame, CA 94010

Project Contact: Mehrdad Javaherian
Project P.O.:
Project: Tim Red Hanger

Project Received: 08/03/2018

Analytical Report reviewed & approved for release on 08/13/2018 by:

Jennifer Lagerbom
Project 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

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http://www.mccampbell.com / E-mail: main@mccampbell.com

Glossary of Terms & Qualifier Definitions

Client: LRM Consulting, Inc.
Project: Tim Red Hanger
WorkOrder: 1808184

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)

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Glossary of Terms & Qualifier Definitions

Client: LRM Consulting, Inc.
Project: Tim Red Hanger
WorkOrder: 1808184

Quality Control Qualifiers

F1	MS/MSD recovery and/or RPD is out of acceptance criteria; LCS validates the prep batch.
F2	LCS/LCSD recovery and/or RPD is out of acceptance criteria.

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Case Narrative

Client: LRM Consulting, Inc.
Project: Tim Red Hanger

Work Order: 1808184
August 10, 2018

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.

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.

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Analytical Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Received:	8/3/18 18:30	**Extraction Method:**	SW5030B
Date Prepared:	8/10/18	**Analytical Method:**	SW8260B
Project:	Tim Red Hanger	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1808184-003A	Water	08/03/2018 08:45	GC38 08101825.D	163071

Analytes	Result	RL	DF	Date Analyzed
Bromobenzene	ND	0.50	1	08/10/2018 23:52
Bromochloromethane	ND	0.50	1	08/10/2018 23:52
Bromodichloromethane	ND	0.50	1	08/10/2018 23:52
Bromoform	ND	0.50	1	08/10/2018 23:52
Bromomethane	ND	0.50	1	08/10/2018 23:52
Carbon Tetrachloride	ND	0.50	1	08/10/2018 23:52
Chlorobenzene	ND	0.50	1	08/10/2018 23:52
Chloroethane	ND	0.50	1	08/10/2018 23:52
Chloroform	**0.54**	0.50	1	08/10/2018 23:52
Chloromethane	ND	0.50	1	08/10/2018 23:52
2-Chlorotoluene	ND	0.50	1	08/10/2018 23:52
4-Chlorotoluene	ND	0.50	1	08/10/2018 23:52
Dibromochloromethane	ND	0.50	1	08/10/2018 23:52
1,2-Dibromo-3-chloropropane	ND	0.20	1	08/10/2018 23:52
1,2-Dibromoethane (EDB)	ND	0.50	1	08/10/2018 23:52
Dibromomethane	ND	0.50	1	08/10/2018 23:52
1,2-Dichlorobenzene	ND	0.50	1	08/10/2018 23:52
1,3-Dichlorobenzene	ND	0.50	1	08/10/2018 23:52
1,4-Dichlorobenzene	ND	0.50	1	08/10/2018 23:52
Dichlorodifluoromethane	ND	0.50	1	08/10/2018 23:52
1,1-Dichloroethane	ND	0.50	1	08/10/2018 23:52
1,2-Dichloroethane (1,2-DCA)	ND	0.50	1	08/10/2018 23:52
1,1-Dichloroethene	ND	0.50	1	08/10/2018 23:52
cis-1,2-Dichloroethene	ND	0.50	1	08/10/2018 23:52
trans-1,2-Dichloroethene	ND	0.50	1	08/10/2018 23:52
1,2-Dichloropropane	ND	0.50	1	08/10/2018 23:52
1,3-Dichloropropane	ND	0.50	1	08/10/2018 23:52
2,2-Dichloropropane	ND	0.50	1	08/10/2018 23:52
1,1-Dichloropropene	ND	0.50	1	08/10/2018 23:52
cis-1,3-Dichloropropene	ND	0.50	1	08/10/2018 23:52
trans-1,3-Dichloropropene	ND	0.50	1	08/10/2018 23:52
Freon 113	ND	0.50	1	08/10/2018 23:52
Hexachlorobutadiene	ND	0.50	1	08/10/2018 23:52
Hexachloroethane	ND	0.50	1	08/10/2018 23:52
Methylene chloride	ND	0.50	1	08/10/2018 23:52
1,1,1,2-Tetrachloroethane	ND	0.50	1	08/10/2018 23:52
1,1,2,2-Tetrachloroethane	ND	0.50	1	08/10/2018 23:52

(Cont.)

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Analytical Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Received:	8/3/18 18:30	**Extraction Method:**	SW5030B
Date Prepared:	8/10/18	**Analytical Method:**	SW8260B
Project:	Tim Red Hanger	**Unit:**	µg/L

Volatile Organics

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
MW-1	1808184-003A	Water	08/03/2018 08:45	GC38 08101825.D	163071

Analytes	Result	RL	DF	Date Analyzed
Tetrachloroethene	**0.52**	0.50	1	08/10/2018 23:52
1,2,3-Trichlorobenzene	ND	0.50	1	08/10/2018 23:52
1,2,4-Trichlorobenzene	ND	0.50	1	08/10/2018 23:52
1,1,1-Trichloroethane	ND	0.50	1	08/10/2018 23:52
1,1,2-Trichloroethane	ND	0.50	1	08/10/2018 23:52
Trichloroethene	ND	0.50	1	08/10/2018 23:52
Trichlorofluoromethane	ND	0.50	1	08/10/2018 23:52
1,2,3-Trichloropropane	ND	0.50	1	08/10/2018 23:52
Vinyl Chloride	ND	0.50	1	08/10/2018 23:52

Surrogates	REC (%)	Limits	
Dibromofluoromethane	113	78-134	08/10/2018 23:52
Toluene-d8	113	82-120	08/10/2018 23:52
4-BFB	103	69-131	08/10/2018 23:52

Analyst(s): TK

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Analytical Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Received:	8/3/18 18:30	**Extraction Method:**	ASTM D 1946-90
Date Prepared:	8/8/18	**Analytical Method:**	ASTM D 1946-90
Project:	Tim Red Hanger	**Unit:**	%

Helium

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG-12-7	1808184-001A	SoilGas	08/03/2018 10:14	GC26 0808180823.D	162992

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.33	24.61	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	ND	0.050	1	08/08/2018 11:52

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG-12-15	1808184-002A	SoilGas	08/03/2018 11:15	GC26 0808180825.D	162992

