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February 8, 2019

Mr. Michael Schmoller
Wisconsin Department of Natural Resources
South Central Region
3911 Fish Hatchery Road
Fitchburg, WI 53711

Subject: Update on Soil Vapor Extraction System Shut Down and Soil Gas Analytical Results
Madison Kipp Corporation, Madison, Wisconsin
BRRTS #02-13-578015

Dear Mr. Schmoller:

TRC Environmental (TRC) on behalf of Madison-Kipp Corporation (MKC) is providing this letter to update the Wisconsin Department of Natural Resources (WDNR) on the performance monitoring results and evaluation for the current shutdown of the soil vapor extraction (SVE) system at MKC's facility located at 201 Waubesa Street in Madison (Site) (Figure 1). This work is being completed per TRC's *Soil Vapor Extraction Shut Down & Monitoring Well Network Modification Work Plan* (August 22, 2018) that was approved by WDNR on September 19, 2018.

Background

The SVE system consists of nine extraction wells located along the east-northeast boundary of the Site. The system began operating in 2013 to extract and treat soil vapors emanating from soil and groundwater impacted with volatile organic compounds (VOCs). The primary objectives of the SVE system were to reduce the mass of VOCs onsite and to lower the potential of soil vapor migration offsite.

After review of historical soil gas analytical results and the SVE system's current mass removal rates, MKC decided to pursue a temporary shutdown of the system to evaluate if its continued operation is necessary. Performance monitoring is part of the shutdown process and includes soil gas sampling completed before and after shutdown.

Soil Gas Sampling Events and SVE Shut Down

A total of seven soil gas vapor probes (VP) were selected to be sampled before and after the shutdown of the SVE system. These vapor probes (shown in Figure 2) include VP-237 along

the west side of MKC property, VP-3 VP-6, and VP-102 along the north/northeast side, and VP-126, VP-1S, and VP-210 along the east side. A duplicate sample was collected during each event as a quality control measure. Each sample was analyzed for cis-1,2 dichloroethene, trans-1,2 dichloroethene, tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride.

Prior to the SVE system shutdown TRC collected soil gas samples to establish baseline concentrations while the system was operating. On October 8, 2018, samples were collected from vapor probes VP-237, VP-126, VP-1S, and VP-210. Due to heavy precipitation and a high groundwater table, water was pulled into the vapor sampling equipment while purging vapor probes VP-3, VP-6, and VP-102; and no samples could be collected. TRC returned to the site on October 18 and was able to sample VP-6 and VP-102 successfully. Water was still present within VP-3; and therefore, a soil gas sample could not be collected from this point. Vapor probe VP-3 was again checked on October 25, but water remained in the probe and no sample could be collected.

On October 25, 2018, the SVE system was shut down and winterized. Additionally, the groundwater extraction and treatment system (GETS) was adjusted to run at 40 gpm during the SVE shutdown to ensure proper operation of the treatment system. The GETS system will remain running at 40 gpm during the evaluation of the SVE shutdown.

Two post-SVE shutdown soil gas sampling events occurred between November 27-28 and on December 17, 2018. During both events, VP-3 was purged, but no sample could be collected because water continued to be drawn into the vapor sampling equipment at this location. All six of the other vapor probes were sampled during each post-shutdown event.

Analytical Results and Discussion

Table 1 shows the historical soil gas analytical results for all vapor probe locations, and the latest results from the past three months of soil gas sampling. Laboratory analytical reports from the October, November, and December 2018 sampling events are included in Attachment A.

The VOCs detected in the soil gas samples are mainly TCE and PCE. The results from the recent performance monitoring for the SVE shutdown indicate the following:

- Northern Soil Gas Probes (VP-6 and VP-102):
  - TCE and PCE were detected during all three sampling events.

  - VP-102 is the sample point with the highest vapor concentrations, and concentrations of TCE and PCE were slightly over the residential soil gas vapor risk screening levels in samples collected in October and November. The concentrations decreased and were at or below residential soil vapor screening levels in the most recent December sampling event.
  - The concentrations of TCE and PCE in VP-6 were below the WDNR's residential soil gas vapor risk screening levels during all three sampling events.
  - The concentrations detected after SVE shutdown were similar to, or less than, the concentrations detected while the SVE system was operating.

- Western and Eastern Soil Gas Probes (VP-126, VP-1S, VP-210, and VP-237):
  - PCE was the only constituent detected during all three sampling events.
  - The PCE concentrations detected were all below the WDNR's residential soil gas vapor risk screening levels.
  - The concentrations detected after SVE shutdown were similar to, or less than, the concentrations detected while the SVE system was operating.
  - The results of the SVE shutdown performance monitoring indicate that shutdown of the SVE system has not caused an appreciable change in the soil gas VOC concentrations at the Site.

Recommendations

No increases in the soil gas VOC concentrations occurred after the October 25, 2018 shutdown. TRC proposes to keep the SVE system off and to collect another set of soil gas samples in July 2019 during the annual sampling event. The same seven soil gas vapor probes are proposed for the annual sampling event. If the results from July are consistent with the current trends, the data will support that the SVE system is no longer needed and can be permanently shut down.

If you have any questions or comments related to this request, please contact Katherine Vater at 608.826.3663 or at kvater@trcsolutions.com or Andrew Stehn at 608.826.3665 or at astehn@trcsolutions.com. We appreciate your assistance and look forward to discussing these results as needed.

Sincerely,

TRC Environmental Corporation

Andrew Stehn, P.E.
Senior Project Engineer

Katherine Vater, P.E.
Project Manger

Attachments:

Table 1: Soil Gas Analytical Results Summary
Figure 1: Site Location Map
Figure 2: Soil Vapor Extraction Well and Vapor Monitoring Point Location Map
Attachment A - Soil Gas Laboratory Reports

cc: Tony Koblinski – MKC (electronic)
Matt Sill – MKC (electronic)

Table 1
Soil Gas Analytical Results Summary
Madison-Kipp Corporation
Madison, Wisconsin

SAMPLE LOCATION	DEEP SOIL GAS		SUB-SLAB VAPOR		VP-1N	VP-1N	VP-1N	VP-1N	VP-1N	VP-1N	VP-1N	VP-1N
SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	9/17/2009	10/26/2012	7/15/2013	1/29/2014	7/22/2014	7/22/2015	7/20/2016	7/25/2017
VOC												
cis-1,2-Dichloroethene	NE	NE	NE	NE	--	0.52	2.6	< 0.14	< 0.17	< 0.16	11	< 0.093
trans-1,2-Dichloroethene	NE	NE	NE	NE	--	< 0.36	< 0.26	< 0.14	< 0.17	< 0.16	< 0.13	< 0.18
1,2-Dichloroethene	NE	NE	NE	NE	< 20	0.52	2.60	< 0.14	< 0.17	NA	NA	NA
Tetrachloroethene	27,000	620	2,700	210	160	65	76	< 0.14	1.8	0.29	31	< 0.064
Trichloroethene	1,600	39	160	13	< 10	0.52	1.1	< 0.14	< 0.17	< 0.16	**13**	< 0.12
Vinyl chloride[3]	11,000	65	1,100	22	--	< 0.36	< 0.26	< 0.14	< 0.17	< 0.16	< 0.19	< 0.072

Footnotes:

1 = VALs in accordance with *Addressing Vapor Intrusion at Remediation and Redevelopment Sites in Wisconsir*, http://dnr.wi.gov/files/PDF/pubs/rr/RR800.pdf

2 = Non-Res. Deep Soil Gas VAL used 0.001 AF; Res. Deep Soil Gas VAL used 0.01 AF

3 = Vinyl chloride was analyzed using the modified EPA Method TO-15 GC/MS SIM for the July 22, 2015 and July 24, 2015 monitoring event. For monitoring points where no detection was present, the concentration is noted less than the reporting limit.

4 = VRSL values from *WI Vapor Quick Look-Up Table, https://dnr.wi.gov/topic/Brownfields/documents/vapor/vapor-quick.pdf*

5 = Non-Res. corresponds to Large Commercial/Industrial category of *WI Vapor Quick Look-Up Table*

Updated By: B. Wachholz 1/31/2019
Checked By: L. Auner 1/31/2019

Notes:

All concentrations presented in this table are reported in parts per billion by volume (ppbv) unless otherwise noted.

Res./Non-Res. VAL provided for comparison purposes.

All values compared to residential sub-slab vapor risk screening levels (VRSLs)

BOLD = result is equal to or exceeds residential sub-slab VRSL

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VAL = Vapor Action Level

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Madison-Kipp Corporation
Madison, Wisconsin

SAMPLE LOCATION	DEEP SOIL GAS		SUB-SLAB VAPOR		VP-1S	VP-1S	VP-1S	VP-1S	VP-1S	VP-1S	VP-1S	VP-1S	VP-1S	VP-1S
SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	9/17/2009	10/26/2012	7/15/2013	1/29/2014	7/22/2014	7/22/2015	7/20/2016	07/25/2017	10/08/2018	11/27/2018
VOC														
cis-1,2-Dichloroethene	NE	NE	NE	NE	--	< 0.15	0.26	< 0.14	0.19	< 0.14	7.6	< 0.098	< 0.84	<0.75
trans-1,2-Dichloroethene	NE	NE	NE	NE	--	< 0.15	< 0.16	< 0.14	< 0.16	< 0.14	< 0.14	< 0.19	< 0.84	<0.75
1,2-Dichloroethene	NE	NE	NE	NE	341	< 0.15	0.26	< 0.14	0.19	NA	NA	NA	NA	NA
Tetrachloroethene	27,000	620	2,700	210	**1,400**	4.8	33	0.9	4.7	< 0.14	31	6.2	12	14
Trichloroethene	1,600	39	160	13	**260**	0.15	0.44	< 0.14	0.21	< 0.14	8.2	< 0.12	< 0.84	<0.75
Vinyl chloride[3]	11,000	65	1,100	22	--	< 0.15	< 0.16	< 0.14	< 0.16	< 0.014	< 0.21	< 0.076	< 0.84	<0.75

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Updated By: B. Wachholz 1/31/2019
Checked By: L. Auner 1/31/2019

Notes:

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Madison-Kipp Corporation
Madison, Wisconsin