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.09	24.18	AK

Analytes	Result	RL	DF	Date Analyzed
Helium	**0.79**	0.050	1	08/08/2018 12:07

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Analytical Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Received:	8/3/18 18:30	**Extraction Method:**	TO15
Date Prepared:	8/9/18	**Analytical Method:**	TO15
Project:	Tim Red Hanger	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG12-7	1808184-001A	SoilGas	08/03/2018 10:14	GC29 08081833.D	163042

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.33	24.61	HK

Analytes	Result	RL	DF	Date Analyzed
Bromodichloromethane	ND	3.5	1	08/09/2018 15:09
Bromoform	ND	5.2	1	08/09/2018 15:09
Bromomethane	ND	2.0	1	08/09/2018 15:09
Carbon Tetrachloride	ND	3.2	1	08/09/2018 15:09
Chlorobenzene	ND	2.4	1	08/09/2018 15:09
Chloroethane	ND	1.3	1	08/09/2018 15:09
Chloroform	ND	2.4	1	08/09/2018 15:09
Chloromethane	ND	1.0	1	08/09/2018 15:09
Dibromochloromethane	ND	4.4	1	08/09/2018 15:09
1,2-Dibromo-3-chloropropane	ND	0.12	1	08/09/2018 15:09
1,2-Dibromoethane (EDB)	ND	3.9	1	08/09/2018 15:09
1,2-Dichlorobenzene	ND	3.0	1	08/09/2018 15:09
1,3-Dichlorobenzene	ND	3.0	1	08/09/2018 15:09
1,4-Dichlorobenzene	ND	3.0	1	08/09/2018 15:09
Dichlorodifluoromethane	ND	2.5	1	08/09/2018 15:09
1,1-Dichloroethane	ND	2.0	1	08/09/2018 15:09
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	08/09/2018 15:09
1,1-Dichloroethene	ND	2.0	1	08/09/2018 15:09
cis-1,2-Dichloroethene	ND	2.0	1	08/09/2018 15:09
trans-1,2-Dichloroethene	ND	2.0	1	08/09/2018 15:09
1,2-Dichloropropane	ND	2.4	1	08/09/2018 15:09
cis-1,3-Dichloropropene	ND	2.3	1	08/09/2018 15:09
trans-1,3-Dichloropropene	ND	2.3	1	08/09/2018 15:09
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	08/09/2018 15:09
Freon 113	ND	3.9	1	08/09/2018 15:09
Methylene chloride	ND	8.8	1	08/09/2018 15:09
1,1,1,2-Tetrachloroethane	ND	3.5	1	08/09/2018 15:09
1,1,2,2-Tetrachloroethane	ND	3.5	1	08/09/2018 15:09
Tetrachloroethene	ND	3.4	1	08/09/2018 15:09
1,2,4-Trichlorobenzene	ND	3.8	1	08/09/2018 15:09
1,1,1-Trichloroethane	ND	2.8	1	08/09/2018 15:09
1,1,2-Trichloroethane	ND	2.8	1	08/09/2018 15:09
Trichloroethene	ND	2.8	1	08/09/2018 15:09

(Cont.)

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Analytical Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Received:	8/3/18 18:30	**Extraction Method:**	TO15
Date Prepared:	8/9/18	**Analytical Method:**	TO15
Project:	Tim Red Hanger	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG12-7	1808184-001A	SoilGas	08/03/2018 10:14	GC29 08081833.D	163042

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.33	24.61	HK

Analytes	Result	RL	DF	Date Analyzed
Trichlorofluoromethane	ND	2.8	1	08/09/2018 15:09
Vinyl Chloride	ND	1.3	1	08/09/2018 15:09
Surrogates	**REC (%)**	**Limits**		
1,2-DCA-d4	96	70-130		08/09/2018 15:09
Toluene-d8	91	70-130		08/09/2018 15:09
4-BFB	100	70-130		08/09/2018 15:09

(Cont.)

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Analytical Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Received:	8/3/18 18:30	**Extraction Method:**	TO15
Date Prepared:	8/9/18	**Analytical Method:**	TO15
Project:	Tim Red Hanger	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG12-15	1808184-002A	SoilGas	08/03/2018 11:15	GC29 08081824.D	163042

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.09	24.18	HK

Analytes	Result	RL	DF	Date Analyzed
Bromodichloromethane	ND	3.5	1	08/09/2018 08:30
Bromoform	ND	5.2	1	08/09/2018 08:30
Bromomethane	ND	2.0	1	08/09/2018 08:30
Carbon Tetrachloride	ND	3.2	1	08/09/2018 08:30
Chlorobenzene	ND	2.4	1	08/09/2018 08:30
Chloroethane	ND	1.3	1	08/09/2018 08:30
Chloroform	ND	2.4	1	08/09/2018 08:30
Chloromethane	ND	1.0	1	08/09/2018 08:30
Dibromochloromethane	ND	4.4	1	08/09/2018 08:30
1,2-Dibromo-3-chloropropane	ND	0.12	1	08/09/2018 08:30
1,2-Dibromoethane (EDB)	ND	3.9	1	08/09/2018 08:30
1,2-Dichlorobenzene	ND	3.0	1	08/09/2018 08:30
1,3-Dichlorobenzene	ND	3.0	1	08/09/2018 08:30
1,4-Dichlorobenzene	ND	3.0	1	08/09/2018 08:30
Dichlorodifluoromethane	ND	2.5	1	08/09/2018 08:30
1,1-Dichloroethane	ND	2.0	1	08/09/2018 08:30
1,2-Dichloroethane (1,2-DCA)	ND	2.0	1	08/09/2018 08:30
1,1-Dichloroethene	ND	2.0	1	08/09/2018 08:30
cis-1,2-Dichloroethene	ND	2.0	1	08/09/2018 08:30
trans-1,2-Dichloroethene	ND	2.0	1	08/09/2018 08:30
1,2-Dichloropropane	ND	2.4	1	08/09/2018 08:30
cis-1,3-Dichloropropene	ND	2.3	1	08/09/2018 08:30
trans-1,3-Dichloropropene	ND	2.3	1	08/09/2018 08:30
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	3.6	1	08/09/2018 08:30
Freon 113	ND	3.9	1	08/09/2018 08:30
Methylene chloride	ND	8.8	1	08/09/2018 08:30
1,1,1,2-Tetrachloroethane	ND	3.5	1	08/09/2018 08:30
1,1,2,2-Tetrachloroethane	ND	3.5	1	08/09/2018 08:30
Tetrachloroethene	**26**	3.4	1	08/09/2018 08:30
1,2,4-Trichlorobenzene	ND	3.8	1	08/09/2018 08:30
1,1,1-Trichloroethane	ND	2.8	1	08/09/2018 08:30
1,1,2-Trichloroethane	ND	2.8	1	08/09/2018 08:30
Trichloroethene	ND	2.8	1	08/09/2018 08:30

(Cont.)

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Analytical Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Received:	8/3/18 18:30	**Extraction Method:**	TO15
Date Prepared:	8/9/18	**Analytical Method:**	TO15
Project:	Tim Red Hanger	**Unit:**	µg/m³

Volatile Organic Compounds

Client ID	Lab ID	Matrix	Date Collected	Instrument	Batch ID
SG12-15	1808184-002A	SoilGas	08/03/2018 11:15	GC29 08081824.D	163042

Initial Pressure (psia)	Final Pressure (psia)	Analyst(s)
12.09	24.18	HK

Analytes	Result	RL	DF	Date Analyzed
Trichlorofluoromethane	ND	2.8	1	08/09/2018 08:30
Vinyl Chloride	ND	1.3	1	08/09/2018 08:30

Surrogates	REC (%)	Limits	
1,2-DCA-d4	99	70-130	08/09/2018 08:30
Toluene-d8	93	70-130	08/09/2018 08:30
4-BFB	100	70-130	08/09/2018 08:30

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Quality Control Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Prepared:	8/10/18	**BatchID:**	163071
Date Analyzed:	8/10/18	**Extraction Method:**	SW5030B
Instrument:	GC38	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Tim Red Hanger	**Sample ID:**	MB/LCS/LCSD-163071 1808184-003AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	10	-	-	-
tert-Amyl methyl ether (TAME)	ND	0.50	-	-	-
Benzene	ND	0.50	-	-	-
Bromobenzene	ND	0.50	-	-	-
Bromochloromethane	ND	0.50	-	-	-
Bromodichloromethane	ND	0.50	-	-	-
Bromoform	ND	0.50	-	-	-
Bromomethane	ND	0.50	-	-	-
2-Butanone (MEK)	ND	2.0	-	-	-
t-Butyl alcohol (TBA)	ND	2.0	-	-	-
n-Butyl benzene	ND	0.50	-	-	-
sec-Butyl benzene	ND	0.50	-	-	-
tert-Butyl benzene	ND	0.50	-	-	-
Carbon Disulfide	ND	0.50	-	-	-
Carbon Tetrachloride	ND	0.50	-	-	-
Chlorobenzene	ND	0.50	-	-	-
Chloroethane	ND	0.50	-	-	-
Chloroform	ND	0.50	-	-	-
Chloromethane	ND	0.50	-	-	-
2-Chlorotoluene	ND	0.50	-	-	-
4-Chlorotoluene	ND	0.50	-	-	-
Dibromochloromethane	ND	0.50	-	-	-
1,2-Dibromo-3-chloropropane	ND	0.20	-	-	-
1,2-Dibromoethane (EDB)	ND	0.50	-	-	-
Dibromomethane	ND	0.50	-	-	-
1,2-Dichlorobenzene	ND	0.50	-	-	-
1,3-Dichlorobenzene	ND	0.50	-	-	-
1,4-Dichlorobenzene	ND	0.50	-	-	-
Dichlorodifluoromethane	ND	0.50	-	-	-
1,1-Dichloroethane	ND	0.50	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	0.50	-	-	-
1,1-Dichloroethene	ND	0.50	-	-	-
cis-1,2-Dichloroethene	ND	0.50	-	-	-
trans-1,2-Dichloroethene	ND	0.50	-	-	-
1,2-Dichloropropane	ND	0.50	-	-	-
1,3-Dichloropropane	ND	0.50	-	-	-
2,2-Dichloropropane	ND	0.50	-	-	-
1,1-Dichloropropene	ND	0.50	-	-	-

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Quality Control Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Prepared:	8/10/18	**BatchID:**	163071
Date Analyzed:	8/10/18	**Extraction Method:**	SW5030B
Instrument:	GC38	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Tim Red Hanger	**Sample ID:**	MB/LCS/LCSD-163071 1808184-003AMS/MSD

QC Summary Report for SW8260B

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
cis-1,3-Dichloropropene	ND	0.50	-	-	-
trans-1,3-Dichloropropene	ND	0.50	-	-	-
Diisopropyl ether (DIPE)	ND	0.50	-	-	-
Ethylbenzene	ND	0.50	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	0.50	-	-	-
Freon 113	ND	0.50	-	-	-
Hexachlorobutadiene	ND	0.50	-	-	-
Hexachloroethane	ND	0.50	-	-	-
2-Hexanone	ND	0.50	-	-	-
Isopropylbenzene	ND	0.50	-	-	-
4-Isopropyl toluene	ND	0.50	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.50	-	-	-
Methylene chloride	ND	0.50	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	0.50	-	-	-
Naphthalene	ND	0.50	-	-	-
n-Propyl benzene	ND	0.50	-	-	-
Styrene	ND	0.50	-	-	-
1,1,1,2-Tetrachloroethane	ND	0.50	-	-	-
1,1,2,2-Tetrachloroethane	ND	0.50	-	-	-
Tetrachloroethene	ND	0.50	-	-	-
Toluene	ND	0.50	-	-	-
1,2,3-Trichlorobenzene	ND	0.50	-	-	-
1,2,4-Trichlorobenzene	ND	0.50	-	-	-
1,1,1-Trichloroethane	ND	0.50	-	-	-
1,1,2-Trichloroethane	ND	0.50	-	-	-
Trichloroethene	ND	0.50	-	-	-
Trichlorofluoromethane	ND	0.50	-	-	-
1,2,3-Trichloropropane	ND	0.50	-	-	-
1,2,4-Trimethylbenzene	ND	0.50	-	-	-
1,3,5-Trimethylbenzene	ND	0.50	-	-	-
Vinyl Chloride	ND	0.50	-	-	-
Xylenes, Total	ND	0.50	-	-	-
Surrogate Recovery					
Dibromofluoromethane	31.9		25	127	91-133
Toluene-d8	28.9		25	116	87-127
4-BFB	2.66		2.5	106	66-140

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Quality Control Report

Client: LRM Consulting, Inc.
Date Prepared: 8/10/18
Date Analyzed: 8/10/18
Instrument: GC38
Matrix: Water
Project: Tim Red Hanger