SAMPLE LOCATION	DEEP SOIL GAS		SUB-SLAB VAPOR		VP-2N	VP-2N	VP-2N	VP-2N	VP-2N	VP-2N	VP-2N	VP-2N
SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	9/17/2009	10/26/2012	7/15/2013	1/29/2014	7/22/2014	7/22/2015	7/20/2016	07/25/2017
VOC												
cis-1,2-Dichloroethene	NE	NE	NE	NE	NA	< 0.93	2.5	< 0.14	< 0.18	< 0.16	7.8	< 0.094
trans-1,2-Dichloroethene	NE	NE	NE	NE	NA	< 0.93	< 0.39	< 0.14	< 0.18	< 0.16	< 0.14	< 0.19
1,2-Dichloroethene	NE	NE	NE	NE	500	< 0.93	2.5	< 0.14	< 0.18	NA	NA	NA
Tetrachloroethene	27,000	620	2,700	210	**1,300**	160	110	< 0.14	1.5	< 0.16	20	< 0.065
Trichloroethene	1,600	39	160	13	**370**	< 0.93	1.4	< 0.14	< 0.18	< 0.16	8.2	< 0.12
Vinyl chloride[3]	11,000	65	1,100	22	NA	< 0.93	< 0.39	< 0.14	< 0.18	< 0.016	< 0.21	< 0.073

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Updated By: B. Wachholz 1/31/2019
Checked By: L. Auner 1/31/2019

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Madison, Wisconsin

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SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	9/17/2009	10/26/2012	7/15/2013	1/29/2014	7/22/2014	7/22/2015
VOC										
cis-1,2-Dichloroethene	NE	NE	NE	NE	--	< 0.14	0.54	0.36	0.19	2.6
trans-1,2-Dichloroethene	NE	NE	NE	NE	--	< 0.14	< 0.31	< 0.14	< 0.15	0.32
1,2-Dichloroethene	NE	NE	NE	NE	332	< 0.14	0.54	NA	0.19	NA
Tetrachloroethene	27,000	620	2,700	210	**1,100**	12	86	44	2.0	44
Trichloroethene	1,600	39	160	13	**240**	< 0.14	0.38	0.22	< 0.15	1.4
Vinyl chloride[3]	11,000	65	1,100	22	--	< 0.14	< 0.31	< 0.14	< 0.15	< 0.017

Footnotes:

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Checked By: L. Auner 1/31/2019

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Madison-Kipp Corporation
Madison, Wisconsin

SAMPLE LOCATION	DEEP SOIL GAS		SUB-SLAB VAPOR		VP-3	VP-3	VP-3 (DUP)	VP-3	VP-4	VP-4	VP-4	VP-4
SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	3/30/2012	10/26/2012	10/26/2012	7/22/2014	3/30/2012	10/26/2012	7/23/2014	7/24/2015
VOC												
cis-1,2-Dichloroethene	NE	NE	NE	NE	0.60	< 0.16	< 0.15	0.58	< 0.15	< 0.15	0.27	0.18 J
trans-1,2-Dichloroethene	NE	NE	NE	NE	< 0.17	< 0.16	< 0.15	< 0.17	< 0.15	< 0.15	< 0.16	< 0.18
1,2-Dichloroethene	NE	NE	NE	NE	0.6	< 0.16	< 0.15	0.58	< 0.15	< 0.15	0.27	NA
Tetrachloroethene	27,000	620	2,700	210	18	3.2	3.8	25	0.68	0.20	< 0.16	0.19
Trichloroethene	1,600	39	160	13	2.0	0.36	0.44	3.6	< 0.15	< 0.15	< 0.16	0.29
Vinyl chloride[3]	11,000	65	1,100	22	< 0.17	< 0.16	< 0.15	< 0.17	< 0.15	< 0.15	< 0.16	< 0.018

Footnotes:

Updated By: B. Wachholz 1/31/2019
Checked By: L. Auner 1/31/2019

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Madison-Kipp Corporation
Madison, Wisconsin

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SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	3/30/2012	10/26/2012	7/22/2014	3/30/2012	10/26/2012	4/29/2013	1/29/2014	7/22/2014	7/22/2015	7/20/2016	07/25/2017	10/18/2018	11/28/2018
VOC																	
cis-1,2-Dichloroethene	NE	NE	NE	NE	1.1	26	2.6	28	190	2100	310	1.0	780	< 0.23	< 0.20	< 0.84	<0.74
trans-1,2-Dichloroethene	NE	NE	NE	NE	< 0.15	0.38	< 0.17	1.7	5.8	82	16	< 0.16	58	< 0.14	< 0.40	< 0.84	<0.74
1,2-Dichloroethene	NE	NE	NE	NE	1.1	26.38	2.6	29.7	195.8	2182	326	1	NA	NA	NA	NA	NA
Tetrachloroethene	27,000	620	2,700	210	2.1	27	0.59	63	190	**2,900**	**550**	< 0.16	**470**	**280**	**380**	88	55
Trichloroethene	1,600	39	160	13	1.1	**22**	2.4	**20**	**72**	**1,100**	**240**	0.34	**700**	**19**	10	2.5	1.3
Vinyl chloride[3]	11,000	65	1,100	22	< 0.15	1.2	0.38	**53**	**23**	**130**	**28**	< 0.16	**30**	< 0.20	< 0.16	< 0.84	<0.74

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Table 1
Soil Gas Analytical Results Summary
Madison-Kipp Corporation
Madison, Wisconsin

SAMPLE LOCATION	DEEP SOIL GAS		SUB-SLAB VAPOR		VP-102	VP-102	VP-102	VP-102	VP-102	VP-102	VP-102	VP-102 DUP	VP-102	VP-102	VP-102 DUP
SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	11/25/2011	10/24/2012	1/29/2014	7/23/2014	7/22/2015	7/20/2016	07/25/2017	07/25/2017	10/18/2018	11/27/2018	11/27/2018
VOC															
cis-1,2-Dichloroethene	NE	NE	NE	NE	1,940 *IS	45	0.56	< 0.16	0.24	< 0.46	< 0.39	< 0.39	< 1.6	<1.2	<1.2
trans-1,2-Dichloroethene	NE	NE	NE	NE	< 400 *IS*D	< 3.4	< 0.14	< 0.16	< 0.17	< 0.28	< 0.77	< 0.76	< 1.6	<1.2	<1.2
1,2-Dichloroethene	NE	NE	NE	NE	1,940	45	0.56	< 0.16	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	27,000	620	2,700	210	**4,620 *IS**	**1,200**	2	0.17	< 0.17	**400**	**820**	**810**	**380**	**260**	**260**
Trichloroethene	1,600	39	160	13	**1,770 *IS**	**240**	1.2	< 0.16	0.17	**56**	**75**	**74**	**38**	**15**	**18**
Vinyl chloride[3]	11,000	65	1,100	22	< 400 *IS*D	< 3.4	< 0.14	< 0.16	< 0.017	< 0.42	< 0.30	< 0.30	< 1.6	<1.2	<1.2

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2 = Non-Res. Deep Soil Gas VAL used 0.001 AF; Res. Deep Soil Gas VAL used 0.01 AF

3 = Vinyl chloride was analyzed using the modified EPA Method TO-15 GC/MS SIM for the July 22, 2015 and July 24, 2015 monitoring event. For monitoring points where no detection was present, the concentration is noted less than the reporting limit.

4 = VRSL values from *WI Vapor Quick Look-Up Table, https://dnr.wi.gov/topic/Brownfields/documents/vapor/vapor-quick.pdf*

5 = Non-Res. corresponds to Large Commercial/Industrial category of *WI Vapor Quick Look-Up Table*

Updated By: B. Wachholz 1/31/2019
Checked By: L. Auner 1/31/2019

Notes:

All concentrations presented in this table are reported in parts per billion by volume (ppbv) unless otherwise noted.

Res./Non-Res. VAL provided for comparison purposes.

All values compared to residential sub-slab vapor risk screening levels (VRSLs)

BOLD = result is equal to or exceeds residential sub-slab VRSL

<= constituent not detected above noted laboratory method detection limit

> = greater than

-- = not designated

*D = limit of detection not achievable due to dilution

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AF = Attenuation Factor

NE = Criteria Not Established

NA= Not Analyzed

DUP = Duplicate sample collected

Res. = Residential

VAL = Vapor Action Level

VRSL = Sub-Slab Vapor Risk Screening Levels

VOCs = Volatile Organic Compounds

Table 1
Soil Gas Analytical Results Summary
Madison-Kipp Corporation
Madison, Wisconsin

SAMPLE LOCATION	DEEP SOIL GAS		SUB-SLAB VAPOR		VP-114	VP-114	VP-114	VP-114	VP-114
SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	11/25/2011	10/24/2012	7/15/2013	1/29/2014	7/23/2014
VOC									
cis-1,2-Dichloroethene	NE	NE	NE	NE	< 400 *IS*D	< 0.16	< 0.15	< 0.14	< 0.16
trans-1,2-Dichloroethene	NE	NE	NE	NE	< 400 *IS*D	< 0.16	< 0.15	< 0.14	< 0.16
1,2-Dichloroethene	NE	NE	NE	NE	< 400	< 0.16	< 0.15	< 0.14	< 0.16
Tetrachloroethene	27,000	620	2,700	210	**2,540 *IS**	10	24	< 0.14	2.9
Trichloroethene	1,600	39	160	13	< 400 *IS*D	< 0.16	< 0.15	< 0.14	< 0.16
Vinyl chloride[3]	11,000	65	1,100	22	< 400 *IS*D	< 0.16	< 0.15	< 0.14	< 0.16

Footnotes:

Updated By: B. Wachholz 1/31/2019
Checked By: L. Auner 1/31/2019

1 = VALs in accordance with *Addressing Vapor Intrusion at Remediation and Redevelopment Sites in Wisconsir*, http://dnr.wi.gov/files/PDF/pubs/rr/RR800.pdf

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Notes:

All concentrations presented in this table are reported in parts per billion by volume (ppbv) unless otherwise noted.

Res./Non-Res. VAL provided for comparison purposes.