WorkOrder: 1808184
BatchID: 163071
Extraction Method: SW5030B
Analytical Method: SW8260B
Unit: µg/L
Sample ID: MB/LCS/LCSD-163071
1808184-003AMS/MSD

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	155	174	200	78	87	47-122	11.5	20
tert-Amyl methyl ether (TAME)	7.90	8.16	10	79	82	62-121	3.25	20
Benzene	8.57	8.62	10	86	86	74-121	0	20
Bromobenzene	8.04	8.01	10	80	80	63-127	0	20
Bromochloromethane	8.42	8.56	10	84	86	70-126	1.63	20
Bromodichloromethane	8.59	8.65	10	86	87	66-127	0.698	20
Bromoform	8.22	9.03	10	82	90	60-119	9.31	20
Bromomethane	9.24	9.49	10	92	95	32-155	2.71	20
2-Butanone (MEK)	31.2	34.6	40	78	87	51-117	10.6	20
t-Butyl alcohol (TBA)	28.7	39.5	40	72	99	41-122	31.6,F2	20
n-Butyl benzene	10.4	10.6	10	104	106	73-137	1.89	20
sec-Butyl benzene	9.86	9.80	10	99	98	71-137	0.612	20
tert-Butyl benzene	8.86	8.90	10	89	89	61-136	0	20
Carbon Disulfide	9.70	9.24	10	97	92	61-139	4.87	20
Carbon Tetrachloride	8.82	8.75	10	88	88	69-137	0	20
Chlorobenzene	8.84	8.92	10	88	89	71-122	0.883	20
Chloroethane	9.21	11.5	10	92	115	54-132	21.9,F2	20
Chloroform	9.29	9.25	10	93	93	73-122	0	20
Chloromethane	8.76	8.68	10	88	87	48-136	0.952	20
2-Chlorotoluene	8.94	8.94	10	89	89	65-134	0	20
4-Chlorotoluene	8.71	8.88	10	87	89	65-130	1.97	20
Dibromochloromethane	8.21	8.38	10	82	84	65-121	2.09	20
1,2-Dibromo-3-chloropropane	2.84	3.68	4	71	92	41-132	25.8,F2	20
1,2-Dibromoethane (EDB)	8.42	8.71	10	84	87	67-125	3.43	20
Dibromomethane	7.81	8.06	10	78	81	68-121	3.24	20
1,2-Dichlorobenzene	8.72	9.22	10	87	92	69-128	5.46	20
1,3-Dichlorobenzene	9.37	9.47	10	94	95	71-131	1.12	20
1,4-Dichlorobenzene	8.66	8.81	10	87	88	70-128	1.74	20
Dichlorodifluoromethane	7.03	7.63	10	70	76	21-158	8.26	20
1,1-Dichloroethane	9.13	9.15	10	91	92	73-123	0.247	20
1,2-Dichloroethane (1,2-DCA)	8.37	8.58	10	84	86	61-127	2.47	20
1,1-Dichloroethene	9.80	9.81	10	98	98	68-130	0	20
cis-1,2-Dichloroethene	8.88	8.80	10	89	88	72-123	0.905	20
trans-1,2-Dichloroethene	8.82	8.83	10	88	88	64-138	0	20
1,2-Dichloropropane	8.60	8.70	10	86	87	71-121	1.19	20
1,3-Dichloropropane	8.58	8.83	10	86	88	69-120	2.91	20
2,2-Dichloropropane	8.98	8.96	10	90	90	64-142	0	20
1,1-Dichloropropene	9.29	9.41	10	93	94	70-130	1.21	20

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Quality Control Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Prepared:	8/10/18	**BatchID:**	163071
Date Analyzed:	8/10/18	**Extraction Method:**	SW5030B
Instrument:	GC38	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Tim Red Hanger	**Sample ID:**	MB/LCS/LCSD-163071 1808184-003AMS/MSD

QC Summary Report for SW8260B

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	9.36	9.36	10	94	94	58-136	0	20
trans-1,3-Dichloropropene	9.48	9.67	10	95	97	66-119	1.94	20
Diisopropyl ether (DIPE)	8.74	8.86	10	87	89	66-123	1.34	20
Ethylbenzene	9.13	9.11	10	91	91	71-125	0	20
Ethyl tert-butyl ether (ETBE)	8.30	8.52	10	83	85	67-122	2.62	20
Freon 113	8.70	8.72	10	87	87	68-132	0	20
Hexachlorobutadiene	9.30	9.80	10	93	98	56-155	5.21	20
Hexachloroethane	8.74	8.90	10	87	89	61-129	1.89	20
2-Hexanone	7.98	9.87	10	80	99	51-115	21.2,F2	20
Isopropylbenzene	9.69	9.64	10	97	96	66-134	0.564	20
4-Isopropyl toluene	9.77	9.87	10	98	99	70-136	1.03	20
Methyl-t-butyl ether (MTBE)	8.06	8.37	10	81	84	64-118	3.71	20
Methylene chloride	7.90	8.00	10	79	80	62-121	1.27	20
4-Methyl-2-pentanone (MIBK)	8.20	9.40	10	82	94	51-115	13.6	20
Naphthalene	7.46	8.72	10	75	87	55-137	15.7	20
n-Propyl benzene	9.10	9.05	10	91	90	63-140	0.514	20
Styrene	9.34	9.34	10	93	93	62-133	0	20
1,1,1,2-Tetrachloroethane	8.95	8.93	10	90	89	69-128	0.226	20
1,1,2,2-Tetrachloroethane	7.56	8.98	10	76	90	60-118	17.1	20
Tetrachloroethene	8.52	8.38	10	85	84	63-136	1.63	20
Toluene	8.11	8.07	10	81	81	67-124	0	20
1,2,3-Trichlorobenzene	7.80	9.03	10	78	90	57-145	14.6	20
1,2,4-Trichlorobenzene	8.04	8.92	10	80	89	60-144	10.3	20
1,1,1-Trichloroethane	8.85	8.80	10	89	88	70-133	0.616	20
1,1,2-Trichloroethane	8.02	8.30	10	80	83	65-125	3.40	20
Trichloroethene	8.51	8.47	10	85	85	67-133	0	20
Trichlorofluoromethane	8.42	8.32	10	84	83	59-145	1.18	20
1,2,3-Trichloropropane	7.64	8.67	10	76	87	65-115	12.6	20
1,2,4-Trimethylbenzene	8.63	8.69	10	86	87	67-136	0.677	20
1,3,5-Trimethylbenzene	8.88	8.84	10	89	88	68-135	0.434	20
Vinyl Chloride	10.9	10.6	10	109	106	53-146	2.28	20
Xylenes, Total	28.3	28.4	30	94	95	68-128	0.458	20
Surrogate Recovery								
Dibromofluoromethane	30.6	30.0	25	122	120	91-133	1.95	20
Toluene-d8	28.6	28.3	25	114	113	87-127	1.20	20
4-BFB	2.67	2.61	2.5	107	104	66-140	2.39	20