All values compared to residential sub-slab vapor risk screening levels (VRSLs)

BOLD = result is equal to or exceeds residential sub-slab VRSL

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NE = Criteria Not Established

NA= Not Analyzed

DUP = Duplicate sample collected

Res. = Residential

VAL = Vapor Action Level

VRSL = Sub-Slab Vapor Risk Screening Levels

VOCs = Volatile Organic Compounds

Table 1
Soil Gas Analytical Results Summary
Madison-Kipp Corporation
Madison, Wisconsin

SAMPLE LOCATION	DEEP SOIL GAS		SUB-SLAB VAPOR		VP-126	VP-126	VP-126	VP-126	VP-126	VP-126	VP-126	VP-126 (DUP)	VP-126	VP-126 DUP	VP-126
SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	11/25/2011	10/24/2012	7/15/2013	1/29/2014	7/23/2014	7/24/2015	7/20/2016	7/20/2016	10/08/2018	10/08/2018	11/27/2018
VOC															
cis-1,2-Dichloroethene	NE	NE	NE	NE	< 200 *D	< 0.16	< 0.16	< 0.14	< 0.17	< 0.17	< 0.22	< 0.24	< 0.88	1.4	<0.73
trans-1,2-Dichloroethene	NE	NE	NE	NE	< 200 *D	< 0.16	< 0.16	< 0.14	< 0.17	< 0.17	< 0.13	< 0.14	< 0.88	< 0.82	<0.73
1,2-Dichloroethene	NE	NE	NE	NE	< 200	< 0.16	< 0.16	< 0.14	< 0.17	NA	NA	NA	NA	NA	NA
Tetrachloroethene	27,000	620	2,700	210	**452**	1.4	4.4	< 0.14	0.48	0.75	< 0.16	< 0.17	< 0.88	< 0.82	0.98
Trichloroethene	1,600	39	160	13	< 200 *D	< 0.16	< 0.16	< 0.14	< 0.17	< 0.17	< 0.25	< 0.27	< 0.88	< 0.82	<0.73
Vinyl chloride[3]	11,000	65	1,100	22	< 200 *D	< 0.16	< 0.16	< 0.14	< 0.17	< 0.017	< 0.20	< 0.21	< 0.88	< 0.82	<0.73

Footnotes:

1 = VALs in accordance with *Addressing Vapor Intrusion at Remediation and Redevelopment Sites in Wisconsi*n , http://dnr.wi.gov/files/PDF/pubs/rr/RR800.pdf

2 = Non-Res. Deep Soil Gas VAL used 0.001 AF; Res. Deep Soil Gas VAL used 0.01 AF

3 = Vinyl chloride was analyzed using the modified EPA Method TO-15 GC/MS SIM for the July 22, 2015 and July 24, 2015 monitoring event. For monitoring points where no detection was present, the concentration is noted less than the reporting limit.

4 = VRSL values from *WI Vapor Quick Look-Up Table, https://dnr.wi.gov/topic/Brownfields/documents/vapor/vapor-quick.pdf*

5 = Non-Res. corresponds to Large Commercial/Industrial category of *WI Vapor Quick Look-Up Table*

Updated By: B. Wachholz 1/31/2019
Checked By: L. Auner 1/31/2019

Notes:

All concentrations presented in this table are reported in parts per billion by volume (ppbv) unless otherwise noted.

Res./Non-Res. VAL provided for comparison purposes.

All values compared to residential sub-slab vapor risk screening levels (VRSLs)

BOLD = result is equal to or exceeds residential sub-slab VRSL

<= constituent not detected above noted laboratory method detection limit

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NA= Not Analyzed

DUP = Duplicate sample collected

Res. = Residential

VAL = Vapor Action Level

VRSL = Sub-Slab Vapor Risk Screening Levels

VOCs = Volatile Organic Compounds

Table 1
Soil Gas Analytical Results Summary
Madison-Kipp Corporation
Madison, Wisconsin

SAMPLE LOCATION	DEEP SOIL GAS		SUB-SLAB VAPOR		VP-202	VP-202	VP-202	VP-202
SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	11/25/2011	10/24/2012	7/16/2013	1/30/2014
VOC								
cis-1,2-Dichloroethene	NE	NE	NE	NE	< 0.085 *IS	< 0.16	< 0.16	< 0.14
trans-1,2-Dichloroethene	NE	NE	NE	NE	< 0.085 *IS	< 0.16	< 0.16	< 0.14
1,2-Dichloroethene	NE	NE	NE	NE	< 0.085	< 0.16	< 0.16	< 0.14
Tetrachloroethene	27,000	620	2,700	210	5.7 *IS	9.1	8	1.5
Trichloroethene	1,600	39	160	13	< 0.085 *IS	0.58	< 0.16	< 0.14
Vinyl chloride[3]	11,000	65	1,100	22	< 0.085 *IS	< 0.16	< 0.16	< 0.14

Footnotes:

Updated By: B. Wachholz 1/31/2019
Checked By: L. Auner 1/31/2019

1 = VALs in accordance with *Addressing Vapor Intrusion at Remediation and Redevelopment Sites in Wisconsin*, http://dnr.wi.gov/files/PDF/pubs/rr/RR800.pdf

2 = Non-Res. Deep Soil Gas VAL used 0.001 AF; Res. Deep Soil Gas VAL used 0.01 AF

3 = Vinyl chloride was analyzed using the modified EPA Method TO-15 GC/MS SIM for the July 22, 2015 and July 24, 2015 monitoring event. For monitoring points where no detection was present, the concentration is noted less than the reporting limit.

4 = VRSL values from *WI Vapor Quick Look-Up Table, https://dnr.wi.gov/topic/Brownfields/documents/vapor/vapor-quick.pdf*

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Notes:

All concentrations presented in this table are reported in parts per billion by volume (ppbv) unless otherwise noted.

Res./Non-Res. VAL provided for comparison purposes.

All values compared to residential sub-slab vapor risk screening levels (VRSLs)

BOLD = result is equal to or exceeds residential sub-slab VRSL

<= constituent not detected above noted laboratory method detection limit

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AF = Attenuation Factor

NE = Criteria Not Established

NA= Not Analyzed

DUP = Duplicate sample collected

Res. = Residential

VAL = Vapor Action Level

VRSL = Sub-Slab Vapor Risk Screening Levels

VOCs = Volatile Organic Compounds

Table 1
Soil Gas Analytical Results Summary
Madison-Kipp Corporation
Madison, Wisconsin

SAMPLE LOCATION	DEEP SOIL GAS		SUB-SLAB VAPOR		VP-210	VP-210	VP-210	VP-210	VP-210	VP-210	VP-210	VP-210	VP-210	VP-210
SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	11/25/2011	10/25/2012	7/16/2013	1/30/2014	7/23/2014	7/24/2015	7/22/2016	07/25/2017	10/08/2018	11/27/2018
VOC														
cis-1,2-Dichloroethene	NE	NE	NE	NE	< 0.085 *IS	< 0.17	< 0.15	< 0.14	< 0.17	< 0.17	< 0.23	< 0.095	< 0.92	<0.75
trans-1,2-Dichloroethene	NE	NE	NE	NE	< 0.085 *IS	< 0.17	< 0.15	< 0.14	< 0.17	< 0.17	< 0.14	< 0.19	< 0.92	<0.75
1,2-Dichloroethene	NE	NE	NE	NE	< 0.085	< 0.17	< 0.15	< 0.14	< 0.17	NA	NA	NA	NA	NA
Tetrachloroethene	27,000	620	2,700	210	3.22	3.9	3.6	< 0.14	5.4	5.2	5.1	7.8	3.0	1.2
Trichloroethene	1,600	39	160	13	< 0.085 *IS	< 0.17	0.26	< 0.14	< 0.17	< 0.17	< 0.26	< 0.12	< 0.92	<0.75
Vinyl chloride[3]	11,000	65	1,100	22	< 0.085 *IS	< 0.17	< 0.15	< 0.14	< 0.17	< 0.017	< 0.21	< 0.074	< 0.92	<0.75

Footnotes:

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http://dnr.wi.gov/files/PDF/pubs/rr/RR800.pdf

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4 = VRSL values from *WI Vapor Quick Look-Up Table, https://dnr.wi.gov/topic/Brownfields/documents/vapor/vapor-quick.pdf*

5 = Non-Res. corresponds to Large Commercial/Industrial category of *WI Vapor Quick Look-Up Table*

Updated By: B. Wachholz 1/31/2019
Checked By: L. Auner 1/31/2019

Notes:

All concentrations presented in this table are reported in parts per billion by volume (ppbv) unless otherwise noted.

Res./Non-Res. VAL provided for comparison purposes.

All values compared to residential sub-slab vapor risk screening levels (VRSLs)

BOLD = result is equal to or exceeds residential sub-slab VRSL

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NE = Criteria Not Established

NA= Not Analyzed

DUP = Duplicate sample collected

Res. = Residential

VAL = Vapor Action Level

VRSL = Sub-Slab Vapor Risk Screening Levels

VOCs = Volatile Organic Compounds

Table 1
Soil Gas Analytical Results Summary
Madison-Kipp Corporation
Madison, Wisconsin

SAMPLE LOCATION	DEEP SOIL GAS		SUB-SLAB VAPOR		VP-222	VP-222	VP-222	VP-222	VP-222
SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	11/25/2011	10/25/2012	7/16/2013	1/30/2014	7/23/2014
VOC									
cis-1,2-Dichloroethene	NE	NE	NE	NE	< 20 *D	< 0.49	< 0.92	< 0.14	< 0.89
trans-1,2-Dichloroethene	NE	NE	NE	NE	< 20 *D	< 0.49	< 0.92	< 0.14	< 0.89
1,2-Dichloroethene	NE	NE	NE	NE	< 20	< 0.49	< 0.92	< 0.14	< 0.89
Tetrachloroethene	27,000	620	2,700	210	77	120	**280**	22	150
Trichloroethene	1,600	39	160	13	< 20 *D	< 0.49	< 0.92	< 0.14	< 0.89
Vinyl chloride[3]	11,000	65	1,100	22	< 20 *D	< 0.49	< 0.92	< 0.14	< 0.89

Footnotes:

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2 = Non-Res. Deep Soil Gas VAL used 0.001 AF; Res. Deep Soil Gas VAL used 0.01 AF

3 = Vinyl chloride was analyzed using the modified EPA Method TO-15 GC/MS SIM for the July 22, 2015 and July 24, 2015 monitoring event. For monitoring points where no detection was present, the concentration is noted less than the reporting limit.

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Updated By: B. Wachholz 1/31/2019
Checked By: L. Auner 1/31/2019

Notes:

All concentrations presented in this table are reported in parts per billion by volume (ppbv) unless otherwise noted.

Res./Non-Res. VAL provided for comparison purposes.

All values compared to residential sub-slab vapor risk screening levels (VRSLs)

BOLD = result is equal to or exceeds residential sub-slab VRSL

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AF = Attenuation Factor

NE = Criteria Not Established

NA= Not Analyzed

DUP = Duplicate sample collected

Res. = Residential

VAL = Vapor Action Level

VRSL = Sub-Slab Vapor Risk Screening Levels

VOCs = Volatile Organic Compounds

Table 1
Soil Gas Analytical Results Summary
Madison-Kipp Corporation
Madison, Wisconsin

SAMPLE LOCATION	DEEP SOIL GAS		SUB-SLAB VAPOR		VP-237	VP-237	VP-237	VP-237	VP-237	VP-237	VP-237	VP-237	VP-249	VP-249	VP-249
SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	11/25/2011	10/25/2012	7/17/2013	1/30/2014	7/23/2014	7/24/2015	10/08/2018	11/28/2018	11/25/2011	10/25/2012	7/17/2013
VOC															
cis-1,2-Dichloroethene	NE	NE	NE	NE	< 20	< 0.16	< 0.16	< 0.14	< 0.33	< 0.17	< 0.86	<0.74	< 0.085	< 0.16	< 0.14
trans-1,2-Dichloroethene	NE	NE	NE	NE	< 20	< 0.16	< 0.16	< 0.14	< 0.33	< 0.17	< 0.86	<0.74	< 0.085	< 0.16	< 0.14
1,2-Dichloroethene	NE	NE	NE	NE	< 20	< 0.16	< 0.16	< 0.14	< 0.33	NA	NA	NA	< 0.085	< 0.16	< 0.14
Tetrachloroethene	27,000	620	2,700	210	53	63	30	3.6	59	43	19	9.5	8.44	23	3.3
Trichloroethene	1,600	39	160	13	< 20	< 0.16	< 0.16	< 0.14	< 0.33	< 0.17	< 0.86	<0.74	< 0.085	< 0.16	< 0.14
Vinyl chloride[3]	11,000	65	1,100	22	< 20	< 0.16	< 0.16	< 0.14	< 0.33	< 0.017	< 0.86	<0.74	< 0.085	< 0.16	< 0.14

Footnotes:

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Updated By: B. Wachholz 1/31/2019
Checked By: L. Auner 1/31/2019

Notes:

All concentrations presented in this table are reported in parts per billion by volume (ppbv) unless otherwise noted.

Res./Non-Res. VAL provided for comparison purposes.

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Res. = Residential

VAL = Vapor Action Level

VRSL = Sub-Slab Vapor Risk Screening Levels

VOCs = Volatile Organic Compounds

Table 1
Soil Gas Analytical Results Summary
Madison-Kipp Corporation
Madison, Wisconsin

SAMPLE LOCATION	DEEP SOIL GAS		SUB-SLAB VAPOR		VP-261	VP-261	VP-261	VP-261	VP-261	VP-261
SAMPLE DATE	NON-RES.[1,2]	RES.[1,2]	NON-RES. [4,5]	RES. [4]	11/28/2011	7/17/2013	1/30/2014	7/23/2014	7/23/2014	7/24/2015
VOC										
cis-1,2-Dichloroethene	NE	NE	NE	NE	< 0.085 *IS	< 0.15	< 0.13	< 0.16	< 0.16	< 0.17
trans-1,2-Dichloroethene	NE	NE	NE	NE	< 0.085 *IS	< 0.15	< 0.13	< 0.16	< 0.16	< 0.17
1,2-Dichloroethene	NE	NE	NE	NE	< 0.085	< 0.15	< 0.13	< 0.16	< 0.16	NA
Tetrachloroethene	27,000	620	2,700	210	< 0.085 *IS	1.2	1.2	5.0	4.3	15
Trichloroethene	1,600	39	160	13	< 0.085 *IS	< 0.15	< 0.13	< 0.16	< 0.16	< 0.17
Vinyl chloride[3]	11,000	65	1,100	22	< 0.085 *IS	< 0.15	< 0.13	< 0.16	< 0.16	< 0.017

Footnotes:

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Updated By: B. Wachholz 1/31/2019
Checked By: L. Auner 1/31/2019

Notes:

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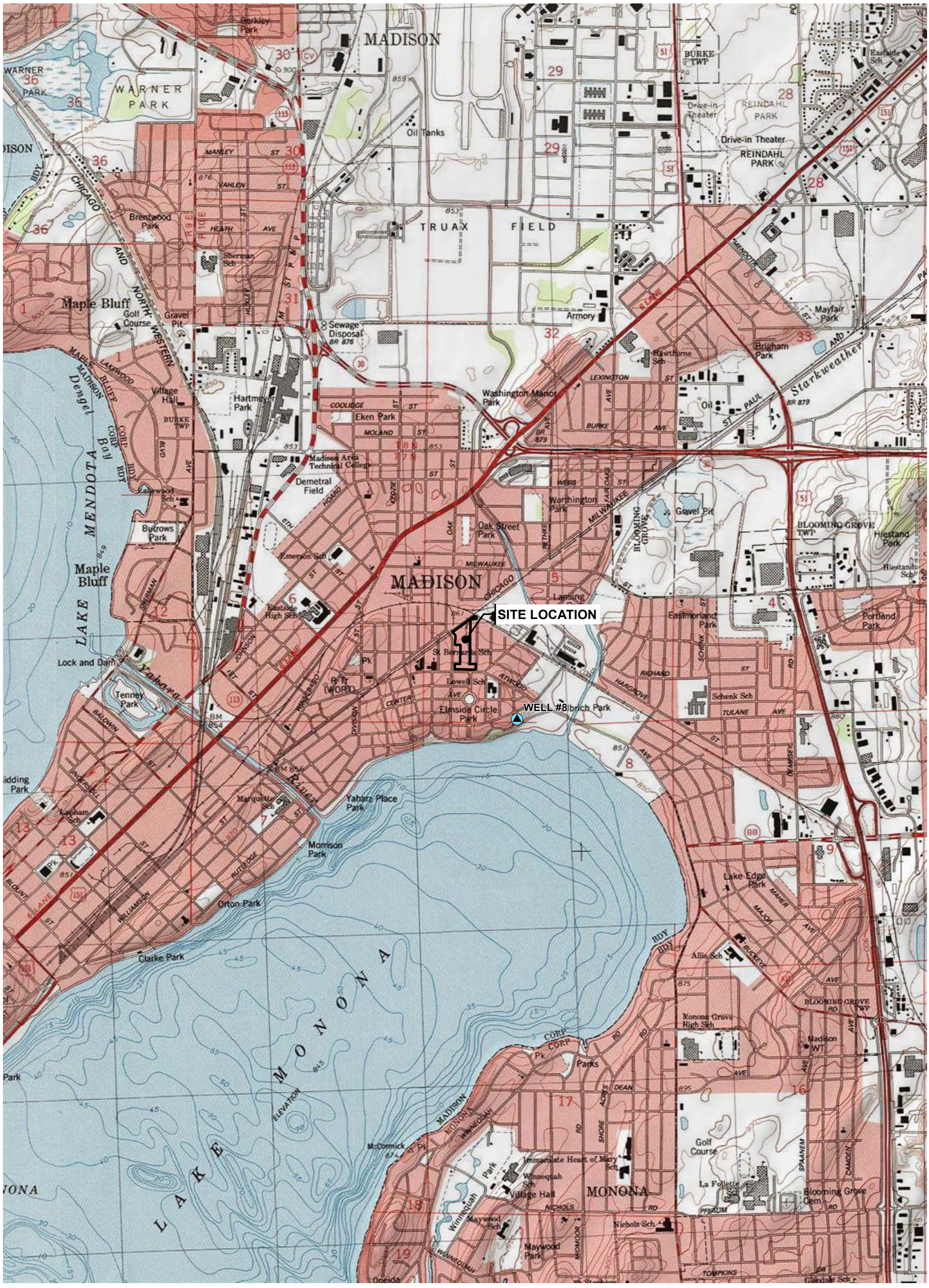
VRSL = Sub-Slab Vapor Risk Screening Levels

VOCs = Volatile Organic Compounds



LEGEND

SITE PROPERTY BOUNDARY

MUNICIPAL SUPPLY WELL

BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE SERIES, "USA TOPO MAPS" WEB BASEMAP SERVICE LAYER.

0 2,000 4,000 FEET

1 " = 2,000 '
1:24,000

TRC
708 Heartland Trail
Suite 3000
Madison, WI 53717
Phone: 608.826.3600

PROJECT:
MADISON-KIPP CORPORATION
201 WAUBESA STREET
MADISON, WISCONSIN

TITLE:
SITE LOCATION MAP

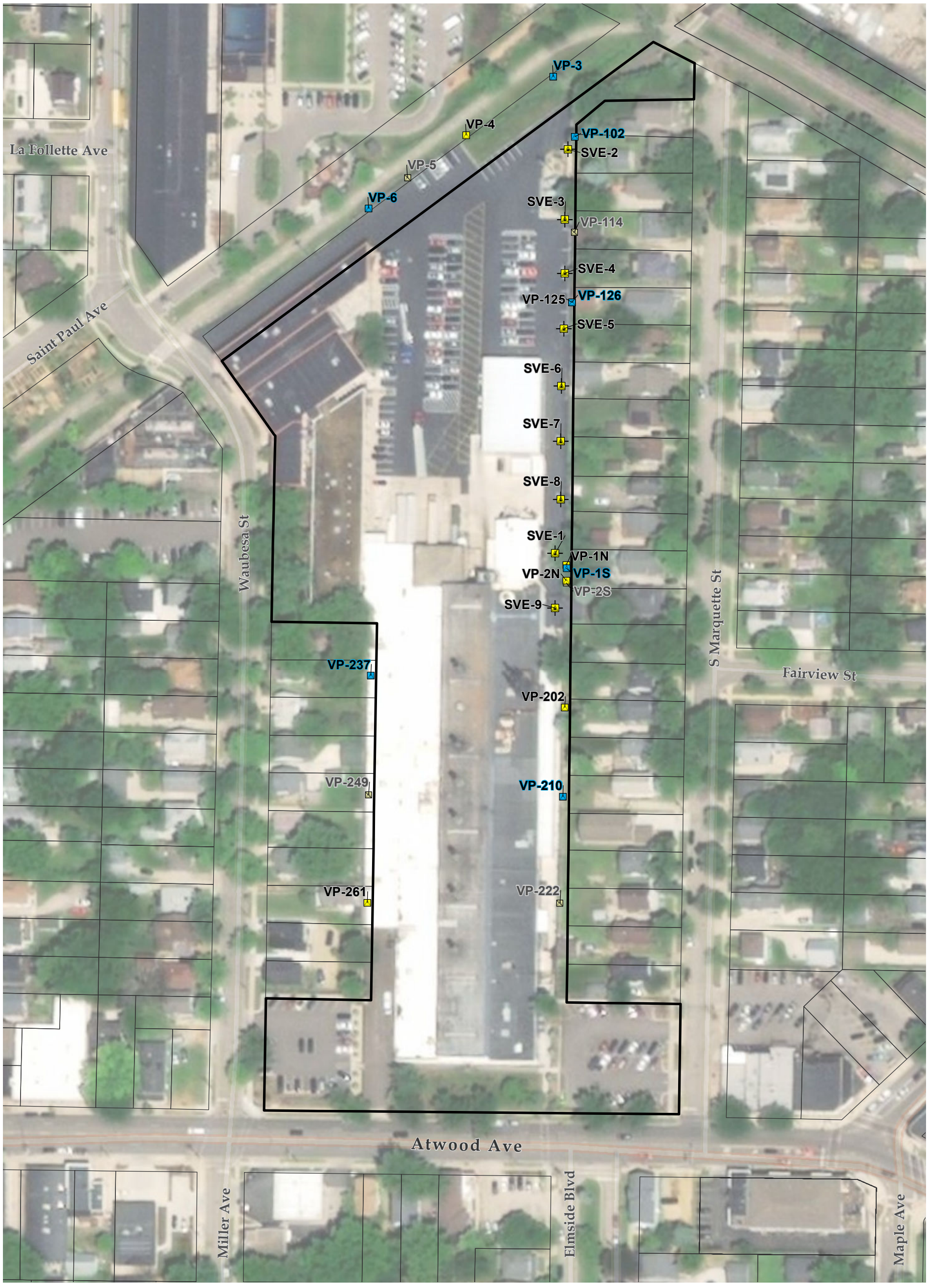
DRAWN BY:	A. ADAIR
CHECKED BY:	A.STEHN
APPROVED BY:	K. VATER
DATE:	FEBRUARY 2019
PROJ. NO.:	323372
FILE:	266431-2018S2-014.mxd