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Quality Control Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Prepared:	8/10/18	**BatchID:**	163071
Date Analyzed:	8/10/18	**Extraction Method:**	SW5030B
Instrument:	GC38	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Tim Red Hanger	**Sample ID:**	MB/LCS/LCSD-163071 1808184-003AMS/MSD

QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
Acetone	86.3	97.9	200	ND	43,F1	49,F1	56-141	12.5	20
tert-Amyl methyl ether (TAME)	9.14	9.05	10	ND	91	90	78-120	1.03	20
Benzene	9.25	9.05	10	ND	92	90	81-118	2.19	20
Bromobenzene	8.61	8.39	10	ND	86	84	71-119	2.59	20
Bromochloromethane	9.18	9.03	10	ND	92	90	80-124	1.62	20
Bromodichloromethane	9.44	9.24	10	ND	94	92	78-124	2.18	20
Bromoform	9.36	9.35	10	ND	94	93	65-127	0.143	20
Bromomethane	10.1	9.76	10	ND	101	98	22-175	3.13	20
2-Butanone (MEK)	38.4	39.5	40	ND	96	99	50-152	3.00	20
t-Butyl alcohol (TBA)	36.5	37.2	40	ND	91	93	49-141	1.91	20
n-Butyl benzene	10.5	10.4	10	ND	105	105	77-127	0	20
sec-Butyl benzene	10.1	9.99	10	ND	101	100	74-123	0.727	20
tert-Butyl benzene	9.08	9.11	10	ND	91	91	68-122	0	20
Carbon Disulfide	10.0	9.79	10	ND	100	98	74-123	2.37	20
Carbon Tetrachloride	8.90	8.80	10	ND	89	88	78-124	1.19	20
Chlorobenzene	9.42	9.27	10	ND	94	93	79-116	1.58	20
Chloroethane	11.4	10.9	10	ND	114	109	56-134	4.36	20
Chloroform	9.73	9.53	10	0.5362	92	90	82-119	2.06	20
Chloromethane	9.62	9.39	10	ND	96	94	39-147	2.37	20
2-Chlorotoluene	9.22	9.18	10	ND	92	92	69-124	0	20
4-Chlorotoluene	9.03	9.00	10	ND	90	90	71-121	0	20
Dibromochloromethane	9.18	9.08	10	ND	92	91	76-119	1.08	20
1,2-Dibromo-3-chloropropane	9.02	9.27	10	ND	90	93	48-138	2.76	20
1,2-Dibromoethane (EDB)	9.62	9.55	10	ND	96	96	81-122	0	20
Dibromomethane	8.81	8.65	10	ND	88	87	83-121	1.82	20
1,2-Dichlorobenzene	9.25	8.96	10	ND	92	90	77-122	3.17	20
1,3-Dichlorobenzene	9.68	9.42	10	ND	97	94	76-125	2.71	20
1,4-Dichlorobenzene	9.24	8.90	10	ND	92	89	78-120	3.68	20
Dichlorodifluoromethane	9.76	10.2	10	ND	98	102	38-135	4.27	20
1,1-Dichloroethane	9.72	9.51	10	ND	97	95	80-120	2.21	20
1,2-Dichloroethane (1,2-DCA)	9.11	8.96	10	ND	91	90	78-122	1.60	20
1,1-Dichloroethene	9.61	9.42	10	ND	96	94	77-120	1.98	20
cis-1,2-Dichloroethene	9.20	8.97	10	ND	92	90	79-123	2.50	20
trans-1,2-Dichloroethene	9.60	9.34	10	ND	96	93	77-125	2.66	20
1,2-Dichloropropane	9.27	9.07	10	ND	93	91	80-121	2.17	20
1,3-Dichloropropane	9.61	9.54	10	ND	96	95	80-120	0.741	20
2,2-Dichloropropane	9.90	9.60	10	ND	99	96	70-132	3.06	20
1,1-Dichloropropene	9.58	9.40	10	ND	96	94	78-122	1.97	20

(Cont.)

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Quality Control Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Prepared:	8/10/18	**BatchID:**	163071
Date Analyzed:	8/10/18	**Extraction Method:**	SW5030B
Instrument:	GC38	**Analytical Method:**	SW8260B
Matrix:	Water	**Unit:**	µg/L
Project:	Tim Red Hanger	**Sample ID:**	MB/LCS/LCSD-163071 1808184-003AMS/MSD