FIGURE 1

Plot Date: 2/6/2019, 14:04:18 PM by AADAIR -- LAYOUT: ANSI B (11"x17")
Path: E:\MadisonKIPPCorp\2019_323372\266431-2018S2-013.mxd

Coordinate System: NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet (Foot US)
Map Rotation: 0

TRC - GIS



LEGEND

- SITE PROPERTY BOUNDARY
- SOIL EXTRACTION WELL
- VAPOR MONITORING POINT
- VAPOR MONITORING POINT (PERFORMANCE MONITORING POINT FOR SVE SHUTDOWN)
- VAPOR MONITORING POINT (LOST)

NOTES

1. BASE MAP IMAGERY FROM ESRI/DIGITAL GLOBE, 2016.
2. PARCEL INFORMATION FROM WISCONSIN STATE CARTOGRAPHER'S OFFICE, 2018

0 100 200 FEET

1 " = 100 '
1:1,200

N

TRC
708 Heartland Trail
Suite 3000
Madison, WI 53717
Phone: 608.826.3600

PROJECT:

MADISON-KIPP CORPORATION
201 WAUBESA STREET
MADISON, WISCONSIN

TITLE:

SOIL VAPOR EXTRACTION WELL AND VAPOR MONITORING POINT LOCATION MAP

DRAWN BY:	A. ADAIR
CHECKED BY:	A.STEHN
APPROVED BY:	K. VATER
DATE:	FEBRUARY 2019
PROJ. NO.:	323372
FILE:	266431-2018S2-013.mxd

FIGURE 2

Attachment A

Soil Gas Laboratory Reports

eurofins | Air Toxics

10/24/2018
Mr. Andrew Stehn
TRC Corporation (RMT)
708 Heartland Trail
Suite 3000
Madison WI 53717

Project Name: MKC
Project #: 292257 Ph. 3
Workorder #: 1810235

Dear Mr. Andrew Stehn

The following report includes the data for the above referenced project for sample(s) received on 10/11/2018 at Air Toxics Ltd.

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

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

Regards,

Ausha Scott

Project Manager

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WORK ORDER #: 1810235

Work Order Summary

CLIENT:	Mr. Andrew Stehn TRC Corporation (RMT) 708 Heartland Trail Suite 3000 Madison, WI 53717	**BILL TO:**	Accounts Payable/Windsor TRC Companies, Inc. 21 Griffin Rd North Windsor, CT 06095
PHONE:	608-826-3665	**P.O. #**	117373/223544
FAX:	608-826-3941	**PROJECT #**	292257 Ph. 3 MKC
DATE RECEIVED:	10/11/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	10/24/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VP-1S	TO-15	6.0 "Hg	5 psi
02A	VP-210	TO-15	8.0 "Hg	5 psi
03A	VP-126	TO-15	7.0 "Hg	5 psi
04A	VP-237	TO-15	6.5 "Hg	5 psi
05A	DUP-01	TO-15	5.5 "Hg	5 psi
06A	Lab Blank	TO-15	NA	NA
07A	CCV	TO-15	NA	NA
08A	LCS	TO-15	NA	NA
08AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 10/24/18

Technical Director

Certification numbers: AZ Licensure AZ0775, NJ NELAP - CA016, NY NELAP - 11291,
TX NELAP - T104704434-15-9, UT NELAP CA0093332015-6, VA NELAP - 8113, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005, Effective date: 10/18/2015, Expiration date: 10/17/2016.
Eurofins Air Toxics Inc.. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
TRC Corporation (RMT)
Workorder# 1810235

Five 6 Liter Summa Canister samples were received on October 11, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

CN - See Case Narrative.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: VP-1S

Lab ID#: 1810235-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.84	12	5.7	82

Client Sample ID: VP-210

Lab ID#: 1810235-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.92	3.0	6.2	20

Client Sample ID: VP-126

Lab ID#: 1810235-03A

No Detections Were Found.

Client Sample ID: VP-237

Lab ID#: 1810235-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.86	19	5.8	130

Client Sample ID: DUP-01

Lab ID#: 1810235-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
cis-1,2-Dichloroethene	0.82	1.4	3.2	5.6

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Client Sample ID: VP-1S

Lab ID#: 1810235-01A

EPA METHOD TO-15 GC/MS

File Name:	**p101506**	**Date of Collection:**	**10/8/18 10:17:00 AM**
Dil. Factor:	**1.68**	**Date of Analysis:**	**10/15/18 02:51 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.84	Not Detected	2.1	Not Detected
cis-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Trichloroethene	0.84	Not Detected	4.5	Not Detected
Tetrachloroethene	0.84	12	5.7	82
trans-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: VP-210

Lab ID#: 1810235-02A

EPA METHOD TO-15 GC/MS

File Name:	**p101507**	**Date of Collection:**	**10/8/18 11:27:00 AM**
Dil. Factor:	**1.83**	**Date of Analysis:**	**10/15/18 03:17 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.92	Not Detected	2.3	Not Detected
cis-1,2-Dichloroethene	0.92	Not Detected	3.6	Not Detected
Trichloroethene	0.92	Not Detected	4.9	Not Detected
Tetrachloroethene	0.92	3.0	6.2	20
trans-1,2-Dichloroethene	0.92	Not Detected	3.6	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	94	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: VP-126

Lab ID#: 1810235-03A

EPA METHOD TO-15 GC/MS

File Name:	**p101508**	**Date of Collection: 10/8/18 1:41:00 PM**	
Dil. Factor:	**1.75**	**Date of Analysis: 10/15/18 03:44 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.88	Not Detected	2.2	Not Detected
cis-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected
Trichloroethene	0.88	Not Detected	4.7	Not Detected
Tetrachloroethene	0.88	Not Detected	5.9	Not Detected
trans-1,2-Dichloroethene	0.88	Not Detected	3.5	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: VP-237

Lab ID#: 1810235-04A

EPA METHOD TO-15 GC/MS

File Name:	**p101509**	**Date of Collection: 10/8/18 4:22:00 PM**	
Dil. Factor:	**1.71**	**Date of Analysis: 10/15/18 04:10 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.86	Not Detected	2.2	Not Detected
cis-1,2-Dichloroethene	0.86	Not Detected	3.4	Not Detected
Trichloroethene	0.86	Not Detected	4.6	Not Detected
Tetrachloroethene	0.86	19	5.8	130
trans-1,2-Dichloroethene	0.86	Not Detected	3.4	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: DUP-01

Lab ID#: 1810235-05A

EPA METHOD TO-15 GC/MS

File Name:	**p101514**	**Date of Collection: 10/8/18**	
Dil. Factor:	**1.64**	**Date of Analysis: 10/15/18 06:21 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.82	Not Detected	2.1	Not Detected
cis-1,2-Dichloroethene	0.82	1.4	3.2	5.6
Trichloroethene	0.82	Not Detected	4.4	Not Detected
Tetrachloroethene	0.82	Not Detected	5.6	Not Detected
trans-1,2-Dichloroethene	0.82	Not Detected	3.2	Not Detected

Container Type: 6 Liter Summa Canister

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

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Client Sample ID: Lab Blank

Lab ID#: 1810235-06A

EPA METHOD TO-15 GC/MS

File Name:	**p101505**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/15/18 10:17 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected

Container Type: NA - Not Applicable

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

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Client Sample ID: CCV

Lab ID#: 1810235-07A

EPA METHOD TO-15 GC/MS

File Name:	**p101502**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/15/18 08:58 AM**	

Compound	%Recovery
Vinyl Chloride	118
cis-1,2-Dichloroethene	103
Trichloroethene	94
Tetrachloroethene	95
trans-1,2-Dichloroethene	104

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1810235-08A

EPA METHOD TO-15 GC/MS

File Name:	**p101503**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/15/18 09:25 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	122	70-130
cis-1,2-Dichloroethene	95	70-130
Trichloroethene	95	70-130
Tetrachloroethene	97	70-130
trans-1,2-Dichloroethene	116	70-130

Container Type: NA - Not Applicable

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

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Client Sample ID: LCSD

Lab ID#: 1810235-08AA

EPA METHOD TO-15 GC/MS

File Name:	**p101504**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/15/18 09:51 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	115	70-130
cis-1,2-Dichloroethene	92	70-130
Trichloroethene	91	70-130
Tetrachloroethene	93	70-130
trans-1,2-Dichloroethene	110	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager AEE Andrew Stehn Alisha Scott

Collected by: (Print and Sign) Alia Enright Alia Enright

Company TRC Email astehn@trcsolutions.com

Address 708 Heartland Trail Suite 3100 City Madison State WI Zip 53717

Phone 608-826-3665 Fax —

Project Info:
P.O. # 117373
Project # 292257 Ph. 3
Project Name MKC

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	VP-1S	34744	10/8/18	09:47-10:17	TO-15 (see notes)	-30 in Hg	-7 in Hg		
02A	VP-2D	00967	↓	10:57-11:27	↓	-27 in Hg	-5.5 in Hg		
03A	VP-12S	6L0026	↓	13:02-13:41	↓	-30	-7		
04A	VP-23S	34382	↓	15:41-16:22	↓	-29	-6.5		
05A	DUP-01	96100	10/8/18		TO-15 (see notes)	-29.5	-5.5		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Alia Enright	10/9/18 10:00	FEDEX	10/11/18 0930
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes: Analyze using method TO-15 for PCE, TCE, VC, cis-1,2 DCE, and trans-1,2-DCE.

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FEDEX		NA	Good	Yes No None	1810235

Form 1293 rev.11

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11/8/2018
Mr. Andrew Stehn
TRC Corporation (RMT)
708 Heartland Trail
Suite 3000
Madison WI 53717

Project Name: MKC
Project #: 292257 Ph. 3
Workorder #: 1810600

Dear Mr. Andrew Stehn

The following report includes the data for the above referenced project for sample(s) received on 10/26/2018 at Air Toxics Ltd.

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

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

Regards,

Ausha Scott

Project Manager

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WORK ORDER #: 1810600

Work Order Summary

CLIENT:	Mr. Andrew Stehn TRC Corporation (RMT) 708 Heartland Trail Suite 3000 Madison, WI 53717	**BILL TO:**	Accounts Payable/Windsor TRC Companies, Inc. 21 Griffin Rd North Windsor, CT 06095
PHONE:	608-826-3665	**P.O. #**	117373/223544
FAX:	608-826-3941	**PROJECT #**	292257 Ph. 3 MKC
DATE RECEIVED:	10/26/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	11/08/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VP-102	TO-15	4.5 "Hg	5 psi
02A	VP-6	TO-15	5.9 "Hg	5 psi
03A	Lab Blank	TO-15	NA	NA
04A	CCV	TO-15	NA	NA
05A	LCS	TO-15	NA	NA
05AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 11/08/18

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP - E8 , LA NELAP - 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP CA009332018-10, VA NELAP - 9505, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.
Eurofins Air Toxics LLC. certifies that the test results contained in this report meet all requirements of the NELAC standards

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LABORATORY NARRATIVE
EPA Method TO-15
TRC Corporation (RMT)
Workorder# 1810600

Two 6 Liter Summa Canister samples were received on October 26, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

Analytical Notes

Dilution was performed on sample VP-102 due to the presence of high level target species.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

CN - See Case Narrative.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: VP-102

Lab ID#: 1810600-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.6	38	8.5	200
Tetrachloroethene	1.6	380	11	2600

Client Sample ID: VP-6

Lab ID#: 1810600-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.84	2.5	4.5	13
Tetrachloroethene	0.84	88	5.7	600

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Client Sample ID: VP-102

Lab ID#: 1810600-01A

EPA METHOD TO-15 GC/MS

File Name:	**3103110**	**Date of Collection:**	**10/18/18 12:04:00 P**
Dil. Factor:	**3.15**	**Date of Analysis:**	**10/31/18 04:49 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.6	Not Detected	4.0	Not Detected
cis-1,2-Dichloroethene	1.6	Not Detected	6.2	Not Detected
Trichloroethene	1.6	38	8.5	200
Tetrachloroethene	1.6	380	11	2600
trans-1,2-Dichloroethene	1.6	Not Detected	6.2	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	114	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	95	70-130

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Client Sample ID: VP-6

Lab ID#: 1810600-02A

EPA METHOD TO-15 GC/MS

File Name:	**3103109**	**Date of Collection: 10/18/18 1:24:00 PM**	
Dil. Factor:	**1.67**	**Date of Analysis: 10/31/18 04:26 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.84	Not Detected	2.1	Not Detected
cis-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected
Trichloroethene	0.84	2.5	4.5	13
Tetrachloroethene	0.84	88	5.7	600
trans-1,2-Dichloroethene	0.84	Not Detected	3.3	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	117	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1810600-03A

EPA METHOD TO-15 GC/MS

File Name:	**3103106**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/31/18 10:23 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	116	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: CCV

Lab ID#: 1810600-04A

EPA METHOD TO-15 GC/MS

File Name:	**3103102**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/31/18 08:16 AM**	

Compound	%Recovery
Vinyl Chloride	99
cis-1,2-Dichloroethene	103
Trichloroethene	106
Tetrachloroethene	106
trans-1,2-Dichloroethene	103

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	120	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: LCS

Lab ID#: 1810600-05A

EPA METHOD TO-15 GC/MS

File Name:	**3103103**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/31/18 08:41 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	103	70-130
cis-1,2-Dichloroethene	92	70-130
Trichloroethene	113	70-130
Tetrachloroethene	104	70-130
trans-1,2-Dichloroethene	112	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	118	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCSD

Lab ID#: 1810600-05AA

EPA METHOD TO-15 GC/MS

File Name:	**3103104**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 10/31/18 09:06 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	105	70-130
cis-1,2-Dichloroethene	94	70-130
Trichloroethene	108	70-130
Tetrachloroethene	105	70-130
trans-1,2-Dichloroethene	112	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	112	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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

180 BLUE RAVINE ROAD, SUITE B
FOLSOM, CA 95630-4719
(916) 985-1000 FAX (916) 985-1020

Project Manager Ausha Scott

Collected by: (Print and Sign) Alia Enright Alia Enright

Company TRC Email astehn@trcsolutions.com

Address 708 Heartland Trail Suite 3000 City Madison State WI Zip 53717

Phone (608) 826-3465 Fax –

Project Info:
P.O. # 117373
Project # 292257 Ph. 3
Project Name MKC

Turn Around Time:
☒ Normal
☐ Rush
specify

Lab Use Only
Pressurized by:
Date:
Pressurization Gas: N_2 He

Lab I.D.	Field Sample I.D. (Location)	Can #	Date of Collection	Time of Collection	Analyses Requested	Canister Pressure/Vacuum Initial	Final	Receipt	Final (psi)
01A	VP-102	33771	10/18/18	11:33-12:04	TO-15 (see notes)	-28.5	-7		
02A	VP-6	34466	↓	12:52-13:24	↓	-28	-7		

Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
[signature]	10/25/18 0700	[signature] FATL	10/26/18 0955
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time
Relinquished by: (signature)	Date/Time	Received by: (signature)	Date/Time

Notes: °Analyze using method TO-15 for PCE, TCE, VC, cis-1,2 DCE, and trans-1,2-DCE.
°Can 6L1234 and FC00685 fittings would not provide a closed seal - kept failing shut-in test.

Lab Use Only	Shipper Name	Air Bill #	Temp (°C)	Condition	Custody Seals Intact?	Work Order #
	FEDEX		NA	Good	Yes No None	1810600

Form 1293 rev.11

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12/11/2018
Mr. Andrew Stehn
TRC Corporation (RMT)
708 Heartland Trail
Suite 3000
Madison WI 53717

Project Name: Madison Kipp Corp.
Project #: 117373
Workorder #: 1811624

Dear Mr. Andrew Stehn

The following report includes the data for the above referenced project for sample(s) received on 11/30/2018 at Air Toxics Ltd.

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

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

Regards,

Ausha Scott

Project Manager

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WORK ORDER #: 1811624

Work Order Summary

CLIENT:	Mr. Andrew Stehn TRC Corporation (RMT) 708 Heartland Trail Suite 3000 Madison, WI 53717	**BILL TO:**	Accounts Payable/Windsor TRC Companies, Inc. 21 Griffin Rd North Windsor, CT 06095
PHONE:	608-826-3665	**P.O. #**	117373/223544
FAX:	608-826-3941	**PROJECT #**	117373 Madison Kipp Corp.
DATE RECEIVED:	11/30/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	12/11/2018		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VP-126	TO-15	2.4 "Hg	5 psi
02A	VP-210	TO-15	3.1 "Hg	5.1 psi
03A	VP-1S	TO-15	3.1 "Hg	5.1 psi
04A	VP-102	TO-15	2.8 "Hg	5.1 psi
05A	VP-6	TO-15	2.8 "Hg	5.1 psi
06A	VP-237	TO-15	2.2 "Hg	5.3 psi
07A	DUP-1	TO-15	0.6 "Hg	5.2 psi
08A	Lab Blank	TO-15	NA	NA
09A	CCV	TO-15	NA	NA
10A	LCS	TO-15	NA	NA
10AA	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 12/11/18

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP - E8 , LA NELAP - 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP CA009332018-10, VA NELAP - 9505, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.
Eurofins Air Toxics LLC. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
TRC Corporation (RMT)
Workorder# 1811624

Seven 6 Liter Summa Canister samples were received on November 30, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

The Chain of Custody (COC) information for sample VP-6 did not match the information on the canister with regard to canister barcode. The sample labeled 6L036 on the COC is labeled as 6L1036 on the canister. The client was notified of the discrepancy and the information on the canister was used to process and report the sample.

Analytical Notes

Dilution was performed on samples VP-102 and DUP-1 due to the presence of high level target species.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

CN - See Case Narrative.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: VP-126

Lab ID#: 1811624-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.73	0.98	5.0	6.6

Client Sample ID: VP-210

Lab ID#: 1811624-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.75	1.2	5.1	8.2

Client Sample ID: VP-1S

Lab ID#: 1811624-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.75	14	5.1	94

Client Sample ID: VP-102

Lab ID#: 1811624-04A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	15	6.7	82
Tetrachloroethene	1.2	260	8.4	1800

Client Sample ID: VP-6

Lab ID#: 1811624-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.74	1.3	4.0	6.8
Tetrachloroethene	0.74	55	5.0	370

Client Sample ID: VP-237

Lab ID#: 1811624-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)

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

Client Sample ID: VP-237

Lab ID#: 1811624-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.74	9.5	5.0	64

Client Sample ID: DUP-1

Lab ID#: 1811624-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	1.2	18	6.2	99
Tetrachloroethene	1.2	260	7.8	1800

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Client Sample ID: VP-126

Lab ID#: 1811624-01A

EPA METHOD TO-15 GC/MS

File Name:	**3120621**	**Date of Collection:**	**11/27/18 9:13:00 AM**
Dil. Factor:	**1.46**	**Date of Analysis:**	**12/7/18 12:37 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.73	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.73	Not Detected	2.9	Not Detected
Trichloroethene	0.73	Not Detected	3.9	Not Detected
Tetrachloroethene	0.73	0.98	5.0	6.6
trans-1,2-Dichloroethene	0.73	Not Detected	2.9	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	98	70-130

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Client Sample ID: VP-210

Lab ID#: 1811624-02A

EPA METHOD TO-15 GC/MS

File Name:	**3120622**	**Date of Collection:**	**11/27/18 11:24:00 A**
Dil. Factor:	**1.50**	**Date of Analysis:**	**12/7/18 01:03 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.75	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.75	Not Detected	3.0	Not Detected
Trichloroethene	0.75	Not Detected	4.0	Not Detected
Tetrachloroethene	0.75	1.2	5.1	8.2
trans-1,2-Dichloroethene	0.75	Not Detected	3.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: VP-1S