QC Summary Report for SW8260B

Analyte	MS Result	MSD Result	SPK Val	SPKRef Val	MS %REC	MSD %REC	MS/MSD Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	10.0	9.83	10	ND	100	98	73-121	2.02	20
trans-1,3-Dichloropropene	10.7	10.5	10	ND	107	105	77-116	1.92	20
Diisopropyl ether (DIPE)	9.62	9.45	10	ND	96	95	77-125	1.77	20
Ethylbenzene	9.54	9.40	10	ND	95	94	77-119	1.41	20
Ethyl tert-butyl ether (ETBE)	9.50	9.39	10	ND	95	94	81-122	1.16	20
Freon 113	9.40	9.17	10	ND	94	92	77-120	2.48	20
Hexachlorobutadiene	9.58	9.48	10	ND	96	95	57-141	1.04	20
Hexachloroethane	9.58	9.37	10	ND	96	94	26-168	2.23	20
2-Hexanone	10.3	10.8	10	ND	103	108	58-135	4.24	20
Isopropylbenzene	9.18	9.09	10	ND	92	91	74-120	1.07	20
4-Isopropyl toluene	10.1	10.0	10	ND	101	100	75-124	1.42	20
Methyl-t-butyl ether (MTBE)	9.14	9.09	10	ND	91	91	74-128	0	20
Methylene chloride	8.58	8.39	10	ND	86	84	55-130	2.25	20
4-Methyl-2-pentanone (MIBK)	10.0	10.3	10	ND	100	103	59-131	2.34	20
Naphthalene	8.79	8.90	10	ND	88	89	65-136	1.24	20
n-Propyl benzene	9.33	9.28	10	ND	93	93	67-128	0	20
Styrene	9.88	9.68	10	ND	98	96	64-133	2.03	20
1,1,1,2-Tetrachloroethane	9.52	9.38	10	ND	95	94	78-122	1.51	20
1,1,2,2-Tetrachloroethane	8.88	8.91	10	ND	89	89	72-123	0	20
Tetrachloroethene	8.87	8.75	10	0.5193	84	82	72-123	1.44	20
Toluene	8.62	8.59	10	ND	86	86	74-117	0	20
1,2,3-Trichlorobenzene	8.63	8.49	10	ND	86	85	61-141	1.57	20
1,2,4-Trichlorobenzene	8.98	8.65	10	ND	90	86	69-136	3.78	20
1,1,1-Trichloroethane	9.10	8.97	10	ND	91	90	78-122	1.52	20
1,1,2-Trichloroethane	8.98	8.91	10	ND	90	89	79-120	0.849	20
Trichloroethene	9.09	8.94	10	ND	91	89	76-122	1.74	20
Trichlorofluoromethane	11.0	10.6	10	ND	109	106	72-125	2.94	20
1,2,3-Trichloropropane	8.98	9.07	10	ND	90	91	72-123	1.05	20
1,2,4-Trimethylbenzene	8.94	8.86	10	ND	89	89	74-123	0	20
1,3,5-Trimethylbenzene	9.19	9.15	10	ND	92	92	73-123	0	20
Vinyl Chloride	10.0	9.62	10	ND	100	96	57-134	4.21	20
Xylenes, Total	29.7	29.0	30	ND	99	97	76-119	2.37	20
Surrogate Recovery									
Dibromofluoromethane	30.0	29.9	25		120	119	78-134	0.531	20
Toluene-d8	28.0	28.4	25		112	114	82-120	1.43	20
4-BFB	2.64	2.59	2.5		105	104	69-131	1.75	20

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Quality Control Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Prepared:	8/8/18	**BatchID:**	162992
Date Analyzed:	8/8/18	**Extraction Method:**	ASTM D 1946-90
Instrument:	GC26	**Analytical Method:**	ASTM D 1946-90
Matrix:	Soilgas	**Unit:**	%
Project:	Tim Red Hanger	**Sample ID:**	MB/LCS/LCSD-162992

QC Summary Report for ASTM D1946-90

Analyte	MB Result	RL			
Helium	ND	0.025	-	-	-

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Helium	0.123	0.124	0.10	123	124	60-140	0.670	20

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Quality Control Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Prepared:	8/8/18 - 8/9/18	**BatchID:**	163042
Date Analyzed:	8/8/18 - 8/9/18	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	Tim Red Hanger	**Sample ID:**	MB/LCS/LCSD-163042

QC Summary Report for TO15

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Acetone	ND	30	-	-	-
Acrolein	ND	2.9	-	-	-
Acrylonitrile	ND	0.55	-	-	-
tert-Amyl methyl ether (TAME)	ND	1.0	-	-	-
Benzene	ND	0.80	-	-	-
Benzyl chloride	ND	1.3	-	-	-
Bromodichloromethane	ND	1.8	-	-	-
Bromoform	ND	2.6	-	-	-
Bromomethane	ND	1.0	-	-	-
1,3-Butadiene	ND	0.55	-	-	-
2-Butanone (MEK)	ND	38	-	-	-
t-Butyl alcohol (TBA)	ND	16	-	-	-
Carbon Disulfide	ND	0.80	-	-	-
Carbon Tetrachloride	ND	1.6	-	-	-
Chlorobenzene	ND	1.2	-	-	-
Chloroethane	ND	0.65	-	-	-
Chloroform	ND	1.2	-	-	-
Chloromethane	ND	0.50	-	-	-
Cyclohexane	ND	9.0	-	-	-
Dibromochloromethane	ND	2.2	-	-	-
1,2-Dibromo-3-chloropropane	0.0639	0.060	-	-	-
1,2-Dibromoethane (EDB)	ND	2.0	-	-	-
1,2-Dichlorobenzene	ND	1.5	-	-	-
1,3-Dichlorobenzene	ND	1.5	-	-	-
1,4-Dichlorobenzene	ND	1.5	-	-	-
Dichlorodifluoromethane	ND	1.2	-	-	-
1,1-Dichloroethane	ND	1.0	-	-	-
1,2-Dichloroethane (1,2-DCA)	ND	1.0	-	-	-
1,1-Dichloroethene	ND	1.0	-	-	-
cis-1,2-Dichloroethene	ND	1.0	-	-	-
trans-1,2-Dichloroethene	ND	1.0	-	-	-
1,2-Dichloropropane	ND	1.2	-	-	-
cis-1,3-Dichloropropene	ND	1.2	-	-	-
trans-1,3-Dichloropropene	ND	1.2	-	-	-
1,2-Dichloro-1,1,2,2-tetrafluoroethane	ND	1.8	-	-	-
Diisopropyl ether (DIPE)	ND	1.0	-	-	-
1,4-Dioxane	ND	0.90	-	-	-
Ethanol	ND	48	-	-	-

(Cont.)

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Quality Control Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Prepared:	8/8/18 - 8/9/18	**BatchID:**	163042
Date Analyzed:	8/8/18 - 8/9/18	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	Tim Red Hanger	**Sample ID:**	MB/LCS/LCSD-163042