Lab ID#: 1811624-03A

EPA METHOD TO-15 GC/MS

File Name:	**3120624**	**Date of Collection: 11/27/18 11:45:00 A**	
Dil. Factor:	**1.50**	**Date of Analysis: 12/7/18 01:53 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.75	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.75	Not Detected	3.0	Not Detected
Trichloroethene	0.75	Not Detected	4.0	Not Detected
Tetrachloroethene	0.75	14	5.1	94
trans-1,2-Dichloroethene	0.75	Not Detected	3.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: VP-102

Lab ID#: 1811624-04A

EPA METHOD TO-15 GC/MS

File Name:	**3120623**	**Date of Collection: 11/27/18 3:28:00 PM**	
Dil. Factor:	**2.48**	**Date of Analysis: 12/7/18 01:26 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	3.2	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected
Trichloroethene	1.2	15	6.7	82
Tetrachloroethene	1.2	260	8.4	1800
trans-1,2-Dichloroethene	1.2	Not Detected	4.9	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: VP-6

Lab ID#: 1811624-05A

EPA METHOD TO-15 GC/MS

File Name:	**3120625**	**Date of Collection:**	**11/28/18 9:30:00 AM**
Dil. Factor:	**1.48**	**Date of Analysis:**	**12/7/18 02:19 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.74	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.74	Not Detected	2.9	Not Detected
Trichloroethene	0.74	1.3	4.0	6.8
Tetrachloroethene	0.74	55	5.0	370
trans-1,2-Dichloroethene	0.74	Not Detected	2.9	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: VP-237

Lab ID#: 1811624-06A

EPA METHOD TO-15 GC/MS

File Name:	**3120626**	**Date of Collection:**	**11/28/18 11:40:00 A**
Dil. Factor:	**1.47**	**Date of Analysis:**	**12/7/18 02:46 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.74	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.74	Not Detected	2.9	Not Detected
Trichloroethene	0.74	Not Detected	4.0	Not Detected
Tetrachloroethene	0.74	9.5	5.0	64
trans-1,2-Dichloroethene	0.74	Not Detected	2.9	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	100	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: DUP-1

Lab ID#: 1811624-07A

EPA METHOD TO-15 GC/MS

File Name:	**3120627**	**Date of Collection: 11/27/18**	
Dil. Factor:	**2.30**	**Date of Analysis: 12/7/18 03:09 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	1.2	Not Detected	2.9	Not Detected
cis-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected
Trichloroethene	1.2	18	6.2	99
Tetrachloroethene	1.2	260	7.8	1800
trans-1,2-Dichloroethene	1.2	Not Detected	4.6	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	99	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	99	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1811624-08A

EPA METHOD TO-15 GC/MS

File Name:	**3120606c**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/6/18 02:20 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected

Container Type: NA - Not Applicable

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

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Client Sample ID: CCV

Lab ID#: 1811624-09A

EPA METHOD TO-15 GC/MS

File Name:	**3120602**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/6/18 10:51 AM**	

Compound	%Recovery
Vinyl Chloride	108
cis-1,2-Dichloroethene	100
Trichloroethene	96
Tetrachloroethene	101
trans-1,2-Dichloroethene	95

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	100	70-130

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Client Sample ID: LCS

Lab ID#: 1811624-10A

EPA METHOD TO-15 GC/MS

File Name:	**3120603**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/6/18 11:39 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	107	70-130
cis-1,2-Dichloroethene	89	70-130
Trichloroethene	96	70-130
Tetrachloroethene	99	70-130
trans-1,2-Dichloroethene	99	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	97	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	101	70-130

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Client Sample ID: LCSD

Lab ID#: 1811624-10AA

EPA METHOD TO-15 GC/MS

File Name:	**3120604**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/6/18 12:04 PM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	110	70-130
cis-1,2-Dichloroethene	90	70-130
Trichloroethene	96	70-130
Tetrachloroethene	99	70-130
trans-1,2-Dichloroethene	101	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	98	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	100	70-130

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Analysis Request /Canister Chain of Custody

For Laboratory Use Only

PID: _____ Workorder #: 1811624

180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Client: TRC/MKC
Project Name: Andrew Stehn
Project Manager: Madison Kipp Corp. Project # 117373
Sampler: Alia Enright
Site Name: Madison Kipp Corp.

Special Instructions/Notes: Analyze for PCE, TCE, VC, cis-1,2-DCE, trans-1,2-DCE.

Turnaround Time (Rush surcharges may apply)
Standard X Rush _____ (specify)

Lab ID	Field Sample Identification(Location)	Can #	Flow Controller #	Start Sampling Information		Stop Sampling Information		Canister Vacuum/Pressure		Lab Use Only		Requested Analyses				
				Date	Time	Date	Time	Initial (in Hg)	Final (in Hg)	Receipt	Final (psig) Gas: N_2 / He	TO-15 (see notes)				
01A	VP-126	6L1590	FC00418	11/27/18	8:43	11/27/18	9:13	-26	-6			X				
02A	VP-210	6L0304	6844	↓	10:21	↓	11:24	-29	-6			↓				
~~03A~~	~~VP-15~~ AEG															
03A	VP-15	6L0452	40834	↓	11:10	↓	11:45	-30	-6			↓				
04A	VP-102	6L0334	FC00123	↓	14:52	↓	15:28	-30	-6			↓				
05A	VP-6	6L036	FC00660	11/28/18	8:47	11/28/18	9:30	-28.5	-5.5			↓				
06A	VP-237	6L0601	FC00146	↓	10:55	↓	11:40	-30	-6			↓				
07A	DUP-1	6L1551	FC00490	11/27/18	—	11/27/18	—	-27.5	-4			↓				

	Date	Time		Date	Time
Relinquished by: (Signature/Affiliation) ALW Enright/TRC	11/28/18	15:00	Received by: (Signature/Affiliation) FAIL	11/30/18	1048
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time

Lab Use Only

Shipper Name: Fedex | Custody Seals Intact? | Yes | No | None

Sample Transportation Notice: Relinquishing signature on this document indicates that samples are shipped ~~in compliance~~ with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

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1/10/2019
Mr. Andrew Stehn
TRC Corporation (RMT)
708 Heartland Trail
Suite 3000
Madison WI 53717

Project Name: MKC
Project #: 117373
Workorder #: 1812465R1

Dear Mr. Andrew Stehn

The following report includes the data for the above referenced project for sample(s) received on 12/20/2018 at Air Toxics Ltd.

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

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

Regards,

Ausha Scott

Project Manager

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WORK ORDER #: 1812465R1

Work Order Summary

CLIENT:	Mr. Andrew Stehn TRC Corporation (RMT) 708 Heartland Trail Suite 3000 Madison, WI 53717	**BILL TO:**	Accounts Payable/Windsor TRC Companies, Inc. 21 Griffin Rd North Windsor, CT 06095
PHONE:	608-826-3665	**P.O. #**	117373
FAX:	608-826-3941	**PROJECT #**	117373 MKC
DATE RECEIVED:	12/20/2018	**CONTACT:**	Ausha Scott
DATE COMPLETED:	01/04/2019		
DATE REISSUED:	01/10/2019		

FRACTION #	NAME	TEST	RECEIPT VAC./PRES.	FINAL PRESSURE
01A	VP-237	TO-15	3.9 "Hg	4.9 psi
02A	VP-6	TO-15	3.5 "Hg	4.9 psi
03A	VP-102	TO-15	4.1 "Hg	4.9 psi
04A	VP-126	TO-15	3.9 "Hg	5.2 psi
05A	VP-210	TO-15	3.1 "Hg	5.1 psi
06A	VP-1S	TO-15	3.5 "Hg	5 psi
07A	DUP-1	TO-15	3.9 "Hg	5 psi
08A	Lab Blank	TO-15	NA	NA
08B	Lab Blank	TO-15	NA	NA
09A	CCV	TO-15	NA	NA
09B	CCV	TO-15	NA	NA
10A	LCS	TO-15	NA	NA
10AA	LCSD	TO-15	NA	NA
10B	LCS	TO-15	NA	NA
10BB	LCSD	TO-15	NA	NA

CERTIFIED BY: Heidi Hayes DATE: 01/10/19

Technical Director

Certification numbers: AZ Licensure AZ0775, FL NELAP - E8 , LA NELAP - 02089, NH NELAP - 209218, NJ NELAP - CA016, NY NELAP - 11291, TX NELAP - T104704434-18-13, UT NELAP CA009332018-10, VA NELAP - 9505, WA NELAP - C935
Name of Accreditation Body: NELAP/ORELAP (Oregon Environmental Laboratory Accreditation Program)
Accreditation number: CA300005-011, Effective date: 10/18/2018, Expiration date: 10/17/2019.
Eurofins Air Toxics LLC. certifies that the test results contained in this report meet all requirements of the NELAC standards

180 BLUE RAVINE ROAD, SUITE B FOLSOM, CA - 95630
(916) 985-1000 . (800) 985-5955 . FAX (916) 985-1020

LABORATORY NARRATIVE
EPA Method TO-15
TRC Corporation (RMT)
Workorder# 1812465R1

Seven 6 Liter Summa Canister samples were received on December 20, 2018. The laboratory performed analysis via EPA Method TO-15 using GC/MS in the full scan mode.

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

Receiving Notes

There were no receiving discrepancies.

The work order was reissued on 1/10/2019 to correct identification of sample VP-1S due to laboratory transcription error.

Analytical Notes

There were no analytical discrepancies.

Definition of Data Qualifying Flags

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

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

J - Estimated value.

E - Exceeds instrument calibration range.

S - Saturated peak.

Q - Exceeds quality control limits.

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

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

N - The identification is based on presumptive evidence.

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

CN - See Case Narrative.

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

a-File was requantified

b-File was quantified by a second column and detector

r1-File was requantified for the purpose of reissue

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

Client Sample ID: VP-237

Lab ID#: 1812465R1-01A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.76	7.1	5.2	48

Client Sample ID: VP-6

Lab ID#: 1812465R1-02A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.76	0.83	4.0	4.5
Tetrachloroethene	0.76	36	5.1	240

Client Sample ID: VP-102

Lab ID#: 1812465R1-03A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.77	13	4.1	68
Tetrachloroethene	0.77	190	5.2	1300

Client Sample ID: VP-126

Lab ID#: 1812465R1-04A

No Detections Were Found.

Client Sample ID: VP-210

Lab ID#: 1812465R1-05A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.75	1.0	5.1	6.8

Client Sample ID: VP-1S

Lab ID#: 1812465R1-06A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Tetrachloroethene	0.76	8.9	5.2	61

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

Client Sample ID: DUP-1

Lab ID#: 1812465R1-07A

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Trichloroethene	0.77	13	4.1	68
Tetrachloroethene	0.77	190	5.2	1300

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Client Sample ID: VP-237

Lab ID#: 1812465R1-01A

EPA METHOD TO-15 GC/MS

File Name:	**a122720**	**Date of Collection:**	**12/17/18 9:15:00 AM**
Dil. Factor:	**1.53**	**Date of Analysis:**	**12/27/18 11:57 PM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.76	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Trichloroethene	0.76	Not Detected	4.1	Not Detected
Tetrachloroethene	0.76	7.1	5.2	48
trans-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: VP-6

Lab ID#: 1812465R1-02A

EPA METHOD TO-15 GC/MS

File Name:	**a122721**	**Date of Collection: 12/17/18 10:31:00 A**	
Dil. Factor:	**1.51**	**Date of Analysis: 12/28/18 12:24 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.76	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Trichloroethene	0.76	0.83	4.0	4.5
Tetrachloroethene	0.76	36	5.1	240
trans-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: VP-102

Lab ID#: 1812465R1-03A

EPA METHOD TO-15 GC/MS

File Name:	**a122722**	**Date of Collection: 12/17/18 11:41:00 A**	
Dil. Factor:	**1.54**	**Date of Analysis: 12/28/18 12:50 AM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.77	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.77	Not Detected	3.0	Not Detected
Trichloroethene	0.77	13	4.1	68
Tetrachloroethene	0.77	190	5.2	1300
trans-1,2-Dichloroethene	0.77	Not Detected	3.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	102	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: VP-126

Lab ID#: 1812465R1-04A

EPA METHOD TO-15 GC/MS

File Name:	**a122723**	**Date of Collection:**	**12/17/18 12:40:00 P**
Dil. Factor:	**1.56**	**Date of Analysis:**	**12/28/18 01:17 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.78	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.78	Not Detected	3.1	Not Detected
Trichloroethene	0.78	Not Detected	4.2	Not Detected
Tetrachloroethene	0.78	Not Detected	5.3	Not Detected
trans-1,2-Dichloroethene	0.78	Not Detected	3.1	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	91	70-130
Toluene-d8	101	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: VP-210

Lab ID#: 1812465R1-05A

EPA METHOD TO-15 GC/MS

File Name:	**a122724**	**Date of Collection:**	**12/17/18 2:38:00 PM**
Dil. Factor:	**1.50**	**Date of Analysis:**	**12/28/18 01:43 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.75	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.75	Not Detected	3.0	Not Detected
Trichloroethene	0.75	Not Detected	4.0	Not Detected
Tetrachloroethene	0.75	1.0	5.1	6.8
trans-1,2-Dichloroethene	0.75	Not Detected	3.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: VP-1S

Lab ID#: 1812465R1-06A

EPA METHOD TO-15 GC/MS

File Name:	**a122725**	**Date of Collection:**	**12/17/18 3:27:00 PM**
Dil. Factor:	**1.52**	**Date of Analysis:**	**12/28/18 02:10 AM**

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.76	Not Detected	1.9	Not Detected
cis-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected
Trichloroethene	0.76	Not Detected	4.1	Not Detected
Tetrachloroethene	0.76	8.9	5.2	61
trans-1,2-Dichloroethene	0.76	Not Detected	3.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: DUP-1

Lab ID#: 1812465R1-07A

EPA METHOD TO-15 GC/MS

File Name:	**a122819**	**Date of Collection: 12/17/18**	
Dil. Factor:	**1.54**	**Date of Analysis: 12/28/18 10:43 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.77	Not Detected	2.0	Not Detected
cis-1,2-Dichloroethene	0.77	Not Detected	3.0	Not Detected
Trichloroethene	0.77	13	4.1	68
Tetrachloroethene	0.77	190	5.2	1300
trans-1,2-Dichloroethene	0.77	Not Detected	3.0	Not Detected

Container Type: 6 Liter Summa Canister

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	102	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1812465R1-08A

EPA METHOD TO-15 GC/MS

File Name:	**a122705**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/27/18 02:13 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	95	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: Lab Blank

Lab ID#: 1812465R1-08B

EPA METHOD TO-15 GC/MS

File Name:	**a122806**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/28/18 12:47 PM**	

Compound	Rpt. Limit (ppbv)	Amount (ppbv)	Rpt. Limit (ug/m3)	Amount (ug/m3)
Vinyl Chloride	0.50	Not Detected	1.3	Not Detected
cis-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected
Trichloroethene	0.50	Not Detected	2.7	Not Detected
Tetrachloroethene	0.50	Not Detected	3.4	Not Detected
trans-1,2-Dichloroethene	0.50	Not Detected	2.0	Not Detected

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: CCV

Lab ID#: 1812465R1-09A

EPA METHOD TO-15 GC/MS

File Name:	**a122702**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/27/18 11:52 AM**	

Compound	%Recovery
Vinyl Chloride	90
cis-1,2-Dichloroethene	92
Trichloroethene	98
Tetrachloroethene	101
trans-1,2-Dichloroethene	100

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	93	70-130
Toluene-d8	99	70-130
4-Bromofluorobenzene	105	70-130

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Client Sample ID: CCV

Lab ID#: 1812465R1-09B

EPA METHOD TO-15 GC/MS

File Name:	**a122802**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/28/18 10:16 AM**	

Compound	%Recovery
Vinyl Chloride	87
cis-1,2-Dichloroethene	96
Trichloroethene	99
Tetrachloroethene	103
trans-1,2-Dichloroethene	102

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	96	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCS

Lab ID#: 1812465R1-10A

EPA METHOD TO-15 GC/MS

File Name:	**a122703**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/27/18 12:17 PM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	95	70-130
cis-1,2-Dichloroethene	89	70-130
Trichloroethene	99	70-130
Tetrachloroethene	104	70-130
trans-1,2-Dichloroethene	116	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	96	70-130
Toluene-d8	98	70-130
4-Bromofluorobenzene	104	70-130

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Client Sample ID: LCSD

Lab ID#: 1812465R1-10AA

EPA METHOD TO-15 GC/MS

File Name:	**a122704**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/27/18 12:42 PM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	91	70-130
cis-1,2-Dichloroethene	87	70-130
Trichloroethene	100	70-130
Tetrachloroethene	101	70-130
trans-1,2-Dichloroethene	110	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	94	70-130
Toluene-d8	100	70-130
4-Bromofluorobenzene	106	70-130

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Client Sample ID: LCS

Lab ID#: 1812465R1-10B

EPA METHOD TO-15 GC/MS

File Name:	**a122803**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/28/18 10:41 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	93	70-130
cis-1,2-Dichloroethene	90	70-130
Trichloroethene	99	70-130
Tetrachloroethene	103	70-130
trans-1,2-Dichloroethene	115	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	92	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	103	70-130

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Client Sample ID: LCSD

Lab ID#: 1812465R1-10BB

EPA METHOD TO-15 GC/MS

File Name:	**a122804**	**Date of Collection: NA**	
Dil. Factor:	**1.00**	**Date of Analysis: 12/28/18 11:06 AM**	

Compound	%Recovery	Method Limits
Vinyl Chloride	87	70-130
cis-1,2-Dichloroethene	86	70-130
Trichloroethene	98	70-130
Tetrachloroethene	104	70-130
trans-1,2-Dichloroethene	111	70-130

Container Type: NA - Not Applicable

Surrogates	%Recovery	Method Limits
1,2-Dichloroethane-d4	90	70-130
Toluene-d8	97	70-130
4-Bromofluorobenzene	104	70-130

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Analysis Request /Canister Chain of Custody

For Laboratory Use Only 1812465

PID: _____ Workorder #: _____

180 Blue Ravine Rd. Suite B, Folsom, CA 95630
Phone (800) 985-5955; Fax (916) 351-8279

Client: TRC/MKC
Project Name: MKC
Project Manager: Andrew Stehn Project # 117373
Sampler: Alia Enright / Ben Wachholz
Site Name: Madison Kipp Corporation

Special Instructions/Notes: Analyze for PCE, TCE, VC, cis-1,2-DCE, and trans-1,2-DCE.

Turnaround Time (Rush surcharges may apply): Standard X Rush _____ (specify)

Lab ID	Field Sample Identification (Location)	Can #	Flow Controller #	Start Sampling Information		Stop Sampling Information		Canister Vacuum/Pressure		Lab Use Only		Requested Analyses			
				Date	Time	Date	Time	Initial (in Hg)	Final (in Hg)	Receipt	Final (psig) Gas: N_2 / He	TO-15 (see notes)			
01A	VP-237	35166	FC00997	12/17/18	8:46 EW	12/17/18	9:15	-27.5	-6			X			
02A	VP-6	34216	FC00208	12/17/18	9:57	12/17/18	10:31	-27.5	-6			X			
03A	VP-102	33771	FC00206	12/17/18	11:05	12/17/18	11:41	-28.5	-5			X			
04A	VP-126	6L0489	FC00639	12/17/18	12:09	12/17/18	12:40	-30	-6			X			
05A	VP-210	6L1530	FC00708	12/17/18	14:01	12/17/18	14:38	-30	-5.5			X			
06A	VP-15	6L0725	FC00898	12/17/18	14:55	12/17/18	15:27	-27	-6			X			
07A	DUP-1 AEE 12/14/18	~~00283~~ 6L0712	FC00284	12/17/18	—	12/17/18	—	-28.5	-5.5			X			
	Not used	34384	40840												
	Not used	6L0925	FC00479												
	Not suitable for sample*	35260	FC00249												

Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Alia Enright (TRC) 12/18/18 1030			[signature] TAL	12/20/18	1130
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time
Relinquished by: (Signature/Affiliation)	Date	Time	Received by: (Signature/Affiliation)	Date	Time

Lab Use Only

Shipper Name: FedEx | Custody Seals Intact? | Yes | No | None

Sample Transportation Notice: Relinquishing signature on this document indicates that samples are shipped in compliance with all applicable local, State, Federal, and international laws, regulations, and ordinances of any kind. Relinquishing signature also indicates agreement to hold harmless, defend, and indemnify Eurofins Air Toxics against any claim, demand, or action, of any kind, related to the collection, handling, of shipping of samples. D.O.T Hotline (800) 467-4922

* Vacuum increased during shut in test so no sample could be collected from this can and flow controller