QC Summary Report for TO15

Analyte	MB Result	RL	SPK Val	MB SS %REC	MB SS Limits
Ethyl acetate	ND	0.90	-	-	-
Ethyl tert-butyl ether (ETBE)	ND	1.0	-	-	-
Ethylbenzene	ND	1.1	-	-	-
4-Ethyltoluene	ND	1.2	-	-	-
Freon 113	ND	2.0	-	-	-
Heptane	ND	10	-	-	-
Hexachlorobutadiene	ND	2.7	-	-	-
Hexane	ND	9.0	-	-	-
2-Hexanone	ND	1.0	-	-	-
Isopropyl Alcohol	ND	25	-	-	-
4-Methyl-2-pentanone (MIBK)	ND	1.0	-	-	-
Methyl-t-butyl ether (MTBE)	ND	0.90	-	-	-
Methylene chloride	ND	4.4	-	-	-
Methyl methacrylate	ND	1.0	-	-	-
Naphthalene	ND	2.6	-	-	-
Propene	ND	44	-	-	-
Styrene	ND	1.1	-	-	-
1,1,1,2-Tetrachloroethane	ND	1.8	-	-	-
1,1,2,2-Tetrachloroethane	ND	1.8	-	-	-
Tetrachloroethene	ND	1.7	-	-	-
Tetrahydrofuran	ND	1.5	-	-	-
Toluene	ND	0.95	-	-	-
1,2,4-Trichlorobenzene	ND	1.9	-	-	-
1,1,1-Trichloroethane	ND	1.4	-	-	-
1,1,2-Trichloroethane	ND	1.4	-	-	-
Trichloroethene	ND	1.4	-	-	-
Trichlorofluoromethane	ND	1.4	-	-	-
1,2,4-Trimethylbenzene	ND	1.2	-	-	-
1,3,5-Trimethylbenzene	ND	1.2	-	-	-
Vinyl Acetate	ND	9.0	-	-	-
Vinyl Chloride	ND	0.65	-	-	-
Xylenes, Total	ND	3.3	-	-	-
Surrogate Recovery					
1,2-DCA-d4	454		500	91	70-130
Toluene-d8	468		500	94	70-130
4-BFB	491		500	98	70-130

(Cont.)

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Quality Control Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Prepared:	8/8/18 - 8/9/18	**BatchID:**	163042
Date Analyzed:	8/8/18 - 8/9/18	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	Tim Red Hanger	**Sample ID:**	MB/LCS/LCSD-163042

QC Summary Report for TO15

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Acetone	50.9	50.0	60	85	83	60-140	1.85	30
Acrolein	54.3	58.3	58.25	93	100	60-140	7.11	30
Acrylonitrile	53.0	56.5	55	96	103	60-140	6.50	30
tert-Amyl methyl ether (TAME)	103	111	105	98	106	60-140	7.84	30
Benzene	76.7	77.1	80	96	96	60-140	0	30
Benzyl chloride	134	143	132.5	102	108	60-140	6.04	30
Bromodichloromethane	184	184	175	105	105	60-140	0	30
Bromoform	262	269	262.5	100	103	60-140	2.92	30
Bromomethane	88.0	98.8	97.5	90	101	60-140	11.6	30
1,3-Butadiene	44.0	42.0	55	80	76	60-140	4.46	30
2-Butanone (MEK)	68.4	68.4	75	91	91	60-140	0	30
t-Butyl alcohol (TBA)	75.6	80.1	77.5	98	103	60-140	5.82	30
Carbon Disulfide	71.3	92.3	80	89	115	60-140	25.7	30
Carbon Tetrachloride	208	217	160	130	136	60-140	4.48	30
Chlorobenzene	112	110	117.5	95	94	60-140	1.43	30
Chloroethane	61.7	61.9	67.5	91	92	60-140	0.452	30
Chloroform	100	103	122.5	82	84	60-140	3.01	30
Chloromethane	42.9	43.2	52.5	82	82	60-140	0	30
Cyclohexane	69.7	70.6	87.5	80	81	60-140	1.39	30
Dibromochloromethane	226	223	217.5	104	103	60-140	1.51	30
1,2-Dibromo-3-chloropropane	256	255	245	105	104	60-140	0.656	30
1,2-Dibromoethane (EDB)	202	200	195	103	102	60-140	0.892	30
1,2-Dichlorobenzene	155	157	152.5	101	103	60-140	1.50	30
1,3-Dichlorobenzene	159	161	152.5	104	105	60-140	1.19	30
1,4-Dichlorobenzene	160	161	152.5	105	106	60-140	1.01	30
Dichlorodifluoromethane	111	113	125	89	91	60-140	2.02	30
1,1-Dichloroethane	88.5	91.0	102.5	86	89	60-140	2.81	30
1,2-Dichloroethane (1,2-DCA)	93.4	94.9	102.5	91	93	60-140	1.58	30
1,1-Dichloroethene	85.6	84.2	100	86	84	60-140	1.67	30
cis-1,2-Dichloroethene	90.2	90.7	100	90	91	60-140	0.548	30
trans-1,2-Dichloroethene	91.0	99.2	100	91	99	60-140	8.59	30
1,2-Dichloropropane	106	107	117.5	91	91	60-140	0	30
cis-1,3-Dichloropropene	124	121	115	108	105	60-140	2.69	30
trans-1,3-Dichloropropene	126	124	115	110	108	60-140	1.32	30
1,2-Dichloro-1,1,2,2-tetrafluoroethane	133	125	177.5	75	70	60-140	6.38	30
Diisopropyl ether (DIPE)	90.9	106	105	87	100	60-140	14.8	30
1,4-Dioxane	104	92.4	92.5	112	100	60-140	11.6	30
Ethanol	53.7	58.6	47.5	113	123	60-140	8.81	30

(Cont.)

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Quality Control Report

Client:	LRM Consulting, Inc.	**WorkOrder:**	1808184
Date Prepared:	8/8/18 - 8/9/18	**BatchID:**	163042
Date Analyzed:	8/8/18 - 8/9/18	**Extraction Method:**	TO15
Instrument:	GC29	**Analytical Method:**	TO15
Matrix:	SoilGas	**Unit:**	µg/m³
Project:	Tim Red Hanger	**Sample ID:**	MB/LCS/LCSD-163042

QC Summary Report for TO15

Analyte	LCS Result	LCSD Result	SPK Val	LCS %REC	LCSD %REC	LCS/LCSD Limits	RPD	RPD Limit
Ethyl acetate	86.0	81.4	92.5	93	88	60-140	5.43	30
Ethyl tert-butyl ether (ETBE)	94.5	101	105	90	96	60-140	6.93	30
Ethylbenzene	104	103	110	94	93	60-140	0.698	30
4-Ethyltoluene	130	127	125	104	102	60-140	2.27	30
Freon 113	176	180	195	90	92	60-140	2.57	30
Heptane	102	99.2	105	97	94	60-140	2.28	30
Hexachlorobutadiene	250	247	270	93	91	60-140	1.24	30
Hexane	78.0	82.1	90	87	91	60-140	5.20	30
2-Hexanone	122	123	105	116	117	60-140	1.10	30
Isopropyl Alcohol	63.5	60.3	62.5	102	96	60-140	5.25	30
4-Methyl-2-pentanone (MIBK)	109	108	105	103	103	60-140	0	30
Methyl-t-butyl ether (MTBE)	81.5	85.0	92.5	88	92	60-140	4.20	30
Methylene chloride	76.0	79.1	87.5	87	90	60-140	4.09	30
Methyl methacrylate	118	125	104	114	120	60-140	5.58	30
Naphthalene	283	272	265	107	103	60-140	3.97	30
Propene	37.0	38.8	42.5	87	91	60-140	5.01	30
Styrene	98.6	101	107.5	92	94	60-140	2.18	30
1,1,1,2-Tetrachloroethane	183	219	175	105	125	60-140	18.0	30
1,1,2,2-Tetrachloroethane	165	160	175	95	92	60-140	3.06	30
Tetrachloroethene	179	177	172	104	103	60-140	1.51	30
Tetrahydrofuran	63.8	63.2	75	85	84	60-140	0.915	30
Toluene	91.9	93.1	95	97	98	60-140	1.28	30
1,2,4-Trichlorobenzene	236	237	187.5	126	126	60-140	0	30
1,1,1-Trichloroethane	148	142	137.5	108	103	60-140	4.59	30
1,1,2-Trichloroethane	135	136	137.5	98	99	60-140	0.579	30
Trichloroethene	136	137	137.5	99	100	60-140	0.791	30
Trichlorofluoromethane	138	141	142.5	97	99	60-140	2.65	30
1,2,4-Trimethylbenzene	131	132	125	105	105	60-140	0	30
1,3,5-Trimethylbenzene	132	131	125	106	105	60-140	0.762	30
Vinyl Acetate	90.8	92.6	90	101	103	60-140	1.89	30
Vinyl Chloride	49.0	45.1	65	75	69	60-140	8.17	30
Xylenes, Total	322	322	330	98	98	60-140	0	30
Surrogate Recovery								
1,2-DCA-d4	470	471	500	94	94	70-130	0	30
Toluene-d8	526	524	500	105	105	70-130	0	30
4-BFB	500	500	500	100	100	70-130	0	30

McCampbell Analytical, Inc.
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(925) 252-9262

CHAIN-OF-CUSTODY RECORD

WorkOrder: 1808184 **ClientCode: LRMC**

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

Report to:
Mehrdad Javaherian
LRM Consulting, Inc.
1534 Plaza Lane, #145
Burlingame, CA 94010
(415) 706-8935 FAX:

Email: mehrdad@lrm-consulting.com
cc/3rd Party:
PO:
Project: Tim Red Hanger

Bill to:
Accounts Payable
LRM Consulting, Inc.
1534 Plaza Lane, #145
Burlingame, CA 94010

Requested TAT: 5 days;

Date Received: **08/03/2018**
Date Logged: **08/03/2018**

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
1808184-001	SG12-7	SoilGas	8/3/2018 10:14	☐		A	A	A	A							
1808184-002	SG12-15	SoilGas	8/3/2018 11:15	☐		A	A	A	A							
1808184-003	MW-1	Water	8/3/2018 08:45	☐	A											

Test Legend:

1	8260B_W	2	HELIUM_LC_SOILGAS(%)	3	TO15_HIGHLEVEL_SOIL(UG/M3)	4	TO15_Scan-SIM_SOIL(UG/M3) [N]
5	TO15-8260_SOIL(UG/M3) [N]	6		7		8	
9		10		11		12	

Prepared by: Kena Ponce

The following SampIDs: 001A, 002A contain testgroup TO15He_SG(UG/M3).

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.

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WORK ORDER SUMMARY

Client Name: LRM CONSULTING, INC.
Client Contact: Mehrdad Javaherian
Contact's Email: mehrdad@lrm-consulting.com

Project: Tim Red Hanger
Comments:

Work Order: 1808184
QC Level: LEVEL 2
Date Logged: 8/3/2018

☐ 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
1808184-001A	SG12-7	SoilGas	TO15 w/ Helium	1	1L Summa	☐	8/3/2018 10:14	5 days		☐	
1808184-002A	SG12-15	SoilGas	TO15 w/ Helium	1	1L Summa	☐	8/3/2018 11:15	5 days		☐	
1808184-003A	MW-1	Water	SW8260B (VOCs)	3	VOA w/ HCl	☐	8/3/2018 8:45	5 days	Present	☐	

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 # 1809184

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CHAIN OF CUSTODY RECORD

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

Report To: Mehrdad Bill To: LRM
Company: LRM
Email:
Alt Email: Tele:
Project Name: Bouzo's Project#: Tim Reed Hathaway
Project Location: 6932 College Ave PO #
Sampler Signature:

SAMPLE ID Location / Field Point	Sampling Start Date	Sampling Start Time	End Time	Canister SN#	Sample Kit / Manifold #
* SG12-F SG-12-7	8/3/18	1007	1014	741	50
SG12-I SG-12-15	↓	1107	1115	1927	1386
		8/3/18			
MW-1 8/3/18		845	N/A	N/A	

Analysis Requested

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) %	APH: Aliphatic and/or Aromatic (circle one) µg/m³	Helium Leak Check %	Leak Check (IPA, Norflurane, 1,1-difluroethane) µg/m³	8260	Matrix: Soilgas	Matrix: Indoor Air	Matrix: H_2O	Canister Pressure / Vacuum: Initial	Canister Pressure / Vacuum: Final
X							X			X			-29	-4.5
X							X			X			-30	-4.5
												**		
									X			X		

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
	8/3/18	1215	LAP	8.3.18	1245
LAP	8.3.18	1830		8/3/18	1830

Comments / Instructions: * SAMPLE IDS changed per 2.2 client email 8/17/18 JEZ

Page ___ of ___

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Sample Receipt Checklist

Client Name: **LRM Consulting, Inc.**
Project: **Tim Red Hanger**

WorkOrder №: **1808184** Matrix: SoilGas/Water
Carrier: Lorenzo Perez (MAI Courier)

Date and Time Received **8/3/2018 18:30**
Date Logged: **8/3/2018**
Received by: Kena Ponce
Logged by: Kena Ponce

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	☐
Samples Received on Ice?	Yes	☑	No	☐		
(Ice Type: WET ICE)						
Sample/Temp Blank temperature	Temp: 2.2°C				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	☑
UCMR Samples:						
pH tested and acceptable upon receipt (200.8: ≤2; 525.3: ≤4; 530: ≤7; 541: <3; 544: <6.5 & 7.5)?	Yes	☐	No	☐	NA	☑
Free Chlorine tested and acceptable upon receipt (<0.1mg/L)?	Yes	☐	No	☐	NA	☑

Comments: