March 15, 2018

John Hnat
Wisconsin Department of Natural Resources
2300 North Dr. Martin Luther King Jr. Dr.
Milwaukee, WI 53212

Re: Supplemental Closure Documentation
One Hour Martinizing
2262 South 108th Street
West Allis, Wisconsin
BRRTS#: 02-41-246246

Dear Mr. Hnat

EnviroForensics, LLC (EnviroForensics) is pleased to provide this supplemental closure documentation regarding recent site investigation activities performed at the One Hour Martinizing (OHM) facility located at 2262 South 108th Street in West Allis, Wisconsin (Site). This report summarizes several field investigation and vapor mitigation events that were performed in accordance with Wisconsin Department of Natural Resources (WDNR) regulations and guidance regarding such investigations, and in accordance with the WDNR approved work scopes and cost estimates presented below. The subsurface investigations described herein were performed under the direction of a hydrogeologist as defined in NR 712, and a certification statement is included in **Attachment 1**.

SUMMARY OF WORK TASKS

In response to a request for case closure submitted by ARCADIS in May 2014, the WDNR requested additional investigation and vapor mitigation. ARCADIS prepared a scope of work dated January 9, 2015 to address WDNR's requests. Subsequently, OHM Holdings selected EnviroForensics as their environmental consultant to complete this Site work.

EnviroForensics prepared a cost estimate to complete the tasks listed below, and submitted the cost estimate to WDNR via email on July 15, 2015. The costs were approved by the WDNR on July 17, 2015.

The following specific actions were performed by EnviroForensics:

1. Further investigated impacts on the north adjacent property (2248 South 108th Street) by collecting a water sample from the basement sump.

2. Conducted a vapor intrusion (VI) assessment and collected a sample of sump water at the east adjacent property (10710 West Lincoln Ave).
3. Installed a sub-slab depressurization system at the Site building.
4. Installed a sub-slab depressurization system on the north adjacent property (2248 South 108th Street).

The results of the sampling and sub-slab depressurization installation activities were provided in the *Supplemental Investigation and Vapor Mitigation Report* submitted to the WDNR on December 2, 2015.

EnviroForensics subsequently prepared a *Site Investigation Work Scope* dated May 10, 2016. The investigation tasks and associated costs were approved by the WDNR on May 17, 2016. The following tasks were performed by EnviroForensics:

1. Investigated off-site groundwater impacts along utility corridors north of the Site by collecting two (2) grab-groundwater samples (DP-1w and DP-2w).
2. Investigated off-site vapor intrusion risk by collecting two (2) soil gas samples along the sanitary sewer utility corridor north of the Site.
3. Performed sub-slab depressurization system commissioning and operation & maintenance.

The results of the VI and grab-groundwater samples warranted an additional VI assessment at one (1) off-site commercial property (2230 South 108th Street) to the north, and additional grab-groundwater sampling along the sanitary main to the north.

Enviroforensics prepared a *Further Site Investigation Work Scope* dated December 9, 2016. The following tasks were performed by EnviroForensics:

1. Conducted a VI assessment at one (1) property to the north (2230 South 108th Street).
2. Conducted confirmation VI assessment at one (1) property to the north (2234 South 108th Street).
3. Further investigated off-site groundwater impacts along sanitary utility corridor north of the Site by collecting two (2) grab groundwater samples (DP-3w and DP-4w).

RESULTS

Utility Corridor Investigations

Four (4) soil borings (DP-1 through DP-4) were advanced to the depth of the sanitary sewer main in the locations shown on **Figure 1** in **Attachment 2**, using a Geoprobe™ drilling rig to facilitate the collection of soil gas and grab-groundwater samples. The depth of the sewer main was

between 8-10 feet below ground surface (bgs) with the depth to groundwater measured at about 8 feet bgs in the areas investigated. DP-1 and DP-2 were completed on July 28, 2016, and DP-3 and DP-4 were completed on March 7, 2017.

Soil Gas

On July 28, 2016, soil gas samples SG-1 and SG-2 were collected at DP-1 and DP-2, respectively from a depth interval of 8-9 feet below ground surface (bgs) using a direct push post-run tubing (PRT) system. The sampling locations are depicted on **Figure 1**. The results of soil gas samples are summarized and compared to WDNR standards in **Table 1**, **Attachment 3**. The analytical results reports are included in **Attachment 4**. Soil gas field sampling forms are presented in **Attachment 5**.

As can be seen in **Table 1**, soil gas VOC concentrations were well below the vapor risk screening levels (VRSLs) along the sanitary main.

Grab Groundwater

Grab groundwater samples DP-1W through DP-4W were collected at DP-1 through DP-4, respectively from temporary wells constructed of 1-inch diameter PVE pipe having 5-foot long screens and set from 10-15 feet bgs to intersect the water table. The results of grab groundwater samples are summarized and compared to WDNR standards in **Table 2**, **Attachment 3**. The analytical results reports are included in **Attachment 4.**

As can be seen in **Table 2**, tetrachloroethene (PCE) and trichloroethene (TCE) were detected at concentrations exceeding the groundwater enforcement standard (ES) at DP-1W. At DP-2W, PCE and vinyl chloride were detected at concentrations exceeding the ES. The concentrations are reduced significantly with distance from the source area (dry cleaners). The samples collected from DP-3W and DP-4W did not contain VOCs. The detections of VOCs in groundwater at DP-1W and DP-2W indicate that groundwater impacts migrated preferentially along the backfill of the sanitary main, likely prior to groundwater remedial actions performed by ARCADIS. Concentrations decrease significantly with distance from the Site as seen at DP-2W, and the extent of impacts along the sewer main to the north has been defined at DP-3W and DP-4W.

Off-Site Property Investigations

2248 South 108th Street

On September 8, 2015, one (1) water sample was collected from the sump in the basement of the building. The sample location is depicted on **Figure 1**. The results of the sump sample is summarized and compared to WDNR standards in **Table 2**. The laboratory report that relates to the sump sample can be found in **Attachment 4**.

As shown in **Table 2**, PCE and vinyl chloride were detected at concentrations exceeding their respective ESs. Cis-1,2-dichloroethene was detected at a concentration exceeding the WDNR Preventive Action Limit but below the ES. No other VOCs were detected in the sample.

10710 West Lincoln Avenue

On September 8, 2015, one (1) water sample was collected from the sump in the basement of the building. In addition, two (2) sub-slab vapor samples designated 6406-10710-SS-1 and 6406-10710-SS-2 were collected from the basement. Paired indoor air samples were collected from the basement (6406-10710-IA-B), first floor (6406-10710-IA-1), and second floor (6406-10710-IA-2) of the building. The sampling locations are depicted on the **Figure 1**. The results of the vapor samples are summarized and compared to WDNR standards in **Table 1**. The results of the sump sample is summarized and compared to WDNR standards in **Table 2**. The laboratory reports that relate to the vapor and water samples can be found in **Attachment 4**. Vapor intrusion assessment field sampling forms are presented in **Attachment 5**.

As shown in **Table 1**, PCE was detected in 6406-10710-SS-1 and 6406-10710-SS-2; however, the concentrations are well below their respective vapor risk screening levels. There were no VOCs detected in the indoor air sample or the water sample collected from the sump.

2234 South 108th Street

On July 28, 2016, two (2) sub-slab vapor samples designated 6406-2234-SSV-1 and 6406-2234-SSV-2 were collected from the basement. One (1) Indoor air sample designated 6406-2234-IA-B was also collected from the basement. In addition, one (1) water sample was collected from the sump in the basement of the building. The sampling locations are depicted on the attached **Figure 1**. The results of the vapor samples are summarized and compared to WDNR standards in **Table 1**. The results of the sump sample is summarized and compared to WDNR standards in **Table 2**. The laboratory report that relates to the vapor and water samples can be found in **Attachment 4**. Vapor intrusion assessment field sampling forms are presented in **Attachment 5**.

As shown in **Table 1**, PCE and trichloroethene were detected in 6406-2234-SSV-2 and 6406-2234-SSV-1, respectively; however, the concentrations are well below their respective vapor risk screening levels. There were no VOCs detected in the indoor air sample or the sample collected from the sump.

2230 South 108th Street

On January 31-February 1, 20117, two (2) sub-slab vapor samples designated 6406-2230-SSV-1 and 6406-2230-SSV-2 were collected from the basement. Indoor air sample 6406-2230-IA-B was also collected from the basement. The sampling locations are depicted on **Figure 1**. The results of the vapor samples are summarized and compared to WDNR standards in **Table 1**. The laboratory report that relates to the vapor samples can be found in **Attachment 4**. Vapor intrusion assessment field sampling forms are presented in **Attachment 5**.

As shown in **Table 1**, PCE and trichloroethene, which is a breakdown product of PCE, were detected in 6406-2230-SSV-1; however, the concentrations are well below their respective vapor risk screening levels. There were no VOCs detected in the indoor air sample.

Sub-slab Depressurization System Commissioning

In September, 2015, sub-slab depressurization systems (SSDS) were installed in the Site building and at 2248 South 108th Street to mitigate vapor intrusion risk. Initial commissioning of the SSD systems was performed during April 4-5, 2016 under cool weather conditions when the buildings were heated. The purpose of commissioning is to verify that the SSD systems are operating effectively to prevent indoor air exposure to sub-slab vapors. Commissioning included monitoring of: system vacuum; air flow rate; and the extension of the negative pressure field beneath the slab. Indoor air and outdoor air samples were collected in both buildings prior to operating the system to establish a base line. The results of the baseline indoor air samples are summarized and compared to WDNR standards in **Table 1**. The laboratory reports relating to the indoor samples can be found in **Attachment 4**.

A second round of sampling and system inspections were performed on July 28, 2016. Indoor and outdoor air samples were also collected while the systems were in operation. The results of the baseline indoor air samples are summarized and compared to WDNR standards in **Table 1**. The laboratory reports that relate to the indoor samples can be found in **Attachment 4**. Field sampling logs are presented in **Attachment 5**. Figures depicting the configurations of the systems and pressure field extension readings were previously provided in the Enviroforensics report titled: *Supplemental Investigation and Vapor Mitigation Report, dated December 2, 2015*. The SSD systems are operating as designed with significant negative pressure extending beneath the entire floor slabs. Operation, maintenance, and monitoring plans for these systems are provided in **Attachment 6**.

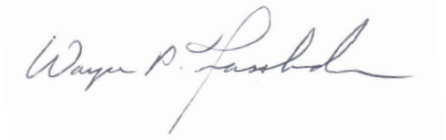
CONCLUSIONS

The two (2) SSD systems are operating efficiently as designed during both the heating and non-heating months. Therefore, no further commissioning is required. Additional off-site VI impacts have been assessed. Properties to the north (2234 and 2230 S. 108th Street) and east (10710 West Lincoln Avenue) did not have sub-slab vapor in concentrations exceeding risk levels.

Groundwater impacts above the ES were detected along the sanitary main that extends north from the Site. The backfill of the sanitary main acted as a preferential migration pathway for past site contaminants prior to the groundwater remediation efforts performed by ARCADIS. The concentrations decrease rapidly within a short distance and the extent of the impacts above the ES have been defined. Enviroforensics concludes that all exposure pathways have been assessed and Site closure should be granted.

If you have any questions regarding this report, please do not hesitate to call me at (414) 982-3988 or contact me by email at wfassbender@enviroforensics.com.

Sincerely,
EnviroForensics, LLC



Wayne Fassbender, PG, PMP
Senior Project Manager

COPY: Brian Cass, One Hour Martinizing
Ted Warpinski, Friebert, Finerty, & St. John, S.C.

Attachments:

Attachment 1: Certification Statement
Attachment 2: Figure 1
Attachment 3: Tables 1 and 2
Attachment 4: Laboratory Analytical Reports
Attachment 5: Field Sampling Forms
Attachment 6: SSDS Operation, Maintenance, and Monitoring Plans

ATTACHMENT 1

Certification Statement

HYDROGEOLOGIST CERTIFICATION

"I, Wayne P. Fassbender, certify I am a Hydrogeologist as that term is defined in s NR 712.03 (1) Wisconsin Administrative Code; and that to the best of my knowledge, all of the information contained in this document is correct and the document was prepared in compliance with all applicable requirements of chs. NR 700 to 726, Wisconsin Administrative Code."

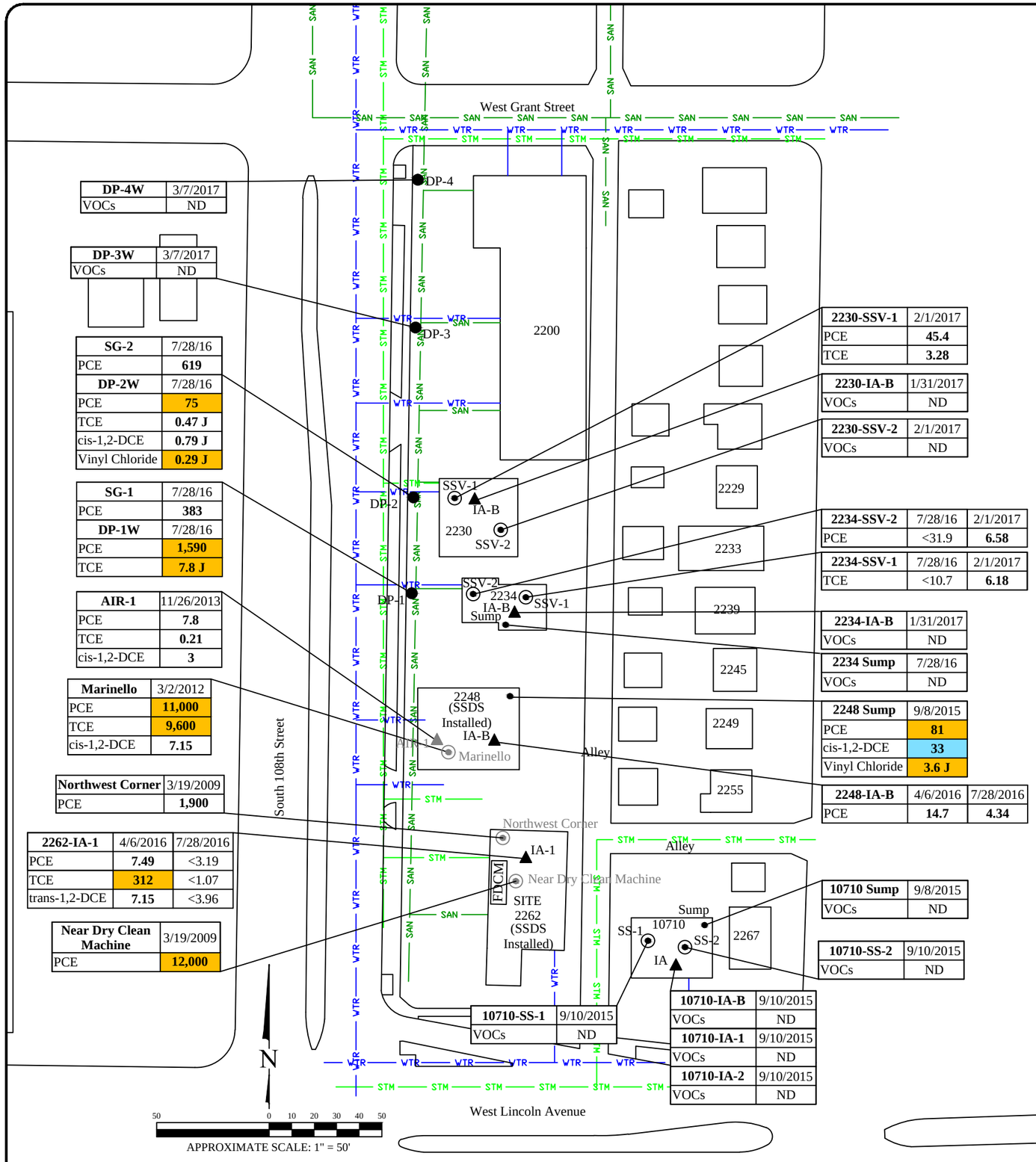
Wayne P. Fassbender, P.G.

3/15/18
Date

Document Reference: Supplemental Closure Documentation; One Hour Martinizing; 2262 S. 108th Street, West Allis, Wisconsin; March 15, 2018; BRRTS#02-41-246246

ATTACHMENT 2

Figure 1



DP-4W	3/7/2017
VOCs	ND

DP-3W	3/7/2017
VOCs	ND

SG-2	7/28/16
PCE	**619**
DP-2W	7/28/16
PCE	**75**
TCE	**0.47 J**
cis-1,2-DCE	**0.79 J**
Vinyl Chloride	**0.29 J**

SG-1	7/28/16
PCE	**383**
DP-1W	7/28/16
PCE	**1,590**
TCE	**7.8 J**

AIR-1	11/26/2013
PCE	**7.8**
TCE	**0.21**
cis-1,2-DCE	**3**

Marinello	3/2/2012
PCE	**11,000**
TCE	**9,600**
cis-1,2-DCE	**7.15**

Northwest Corner	3/19/2009
PCE	**1,900**

2262-IA-1	4/6/2016	7/28/2016
PCE	**7.49**	<3.19
TCE	**312**	<1.07
trans-1,2-DCE	**7.15**	<3.96

Near Dry Clean Machine	3/19/2009
PCE	**12,000**

2230-SSV-1	2/1/2017
PCE	**45.4**
TCE	**3.28**

2230-IA-B	1/31/2017
VOCs	ND

2230-SSV-2	2/1/2017
VOCs	ND

2234-SSV-2	7/28/16	2/1/2017
PCE	<31.9	**6.58**

2234-SSV-1	7/28/16	2/1/2017
TCE	<10.7	**6.18**

2234-IA-B	1/31/2017
VOCs	ND

2234 Sump	7/28/16
VOCs	ND

2248 Sump	9/8/2015
PCE	**81**
cis-1,2-DCE	**33**
Vinyl Chloride	**3.6 J**

2248-IA-B	4/6/2016	7/28/2016
PCE	**14.7**	**4.34**

10710 Sump	9/8/2015
VOCs	ND

10710-SS-2	9/10/2015
VOCs	ND

10710-SS-1	9/10/2015
VOCs	ND

10710-IA-B	9/10/2015
VOCs	ND

10710-IA-1	9/10/2015
VOCs	ND

10710-IA-2	9/10/2015
VOCs	ND

Groundwater		
Analyte	Public Health Preventive Action Limit	Public Health Enforcement Standard
PCE	**0.5**	**5**
TCE	**0.5**	**5**
cis-1,2-DCE	**7**	**70**
Vinyl Chloride	**0.02**	**0.2**

Note:
1. Bolded and orange shaded values exceed the Public Health Enforcement Standard
2. Bolded and blue shaded values exceed the Public Health Preventive Action Limit
3. Bolded values are above detection limits
4. J = Analyte concentration less that laboratory detection limits
5. Samples analyzed using EPA SW-846 Method 8260
6. All results reported in units of micrograms per liter (µg/L)
7. PCE = Tetrachloroethene
8. TCE = Trichloroethene
9. cis-1,2-DCE = cis-1,2-Dichloroethene
10. VOCs = Volatile Organic Compounds
11. ND = Not detected

Indoor Air		
Analyte	Residential Vapor Action Level	Small Commercial Vapor Action Level
PCE	**42**	**180**
TCE	**2.1**	**8.8**
Cis-1,2-DCE	NE	NE
Trans-1,2-DCE	NE	NE
VC	**1.7**	**28**

Note:
1. Bolded and shaded orange values exceed Small Commercial Vapor Action Levels
2. Bolded values are above detection limits
3. All results reported in micrograms per cubic meter (µg/m ^{3})
4. PCE = Tetrachloroethene
5. TCE = Trichloroethene
9. cis-1,2-DCE = cis-1,2-Dichloroethene
9. trans-1,2-DCE = trans-1,2-Dichloroethene
10. VC = Vinyl Chloride
11. VOCs = Volatile Organic Compounds
12. ND = Not detected
13. NE = Not established

Legend

- WTR — Underground water utility line
- SAN — Underground sanitary utility line
- STM — Underground storm utility line
- DP-1w — Grab-groundwater locations
- SG-2 — Soil Gas sample locations
- SS-1 and SSV-1 — Sub-slab vapor sample locations
- IA — Indoor air sample locations
- Northwest Corner — Sub-slab vapor sample (others)
- AIR-1 — Indoor air sample (others)
- FDCM — Former dry cleaning machine location

Sub-slab vapor			Utility Soil Gas
Analyte	Residential Vapor Risk Screening Level	Small Commercial Vapor Risk Screening Level	Small Commercial Vapor Risk Screening Level
PCE	**1,400**	**6,000**	**18,000**
TCE	**70**	**290**	**880**
cis-1,2-DCE	NE	NE	NE
Vinyl Chloride	**57**	**930**	**2,800**

Note:
1. Bolded and shaded orange values exceed Small Commercial Vapor Risk Screening Levels
2. Bolded values are above detection limits
3. All results reported in micrograms per cubic meter (µg/m ^{3})
4. Sub-slab vapor screening levels derived using the attenuation factor of 0.03
5. Utility soil gas vapor screening levels derived using the attenuation factor of 0.01
6. PCE = Tetrachloroethene
7. TCE = Trichloroethene
9. cis-1,2-DCE = cis-1,2-Dichloroethene
9. trans-1,2-DCE = trans-1,2-Dichloroethene
10. VOCs = Volatile Organic Compounds
11. ND = Not detected
12. NE = Not established

SAMPLE LOCATIONS AND ANALYTICAL RESULTS

OHM - Lincoln
2262 South 108th Street
West Allis, Wisconsin

Date:	10/6/2017
Designed:	EB
Drawn:	KH
Checked:	WF
DWG file:	6406-0327

ENVIRO forensics
825 North Capitol Avenue • Indianapolis, IN 46204
EnviroForensics.com

Figure 1

Project 6406

ATTACHMENT 3

Tables 1 and 2

TABLE 1
VAPOR SAMPLING RESULTS
One Hour Martinizing
2262 South 108th Street, West Allis, Wisconsin

Sample Address	Sample Identification	Sample Location	Applicable Criteria	Date Sampled	Mitigation	Chlorinated VOCs: Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
INDOOR/ OUTDOOR AIR										
Residential Vapor Action Level						**42**	**2.1**	**NE**	**NE**	**1.7**
Small Commercial Vapor Action Level						**180**	**8.8**	**NE**	**NE**	**28**
2230 S. 108th Street	6406-2230-IA-B	Basement	Small Commercial	1/31/2017	No	<3.19	<1.07	<3.96	<3.96	<0.64
2234 S. 108th Street	6406-OA-1	Outdoor	NA	1/31/2017	No	<3.19	<1.07	<3.96	<3.96	<0.64
	6406-2234-IA-B	Basement	Small Commercial	1/31/2017	No	<3.19	<1.07	<3.96	<3.96	<0.64
2248 S. 108th St. (Marinello)	Air-Background	Outdoor	Small Commercial	11/26/2013	No	<0.20	<0.20	<0.20	NA	NA
	AIR-1	Basement	Small Commercial	11/26/2013	No	**7.8**	**0.21**	**3**	NA	NA
	6406-2248-OA-1	Outdoor	Small Commercial	4/6/2016	NA	<3.19	<1.07	<3.96	<3.96	<0.64
	6406-2248-IA-B	Basement	Small Commercial	4/6/2016	No	**14.7**	<1.07	<3.96	<3.96	<0.64
				7/28/2016	Yes	**4.34**	<1.07	<3.96	<3.96	<0.64
2262 S. 108th St. (Site building)	6406-2262-IA-1	1st Floor	Small Commercial	4/6/2016	No	**7.49**	**312**	<3.96	**7.15**	<0.64
				7/28/2016	Yes	<3.19	<1.07	<3.96	<3.96	<0.64
	6406-OA-1	Outdoor	NA	7/28/2016	NA	<3.19	<1.07	<3.96	<3.96	<0.64
10710 W. Lincoln Avenue (4-family apartment)	6406-10710-IA-B	Basement	Residential	9/10/2015	No	<3.19	<1.07	<19.8	<39.6	<1.28
	6406-10710-IA-1	First Floor	Residential	9/10/2015	No	<3.19	<1.07	<19.8	<39.6	<1.28
	6406-10710-IA-2	Second Floor	Residential	9/10/2015	No	<3.19	<1.07	<19.8	<39.6	<1.28
	6406-10710-OA	Outdoor	Residential	9/10/2015	No	<3.19	<1.07	<19.8	<39.6	<1.28
SUB-SLAB VAPOR										
Residential Vapor Risk Screening Level						**1,400**	**70**	**NE**	**NE**	**57**
Small Commercial Vapor Risk Screening Level						**6,000**	**290**	**NE**	**NE**	**930**
2230 S. 108th Street	6406-2230-SSV-1	Basement	Small Commercial	2/1/2017	No	**45.4**	**3.28**	<3.96	<3.96	<0.64
	6406-2230-SSV-2	Basement	Small Commercial	2/1/2017	No	<3.19	<1.07	<3.96	<3.96	<0.64
2234 S. 108th Street	6406-2234-SSV-1	Basement	Small Commercial	7/28/2016	No	<31.9	<10.7	<39.6	<39.6	<6.4
				2/1/2017	No	<3.19	**6.18**	<3.96	<3.96	<0.64
	6406-2234-SSV-2	Basement	Small Commercial	7/28/2016	No	<31.9	<10.7	<39.6	<39.6	<6.4
				2/1/2017	No	**6.58**	<1.07	<3.96	<3.96	<0.64
2248 S. 108th St.	Marinello	Basement	Small Commercial	3/2/2012	No	**11,000**	**9,600**	**6,500**	NA	NA
2262 S. 108th St. (Site building)	Northwest Corner	1st Floor (no basement)	Small Commercial	3/19/2009	No	**1,900**	<11	<11	NA	NA
	Near Dry Clean Machine			3/19/2009	No	**12,000**	<72	<72	NA	NA
10710 W. Lincoln Avenue (4-family apartment)	6406-10710-SS-1	Basement	Residential	9/10/2015	No	**276**	<10.7	<198	<396	<12.8
	6406-10710-SS-2		Residential	9/10/2015	No	**63.8**	<10.7	<198	<396	<12.8
UTILITY SOIL GAS										
Vapor Risk Screening Level						**18,000**	**880**	**NE**	**NE**	**2,800**
2234 S. 108th Street	6406-SG-1	NA	Small Commercial	7/28/2016	NA	**383**	<10.7	<39.6	<39.6	<6.4
2230 S. 108th Street	6406-SG-2	NA	Small Commercial	7/28/2016	NA	**619**	<10.7	<39.6	<39.6	<6.4

Notes:

Results reported in micrograms per cubic meter ($\mu g/m^3$)
Analysis performed by Envision Laboratories according to EPA Method TO-15
VOC = Volatile Organic Compound
IA = Indoor Air
OA = Outdoor Air
SSV = Sub-Slab Vapor
SG = Soil Gas Vapor
NE = Not Established
NA = Not Available
Bolded values are above detection limits
Bolded and blue shaded concentrations exceed the applicable residential screening level
Bolded and orange shaded concentrations exceed the applicable non-residential screening level
Sub-slab vapor screening levels derived using the attenuation factor of 0.03.
Utility soil gas vapor screening levels derived using the attenuation factor of 0.01

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
One Hour Martinizing
2262 South 108th Street, West Allis, Wisconsin

Monitoring Well Identification	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl Chloride
Public Health Enforcement Standard		**5**	**5**	**70**	**100**	**0.2**
Public Health Preventive Action Limit		**0.5**	**0.5**	**7**	**20**	**0.02**
DP-1W	7/28/2016	**1,590**	**7.8 J**	<4.5	<5.4	<1.7
DP-2W	7/28/2016	**75**	**0.47 J**	**0.79 J**	<0.54	**0.29 J**
DP-3W	3/7/2017	<0.48	<0.45	<0.41	<0.35	<0.19
DP-4W	3/7/2017	<0.48	<0.45	<0.41	<0.35	<0.19

Notes:

All concentrations reported in micrograms per liter µg/l

Samples analyzed using EPA SW-846 Method 8260

Bolded values are above detection limits

Bolded and Orange Shaded values indicates an exceedance of the Public Health Enforcement Standard

Bolded and Blue Shaded values indicates an exceedance the Public Health Preventive Action Limit

J = Estimated concentration between the laboratory Reporting Limit and the laboratory Method Detection Limit

ATTACHMENT 4

Laboratory Analytical Reports

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Mr. W. Fassbender
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

August 11, 2016

EnvisionAir Project Number: 2016-475
Client Project Name: 6406 / OHM-Lincoln

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received August 2, 2016. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

Stanley A Hunnicutt

Project Manager
EnvisionAir, LLC

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM-LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-475

Sample Summary

Canister Pressure / Vacuum

Laboratory Sample Number:	Sample Description:	Matrix:	START Date Collected:	START Time Collected:	End Date Collected:	End Time Collected:	Date Received:	Time Received	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)
16-1706	6406-SG-1	A	7/28/16	9:55	7/28/16	10:01	8/2/16	11:00	-29.5	-2	-2
16-1707	6406-SG-2	A	7/28/16	10:30	1/0/00	10:01	8/2/16	11:00	-29	-2	-2

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM-LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-475

Analytical Method: TO-15
Analytical Batch: 080416AIR

Client Sample ID: 6406-SG-1
Envision Sample Number: 16-1706
Sample Matrix: AIR

Sample Collection START Date/Time: 7/28/16 9:55
Sample Collection END Date/Time: 7/28/16 10:01
Sample Received Date/Time: 8/2/16 11:00

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 39.6	39.6	
Tetrachloroethene	**383**	31.9	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	< 10.7	10.7	
Vinyl Chloride	< 6.4	6.4	
4-bromofluorobenzene (surrogate)	106%		
Analysis Date/Time:	8-6-16/06:51		
Analyst Initials	tjg		

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Fax: 317-351-0882
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Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM-LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-475

Analytical Method: TO-15
Analytical Batch: 080416AIR

Client Sample ID: 6406-SG-2
Envision Sample Number: 16-1707
Sample Matrix: AIR

Sample Collection START Date/Time: 7/28/16 10:30
Sample Collection END Date/Time: 7/28/16 10:35
Sample Received Date/Time: 8/2/16 11:00

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 39.6	39.6	
Tetrachloroethene	**619**	31.9	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	< 10.7	10.7	
Vinyl Chloride	< 6.4	6.4	
4-bromofluorobenzene (surrogate)	107%		
Analysis Date/Time:	8-6-16/07:27		
Analyst Initials	tjg		

EnvisionAir
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Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
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Analytical Report

TO-15 Quality Control Data

EnvisionAir Batch Number: 080416AIR

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichlorethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	109%		
Analysis Date/Time:	8-5-16/12:52		
Analyst Initials	tjg		

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
Vinyl Chloride	10.2	10.4	10	102%	104%	1.9%	
trans-1,2-Dichloroethene	9.74	9.78	10	97%	98%	0.4%	
cis-1,2-Dichloroethene	10.2	10.2	10	102%	102%	0.0%	
Trichloroethene	9.22	9.23	10	92%	92%	0.1%	
Tetrachloroethene	9.93	9.92	10	99%	99%	0.1%	
4-bromofluorobenzene (surrogate)	106%	106%					
Analysis Date/Time:	8-5-16/11:34	8-5-16/12:17					
Analyst Initials	tjg	tjg					

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Flag Number	Comments

EnvisionAir Proj#: 2016-475 Page 1 of 1

CHAIN OF CUSTODY RECORD

WDF

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: EnviroForensics	P.O. Number: 2016757
Report Address: N16W23390 Stone Ridge Dr Ste G. Waukesha WI 53188	Project Name or Number: 6406 OffM-Lincoln
Report To: W. Fassbender / K. Hemmstead	Sampled by: K. Hemmstead
Phone: 317-972-7870	QA/QC Required: (circle if applicable) Level III Level IV
Invoice Address:	Reporting Units needed: (circle) ug/m³ mg/m³ PPBV PPMV
Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days)	Media type: 1LC = 1 Liter Canister, 6LC = 6 Liter Canister, TB = Tedlar Bag, TD = Thermal Desorption Tube

REQUESTED PARAMETERS

TO-15 Full List

TO-15 Short List Dry Cleaner

ENVISIONAIR

www.envision-air.com

Sampling Type:
Soil-Gas: ☒
Sub-Slab: ☐
Indoor-Air: ☐

Air Sample ID	Media Type (see code above)	Coll. Date (Grab/Comp Start)	Coll. Time (Grab/Comp Start)	Coll. Date (Comp. End)	Coll. Time (Comp. End)					Canister Serial #	Flow Controller Serial #	Canister Pressure / Vacuum: Initial Field (in. Hg)	Canister Pressure / Vacuum: Final Field (in. Hg)	Canister Pressure / Vacuum: Lab Received (in. Hg)	EnvisionAir Sample Number
6406-SG-1	1LC	7/28/16	955	7/28/16	1001		+			84045	—	-29.5	-2	-2	16-1706
6406-SG-2	1LC	7/28/16	1030	7/28/16	1035		+			83941	—	-29	-2	-2	16-1707

Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
	8/1/2016		Fed Ex	8/1/2016	
				8/2/16	1100

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

WAYNE FASSBENDER
ENVIROFORENSICS
N16 W23390 STONE RIDGE DRIVE
WAUKESHA, WI 53188

Report Date *10-Aug-16*

Project Name OHM-LINCOLN **Invoice #** E31456
Project # 6406

Lab Code 5031456A
Sample ID 6406-DP-1W
Sample Matrix Water
Sample Date 7/28/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
cis-1,2-Dichloroethene	< 4.5	ug/l	4.5	14	10	8260B		8/4/2016	CJR	1
trans-1,2-Dichloroethene	< 5.4	ug/l	5.4	17	10	8260B		8/4/2016	CJR	1
Tetrachloroethene	1590	ug/l	4.9	15	10	8260B		8/4/2016	CJR	1
Trichloroethene (TCE)	7.8 "J"	ug/l	4.7	15	10	8260B		8/4/2016	CJR	1
Vinyl Chloride	< 1.7	ug/l	1.7	5.4	10	8260B		8/4/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	100	REC %			10	8260B		8/4/2016	CJR	1
SUR - 4-Bromofluorobenzene	101	REC %			10	8260B		8/4/2016	CJR	1
SUR - Dibromofluoromethane	97	REC %			10	8260B		8/4/2016	CJR	1
SUR - Toluene-d8	100	REC %			10	8260B		8/4/2016	CJR	1

Lab Code 5031456B
Sample ID 6406-DP-2W
Sample Matrix Water
Sample Date 7/28/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
cis-1,2-Dichloroethene	0.79 "J"	ug/l	0.45	1.4	1	8260B		8/5/2016	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		8/5/2016	CJR	1
Tetrachloroethene	75	ug/l	0.49	1.5	1	8260B		8/5/2016	CJR	1
Trichloroethene (TCE)	0.47 "J"	ug/l	0.47	1.5	1	8260B		8/5/2016	CJR	1
Vinyl Chloride	0.29 "J"	ug/l	0.17	0.54	1	8260B		8/5/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	77	REC %			1	8260B		8/5/2016	CJR	1
SUR - 4-Bromofluorobenzene	117	REC %			1	8260B		8/5/2016	CJR	1
SUR - Dibromofluoromethane	88	REC %			1	8260B		8/5/2016	CJR	1
SUR - Toluene-d8	118	REC %			1	8260B		8/5/2016	CJR	1

Project Name OHM-LINCOLN **Invoice #** E31456
Project # 6406

Lab Code 5031456C
Sample ID 6406-DUP-1
Sample Matrix Water
Sample Date 7/28/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
cis-1,2-Dichloroethene	< 4.5	ug/l	4.5	14	10	8260B		8/4/2016	CJR	1
trans-1,2-Dichloroethene	< 5.4	ug/l	5.4	17	10	8260B		8/4/2016	CJR	1
Tetrachloroethene	1460	ug/l	4.9	15	10	8260B		8/4/2016	CJR	1
Trichloroethene (TCE)	7.7 "J"	ug/l	4.7	15	10	8260B		8/4/2016	CJR	1
Vinyl Chloride	< 1.7	ug/l	1.7	5.4	10	8260B		8/4/2016	CJR	1
SUR - 4-Bromofluorobenzene	101	REC %			10	8260B		8/4/2016	CJR	1
SUR - Dibromofluoromethane	98	REC %			10	8260B		8/4/2016	CJR	1
SUR - Toluene-d8	102	REC %			10	8260B		8/4/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	99	REC %			10	8260B		8/4/2016	CJR	1

Lab Code 5031456D
Sample ID TRIP BLANK
Sample Matrix Water
Sample Date 7/28/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		8/4/2016	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		8/4/2016	CJR	1
Tetrachloroethene	< 0.49	ug/l	0.49	1.5	1	8260B		8/4/2016	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		8/4/2016	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		8/4/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	100	REC %			1	8260B		8/4/2016	CJR	1
SUR - Toluene-d8	99	REC %			1	8260B		8/4/2016	CJR	1
SUR - 4-Bromofluorobenzene	101	REC %			1	8260B		8/4/2016	CJR	1
SUR - Dibromofluoromethane	99	REC %			1	8260B		8/4/2016	CJR	1

Lab Code 5031456E
Sample ID 6406-2234 SUMP
Sample Matrix Water
Sample Date 7/28/2016

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		8/4/2016	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		8/4/2016	CJR	1
Tetrachloroethene	< 0.49	ug/l	0.49	1.5	1	8260B		8/4/2016	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		8/4/2016	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		8/4/2016	CJR	1
SUR - Toluene-d8	99	REC %			1	8260B		8/4/2016	CJR	1
SUR - 1,2-Dichloroethane-d4	97	REC %			1	8260B		8/4/2016	CJR	1
SUR - 4-Bromofluorobenzene	103	REC %			1	8260B		8/4/2016	CJR	1
SUR - Dibromofluoromethane	97	REC %			1	8260B		8/4/2016	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature

CHAIN OF STODY RECORD

Synergy Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

WPF

Chain # № 2810

Page 1 of 1

Sample Handling Request
_____ Rush Analysis Date Required _____
(Rushes accepted only with prior authorization)
X Normal Turn Around

Lab I.D. #	
Account No. :	Quote No.:
Project #: 6406	
Sampler: (signature)	
Project (Name / Location): OHM-Lincoln / West Allis, WI	
Reports To: W. Fassbender / K. Hermstead	Invoice To:
Company EnviroForensics	Company
Address N116 W23390 Stone Ridge Dr. STE G	Address
City State Zip Waukesha WI 53188	City State Zip
Phone 317-972-7870	Phone
FAX	FAX

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 542.2)	VOC (EPA 8260)	8-RCRA METALS	PID/ FID
503456 A	6406-DP-2W	7/28	1355		X	N	3	GW	HCl													X		
B	6406-DP-2W	7/28	1410		X	N	3	GW	HCl													X		
C	6406-Dup-1	7/28	-		X	N	3	GW	HCl													X		
D	TRIP BLANK						1															X		
E	6406-2234-SUMP	7/28	1250		X	N	3	GW	HCl													X		

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge etc.)

PO# 2016790

Dry cleaner list only
(PCE, TCE, cis/trans DCE, VC)

Sample Integrity - To be completed by receiving lab.
Method of Shipment: Syn
Temp. of Temp. Blank ___ °C On Ice: X
Cooler seal intact upon receipt: X Yes ___ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
	1302	07/29/16		1:02	7/29/16

Received in Laboratory By: Time: 10:00 Date: 7/30/16

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

WAYNE FASSBENDER
ENVIROFORENSICS
825 N. CAPITOL AVENUE
INDIANAPOLIS, IN 46204

Report Date *14-Mar-17*

Project Name OHM-LINCOLN
Project # 6406 PO2017-0362
Invoice # E32585

Lab Code 5032585A
Sample ID 6406-DP-3W
Sample Matrix Water
Sample Date 3/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		3/13/2017	CJR	1
Bromobenzene	< 0.43	ug/l	0.43	1.37	1	8260B		3/13/2017	CJR	1
Bromodichloromethane	< 0.31	ug/l	0.31	1	1	8260B		3/13/2017	CJR	1
Bromoform	< 0.49	ug/l	0.49	1.56	1	8260B		3/13/2017	CJR	1
tert-Butylbenzene	< 0.39	ug/l	0.39	1.23	1	8260B		3/13/2017	CJR	1
sec-Butylbenzene	< 0.24	ug/l	0.24	0.76	1	8260B		3/13/2017	CJR	1
n-Butylbenzene	< 0.34	ug/l	0.34	1.08	1	8260B		3/13/2017	CJR	1
Carbon Tetrachloride	< 0.21	ug/l	0.21	0.68	1	8260B		3/13/2017	CJR	1
Chlorobenzene	< 0.27	ug/l	0.27	0.86	1	8260B		3/13/2017	CJR	1
Chloroethane	< 0.5	ug/l	0.5	1.6	1	8260B		3/13/2017	CJR	1
Chloroform	< 0.96	ug/l	0.96	3.04	1	8260B		3/13/2017	CJR	1
Chloromethane	< 1.3	ug/l	1.3	4.15	1	8260B		3/13/2017	CJR	1
2-Chlorotoluene	< 0.36	ug/l	0.36	1.15	1	8260B		3/13/2017	CJR	1
4-Chlorotoluene	< 0.35	ug/l	0.35	1.11	1	8260B		3/13/2017	CJR	1
1,2-Dibromo-3-chloropropane	< 1.88	ug/l	1.88	5.98	1	8260B		3/13/2017	CJR	1
Dibromochloromethane	< 0.45	ug/l	0.45	1.44	1	8260B		3/13/2017	CJR	1
1,4-Dichlorobenzene	< 0.42	ug/l	0.42	1.34	1	8260B		3/13/2017	CJR	1
1,3-Dichlorobenzene	< 0.45	ug/l	0.45	1.43	1	8260B		3/13/2017	CJR	1
1,2-Dichlorobenzene	< 0.34	ug/l	0.34	1.09	1	8260B		3/13/2017	CJR	1
Dichlorodifluoromethane	< 0.38	ug/l	0.38	1.2	1	8260B		3/13/2017	CJR	1
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		3/13/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		3/13/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		3/13/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		3/13/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		3/13/2017	CJR	1
1,2-Dichloropropane	< 0.39	ug/l	0.39	1.24	1	8260B		3/13/2017	CJR	1
1,3-Dichloropropane	< 0.49	ug/l	0.49	1.55	1	8260B		3/13/2017	CJR	1
trans-1,3-Dichloropropene	< 0.42	ug/l	0.42	1.33	1	8260B		3/13/2017	CJR	1
cis-1,3-Dichloropropene	< 0.21	ug/l	0.21	0.65	1	8260B		3/13/2017	CJR	1

Project Name OHM-LINCOLN **Invoice #** E32585
Project # 6406 PO2017-0362

Lab Code 5032585A
Sample ID 6406-DP-3W
Sample Matrix Water
Sample Date 3/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Di-isopropyl ether	< 0.26	ug/l	0.26	0.83	1	8260B		3/13/2017	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/13/2017	CJR	1
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		3/13/2017	CJR	1
Hexachlorobutadiene	< 1.47	ug/l	1.47	4.68	1	8260B		3/13/2017	CJR	1
Isopropylbenzene	< 0.29	ug/l	0.29	0.93	1	8260B		3/13/2017	CJR	1
p-Isopropyltoluene	< 0.28	ug/l	0.28	0.91	1	8260B		3/13/2017	CJR	1
Methylene chloride	< 0.94	ug/l	0.94	2.98	1	8260B		3/13/2017	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		3/13/2017	CJR	1
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		3/13/2017	CJR	1
n-Propylbenzene	< 0.19	ug/l	0.19	0.62	1	8260B		3/13/2017	CJR	1
1,1,2,2-Tetrachloroethane	< 0.69	ug/l	0.69	2.21	1	8260B		3/13/2017	CJR	1
1,1,1,2-Tetrachloroethane	< 0.47	ug/l	0.47	1.48	1	8260B		3/13/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		3/13/2017	CJR	1
Toluene	< 0.67	ug/l	0.67	2.13	1	8260B		3/13/2017	CJR	1
1,2,4-Trichlorobenzene	< 1.29	ug/l	1.29	4.1	1	8260B		3/13/2017	CJR	1
1,2,3-Trichlorobenzene	< 0.83	ug/l	0.83	2.63	1	8260B		3/13/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		3/13/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		3/13/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		3/13/2017	CJR	1
Trichlorofluoromethane	< 0.64	ug/l	0.64	2.04	1	8260B		3/13/2017	CJR	1
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		3/13/2017	CJR	1
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		3/13/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		3/13/2017	CJR	1
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		3/13/2017	CJR	1
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		3/13/2017	CJR	1
SUR - Toluene-d8	98	REC %			1	8260B		3/13/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	106	REC %			1	8260B		3/13/2017	CJR	1
SUR - 4-Bromofluorobenzene	102	REC %			1	8260B		3/13/2017	CJR	1
SUR - Dibromofluoromethane	98	REC %			1	8260B		3/13/2017	CJR	1

Project Name OHM-LINCOLN **Invoice #** E32585
Project # 6406 PO2017-0362

Lab Code 5032585B
Sample ID 6406-DP-4W
Sample Matrix Water
Sample Date 3/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		3/13/2017	CJR	1
Bromobenzene	< 0.43	ug/l	0.43	1.37	1	8260B		3/13/2017	CJR	1
Bromodichloromethane	< 0.31	ug/l	0.31	1	1	8260B		3/13/2017	CJR	1
Bromoform	< 0.49	ug/l	0.49	1.56	1	8260B		3/13/2017	CJR	1
tert-Butylbenzene	< 0.39	ug/l	0.39	1.23	1	8260B		3/13/2017	CJR	1
sec-Butylbenzene	< 0.24	ug/l	0.24	0.76	1	8260B		3/13/2017	CJR	1
n-Butylbenzene	< 0.34	ug/l	0.34	1.08	1	8260B		3/13/2017	CJR	1
Carbon Tetrachloride	< 0.21	ug/l	0.21	0.68	1	8260B		3/13/2017	CJR	1
Chlorobenzene	< 0.27	ug/l	0.27	0.86	1	8260B		3/13/2017	CJR	1
Chloroethane	< 0.5	ug/l	0.5	1.6	1	8260B		3/13/2017	CJR	1
Chloroform	< 0.96	ug/l	0.96	3.04	1	8260B		3/13/2017	CJR	1
Chloromethane	< 1.3	ug/l	1.3	4.15	1	8260B		3/13/2017	CJR	1
2-Chlorotoluene	< 0.36	ug/l	0.36	1.15	1	8260B		3/13/2017	CJR	1
4-Chlorotoluene	< 0.35	ug/l	0.35	1.11	1	8260B		3/13/2017	CJR	1
1,2-Dibromo-3-chloropropane	< 1.88	ug/l	1.88	5.98	1	8260B		3/13/2017	CJR	1
Dibromochloromethane	< 0.45	ug/l	0.45	1.44	1	8260B		3/13/2017	CJR	1
1,4-Dichlorobenzene	< 0.42	ug/l	0.42	1.34	1	8260B		3/13/2017	CJR	1
1,3-Dichlorobenzene	< 0.45	ug/l	0.45	1.43	1	8260B		3/13/2017	CJR	1
1,2-Dichlorobenzene	< 0.34	ug/l	0.34	1.09	1	8260B		3/13/2017	CJR	1
Dichlorodifluoromethane	< 0.38	ug/l	0.38	1.2	1	8260B		3/13/2017	CJR	1
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		3/13/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		3/13/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		3/13/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		3/13/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		3/13/2017	CJR	1
1,2-Dichloropropane	< 0.39	ug/l	0.39	1.24	1	8260B		3/13/2017	CJR	1
1,3-Dichloropropane	< 0.49	ug/l	0.49	1.55	1	8260B		3/13/2017	CJR	1
trans-1,3-Dichloropropene	< 0.42	ug/l	0.42	1.33	1	8260B		3/13/2017	CJR	1
cis-1,3-Dichloropropene	< 0.21	ug/l	0.21	0.65	1	8260B		3/13/2017	CJR	1
Di-isopropyl ether	< 0.26	ug/l	0.26	0.83	1	8260B		3/13/2017	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/13/2017	CJR	1
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		3/13/2017	CJR	1
Hexachlorobutadiene	< 1.47	ug/l	1.47	4.68	1	8260B		3/13/2017	CJR	1
Isopropylbenzene	< 0.29	ug/l	0.29	0.93	1	8260B		3/13/2017	CJR	1
p-Isopropyltoluene	< 0.28	ug/l	0.28	0.91	1	8260B		3/13/2017	CJR	1
Methylene chloride	< 0.94	ug/l	0.94	2.98	1	8260B		3/13/2017	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		3/13/2017	CJR	1
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		3/13/2017	CJR	1
n-Propylbenzene	< 0.19	ug/l	0.19	0.62	1	8260B		3/13/2017	CJR	1
1,1,2,2-Tetrachloroethane	< 0.69	ug/l	0.69	2.21	1	8260B		3/13/2017	CJR	1
1,1,1,2-Tetrachloroethane	< 0.47	ug/l	0.47	1.48	1	8260B		3/13/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		3/13/2017	CJR	1
Toluene	< 0.67	ug/l	0.67	2.13	1	8260B		3/13/2017	CJR	1
1,2,4-Trichlorobenzene	< 1.29	ug/l	1.29	4.1	1	8260B		3/13/2017	CJR	1
1,2,3-Trichlorobenzene	< 0.83	ug/l	0.83	2.63	1	8260B		3/13/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		3/13/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		3/13/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		3/13/2017	CJR	1
Trichlorofluoromethane	< 0.64	ug/l	0.64	2.04	1	8260B		3/13/2017	CJR	1
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		3/13/2017	CJR	1

Project Name OHM-LINCOLN **Invoice #** E32585
Project # 6406 PO2017-0362

Lab Code 5032585B
Sample ID 6406-DP-4W
Sample Matrix Water
Sample Date 3/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		3/13/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		3/13/2017	CJR	1
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		3/13/2017	CJR	1
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		3/13/2017	CJR	1
SUR - Dibromofluoromethane	100	REC %			1	8260B		3/13/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	101	REC %			1	8260B		3/13/2017	CJR	1
SUR - 4-Bromofluorobenzene	101	REC %			1	8260B		3/13/2017	CJR	1
SUR - Toluene-d8	101	REC %			1	8260B		3/13/2017	CJR	1

Project Name OHM-LINCOLN **Invoice #** E32585
Project # 6406 PO2017-0362

Lab Code 5032585C
Sample ID 6406-DUP-1
Sample Matrix Water
Sample Date 3/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		3/13/2017	CJR	1
Bromobenzene	< 0.43	ug/l	0.43	1.37	1	8260B		3/13/2017	CJR	1
Bromodichloromethane	< 0.31	ug/l	0.31	1	1	8260B		3/13/2017	CJR	1
Bromoform	< 0.49	ug/l	0.49	1.56	1	8260B		3/13/2017	CJR	1
tert-Butylbenzene	< 0.39	ug/l	0.39	1.23	1	8260B		3/13/2017	CJR	1
sec-Butylbenzene	< 0.24	ug/l	0.24	0.76	1	8260B		3/13/2017	CJR	1
n-Butylbenzene	< 0.34	ug/l	0.34	1.08	1	8260B		3/13/2017	CJR	1
Carbon Tetrachloride	< 0.21	ug/l	0.21	0.68	1	8260B		3/13/2017	CJR	1
Chlorobenzene	< 0.27	ug/l	0.27	0.86	1	8260B		3/13/2017	CJR	1
Chloroethane	< 0.5	ug/l	0.5	1.6	1	8260B		3/13/2017	CJR	1
Chloroform	< 0.96	ug/l	0.96	3.04	1	8260B		3/13/2017	CJR	1
Chloromethane	< 1.3	ug/l	1.3	4.15	1	8260B		3/13/2017	CJR	1
2-Chlorotoluene	< 0.36	ug/l	0.36	1.15	1	8260B		3/13/2017	CJR	1
4-Chlorotoluene	< 0.35	ug/l	0.35	1.11	1	8260B		3/13/2017	CJR	1
1,2-Dibromo-3-chloropropane	< 1.88	ug/l	1.88	5.98	1	8260B		3/13/2017	CJR	1
Dibromochloromethane	< 0.45	ug/l	0.45	1.44	1	8260B		3/13/2017	CJR	1
1,4-Dichlorobenzene	< 0.42	ug/l	0.42	1.34	1	8260B		3/13/2017	CJR	1
1,3-Dichlorobenzene	< 0.45	ug/l	0.45	1.43	1	8260B		3/13/2017	CJR	1
1,2-Dichlorobenzene	< 0.34	ug/l	0.34	1.09	1	8260B		3/13/2017	CJR	1
Dichlorodifluoromethane	< 0.38	ug/l	0.38	1.2	1	8260B		3/13/2017	CJR	1
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		3/13/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		3/13/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		3/13/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		3/13/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		3/13/2017	CJR	1
1,2-Dichloropropane	< 0.39	ug/l	0.39	1.24	1	8260B		3/13/2017	CJR	1
1,3-Dichloropropane	< 0.49	ug/l	0.49	1.55	1	8260B		3/13/2017	CJR	1
trans-1,3-Dichloropropene	< 0.42	ug/l	0.42	1.33	1	8260B		3/13/2017	CJR	1
cis-1,3-Dichloropropene	< 0.21	ug/l	0.21	0.65	1	8260B		3/13/2017	CJR	1
Di-isopropyl ether	< 0.26	ug/l	0.26	0.83	1	8260B		3/13/2017	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/13/2017	CJR	1
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		3/13/2017	CJR	1
Hexachlorobutadiene	< 1.47	ug/l	1.47	4.68	1	8260B		3/13/2017	CJR	1
Isopropylbenzene	< 0.29	ug/l	0.29	0.93	1	8260B		3/13/2017	CJR	1
p-Isopropyltoluene	< 0.28	ug/l	0.28	0.91	1	8260B		3/13/2017	CJR	1
Methylene chloride	< 0.94	ug/l	0.94	2.98	1	8260B		3/13/2017	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		3/13/2017	CJR	1
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		3/13/2017	CJR	1
n-Propylbenzene	< 0.19	ug/l	0.19	0.62	1	8260B		3/13/2017	CJR	1
1,1,2,2-Tetrachloroethane	< 0.69	ug/l	0.69	2.21	1	8260B		3/13/2017	CJR	1
1,1,1,2-Tetrachloroethane	< 0.47	ug/l	0.47	1.48	1	8260B		3/13/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		3/13/2017	CJR	1
Toluene	< 0.67	ug/l	0.67	2.13	1	8260B		3/13/2017	CJR	1
1,2,4-Trichlorobenzene	< 1.29	ug/l	1.29	4.1	1	8260B		3/13/2017	CJR	1
1,2,3-Trichlorobenzene	< 0.83	ug/l	0.83	2.63	1	8260B		3/13/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		3/13/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		3/13/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		3/13/2017	CJR	1
Trichlorofluoromethane	< 0.64	ug/l	0.64	2.04	1	8260B		3/13/2017	CJR	1
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		3/13/2017	CJR	1

Project Name OHM-LINCOLN **Invoice #** E32585
Project # 6406 PO2017-0362

Lab Code 5032585C
Sample ID 6406-DUP-1
Sample Matrix Water
Sample Date 3/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		3/13/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		3/13/2017	CJR	1
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		3/13/2017	CJR	1
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		3/13/2017	CJR	1
SUR - Toluene-d8	100	REC %			1	8260B		3/13/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	92	REC %			1	8260B		3/13/2017	CJR	1
SUR - 4-Bromofluorobenzene	101	REC %			1	8260B		3/13/2017	CJR	1
SUR - Dibromofluoromethane	102	REC %			1	8260B		3/13/2017	CJR	1

Project Name OHM-LINCOLN **Invoice #** E32585
Project # 6406 PO2017-0362

Lab Code 5032585D
Sample ID TRIP BLANK
Sample Matrix Water
Sample Date 3/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.17	ug/l	0.17	0.55	1	8260B		3/13/2017	CJR	1
Bromobenzene	< 0.43	ug/l	0.43	1.37	1	8260B		3/13/2017	CJR	1
Bromodichloromethane	< 0.31	ug/l	0.31	1	1	8260B		3/13/2017	CJR	1
Bromoform	< 0.49	ug/l	0.49	1.56	1	8260B		3/13/2017	CJR	1
tert-Butylbenzene	< 0.39	ug/l	0.39	1.23	1	8260B		3/13/2017	CJR	1
sec-Butylbenzene	< 0.24	ug/l	0.24	0.76	1	8260B		3/13/2017	CJR	1
n-Butylbenzene	< 0.34	ug/l	0.34	1.08	1	8260B		3/13/2017	CJR	1
Carbon Tetrachloride	< 0.21	ug/l	0.21	0.68	1	8260B		3/13/2017	CJR	1
Chlorobenzene	< 0.27	ug/l	0.27	0.86	1	8260B		3/13/2017	CJR	1
Chloroethane	< 0.5	ug/l	0.5	1.6	1	8260B		3/13/2017	CJR	1
Chloroform	< 0.96	ug/l	0.96	3.04	1	8260B		3/13/2017	CJR	1
Chloromethane	< 1.3	ug/l	1.3	4.15	1	8260B		3/13/2017	CJR	1
2-Chlorotoluene	< 0.36	ug/l	0.36	1.15	1	8260B		3/13/2017	CJR	1
4-Chlorotoluene	< 0.35	ug/l	0.35	1.11	1	8260B		3/13/2017	CJR	1
1,2-Dibromo-3-chloropropane	< 1.88	ug/l	1.88	5.98	1	8260B		3/13/2017	CJR	1
Dibromochloromethane	< 0.45	ug/l	0.45	1.44	1	8260B		3/13/2017	CJR	1
1,4-Dichlorobenzene	< 0.42	ug/l	0.42	1.34	1	8260B		3/13/2017	CJR	1
1,3-Dichlorobenzene	< 0.45	ug/l	0.45	1.43	1	8260B		3/13/2017	CJR	1
1,2-Dichlorobenzene	< 0.34	ug/l	0.34	1.09	1	8260B		3/13/2017	CJR	1
Dichlorodifluoromethane	< 0.38	ug/l	0.38	1.2	1	8260B		3/13/2017	CJR	1
1,2-Dichloroethane	< 0.45	ug/l	0.45	1.43	1	8260B		3/13/2017	CJR	1
1,1-Dichloroethane	< 0.42	ug/l	0.42	1.34	1	8260B		3/13/2017	CJR	1
1,1-Dichloroethene	< 0.46	ug/l	0.46	1.47	1	8260B		3/13/2017	CJR	1
cis-1,2-Dichloroethene	< 0.41	ug/l	0.41	1.29	1	8260B		3/13/2017	CJR	1
trans-1,2-Dichloroethene	< 0.35	ug/l	0.35	1.12	1	8260B		3/13/2017	CJR	1
1,2-Dichloropropane	< 0.39	ug/l	0.39	1.24	1	8260B		3/13/2017	CJR	1
1,3-Dichloropropane	< 0.49	ug/l	0.49	1.55	1	8260B		3/13/2017	CJR	1
trans-1,3-Dichloropropene	< 0.42	ug/l	0.42	1.33	1	8260B		3/13/2017	CJR	1
cis-1,3-Dichloropropene	< 0.21	ug/l	0.21	0.65	1	8260B		3/13/2017	CJR	1
Di-isopropyl ether	< 0.26	ug/l	0.26	0.83	1	8260B		3/13/2017	CJR	1
EDB (1,2-Dibromoethane)	< 0.34	ug/l	0.34	1.09	1	8260B		3/13/2017	CJR	1
Ethylbenzene	< 0.2	ug/l	0.2	0.63	1	8260B		3/13/2017	CJR	1
Hexachlorobutadiene	< 1.47	ug/l	1.47	4.68	1	8260B		3/13/2017	CJR	1
Isopropylbenzene	< 0.29	ug/l	0.29	0.93	1	8260B		3/13/2017	CJR	1
p-Isopropyltoluene	< 0.28	ug/l	0.28	0.91	1	8260B		3/13/2017	CJR	1
Methylene chloride	< 0.94	ug/l	0.94	2.98	1	8260B		3/13/2017	CJR	1
Methyl tert-butyl ether (MTBE)	< 0.82	ug/l	0.82	2.6	1	8260B		3/13/2017	CJR	1
Naphthalene	< 2.17	ug/l	2.17	6.9	1	8260B		3/13/2017	CJR	1
n-Propylbenzene	< 0.19	ug/l	0.19	0.62	1	8260B		3/13/2017	CJR	1
1,1,2,2-Tetrachloroethane	< 0.69	ug/l	0.69	2.21	1	8260B		3/13/2017	CJR	1
1,1,1,2-Tetrachloroethane	< 0.47	ug/l	0.47	1.48	1	8260B		3/13/2017	CJR	1
Tetrachloroethene	< 0.48	ug/l	0.48	1.52	1	8260B		3/13/2017	CJR	1
Toluene	< 0.67	ug/l	0.67	2.13	1	8260B		3/13/2017	CJR	1
1,2,4-Trichlorobenzene	< 1.29	ug/l	1.29	4.1	1	8260B		3/13/2017	CJR	1
1,2,3-Trichlorobenzene	< 0.83	ug/l	0.83	2.63	1	8260B		3/13/2017	CJR	1
1,1,1-Trichloroethane	< 0.35	ug/l	0.35	1.11	1	8260B		3/13/2017	CJR	1
1,1,2-Trichloroethane	< 0.65	ug/l	0.65	2.06	1	8260B		3/13/2017	CJR	1
Trichloroethene (TCE)	< 0.45	ug/l	0.45	1.43	1	8260B		3/13/2017	CJR	1
Trichlorofluoromethane	< 0.64	ug/l	0.64	2.04	1	8260B		3/13/2017	CJR	1
1,2,4-Trimethylbenzene	< 1.14	ug/l	1.14	3.63	1	8260B		3/13/2017	CJR	1

Project Name OHM-LINCOLN **Invoice #** E32585
Project # 6406 PO2017-0362

Lab Code 5032585D
Sample ID TRIP BLANK
Sample Matrix Water
Sample Date 3/7/2017

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
1,3,5-Trimethylbenzene	< 0.91	ug/l	0.91	2.9	1	8260B		3/13/2017	CJR	1
Vinyl Chloride	< 0.19	ug/l	0.19	0.62	1	8260B		3/13/2017	CJR	1
m&p-Xylene	< 1.56	ug/l	1.56	4.95	1	8260B		3/13/2017	CJR	1
o-Xylene	< 0.39	ug/l	0.39	1.25	1	8260B		3/13/2017	CJR	1
SUR - Toluene-d8	101	REC %			1	8260B		3/13/2017	CJR	1
SUR - 1,2-Dichloroethane-d4	97	REC %			1	8260B		3/13/2017	CJR	1
SUR - 4-Bromofluorobenzene	106	REC %			1	8260B		3/13/2017	CJR	1
SUR - Dibromofluoromethane	96	REC %			1	8260B		3/13/2017	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature

CHAIN OF CUSTODY RECORD

Synergy Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

Chain # No 3157

Page 1 of 1

Sample Handling Request
____ Rush Analysis Date Required ____
(Rushes accepted only with prior authorization)
X Normal Turn Around

Lab I.D. #

Account No. :

Quote No.:

Project #: 6406

Sampler: (signature)

Project (Name / Location): OHM-Lincoln / West Allis, WI

Reports To: W. Fassbender / K. Heimstead

Company EnviroForensics

Address N16 W23390 Stone Ridge Dr. Ste G

City State Zip Waukesha, WI 53188

Phone 209-390-9814

FAX

Invoice To:

Company

Address

City State Zip

Phone

FAX

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation
503259SA	6406-DP-3W	3-7-17	740		X	N	3	GW	HCl
B	6406-DP-4W	3-7-17	810		X	N	3	GW	HCl
C	6406-Dup-1	3-7-17	-		X	N	3	GW	HCl
D	TRIP BLANK						1		

Analysis Requested

DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 542.2)	VOC (EPA 8260)	8-RCRA METALS
												X	
												X	
												X	
												X	

Other Analysis

PID/FID

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge etc.)

PO# 2017-0362

Sample Integrity - To be completed by receiving lab.

Method of Shipment: SM

Temp. of Temp. Blank ____ °C On Ice X

Cooler seal intact upon receipt: X Yes ____ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
	10:27	3/8/17		10:27	3-8-17

Received in Laboratory By: Time: 8:00 Date: 3/9/17

Project Name WEST ALLIS OHM **Invoice #** E29659
Project # 6406.1D

Lab Code 5029659B
Sample ID 6406-2248-SUMP
Sample Matrix Water
Sample Date 9/8/2015

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 4.4	ug/l	4.4	14	10	8260B		9/16/2015	CJR	1
Bromobenzene	< 4.8	ug/l	4.8	15	10	8260B		9/16/2015	CJR	1
Bromodichloromethane	< 4.6	ug/l	4.6	15	10	8260B		9/16/2015	CJR	1
Bromoform	< 4.6	ug/l	4.6	15	10	8260B		9/16/2015	CJR	1
tert-Butylbenzene	< 11	ug/l	11	34	10	8260B		9/16/2015	CJR	1
sec-Butylbenzene	< 12	ug/l	12	38	10	8260B		9/16/2015	CJR	1
n-Butylbenzene	< 10	ug/l	10	33	10	8260B		9/16/2015	CJR	1
Carbon Tetrachloride	< 5.1	ug/l	5.1	16	10	8260B		9/16/2015	CJR	1
Chlorobenzene	< 4.6	ug/l	4.6	14	10	8260B		9/16/2015	CJR	1
Chloroethane	< 6.5	ug/l	6.5	21	10	8260B		9/16/2015	CJR	1
Chloroform	< 4.3	ug/l	4.3	14	10	8260B		9/16/2015	CJR	1
Chloromethane	< 19	ug/l	19	60	10	8260B		9/16/2015	CJR	1
2-Chlorotoluene	< 4	ug/l	4	13	10	8260B		9/16/2015	CJR	1
4-Chlorotoluene	< 6.3	ug/l	6.3	20	10	8260B		9/16/2015	CJR	1
1,2-Dibromo-3-chloropropane	< 14	ug/l	14	45	10	8260B		9/16/2015	CJR	1
Dibromochloromethane	< 4.5	ug/l	4.5	14	10	8260B		9/16/2015	CJR	1
1,4-Dichlorobenzene	< 4.9	ug/l	4.9	16	10	8260B		9/16/2015	CJR	1
1,3-Dichlorobenzene	< 5.2	ug/l	5.2	16	10	8260B		9/16/2015	CJR	1
1,2-Dichlorobenzene	< 4.6	ug/l	4.6	15	10	8260B		9/16/2015	CJR	1
Dichlorodifluoromethane	< 8.7	ug/l	8.7	28	10	8260B		9/16/2015	CJR	1
1,2-Dichloroethane	< 4.8	ug/l	4.8	15	10	8260B		9/16/2015	CJR	1
1,1-Dichloroethane	< 11	ug/l	11	36	10	8260B		9/16/2015	CJR	1
1,1-Dichloroethene	< 6.5	ug/l	6.5	21	10	8260B		9/16/2015	CJR	1
cis-1,2-Dichloroethene	33	ug/l	4.5	14	10	8260B		9/16/2015	CJR	1
trans-1,2-Dichloroethene	< 5.4	ug/l	5.4	17	10	8260B		9/16/2015	CJR	1
1,2-Dichloropropane	< 4.3	ug/l	4.3	13.7	10	8260B		9/16/2015	CJR	1
2,2-Dichloropropane	< 31	ug/l	31	98	10	8260B		9/16/2015	CJR	1
1,3-Dichloropropane	< 4.2	ug/l	4.2	13	10	8260B		9/16/2015	CJR	1
Di-isopropyl ether	< 4.4	ug/l	4.4	14	10	8260B		9/16/2015	CJR	1
EDB (1,2-Dibromoethane)	< 6.3	ug/l	6.3	20	10	8260B		9/16/2015	CJR	1
Ethylbenzene	< 7.1	ug/l	7.1	23	10	8260B		9/16/2015	CJR	1
Hexachlorobutadiene	< 22	ug/l	22	71	10	8260B		9/16/2015	CJR	1
Isopropylbenzene	< 8.2	ug/l	8.2	26	10	8260B		9/16/2015	CJR	1
p-Isopropyltoluene	< 11	ug/l	11	35	10	8260B		9/16/2015	CJR	1
Methylene chloride	< 13	ug/l	13	42	10	8260B		9/16/2015	CJR	1
Methyl tert-butyl ether (MTBE)	< 11	ug/l	11	37	10	8260B		9/16/2015	CJR	1
Naphthalene	< 16	ug/l	16	52	10	8260B		9/16/2015	CJR	1
n-Propylbenzene	< 7.7	ug/l	7.7	24	10	8260B		9/16/2015	CJR	1
1,1,2,2-Tetrachloroethane	< 5.2	ug/l	5.2	17	10	8260B		9/16/2015	CJR	1
1,1,1,2-Tetrachloroethane	< 4.8	ug/l	4.8	15	10	8260B		9/16/2015	CJR	1
Tetrachloroethene	81	ug/l	4.9	15	10	8260B		9/16/2015	CJR	1
Toluene	< 4.4	ug/l	4.4	14	10	8260B		9/16/2015	CJR	1
1,2,4-Trichlorobenzene	< 17	ug/l	17	56	10	8260B		9/16/2015	CJR	1
1,2,3-Trichlorobenzene	< 27	ug/l	27	86	10	8260B		9/16/2015	CJR	1
1,1,1-Trichloroethane	< 8.4	ug/l	8.4	27	10	8260B		9/16/2015	CJR	1
1,1,2-Trichloroethane	< 4.8	ug/l	4.8	15.2	10	8260B		9/16/2015	CJR	1
Trichloroethene (TCE)	< 4.7	ug/l	4.7	15	10	8260B		9/16/2015	CJR	1
Trichlorofluoromethane	< 8.7	ug/l	8.7	28	10	8260B		9/16/2015	CJR	1
1,2,4-Trimethylbenzene	< 16	ug/l	16	50	10	8260B		9/16/2015	CJR	1
1,3,5-Trimethylbenzene	< 15	ug/l	15	48	10	8260B		9/16/2015	CJR	1
Vinyl Chloride	3.6 "J"	ug/l	1.7	5.4	10	8260B		9/16/2015	CJR	1
m&p-Xylene	< 22	ug/l	22	69	10	8260B		9/16/2015	CJR	1
o-Xylene	< 9	ug/l	9	29	10	8260B		9/16/2015	CJR	1
SUR - 1,2-Dichloroethane-d4	104	REC %			10	8260B		9/16/2015	CJR	1
SUR - 4-Bromofluorobenzene	116	REC %			10	8260B		9/16/2015	CJR	1
SUR - Dibromofluoromethane	98	REC %			10	8260B		9/16/2015	CJR	1
SUR - Toluene-d8	101	REC %			10	8260B		9/16/2015	CJR	1

Synergy Environmental Lab, INC.

1990 Prospect Ct., Appleton, WI 54914 *P 920-830-2455 * F 920-733-0631

WAYNE FASSBENDER
ENVIROFORENSICS
N16 W23390 STONE RIDGE DRIVE
WAUKESHA, WI 53188

Report Date *18-Sep-15*

Project Name WEST ALLIS OHM
Project # 6406.1D

Invoice # E29659

Lab Code 5029659A
Sample ID 6406-10710-SUMP
Sample Matrix Water
Sample Date 9/8/2015

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.44	ug/l	0.44	1.4	1	8260B		9/16/2015	CJR	1
Bromobenzene	< 0.48	ug/l	0.48	1.5	1	8260B		9/16/2015	CJR	1
Bromodichloromethane	< 0.46	ug/l	0.46	1.5	1	8260B		9/16/2015	CJR	1
Bromoform	< 0.46	ug/l	0.46	1.5	1	8260B		9/16/2015	CJR	1
tert-Butylbenzene	< 1.1	ug/l	1.1	3.4	1	8260B		9/16/2015	CJR	1
sec-Butylbenzene	< 1.2	ug/l	1.2	3.8	1	8260B		9/16/2015	CJR	1
n-Butylbenzene	< 1	ug/l	1	3.3	1	8260B		9/16/2015	CJR	1
Carbon Tetrachloride	< 0.51	ug/l	0.51	1.6	1	8260B		9/16/2015	CJR	1
Chlorobenzene	< 0.46	ug/l	0.46	1.4	1	8260B		9/16/2015	CJR	1
Chloroethane	< 0.65	ug/l	0.65	2.1	1	8260B		9/16/2015	CJR	1
Chloroform	< 0.43	ug/l	0.43	1.4	1	8260B		9/16/2015	CJR	1
Chloromethane	< 1.9	ug/l	1.9	6	1	8260B		9/16/2015	CJR	1
2-Chlorotoluene	< 0.4	ug/l	0.4	1.3	1	8260B		9/16/2015	CJR	1
4-Chlorotoluene	< 0.63	ug/l	0.63	2	1	8260B		9/16/2015	CJR	1
1,2-Dibromo-3-chloropropane	< 1.4	ug/l	1.4	4.5	1	8260B		9/16/2015	CJR	1
Dibromochloromethane	< 0.45	ug/l	0.45	1.4	1	8260B		9/16/2015	CJR	1
1,4-Dichlorobenzene	< 0.49	ug/l	0.49	1.6	1	8260B		9/16/2015	CJR	1
1,3-Dichlorobenzene	< 0.52	ug/l	0.52	1.6	1	8260B		9/16/2015	CJR	1
1,2-Dichlorobenzene	< 0.46	ug/l	0.46	1.5	1	8260B		9/16/2015	CJR	1
Dichlorodifluoromethane	< 0.87	ug/l	0.87	2.8	1	8260B		9/16/2015	CJR	1
1,2-Dichloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		9/16/2015	CJR	1
1,1-Dichloroethane	< 1.1	ug/l	1.1	3.6	1	8260B		9/16/2015	CJR	1
1,1-Dichloroethene	< 0.65	ug/l	0.65	2.1	1	8260B		9/16/2015	CJR	1
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		9/16/2015	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		9/16/2015	CJR	1
1,2-Dichloropropane	< 0.43	ug/l	0.43	1.37	1	8260B		9/16/2015	CJR	1
2,2-Dichloropropane	< 3.1	ug/l	3.1	9.8	1	8260B		9/16/2015	CJR	1
1,3-Dichloropropane	< 0.42	ug/l	0.42	1.3	1	8260B		9/16/2015	CJR	1
Di-isopropyl ether	< 0.44	ug/l	0.44	1.4	1	8260B		9/16/2015	CJR	1
EDB (1,2-Dibromoethane)	< 0.63	ug/l	0.63	2	1	8260B		9/16/2015	CJR	1
Ethylbenzene	< 0.71	ug/l	0.71	2.3	1	8260B		9/16/2015	CJR	1
Hexachlorobutadiene	< 2.2	ug/l	2.2	7.1	1	8260B		9/16/2015	CJR	1
Isopropylbenzene	< 0.82	ug/l	0.82	2.6	1	8260B		9/16/2015	CJR	1

Project Name WEST ALLIS OHM **Invoice #** E29659
Project # 6406.1D

Lab Code 5029659A
Sample ID 6406-10710-SUMP
Sample Matrix Water
Sample Date 9/8/2015

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
p-Isopropyltoluene	< 1.1	ug/l	1.1	3.5	1	8260B		9/16/2015	CJR	1
Methylene chloride	< 1.3	ug/l	1.3	4.2	1	8260B		9/16/2015	CJR	1
Methyl tert-butyl ether (MTBE)	< 1.1	ug/l	1.1	3.7	1	8260B		9/16/2015	CJR	1
Naphthalene	< 1.6	ug/l	1.6	5.2	1	8260B		9/16/2015	CJR	1
n-Propylbenzene	< 0.77	ug/l	0.77	2.4	1	8260B		9/16/2015	CJR	1
1,1,2,2-Tetrachloroethane	< 0.52	ug/l	0.52	1.7	1	8260B		9/16/2015	CJR	1
1,1,1,2-Tetrachloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		9/16/2015	CJR	1
Tetrachloroethene	< 0.49	ug/l	0.49	1.5	1	8260B		9/16/2015	CJR	1
Toluene	< 0.44	ug/l	0.44	1.4	1	8260B		9/16/2015	CJR	1
1,2,4-Trichlorobenzene	< 1.7	ug/l	1.7	5.6	1	8260B		9/16/2015	CJR	1
1,2,3-Trichlorobenzene	< 2.7	ug/l	2.7	8.6	1	8260B		9/16/2015	CJR	1
1,1,1-Trichloroethane	< 0.84	ug/l	0.84	2.7	1	8260B		9/16/2015	CJR	1
1,1,2-Trichloroethane	< 0.48	ug/l	0.48	1.52	1	8260B		9/16/2015	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		9/16/2015	CJR	1
Trichlorofluoromethane	< 0.87	ug/l	0.87	2.8	1	8260B		9/16/2015	CJR	1
1,2,4-Trimethylbenzene	< 1.6	ug/l	1.6	5	1	8260B		9/16/2015	CJR	1
1,3,5-Trimethylbenzene	< 1.5	ug/l	1.5	4.8	1	8260B		9/16/2015	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		9/16/2015	CJR	1
m&p-Xylene	< 2.2	ug/l	2.2	6.9	1	8260B		9/16/2015	CJR	1
o-Xylene	< 0.9	ug/l	0.9	2.9	1	8260B		9/16/2015	CJR	1
SUR - 4-Bromofluorobenzene	96	REC %			1	8260B		9/16/2015	CJR	1
SUR - Dibromofluoromethane	97	REC %			1	8260B		9/16/2015	CJR	1
SUR - Toluene-d8	103	REC %			1	8260B		9/16/2015	CJR	1
SUR - 1,2-Dichloroethane-d4	104	REC %			1	8260B		9/16/2015	CJR	1

Project Name WEST ALLIS OHM **Invoice #** E29659
Project # 6406.1D

Lab Code 5029659C
Sample ID 6406-TB-1
Sample Matrix Water
Sample Date 9/8/2015

	Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
Benzene	< 0.44	ug/l	0.44	1.4	1	8260B		9/15/2015	CJR	1
Bromobenzene	< 0.48	ug/l	0.48	1.5	1	8260B		9/15/2015	CJR	1
Bromodichloromethane	< 0.46	ug/l	0.46	1.5	1	8260B		9/15/2015	CJR	1
Bromoform	< 0.46	ug/l	0.46	1.5	1	8260B		9/15/2015	CJR	1
tert-Butylbenzene	< 1.1	ug/l	1.1	3.4	1	8260B		9/15/2015	CJR	1
sec-Butylbenzene	< 1.2	ug/l	1.2	3.8	1	8260B		9/15/2015	CJR	1
n-Butylbenzene	< 1	ug/l	1	3.3	1	8260B		9/15/2015	CJR	1
Carbon Tetrachloride	< 0.51	ug/l	0.51	1.6	1	8260B		9/15/2015	CJR	1
Chlorobenzene	< 0.46	ug/l	0.46	1.4	1	8260B		9/15/2015	CJR	1
Chloroethane	< 0.65	ug/l	0.65	2.1	1	8260B		9/15/2015	CJR	1
Chloroform	< 0.43	ug/l	0.43	1.4	1	8260B		9/15/2015	CJR	1
Chloromethane	< 1.9	ug/l	1.9	6	1	8260B		9/15/2015	CJR	1
2-Chlorotoluene	< 0.4	ug/l	0.4	1.3	1	8260B		9/15/2015	CJR	1
4-Chlorotoluene	< 0.63	ug/l	0.63	2	1	8260B		9/15/2015	CJR	1
1,2-Dibromo-3-chloropropane	< 1.4	ug/l	1.4	4.5	1	8260B		9/15/2015	CJR	1
Dibromochloromethane	< 0.45	ug/l	0.45	1.4	1	8260B		9/15/2015	CJR	1
1,4-Dichlorobenzene	< 0.49	ug/l	0.49	1.6	1	8260B		9/15/2015	CJR	1
1,3-Dichlorobenzene	< 0.52	ug/l	0.52	1.6	1	8260B		9/15/2015	CJR	1
1,2-Dichlorobenzene	< 0.46	ug/l	0.46	1.5	1	8260B		9/15/2015	CJR	1
Dichlorodifluoromethane	< 0.87	ug/l	0.87	2.8	1	8260B		9/15/2015	CJR	1
1,2-Dichloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		9/15/2015	CJR	1
1,1-Dichloroethane	< 1.1	ug/l	1.1	3.6	1	8260B		9/15/2015	CJR	1
1,1-Dichloroethene	< 0.65	ug/l	0.65	2.1	1	8260B		9/15/2015	CJR	1
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		9/15/2015	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		9/15/2015	CJR	1
1,2-Dichloropropane	< 0.43	ug/l	0.43	1.37	1	8260B		9/15/2015	CJR	1
2,2-Dichloropropane	< 3.1	ug/l	3.1	9.8	1	8260B		9/15/2015	CJR	1
1,3-Dichloropropane	< 0.42	ug/l	0.42	1.3	1	8260B		9/15/2015	CJR	1
Di-isopropyl ether	< 0.44	ug/l	0.44	1.4	1	8260B		9/15/2015	CJR	1
EDB (1,2-Dibromoethane)	< 0.63	ug/l	0.63	2	1	8260B		9/15/2015	CJR	1
Ethylbenzene	< 0.71	ug/l	0.71	2.3	1	8260B		9/15/2015	CJR	1
Hexachlorobutadiene	< 2.2	ug/l	2.2	7.1	1	8260B		9/15/2015	CJR	1
Isopropylbenzene	< 0.82	ug/l	0.82	2.6	1	8260B		9/15/2015	CJR	1
p-Isopropyltoluene	< 1.1	ug/l	1.1	3.5	1	8260B		9/15/2015	CJR	1
Methylene chloride	< 1.3	ug/l	1.3	4.2	1	8260B		9/15/2015	CJR	1
Methyl tert-butyl ether (MTBE)	< 1.1	ug/l	1.1	3.7	1	8260B		9/15/2015	CJR	1
Naphthalene	< 1.6	ug/l	1.6	5.2	1	8260B		9/15/2015	CJR	1
n-Propylbenzene	< 0.77	ug/l	0.77	2.4	1	8260B		9/15/2015	CJR	1
1,1,2,2-Tetrachloroethane	< 0.52	ug/l	0.52	1.7	1	8260B		9/15/2015	CJR	1
1,1,1,2-Tetrachloroethane	< 0.48	ug/l	0.48	1.5	1	8260B		9/15/2015	CJR	1
Tetrachloroethene	< 0.49	ug/l	0.49	1.5	1	8260B		9/15/2015	CJR	1
Toluene	< 0.44	ug/l	0.44	1.4	1	8260B		9/15/2015	CJR	1
1,2,4-Trichlorobenzene	< 1.7	ug/l	1.7	5.6	1	8260B		9/15/2015	CJR	1
1,2,3-Trichlorobenzene	< 2.7	ug/l	2.7	8.6	1	8260B		9/15/2015	CJR	1
1,1,1-Trichloroethane	< 0.84	ug/l	0.84	2.7	1	8260B		9/15/2015	CJR	1
1,1,2-Trichloroethane	< 0.48	ug/l	0.48	1.52	1	8260B		9/15/2015	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		9/15/2015	CJR	1
Trichlorofluoromethane	< 0.87	ug/l	0.87	2.8	1	8260B		9/15/2015	CJR	1
1,2,4-Trimethylbenzene	< 1.6	ug/l	1.6	5	1	8260B		9/15/2015	CJR	1
1,3,5-Trimethylbenzene	< 1.5	ug/l	1.5	4.8	1	8260B		9/15/2015	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		9/15/2015	CJR	1
m&p-Xylene	< 2.2	ug/l	2.2	6.9	1	8260B		9/15/2015	CJR	1
o-Xylene	< 0.9	ug/l	0.9	2.9	1	8260B		9/15/2015	CJR	1
SUR - Toluene-d8	106	REC %			1	8260B		9/15/2015	CJR	1
SUR - 1,2-Dichloroethane-d4	91	REC %			1	8260B		9/15/2015	CJR	1
SUR - 4-Bromofluorobenzene	105	REC %			1	8260B		9/15/2015	CJR	1
SUR - Dibromofluoromethane	96	REC %			1	8260B		9/15/2015	CJR	1

"J" Flag: Analyte detected between LOD and LOQ LOD Limit of Detection LOQ Limit of Quantitation

Code	*Comment*
1	Laboratory QC within limits.

All solid sample results reported on a dry weight basis unless otherwise indicated. All LOD's and LOQ's are adjusted for dilutions but not dry weight. Subcontracted results are denoted by SUB in the analyst field.

Authorized Signature

CHAIN OF CUSTODY RECORD

PO# 2015825

Synergy Environmental Lab, Inc.

1990 Prospect Ct. • Appleton, WI 54914
920-830-2455 • FAX 920-733-0631

WPF

Chain # No 2747

Page 1 of 1

Sample Handling Request

_____ Rush Analysis Date Required _____
(Rushes accepted only with prior authorization)

X Normal Turn Around

Lab I.D. #	
Account No. :	Quote No.:
Project #: 6406.1D	
Sampler: (signature)	

Project (Name / Location): 6406.1D West Allis OHM			
Reports To: W. Fassbender / K. VanderHeide	Invoice To:		
Company EnviroForensics	Company		
Address N16 W23398 Stone Ridge Dr	Address		
City State Zip Waukesha, WI 53188	City State Zip		
Phone 317-972-7870	Phone		
FAX	FAX		

Analysis Requested | **Other Analysis**

Lab I.D.	Sample I.D.	Collection Date	Collection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod DRO Sep 95)	GRO (Mod GRO Sep 95)	LEAD	NITRATE/NITRITE	OIL & GREASE	PAH (EPA 8270)	PCB	PVOC (EPA 8021)	PVOC + NAPHTHALENE	SULFATE	TOTAL SUSPENDED SOLIDS	VOC DW (EPA 542.2)	VOC (EPA 8260) Dry Cleaner List	8-RCRA METALS	PID/ FID
502769[illegible] A	6406-10710-SUMP	9/8	1330		X	N	3	GW	HCL													X		
B	6406-2248-SUMP	9/8	1530		X	N	3	GW	HCL													X		
C	6406-TB-1	9/8	/		X	N	1	GW	HCL													X		

Comments/Special Instructions (*Specify groundwater "GW", Drinking Water "DW", Waste Water "WW", Soil "S", Air "A", Oil, Sludge etc.)

— Please Analyze for Dry Cleaner List only —

Sample Integrity - To be completed by receiving lab.

Method of Shipment: Courier

Temp. of Temp. Blank ____ °C On Ice: X

Cooler seal intact upon receipt: X Yes ____ No

Relinquished By: (sign)	Time	Date	Received By: (sign)	Time	Date
	1800	9/8/15		1247	9-11-15
	13:48	9/11/15		1:48	9/11/15

Received in Laboratory By: Time: 10:00 Date: 9/12/15

EnvisionAir
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Indianapolis, IN 46239
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Fax: 317-351-0882
www.envision-air.com

Mr. Wayne Fassbender
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

September 28, 2015

ENVision Project Number: 2015-530
Client Project Name: 6406 – OHM Lincoln

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received September 15, 2015. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

David Norris

Client Services Manager
EnvisionAir

EnvisionAir
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www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2015-530

Sample Summary

									Canister Pressure / Vacuum		
Laboratory Sample Number:	Sample Description:	Matrix:	START Date Collected:	START Time Collected:	End Date Collected:	End Time Collected:	Date Received:	Time Received	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)
15-1949	6406-10710-SS-1	A	9/10/15	11:08	9/10/15	11:12	9/15/15	9:30	-27	-1.5	-1.5
15-1950	6406-10710-SS-2	A	9/10/15	11:27	9/10/15	11:31	9/15/15	9:30	-28.5	-2	-2

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Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2015-530

Analytical Method: TO-15
Analytical Batch: 092415AIR

Client Sample ID: 6406-10710-SS-1
Sample Collection START Date/Time: 09/10/15 11:08
Sample Collection END Date/Time: 09/10/15 11:12
Envision Sample Number: 15-1949
Sample Received Date/Time: 09/15/15 9:30
Sample Matrix: AIR

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
4-Ethyltoluene	< 4920	4920	2
4-Methyl-2-pentanone (MIBK)	< 20500	20500	2
1,1,1-Trichloroethane	< 5460	5460	2
1,1,2,2-Tetrachloroethane	< 3.36	3.36	1,2
1,1,2-Trichloroethane	< 2.10	2.10	1,2
1,1-Dichloroethane	< 40.5	40.5	2
1,1-Dichloroethene	< 1980	1980	2
1,2,4-Trichlorobenzene	< 7.42	7.42	2
1,2,4-Trimethylbenzene	< 49.2	49.2	2
1,2-dibromoethane (EDB)	< 0.32	0.32	1,2
1,2-Dichlorobenzene	< 601	601	2
1,2-Dichloroethane	< 4.05	4.05	2
1,2-Dichloropropane	< 4.62	4.62	2
1,3,5-Trimethylbenzene	< 49.2	49.2	2
1,3-Butadiene	< 2.21	2.21	2
1,3-Dichlorobenzene	< 601	601	2
1,4-Dichlorobenzene	< 6.01	6.01	2
1,4-Dioxane	< 18.0	18.0	2
2-Butanone (MEK)	< 29500	29500	2
2-Hexanone	< 205	205	2
Acetone	< 23800	23800	2
Benzene	< 16.0	16.0	2
Benzyl Chloride	< 4.14	4.14	1,2
Bromodichloromethane	< 5.36	5.36	1,2
Bromoform	< 103	103	2
Bromomethane	< 38.8	38.8	2
Carbon Disulfide	< 3110	3110	2
Carbon Tetrachloride	< 6.29	6.29	2
Chlorobenzene	< 230	230	2
Chloroethane	< 132	132	2

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Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
Chloroform	< 8.30	8.30	2
Chloromethane	< 206	206	2
cis-1,2-Dichloroethene	< 198	198	2
cis-1,3-Dichloropropene	< 45.4	45.4	2
Cyclohexane	< 55100	55100	2
Dibromochloromethane	< 8.52	8.52	2
Dichlorodifluoromethane	< 495	495	2
Ethyl Acetate	< 18000	18000	2
Ethylbenzene	< 86.8	86.8	2
Hexachloro-1,3-butadiene	< 10.7	10.7	2
Isooctane	< 4670	4670	2
m,p-Xylene	< 434	434	2
Methylene Chloride	< 417	417	2
Methyl-tert-butyl ether	< 361	361	2
N-Heptane	< 4100	4100	2
N-Hexane	< 1760	1760	2
o-Xylene	< 434	434	2
Propylene	< 1720	1720	2
Styrene	< 4260	4260	2
Tetrachloroethene	**276**	31.9	2
Tetrahydrofuran	< 2950	2950	2
Toluene	< 37700	37700	2
trans-1,2-Dichloroethene	< 396	396	2
trans-1,3-Dichloropropene	< 45.4	45.4	2
Trichlorethene	< 10.7	10.7	2
Trichlorofluoromethane	< 5620	5620	2
Vinyl Acetate	< 1760	1760	2
Vinyl Bromide	< 4.37	4.37	2
Vinyl Chloride	< 12.8	12.8	2
4-bromofluorobenzene (surrogate)	115%		
Analysis Date/Time:	9-25-15/00:21		
Analyst Initials	tjg		

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Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2015-530

Analytical Method: TO-15
Analytical Batch: 092415AIR

Client Sample ID: 6406-10710-SS-2
Envision Sample Number: 15-1950
Sample Matrix: AIR

Sample Collection START Date/Time: 09/10/15 11:27
Sample Collection END Date/Time: 09/10/15 11:31
Sample Received Date/Time: 09/15/15 9:30

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
4-Ethyltoluene	< 4920	4920	2
4-Methyl-2-pentanone (MIBK)	< 20500	20500	2
1,1,1-Trichloroethane	< 5460	5460	2
1,1,2,2-Tetrachloroethane	< 3.36	3.36	1,2
1,1,2-Trichloroethane	< 2.10	2.10	1,2
1,1-Dichloroethane	< 40.5	40.5	2
1,1-Dichloroethene	< 1980	1980	2
1,2,4-Trichlorobenzene	< 7.42	7.42	2
1,2,4-Trimethylbenzene	< 49.2	49.2	2
1,2-dibromoethane (EDB)	< 0.32	0.32	1,2
1,2-Dichlorobenzene	< 601	601	2
1,2-Dichloroethane	< 4.05	4.05	2
1,2-Dichloropropane	< 4.62	4.62	2
1,3,5-Trimethylbenzene	< 49.2	49.2	2
1,3-Butadiene	< 2.21	2.21	2
1,3-Dichlorobenzene	< 601	601	2
1,4-Dichlorobenzene	< 6.01	6.01	2
1,4-Dioxane	< 18.0	18.0	2
2-Butanone (MEK)	< 29500	29500	2
2-Hexanone	< 205	205	2
Acetone	< 23800	23800	2
Benzene	< 16.0	16.0	2
Benzyl Chloride	< 4.14	4.14	1,2
Bromodichloromethane	< 5.36	5.36	1,2
Bromoform	< 103	103	2
Bromomethane	< 38.8	38.8	2
Carbon Disulfide	< 3110	3110	2
Carbon Tetrachloride	< 6.29	6.29	2
Chlorobenzene	< 230	230	2
Chloroethane	< 132	132	2

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Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
Chloroform	< 8.30	8.30	2
Chloromethane	< 206	206	2
cis-1,2-Dichloroethene	< 198	198	2
cis-1,3-Dichloropropene	< 45.4	45.4	2
Cyclohexane	< 55100	55100	2
Dibromochloromethane	< 8.52	8.52	2
Dichlorodifluoromethane	< 495	495	2
Ethyl Acetate	< 18000	18000	2
Ethylbenzene	< 86.8	86.8	2
Hexachloro-1,3-butadiene	< 10.7	10.7	2
Isooctane	< 4670	4670	2
m,p-Xylene	< 434	434	2
Methylene Chloride	< 417	417	2
Methyl-tert-butyl ether	< 361	361	2
N-Heptane	< 4100	4100	2
N-Hexane	< 1760	1760	2
o-Xylene	< 434	434	2
Propylene	< 1720	1720	2
Styrene	< 4260	4260	2
Tetrachloroethene	**63.8**	31.9	2
Tetrahydrofuran	< 2950	2950	2
Toluene	< 37700	37700	2
trans-1,2-Dichloroethene	< 396	396	2
trans-1,3-Dichloropropene	< 45.4	45.4	2
Trichlorethene	< 10.7	10.7	2
Trichlorofluoromethane	< 5620	5620	2
Vinyl Acetate	< 1760	1760	2
Vinyl Bromide	< 4.37	4.37	2
Vinyl Chloride	< 12.8	12.8	2
4-bromofluorobenzene (surrogate)	115%		
Analysis Date/Time:	9-25-15/00:57		
Analyst Initials	tjg		

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Analytical Report

TO-15 Quality Control Data

EnvisionAir Batch Number: 092415AIR

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
4-Ethyltoluene	< 100	100	
4-Methyl-2-pentanone (MIBK)	< 500	500	
1,1,1-Trichloroethane	< 100	100	
1,1,2,2-Tetrachloroethane	< 0.049	0.049	1
1,1,2-Trichloroethane	< 0.038	0.038	1
1,1-Dichloroethane	< 1	1	
1,1-Dichloroethene	< 50	50	
1,2,4-Trichlorobenzene	< 0.1	0.1	
1,2,4-Trimethylbenzene	< 1	1	
1,2-dibromoethane (EDB)	< 0.0041	0.0041	1
1,2-Dichlorobenzene	< 10	10	
1,2-Dichloroethane	< 0.1	0.1	
1,2-Dichloropropane	< 0.1	0.1	
1,3,5-Trimethylbenzene	< 1	1	
1,3-Butadiene	< 0.1	0.1	
1,3-Dichlorobenzene	< 10	10	
1,4-Dichlorobenzene	< 0.1	0.1	
1,4-Dioxane	< 0.5	0.5	
2-Butanone (MEK)	< 1000	1000	
2-Hexanone	< 5	5	
Acetone	< 1000	1000	
Benzene	< 0.5	0.5	
Benzyl Chloride	< 0.08	0.08	1
Bromodichloromethane	< 0.08	0.08	1
Bromoform	< 1	1	
Bromomethane	< 1	1	
Carbon Disulfide	< 100	100	
Carbon Tetrachloride	< 0.1	0.1	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
Chloroform	< 0.17	0.17	
Chloromethane	< 10	10	
cis-1,2-Dichloroethene	< 5	5	
cis-1,3-Dichloropropene	< 1	1	
Cyclohexane	< 1600	1600	
Dibromochloromethane	< 0.1	0.1	
Dichlorodifluoromethane	< 10	10	
Ethyl Acetate	< 500	500	
Ethylbenzene	< 2	2	
Hexachloro-1,3-butadiene	< 0.1	0.1	
Isooctane	< 100	100	
m,p-Xylene	< 10	10	
Methylene Chloride	< 12	12	
Methyl-tert-butyl ether	< 10	10	
N-Heptane	< 100	100	
N-Hexane	< 50	50	
o-Xylene	< 10	10	
Propylene	< 100	100	
Styrene	< 100	100	
Tetrachloroethene	< 0.47	0.47	
Tetrahydrofuran	< 100	100	

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Analytical Report

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
Toluene	< 1000	1000	
trans-1,2-Dichloroethene	< 10	10	
trans-1,3-Dichloropropene	< 1	1	
Trichlorethene	< 0.2	0.2	
Trichlorofluoromethane	< 100	100	
Vinyl Acetate	< 50	50	
Vinyl Bromide	< 0.1	0.1	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	111%		
Analysis Date/Time:	9-24-15/20:19		
Analyst Initials	tjg		

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
Propylene	9.26	10.8	10	93%	108%	15.4%	
Dichlorodifluoromethane	9.59	11	10	96%	110%	13.7%	
Chloromethane	8.73	10.8	10	87%	108%	21.2%	3
Vinyl Chloride	9.36	9.32	10	94%	93%	0.4%	
1,3-Butadiene	10.8	10.5	10	108%	105%	2.8%	
Bromomethane	10.8	11.6	10	108%	116%	7.1%	
Chloroethane	9.64	11.8	10	96%	118%	20.1%	3
Vinyl Bromide	11.9	10	10	119%	100%	17.4%	
Trichlorofluoromethane	11.8	10.1	10	118%	101%	15.5%	
Acetone	9.9	9.05	10	99%	91%	9.0%	
1,1-Dichloroethene	10.4	9.13	10	104%	91%	13.0%	
Methylene Chloride	9.35	8.48	10	94%	85%	9.8%	
Carbon Disulfide	9	9.01	10	90%	90%	0.1%	
trans-1,2-Dichloroethene	9.35	8.05	10	94%	81%	14.9%	
Methyl-tert-butyl ether	8.59	9.01	10	86%	90%	4.8%	
1,1-Dichloroethane	9.27	8.1	10	93%	81%	13.5%	
Vinyl Acetate	9.88	8.65	10	99%	87%	13.3%	
N-Hexane	8.6	8.35	10	86%	84%	2.9%	
2-Butanone (MEK)	9.32	9.93	10	93%	99%	6.3%	
cis-1,2-Dichloroethene	9.71	8.52	10	97%	85%	13.1%	
Ethyl Acetate	9.7	8.16	10	97%	82%	17.2%	
Chloroform	10.3	9.11	10	103%	91%	12.3%	
Tetrahydrofuran	8.93	9.56	10	89%	96%	6.8%	
1,2-Dichloroethane	11	10.6	10	110%	106%	3.7%	
1,1,1-Trichloroethane	10.2	9.82	10	102%	98%	3.8%	
Carbon Tetrachloride	10.5	10.2	10	105%	102%	2.9%	
Benzene	10.3	8.55	10	103%	86%	18.6%	
Cyclohexane	8.86	10.1	10	89%	101%	13.1%	
1,2-Dichloropropane	8.57	8.28	10	86%	83%	3.4%	
Trichlorethene	8.91	8.85	10	89%	89%	0.7%	
Bromodichloromethane	10.5	10.4	10	105%	104%	1.0%	
1,4-Dioxane	8.3	8.52	10	83%	85%	2.6%	
Isooctane	8.79	8.33	10	88%	83%	5.4%	
N-Heptane	8.44	8.59	10	84%	86%	1.8%	
cis-1,3-Dichloropropene	9.46	8.69	10	95%	87%	8.5%	
4-Methyl-2-pentanone (MIBK)	8.85	8.56	10	89%	86%	3.3%	
trans-1,3-Dichloropropene	10.4	10.1	10	104%	101%	2.9%	
1,1,2-Trichloroethane	9.27	8.88	10	93%	89%	4.3%	
Toluene	8.64	8.19	10	86%	82%	5.3%	
2-Hexanone	8.74	8.59	10	87%	86%	1.7%	
Dibromochloromethane	10.8	10	10	108%	100%	7.7%	
1,2-dibromoethane (EDB)	10.9	10.2	10	109%	102%	6.6%	
Tetrachloroethene	8.91	8.14	10	89%	81%	9.0%	
Chlorobenzene	9.62	8.95	10	96%	90%	7.2%	
Ethylbenzene	10.1	9.58	10	101%	96%	5.3%	
m,p-Xylene	21.3	21	20	107%	105%	1.4%	
Bromoform	11.5	11.4	10	115%	114%	0.9%	

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Analytical Report

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
Styrene	10.2	9.73	10	102%	97%	4.7%	
1,1,2,2-Tetrachloroethane	9.85	9.52	10	99%	95%	3.4%	
o-Xylene	9.9	9.36	10	99%	94%	5.6%	
4-Ethyltoluene	10.2	9.63	10	102%	96%	5.7%	
1,3,5-Trimethylbenzene	10.5	10.3	10	105%	103%	1.9%	
1,2,4-Trimethylbenzene	10.4	9.99	10	104%	100%	4.0%	
1,3-Dichlorobenzene	9.36	9.15	10	94%	92%	2.3%	
Benzyl Chloride	11	10.8	10	110%	108%	1.8%	
1,4-Dichlorobenzene	10.8	10.9	10	108%	109%	0.9%	
1,2-Dichlorobenzene	10.4	10.1	10	104%	101%	2.9%	
1,2,4-Trichlorobenzene	10.9	11.4	10	109%	114%	4.5%	
Hexachloro-1,3-butadiene	8.87	9.17	10	89%	92%	3.3%	
4-bromofluorobenzene (surrogate)	116%	109%					
Analysis Date/Time:	9-24-15/19:09	9-24-15/19:45					
Analyst Initials	tjg	tjg					

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Flag Number	Comments
1	Reporting limit is supported by MDL. TJG
2	Reported value is from a 10x dilution. TJG 9-25-15
3	RPD is biased high, but recoveries are within control. TJG 9-25-15

WPF EnvisionAir Proj#: 2015-530 Page 1 of 1

CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: Enviro Forensics	P.O. Number: 2015838
Report Address: N16 W23390 Stoneridge Drive Suite G Waukesha, WI 53188	Project Name or Number: 6406 / 10th Lincoln
Report To: W. Fassbender	Sampled by: K. Vanderheiden
Phone: 317-972-7870	QA/QC Required: (circle if applicable) Level III Level IV
Invoice Address: Same as above	Reporting Units needed: (circle) ug/m³ mg/m³ PPBV PPMV
Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days)	Media type: 1LC = 1 Liter Canister, 6LC = 6 Liter Canister, TB = Tedlar Bag, TD = Thermal Desorption Tube

REQUESTED PARAMETERS

TO-15 Full List / TO-15 Short List

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Sampling Type:
Soil-Gas: ☐
Sub-Slab: ☒
Indoor-Air: ☐

Canister Pressure / Vacuum

Air Sample ID	Media Type (see code above)	Coll. Date (Grab/Comp Start)	Coll. Time (Grab/Comp Start)	Coll. Date (Comp. End)	Coll. Time (Comp. End)					Canister Serial #	Flow Controller Serial #	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
6406-10710-SS-1	1LC	9/10	1108	9/10	1112		X			83831	NA	-27	-1.5	-1.5	15-1949
6406-10710-SS-2	1LC	9/10	1127	9/10	1131		X			84044	NA	-28.5	-2	-2	15-1950

Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
	9/11/15		Stanley A. Hunnicutt	9/15/15	09:30

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Mr. Wayne Fassbender
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

September 28, 2015

ENVision Project Number: 2015-529
Client Project Name: 6406 – OHM Lincoln

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received September 15, 2015. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

David Norris

Client Services Manager
EnvisionAir

EnvisionAir
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Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2015-529

Sample Summary

									Canister Pressure / Vacuum		
Laboratory Sample Number:	**Sample Description:**	**Matrix:**	**START Date Collected:**	**START Time Collected:**	**End Date Collected:**	**End Time Collected:**	**Date Received:**	**Time Received**	**Initial Field (in. Hg)**	**Final Field (in. Hg)**	**Lab Received (in. Hg)**
15-1945	6406-10710-IA-B	A	9/9/15	10:30	9/10/15	10:30	9/15/15	9:30	-27	-2.5	-2.5
15-1946	6406-10710-IA-1	A	9/9/15	10:25	9/10/15	10:25	9/15/15	9:30	-29	-2.5	-2.5
15-1947	6406-10710-IA-2	A	9/9/15	10:20	9/10/15	10:20	9/15/15	9:30	-27	-3	-3
15-1948	6406-10710-OA	A	9/9/15	10:15	9/10/15	10:15	9/15/15	9:30	-30	-4	-4

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Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2015-529

Analytical Method: TO-15
Analytical Batch: 091515AIR

Client Sample ID: 6406-10710-IA-B
Envision Sample Number: 15-1945
Sample Matrix: AIR

Sample Collection START Date/Time: 09/09/15 10:30
Sample Collection END Date/Time: 09/10/15 10:30
Sample Received Date/Time: 09/15/15 9:30

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	

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Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 1800	1800	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichlorethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	107%		
Analysis Date/Time:	9-17-15/18:29		
Analyst Initials	tjg		

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Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2015-529

Analytical Method: TO-15
Analytical Batch: 091515AIR

Client Sample ID: 6406-10710-IA-1

Envision Sample Number: 15-1946
Sample Matrix: AIR

Sample Collection START Date/Time: 09/09/15 10:25
Sample Collection END Date/Time: 09/10/15 10:25
Sample Received Date/Time: 09/15/15 9:30

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	

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Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 1800	1800	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichlorethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	107%		
Analysis Date/Time:	9-17-15/19:09		
Analyst Initials	tjg		

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Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2015-529

Analytical Method: TO-15
Analytical Batch: 091515AIR

Client Sample ID: 6406-10710-IA-2
Envision Sample Number: 15-1947
Sample Matrix: AIR

Sample Collection START Date/Time: 09/09/15 10:20
Sample Collection END Date/Time: 09/10/15 10:20
Sample Received Date/Time: 09/15/15 9:30

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	

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Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 1800	1800	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichlorethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	103%		
Analysis Date/Time:	9-17-15/19:49		
Analyst Initials	tjg		

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Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2015-529

Analytical Method: TO-15
Analytical Batch: 091515AIR

Client Sample ID: 6406-10710-OA
Envision Sample Number: 15-1948
Sample Matrix: AIR

Sample Collection START Date/Time: 09/09/15 10:15
Sample Collection END Date/Time: 09/10/15 10:15
Sample Received Date/Time: 09/15/15 9:30

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
4-Ethyltoluene	< 492	492	
4-Methyl-2-pentanone (MIBK)	< 2050	2050	
1,1,1-Trichloroethane	< 546	546	
1,1,2,2-Tetrachloroethane	< 0.34	0.34	1
1,1,2-Trichloroethane	< 0.21	0.21	1
1,1-Dichloroethane	< 4.05	4.05	
1,1-Dichloroethene	< 198	198	
1,2,4-Trichlorobenzene	< 0.74	0.74	
1,2,4-Trimethylbenzene	< 4.92	4.92	
1,2-dibromoethane (EDB)	< 0.03	0.03	1
1,2-Dichlorobenzene	< 60.1	60.1	
1,2-Dichloroethane	< 0.40	0.40	
1,2-Dichloropropane	< 0.46	0.46	
1,3,5-Trimethylbenzene	< 4.92	4.92	
1,3-Butadiene	< 0.22	0.22	
1,3-Dichlorobenzene	< 60.1	60.1	
1,4-Dichlorobenzene	< 0.60	0.60	
1,4-Dioxane	< 1.80	1.80	
2-Butanone (MEK)	< 2950	2950	
2-Hexanone	< 20.5	20.5	
Acetone	< 2380	2380	
Benzene	< 1.60	1.60	
Benzyl Chloride	< 0.41	0.41	1
Bromodichloromethane	< 0.54	0.54	1
Bromoform	< 10.3	10.3	
Bromomethane	< 3.88	3.88	
Carbon Disulfide	< 311	311	
Carbon Tetrachloride	< 0.63	0.63	
Chlorobenzene	< 23.0	23.0	
Chloroethane	< 13.2	13.2	

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Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
Chloroform	< 0.83	0.83	
Chloromethane	< 20.6	20.6	
cis-1,2-Dichloroethene	< 19.8	19.8	
cis-1,3-Dichloropropene	< 4.54	4.54	
Cyclohexane	< 5510	5510	
Dibromochloromethane	< 0.85	0.85	
Dichlorodifluoromethane	< 49.5	49.5	
Ethyl Acetate	< 1800	1800	
Ethylbenzene	< 8.68	8.68	
Hexachloro-1,3-butadiene	< 1.07	1.07	
Isooctane	< 467	467	
m,p-Xylene	< 43.4	43.4	
Methylene Chloride	< 41.7	41.7	
Methyl-tert-butyl ether	< 36.1	36.1	
N-Heptane	< 410	410	
N-Hexane	< 176	176	
o-Xylene	< 43.4	43.4	
Propylene	< 172	172	
Styrene	< 426	426	
Tetrachloroethene	< 3.19	3.19	
Tetrahydrofuran	< 295	295	
Toluene	< 3770	3770	
trans-1,2-Dichloroethene	< 39.6	39.6	
trans-1,3-Dichloropropene	< 4.54	4.54	
Trichlorethene	< 1.07	1.07	
Trichlorofluoromethane	< 562	562	
Vinyl Acetate	< 176	176	
Vinyl Bromide	< 0.44	0.44	
Vinyl Chloride	< 1.28	1.28	
4-bromofluorobenzene (surrogate)	101%		
Analysis Date/Time:	9-17-15/17:13		
Analyst Initials	tjg		

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Analytical Report

TO-15 Quality Control Data

EnvisionAir Batch Number: 091515VW

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
4-Ethyltoluene	< 100	100	
4-Methyl-2-pentanone (MIBK)	< 500	500	
1,1,1-Trichloroethane	< 100	100	
1,1,2,2-Tetrachloroethane	< 0.049	0.049	1
1,1,2-Trichloroethane	< 0.038	0.038	1
1,1-Dichloroethane	< 1	1	
1,1-Dichloroethene	< 50	50	
1,2,4-Trichlorobenzene	< 0.1	0.1	
1,2,4-Trimethylbenzene	< 1	1	
1,2-dibromoethane (EDB)	< 0.0041	0.0041	1
1,2-Dichlorobenzene	< 10	10	
1,2-Dichloroethane	< 0.1	0.1	
1,2-Dichloropropane	< 0.1	0.1	
1,3,5-Trimethylbenzene	< 1	1	
1,3-Butadiene	< 0.1	0.1	
1,3-Dichlorobenzene	< 10	10	
1,4-Dichlorobenzene	< 0.1	0.1	
1,4-Dioxane	< 0.5	0.5	
2-Butanone (MEK)	< 1000	1000	
2-Hexanone	< 5	5	
Acetone	< 1000	1000	
Benzene	< 0.5	0.5	
Benzyl Chloride	< 0.08	0.08	1
Bromodichloromethane	< 0.08	0.08	1
Bromoform	< 1	1	
Bromomethane	< 1	1	
Carbon Disulfide	< 100	100	
Carbon Tetrachloride	< 0.1	0.1	
Chlorobenzene	< 5	5	
Chloroethane	< 5	5	
Chloroform	< 0.17	0.17	
Chloromethane	< 10	10	
cis-1,2-Dichloroethene	< 5	5	
cis-1,3-Dichloropropene	< 1	1	
Cyclohexane	< 1600	1600	
Dibromochloromethane	< 0.1	0.1	
Dichlorodifluoromethane	< 10	10	
Ethyl Acetate	< 500	500	
Ethylbenzene	< 2	2	
Hexachloro-1,3-butadiene	< 0.1	0.1	
Isooctane	< 100	100	
m,p-Xylene	< 10	10	
Methylene Chloride	< 12	12	
Methyl-tert-butyl ether	< 10	10	
N-Heptane	< 100	100	
N-Hexane	< 50	50	
o-Xylene	< 10	10	
Propylene	< 100	100	
Styrene	< 100	100	
Tetrachloroethene	< 0.47	0.47	
Tetrahydrofuran	< 100	100	

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Analytical Report

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
Toluene	< 1000	1000	
trans-1,2-Dichloroethene	< 10	10	
trans-1,3-Dichloropropene	< 1	1	
Trichlorethene	< 0.2	0.2	
Trichlorofluoromethane	< 100	100	
Vinyl Acetate	< 50	50	
Vinyl Bromide	< 0.1	0.1	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	100%		
Analysis Date/Time:	9-17-15/15:59		
Analyst Initials	tjg		

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
Propylene	8.81	9.01	10	88%	90%	2.2%	
Dichlorodifluoromethane	10.9	10.2	10	109%	102%	6.6%	
Chloromethane	9.16	9.93	10	92%	99%	8.1%	
Vinyl Chloride	9.43	10.7	10	94%	107%	12.6%	
1,3-Butadiene	9.14	10.1	10	91%	101%	10.0%	
Bromomethane	10.1	11.2	10	101%	112%	10.3%	
Chloroethane	8.95	10.1	10	90%	101%	12.1%	
Vinyl Bromide	10.3	11.6	10	103%	116%	11.9%	
Trichlorofluoromethane	10.2	11.3	10	102%	113%	10.2%	
Acetone	9.44	10.6	10	94%	106%	11.6%	
1,1-Dichloroethene	10	11	10	100%	110%	9.5%	
Methylene Chloride	9.46	9.37	10	95%	94%	1.0%	
Carbon Disulfide	8.54	9.86	10	85%	99%	14.3%	
trans-1,2-Dichloroethene	9.18	10.3	10	92%	103%	11.5%	
Methyl-tert-butyl ether	9.49	10.7	10	95%	107%	12.0%	
1,1-Dichloroethane	9.03	10.1	10	90%	101%	11.2%	
Vinyl Acetate	11	9.28	10	110%	93%	17.0%	
N-Hexane	8.15	9.36	10	82%	94%	13.8%	
2-Butanone (MEK)	8.59	9.57	10	86%	96%	10.8%	
cis-1,2-Dichloroethene	9.32	10.3	10	93%	103%	10.0%	
Ethyl Acetate	8.12	9.14	10	81%	91%	11.8%	
Chloroform	9.76	10.7	10	98%	107%	9.2%	
Tetrahydrofuran	9.34	9.96	10	93%	100%	6.4%	
1,2-Dichloroethane	11.4	11.3	10	114%	113%	0.9%	
1,1,1-Trichloroethane	11.3	11.5	10	113%	115%	1.8%	
Carbon Tetrachloride	11.5	11.4	10	115%	114%	0.9%	
Benzene	9.69	9.95	10	97%	100%	2.6%	
Cyclohexane	8.07	8.24	10	81%	82%	2.1%	
1,2-Dichloropropane	9.44	9.82	10	94%	98%	3.9%	
Trichlorethene	10.3	10.6	10	103%	106%	2.9%	
Bromodichloromethane	11	11.1	10	110%	111%	0.9%	
1,4-Dioxane	9.33	10.2	10	93%	102%	8.9%	
Isooctane	9.26	9.44	10	93%	94%	1.9%	
N-Heptane	9.45	9.33	10	95%	93%	1.3%	
cis-1,3-Dichloropropene	10.3	10.4	10	103%	104%	1.0%	
4-Methyl-2-pentanone (MIBK)	9.83	10.1	10	98%	101%	2.7%	
trans-1,3-Dichloropropene	10.3	10.6	10	103%	106%	2.9%	
1,1,2-Trichloroethane	9.99	10.5	10	100%	105%	5.0%	
Toluene	9.46	9.87	10	95%	99%	4.2%	
2-Hexanone	9.8	10	10	98%	100%	2.0%	
Dibromochloromethane	10.9	10.7	10	109%	107%	1.9%	
1,2-dibromoethane (EDB)	9.97	10	10	100%	100%	0.3%	
Tetrachloroethene	10.7	10.2	10	107%	102%	4.8%	
Chlorobenzene	9.72	9.67	10	97%	97%	0.5%	
Ethylbenzene	10	9.91	10	100%	99%	0.9%	
m,p-Xylene	19.4	19	20	97%	95%	2.1%	
Bromoform	10.7	10.6	10	107%	106%	0.9%	

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Analytical Report

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
Styrene	9.67	9.56	10	97%	96%	1.1%	
1,1,2,2-Tetrachloroethane	9.23	9.18	10	92%	92%	0.5%	
o-Xylene	9.6	9.59	10	96%	96%	0.1%	
4-Ethyltoluene	9.6	9.29	10	96%	93%	3.3%	
1,3,5-Trimethylbenzene	9.18	9.13	10	92%	91%	0.5%	
1,2,4-Trimethylbenzene	9.47	9.24	10	95%	92%	2.5%	
1,3-Dichlorobenzene	9.06	8.78	10	91%	88%	3.1%	
Benzyl Chloride	10.1	9.88	10	101%	99%	2.2%	
1,4-Dichlorobenzene	9.01	8.66	10	90%	87%	4.0%	
1,2-Dichlorobenzene	9.37	9.08	10	94%	91%	3.1%	
1,2,4-Trichlorobenzene	8.8	8.42	10	88%	84%	4.4%	
Hexachloro-1,3-butadiene	9.1	8.52	10	91%	85%	6.6%	
4-bromofluorobenzene (surrogate)	107%	106%					
Analysis Date/Time:	9-17-15/13:23	9-17-15/14:48					
Analyst Initials	tjg	tjg					

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Flag Number	Comments
1	Reporting limit is supported by MDL. TJG

WDF EnvisionAir Proj#: 2015-529 Page 1 of 1

CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: EnviroForensics	P.O. Number: 2015838
Report Address: N16 W23390 Stone Ridge Drive, Suite G Waukesha, WI 53188	Project Name or Number: 6406 / OHM Lincoln
Report To: W. Fassbender	Sampled by: K. VanderHeiden
Phone: 317-972-7870	QA/QC Required: (circle if applicable) Level III Level IV
Invoice Address: Same as above	Reporting Units needed: (circle) ug/m³ mg/m³ PPBV PPMV
Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days)	Media type: 1LC = 1 Liter Canister; 6LC = 6 Liter Canister; TB = Tedlar Bag; TD = Thermal Desorption Tube

REQUESTED PARAMETERS

TO-15 Full List / TO-15 Short List

ENVISIONAIR

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Sampling Type:
Soil-Gas: ☐
Sub-Slab: ☐
Indoor-Air: ☒

Canister Pressure / Vacuum

Air Sample ID	Media Type (see code above)	Coll. Date (Grab/Comp Start)	Coll. Time (Grab/Comp Start)	Coll. Date (Comp. End)	Coll. Time (Comp. End)					Canister Serial #	Flow Controller Serial #	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
6406-10710-IA-B	6LC	9/9	1030	9/10	1030		X			11089	07436	-27	-2.5	-2.5	15-1945
6406-10710-IA-1	6LC	9/9	1025	9/10	1025		X			91577	07301	-29	-2.5	-2.5	15-1946
6406-10710-IA-2	6LC	9/9	1020	9/10	1020		X			~~10625~~ 16025 MM	07622	-27	-3	-3	15-1947
6406-10710-OA	6LC	9/9	1015	9/10	1015		X			91535	07256	-30	-4	-4	15-1948

Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	9/11/15	16:00	Stanley A. Nunnicutt	9/15/15	09:30

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Mr. W. Fassbender
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

August 11, 2016

EnvisionAir Project Number: 2016-474
Client Project Name: 6406 / OHM-Lincoln

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received August 2, 2016. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

Stanley A Hunnicutt

Project Manager
EnvisionAir, LLC

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM-LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-474

Sample Summary

Canister Pressure / Vacuum

Laboratory Sample Number:	Sample Description:	Matrix:	START Date Collected:	START Time Collected:	End Date Collected:	End Time Collected:	Date Received:	Time Received	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)
16-1704	6406-2234-SSV-1	A	7/28/16	12:15	7/28/16	12:21	8/2/16	11:00	-29	-2	-2
16-1705	6406-2234-SSV-2	A	7/28/16	12:35	7/28/16	12:40	8/2/16	11:00	-29	-2	-2

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Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM-LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-474

Analytical Method: TO-15
Analytical Batch: 080416AIR

Client Sample ID: 6406-2234-SSV-1
Envision Sample Number: 16-1704
Sample Matrix: AIR

Sample Collection START Date/Time: 7/28/16 12:15
Sample Collection END Date/Time: 7/28/16 12:21
Sample Received Date/Time: 8/2/16 11:00

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 39.6	39.6	
Tetrachloroethene	< 31.9	31.9	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	< 10.7	10.7	
Vinyl Chloride	< 6.4	6.4	
4-bromofluorobenzene (surrogate)	107%		
Analysis Date/Time:	8-6-16/05:37		
Analyst Initials	tjg		

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Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM-LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-474

Analytical Method: TO-15
Analytical Batch: 080416AIR

Client Sample ID: 6406-2234-SSV-2
Envision Sample Number: 16-1705
Sample Matrix: AIR

Sample Collection START Date/Time: 7/28/16 12:35
Sample Collection END Date/Time: 7/28/16 12:40
Sample Received Date/Time: 8/2/16 11:00

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 39.6	39.6	
Tetrachloroethene	< 31.9	31.9	
trans-1,2-Dichloroethene	< 39.6	39.6	
Trichloroethene	< 10.7	10.7	
Vinyl Chloride	< 6.4	6.4	
4-bromofluorobenzene (surrogate)	103%		
Analysis Date/Time:	8-6-16/06:14		
Analyst Initials	tjg		

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Analytical Report

TO-15 Quality Control Data

EnvisionAir Batch Number: 080416AIR

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichlorethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	109%		
Analysis Date/Time:	8-5-16/12:52		
Analyst Initials	tjg		

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
Vinyl Chloride	10.2	10.4	10	102%	104%	1.9%	
trans-1,2-Dichloroethene	9.74	9.78	10	97%	98%	0.4%	
cis-1,2-Dichloroethene	10.2	10.2	10	102%	102%	0.0%	
Trichloroethene	9.22	9.23	10	92%	92%	0.1%	
Tetrachloroethene	9.93	9.92	10	99%	99%	0.1%	
4-bromofluorobenzene (surrogate)	106%	106%					
Analysis Date/Time:	8-5-16/11:34	8-5-16/12:17					
Analyst Initials	tjg	tjg					

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Flag Number	Comments

EnvisionAir Proj#: 2016-474 Page 1 of 1

CHAIN OF CUSTODY RECORD WAF

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: Enviro Forensics	P.O. Number: 2016 757
Report Address: N16 W23390 Stone Ridge Dr. Ste G Waukesha WI 53188	Project Name or Number: 6406 OHM-Lincoln
Report To: W. Fassbender / K. Heimstead	Sampled by: K. Heimstead
Phone: 317-972-7870	QA/QC Required: (circle if applicable) Level III Level IV
Invoice Address:	Reporting Units needed: (circle) ug/m³ mg/m³ PPBV PPMV
Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days)	Media type: 1LC = 1 Liter Canister, 6LC = 6 Liter Canister, TB = Tedlar Bag, TD = Thermal Desorption Tube

REQUESTED PARAMETERS

TO-15 Full List

TO-15 Short List Dry Cleaners

ENVISIONAIR

Sampling Type:
Soil-Gas: ☐
Sub-Slab: ☒
Indoor-Air: ☐

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Canister Pressure / Vacuum

Air Sample ID	Media Type (see code above)	Coll. Date (Grab/Comp Start)	Coll. Time (Grab/Comp Start)	Coll. Date (Comp. End)	Coll. Time (Comp. End)					Canister Serial #	Flow Controller Serial #	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
6406-2234-SSV-1	1LC	7/28/16	1215	7/28/16	1221		+			83983	–	-29	-2	-2	16-1704
6406-2234-SSV-2	1LC	7/28/16	1235	7/28/16	1240		+			83726	–	-29	-2	-2	16-1705

Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	8/1/16		FedEx	8/1/16	
			[signature]	8/2/16	1100

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Mr. Wayne Fassbender
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

February 17, 2017

EnvisionAir Project Number: 2017-68
Client Project Name: 6406 OHM-Lincoln

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received February 3, 2017. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

Stanley A Hunnicutt

Project Manager
EnvisionAir, LLC

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Client Name: ENVIROFORENSICS

Project ID: 6406 - OHM-LINCOLN

Client Project Manager: WAYNE FASSBENDER

EnvisionAir Project Number: 2017-68

Sample Summary

Canister Pressure / Vacuum

Laboratory Sample Number:	Sample Description:	Matrix:	START Date Collected:	START Time Collected:	End Date Collected:	End Time Collected:	Date Received:	Time Received	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)
17-267	6406-OA-1	A	1/31/17	8:45	1/31/17	16:45	2/3/17	11:30	-29	-7	-7
17-268	6406-2234-JA-B	A	1/31/17	9:05	1/31/17	17:00	2/3/17	11:30	-29	-5	-5
17-269	6406-2234-SSV-1	A	2/1/17	9:00	2/1/17	9:06	2/3/17	11:30	-29	-2	-2
17-270	6406-2234-SSV-2	A	2/1/17	9:15	2/1/17	9:20	2/3/17	11:30	-29	-2	-2

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Client Name: ENVIROFORENSICS

Project ID: 6406-OHM-LINCOLN

Client Project Manager: WAYNE FASSBENDER

EnvisionAir Project Number: 2017-68

Analytical Method: TO-15
Analytical Batch: 020717CAIR

Client Sample ID: 6406-OA-1
Envision Sample Number: 17-267
Sample Matrix: AIR

Sample Collection START Date/Time: 1/31/17 8:45
Sample Collection END Date/Time: 1/31/17 16:45
Sample Received Date/Time: 2/3/17 11:30

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 3.96	3.96	
Tetrachloroethene	< 3.19	3.19	
trans-1,2-Dichloroethene	< 3.96	3.96	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 0.64	0.64	
4-bromofluorobenzene (surrogate)	93%		
Analysis Date/Time:	2-8-17/01:03		
Analyst Initials	tjg		

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Client Name: ENVIROFORENSICS

Project ID: 6406-OHM-LINCOLN

Client Project Manager: WAYNE FASSBENDER

EnvisionAir Project Number: 2017-68

Analytical Method: TO-15
Analytical Batch: 020717CAIR

Client Sample ID: 6406-2234-IA-B
Envision Sample Number: 17-268
Sample Matrix: AIR

Sample Collection START Date/Time: 1/31/17 9:05
Sample Collection END Date/Time: 1/31/17 17:00
Sample Received Date/Time: 2/3/17 11:30

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 3.96	3.96	
Tetrachloroethene	< 3.19	3.19	
trans-1,2-Dichloroethene	< 3.96	3.96	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 0.64	0.64	
4-bromofluorobenzene (surrogate)	108%		
Analysis Date/Time:	2-8-17/03:08		
Analyst Initials	tjg		

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Client Name: ENVIROFORENSICS

Project ID: 6406 - OHM-LINCOLN

Client Project Manager: WAYNE FASSBENDER

EnvisionAir Project Number: 2017-68

Analytical Method: TO-15
Analytical Batch: 021617AIR

Client Sample ID: 6406-2234-SSV-1
Envision Sample Number: 17-269
Sample Matrix: AIR

Sample Collection START Date/Time: 2/1/17 9:00
Sample Collection END Date/Time: 2/1/17 9:06
Sample Received Date/Time: 2/3/17 11:30

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 3.96	3.96	
Tetrachloroethene	< 3.19	3.19	
trans-1,2-Dichloroethene	< 3.96	3.96	
Trichloroethene	**6.18**	1.07	
Vinyl Chloride	< 0.64	0.64	
4-bromofluorobenzene (surrogate)	100%		
Analysis Date/Time:	2-17-17/10:07		
Analyst Initials	tjg		

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Client Name: ENVIROFORENSICS

Project ID: 6406 - OHM-LINCOLN

Client Project Manager: WAYNE FASSBENDER

EnvisionAir Project Number: 2017-68

Analytical Method: TO-15
Analytical Batch: 021617AIR

Client Sample ID: 6406-2234-SSV-2
Envision Sample Number: 17-270
Sample Matrix: AIR

Sample Collection START Date/Time: 2/1/17 9:15
Sample Collection END Date/Time: 2/1/17 9:20
Sample Received Date/Time: 2/3/17 11:30

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 3.96	3.96	
Tetrachloroethene	**6.58**	3.19	
trans-1,2-Dichloroethene	< 3.96	3.96	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 0.64	0.64	
4-bromofluorobenzene (surrogate)	96%		
Analysis Date/Time:	2-17-17/10:48		
Analyst Initials	tjg		

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Flag Number	Comments
1	Reporting limit is supported by MDL. TJG

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Analytical Report

TO-15 Quality Control Data

EnvisionAir Batch Number: 020717CAIR

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichlorethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	95%		
Analysis Date/Time:	2-7-17/23:46		
Analyst Initials	tjg		

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
Vinyl Chloride	9.14	9.19	10	91%	92%	0.5%	
trans-1,2-Dichloroethene	11	11.3	10	110%	113%	2.7%	
cis-1,2-Dichloroethene	10.5	10.5	10	105%	105%	0.0%	
Trichloroethene	11	10.8	10	110%	108%	1.8%	
Tetrachloroethene	9.62	9.42	10	96%	94%	2.1%	
4-bromofluorobenzene (surrogate)	108%	105%					
Analysis Date/Time:	2-7-17/22:26	2-7-17/23:07					
Analyst Initials	tjg	tjg					

EnvisionAir
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Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Analytical Report

TO-15 Quality Control Data

EnvisionAir Batch Number: 021617AIR

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichlorethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	94%		
Analysis Date/Time:	02-16-17/17:23		
Analyst Initials	tjg		

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
Vinyl Chloride	9.18	9.27	10	92%	93%	1.0%	
trans-1,2-Dichloroethene	11.8	11.8	10	118%	118%	0.0%	
cis-1,2-Dichloroethene	11.3	11.4	10	113%	114%	0.9%	
Trichloroethene	10	10.2	10	100%	102%	2.0%	
Tetrachloroethene	9.81	10.6	10	98%	106%	7.7%	
4-bromofluorobenzene (surrogate)	95%	102%					
Analysis Date/Time:	02-16-17/16:04	02-16-17/18:44					
Analyst Initials	tjg	tjg					

EnvisionAir Proj#: 2017-68 Page 1 of 1

CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: EnviroForensics	P.O. Number: 2017-0149
Report Address: N16W23390 Stone Ridge Dr Suite A Waukesha WI 53188	Project Name or Number: 6406 OHM-Lincoln
Report To: W. Fassbender/ K. Heimstead	Sampled by: K. Heimstead
Phone: 209-890-9814	QA/QC Required: (circle if applicable) Level III Level IV
Invoice Address:	Reporting Units needed: (circle) ug/m³ mg/m³ PPBV PPMV
Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days)	Media type: 1LC = 1 Liter Canister, 6LC = 6 Liter Canister, TB = Tedlar Bag, TD = Thermal Desorption Tube

REQUESTED PARAMETERS

TO-15 Full List | TO-15 Short List | By Client

ENVISIONAIR

Sampling Type:
Soil-Gas: ☐
Sub-Slab: ☐
Indoor-Air: ☒

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Canister Pressure / Vacuum

Air Sample ID	Media Type (see code above)	Coll. Date (Grab/Comp Start)	Coll. Time (Grab/Comp Start)	Coll. Date (Comp. End)	Coll. Time (Comp. End)	TO-15 Full List	TO-15 Short List	By Client		Canister Serial #	Flow Controller Serial #	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
6406-OA-1	6LC	1-31-17	845	1-31-17	1645		X			16102	03061	-29	-7	-7	17-267
6406-2234-IA-B	6LC	1-31-17	905	1-31-17	1700		X			91604	02225	-29	-5	-5	17-268
6406-2234-SSV-1	1LC	2-1-17	900	2-1-17	906		X			84045	—	-29	-2	-2	17-269
~~6406-SS~~															
6406-2234-SSV-2	1LC	2-1-17	915	2-1-17	920		X			2224	—	-29	-2	-2	17-270

Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
	2-2-2017		FedEx	2-2-2017	
				2/3/17	1130

EnvisionAir
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Indianapolis, IN 46239
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Mr. Wayne Fassbender
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

February 17, 2017

EnvisionAir Project Number: 2017-69
Client Project Name: 6406 OHM-Lincoln

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received February 3, 2017. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

Stanley A Hunnicutt

Project Manager
EnvisionAir, LLC

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6406 - OHM-LINCOLN

Client Project Manager: WAYNE FASSBENDER

EnvisionAir Project Number: 2017-69

Sample Summary

Canister Pressure / Vacuum

Laboratory Sample Number:	Sample Description:	Matrix:	START Date Collected:	START Time Collected:	End Date Collected:	End Time Collected:	Date Received:	Time Received	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)
17-271	6406-2230-IA-B	A	1/31/17	9:15	1/31/17	17:10	2/3/17	11:30	-29	-5	-5
17-272	6406-2230-SSV-1	A	2/1/17	10:10	2/1/17	10:15	2/3/17	11:30	-29	-2	-2
17-273	6406-2230-SSV-2	A	2/1/17	10:25	2/1/17	10:32	2/3/17	11:30	-29	-2	-2

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Client Name: ENVIROFORENSICS

Project ID: 6406 - OHM-LINCOLN

Client Project Manager: WAYNE FASSBENDER

EnvisionAir Project Number: 2017-69

Analytical Method: TO-15
Analytical Batch: 020717CAIR

Client Sample ID: 6406-2230-IA-B
Envision Sample Number: 17-271
Sample Matrix: AIR

Sample Collection START Date/Time: 1/31/17 9:15
Sample Collection END Date/Time: 1/31/17 17:10
Sample Received Date/Time: 2/3/17 11:30

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 3.96	3.96	
Tetrachloroethene	< 3.19	3.19	
trans-1,2-Dichloroethene	< 3.96	3.96	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 0.64	0.64	
4-bromofluorobenzene (surrogate)	120%		
Analysis Date/Time:	2-8-17/03:52		
Analyst Initials	tjg		

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Client Name: ENVIROFORENSICS

Project ID: 6406 - OHM-LINCOLN

Client Project Manager: WAYNE FASSBENDER

EnvisionAir Project Number: 2017-69

Analytical Method: TO-15
Analytical Batch: 021617AIR

Client Sample ID: 6406-2230-SSV-1
Envision Sample Number: 17-272
Sample Matrix: AIR

Sample Collection START Date/Time: 2/1/17 10:10
Sample Collection END Date/Time: 2/1/17 10:15
Sample Received Date/Time: 2/3/17 11:30

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 3.96	3.96	
Tetrachloroethene	**45.4**	3.19	
trans-1,2-Dichloroethene	< 3.96	3.96	
Trichloroethene	**3.28**	1.07	
Vinyl Chloride	< 0.64	0.64	
4-bromofluorobenzene (surrogate)	97%		
Analysis Date/Time:	2-17-17/11:30		
Analyst Initials	tjg		

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Client Name: ENVIROFORENSICS

Project ID: 6406 - OHM-LINCOLN

Client Project Manager: WAYNE FASSBENDER

EnvisionAir Project Number: 2017-69

Analytical Method: TO-15
Analytical Batch: 021617AIR

Client Sample ID: 6406-2230-SSV-2
Envision Sample Number: 17-273
Sample Matrix: AIR

Sample Collection START Date/Time: 2/1/17 10:25
Sample Collection END Date/Time: 2/1/17 10:32
Sample Received Date/Time: 2/3/17 11:30

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 3.96	3.96	
Tetrachloroethene	< 3.19	3.19	
trans-1,2-Dichloroethene	< 3.96	3.96	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 0.64	0.64	
4-bromofluorobenzene (surrogate)	97%		
Analysis Date/Time:	2-17-17/12:12		
Analyst Initials	tjg		

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Analytical Report

TO-15 Quality Control Data

EnvisionAir Batch Number: 021617AIR

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichlorethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	94%		
Analysis Date/Time:	02-16-17/17:23		
Analyst Initials	tjg		

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
Vinyl Chloride	9.18	9.27	10	92%	93%	1.0%	
trans-1,2-Dichloroethene	11.8	11.8	10	118%	118%	0.0%	
cis-1,2-Dichloroethene	11.3	11.4	10	113%	114%	0.9%	
Trichloroethene	10	10.2	10	100%	102%	2.0%	
Tetrachloroethene	9.81	10.6	10	98%	106%	7.7%	
4-bromofluorobenzene (surrogate)	95%	102%					
Analysis Date/Time:	02-16-17/16:04	02-16-17/18:44					
Analyst Initials	tjg	tjg					

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Analytical Report

TO-15 Quality Control Data

EnvisionAir Batch Number: 020717CAIR

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichlorethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	95%		
Analysis Date/Time:	2-7-17/23:46		
Analyst Initials	tjg		

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
Vinyl Chloride	9.14	9.19	10	91%	92%	0.5%	
trans-1,2-Dichloroethene	11	11.3	10	110%	113%	2.7%	
cis-1,2-Dichloroethene	10.5	10.5	10	105%	105%	0.0%	
Trichloroethene	11	10.8	10	110%	108%	1.8%	
Tetrachloroethene	9.62	9.42	10	96%	94%	2.1%	
4-bromofluorobenzene (surrogate)	108%	105%					
Analysis Date/Time:	2-7-17/22:26	2-7-17/23:07					
Analyst Initials	tjg	tjg					

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Flag Number	Comments
1	Reporting limit is supported by MDL. TJG

EnvisionAir Proj#: 2017-69 Page 1 of 1

CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: EnviroForensics	P.O. Number: 2017-0149
Report Address: W16W23390 Stone Ridge Dr Suite A Waukesha WI 53188	Project Name or Number: 6406 OHM-Lincoln
Report To: W. Fassbender / K. Heimstead	Sampled by: K. Heimstead
Phone: 209-390-9814	QA/QC Required: (circle if applicable) Level III Level IV
Invoice Address:	Reporting Units needed: (circle) ug/m³ mg/m³ PPBV PPMV
Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days)	Media type: 1LC = 1 Liter Canister; 6LC = 6 Liter Canister; TB = Tedlar Bag; TD = Thermal Desorption Tube

REQUESTED PARAMETERS

TO-15 Full List

TO-15 Short List 24 Hours

ENVISIONAIR

Sampling Type:
Soil-Gas: ☐
Sub-Slab: ☐
Indoor-Air: ☒

www.envision-air.com

Canister Pressure / Vacuum

Air Sample ID	Media Type (see code above)	Coll. Date (Grab/Comp Start)	Coll. Time (Grab/Comp Start)	Coll. Date (Comp. End)	Coll. Time (Comp. End)					Canister Serial #	Flow Controller Serial #	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
6406-2230-IA-B	6LC	1-31-17	915	1-31-17	1710		X			11082	05249	-29	-5	-5	17-271
6406-2230-SSV-1	1LC	2-1-17	1010	2-1-17	1015		X			2211	-	-29	-2	-2	17-272
6406-2230-SSV-2	1LC	2-1-17	1025	2-1-17	1032		X			83923	-	-29	-2	-2	17-273

Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
	2-2-2017		FedEx	2-2-2017	
			Shaw Minnesota	2/3/17	1130

EnvisionAir
1441 Sadlier Circle West Drive
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Ph: 317-351-0885
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www.envision-air.com

Mr. Wayne Fassbender
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

April 28, 2016

EnvisionAir Project Number: 2016-288
Client Project Name: 6406

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received April 13, 2016. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

Stanley A Hunnicutt

Project Manager
EnvisionAir, LLC

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6406

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-288

Sample Summary

Canister Pressure / Vacuum

Laboratory Sample Number:	Sample Description:	Matrix:	START Date Collected:	START Time Collected:	End Date Collected:	End Time Collected:	Date Received:	Time Received	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)
16-1039	6406-2248-OA-1	A	4/6/16	6:53	4/6/16	14:58	4/13/16	11:45	-30	-5	-5
16-1040	6406-2248-IA-B	A	4/6/16	6:48	4/6/16	14:56	4/13/16	11:45	-30	-4.5	-4.5
16-1041	6406-2262-IA-1	A	4/6/16	6:57	4/6/16	15:06	4/13/16	11:45	-28	-3	-3

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Fax: 317-351-0882
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Client Name: ENVIROFORENSICS

Project ID: 6406

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-288

Analytical Method: TO-15
Analytical Batch: 041816CAIR

Client Sample ID: 6406-2248-OA-1
Envision Sample Number: 16-1039
Sample Matrix: AIR

Sample Collection START Date/Time: 4/6/16 6:53
Sample Collection END Date/Time: 4/6/16 14:58
Sample Received Date/Time: 4/13/16 11:45

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 3.96	3.96	
Tetrachloroethene	< 3.19	3.19	
trans-1,2-Dichloroethene	< 3.96	3.96	
Trichlorethene	< 1.07	1.07	
Vinyl Chloride	< 0.64	0.64	
4-bromofluorobenzene (surrogate)	121%		
Analysis Date/Time:	4-19-16/02:28		
Analyst Initials	tjg		

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
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Client Name: ENVIROFORENSICS

Project ID: 6406

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-288

Analytical Method: TO-15
Analytical Batch: 041816CAIR

Client Sample ID: 6406-248-IA-B
Envision Sample Number: 16-1040
Sample Matrix: AIR

Sample Collection START Date/Time: 4/6/16 6:48
Sample Collection END Date/Time: 4/6/16 14:56
Sample Received Date/Time: 4/13/16 11:45

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 3.96	3.96	
Tetrachloroethene	**14.7**	3.19	
trans-1,2-Dichloroethene	< 3.96	3.96	
Trichlorethene	< 1.07	1.07	
Vinyl Chloride	< 0.64	0.64	
4-bromofluorobenzene (surrogate)	102%		
Analysis Date/Time:	4-19-16/03:08		
Analyst Initials	tjg		

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Client Name: ENVIROFORENSICS

Project ID: 6406

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-288

Analytical Method: TO-15
Analytical Batch: 041816CAIR

Client Sample ID: 6406-2262-IA-1
Envision Sample Number: 16-1041
Sample Matrix: AIR

Sample Collection START Date/Time: 4/6/16 6:57
Sample Collection END Date/Time: 4/6/16 15:06
Sample Received Date/Time: 4/13/16 11:45

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	**7.49**	3.96	
Tetrachloroethene	**312**	31.9	1
trans-1,2-Dichloroethene	< 3.96	3.96	
Trichlorethene	**7.15**	1.07	
Vinyl Chloride	< 0.64	0.64	
4-bromofluorobenzene (surrogate)	103%		
Analysis Date/Time:	4-19-16/03:49		
Analyst Initials	tjg		

EnvisionAir
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Analytical Report

TO-15 Quality Control Data

EnvisionAir Batch Number: 041816CAIR

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichlorethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	113%		
Analysis Date/Time:	4-19-16/00:11		
Analyst Initials	tjg		

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
cis-1,2-Dichloroethene	10.7	10.2	10	107%	102%	4.8%	
Tetrachloroethene	9.59	9.62	10	96%	96%	0.3%	
trans-1,2-Dichloroethene	11.1	10.4	10	111%	104%	6.5%	
Trichlorethene	9.81	10	10	98%	100%	1.9%	
Vinyl Chloride	10.9	10.5	10	109%	105%	3.7%	
4-bromofluorobenzene (surrogate)	107%	108%					
Analysis Date/Time:	4-18-16/22:50	4-18-16/23:32					
Analyst Initials	tjg	tjg					

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
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Flag Number	Comments
1	Reported value is from a 10x dilution. TJG 4-27-16

WAF EnvisionAir Proj#: 2016-288 Page 1 of 1

CHAIN OF CUSTODY RECORD

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: EnviroForensics	P.O. Number: 2016305
Report Address: N16 W23390 Stone Ridge Dr Waukesha, WI 53188	Project Name or Number: 6406
Report To: W. Fassbender K. VanderHeiden	Sampled by: K. VanderHeiden
Phone: 517 972 7870	QA/QC Required: (circle if applicable) Level III (Level IV)
Invoice Address:	Reporting Units needed: (circle) µg/m³ mg/m³ PPBV PPMV
Desired TAT: (Please Circle One) 1 day 2 days 3 days (Std (5 bus. days))	Media type: 1LC = 1 Liter Canister; 6LC = 6 Liter Canister; TB = Tedlar Bag; TD = Thermal Desorption Tube

REQUESTED PARAMETERS

TO-15 Full List | TO-15 Short List

ENVISIONAIR

www.envision-air.com

Sampling Type:
Soil-Gas: ☐
Sub-Slab: ☐
Indoor-Air: ☒

Canister Pressure / Vacuum

Air Sample ID	Media Type (see code above)	Coll. Date (Grab/Comp Start)	Coll. Time (Grab/Comp Start)	Coll. Date (Comp. End)	Coll. Time (Comp. End)					Canister Serial #	Flow Controller Serial #	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
6406-2248-OA-1	6LC	4/6	0653	4/6	1458		X			4687	07256	-30	-5	-5	16-1039
6406-2248-IA-B	6LC	4/6	0648	4/6	1456		X			19625	05248	-30	-4.5	-4.5	16-1040
6406-2262-IA-1	6LC	4/6	0657	4/6	1506		X			17896	05308	-28	-3	-3	16-1041

Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
[signature]	4/7/16	0900	Fed Ex		
			Stanley A. Nunnucci	4/13/16	1145

EnvisionAir
1441 Sadlier Circle West Drive
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Ph: 317-351-0885
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www.envision-air.com

Mr. W. Fassbender
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

August 11, 2016

EnvisionAir Project Number: 2016-473
Client Project Name: 6406 / OHM-Lincoln

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received August 2, 2016. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

Stanley A Hunnicutt

Project Manager
EnvisionAir, LLC

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM-LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-473

Sample Summary

Laboratory Sample Number:	Sample Description:	Matrix:	START Date Collected:	START Time Collected:	End Date Collected:	End Time Collected:	Date Received:	Time Received	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)
									Canister Pressure / Vacuum		
16-1703	6406-2248-IA-B	A	7/28/16	8:50	7/28/16	16:45	8/2/16	11:00	-29	-7	-7

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM-LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-473

Analytical Method: TO-15
Analytical Batch: 080416AIR

Client Sample ID: 6406-2248-IA-B
Envision Sample Number: 16-1703
Sample Matrix: AIR

Sample Collection START Date/Time: 7/28/16 8:50
Sample Collection END Date/Time: 7/28/16 16:45
Sample Received Date/Time: 8/2/16 11:00

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 3.96	3.96	
Tetrachloroethene	**4.34**	3.19	
trans-1,2-Dichloroethene	< 3.96	3.96	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 0.64	0.64	
4-bromofluorobenzene (surrogate)	112%		
Analysis Date/Time:	8-5-16/16:45		
Analyst Initials	tjg		

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Analytical Report

TO-15 Quality Control Data

EnvisionAir Batch Number: 080416AIR

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichlorethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	109%		
Analysis Date/Time:	8-5-16/12:52		
Analyst Initials	tjg		

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
Vinyl Chloride	10.2	10.4	10	102%	104%	1.9%	
trans-1,2-Dichloroethene	9.74	9.78	10	97%	98%	0.4%	
cis-1,2-Dichloroethene	10.2	10.2	10	102%	102%	0.0%	
Trichloroethene	9.22	9.23	10	92%	92%	0.1%	
Tetrachloroethene	9.93	9.92	10	99%	99%	0.1%	
4-bromofluorobenzene (surrogate)	106%	106%					
Analysis Date/Time:	8-5-16/11:34	8-5-16/12:17					
Analyst Initials	tjg	tjg					

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Indianapolis, IN 46239
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Fax: 317-351-0882
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Flag Number	Comments

EnvisionAir Proj#: 2016-473 Page 1 of 1

CHAIN OF CUSTODY RECORD

WAF

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: EnviroForensics	P.O. Number: 2016757
Report/Address: N16 W23390 Stone Ridge Dr Ste G Waukesha WI 53188	Project Name or Number: 6406 OHIT-Lincoln
Report To: W. Fassbender / K. Helmstead	Sampled by: K. Helmstead
Phone: 317-972-7870	QA/QC Required: (circle if applicable) Level III Level IV
Invoice Address:	Reporting Units needed: (circle) µg/m³ mg/m³ PPBV PPMV
Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days)	Media type: 1LC = 1 Liter Canister, 6LC = 6 Liter Canister, TB = Tedlar Bag, TD = Thermal Desorption Tube

REQUESTED PARAMETERS

TO-15 Full List

TO-15 Short List Dry Ullms

ENVISIONAIR

Sampling Type:
Soil-Gas: ☐
Sub-Slab: ☐
Indoor-Air: ☒

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Canister Pressure / Vacuum

Air Sample ID	Media Type (see code above)	Coll. Date (Grab/Comp Start)	Coll. Time (Grab/Comp Start)	Coll. Date (Comp. End)	Coll. Time (Comp. End)					Canister Serial #	Flow Controller Serial #	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
6406-2248-IA-B	6LC	7/28/16	850	7/28/16	1645		X			10347	9934-4	-29	-7	-7	16-1703

Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
K. Helmstead	8/1/16		FedEx	8/1/16	
			Kevin Nunnicutt	8/2/16	1100

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Mr. W. Fassbender
Enviroforensics
N16 W. 23390 Stone Ridge Dr
Suite G
Waukesha, WI 53188

August 11, 2016

EnvisionAir Project Number: 2016-472
Client Project Name: 6406 / OHM-Lincoln

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received August 2, 2016. All test methods performed were fully compliant with local, state, and federal EPA methods unless otherwise noted. The project was analyzed as requested on the enclosed chain of custody record. Please review the comments section for additional information about your results or Quality Control data.

Feel free to contact me if you have any questions or comments regarding your analytical report or service.

Thank you for your business. EnvisionAir looks forward to working with you on your next project.

Yours Sincerely,

Stanley A Hunnicutt

Project Manager
EnvisionAir, LLC

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM-LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-472

Sample Summary

Canister Pressure / Vacuum

Laboratory Sample Number:	Sample Description:	Matrix:	START Date Collected:	START Time Collected:	End Date Collected:	End Time Collected:	Date Received:	Time Received	Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)
16-1701	6406-2262-IA-1	A	7/28/16	8:00	7/28/16	16:00	8/2/16	11:00	-29	-8	-8
16-1702	6406-OA-1	A	7/28/16	8:10	7/28/16	16:05	8/2/16	11:00	-29	-6	-6

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM-LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-472

Analytical Method: TO-15
Analytical Batch: 080416AIR

Client Sample ID: 6406-2262-IA-1
Envision Sample Number: 16-1701
Sample Matrix: AIR

Sample Collection START Date/Time: 7/28/16 8:00
Sample Collection END Date/Time: 7/28/16 16:00
Sample Received Date/Time: 8/2/16 11:00

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 3.96	3.96	
Tetrachloroethene	< 3.19	3.19	
trans-1,2-Dichloroethene	< 3.96	3.96	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 0.64	0.64	
4-bromofluorobenzene (surrogate)	119%		
Analysis Date/Time:	8-5-16/16:04		
Analyst Initials	tjg		

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Indianapolis, IN 46239
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Fax: 317-351-0882
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Client Name: ENVIROFORENSICS

Project ID: 6406 / OHM-LINCOLN

Client Project Manager: W. FASSBENDER

EnvisionAir Project Number: 2016-472

Analytical Method: TO-15
Analytical Batch: 080416AIR

Client Sample ID: 6406-OA-1
Envision Sample Number: 16-1702
Sample Matrix: AIR

Sample Collection START Date/Time: 7/28/16 8:10
Sample Collection END Date/Time: 7/28/16 16:05
Sample Received Date/Time: 8/2/16 11:00

Compounds	Sample Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 3.96	3.96	
Tetrachloroethene	< 3.19	3.19	
trans-1,2-Dichloroethene	< 3.96	3.96	
Trichloroethene	< 1.07	1.07	
Vinyl Chloride	< 0.64	0.64	
4-bromofluorobenzene (surrogate)	115%		
Analysis Date/Time:	8-5-16/14:04		
Analyst Initials	tjg		

EnvisionAir
1441 Sadlier Circle West Drive
Indianapolis, IN 46239
Ph: 317-351-0885
Fax: 317-351-0882
www.envision-air.com

Analytical Report

TO-15 Quality Control Data

EnvisionAir Batch Number: 080416AIR

Method Blank (MB):	MB Results (ppbv)	Reporting Limit (ppbv)	Flags
cis-1,2-Dichloroethene	< 5	5	
Tetrachloroethene	< 0.47	0.47	
trans-1,2-Dichloroethene	< 10	10	
Trichlorethene	< 0.2	0.2	
Vinyl Chloride	< 0.5	0.5	
4-bromofluorobenzene (surrogate)	109%		
Analysis Date/Time:	8-5-16/12:52		
Analyst Initials	tjg		

LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	LCS/D Conc(ppbv)	LCS Rec.	LCSD Rec.	RPD	Flag
Vinyl Chloride	10.2	10.4	10	102%	104%	1.9%	
trans-1,2-Dichloroethene	9.74	9.78	10	97%	98%	0.4%	
cis-1,2-Dichloroethene	10.2	10.2	10	102%	102%	0.0%	
Trichloroethene	9.22	9.23	10	92%	92%	0.1%	
Tetrachloroethene	9.93	9.92	10	99%	99%	0.1%	
4-bromofluorobenzene (surrogate)	106%	106%					
Analysis Date/Time:	8-5-16/11:34	8-5-16/12:17					
Analyst Initials	tjg	tjg					

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Ph: 317-351-0885
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Flag Number	Comments

EnvisionAir Proj#: 2016-472 Page 1 of 1

CHAIN OF CUSTODY RECORD

WDPF

EnvisionAir | 1441 Sadlier Circle West Drive | Indianapolis, IN 46239 | Phone: (317) 351-0885 | Fax: (317) 351-0882

Client: EnviroForensics	P.O. Number: 2016 757
Report Address: N16 W23390 Stone Ridge Dr Ste. A, Waukesha WI 53188	Project Name or Number: 6406 OHM-Lincoln
Report To: W. Fassbender / K. Heimstaed	Sampled by: K. Heimstaed
Phone: 317-972-7870	QA/QC Required: (circle if applicable) Level III Level IV
Invoice Address:	Reporting Units needed: (circle) ug/m³ mg/m³ PPBV PPMV
Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5 bus. days)	Media type: 1LC = 1 Liter Canister, 6LC = 6 Liter Canister, TB = Tedlar Bag, TD = Thermal Desorption Tube

REQUESTED PARAMETERS

ENVISIONAIR

Sampling Type:
Soil-Gas: ☐
Sub-Slab: ☐
Indoor-Air: ☒

www.envision-air.com

Air Sample ID	Media Type (see code above)	Coll. Date (Grab/Comp Start)	Coll. Time (Grab/Comp Start)	Coll. Date (Comp. End)	Coll. Time (Comp. End)	TO-15 Full List	TO-15 Short List	Dry Chem		Canister Serial #	Flow Controller Serial #	Canister Pressure / Vacuum: Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
6406-2262-IA-1	6LC	7/28/16	800	7/28/16	1600		X			11672	05249	-29	-8	-8	16-1701
6406-OA-1	6LC	7/28/16	810	7/28/16	1605		X			19627	07310	-29	-6	-6	16-1702

Comments:

Relinquished by:	Date	Time	Received by:	Date	Time
	8/1/16		FedEx	8/1/16	
			Alan Hunneman	8/2/16	1100

ATTACHMENT 5

Field Sampling Forms

ENVIROforensics

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

Sub-Slab Vapor/ Soil Gas Field Sampling Form

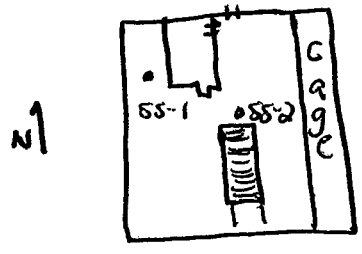
SS-1

PROJECT NAME	~~6406~~ OHM-Lincoln	SAMPLE DATE	9/10/15
LOCATION/ADDRESS	10710 W. Lincoln Ave.	SAMPLE ID	6406-10710-SS-1
PROJECT NO.	6406	SAMPLE TIME	1112
CLIENT/CONTACT	B. Cass	CANISTER ID	83831
DATA COLLECTION: START DATE	9/10/15	END DATE	9/10/15

Time	Vacuum Reading	Wind Direction	Wind Speed	Temperature	Barometer	Relative Humidity
hh:mm	In. of Hg		mph	°F	Hg	%
1108	-27	E	5-7	62°	—	—
1112	-1.5	E	5-7	62°	—	—

Water Dam ~~Helium Leak~~ Test		Negative Pressure Test	
Date/Time performed:	9/10 1051	Date/Time performed:	9/10 1059
Background He concentration (ppm):	NA	Negative pressure of at least -15 in. Hg induced on sampling train?	
Shroud He concentration (%):	NA	(circle one):	(yes) no
Sub-slab vapor/soil-gas He concentration (post helium insertion):	NA	Did pressure hold?	(yes) no
Helium Leak Test Passed:	(yes) no		

Notes:



ENVIROforensics

Sub-Slab Vapor/ Soil Gas Field Sampling Form

SS-2

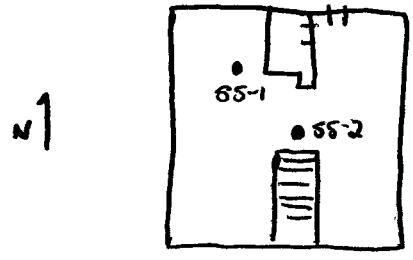
602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NAME	OHM-Lincoln	SAMPLE DATE	9/10/15
LOCATION/ADDRESS	10710 W. Lincoln Ave	SAMPLE ID	6406-10710-SS-2
PROJECT NO.	6406	SAMPLE TIME	
CLIENT/CONTACT	R. Cass	CANISTER ID	84044
DATA COLLECTION: START DATE	9/10/15	END DATE	9/10/15

Time hh:mm	Vacuum Reading In. of Hg	Wind Direction	Wind Speed mph	Temperature °F	Barometer Hg	Relative Humidity %
1127	-28.5	E	6-7	62°	-	-
1131	-2	E	5-7	62°	-	-

Water Dam ~~Helium Leak~~ Test		Negative Pressure Test	
Date/Time performed:	9/10/1121	Date/Time performed:	9/10/1126
Background He concentration (ppm):	NA	Negative pressure of at least -15 in. Hg induced on sampling train?	
Shroud He concentration (%):	NA	(circle one):	yes no
Sub-slab vapor/soil-gas He concentration (post helium insertion):	NA	Did pressure hold?	yes no
Helium Leak Test Passed:	yes no		

Notes:



ENVIROforensics

Indoor Air Field Sampling Form

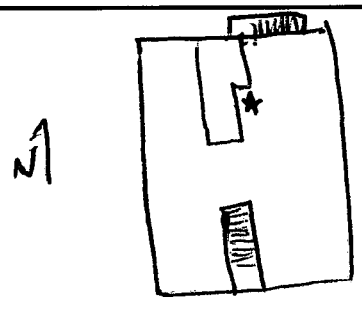
B

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NAME	OHM- ~~West Allis~~ Lincoln	SAMPLE DATE	9/9/15
LOCATION/ADDRESS	10710 W. Lincoln	SAMPLE ID	6406-10710-IA-B
PROJECT NO.	6406	SAMPLE TIME	1030
CLIENT/CONTACT	B. Cass	CANISTER ID	11089 / 07436
DATA COLLECTION: START DATE	9/9/15	END DATE	9/10/15

Time	Vaccum Reading	Wind Direction	Wind Speed	Temperature	Barometer	Relative Humidity
hh:mm	In. of H2O		mph	°F	Hg	%
1030	-27	E	5-7	64	—	—
1030	-2.5	E	5-7	62	—	—

Notes:



ENVIRO forensics

Indoor Air Field Sampling Form

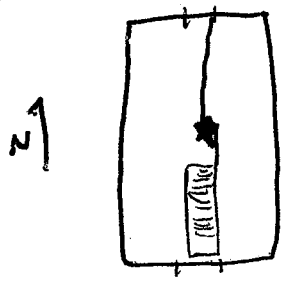
IA-1

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NAME	OHM ~~West Allis~~ Lincoln	SAMPLE DATE	9/9/15
LOCATION/ADDRESS	10710 W. Lincoln	SAMPLE ID	6406-10710-IA-1
PROJECT NO.	6406	SAMPLE TIME	
CLIENT/CONTACT	B. Cass	CANISTER ID	91577 / 07391
DATA COLLECTION: START DATE	9/9/15	END DATE	9/10/15

Time hh:mm	Vaccum Reading In. of H2O	Wind Direction	Wind Speed mph	Temperature °F	Barometer Hg	Relative Humidity %
1025	-29	E	5-7	64	—	—
1025	-2.5	E	5-7	62	—	—

Notes:



ENVIROforensics

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

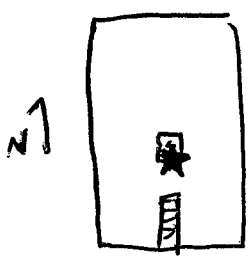
Indoor Air Field Sampling Form

IA-2

PROJECT NAME	OHM - ~~West Mills~~ Lincoln	SAMPLE DATE	9/9/15
LOCATION/ADDRESS	10710 W. Lincoln	SAMPLE ID	6406-10710-IA-2
PROJECT NO.	6406	SAMPLE TIME	
CLIENT/CONTACT	B. Cass	CANISTER ID	10625 / 07622
DATA COLLECTION: START DATE	9/9/15	END DATE	9/10/15

Time	Vaccum Reading	Wind Direction	Wind Speed	Temperature	Barometer	Relative Humidity
hh:mm	In. of H2O		mph	°F	Hg	%
1020	-27	E	5-7	64	—	—
1020	-3	E	5-7	62	—	—

Notes:



ENVIRO forensics

Indoor Air Field Sampling Form

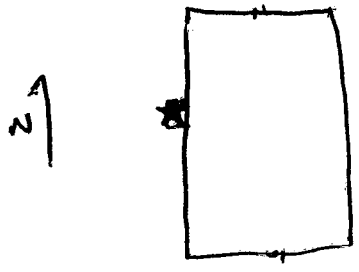
OA

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NAME	6406 OHM ~~West~~ Lincoln AHD	SAMPLE DATE	9/9/15
LOCATION/ADDRESS	10710 W. Lincoln	SAMPLE ID	6406-10710-OA
PROJECT NO.	6406	SAMPLE TIME	
CLIENT/CONTACT	B. Cass	CANISTER ID	91535 / 07256
DATA COLLECTION: START DATE	9/9/15	END DATE	9/10/15

Time hh:mm	Vaccum Reading In. of H2O	Wind Direction	Wind Speed mph	Temperature °F	Barometer Hg	Relative Humidity %
1015	-30	E	~~5~~ 10 5-7	64°	—	—
1015	-4	E	5-7	62°	—	—

Notes:



2248

ENVIRO forensics

INDOOR AIR BUILDING SURVEY FORM

Date 4/5/16

Site # 6406

Site Name OHM Lincoln

Address 2262 S. 108th St
West Allis, WI

Occupant Information

Owner Name Frank Marinello

Occupant Name NA

Address 2248 S. 108th St
West Allis, WI

Telephone No (414) 545-8777 Home/Work/Mobile

( ) Home/Work/Mobile

Number and Age of Occupants NA

Does anyone smoke inside the building? Maybe tenants (2nd Floor)

Building Characteristics

Type of building: (circle) Residential/Industrial/School/Commercial/Multi-use/Other?

If residential, what type (circle) Single family/Condo/Multi-family/Other?

If the property is commercial, indicate the business ? Hair salon / Apartments

How many floors does the building have? 3

Does the building have a (circle) Basement/Crawl space/Slab-on-grade/Other?

Is the basement used as a living/work space area? No

What type of foundation does the building have (circle) Field stone/Poured concrete/Concrete block Other?

Is there an attached garage? N

Is there a fuel tank? N

Is there a wood stove? N

Is there a fireplace? N

2248

ENVIRO forensics

Payne (P10s 80) High eff. furnace

Describe the heating system: (circle) ~~Kw Tempco~~ Forced air furnace/ Boiler/ Window air conditioner/Other?_____

If forced air heating, answer the following questions:

Is there a fresh air exchange? If so, details: No

Are air ducts located within the crawl space of the property? No

Are there additional vents within the property? (Non-powered vent/bathroom vent/etc.) _____

Table 1: Potential vapor migration entry point information

Potential Vapor Entry Points	Present (Yes/No)	Field Screening Results (ppm)	Picture	Comments
Foundation penetrations in floor or walls	N			
Cracks in foundation floor or walls	Y	0		
Sump	Y	0		
Floor drain	Y	0		
Other				
Other				

Sampling Information

Sample Date 4/6/16

Sampler Type Sorbent SUMMA Passive (Please circle one)

Analysis Method Mass APH TO-15Standard TO-15LL TO-15-SIM TO-17 Other: (Please circle one)

Contact Person (Project Manager) W. Fassbender

Telephone No (317) 972 7870

Laboratory Envision

Telephone No (317) 351-0885

ENVIRO forensics

Table 2: Pre-Sampling Background Screening and Inspection Information

List products or items which may be considered potential sources of VOCs such as paint cans, gasoline cans, gasoline powered equipment, cleaning solvents, furniture polish, moth balls, etc.

Date and time of pre-sampling inspection 4/5/16 @ 0900

Sampling Inspection Product Inventory

	Potential Source/ Trade Name	Location (Floor/Room)	Active/Main Ingredient	Picture	Removed (Y/N)
A.	Wiwax	B	polyethylene	Y	N
B.	Latex Enamel	B	Acrylic Resin	Y	N
C.	Sanding Sealer & Finish	B	Aliphatic Hydrocarbons, Vinyl Toluene	Y	N

ENVIROforensics

Sampling Information

Table 3: Sorbent Tube Sampler Information

Sample ID#	Floor	Room	Tube ID#	Pump ID#	Volume (liters)	Duration (minutes)	Comments

Table 4: Canister Sampler Information

Sample ID#	Floor	Room	Canister ID#	Initial On-site Pressure*	Final On-Site Pressure*
6406-2248-OA-1	OA	—	4687/07056	-30	-5
6406-2248-IA-B	Basement	—	19625/05248	-30	-4.5

*Indicate pressure in units of inches of mercury.
Please provide a sketch of building and sample locations on the following page.

Was the building ventilated prior to sample collection? No

How long was the ventilation process? NA

Were vapor control methods in effect while the samples were being collected?

Windows open? Yes / (No) Ventilation fans? Yes / (No) Vapor barriers? Yes / (No)

Vapor phase carbon treatment system? Yes (No) SSDS? (Yes)/No Other site control measures

Weather Conditions during Sampling

Outside temperature (°F) High: 35 Low: 24 Inside temperature (°F) NA

Prevailing wind speed and direction 7 NW

Describe the general weather conditions (e.g. sunny, cloudy, rain) light rain, then cloudy

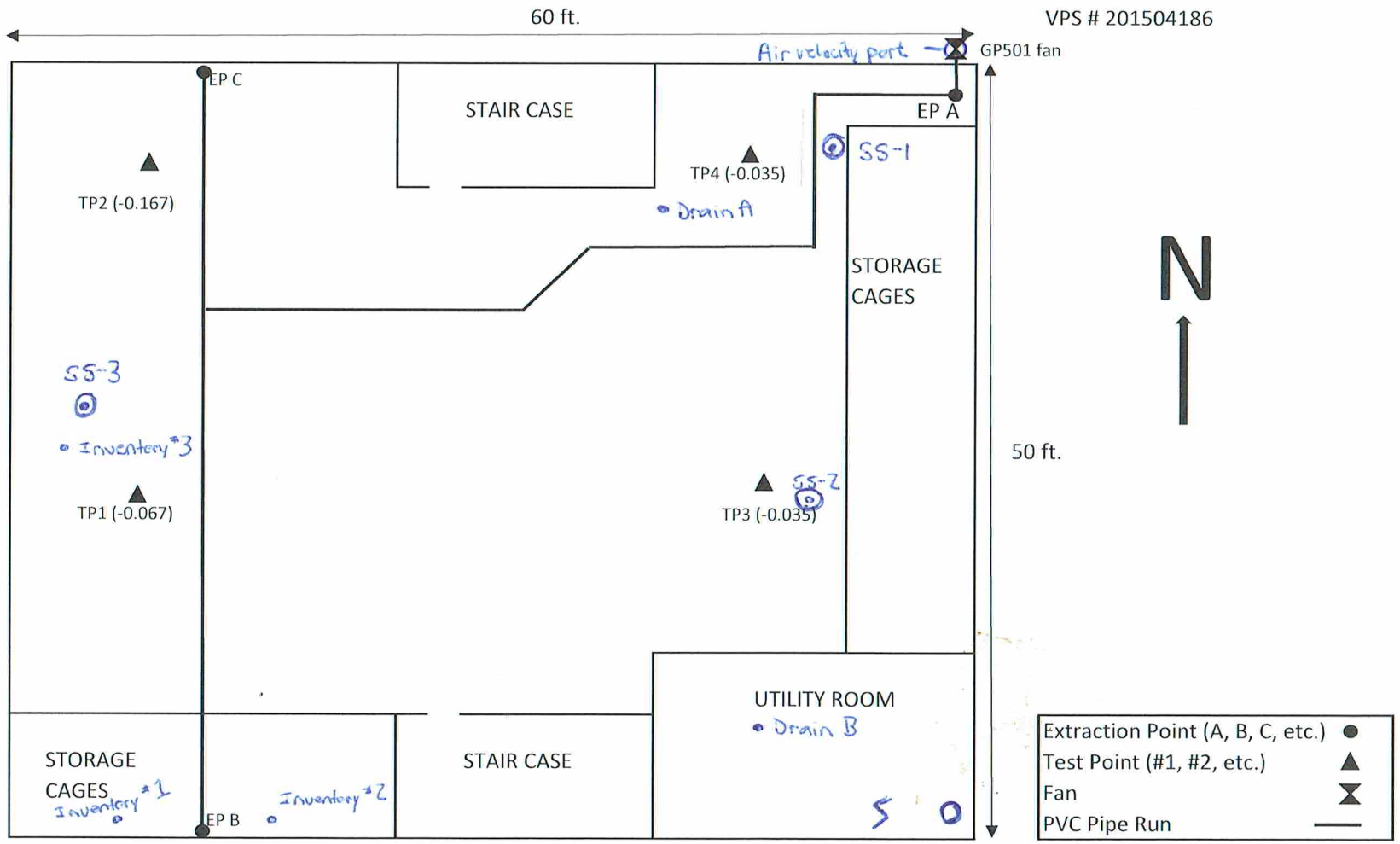
Significant precipitation (1 inches or more) within 72 hours of the sampling event? No

Figure 1
System Layout

VAPOR PROTECTION SERVICES®

Prepared for: EnviroForensics
Kyle Heimstead & Wayne Fassbender
Site: 2248 S. 108th St.
W. Allis, WI 53227

VPS # 201504186



ENVIRO forensics

Indoor Air Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NAME	OHM - Lincoln	**SAMPLE DATE**	4/6/2016
LOCATION/ADDRESS	2248 S. 108th St	**SAMPLE ID**	6406-2248-OA-1
PROJECT NO.	6406	**SAMPLE TIME**	
CLIENT/CONTACT	Brian Cass	**CANISTER ID**	[redacted] 4687/07256
DATA COLLECTION: START DATE	4/6/2016	**END DATE**	4/6/2016

Time	Vaccum Reading	Wind Direction	Wind Speed	Temperature	Barometer	Relative Humidity
hh:mm	In. of H2O		mph	°F	Hg	%
0653	-30	NW	7	24°	NA	71
1458	-5	NW	7	35°	NA	71

Notes:

ENVIRO forensics

Indoor Air Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NAME	OHM - Lincoln	SAMPLE DATE	4/6/2016
LOCATION/ADDRESS	2248 S. 108th St	SAMPLE ID	6406-2248-IA-B
PROJECT NO.	6406	SAMPLE TIME	
CLIENT/CONTACT	Brian Cass	CANISTER ID	1962[illegible] / 0[illegible]48
DATA COLLECTION: START DATE	4/6/2016	END DATE	4/6/2016

Time hh:mm	Vaccum Reading In. of H2O	Wind Direction	Wind Speed mph	Temperature °F	Barometer Hg	Relative Humidity %
0648	-30	NW	7	24°	NA	71
1456	-4.5	NW	7	35°	NA	71

Notes:

2262

ENVIROforensics

INDOOR AIR BUILDING SURVEY FORM

Date 4/5/16

Site # 6406

Site Name OHM- Lincoln

Address 2262 S. 108th St
West Allis, WI

Occupant Information

Owner Name Brian Cass

Occupant Name NA

Address 2262 S. 108th St
West Allis, WI

Telephone No (223) 521 9710 Home/Work/Mobile

( ) Home/Work/Mobile

Number and Age of Occupants NA

Does anyone smoke inside the building? Ø

Building Characteristics

Type of building: (circle) Residential/Industrial/School/Commercial/Multi-use/Other?

If residential, what type (circle) Single family/Condo/Multi-family/Other?

If the property is commercial, indicate the business ? Dry Cleaner

How many floors does the building have? 1

Does the building have a (circle) Basement/Crawl space/Slab-on-grade/Other?

Is the basement used as a living/work space area?

What type of foundation does the building have (circle) Field stone/Poured concrete/Concrete block Other?

Is there an attached garage? N

Is there a fuel tank?

Is there a wood stove? N

Is there a fireplace? N

ENVIRO forensics

Describe the heating system: (circle) Forced air furnace/ Boiler/ Window air conditioner/Other?_____

If forced air heating, answer the following questions:

Is there a fresh air exchange? If so, details: No

Are air ducts located within the crawl space of the property? NA

Are there additional vents within the property? (Non-powered vent/ bathroom vent/etc.) _____

Table 1: Potential vapor migration entry point information

Potential Vapor Entry Points	Present (Yes/No)	Field Screening Results (ppm)	Picture	Comments
Foundation penetrations in floor or walls	Y		Y	
Cracks in foundation floor or walls	Y		Y	
Sump	N	NA		
Floor drain	Y		Y	
Other crawl space	Y	0	Y	overhead ~ 15'
Other				

Sampling Information

Sample Date 4/6/16

Sampler Type Sorbent SUMMA Passive (Please circle one)

Analysis Method Mass APH TO-15Standard TO-15LL TO-15-SIM TO-17 Other: (Please circle one)

Contact Person (Project Manager) W. Fassbender

Telephone No (317) 972 7870

Laboratory Envision

Telephone No (317) 351 - 0885

ENVIROforensics

Table 2: Pre-Sampling Background Screening and Inspection Information

List products or items which may be considered potential sources of VOCs such as paint cans, gasoline cans, gasoline powered equipment, cleaning solvents, furniture polish, moth balls, etc.

Date and time of pre-sampling inspection 4/5/16 @ 1500

Sampling Inspection Product Inventory

Potential Source/ Trade Name	Location (Floor/Room)	Active/Main Ingredient	Picture	Removed (Y/N)
Wet System 206 Slow Hardener Pt 2.	work room	Polyoxypropylene diamine	Y	N
Novus 2 fine scratch remover	work room	unknown	Y	N
Wet System 105 Epoxy Resin	work room	Unknown	Y	N

ENVIROforensics

Sampling Information

Table 3: Sorbent Tube Sampler Information

Sample ID#	Floor	Room	Tube ID#	Pump ID#	Volume (liters)	Duration (minutes)	Comments

KV

Table 4: Canister Sampler Information

Sample ID#	Floor	Room	Canister ID#	Initial On-site Pressure*	Final On-Site Pressure*
6406-2262-IA-1	main	office	17896/05308	-28	-3

*Indicate pressure in units of inches of mercury.
Please provide a sketch of building and sample locations on the following page.

Was the building ventilated prior to sample collection? No

How long was the ventilation process? NA

Were vapor control methods in effect while the samples were being collected?

Windows open? Yes / (No) Ventilation fans? Yes / (No) Vapor barriers? Yes / (No)

Vapor phase carbon treatment system? Yes / (No) SSDS? (Yes) / No Other site control measures NA

Weather Conditions during Sampling

Outside temperature (°F) High: 35 Low: 24 Inside temperature (°F) NA

Prevailing wind speed and direction 7 NW

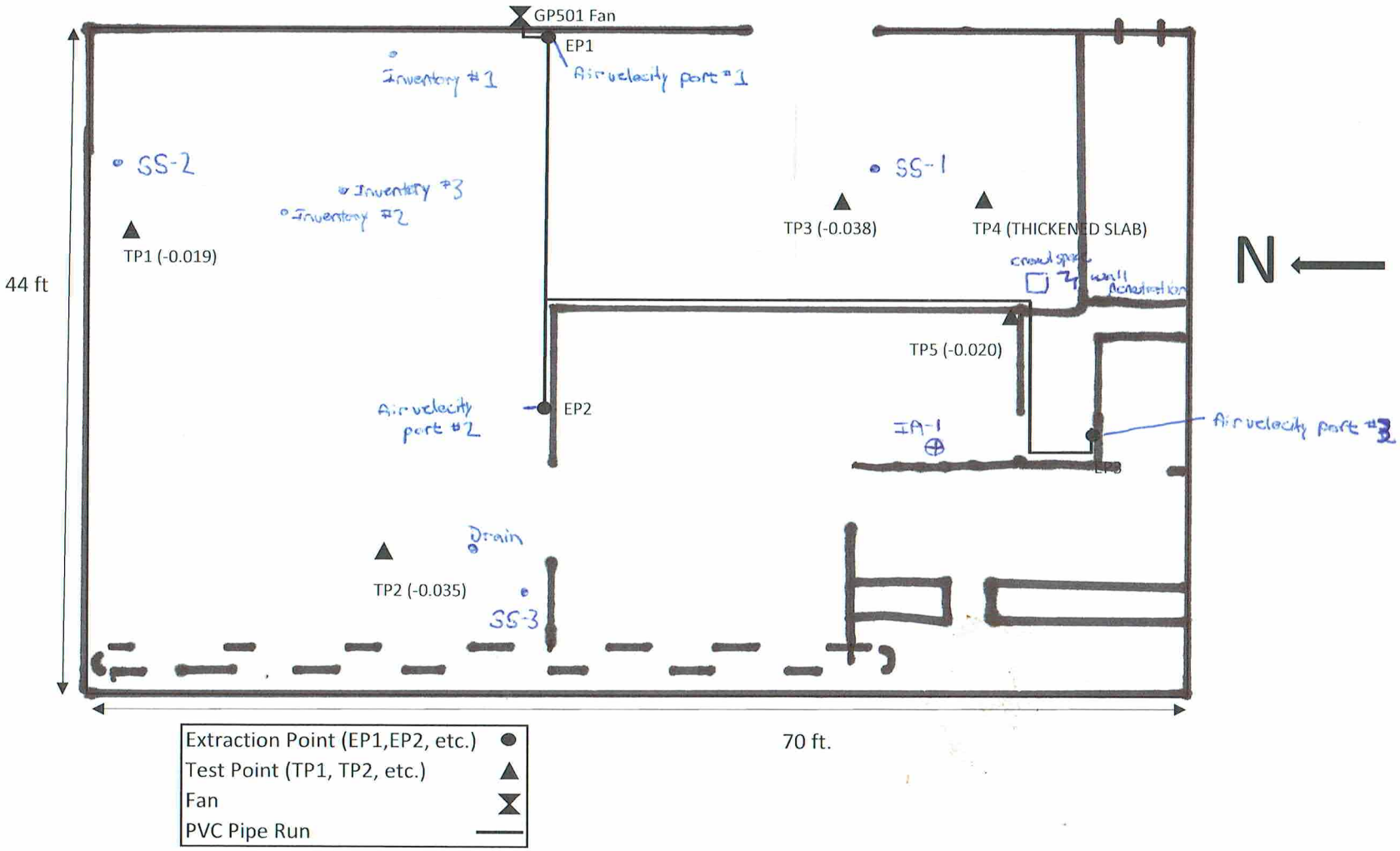
Describe the general weather conditions (e.g. sunny, cloudy, rain) light rain, then cloudy

Significant precipitation (1 inches or more) within 72 hours of the sampling event? No

Figure 2
System Layout

VAPOR PROTECTION SERVICES®

Prepared for: EnviroForensics
Kyle Heimstead & Wayne Fassbender
Site: 2262 S. 108th St.
West Allis, WI 53227
VPS # 201504186



ENVIRO forensics

Indoor Air Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NAME	OHM - Lincoln		SAMPLE DATE	4/6/2016
LOCATION/ADDRESS	2262 S. 108th St		SAMPLE ID	6406-2262-IA-1
PROJECT NO.	6406		SAMPLE TIME	
CLIENT/CONTACT	Brian Cass		CANISTER ID	17896 / 05308
DATA COLLECTION:	START DATE	4/6/2016	END DATE	4/6/2016

Time	Vaccum Reading	Wind Direction	Wind Speed	Temperature	Barometer	Relative Humidity
hh:mm	In. of H_2O		mph	°F	Hg	%
0657	-28	NW	7	24°	NA	71
1506	-3	NW	7	35°	NA	71

Notes:

ENVIRO forensics

9 AM

INDOOR AIR FOLLOW-UP SAMPLING SURVEY

Site # 6406 Date: 1-31-2017

Site Name OHM-Lincoln

Address 2262 S. 108th St.

West Allis, WI

Occupant Information

Name Peter Stefaniak

Address 2234 S. 108th St.

West Allis, WI

Telephone 414-881-8968 Home/~~Work~~/Mobile

_____ Home/Work/Mobile

Email _____

Preferred method of contact for reporting: _____

Have any conditions changed since our last visit (Occupants, household chemical usage, smoking, etc.)? Describe:
Woolite Fabric cleaner; Trim 847 Spray Adhesive; Layton Paint; Bleach; Touch of Glass - Glass Cleaner

Do you use any spot cleaners? NO

Have you had any items dry cleaned recently?

NO

Outdoor temperature: 26° Outdoor pressure: 29.64 in

Indoor temperature: 70° Indoor pressure: 29.64 in

Sketch sampling locations on back of page. Completed By: M.H.

Environmental Forensic Investigations, Inc.
825 North Capitol Avenue, Indianapolis, IN 46204
Phone: 317-972-7870 • Fax 317-972-7875

ENVIRO forensics

~9:10AM

INDOOR AIR BUILDING SURVEY FORM

Date 1-31-2017

Site # 6406

Site Name OHM-Lincoln

Address 2262 S. 108th St.

West Allis, WI

Occupant Information

Owner Name Thomas Wilkoski

Occupant Name

Address 2230 S. 108th St.

West Allis, WI

Telephone No (414) 322-0996 Home/Work/Mobile

( ) Home/Work/Mobile

Number and Age of Occupants

Does anyone smoke inside the building? NO

Building Characteristics

Type of building: (circle) Residential/Industrial/School/Commercial/Multi-use/Other? Commercial 1st Floor/Basement

If residential, what type (circle) Single family/Condo/Multi-family/Other? 2nd Floor

If the property is commercial, indicate the business ? Law office

How many floors does the building have? 2

Does the building have a (circle) Basement/Crawl space/Slab-on-grade/Other?

Is the basement used as a living/work space area? work/storage

What type of foundation does the building have (circle) Field stone/Poured concrete/Concrete block Other?

Is there an attached garage? NO Is there a fuel tank? NO

Is there a wood stove? NO Is there a fireplace? NO

ENVIROforensics

Describe the heating system: (circle) Forced air furnace/ Boiler/ Window air conditioner/Other?_____

If forced air heating, answer the following questions:

Is there a fresh air exchange? If so, details: _____

Are air ducts located within the crawl space of the property? NO

Are there additional vents within the property? (Non-powered vent/ bathroom vent/etc.) _____

Table 1: Potential vapor migration entry point information

Potential Vapor Entry Points	Present (Yes/No)	Field Screening Results (ppm)	Picture	Comments
Foundation penetrations in floor or walls	N			
Cracks in foundation floor or walls	N			
Sump	Y		Y	open to water
Floor drain	Y			
Other				
Other				

Sampling Information

Sample Date 1-31-2017

Sampler Type Sorbent (SUMMA) Passive (Please circle one)

Analysis Method Mass APH TO-15Standard TO-15LL TO-15-SIM TO-17 Other: (Please circle one)

Contact Person (Project Manager) Stan Hunnicut

Telephone No (317) 351-0885

Laboratory Envision Air

Telephone No (317) 351-8632

ENVIROforensics

Table 2: Pre-Sampling Background Screening and Inspection Information

List products or items which may be considered potential sources of VOCs such as paint cans, gasoline cans, gasoline powered equipment, cleaning solvents, furniture polish, moth balls, etc.

Date and time of pre-sampling inspection 1-31-2017

Sampling Inspection Product Inventory

Potential Source/ Trade Name	Location (Floor/Room)	Active/Main Ingredient	Picture	Removed (Y/N)
Final Answer carpet cleaner	Basement			
Pro plus drain opener	↓			
upolstery shampoo - Bissel				
Latex Paint				
All surface enamel				
Min wax stain Polyurethane	✓			
Ace blacktop concrete cleaner				
Steve Mason Master Mix				

ENVIRO forensics

Sampling Information

Table 3: Sorbent Tube Sampler Information

Sample ID#	Floor	Room	Tube ID#	Pump ID#	Volume (liters)	Duration (minutes)	Comments

Table 4: Canister Sampler Information

Sample ID#	Floor	Room	Canister ID#	Initial On-site Pressure*	Final On-Site Pressure*
6406-2230-IA-B	Basement	NW Br	11082	-29	-5
6406-OA-1	outside		16102	-29	-7
6406-2230-SSV-1			2211	-29	-2
6406-2230-SSV-2			83923	-29	-2

*Indicate pressure in units of inches of mercury.
Please provide a sketch of building and sample locations on the following page.

Was the building ventilated prior to sample collection? NO

How long was the ventilation process? N/A

Were vapor control methods in effect while the samples were being collected?

Windows open? Yes / (No) Ventilation fans? Yes / (No) Vapor barriers? Yes / (No)

Vapor phase carbon treatment system? Yes / (No) SSDS? Yes / (No) Other site control measures

Weather Conditions during Sampling

Outside temperature (°F) High: 35 Low: 26 Inside temperature (°F) 70

Prevailing wind speed and direction WNW

Describe the general weather conditions (e.g. sunny, cloudy, rain) Partly Cloudy

Significant precipitation (1 inches or more) within 72 hours of the sampling event? NO

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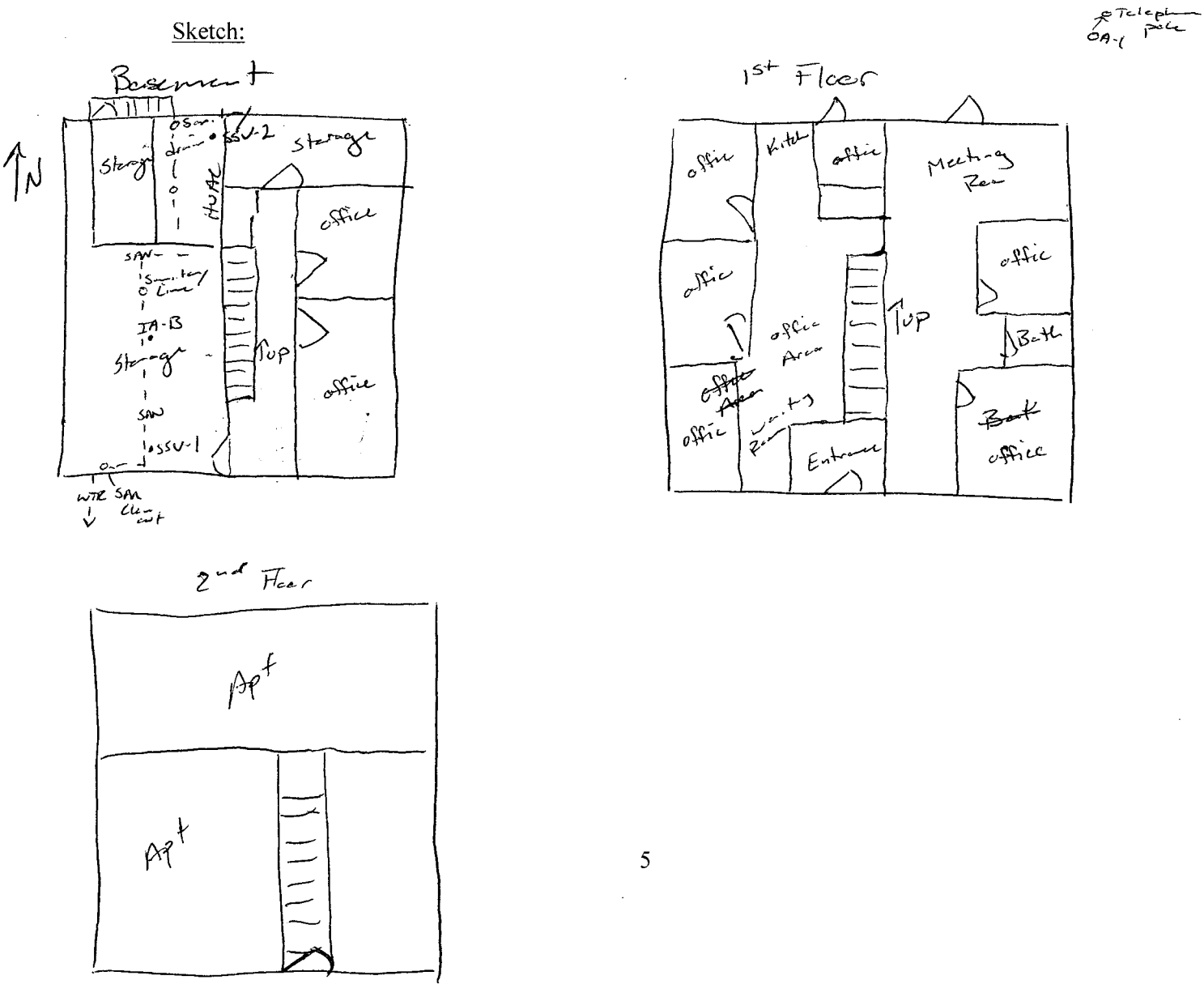
General Comments and Sketch Area

Is there any information you feel is important related to this site and the samples collected which would facilitate an accurate interpretation of the indoor air quality? Sketch floor plan, sample locations, location of background sources.

Comments: 2nd Floor Apt outline unknown

Sketch:



ENVIRO forensics

Indoor Air Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NO. 6406
PROJECT NAME OHM-Lincoln
SITE ADDRESS 2262 S. 108th, West Allis, WI
CLIENT/ CONTACT Brian Lass

SAMPLE ADDRESS 2230 S. 108th St. West Allis, WI
SAMPLE ID 6406-2230-IA-B
CANISTER ID 11082
FLOW CONTROLLER ID 05249

Date Start/End	Time	Vacuum Reading	Wind Direction	Wind Speed	Temperature	Barometric Pressure	Relative Humidity
mm/dd/yyyy	hh:mm	In. of Hg		mph	°F	In. of Hg	%
01-31-2017	09:15	-29	WNW	10-15	26	29.64	74
01-31-2017	1710	-5	W	5-10	33	29.78	70

Notes:

ENVIROforensics

Sub-Slab Vapor Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NO.	6406	SAMPLE ADDRESS	2230 S. 108th St. West Allis, WI
PROJECT NAME	OHM-Lincoln	SAMPLE ID	6406-2230-SSV-1
SITE ADDRESS	2262 S. 108th St, West Allis WI	CANISTER ID	2211
CLIENT/ CONTACT	Brian Cass	FLOW CONTROLLER ID	N/A

Date Start/End	Time	Vacuum Reading	Wind Direction	Wind Speed	Temperature	Barometric Pressure	Relative Humidity
mm/dd/yyyy	hh:mm	In. of Hg		mph	°F	In. of Hg	%
02/01/2017	1010	-29	W	5-10	30	30.02	69
02/01/2017	1015	-2					

Negative Pressure Test			Water Dam Leak Test		
Date/Time performed:	02/01/2017		Date/Time performed:	02/01/2017	
Negative pressure of at least -15 in. Hg induced on sampling train?	(yes)	no	Air bubbles observed?:	yes	(no)
Did pressure hold?	(yes)	no	Water level drop?:	yes	(no)
Sub-slab Vapor Pressure Reading			Water present in the tubing during purging?	yes	(no)
Date/Time performed:	02/01/2017	Pressure (in. H2O): 0	Water Dam Leak Test Passed:	(yes)	no

Notes:

W. Side basement storage

Slab 5" thick

ENVIRO forensics

Sub-Slab Vapor Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NO.	6406	SAMPLE ADDRESS	2230 S. 108th St. West Allis, WI
PROJECT NAME	OHM-Lincoln	SAMPLE ID	6406-2230-SSV-2
SITE ADDRESS	2262 S. 108th St, West Allis WI	CANISTER ID	83923
CLIENT/ CONTACT	Brian Cass	FLOW CONTROLLER ID	N/A

Date Start/End	Time	Vacuum Reading	Wind Direction	Wind Speed	Temperature	Barometric Pressure	Relative Humidity
mm/dd/yyyy	hh:mm	In. of Hg		mph	°F	In. of Hg	%
02/01/2017	10:25	-29	W	5-10	30	30.02	69
02/01/2017	10:27	-2					

Negative Pressure Test			Water Dam Leak Test		
Date/Time performed:	02/01/2017		Date/Time performed:	02/01/2017	
Negative pressure of at least -15 in. Hg induced on sampling train?	(yes)	no	Air bubbles observed?:	yes	(no)
Did pressure hold?	(yes)	no	Water level drop?:	yes	(no)
Sub-slab Vapor Pressure Reading			Water present in the tubing during purging?	yes	(no)
Date/Time performed: 02/01/2017	Pressure (in. H2O):	0	Water Dam Leak Test Passed:	(yes)	no

Notes:

- E side of basement, utility closet
- Slab ~3" thick

ENVIRO forensics

Indoor Air Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NO.	6406	SAMPLE ADDRESS	S. 108th St. West Allis, WI
PROJECT NAME	OHM - Lincoln	SAMPLE ID	6406 - OA - 1
SITE ADDRESS	2262 S. 108th, West Allis, WI	CANISTER ID	16102
CLIENT/ CONTACT	Brian Cass	FLOW CONTROLLER ID	03061

Date Start/End	Time	Vacuum Reading	Wind Direction	Wind Speed	Temperature	Barometric Pressure	Relative Humidity
mm/dd/yyyy	hh:mm	In. of Hg		mph	°F	In. of Hg	%
01-31-2017	0845	-29	WNW	10-15	26	29.64	74
01-31-2017	1645	-7	W	5-10	33	29.78	70

Notes:

ENVIRO forensics

Indoor Air Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NO.	6406	SAMPLE ADDRESS	2234 S. 108th St. West Allis, WI
PROJECT NAME	OHM-Lincoln	SAMPLE ID	6406-2234-IA-B
SITE ADDRESS	2262 S. 108th, West Allis, WI	CANISTER ID	91604
CLIENT/ CONTACT	Brian Lass	FLOW CONTROLLER ID	02225

Date Start/End	Time	Vacuum Reading	Wind Direction	Wind Speed	Temperature	Barometric Pressure	Relative Humidity
mm/dd/yyyy	hh:mm	In. of Hg		mph	°F	In. of Hg	%
1-31-2017	09:05	-29	WNW	10-15	26	29.64	74
1-31-2017	1700	-5	W	5-10	33	29.78	70

Notes:

ENVIROforensics

Sub-Slab Vapor Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NO.	6406	SAMPLE ADDRESS	2234 S. 108th St. West Allis, WI
PROJECT NAME	OHM-Lincoln	SAMPLE ID	6406-2234-SSV-1
SITE ADDRESS	2262 S. 108th St, West Allis WI	CANISTER ID	840415
CLIENT/ CONTACT	Brian Cass	FLOW CONTROLLER ID	N/A

Date Start/End	Time	Vacuum Reading	Wind Direction	Wind Speed	Temperature	Barometric Pressure	Relative Humidity
mm/dd/yyyy	hh:mm	In. of Hg		mph	°F	In. of Hg	%
02/01/2017	900	-29	W	5-10	30	30.02	69
02/01/2017	906	-2					

Negative Pressure Test			Water Dam Leak Test		
Date/Time performed:	02/01/2017		Date/Time performed:	02/01/2017	
Negative pressure of at least -15 in. Hg induced on sampling train?	(yes)	no	Air bubbles observed?:	yes	(no)
Did pressure hold?	(yes)	no	Water level drop?:	yes	(no)
Sub-slab Vapor Pressure Reading			Water present in the tubing during purging?	yes	(no)
Date/Time performed: 02/01/2017	Pressure (in. H2O):	0	Water Dam Leak Test Passed:	(yes)	no

Notes:

- East Side of Basement
- Lower Area; Central

ENVIRO forensics

Sub-Slab Vapor Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NO.	6406	SAMPLE ADDRESS	2234 S. 108th St. West Allis, WI
PROJECT NAME	OHM-Lincoln	SAMPLE ID	6406-2234-SSV-2
SITE ADDRESS	2262 S. 108th St, West Allis WI	CANISTER ID	2224
CLIENT/ CONTACT	Brian Cass	FLOW CONTROLLER ID	N/A

Date Start/End	Time	Vacuum Reading	Wind Direction	Wind Speed	Temperature	Barometric Pressure	Relative Humidity
mm/dd/yyyy	hh:mm	In. of Hg		mph	°F	In. of Hg	%
02/01/2017	9:15	-29	W	5-10	30	30.02	69
02/01/2017	9:20	-2					

Negative Pressure Test			Water Dam Leak Test		
Date/Time performed:	2/1/2017		Date/Time performed:	2/1/2017	
Negative pressure of at least -15 in. Hg induced on sampling train?	(yes)	no	Air bubbles observed?:	yes	(no)
Did pressure hold?	(yes)	no	Water level drop?:	yes	(no)
Sub-slab Vapor Pressure Reading			Water present in the tubing during purging?	yes	(no)
Date/Time performed: 2/1/2017	Pressure (in. H2O):	0	Water Dam Leak Test Passed:	(yes)	no

Notes:

- West side of basement
- Small storage Area

Figure 2
System Layout

VAPOR PROTECTION SERVICES®

Prepared for: EnviroForensics
Kyle Heimstead & Wayne Fassbender
Site: 2262 S. 108th St.
West Allis, WI 53227
VPS # 201504186

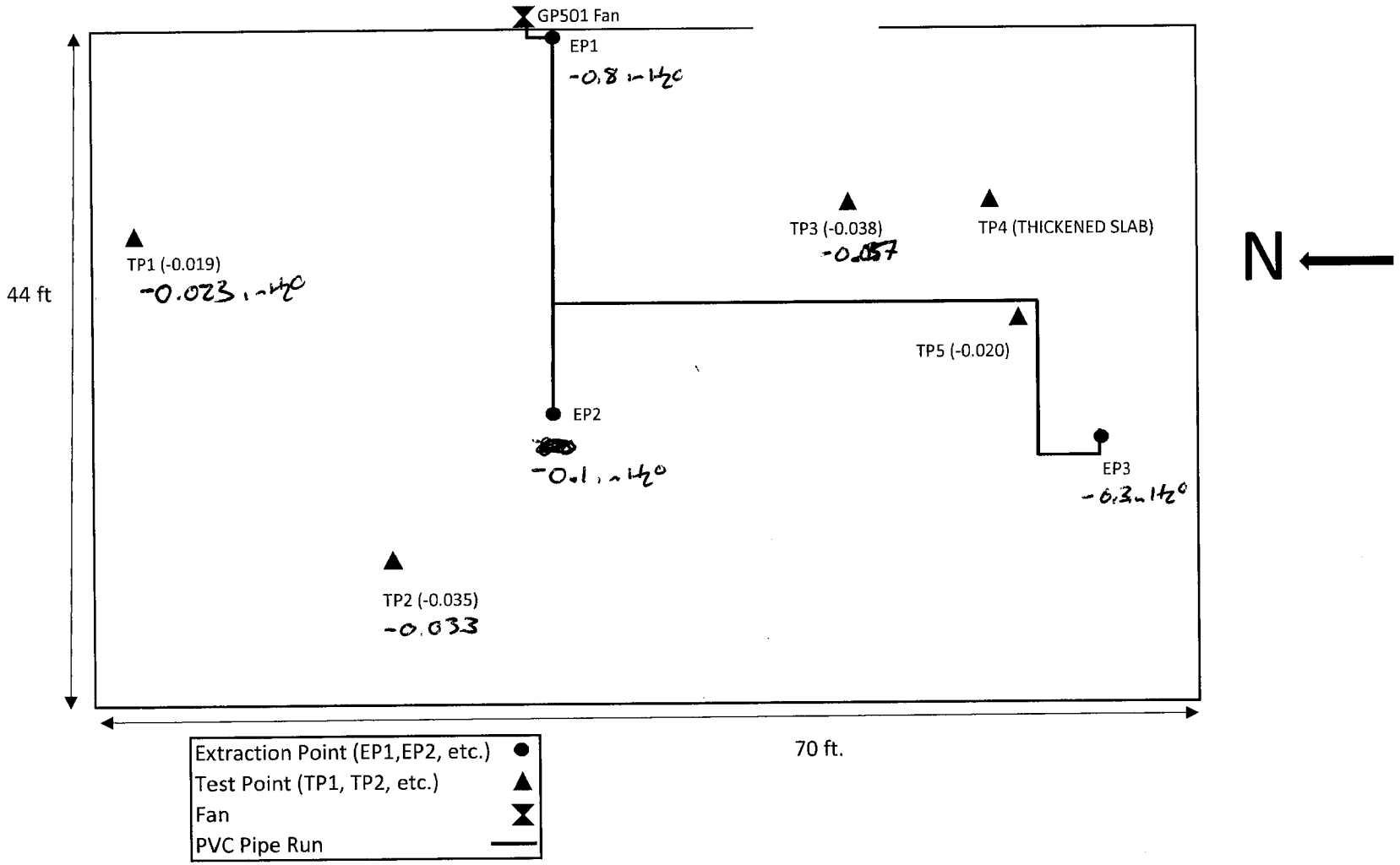
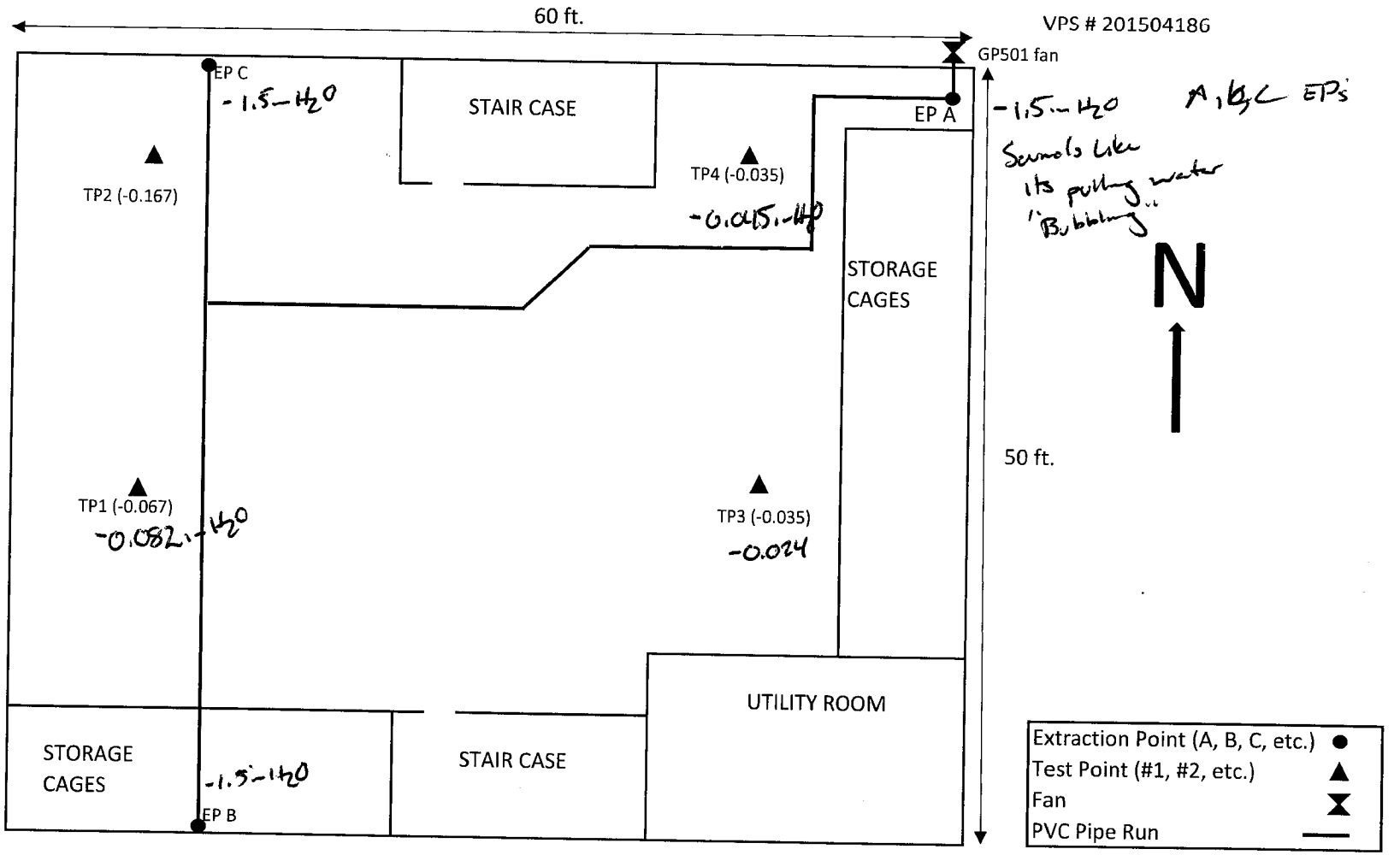


Figure 1
System Layout

VAPOR PROTECTION SERVICES®

Prepared for: EnviroForensics
Kyle Heimstead & Wayne Fassbender
Site: 2248 S. 108th St.
W. Allis, WI 53227

VPS # 201504186



ENVIRO forensics

Soil Gas Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NAME	OHM - Lincoln	SAMPLE DATE	07/28/2016
LOCATION/ADDRESS	2262 S. 108th St. West Allis WI	SAMPLE ID	6406 - SG - 1
PROJECT NO.	6406	SAMPLE TIME	
CLIENT/CONTACT	Brian Cass	CANISTER ID	84045
DATA COLLECTION: START DATE	07/28/2016	END DATE	07/28/2016

Time (hh:mm)	Vacuum Reading (In. of Hg)	Wind Direction	Wind Speed (mph)	Temperature (°F)	Barometer (Hg)	Relative Humidity (%)
955	-29.5	NE	5-10	72	29.95	78
1001	-2					

Helium Leak Test		Negative Pressure Test	
Date/Time performed:	07/28/2016	Date/Time performed:	07/28/2016
Background He concentration (ppm):	0	Negative pressure of at least -15 in. Hg induced on sampling train?	
Shroud He concentration (%):	52.7	(circle one):	(yes) no
Soil-gas He concentration (post helium insertion):	0	Did pressure hold?	(yes) no
Helium Leak Test Passed:	(yes) no		

Notes:

In front of 2234 S. 108th St.

At DP-1

ENVIRO forensics

Soil Gas Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NAME	OHM- Lincoln	SAMPLE DATE	07/28/2016
LOCATION/ADDRESS	7262 S. 108th St. West Allis WI	SAMPLE ID	6406-SG-2
PROJECT NO.	6406	SAMPLE TIME	
CLIENT/CONTACT	Brian Cass	CANISTER ID	85941
DATA COLLECTION: START DATE	07/28/2016	END DATE	07/28/2016

Time hh:mm	Vacuum Reading In. of Hg	Wind Direction	Wind Speed mph	Temperature °F	Barometer Hg	Relative Humidity %
1030	-29	NE	5-10	73	29.95	73
1035	-2					

Helium Leak Test		Negative Pressure Test	
Date/Time performed:	07/28/2016	Date/Time performed:	07/28/2016
Background He concentration (ppm):	0	Negative pressure of at least -15 in. Hg induced on sampling train?	
Shroud He concentration (%):	54.6	(circle one):	(yes) no
Soil-gas He concentration (post helium insertion):	0	Did pressure hold?	(yes) no
Helium Leak Test Passed:	(yes) no		

Notes:

In front of 7230 S. 108th St.

ENVIRO forensics

Sub-slab Vapor Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NAME	OHM - Lincoln	SAMPLE DATE	7/28/16
LOCATION/ADDRESS	2262 S. 108th St. West Allis WI	SAMPLE ID	6406-2234-SSV-1
PROJECT NO.	6406	SAMPLE TIME	
CLIENT/CONTACT	Brian Loss	CANISTER ID	83983
DATA COLLECTION: START DATE	7/28/16	END DATE	7/28/16

Time hh:mm	Vacuum Reading In. of Hg	Wind Direction	Wind Speed mph	Temperature °F	Barometer Hg	Relative Humidity %
1215	-29	NE	5-10	73	29.95	73
1221	-2					

Water Dam Leak Test			Negative Pressure Test		
Date/Time performed:	7/28/16		Date/Time performed:	7/28/16	
Air bubbles observed?:	yes	(no)	Negative pressure of at least -15 in. Hg induced on sampling train?	(yes)	no
Water level drop?:	yes	(no)	Did pressure hold?	(yes)	no
Water present in the tubing during purging?	yes	(no)	**Sub-slab Vapor Pressure Reading**		
Water Dam Leak Test Passed:	(yes)	no	Date/Time performed: 7/28/16	Pressure (in. H2O):	0

Notes:

- East Side of basement
- Lower area; Central

ENVIRO forensics

Sub-slab Vapor Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NAME	OHM - Lincoln	**SAMPLE DATE**	7/28/16
LOCATION/ADDRESS	2262 S. 108th St. West Allis WI	**SAMPLE ID**	6406-2234-SSV-2
PROJECT NO.	6406	**SAMPLE TIME**	
CLIENT/CONTACT	Brian Cass	**CANISTER ID**	83726
DATA COLLECTION: START DATE	7/28/16	**END DATE**	7/28/16

Time hh:mm	Vacuum Reading In. of Hg	Wind Direction	Wind Speed mph	Temperature °F	Barometer Hg	Relative Humidity %
1239	-29	NE	5-10	73	29.94	69
1240	-2					

Water Dam Leak Test			Negative Pressure Test		
Date/Time performed:	7/28/16		Date/Time performed:	7/28/16	
Air bubbles observed?:	yes	(no)	Negative pressure of at least -15 in. Hg induced on sampling train?	(yes)	no
Water level drop?:	yes	(no)	Did pressure hold?	(yes)	no
Water present in the tubing during purging?	yes	(no)	**Sub-slab Vapor Pressure Reading**		
Water Dam Leak Test Passed:	(yes)	no	Date/Time performed: 7/28/16	Pressure (in. H2O):	

Notes:

- West side of basement
- Small storage area

ENVIRO forensics

Indoor Air Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NO.	6406	SAMPLE ADDRESS	2262 S. 108th St., West Allis WI
PROJECT NAME	OHM - Lincoln	SAMPLE ID	6406 - 2262 - IA-1
SITE ADDRESS	2262 S. 108th St., West Allis WI	CANISTER ID	11072
CLIENT/ CONTACT	Brian Cass	FLOW CONTROLLER ID	05249

Date Start/End	Time	Vacuum Reading	Wind Direction	Wind Speed	Temperature	Barometric Pressure	Relative Humidity
mm/dd/yyyy	hh:mm	In. of Hg		mph	° F	In. of Hg	%
07/28/2016	08:00	-29	NE	5-10	69	29.95	88
07/28/2016	16:00	-8	NE	5-10	68	29.95	73

Notes:

ENVIRO forensics

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

Indoor Air Field Sampling Form

PROJECT NO.	6406	SAMPLE ADDRESS	2262 S. 108th St. West Allis WI
PROJECT NAME	OHM - Lincoln	SAMPLE ID	6406-OA-1
SITE ADDRESS	2262 S. 108th St. West Allis WI	CANISTER ID	19627
CLIENT/ CONTACT	Brian Lass	FLOW CONTROLLER ID	07310

Date Start/End	Time	Vacuum Reading	Wind Direction	Wind Speed	Temperature	Barometric Pressure	Relative Humidity
mm/dd/yyyy	hh:mm	In. of Hg		mph	°F	In. of Hg	%
07/28/2016	810	-29	NE	5-10	69	29.95	88
07/28/2016	1605	-6	NE	5-10	68	29.95	73

Notes:

ENVIRO forensics

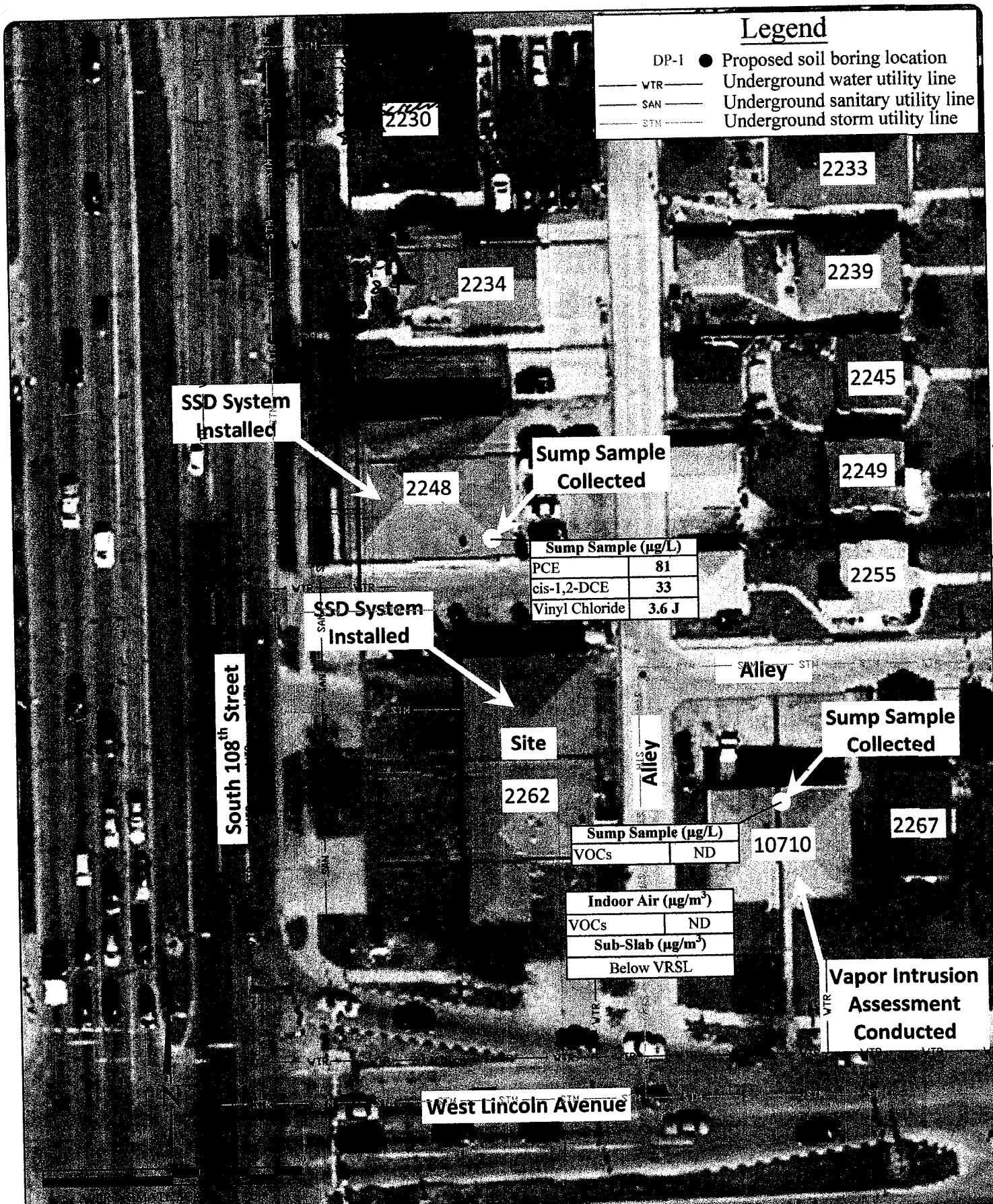
Indoor Air Field Sampling Form

602 N. Capitol Avenue, Ste. 210,
Indianapolis, IN 46204
T:317-972-7870 F: 317-972-7875

PROJECT NO.	6406	SAMPLE ADDRESS	2248 S. 108th St., West Allis, WI
PROJECT NAME	OHM - Lincoln	SAMPLE ID	6406 - 2248 - IA - B
SITE ADDRESS	2262 S. 108th St., West Allis	CANISTER ID	
CLIENT/ CONTACT	Brian Cass	FLOW CONTROLLER ID	

Date Start/End	Time	Vacuum Reading	Wind Direction	Wind Speed	Temperature	Barometric Pressure	Relative Humidity
mm/dd/yyyy	hh:mm	In. of Hg		mph	°F	In. of Hg	%
07/28/2016	850	-29	NE	5-10	71	29.95	83
07/28/2016	1645	-7	NE	5-10	68	29.95	73

Notes:



No.	Date	Revision	Approved

ENVIRO forensics
ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.
602 N. Capitol Ave, Suite 210 • Indianapolis, IN 46204
EnviroForensics.com

Date:	4/18/16
Designed:	EB
Drawn:	EB
Checked:	BK
DWG file:	6406-0152

PROPOSED SAMPLE LOCATIONS
OHM - Lincoln
2262 South 108th Street
West Allis, Wisconsin

Figure 1
Project 6406

ATTACHMENT 6

SSDS Operation, Maintenance, and Monitoring Plans

SUB SLAB DEPRESSURIZATION SYSTEM
OPERATIONS MAINTENANCE & MONITORING PLAN

August 15, 2016

Prepared For:

Frank Marinello
2248 South 108th Street
West Allis, WI 53227

Prepared By:

Environmental Forensic Investigations, Inc.
N16 W23390 Stone Ridge Drive, Suite G
Waukesha, WI 53188
Phone: (262) 290-4001
www.enviroforensics.com

Document: 6406-0207

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1.0 PURPOSE, LOCATION, AND DESCRIPTION

1.1 Purpose

Chlorinated solvents from a release at the nearby One Hour Martinizing dry cleaners have migrated to this property. Previous sub-slab vapor samples have contained the chlorinated solvents tetrachloroethene (PCE) and trichloroethene (TCE) in concentrations that pose a risk for intrusion of vapors to indoor air. Groundwater contaminated with chlorinated solvents is in contact with the building foundation, which is the likely source of the vapors. The Wisconisn Department of Natural Resources (WDNR) requires that vapor intrusion risks be mitigated. The most economical and effective way to mitigate these specific vapor intrusion risks is by installing a Sub-Slab Detection System (SSDS) which is relatively inexpensive to operate and actively removes sub-slab vapors. The purpose of this Operations Maintenance & Monitoring Plan (OM&MP) is to ensure the ongoing effectiveness of the SSDS to mitigate sub-slab vapors.

1.2 Location and Description

A sub-slab depressurization system (SSDS) was installed at the Marinello's building during September 8-11, 2015. The SSDS generally consists of three (3) extraction points connected via 4-inch PVC piping to a single fan capable of depressurizing the entire sub-slab space. The exhaust point for the fan is positioned above the roofline north of the building. The negative pressure removes any vapors that may accumulate beneath the slab and discharges them to the atmosphere above the roofline of the building. The SSDS is designed to operate continuously and there are devices installed to allow a visual determination of whether the system is operating.

2.0 SYSTEM DESIGN AND CONSTRUCTION DOCUMENTATION

EnviroForensics contracted Vapor Protection Services (VPS) of Indianapolis, Indiana to design and install the SSDS. VPS is a subcontractor certified by the National Environmental Health Association/National Radon Proficiency Program for radon mitigation and by the Center for Environmental Research and Technology for radon mitigation technology.

The system consists of one (1) fan mounted to the north side of the building and three (3) extraction points cored through the subslab floor. Extraction points were installed within each space by cutting away a section of the slab and removing a portion of the sub-slab materials to create a sump (hole in the soil below the slab) for inserting the extraction points. This was done to prevent fine soil particles from being vacuumed into the system. The extraction lines were connected by schedule 40 PVC piping to a RadonAway Model GP 501 extraction fan to create negative pressure below the slab and draw vapors into the extraction piping. A figure depicting the layout of the SSDS, including piping runs, extraction points, and fan location, is included in **Figure 1**.

Pressure field extension testing was conducted during and subsequent to installation of the SSDS. A total of five (5) test locations were drilled within the building. During the testing,

vacuum was applied at a selected extraction point while a manometer (pressure gauge) was placed at an opposite side to evaluate the negative pressure extension. Of the four (4) test points, all locations met or exceeded the performance criteria, which indicated that adequate depressurization of the slab was attained. The pressure test results are illustrated on a figure in the attached subcontractor installation report in **Attachment 1**.

Extraction piping was routed outside the buildings where vapors are discharged above the roofline and away from the buildings. Schematics of the SSDS are also presented in **Attachment 1**.

Initial commissioning of the system was performed during early April of 2016, and again in late July, 2016. Commissioning followed the general proposed procedures of the WDNR contained in **Attachment 2**, with the exception that only two sampling events were performed during the first year of operation instead of three. This change was approved by the WDNR.

3.0 OPERATION AND MAINTENANCE

3.1 System Maintenance

Routine maintenance needs to be performed according to the equipment manufacturers recommendations (see VPS's Installation Report **Attachment 1** pages 14 and 20). Upon discovery of a malfunction, system components should be repaired or replaced and documented on the Continuing Obligations Inspection and Maintenance Log Form 4400-305 contained in **Attachment 3**.

3.2 Inspections

Inspections will be perfomed annually. During annual routine inspections, sub-slab negative pressure will be measured, along with system vacuum and flow rate. Also, routine inspection of equipment performance will be made according to the operation and maintenance procedures outlined by VPS and RadonAway (see **Attachment 1** pages 14 and 20, respectively). All inspections will be documented on the Continuing Obligations Inspection and Maintenance Log Form 4400-305 (**Attachment 3**). WDNR guidance regarding the general timeline of pressure field extension measurements, vacuum measurement, inspection of system components and indoor air sampling from installation to decommissioning is contained in **Attachment 2.**

4.0 NOTIFICATIONS

4.1 WDNR Notification

In accordance with Wisconsin Administrative Code, NR 727.07, the WDNR will be notified at least 45 days before changes in land or property use or SSDS changes are required.

4.2 Contacts

Installer: Vapor Protection Services
Address: 6544 Ferguson St., Indianapolis, IN 46220
Telephone #: 317-252-5295

Consultant: Wayne Fassbender (EnviroForensics)
Address: N16 W23390 Stone Ridge Dr., Suite G, Waukesha, WI 53188
Telephone #: 317-972-7870
Email: WFassbender@enviroforensics.com

Wisconsin DNR Contact: John Hnat
Address: 2300 N Martin Luther King, Jr Drive, Milwaukee, WI 53212
Telephone #: (414)-263-8644
Email: John.Hnat@Wisconsin.gov

5.0 LOCATIONS MAP(S)

See **Figure 1** page 6.

6.0 PHOTOGRAPHS OF SUB-SLAB DEPRESSURIZATION SYSTEM

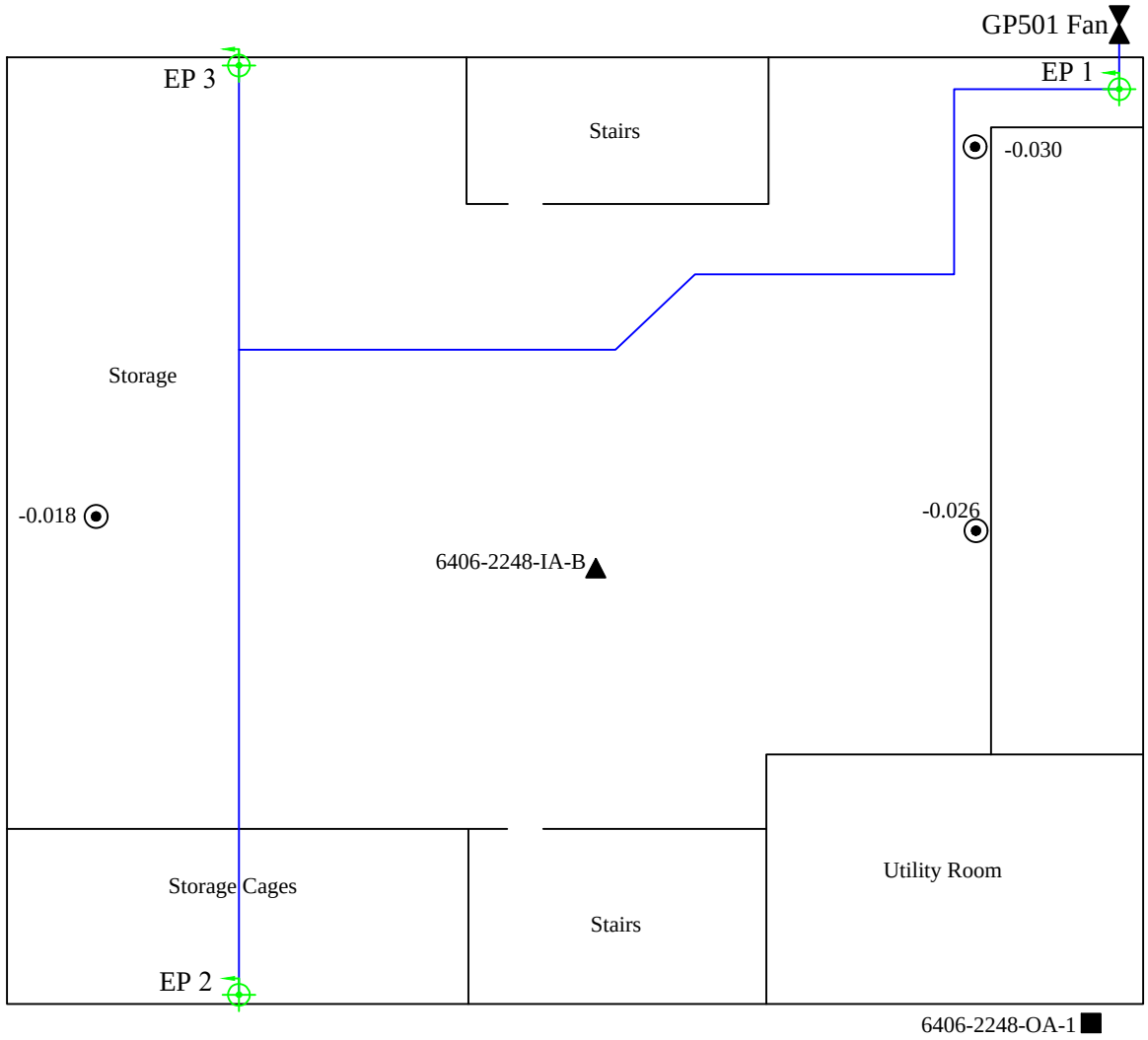
See **Attachment 1** pages 7-8.

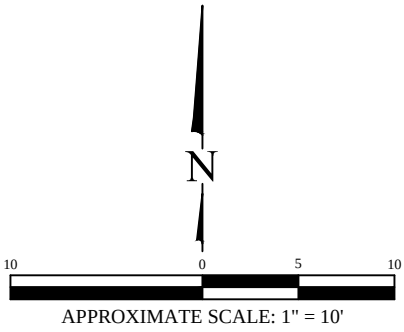
7.0 INSPECTIONS AND MAINTENANCE LOG

See **Attachment 2**.

Figure 1

Sub Slab Depressurization System Layout





APPROXIMATE SCALE: 1" = 10'

Legend

EP-1 Vapor extraction point Mitigation fan

Piping

Sub-slab negative pressure monitoring point (readings in H_2O)

OA-1 Outdoor air sample

IA-B Indoor air sample

No.	Date	Revision	Approved

ENVIRO forensics

ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.
602 N. Capitol Ave, Suite 210 • Indianapolis, IN 46204
EnviroForensics.com

Date:	5/12/16
Designed:	EB
Drawn:	EB
Checked:	KH
DWG file:	6406-0173

SUB SLAB DEPRESSURIZATION SYSTEM LAYOUT
Marinello Property
2248 South 108th Street
West Allis, Wisconsin

Figure	
1	
Project	
6406	

ATTACHMENT 1

Vapor Protection Services Installation Report

VAPOR PROTECTION SERVICES

TABLE OF CONTENTS

Prepared for: **Kyle Heimstead and**
Wayne Fassbender
EnviroForensics

Site: **2248 & 2262 South 108th St.**
West Allis, WI 53227

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VAPOR PROTECTION SERVICES

INSTALLATION REPORT

September 30, 2015

VPS Proposal No. 201504186
Sub-Slab Depressurization System (SSDS)
2248 & 2262 South 108th St.
West Allis, WI 53227

Mr. Kyle Heimstead
Mr. Wayne Fassbender
EnviroForensics
N16 W23390 Stone Ridge Drive, Suite G
Waukesha, WI 53188
(612) 210-3374

Vapor Mitigation System Installation Report
2248 South 108th St.
West Allis, WI 53227

Date of SSDS Installation: September 8-11, 2015

Vapor Protection Services (VPS) is pleased to provide a Vapor Mitigation System Installation Report that summarizes the scope of services performed at 2248 South 108th St. West Allis, WI 53227 (Site). The scope of services performed at the Sites is detailed in VPS Proposal No. 201504186 and is noted below.

Scope of Service at 2248 South 108th St.:

- VPS utilized a sub-slab depressurization system (SSDS) and RadonAway Models GP501 Fan to depressurize the soil beneath approximately 3000 square foot concrete slab to meet performance criteria.
- The SSDS utilizes (3) Extraction points, approximately 130' of 4 inch schedule 40 PVC piping, and (1) model GP501 with u-tube manometers.
- The fan was hardwired to a dedicated circuit breaker in an existing electrical panel with dedicated on/off switches located next to the mitigation fan.
- Run Time meter was installed.

Please Note:

- A figure depicting the SSDS layout is included as **Figure 1**
- Photos taken during the installation have been included as **Attachment 1**.
- VPS's radon mitigation certification is included as **Attachment 2**.
- VI Mitigation Installation Checklist is included as **Attachment 3**.
- O & M manual is included as **Attachment 4**.
- Annual Operating Costs is included as **Attachment 5**.
- RadonAway fan 5 year warranty is included as **Attachment 6.**
- MSDS sheet is included as **Attachment 7**.

Conclusion:

VPS submits this report as written and visual documentation that the contracted work scope for vapor mitigation as detailed in Proposal No. 201504186 was successfully completed to the approval of EnviroForensics at Site. Please do not hesitate to contact me with any questions you might have regarding this report.

Respectfully Submitted,

Nick Martinez
Director of Technical Services
nick@vaporprotection.com
Vapor Protection Services®
6544 Ferguson Street
Indianapolis, IN 46220
317.252.5295
www.vaporprotection.com
NRPP Certification #106792 RMT
Indiana Mitigator License #RTM 00633
Indianapolis Contractor License #0555673

Figure 1
System Layout

VAPOR PROTECTION SERVICES®

Prepared for: EnviroForensics
Kyle Heimstead & Wayne Fassbender
Site: 2248 S. 108th St.
W. Allis, WI 53227

VPS # 201504186

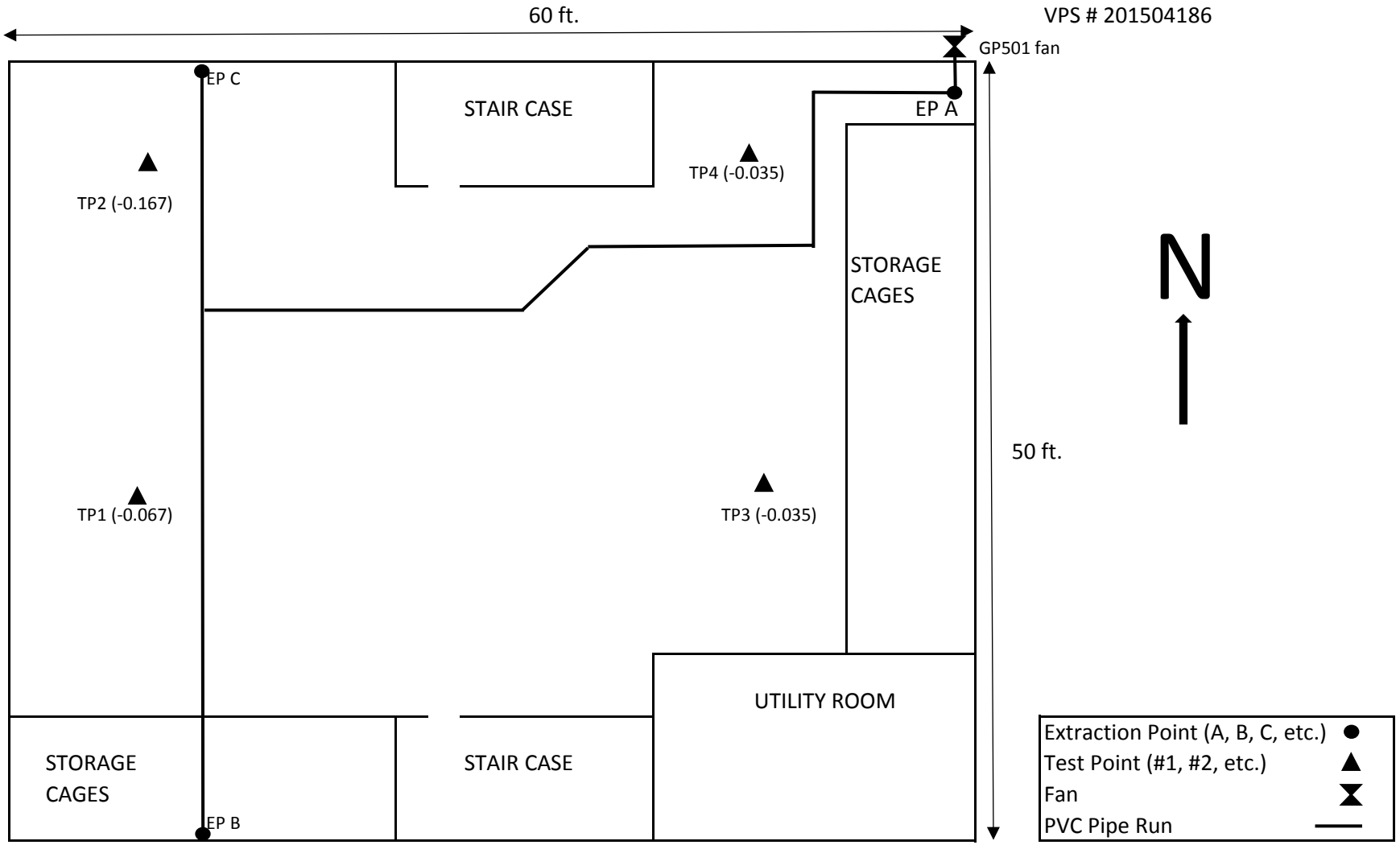


Figure 1
Pre-Install PFE Readings

Company: EnviroForensics
Contact Name: Kyle Heimstead/ Wayne Fassbender
Proposal #: 201504186

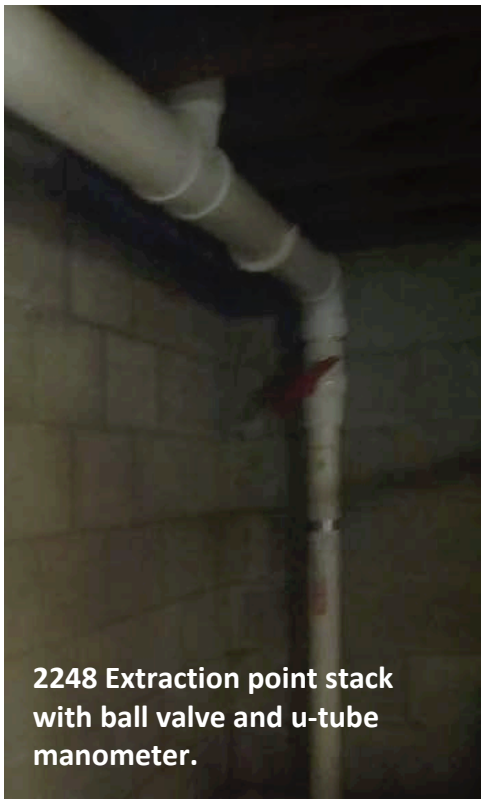
Pre-Install PFE Readings

Site Address: 2248 South 108th St., W. Allis, WI 53227

Test Point	Ext. Point A	Ext. Point B	Ext. Point C
TP 1	0.000	-0.049	-0.062
TP 2	-0.002	-0.008	-0.017
TP 3	-0.014	-0.010	-0.380
TP 4	-0.020	-0.004	-0.013

Attachment 1
Installation Photos

2248 S. Extraction Point
A location



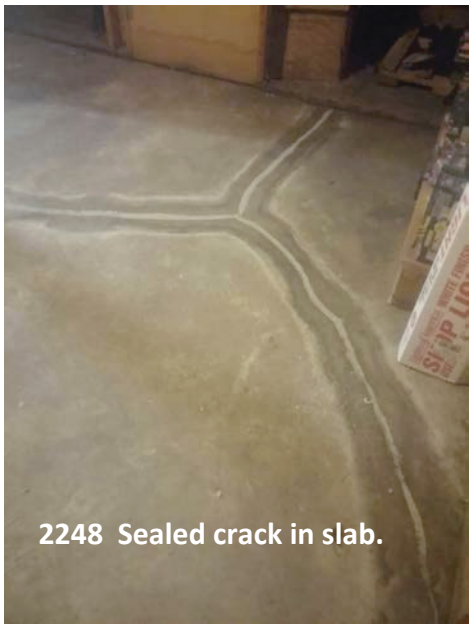
2248 Extraction point stack with ball valve and u-tube manometer.

2248 Extraction point stack with ball valve and u-tube manometer.

2248 Extraction point stack wth ball valve, u-tube manometer and horizontal pipe runs.

2248 Horizontal Pipe Runs

Attachment 1 (cont'd)
Installation Photos



Attachment 2
Mitigation Certifications

AARST

Nicolas Martinez

Has satisfactorily fulfilled the requirements set forth by the
National Radon Proficiency Program and is therefore certified as a:

Residential Measurement Provider

NRPP ID 107225 RT Expires 08/31/2017

NATIONAL RADON PROFICIENCY PROGRAM
AARST

Valid for specific activities or measurement devices, which can be verified with NRPP.
State and local agencies may have additional requirements.

In witness Whereof,
I have subscribed my name as a
Representative of NRPP

Janna M. Sinclair
NRPP Credentialing Coordinator

National Radon Proficiency Program

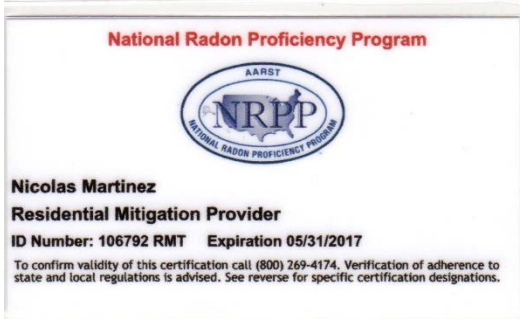
AARST NRPP NATIONAL RADON PROFICIENCY PROGRAM

Nicolas Martinez

Residential Measurement Provider

ID Number: 107225 RT Expiration 08/31/2017

To confirm validity of this certification call (800) 269-4174. Verification of adherence to state and local regulations is advised. See reverse for specific certification designations.



National Radon Proficiency Program

AARST NRPP NATIONAL RADON PROFICIENCY PROGRAM

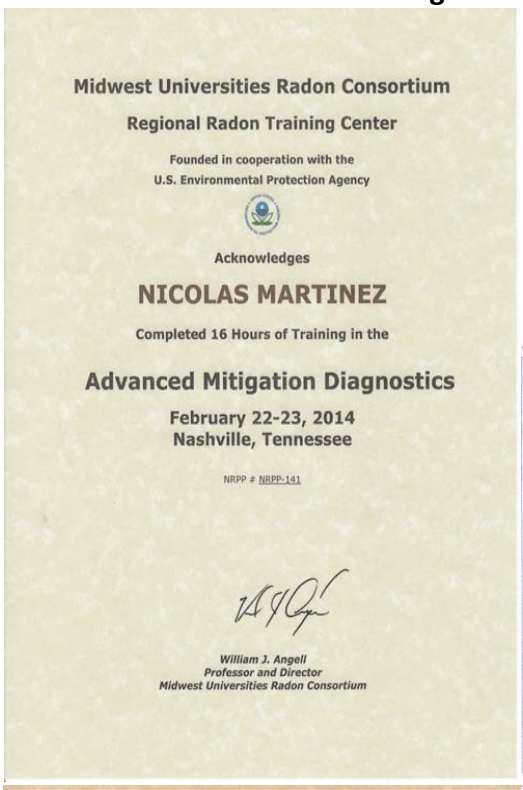
Nicolas Martinez

Residential Mitigation Provider

ID Number: 106792 RMT Expiration 05/31/2017

To confirm validity of this certification call (800) 269-4174. Verification of adherence to state and local regulations is advised. See reverse for specific certification designations.

Attachment 2 (cont'd)
Mitigation Certification



Midwest Universities Radon Consortium

Regional Radon Training Center

Founded in cooperation with the
U.S. Environmental Protection Agency

Acknowledges

NICOLAS MARTINEZ

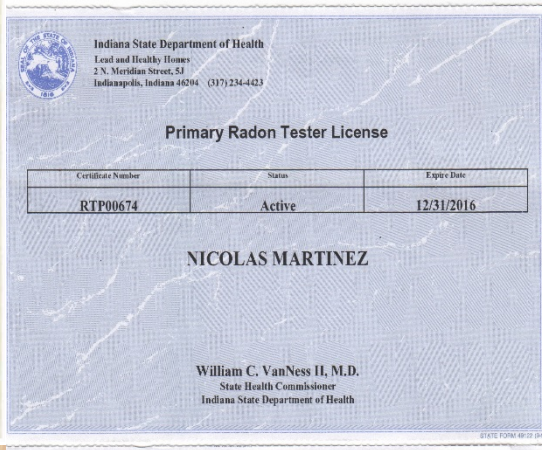
Completed 16 Hours of Training in the

Advanced Mitigation Diagnostics

February 22-23, 2014
Nashville, Tennessee

NRPP # NRPP-141

William J. Angell
Professor and Director
Midwest Universities Radon Consortium



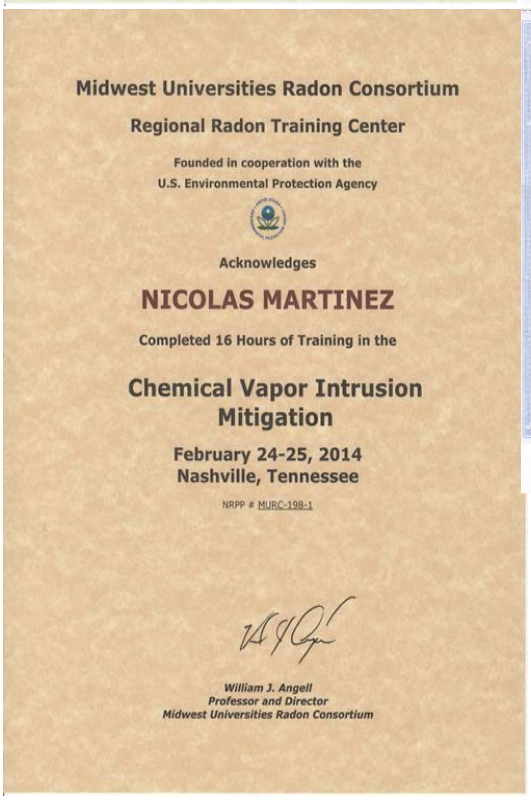
Indiana State Department of Health
Lead and Healthy Homes
2 N. Meridian Street, 5J
Indianapolis, Indiana 46204 (317) 234-1423

Primary Radon Tester License

Certificate Number	Status	Expire Date
RTP00674	Active	12/31/2016

NICOLAS MARTINEZ

William C. VanNess II, M.D.
State Health Commissioner
Indiana State Department of Health



Midwest Universities Radon Consortium

Regional Radon Training Center

Founded in cooperation with the
U.S. Environmental Protection Agency

Acknowledges

NICOLAS MARTINEZ

Completed 16 Hours of Training in the

Chemical Vapor Intrusion Mitigation

February 24-25, 2014
Nashville, Tennessee

NRPP # MURC-198-1

William J. Angell
Professor and Director
Midwest Universities Radon Consortium

Indiana State Department of Health
Lead and Healthy Homes
2 N. Meridian Street, 5J
Indianapolis, Indiana 46204 (317) 234-1423

Radon Mitigator License

Certificate Number	Status	Expire Date
RTM00633	Active	12/31/2015

NICOLAS MARTINEZ

Gregory N. Larkin
Gregory N. Larkin M.D. F.A.A.F.P.
State Health Commissioner
Indiana State Department of Health

Attachment 3
Installation checklist

VAPOR PROTECTION SERVICES®

Company:	**EnviroForensics**
Name:	**Kyle Heimstead**
Address:	**2248/2262 S.108th St.**
	West Allis, WI 53227
Proposal Number:	**201504186**
Date:	**9/8/15-9/11/15**
Fan Make/Model:	**GP501 (2)**

VI Mitigation Installation Checklist

Piping	**Yes**	**No**	**N/A**
Are all pipes solid schedule 40 PVC?	X		
Are all pipe connections permanently sealed?	X		
Are the system pipes supported by existing ductwork, piping, or any equipment?		X	
Do any of the system pipes obstruct windows, doors or service access points?		X	
Are horizontal pipe supports installed at 6- 4 foot increments?	X		
Are vertical pipe runs supported properly in accordance to building code?	X		
Extraction point vertical pipes supported and sealed permanently?	X		
Do Horizontal pipes slope toward extraction pits for condensate drainage?	X		
Are permanent test ports installed on extraction point suction pipes?		X	

Fans			
Is the fan level and properly supported to prevent unnecessary vibration?	X		
Does the fan have a condensate by-pass installed?	X		
Has the fan been mounted to piping using flexible connections?	X		
Is the exhaust vent pipe at least 10 feet above grade, 10 feet from any doors or windows, and 2 feet above the top of any opening into the conditioned space?	X		
If vent pipe exits through a roof penetration, does it extend at least 12 inches above the surface?			X
If vent pipe runs along the exterior wall, is it supported by brackets placed at least every 8 feet?	X		
Is the vent stack made of schedule 40 PVC piping?	X		

Vapor Barrier			
I crawl space(s) free or debris and obstruction that may prevent proper installation of vapor retarder or sub-slab depressurization system?			X
Has sub-membrane depressurization system been installed?			X
Was 6mil or thicker reinforced skrim used as the vapor retarder?			X
Are heavy traffic areas and/or storage areas protected from tears and punctures by carpet or heavy felt padding?			X
Are all membrane seams overlapped at least 12 inches and sealed properly?			X
Has the membrane been secured to walls with tape, furring strips, and/or caulk?			X
Has a perforated/slotted pipe been installed under the membrane and above the soil for proper de-pressurization?			X
Does suction pipe have permanent test port installed?			X
Are all utility, foundation, or other penetrations sealed properly?			X

Attachment 3 cont'd
Installation checklist

Electrical	**Yes**	**No**	**N/A**
Has electrical wiring/switching been performed by a licensed electrician?	X		
Is the fan's power supply shutoff switch mounted in a weather tight enclosure?	X		
Is the circuit breaker clearly labeled "Vapor Mitigation System"?	X		
Has a run-time meter been installed, and is it in a weather tight enclosure?	X		
Has a KW meter been installed?		X	

Sump Pit			
Is there a sump pit(s) in the basement or crawl space?	X		
Does sump pit have impermeable cover attached with proper sealant?	X		
Are sump lid penetrations properly sealed?	X		
Has sump pit been used as an extraction point?		X	
Does sump lid have a clear view port for pump/pit observation and maintenance?	X		

Labels and Monitors			
Does each suction pipe have a u-tube manometer or magnehelic gage to measure pressure?	X		
Does each suction pipe have a permanent test port?		X	
Has an audible alarm to inform of possible system malfunction been installed?		X	
Are labels placed on pipes, membrane(s), and prominent locations to identify system components?	X		
Does label include name and number of person(s) to contact in case of system emergency?	X		

Testing and Sealing			
Has PFE testing been completed to verify system performance?	X		
Has foundation been smoke tested after mitigation system installation?		X	
Have leaks in slab, walls or membrane been sealed properly?	X		

Report			
Has an as built drawing been completed depicting system installation?	X		
Have all test point reading been recorded and inserted into the drawing?	X		
Has the system installation been recorded with photographs?	X		

Notes:

Attachment 4
Vapor Mitigation System Operation and Maintenance

We advise consultants, maintenance personnel or property owners to conduct routine visual inspections of all SSDS to verify that vapor mitigation system components are operating properly. The inspection should include but not be limited to the following:

- Observe the u tube or magnehelic gauges for pressure indication; a pressure of '0' indicates that there is a problem with system piping or fan operation.

- Observe the mitigation fan(s) and note any abnormal sounds or noises coming from the fan including buzzing, scraping, rattling, or et cetera. If any abnormal noises or sounds are audible, contact VPS.

- Most mitigation fans are factory sealed and designed to be maintenance free for the life of the fan. Should the fan's casing be opened or the factory seal broken, any service warranty may be voided. Factory maintenance documentation has been provided to consultant with recommended schedule for maintenance of fans if required.

- Inspect the PVC piping of the system for damage or cracks. If any damage occurs to the PVC piping, contact VPS Piping supports and Hangers should also be inspected for wear and integrity.

- Roof penetrations for system exhaust piping should be inspected to assure no moisture or other intrusion is apparent.

- Sub-membrane depressurization system (SMDS) components should also be periodically inspected to assure proper performance. Should a vapor barrier or membrane become damaged, loss of system pressure can occur affecting overall system performance. Tears should be repaired properly using approved methods.

- Any significant changes to building or structure can and may affect system performance. VPS should be advised of planned changes beforehand to avoid any possible performance issues or system failure.

Contact VPS for Additional Service & Maintenance should any occasion arise that may causes concern that the SMDS is not functioning properly as vapor intrusion may no longer be mitigated to meet performance criteria provided to VPS by consultant.

Attachment 5
ANNUAL OPERATING COSTS

RADONAWAY FANS	AVERAGE KWH	AVERAGE COST PER YEAR
RP140	$0.0894	$13.31
RP145	$0.0894	$42.29
RP260	$0.0894	$48.55
RP265	$0.0894	$88.50
RP380	$0.0894	$101.03
SF180	$0.0894	$42.29
GP201	$0.0894	$39.16
GP301	$0.0894	$56.39
GP401	$0.0894	$66.57
GP500	$0.0894	$78.31
GP501	$0.0894	$82.23
XP151	$0.0894	$40.72
XP201	$0.0894	$43.07
XP261	$0.0894	$66.57
HS2000	$0.0894	$164.46
HS3000	$0.0894	$117.47
HS5000	$0.0894	$250.61
FANTECH FANS		
HP2133	$0.0894	$13.31
HP2190	$0.0894	$56.78
HP175	$0.0894	$42.68
HP190	$0.0894	$56.78
HP220	$0.0894	$92.80
PLASTEC VENTILATION		
STORM 12		$250.00
PLASTEC 20		$250.00

RadonAway™

The World's Leading Radon Fan Manufaturer



GP/XP/XR Series Installation & Operating Instructions

Please Read And Save These Instructions

DO NOT CONNECT POWER SUPPLY UNTIL FAN IS COMPLETELY INSTALLED. MAKE SURE ELECTRICAL SERVICE TO FAN IS LOCKED IN "OFF" POSITION. DISCONNECT POWER BEFORE SERVICING FAN.

1. **WARNING!** Do not use fan in hazardous environments where fan electrical system could provide ignition to combustible of flammable materials.
2. **WARNING!** Do not use fan to pump explosive or corrosive gases.
   See Vapor Intrusion Application Note #AN001 for important information on VI applications. RadonAway.com/vapor-intrusion
3. **WARNING!** Check voltage at the fan to insure it corresponds with nameplate.
4. **WARNING!** Normal operation of this device may affect the combustion airflow needed for safe operation of fuel burning equipment. Check for possible backdraft conditions on all combustion devices after installation.
5. **NOTICE!** There are no user serviceable parts located inside the fan unit.
   Do NOT attempt to open. Return unit to the factory for service.
6. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician.
7. **WARNING!** Do not leave fan unit installed on system piping without electrical power for more than 48 hours. Fan failure could result from this non-operational storage.
8. **WARNING - TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:**
   a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
   b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

RadonAway
3 Saber Way | Ward Hill, MA 01835
www.radonaway.com

RadonAway™

Installation & Operating Instructions IN014 Rev J

XP/XR Series		GP Series	
XP101	p/n 23008-1	GP201	p/n 23007-1
XP151	p/n 23010-1	GP301	p/n 23006-1
XP201	p/n 23011-1	GP401	p/n 23009-1
XR261	p/n 23019-1	GP501	p/n 23005-1

1.0 SYSTEM DESIGN CONSIDERATIONS

1.1 INTRODUCTION

The GP/XP/XR Series Radon Fans are intended for use by trained, professional, certified/licensed Radon mitigators. The purpose of this instruction is to provide additional guidance for the most effective use of a fan. This instruction should be considered as a supplement to EPA/radon industry standard practices, state and local building codes and state regulations. In the event of a conflict, those codes, practices and regulations take precedence over this instruction.

1.2 ENVIRONMENTALS

The GP/XP/XR Series Fans are designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the fan should be stored in an area where the temperature is never less than 32 degrees F. or more than 100 degrees F.

1.3 ACOUSTICS

The GP/XP/XR Series Fan, when installed properly, operates with little or no noticeable noise to the building occupants. The velocity of the outgoing air should be considered in the overall system design. In some cases the "rushing" sound of the outlet air may be disturbing. In these instances, the use of a RadonAway Exhaust Muffler is recommended.

1.4 GROUND WATER

In the event that a temporary high water table results in water at or above slab level, water may be drawn into the riser pipes thus blocking air flow to the GP/XP/XR Series Fan. The lack of cooling air may result in the fan cycling on and off as the internal temperature rises above the thermal cutoff and falls upon shutoff. Should this condition arise, it is recommended that the fan be turned off until the water recedes allowing for return to normal operation.

1.5 SLAB COVERAGE

The GP/XP/XR Series Fan can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the GP/XP/XR Series Fan best suited for the sub-slab material can improve the slab coverage. The GP & XP Series have a wide range of models to choose from to cover a wide range of subslab material. The higher static suction fans are generally used for tighter subslab materials. The XR Series is specifically designed for high flow applications such as stone/gravel and drain tile. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

1.6 CONDENSATION & DRAINAGE

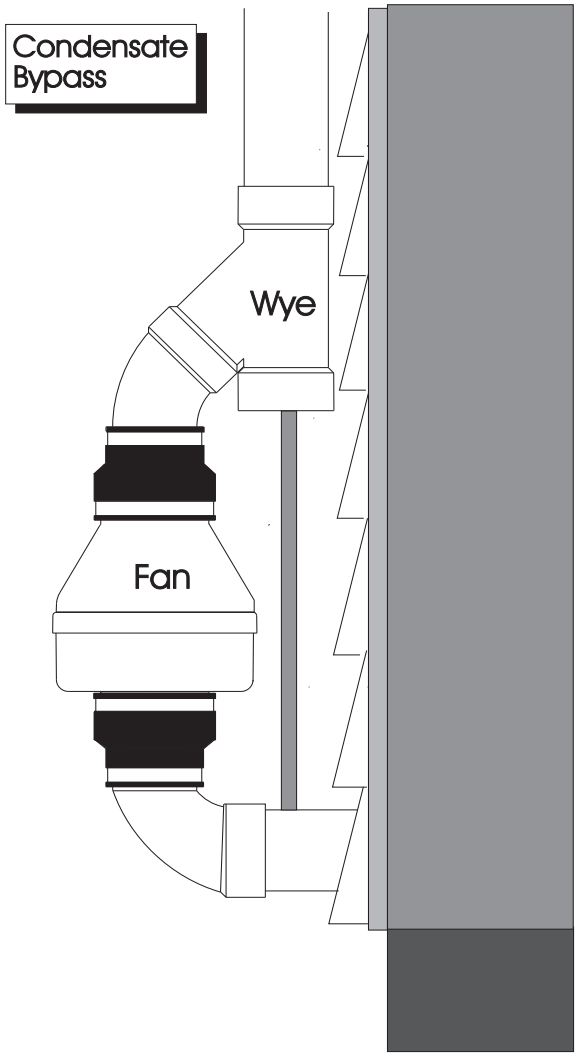
Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation. The GP/XP/XR Series Fan **MUST** be mounted vertically plumb and level, with the outlet pointing up for proper drainage through the fan. Avoid mounting the fan in any orientation that will allow water to accumulate inside the fan housing. The GP/XP/XR Series Fans are **NOT** suitable for underground burial.

For GP/XP/XR Series Fan piping, the following table provides the minimum recommended pipe diameter and pitch under several system conditions.

Pipe Dia.	Minimum Rise per Foot of Run* @25 CFM	@50 CFM	@100 CFM
4″	1/8″	1/4″	3/8″
3"	1/4"	3/8"	1 1/2"

*Typical GP/XP/XR Series Fan operational flow rate is 25 - 90 CFM.
(For more precision, determine flow rate by using the chart in the addendum.)

Under some circumstances in an outdoor installation a condensate bypass should be installed in the outlet ducting as shown. This may be particularly true in cold climate installations which require long lengths of outlet ducting or where the outlet ducting is likely to produce large amounts of condensation because of high soil moisture or outlet duct material. Schedule 20 piping and other thin-walled plastic ducting and Aluminum downspout will normally produce much more condensation than Schedule 40 piping.



The bypass is constructed with a 45 degree Wye fitting at the bottom of the outlet stack. The bottom of the Wye is capped and fitted with a tube that connects to the inlet piping or other drain. The condensation produced in the outlet stack is collected in the Wye fitting and drained through the bypass tube. The bypass tubing may be insulated to prevent freezing.

1.7 SYSTEM MONITOR & LABEL

A System Monitor, such as a manometer (P/N 50006-1) or audible alarm (P/N 28001-2) is required to notify the occupants of a fan system malfunction. A System Label (P/N 15022) with instructions for contacting the installing contractor for service and also identifying the necessity for regular radon tests to be conducted by the building occupants, must be conspicuously placed where the occupants frequent and can see the label.

1.8 ELECTRICAL WIRING

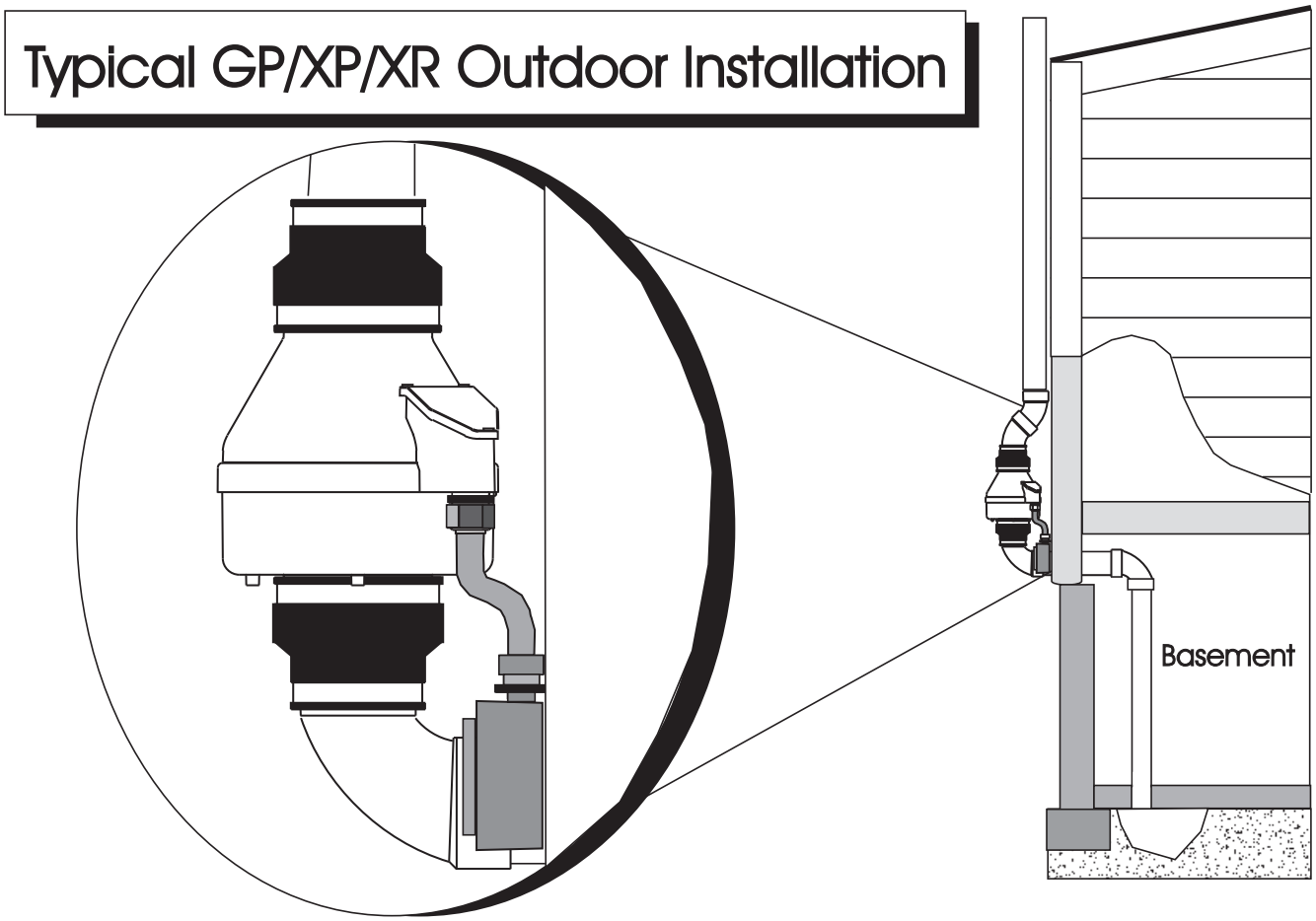
The GP/XP/XR Series Fans operate on standard 120V 60 Hz. AC. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a U.L. listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly sealed to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.

1.9 SPEED CONTROLS

The GP/XP/XR Series Fans are rated for use with electronic speed controls, however, they are generally not recommended. If used, the speed control recommended is Pass & Seymour Solid State Speed Control Cat. No. 94601-I.

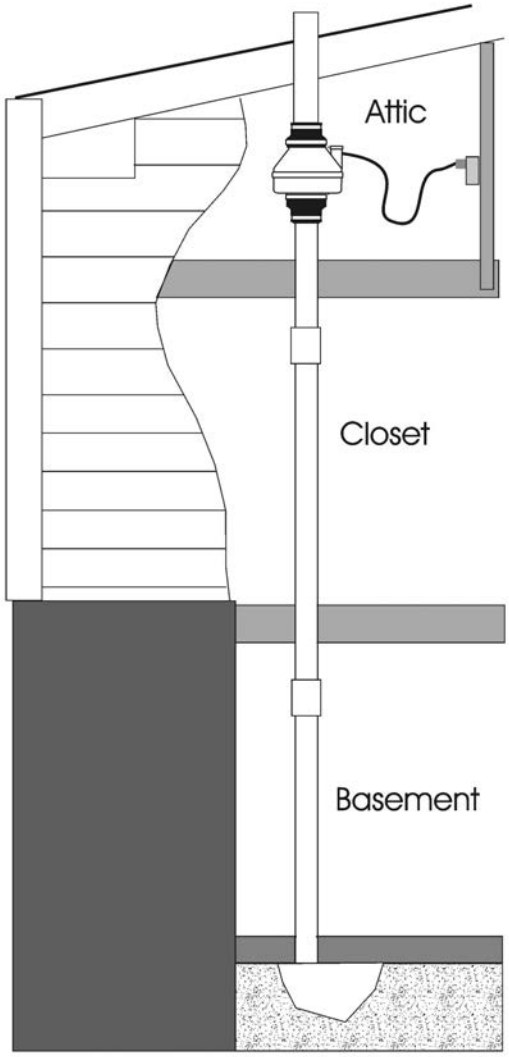
2.0 INSTALLATION

The GP/XP/XR Series Fan can be mounted indoors or outdoors. (It is suggested that EPA recommendations be followed in choosing the fan location.) The GP/XP/XR Series Fan may be mounted directly on the system piping or fastened to a supporting structure by means of optional mounting bracket.



2.1 MOUNTING

Mount the GP/XP/XR Series Fan vertically with outlet up. Insure the unit is plumb and level. When mounting directly on the system piping assure that the fan does not contact any building surface to avoid vibration noise.



2.2 MOUNTING BRACKET (optional)

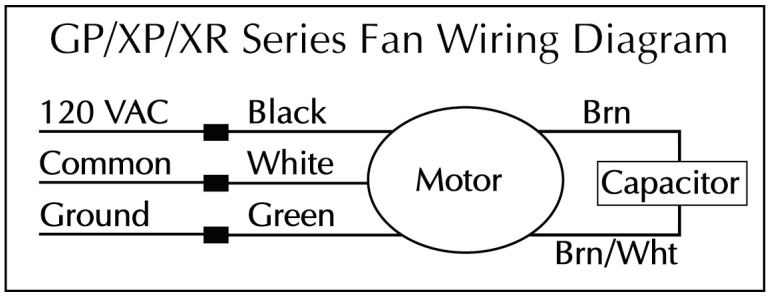
The GP/XP/XR Series Fan may be optionally secured with the integral mounting bracket on the GP Series fan or with RadonAway P/N 25007-2 mounting bracket for an XP/XR Series Fan. Foam or rubber grommets may also be used between the bracket and mounting surface for vibration isolation.

2.3 SYSTEM PIPING

Complete piping run, using flexible couplings as means of disconnect for servicing the unit and vibration isolation.

2.4 ELECTRICAL CONNECTION

Connect wiring with wire nuts provided, observing proper connections (See Section 1.8):



2.5 VENT MUFFLER (optional)

Install the muffler assembly in the selected location in the outlet ducting. Solvent weld all connections. The muffler is normally installed at the end of the vent pipe.

2.6 OPERATION CHECKS AND ANNUAL SYSTEM MAINTENANCE

_____ **Verify** all connections are tight and **leak-free**.

_____ **Insure** the GP/XP/XR Series Fan and all ducting is secure and vibration-free.

_____ **Verify** system vacuum pressure with manometer. **Insure** vacuum pressure is within normal operating range and **less than** the maximum recommended operating pressure.

(*Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 Feet.)*
(Further reduce Maximum Operating Pressure by 10% for High Temperature environments)
See Product Specifications. If this is exceeded, increase the number of suction points.

_____ **Verify Radon levels by testing to EPA protocol.**

XP/XR SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the XP & XR Series Fan:

Typical CFM Vs Static Suction "WC									
	0"	.25"	.5"	.75"	1.0"	1.25"	1.5"	1.75"	2.0"
XP101	125	118	90	56	5	-	-	-	-
XP151	180	162	140	117	78	46	10	-	-
XP201	150	130	110	93	74	57	38	20	-
XR261	250	215	185	150	115	80	50	20	-

Maximum Recommended Operating Pressure*		
XP101	0.9" W.C.	(Sea Level Operation)**
XP151	1.3" W.C.	(Sea Level Operation)**
XP201	1.7" W.C.	(Sea Level Operation)**
XR261	1.6" W.C.	(Sea Level Operation)**

**Reduce by 10% for High Temperature Operation*
***Reduce by 4% per 1000 feet of altitude*

Power Consumption @ 120 VAC	
XP101	40 - 49 watts
XP151	45 - 60 watts
XP201	45 - 66 watts
XR261	65 - 105 watts

XP Series Inlet/Outlet: 4.5" OD (4.0" PVC Sched 40 size compatible)
XR Series Inlet/Outlet: 5.875" OD
Mounting: Mount on the duct pipe or with optional mounting bracket.
Recommended ducting: 3" or 4" Schedule 20/40 PVC Pipe
Storage temperature range: 32 - 100 degrees F.
Normal operating temperature range: -20 - 120 degrees F.
Maximum inlet air temperature: 80 degrees F.
Size: 9.5H" x 8.5" Dia.
Weight: 6 lbs. (XR261 - 7 lbs)

Continuous Duty
Thermally Protected
Class B Insulation
3000 RPM
Rated for Indoor or Outdoor Use

LISTED Electric Fan ETL® 77728 Tested to UL Std. 507

GP SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the GP Series Fan:

Typical CFM Vs Static Suction "WC	1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"
GP501	95	87	80	70	57	30	5
GP401	93	82	60	38	12	-	-
GP301	92	77	45	10	-	-	-
GP201	82	58	5	-	-	-	-

Maximum Recommended Operating Pressure*		
GP501	3.8" W.C.	(Sea Level Operation)**
GP401	3.0" W.C.	(Sea Level Operation)**
GP301	2.4" W.C.	(Sea Level Operation)**
GP201	1.8" W.C.	(Sea Level Operation)**

**Reduce by 10% for High Temperature Operation*
***Reduce by 4% per 1000 feet of altitude*

Power Consumption @ 120 VAC	
GP501	70 - 140 watts
GP401	60 - 110 watts
GP301	55 - 90 watts
GP201	40 - 60 watts

Inlet/Outlet: 3.5" OD (3.0" PVC Sched 40 size compatible)

Mounting: Fan may be mounted on the duct pipe or with integral flanges.

Weight: 12 lbs.

Size: 13H" x 12.5" x 12.5"

Recommended ducting: 3″ or 4" Schedule 20/40 PVC Pipe

Storage temperature range: 32 - 100 degrees F.

Normal operating temperature range: -20 - 120 degrees F.

Maximum inlet air temperature: 80 degrees F.

Continuous Duty
Class B Insulation
3000 RPM
Thermally Protected
Rated for Indoor or Outdoor Use

LISTED Electric Fan ETL® 77728 Tested to UL Std. 507

Attachment 6 cont d
Fan Warranty
IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the GPx01/XP/XR Series Fan for shipping damage within 15 days of receipt. Notify RadonAway of any damages immediately. Radonaway is not responsible for damages incurred during shipping. However, for your benefit, Radonaway does insure shipments.

There are no user serviceable parts inside the fan. **Do not attempt to open.** Return unit to factory for service.

Install the GPx01/XP/XR Series Fan in accordance with all EPA standard practices, and state and local building codes and state regulations.

Provide a copy of this instruction or comparable radon system and testing information to the building occupants after completing system installation.

WARRANTY

Subject to any applicable consumer protection legislation, RadonAway warrants that the GPx01/XP/XR Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of 90 days from the date of purchase (the "Warranty Term").

RadonAway will replace any Fan which fails due to defects in materials or workmanship. The Fan must be returned (at Owner's cost) to the RadonAway factory. Any Fan returned to the factory will be discarded unless the Owner provides specific instructions along with the Fan when it is returned regardless of whether or not the Fan is actually replaced under this warranty. Proof of purchase must be supplied upon request for service under this Warranty.

This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the negligence of RadonAway.

5 YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION.

RadonAway will extend the Warranty Term of the fan to 5 years from date of manufacture if the Fan is installed in a professionally designed and professionally installed radon system or installed as a replacement fan in a professionally designed and professionally installed radon system. Proof of purchase and/or proof of professional installation may be required for service under this warranty. Outside the Continental United States and Canada the extended Warranty Term is limited to one (1) year from the date of manufacture.

RadonAway is not responsible for installation, removal or delivery costs associated with this Warranty.

EXCEPT AS STATED ABOVE, THE GPx01/XP/XR SERIES FANS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL RADONAWAY BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. RADONAWAY'S AGGREGATE LIABILITY HEREUNDER SHALL NOT IN ANY EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY'S WARRANTY AS PROVIDED ABOVE.

For service under this Warranty, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping cost to and from factory.

RadonAway
3 Saber Way
Ward Hill, MA 01835
TEL. (978) 521-3703
FAX (978) 521-3964

2 P501

2262 & 2248 S.108th St.
West Allis, WI.

Record the following information for your records:

Serial No. **2262 170417 2248 170418**
Purchase Date **2262 9 8 15 2248 - 9 10 15**

Material Name: OATEY PURPLE OR CLEAR PRIMER NSF LISTED

* * * Section 1 - Product and Company Identification * * *

MSDS #1402E

Part Numbers: Purple – 30755(TV), 30756(TV), 30757(TV), 30758, 30759, 30927 Clear - 30749, 30750, 30751, 30752, 30753, 30754, 31652, 31653

Manufacturer Information

Oatey Co.
4700 West 160th Street
Cleveland, OH 44135

Phone: 216-267-7100

For Emergency First Aid call 1-877-740-5015. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1- 703-527-3887.

* * * Section 2 - Hazards Identification * * *

GHS Classification:

Flammable Liquids - Category 2
Acute Toxicity Oral - Category 4
Acute Toxicity Dermal - Category 4
Acute Toxicity Inhalation - Category 4
Eye Damage/Irritation - Category 2A
Carcinogenicity - Category 2
Specific Target Organ Toxicity Single Exposure - Category 3

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor.
Harmful if swallowed.
Harmful in contact with skin.
Harmful if inhaled.
Causes serious eye irritation.
Contains a chemical classified by the US EPA as a suspected possible carcinogen.
May cause respiratory irritation.
May cause drowsiness or dizziness.

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames and hot surfaces. - No smoking.
Keep container tightly closed.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/eye protection/face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing fume/gas/mist/vapors.
Use only outdoors or in a well-ventilated area.

Response

If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
If swallowed: Call a poison center or doctor/physician if you feel unwell. Rinse mouth. Do not induce vomiting.
If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
If exposed or concerned: Get medical advice/attention.
In case of fire: Use dry chemical, CO2, or foam to extinguish fire.

Storage

Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
78-93-3	Methyl ethyl ketone	25-40
67-64-1	Acetone	25-40
108-94-1	Cyclohexanone	15-30
109-99-9	Tetrahydrofuran	15-30

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.

First Aid: Skin

Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with hand cleaner or baby oil.

First Aid: Ingestion

DO NOT INDUCE VOMITING. Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

First Aid: Inhalation

If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.
Highly flammable liquid and vapor. Keep away from heat and all sources of ignition including sparks, flames, lighted cigarettes and pilot lights. Containers may rupture or explode in the heat of a fire. Vapors are heavier than air and may travel to a remote ignition source and flash back. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

Hazardous Combustion Products

Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

Extinguishing Media

Use dry chemical, CO2, or foam to extinguish fire. Cool fire exposed container with water. Water may be ineffective as an extinguishing agent.

Unsuitable Extinguishing Media

None.

Fire Fighting Equipment/Instructions

Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Stop leak if it can be done without risk.

Materials and Methods for Clean-Up

Remove all sources of ignition and ventilate area. Soak up spill with an inert absorbent such as sand, earth or other noncombusting material. Put absorbent material in covered, labeled metal containers.

Emergency Measures

Isolate area. Keep unnecessary personnel away.

Personal Precautions and Protective Equipment

Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high.

Environmental Precautions

Prevent liquid from entering watercourses, sewers and natural waterways.

Prevention of Secondary Hazards

None

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use. "Empty" containers retain product residue and can be hazardous. Follow all SDS precautions in handling empty containers. Do not cut or weld on or near empty or full containers.

Storage Procedures

Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.

Incompatibilities

Oxidizing agents, alkalis, amines, ammonia, acids, chlorine compounds, chlorinated inorganics (potassium, calcium and sodium hypochlorite) and hydrogen peroxides. May attack plastic, resins and rubber.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Component Exposure Limits

Acetone (67-64-1)

ACGIH: 500 ppm TWA
750 ppm STEL
OSHA: 1000 ppm TWA; 2400 mg/m3 TWA
NIOSH: 250 ppm TWA; 590 mg/m3 TWA

Methyl ethyl ketone (78-93-3)

ACGIH: 200 ppm TWA
300 ppm STEL
OSHA: 200 ppm TWA; 590 mg/m3 TWA
NIOSH: 200 ppm TWA; 590 mg/m3 TWA
300 ppm STEL; 885 mg/m3 STEL

Cyclohexanone (108-94-1)

ACGIH: 20 ppm TWA
50 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 50 ppm TWA; 200 mg/m3 TWA
NIOSH: 25 ppm TWA; 100 mg/m3 TWA
Potential for dermal absorption

Tetrahydrofuran (109-99-9)

ACGIH: 50 ppm TWA
100 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 200 ppm TWA; 590 mg/m3 TWA
NIOSH: 200 ppm TWA; 590 mg/m3 TWA
250 ppm STEL; 735 mg/m3 STEL

Engineering Measures

Open doors & windows. Provide ventilation capable of maintaining emissions at the point of use below recommended exposure limits. If used in enclosed area, use exhaust fans. Exhaust fans should be explosion-proof or set up in a way that flammable concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.

Personal Protective Equipment: Respiratory

For operations where the exposure limit may be exceeded, a NIOSH approved organic vapor respirator or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration, select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

Personal Protective Equipment: Hands

Rubber gloves are suitable for normal use of the product. For long exposures chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.

Personal Protective Equipment: Eyes

Safety glasses with side shields or safety goggles.

Personal Protective Equipment: Skin and Body

No additional protective equipment needed.

* * * Section 9 - Physical & Chemical Properties * * *

Appearance:	Purple or clear	**Odor:**	Ether-like
Physical State:	Liquid	**pH:**	NA
Vapor Pressure:	145 mmHg @ 20°C	**Vapor Density:**	2.5
Boiling Point:	151°F (66°C)	**Melting Point:**	NA
Solubility (H2O):	Negligible	**Specific Gravity:**	0.84 +/- 0.02 @ 20°C
Evaporation Rate:	(BUAC = 1) = 5.5 - 8.0	**VOC:**	99.96%
Octanol/H2O Coeff.:	ND	**Flash Point:**	14-23°F (-10 to -5°C)
Flash Point Method:	CCCFP	**Upper Flammability Limit (UFL):**	11.8
Lower Flammability Limit (LFL):	1.8	**Burning Rate:**	ND
Auto Ignition:	ND		

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid heat, sparks, flames and other sources of ignition.

Incompatible Products

Oxidizing agents, alkalis, amines, ammonia, acids, chlorine compounds, chlorinated inorganics (potassium, calcium and sodium hypochlorite) and hydrogen peroxides. May attack plastic, resins and rubber.

Hazardous Decomposition Products

Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

Component Analysis - LD50/LC50

Acetone (67-64-1)
Oral LD50 Rat 5800 mg/kg

Methyl ethyl ketone (78-93-3)
Inhalation LC50 Mouse 32 g/m3 4 h; Oral LD50 Rat 2737 mg/kg; Dermal LD50 Rabbit 6480 mg/kg

Cyclohexanone (108-94-1)
Inhalation LC50 Rat 10.7 mg/L 4 h; Inhalation LC50 Rat 8000 ppm 4 h; Oral LD50 Rat 800 mg/kg; Dermal LD50 Rabbit 948 mg/kg

Tetrahydrofuran (109-99-9)
Inhalation LC50 Rat 53.9 mg/L 4 h; Inhalation LC50 Rat 180 mg/L 1 h; Oral LD50 Rat 1650 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

May cause irritation with redness, itching and pain. Methyl ethyl ketone and cyclohexanone may be absorbed through the skin causing effects similar to those listed under inhalation.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Vapors may cause irritation. Direct contact may cause irritation with redness, stinging and tearing of the eyes. May cause eye damage.

Potential Health Effects: Ingestion

Swallowing may cause abdominal pain, nausea, vomiting and diarrhea. Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.

Potential Health Effects: Inhalation

Vapors or mists may cause mucous membrane and respiratory irritation, coughing, headache, dizziness, dullness, nausea, shortness of breath and vomiting. High concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.

Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any skin sensitization effects.

Generative Cell Mutagenicity

Cyclohexanone has been positive in bacterial and mammalian assays. Acetone, methyl ethyl ketone and tetrahydrofuran are generally thought not to be mutagenic.

Carcinogenicity

A: General Product Information

In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

B: Component Carcinogenicity

Acetone (67-64-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Cyclohexanone (108-94-1)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC: Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))

Tetrahydrofuran (109-99-9)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

Reproductive Toxicity

Methyl ethyl ketone and cyclohexanone have been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone and tetrahydrofuran has been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.

Specified Target Organ General Toxicity: Single Exposure

May cause respiratory irritation. Inhalation of high concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.

Specified Target Organ General Toxicity: Repeated Exposure

This product is not reported to have any specific target organ toxicity repeat exposure effects.

Aspiration Respiratory Organs Hazard

Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

This product is not expected to be toxic to aquatic organisms.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Acetone (67-64-1)

Test & Species		Conditions
96 Hr LC50 Oncorhynchus mykiss	4.74 - 6.33 mL/L	
96 Hr LC50 Pimephales promelas	6210 - 8120 mg/L [static]	
96 Hr LC50 Lepomis macrochirus	8300 mg/L	
48 Hr EC50 Daphnia magna	10294 - 17704 mg/L [Static]	
48 Hr EC50 Daphnia magna	12600 - 12700 mg/L	

Methyl ethyl ketone (78-93-3)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	3130-3320 mg/L [flow-through]	
48 Hr EC50 Daphnia magna	>520 mg/L	
48 Hr EC50 Daphnia magna	5091 mg/L	
48 Hr EC50 Daphnia magna	4025 - 6440 mg/L [Static]	

Cyclohexanone (108-94-1)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	481-578 mg/L [flow-through]	
96 Hr LC50 Pimephales promelas	8.9 mg/L	
96 Hr EC50 Chlorella vulgaris	20 mg/L	
24 Hr EC50 Daphnia magna	800 mg/L	

Tetrahydrofuran (109-99-9)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	1970-2360 mg/L [flow-through]	
96 Hr LC50 Pimephales promelas	2700-3600 mg/L [static]	
24 Hr EC50 Daphnia magna	5930 mg/L	

Persistence/Degradability

No information available for the product.

Bioaccumulation

No information available for the product.

Mobility in Soil

No information available for the product.

* * * Section 13 - Disposal Considerations * * *

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 14 - Transportation Information * * *

DOT Information

For Greater than 1 liter (0.3 gal):
Shipping Name: Flammable Liquid, n.o.s (Methyl Ethyl Ketone, Acetone)
UN #: 1993 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): Flammable Liquid

For Less than 1 liter (0.3 gal):
Shipping Name: Consumer Commodity, ORM-D

IMDG Information

For Greater than 1 liter (0.3 gal):
Shipping Name: Flammable Liquid, n.o.s (Methyl Ethyl Ketone, Acetone)
UN #: 1993 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): Flammable Liquid

For Less than 1 liter (0.3 gal):
Shipping Name: Flammable Liquid, n.o.s (Limited Quantity)
UN #: 1993 **Hazard Class:** 3 **Packing Group:** II

Required Label(s): None (Limited Quantities are expected from labeling)

* * * Section 15 - Regulatory Information * * *

Regulatory Information

US Federal Regulations

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Acetone (67-64-1)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Methyl ethyl ketone (78-93-3)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Cyclohexanone (108-94-1)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Tetrahydrofuran (109-99-9)

CERCLA: 1000 lb final RQ; 454 kg final RQ

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Acetone	67-64-1	Yes	Yes	Yes	Yes	Yes	No
Methyl ethyl ketone	78-93-3	Yes	Yes	Yes	Yes	Yes	No
Cyclohexanone	108-94-1	Yes	Yes	Yes	Yes	Yes	No
Tetrahydrofuran	109-99-9	Yes	Yes	Yes	Yes	Yes	No

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Acetone	67-64-1	1 %
Methyl ethyl ketone	78-93-3	1 %
Cyclohexanone	108-94-1	0.1 %
Tetrahydrofuran	109-99-9	1 %

Additional Regulatory Information

A: General Product Information

This product contains trace amounts of chemicals known to the State of California to cause cancer. Under normal use conditions, exposure to these chemicals at levels above the State of California "No Significant Risk Level" (NSRL) are unlikely. The use of proper personal protective equipment (PPE) and ventilation guidelines noted in Section 8 will minimize exposure to these chemicals.

B: Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Acetone	67-64-1	Yes	DSL	EINECS
Methyl ethyl ketone	78-93-3	Yes	DSL	EINECS
Cyclohexanone	108-94-1	Yes	DSL	EINECS
Tetrahydrofuran	109-99-9	Yes	DSL	EINECS

* * * Section 16 - Other Information * * *

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References

None

Other Information

NFPA and HMIS:
NFPA Hazard Signal: Health: 2 Flammability: 3 Reactivity: 1 Special: None
HMIS Hazard Signal: Health: 2* Flammability: 3 Reactivity: 1 PPE: G

Disclaimer:
The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, we cannot give any guarantees regarding information from other sources, and expressly do not make warranties, nor assume any liability for its use.

End of Sheet

Material Name: OATEY PVC HEAVY DUTY CLEAR or GRAY CEMENT - LO-VOC FORMULA

* * * Section 1 - Product and Company Identification * * *

MSDS #1102E

Part Numbers: Clear 30850, 30863, 30876(TV), 30882, 31008(TV), 31011, 31950, 31951, 31952, 31953
Gray 30349, 31093, 31094, 31095, 31105, 31118, 31978, 31979, 31980, 31981, 32050, 32051, 32052, 32210, 32211

Manufacturer Information

Oatey Co.
4700 West 160th Street
Cleveland, OH 44135

Phone: 216-267-7100

For Emergency First Aid call 1-877-740-5015. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1- 703-527-3887.

* * * Section 2 - Hazards Identification * * *

GHS Classification:

Flammable Liquids - Category 2
Acute Toxicity Oral - Category 4
Acute Toxicity Dermal - Category 4
Acute Toxicity Inhalation - Category 4
Eye Damage/Irritation - Category 2A
Carcinogenicity - Category 2
Specific Target Organ Toxicity Single Exposure - Category 3

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor.
Harmful if swallowed.
Harmful in contact with skin.
Harmful if inhaled.
Causes serious eye irritation.
Contains a chemical classified by the US EPA as a suspected possible carcinogen.
May cause respiratory irritation.
May cause drowsiness or dizziness.

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames and hot surfaces. - No smoking.
Keep container tightly closed.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/eye protection/face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing fume/gas/mist/vapors.
Use only outdoors or in a well-ventilated area.

Response

If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
If swallowed: Call a poison center or doctor/physician if you feel unwell. Rinse mouth. Do not induce vomiting.
If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
If exposed or concerned: Get medical advice/attention.
In case of fire: Use dry chemical, CO2, or foam to extinguish fire.

Storage

Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
109-99-9	Tetrahydrofuran	40-60
108-94-1	Cyclohexanone	10-25
67-64-1	Acetone	10-25
9002-86-2	PVC (Chloroethylene, polymer)	12-20
78-93-3	Methyl ethyl ketone	5-15
112945-52-5	Silica, amorphous, fumed, crystalline-free	1-4

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.

First Aid: Skin

Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with hand cleaner or baby oil.

First Aid: Ingestion

DO NOT INDUCE VOMITING. Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

First Aid: Inhalation

If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.

Highly flammable liquid and vapor. Keep away from heat and all sources of ignition including sparks, flames, lighted cigarettes and pilot lights. Containers may rupture or explode in the heat of a fire. Vapors are heavier than air and may travel to a remote ignition source and flash back. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

Hazardous Combustion Products

Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

Extinguishing Media

Use dry chemical, CO2, or foam to extinguish fire. Cool fire exposed container with water. Water may be ineffective as an extinguishing agent.

Unsuitable Extinguishing Media

None.

Fire Fighting Equipment/Instructions

Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Stop leak if it can be done without risk.

Materials and Methods for Clean-Up

Remove all sources of ignition and ventilate area. Soak up spill with an inert absorbent such as sand, earth or other non-combusting material. Put absorbent material in covered, labeled metal containers.

Emergency Measures

Isolate area. Keep unnecessary personnel away.

Personal Precautions and Protective Equipment

Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high.

Environmental Precautions

Prevent liquid from entering watercourses, sewers and natural waterways.

Prevention of Secondary Hazards

None

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use. Other: "Empty" containers retain product residue and can be hazardous. Follow all SDS precautions in handling empty containers. Do not cut or weld on or near empty or full containers.

Storage Procedures

Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.

Incompatibilities

Oxidizing agents, alkalis, amines, ammonia, acids, chlorine compounds, chlorinated inorganics (potassium, calcium and sodium hypochlorite) and hydrogen peroxides. May attack plastic, resins and rubber.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Component Exposure Limits

Tetrahydrofuran (109-99-9)

ACGIH: 50 ppm TWA
100 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 200 ppm TWA; 590 mg/m3 TWA
NIOSH: 200 ppm TWA; 590 mg/m3 TWA
250 ppm STEL; 735 mg/m3 STEL

Cyclohexanone (108-94-1)

ACGIH: 20 ppm TWA
50 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 50 ppm TWA; 200 mg/m3 TWA
NIOSH: 25 ppm TWA; 100 mg/m3 TWA
Potential for dermal absorption

Acetone (67-64-1)

ACGIH: 500 ppm TWA
750 ppm STEL
OSHA: 1000 ppm TWA; 2400 mg/m3 TWA
NIOSH: 250 ppm TWA; 590 mg/m3 TWA

PVC (Chloroethylene, polymer) (9002-86-2)

ACGIH: 1 mg/m3 TWA (respirable fraction)

Methyl ethyl ketone (78-93-3)

ACGIH: 200 ppm TWA
300 ppm STEL
OSHA: 200 ppm TWA; 590 mg/m3 TWA
NIOSH: 200 ppm TWA; 590 mg/m3 TWA
300 ppm STEL; 885 mg/m3 STEL

Engineering Measures

Open doors & windows. Provide ventilation capable of maintaining emissions at the point of use below recommended exposure limits. If used in enclosed area, use exhaust fans. Exhaust fans should be explosion-proof or set up in a way that flammable concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.

Personal Protective Equipment: Respiratory

For operations where the exposure limit may be exceeded, a NIOSH approved organic vapor respirator or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration, select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

Personal Protective Equipment: Hands

Rubber gloves are suitable for normal use of the product. For long exposures chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.

Personal Protective Equipment: Eyes

Safety glasses with side shields or safety goggles.

Personal Protective Equipment: Skin and Body

No additional protective equipment needed.

* * * Section 9 - Physical & Chemical Properties * * *

Appearance:	Clear or Gray	**Odor:**	Ether-like
Physical State:	Liquid	**pH:**	NA
Vapor Pressure:	145 mmHg @ 20°C	**Vapor Density:**	2.5
Boiling Point:	151°F (66°C)	**Melting Point:**	NA
Solubility (H2O):	Negligible	**Specific Gravity:**	0.94 +/- 0.02 @ 20°C
Evaporation Rate:	(BUAC = 1) = 5.5 - 8.0	**VOC:**	80-84% Maximum 510 g/L per SCAQMD Test Method 316A.
Octanol/H2O Coeff.:	ND	**Flash Point:**	14-23°F (-10 to -5°C)
Flash Point Method:	CCCFP	**Upper Flammability Limit (UFL):**	11.8
Lower Flammability Limit (LFL):	1.8	**Burning Rate:**	ND
Auto Ignition:	ND		

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid heat, sparks, flames and other sources of ignition.

Incompatible Products

Oxidizing agents, alkalis, amines, ammonia, acids, chlorine compounds, chlorinated inorganics.

Hazardous Decomposition Products

Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

Component Analysis - LD50/LC50

Tetrahydrofuran (109-99-9)
Inhalation LC50 Rat 53.9 mg/L 4 h; Inhalation LC50 Rat 180 mg/L 1 h; Oral LD50 Rat 1650 mg/kg

Cyclohexanone (108-94-1)
Inhalation LC50 Rat 10.7 mg/L 4 h; Inhalation LC50 Rat 8000 ppm 4 h; Oral LD50 Rat 800 mg/kg; Dermal LD50 Rabbit 948 mg/kg

Acetone (67-64-1)
Oral LD50 Rat 5800 mg/kg

Methyl ethyl ketone (78-93-3)
Inhalation LC50 Mouse 32 g/m3 4 h; Oral LD50 Rat 2737 mg/kg; Dermal LD50 Rabbit 6480 mg/kg

Silica, amorphous, fumed, crystalline-free (112945-52-5)
Oral LD50 Rat 3160 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

May cause irritation with redness, itching and pain. Methyl ethyl ketone and cyclohexanone may be absorbed through the skin causing effects similar to those listed under inhalation.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Vapors may cause irritation. Direct contact may cause irritation with redness, stinging and tearing of the eyes. May cause eye damage.

Potential Health Effects: Ingestion

Swallowing may cause abdominal pain, nausea, vomiting and diarrhea. Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.

Potential Health Effects: Inhalation

Vapors or mists may cause mucous membrane and respiratory irritation, coughing, headache, dizziness, dullness, nausea, shortness of breath and vomiting. High concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.

Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any skin sensitization effects.

Generative Cell Mutagenicity

Cyclohexanone has been positive in bacterial and mammalian assays. Acetone, methyl ethyl ketone and tetrahydrofuran are generally thought not to be mutagenic.

Carcinogenicity

A: General Product Information

In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

B: Component Carcinogenicity

Tetrahydrofuran (109-99-9)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

Cyclohexanone (108-94-1)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC: Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))

Acetone (67-64-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

PVC (Chloroethylene, polymer) (9002-86-2)

ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))

Silica, amorphous, fumed, crystalline-free (112945-52-5)

IARC: Monograph 68 [1997] (listed under Amorphous silica) (Group 3 (not classifiable))

Reproductive Toxicity

Methyl ethyl ketone and cyclohexanone have been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone and tetrahydrofuran has been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.

Specified Target Organ General Toxicity: Single Exposure

May cause respiratory irritation. Inhalation of high concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.

Specified Target Organ General Toxicity: Repeated Exposure

This product is not reported to have any specific target organ toxicity repeat exposure effects.

Aspiration Respiratory Organs Hazard

Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

This product is not expected to be toxic to aquatic organisms.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Tetrahydrofuran (109-99-9)

Test & Species	Conditions

96 Hr LC50 Pimephales promelas	1970-2360 mg/L [flow-through]
96 Hr LC50 Pimephales promelas	2700-3600 mg/L [static]
24 Hr EC50 Daphnia magna	5930 mg/L

Cyclohexanone (108-94-1)

Test & Species	Conditions
96 Hr LC50 Pimephales promelas	481-578 mg/L [flow-through]
96 Hr LC50 Pimephales promelas	8.9 mg/L
96 Hr EC50 Chlorella vulgaris	20 mg/L
24 Hr EC50 Daphnia magna	800 mg/L

Acetone (67-64-1)

Test & Species	Conditions
96 Hr LC50 Oncorhynchus mykiss	4.74 - 6.33 mL/L
96 Hr LC50 Pimephales promelas	6210 - 8120 mg/L [static]
96 Hr LC50 Lepomis macrochirus	8300 mg/L
48 Hr EC50 Daphnia magna	10294 - 17704 mg/L [Static]
48 Hr EC50 Daphnia magna	12600 - 12700 mg/L

Methyl ethyl ketone (78-93-3)

Test & Species	Conditions
96 Hr LC50 Pimephales promelas	3130-3320 mg/L [flow-through]
48 Hr EC50 Daphnia magna	>520 mg/L
48 Hr EC50 Daphnia magna	5091 mg/L
48 Hr EC50 Daphnia magna	4025 - 6440 mg/L [Static]

Persistence/Degradability

No information available for the product.

Bioaccumulation

No information available for the product.

Mobility in Soil

No information available for the product.

* * * Section 13 - Disposal Considerations * * *

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

US EPA Waste Number & Descriptions

Component Waste Numbers

Tetrahydrofuran (109-99-9)
RCRA: waste number U213 (Ignitable waste)

Cyclohexanone (108-94-1)
RCRA: waste number U057 (Ignitable waste)

Acetone (67-64-1)
RCRA: waste number U002 (Ignitable waste)

Methyl ethyl ketone (78-93-3)
RCRA: waste number U159 (Ignitable waste, Toxic waste)
200.0 mg/L regulatory level

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 14 - Transportation Information * * *

DOT Information

For Greater than 1 liter (0.3 gal):
Shipping Name: Adhesives
UN #: 1133 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): Flammable Liquid

For Less than 1 liter (0.3 gal):
Shipping Name: Consumer Commodity, ORM-D

IMDG Information

For Greater than 1 liter (0.3 gal):
Shipping Name: Adhesives
UN #: 1133 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): Flammable Liquid

For Less than 1 liter (0.3 gal):
Shipping Name: Adhesives
UN #: 1133 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): None (Limited Quantites are expected from labeling)

* * * Section 15 - Regulatory Information * * *

Regulatory Information

US Federal Regulations

Material Name: OATEY PVC HEAVY DUTY CLEAR or GRAY CEMENT - LO-VOC FORMULA

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Tetrahydrofuran (109-99-9)

CERCLA: 1000 lb final RQ; 454 kg final RQ

Cyclohexanone (108-94-1)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Acetone (67-64-1)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Methyl ethyl ketone (78-93-3)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Tetrahydrofuran	109-99-9	Yes	Yes	Yes	Yes	Yes	No
Cyclohexanone	108-94-1	Yes	Yes	Yes	Yes	Yes	No
Acetone	67-64-1	Yes	Yes	Yes	Yes	Yes	No
PVC (Chloroethylene, polymer)	9002-86-2	No	No	No	Yes	No	No
Methyl ethyl ketone	78-93-3	Yes	Yes	Yes	Yes	Yes	No

This product contains trace amounts of chemicals known to the State of California to cause cancer. Under normal use conditions, exposure to these chemicals at levels above the State of California "No Significant Risk Level" (NSRL) are unlikely. The use of proper personal protective equipment (PPE) and ventilation guidelines noted in Section 8 will minimize exposure to these chemicals.

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Tetrahydrofuran	109-99-9	1 %
Cyclohexanone	108-94-1	0.1 %
Acetone	67-64-1	1 %
Methyl ethyl ketone	78-93-3	1 %

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Tetrahydrofuran	109-99-9	Yes	DSL	EINECS
Cyclohexanone	108-94-1	Yes	DSL	EINECS
Acetone	67-64-1	Yes	DSL	EINECS
PVC (Chloroethylene, polymer)	9002-86-2	Yes	DSL	ELINCS
Methyl ethyl ketone	78-93-3	Yes	DSL	EINECS
Silica, amorphous, fumed, crystalline-free	112945-52-5	No	DSL	No

* * * Section 16 - Other Information * * *

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References

None

Other Information

NFPA and HMIS:
NFPA Hazard Signal: Health: 2 Flammability: 3 Reactivity: 1 Special: None
HMIS Hazard Signal: Health: 2* Flammability: 3 Reactivity: 1 PPE: G

Disclaimer:
The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, we cannot give any guarantees regarding information from other sources, and expressly do not make warranties, nor assume any liability for its use.

End of Sheet

Attachment 7 cont d
S S Sheet

MATERIAL SAFETY DATA SHEET

Date Issued: 08/03/2007
MSDS No: 68101
Date Revised: 03/07/2008
Revision No: 2

3300 Colors

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3300 Colors

MANUFACTURER

Geocel Corporation
P.O. Box 398
Elkhart IN 46515-0398
Product Stewardship: 574-264-0645

24 HR. EMERGENCY TELEPHONE NUMBERS

ChemTel - 800-255-3924

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: This product is irritating to the eyes and skin. Thermal decomposition/burning may produce toxic gases and fume. Closed containers may rupture when exposed to high temperatures, or when the product has been contaminated with water.

Avoid breathing hot mists and vapors. This product contains a respiratory and skin sensitizer. Causes respiratory tract irritation and may cause allergic respiratory reaction. May cause permanent respiratory damage. Product vapors are potentially irritating to skin. May cause allergic skin reaction and dermatitis.

POTENTIAL HEALTH EFFECTS

EYES: This product may cause irritation to the eyes. May cause temporary corneal injury.

SKIN: Skin contact may cause irritation. Isocyanates may react with skin protein and moisture to cause itching, reddening, swelling, scaling or blistering. Individuals previously sensitized to this material may experience these sysptoms from exposure to very small amounts of liquid or vapor.

INGESTION: May cause irritation and corrosive action in the mouth, throat and digestive tract.

INHALATION: Single large does, and/or repeated exposures, may lead to sensitization to diisocyanates or polyisocyanates (asthma or asthma-like symptoms), causing an individual to experience adverse effects at exposure levels well below exposure limits or guidelines. Symptoms may include chest tightness, wheezing, shortness of breath, coughing or asthmatic attack, and may be delayed up to several hours. Extreme asthmatic reactions can be life threatening. Once sensitized, an individual may experience adverse symptoms upon exposure to dust, cold air or other irritants. Sensitization can last several months, years or be permanent in some cases.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Visual effects may include eye irritation, blurred vision, diplopia, changes in color perception, restricition of visual fields, and complete blindness.

SKIN: Irritation of the skin.

INGESTION: Diarrhea.

INHALATION: Irritation of upper respiratory tract, asthmatic symptoms, chest tightness, breathing difficulty, coughing, short throat.

TARGET ORGAN STATEMENT: The lungs and skin may be targeted and damaged by components of the product. Eyes.

HEALTH HAZARDS: This product contains Methylene Diphenyl Isocyanate (MDI) which is a potential skin sensitizer and has been shown to alter cells in certain experiments. Although inconclusive, these cellular changes are thought to indicate potential carcinogenicity. Risk to your health depends on duration and concentration of exposure.

COMMENTS: Signs and symptoms of overexposure to this product include headache, irritation of upper respiratory tract, asthmatic symptoms, chest tightness, breathing difficulty, coughing, dizziness, weakness, fatigue, eye irritation, skin irritation, diarrhea.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Attachment 7 cont d
S S Sheet

Chemical Name	Wt.%	CAS	EINECS
Xylenes (o-,m-,p- Isomers)	1 - 5	001330-20-7	215-535-7
Ethyl Benzene	0.5 - 1.5	000100-41-4	- -
Methylene Disphenyl Isocyanate	0.1 - 1	000101-68-8	202-966-0

4. FIRST AID MEASURES

EYES: Immediately flush with plenty of water for at least 15 minutes. Get medical attention or advice.

SKIN: Remove contaminated clothing to prevent further skin exposure and dispose of properly. In situations involving considerable skin contact, place the contaminated person in a deluge shower for at least 15 minutes. For minor exposures, wash thoroughly with soap and clean water. Get medical attention if irritation persists.

INGESTION: If ingested, get immediate medical attention. Do not induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to a victim who is unconscious or is having convulsions.

INHALATION: Remove to fresh air. Get medical attention immediately for a large dose exposure or if cough or other symptoms develop. Administer oxygen or artifical respiration as needed.

NOTES TO PHYSICIAN: Treat symptomatically and supportively.
Eyes: Stain for evidence of corneal injury. If cornea is burned, apply antibiotic/steroid preparation as needed.
Skin: This product contains a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.
Ingestion: Treat symptomatically.
Inhalation: This material contains a known pulmonary sensitizer.
Any individual experiencing dermal or pulmonary sensitization should be removed from exposure to any diisocyanate. May aggravate existing heart conditions, particularly those with abnormal heart rhythms. If overexposure to the solvents in this product is suspected, testing should include nervous system and brain effects including recent memory, mood, concentration, headaches and altered sleep patterns. Liver and kidney function should be evaluated. This material, if aspirated into the lungs, may cause chemical pneumonitis; treat the affected person appropriately.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: 74.4°C (166°F)

EXTINGUISHING MEDIA: Use dry chemical, carbon dioxide, or foam. Water spray (fog).

HAZARDOUS COMBUSTION PRODUCTS: Additional decomposition products include oxides of nitrogen, amines, hydrogen cyanide and isocyanate-containing compounds.

EXPLOSION HAZARDS: None known.

FIRE FIGHTING EQUIPMENT: Firefighters should wear full protective clothing including self contained breathing apparatus.

SENSITIVE TO STATIC DISCHARGE: Not known.

SENSITIVITY TO IMPACT: Not known.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Wearing the personal protective equipment designated in Section 8, carefully contain the spill and transfer to the appropriate container for disposal. Do not discharge to lakes, streams, ponds, or sewers. Dispose of in compliance with local, state, and federal regulations.

LARGE SPILL: Wearing the personal protective equipment designated in Section 8, carefully contain the spill and transfer to the appropriate container for disposal. Do not discharge to lakes, streams, ponds, or sewers. Dispose of in compliance with local, state, and federal regulations. Ventilate well while cleanup is in process and until fumes dissipate.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Isolate spill area. Stop discharge if safe to do so. Stop material from entering sewers or water streams. Scrape up polyurethane and deposit into appropriate containers.

LAND SPILL: Isolate spill area. Stop discharge if safe to do so. Stop material from contaminating soil. Scrape up polyurethane and deposit into appropriate containers.

7. HANDLING AND STORAGE

Attachment 7 cont d
S S Sheet

HANDLING: Wash hands thoroughly after handling, especially before eating, drinking, smoking, and using restroom facilities. Wash contaminated goggles, face shields, and gloves. Professionally launder contaminated clothing before re-use. Do not breathe vapors, mists or dusts. Do not breathe fumes generated when the material is overheated or burned. Use adequate ventilation. Wear respiratory protection if the material is heated, sprayed, used in a confined space or if exposure limit is exceeded. This product can produce asthmatic sensitization. Individuals with lung or breathing problems or prior allergic reactions to isocyanate must avoid fumes from this product. Wear appropriate protective equipment to avoid contact with skin and eyes.

STORAGE: Store in a cool, dry, well-ventilated area away from heat, ignition sources and direct sunlight. Water contamination should be avoided. Cool location should be 60-80 degrees F or 15-30 degrees C.

COMMENTS: Attention! Follow label warnings even after container is emptied since empty containers may retain product residues. Do not reuse empty container for food, clothing, or products for human or animal consumption, or where skin contact can occur.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		**ppm**	**mg/m^3**	**ppm**	**mg/m^3**
Xylenes (o-,m-,p- Isomers)	**TWA**	100	435	100	434
	STEL			150	651
Ethyl Benzene	**TWA**	100	435	100	434
	STEL			125	543
Methylene Disphenyl Isocyanate	**TWA**			0.005	0.051

ENGINEERING CONTROLS: Use local exhaust or general ventilation where the potential exists to exceed the PEL or TLV exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields or goggles when handling this material.

SKIN: Wear appropriate clothing to minimize skin contact with this product.

RESPIRATORY: Avoid breathing vapor and/or mists. If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection. High airborne concentrations may necessitate the use of self-contained breathing apparatus (SCBA) or a supplied air respirator.

OTHER USE PRECAUTIONS: Eyewash fountains and emergency showers should be readily available.

COMMENTS: Wash hands thoroughly after each use, especially before eating or smoking. Good personal hygiene practices should always be followed.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Paste

ODOR: Solvent

COLOR: Various

pH: Not Applicable

PERCENT VOLATILE: 4

FREEZING POINT: NA = Not Applicable

FLASHPOINT AND METHOD: 74.4°C (166°F)

DENSITY: 11.22

(VOC): 3.900 %

Attachment 7 cont d
S S Sheet

10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: Yes

STABILITY: This product is stable under normal conditions but will react slightly with water to release some heat and carbon dioxide. The reaction is not violent. Carbon dioxide, carbon monoxide and in high temperature (800°F) low oxygen atmospheres such as in fire situations, hydrogen cyanide may be released.

POLYMERIZATION: Hazardous polymerization can occur with elevated temperatures or contact with water.

CONDITIONS TO AVOID: Avoid strong acids. Avoid amines, strong bases, alcohols and metallic hydrides.

HAZARDOUS DECOMPOSITION PRODUCTS: Unknown due to the complex nature of this material. Fumes from complete or incomplete combustion may include carbon dioxide, carbon monoxide, water vapor, oxides of nitrogen and a wide variety of innocuous or toxic fumes. Additional decomposition products include oxides of nitrogen, amines, hydrogen cyanide and isocyanate-containing compounds.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: Irritating to the eyes.

SKIN EFFECTS: Irritating to the skin.

CARCINOGENICITY

Chemical Name	IARC Status
Ethyl Benzene	2B

Notes: This product contains Methylene Diphenyl Isocyanate (MDI). MDI is not listed by the NTP, IARC or regulated by OSHA as a carcinogen. However, it has been shown to alter cells in certain experiments. Although inconclusive, these cellular changes are thought to indicate potential carcinogenicity.

REPEATED DOSE EFFECTS: Single large does, and/or repeated exposures, may lead to sensitization to diisocyanates or polyisocyanates (asthma or asthma-like symptoms), causing an individual to experience adverse effects at exposure levels well below exposure limits or guidelines. Symptoms may include chest tightness, wheezing, shortness of breath, coughing or asthmatic attack, and may be delayed up to several hours. Extreme asthmatic reactions can be life threatening. Once sensitized, an individual may experience adverse symptoms upon exposure to dust, cold air or other irritants. Sensitization can last several months, years or be permanent in some cases. Chronic exposure may cause lung damage, including fibrosis and decreased lung function, which may be permanent.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: Organic solvents produce slight to moderate toxicity to aquatic life. Insufficient data exists to evaluate the effect on plants, birds or land animals.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Part 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

OTHER SHIPPING INFORMATION: Generators must consult DOT laws and regulations to ensure the product is being transported appropriately.

COMMENTS: Not regulated as dangerous goods.

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: This product poses the following physical and health hazard(s) as defined in 40

Attachment 7 cont d
S S Sheet

CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986:

FIRE: Yes **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes **CHRONIC:** Yes

313 REPORTABLE INGREDIENTS: This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR372. CAS #: 101-68-8 MDI, CAS #: 1330-20-7 Xylene and CAS #100-41-4 Ethyl Benzene.

EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt.%	CAS
Xylenes (o-,m-,p- Isomers)	1 - 5	001330-20-7
Ethyl Benzene	0.5 - 1.5	000100-41-4

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

Chemical Name	Wt.%	CERCLA RQ
Xylenes (o-,m-,p- Isomers)	1 - 5	100
Ethyl Benzene	0.5 - 1.5	1,000
Methylene Disphenyl Isocyanate	0.1 - 1	5,000

TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Xylenes (o-,m-,p- Isomers)	001330-20-7
Ethyl Benzene	000100-41-4
Methylene Disphenyl Isocyanate	000101-68-8

CALIFORNIA PROPOSITION 65: This product contains the following product on California's Proposition 65 List: CAS# 100-41-4 Ethyl Benzene.

16. OTHER INFORMATION

PREPARED BY: Technical Staff

REVISION SUMMARY: Revision #: 2 This MSDS replaces the November 12, 2007 MSDS. Any changes in information are as follows: In Section 1 Approval Date

NFPA STORAGE CLASSIFICATION: Health 2, Flammability 2, Physical Hazard 0

HMIS RATINGS NOTES: Health 2, Flammability 2, Physical Hazard 0, PPE X

QUIKRETE®
CEMENT & CONCRETE PRODUCTS™

MATERIAL SAFETY DATA SHEET

RAPID SETTING REPAIR MATERIALS

MATERIAL SAFETY DATA SHEET
(Complies with OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30329

Emergency Telephone Number
(770) 216-9580

Information Telephone Number
(770) 216-9580

MSDS D4
Revision: May-12

QUIKRETE® Product Name	**Product #**
RAPID ROAD REPAIR	FIBERED 1242-50, UN-FIBERED 1242-52 EXTENDED 1242-80
RAPID HARDENING SAND MIX	1243-50
HYDRAULIC WATER STOP	1126-00
QUICK SETTING CEMENT	1240-00
EXTERIOR USE ANCHORING CEMENT	1245-80, -81
FASTSET™ WATER-STOP CEMENT	1126-00

PRODUCT USE: HYDRAULIC CEMENT-BASED RAPID-SETTING REPAIR MATERIALS

SECTION II - HAZARD IDENTIFICATION

Route(s) of Entry: Inhalation, Skin, Ingestion
Acute Exposure: Product becomes alkaline when exposed to moisture. Exposure can dry the skin, cause alkali burns and affect the mucous membranes. Dust can irritate the eyes and upper respiratory system. Toxic effects noted in animals include, for acute exposures, alveolar damage with pulmonary edema.
Chronic Exposure: Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis.
Carcinogenicity: Since Portland cement and blended cements are manufactured from raw materials mined from the earth (limestone, marl, sand, shale, etc.) and process heat is provided by burning fossil fuels, trace, but detectable, amounts of naturally occurring, and possibly harmful, elements may be found during chemical analysis. Under ASTM standards, Portland cement may contain 0.75 % insoluble residue. A fraction of these residues may be free crystalline silica. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs and

possibly cancer. There is evidence that exposure to respirable silica or the disease silicosis is associated with an increased incidence of Scleroderma, tuberculosis and kidney disorders.

Carcinogenicity Listings:

NTP:	Known carcinogen
OSHA:	Not listed as a carcinogen
IARC Monographs:	Group 1 Carcinogen
California Proposition 65:	Known carcinogen

NTP: The National Toxicology Program, in its "Ninth Report on Carcinogens" (released May 15, 2000) concluded that "Respirable crystalline silica (RCS), primarily quartz dusts occurring in industrial and occupational settings, is *known to be a human carcinogen*, based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to RCS and increased lung cancer rates in workers exposed to crystalline silica dust (reviewed in IAC, 1997; Brown *et al*., 1997; Hind *et al*., 1997)

IARC: The International Agency for Research on Cancer ("IARC") concluded that there was "*sufficient evidence* in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources", and that there is "*sufficient evidence* in experimental animals for the carcinogenicity of quartz or cristobalite." The overall IARC evaluation was that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is *carcinogenic to humans (*Group 1)." The IARC evaluation noted that "carcinogenicity was not detected in all industrial circumstances or studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." For further information on the IARC evaluation, see IARC Monographs on the Evaluation of carcinogenic Risks to Humans, Volume 68, "Silica, Some Silicates." (1997)

Signs and Symptoms of Exposure: Symptoms of excessive exposure to the dust include shortness of breath and reduced pulmonary function. Excessive exposure to skin and eyes especially when mixed with water can cause caustic burns as severe as third degree.

Medical Conditions Generally Aggravated by Exposure: Individuals with sensitive skin and with pulmonary and/or respiratory disease, including, but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure. Exposure to crystalline silica or the disease silicosis is associated with increased incidence of scleroderma, Tuberculosis and possibly increased incidence of kidney lesions.

Chronic Exposure: Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis. (May contain trace (<0.05 %) amounts of chromium salts or compounds including hexavalent chromium, or other metals found to be hazardous or toxic in some chemical forms. These metals are mostly present as trace substitutions within the principal minerals)

Medical Conditions Generally Aggravated by Exposure: Individuals with sensitive skin and with pulmonary and/or respiratory disease, including, but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure.

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MATERIAL SAFETY DATA SHEET

SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components	CAS No.	PEL (OSHA) mg/M^3	TLV (ACGIH) mg/M^3
Silica Sand, crystalline	14808-60-7	$\frac{10}{\%SiO_2+2}$	0.05 (respirable)
Portland Cement	65997-15-1	5	5
May Contain one or more of the following ingredients:			
Amorphous Silica	07631-86-9	$\frac{80\ mg/M^3}{\%\ SiO_2}$	10
Calcium Sulfate	10101-41-4 or 13397-24-5	5	5
Lime	01305-62-0	5	5
Fly Ash	68131-74-8	5	5
Calcium Aluminate Cement	65997-16-2	5	5
Clay	01332-58-7	5	5
Pulverized Limestone	01317-65-3	5	5

Other Limits: National Institute for Occupational Safety and Health (NIOSH). Recommended standard maximum permissible concentration=0.05 mg/M^3 (respirable free silica) as determined by a full-shift sample up to 10-hour working day, 40-hour work week. See NIOSH Criteria for a Recommended Standard Occupational Exposure to Crystalline Silica

SECTION IV – First Aid Measures

Eyes: Immediately flush eye thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.
Skin: Wash skin with cool water and pH-neutral soap or a mild detergent. Seek medical treatment if irritation or inflammation develops or persists. Seek immediate medical treatment in the event of burns.
Inhalation: Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. Seek medical help if coughing and other symptoms do not subside. Inhalations of large amounts of Portland cement require immediate medical attention.
Ingestion: Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

SECTION V - FIRE AND EXPLOSION HAZARD DATA

Flammability: Noncombustible and not explosive.
Auto-ignition Temperature: Not Applicable
Flash Points: Not Applicable

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MATERIAL SAFETY DATA SHEET

SECTION VI – ACCIDENTAL RELEASE MEASURES

If spilled, use dustless methods (vacuum) and place into covered container for disposal (if not contaminated or wet). Use adequate ventilation to keep exposure to airborne contaminants below the exposure limit.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

Do not allow water to contact the product until time of use. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended.

SECTION VIII – EXPOSURE CONTROL MEASURES

Engineering Controls: Local exhaust can be used, if necessary, to control airborne dust levels.

Personal Protection: The use of barrier creams or impervious gloves, boots and clothing to protect the skin from contact is recommended. Following work, workers should shower with soap and water. Precautions must be observed because burns occur with little warning -- little heat is sensed.

WARN EMPLOYEES AND/OR CUSTOMERS OF THE HAZARDS AND REQUIRED OSHA PRECAUTIONS ASSOCIATED WITH THE USE OF THIS PRODUCT.

Exposure Limits: Consult local authorities for acceptable exposure limits

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance: Gray to gray-brown colored powder. Some products contain coarse aggregate.

Specific Gravity:	2.6 to 3.15	**Melting Point:**	>2700^{o}F
Boiling Point:	>2700^{o}F	**Vapor Pressure:**	Not Applicable
Vapor Density:	Not Applicable	**Evaporation Rate:**	Not Applicable
Solubility in Water:	Slight	**Odor:**	Not Applicable

SECTION X - REACTIVITY DATA

Stability: Stable.
Incompatibility (Materials to Avoid): Material when mixed with water will react with Aluminum and other alkali and alkaline earth elements liberating hydrogen gas.
Hazardous Decomposition or By-products: None
Hazardous Polymerization: Will Not Occur.
Condition to Avoid: Keep dry until used to preserve product utility.

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MATERIAL SAFETY DATA SHEET

SECTION XI – TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, Ingestion
Toxicity to Animals:
LD50: Not Available
LC50: Not Available
Chronic Effects on Humans: Conditions aggravated by exposure include eye disease, skin disorders and Chronic Respiratory conditions.
Special Remarks on Toxicity: Not Available

SECTION XII – ECOLOGICAL INFORMATION

Ecotoxicity: Not Available
BOD5 and COD: Not Available
Products of Biodegradation: Not available
Toxicity of the Products of Biodegradation: Not available
Special Remarks on the Products of Biodegradation: Not available

SECTION XIII – DISPOSAL CONSIDERATIONS

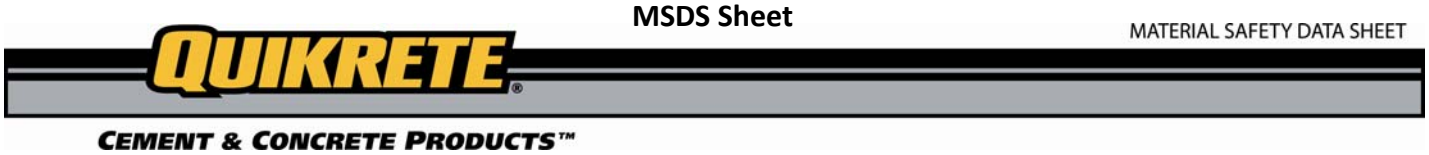
Waste Disposal Method: The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302).

SECTION XIV – TRANSPORT INFORMATION

DOT/UN Shipping Name: Non-regulated
DOT Hazard Class: Non-regulated
Shipping Name: Non-regulated
Non-Hazardous under U.S. DOT and TDG Regulations

SECTION XV – OTHER REGULATORY INFORMATION

US OSHA 29CFR 1910.1200: Considered hazardous under this regulation and should be included in the employers hazard communication program
SARA (Title III) Sections 311 & 312: Qualifies as a hazardous substance with delayed health effects
SARA (Title III) Section 313: Not subject to reporting requirements
TSCA (May 1997): All components are on the TSCA inventory list
Federal Hazardous Substances Act: Is a hazardous substance subject to statues promulgated under the subject act
California Regulation: WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



Canadian Environmental Protection Act: Not listed
WHMIS Classification: Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations (Class D2A, E- Corrosive Material) and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This product has been classified according to the hazard criteria of the Controlled Products Regulation (CPR). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

SECTION XVI – OTHER INFORMATION

HMIS-III:

Health –	0 = No significant health risk
	1 = Irritation or minor reversible injury possible
	2 = Temporary or minor injury possible
	3 = Major injury possible unless prompt action is taken
	4 = Life threatening, major or permanent damage possible
Flammability-	0 = Material will not burn
	1 = Material must be preheated before ignition will occur
	2 = Material must be exposed to high temperatures before ignition
	3 = Material capable of ignition under normal temperatures
	4 = Flammable gases or very volatile liquids; may ignite spontaneously
Physical Hazard-	0 = Material is normally stable, even under fire conditions
	1 = Material normally stable but may become unstable at high temps
	2 = Materials that are unstable and may undergo react at room temp
	3 = Materials that may form explosive mixtures with water
	4 = Materials that are readily capable of explosive water reaction

Abbreviations:

ACGIH	American Conference of Government Industrial Hygienists
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
CFR	Code of Federal Regulations
CPR	Controlled Products Regulations (Canada)
DOT	Department of Transportation
IARC	International Agency for Research
MSHA	Mine Safety and Health Administration
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicity Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TWA	Time-weighted Average
WHMIS	Workplace Hazardous Material Information System

Revision #07-01, supersedes all previous revisions.

QUIKRETE®
CEMENT & CONCRETE PRODUCTS™

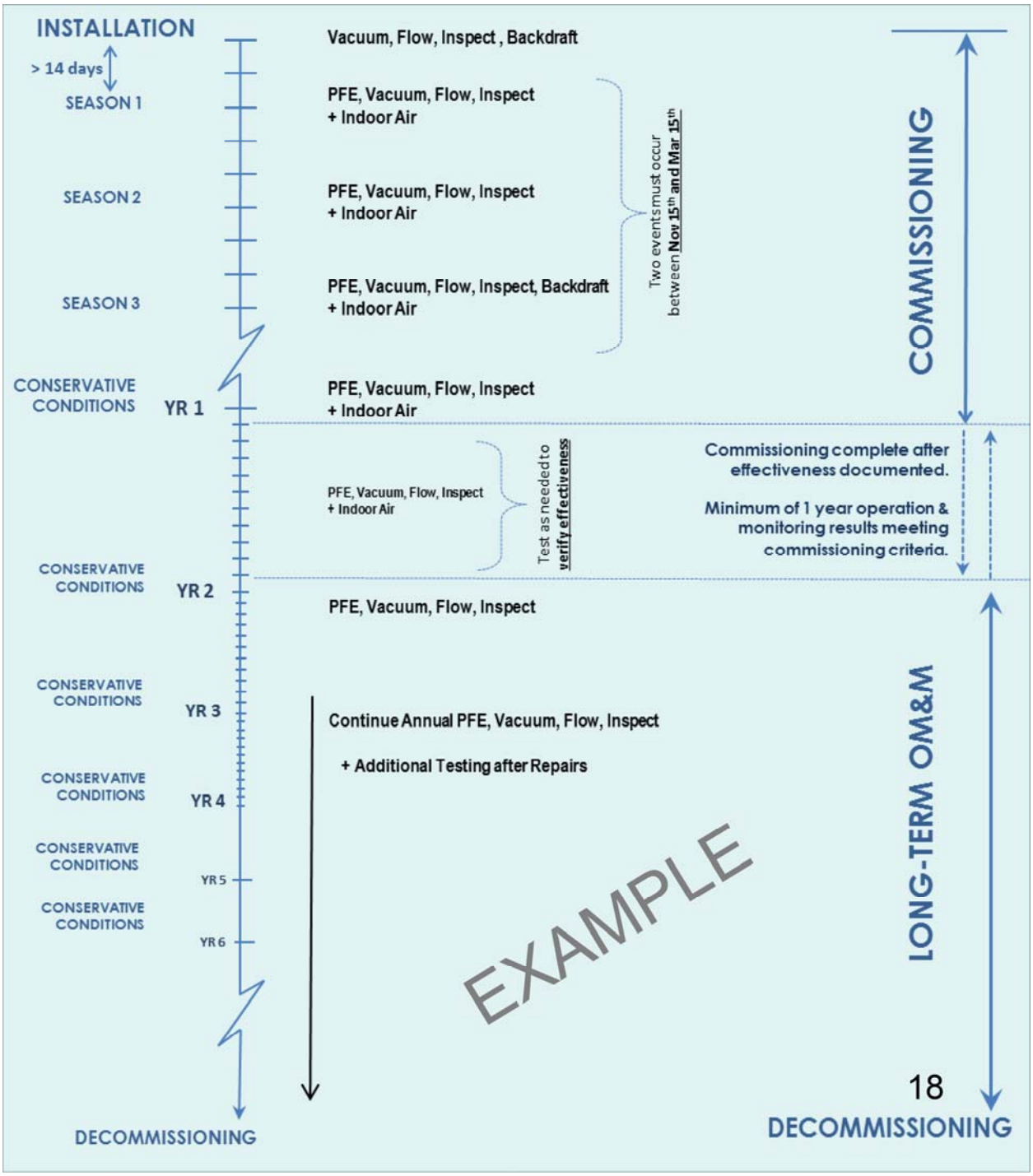
MATERIAL SAFETY DATA SHEET

Created: 10/25/2006
Last Updated: May 8, 2012

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.

ATTACHMENT 2

Example OM&M Program



Reference: Alyssa Sellwood, Wisconsin DNR, Issues & Trends 2015 webinar [PDF Document]. Retrieved from http://dnr.wi.gov/topic/Brownfields/TrainingLibrary.html

ATTACHMENT 3

Continuing Obligations Inspection and Maintenance Log (Form 4400-305)

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Continuing Obligations Inspection and Maintenance Log

Form 4400-305 (2/14)

Directions: In accordance with s. NR 727.05 (1) (b) 3., Wis. Adm. Code, use of this form for documenting the inspections and maintenance of certain continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31-19.39, Wis. Stats.]. When using this form, identify the condition that is being inspected. See the closure approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the closure approval letter. Do NOT delete previous inspection results. This form was developed to provide a continuous history of site inspection results. The Department of Natural Resources project manager is identified in the closure letter. The project manager may also be identified from the database, BRRTS on the Web, at http://dnr.wi.gov/botw/SetUpBasicSearchForm.do, by searching for the site using the BRRTS ID number, and then looking in the "Who" section.

Activity (Site) Name	BRRTS No.

Inspections are required to be conducted (see closure approval letter):	When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):
◯ annually ◯ semi-annually ◯ other – specify ______	

Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance	Previous recommendations implemented?	Photographs taken and attached?
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			◯ Y ◯ N	◯ Y ◯ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			◯ Y ◯ N	◯ Y ◯ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			◯ Y ◯ N	◯ Y ◯ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			◯ Y ◯ N	◯ Y ◯ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			◯ Y ◯ N	◯ Y ◯ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			◯ Y ◯ N	◯ Y ◯ N

{Click to Add/Edit Image} Date added:

Title:

{Click to Add/Edit Image} Date added:

Title:

VAPOR MITIGATION SYSTEM
OPERATIONS MAINTENANCE & MONITORING PLAN

OHM Holdings, LLC
Attn: Mr. Brian Cass
W229N2494 Hwy F
Waukesha, WI 53186

August 15, 2016

Prepared For:

Success, Inc. One Hour Martinizing
2262 South 108th Street
West Allis, Wisconsin
FID # 241287530
BRRTS# 02-54-246246

Prepared By:

Environmental Forensic Investigations, Inc.
N16 W23390 Stone Ridge Drive, Suite G
Waukesha, WI 53188
Phone: (262) 290-4001
www.enviroforensics.com

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1.0 PURPOSE, LOCATION, AND DESCRIPTION

1.1 Purpose

Historical releases of chlorinated solvents have occurred at this One Hour Martinizing dry cleaners. Previous sub-slab samples have contained the chlorinated solvents tetrachloroethene (PCE) and trichloroethene (TCE) in concentrations that pose a risk for intrusion of vapors to indoor air. The Wisconsin Department of Natural Resources (WDNR) requires that vapor intrusion risks be mitigated. The most economical and effective way to mitigate these specific vapor intrusion risks is by installing a Sub-Slab Detection System (SSDS) which is relatively inexpensive to operate and actively removes sub-slab vapors. The purpose of this Operations Maintenance & Monitoring Plan (OM&MP) is to ensure the ongoing effectiveness of the SSDS to mitigate sub-slab vapors.

1.2 Location and Description

A sub-slab depressurization system (SSDS) was installed at the OHM property during September 8-11, 2015. The SSDS generally consists of three (3) extraction points connected via 4-inch PVC piping to a single fan capable of depressurizing the entire sub-slab space. The exhaust point for the fan is positioned above the roofline east of the building. The negative pressure removes any vapors that may accumulate beneath the slab and discharges them to the atmosphere above the roofline of the building. The SSDS is designed to operate continuously and there are devices installed to allow a visual determination of whether the system is operating.

2.0 SYSTEM DESIGN AND CONSTRUCTION DOCUMENTATION

EnviroForensics contracted Vapor Protection Services (VPS) of Indianapolis, Indiana to design and install the SSDS. VPS is a subcontractor certified by the National Environmental Health Association/National Radon Proficiency Program for radon mitigation and by the Center for Environmental Research and Technology for radon mitigation technology.

The system consists of one (1) fan mounted to the east side of the building and three (3) extraction points cored through the subslab floor. Extraction points were installed within each space by cutting away a section of the slab and removing a portion of the sub-slab materials to create a sump (hole in the soil below the slab) for inserting the extraction points. This was done to prevent fine soil particles from being vacuumed into the system. The extraction lines were connected by schedule 40 PVC piping to a RadonAway Model GP 501 extraction fan to create negative pressure below the slab and draw vapors into the extraction piping. A figure depicting the layout of the SSDS, including piping runs, extraction points, and fan location, is included in **Figure 1**.

Pressure field extension testing was conducted during and subsequent to installation of the SSDS. A total of five (5) test locations were drilled within the building. During the testing, vacuum was applied at a selected extraction point while a manometer (pressure gauge) was

placed at an opposite side to evaluate the negative pressure extension. Of the four (4) test points, three (3) locations met or exceeded the performance criteria, which indicated that adequate depressurization of the slab was attained. The pressure test results are illustrated on a figure in the attached subcontractor installation report in **Attachment 1**.

Extraction piping was routed outside the buildings where vapors are discharged above the roofline and away from the buildings. Schematics of the SSDS are also presented in **Attachment 1**.

Initial commissioning of the system was performed during early April of 2016, and again in late July, 2016. Commissioning followed the general proposed procedures of the WDNR contained in **Attachment 2**, with the exception that only two sampling events were prerformed during the first year of operation instead of three. This change was approved by the WDNR.

3.0 OPERATION AND MAINTENANCE

3.1 System Maintenance

Routine maintenance needs to be performed according to the equipment manufacturers recommendations (see VPS's Installation Report **Attachment 1** pages 14 and 20). Upon discovery of a malfunction, system components should be repaired or replaced and documented on the Continuing Obligations Inspection and Maintenance Log Form 4400-305 contained in **Attachment 3**.

3.2 Inspections

Inspections will be perfomed annually. During annual routine inspections, sub-slab negative pressure will be measured, along with system vacuum and flow rate. Also, routine inspection of equipment performance will be made according to the operation and maintenance procedures outlined by VPS and RadonAway (see **Attachment 1** pages 14 and 20, respectively). All inspections will be documented on the Continuing Obligations Inspection and Maintenance Log Form 4400-305 (**Attachment 3**). WDNR guidance regarding the general timeline of pressure field extension measurements, vacuum measurement, inspection of system components and indoor air sampling from installation to decommissioning is contained in **Attachment 2.**

4.0 NOTIFICATIONS

4.1 WDNR Notification

In accordance with Wisconsin Administrative Code, NR 727.07, the WDNR will be notified at least 45 days before changes in land or property use or SSDS changes are required.

4.2 Contacts

Installer: Vapor Protection Services
Address: 6544 Ferguson St., Indianapolis, IN 46220
Telephone #: 317-252-5295

Consultant: Wayne Fassbender (EnviroForensics)
Address: N16 W23390 Stone Ridge Dr., Suite G, Waukesha, WI 53188
Telephone #: 317-972-7870
Email: WFassbender@enviroforensics.com

Wisconsin DNR Contact: John Hnat
Address: 2300 N Martin Luther King, Jr Drive, Milwaukee, WI 53212
Telephone #: (414)-263-8644
Email: John.Hnat@Wisconsin.gov

5.0 LOCATIONS MAP(S)

See **Attachment 1,** page 4 and **Figure 1**.

6.0 PHOTOGRAPHS OF VAPOR MITIGATION SYSTEM/ FLOOR/ BARRIER/ DEWATERING SYSTEM

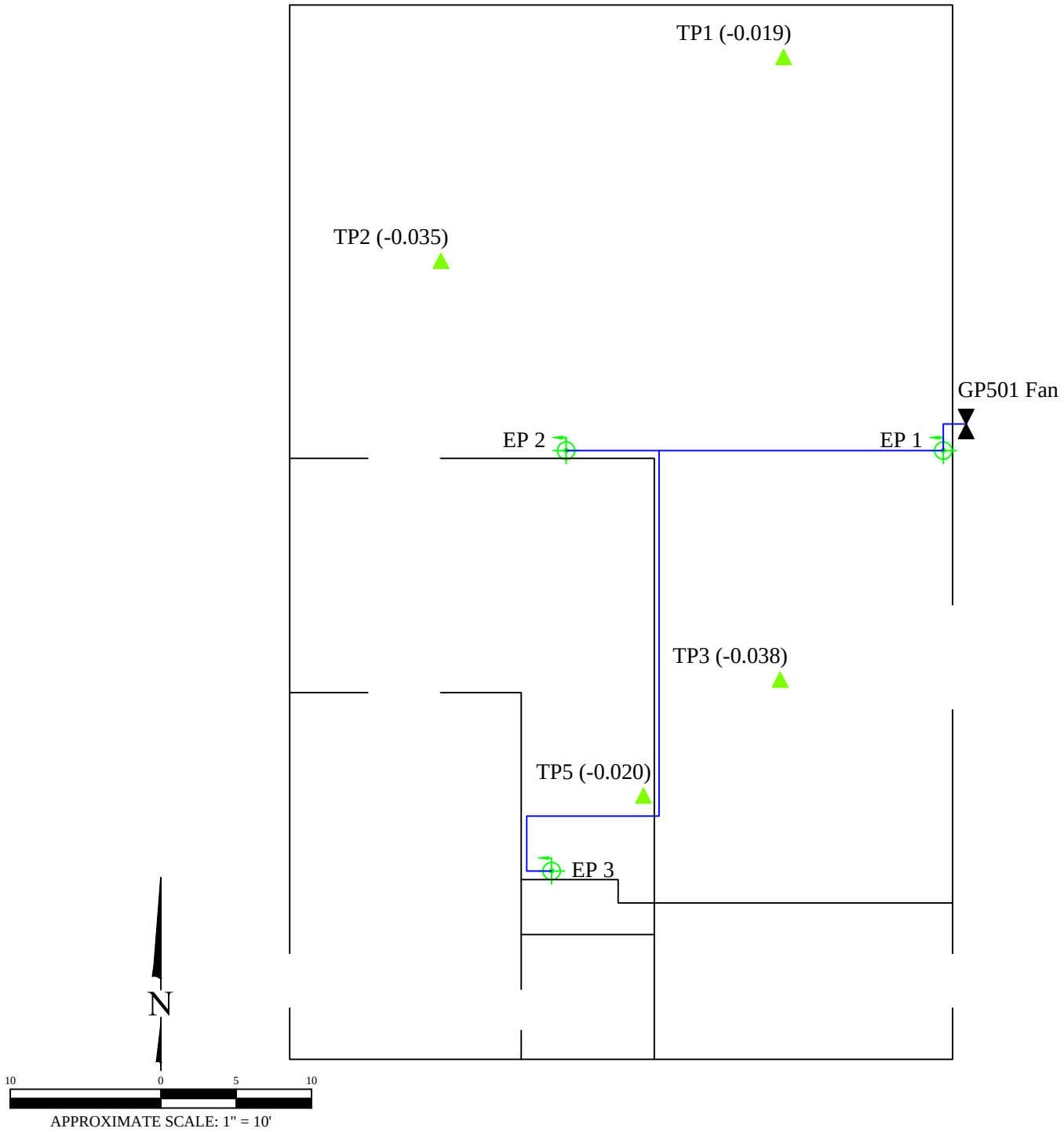
See **Attachment 1,** page 9.

7.0 INSPECTIONS AND MAINTENANCE LOG

See **Attachment 2** and **Attachment 3**.

Figure 1

Sub Slab Depressurization System Layout



APPROXIMATE SCALE: 1" = 10'

Legend

EP-1 Extraction point

Mitigation Fan

Piping

TP 1 Test Point

(-1.1) PFE Readings in inches of water (in H_2O)

No.	Date	Revision	Approved

ENVIRO forensics

ENVIRONMENTAL FORENSIC INVESTIGATIONS, INC.
602 N. Capitol Ave, Suite 210 • Indianapolis, IN 46204
EnviroForensics.com

Date:	8/1/16
Designed:	EB
Drawn:	EB
Checked:	KH
DWG file:	6406-0173

SUB SLAB DEPRESSURIZATION SYSTEM LAYOUT
OHM Property
2262 South 108th Street
West Allis, Wisconsin

Figure	
	1
Project	
	6406

ATTACHMENT 1

Vapor Protection Services Installation Report

VAPOR PROTECTION SERVICES

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Prepared for: **Kyle Heimstead and**
Wayne Fassbender
EnviroForensics

Site: **2248 & 2262 South 108th St.**
West Allis, WI 53227

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VAPOR PROTECTION SERVICES

INSTALLATION REPORT

September 30, 2015

VPS Proposal No. 201504186
Sub-Slab Depressurization System (SSDS)
2248 & 2262 South 108th St.
West Allis, WI 53227

Mr. Kyle Heimstead
Mr. Wayne Fassbender
EnviroForensics
N16 W23390 Stone Ridge Drive, Suite G
Waukesha, WI 53188
(612) 210-3374

Vapor Mitigation System Installation Report
2262 South 108th St.
West Allis, WI 53227

Date of SSDS Installation: September 8-11, 2015

Vapor Protection Services (VPS) is pleased to provide a Vapor Mitigation System Installation Report that summarizes the scope of services performed at 2262 South 108th St. West Allis, WI 53227 (Site). The scope of services performed at the Sites is detailed in VPS Proposal No. 201504186 and is noted below:

Scope of Service at 2262 South 108th St:

- VPS utilized a sub-slab depressurization system (SSDS) and RadonAway Models GP501 Fan to depressurize the soil beneath approximately 3100 square foot concrete slab to meet performance criteria.
- The SSDS utilizes (3) Extraction points, approximately 110' of 4 inch schedule 40 PVC piping, and (1) model GP501 with u-tube manometers.
- The fan was hardwired to a dedicated circuit breaker in an existing electrical panel with dedicated on/off switches located next to the mitigation fan.
- Run Time meter was installed.

Please Note:

- A figure depicting the SSDS layout is included as **Figure 2**.
- Photos taken during the installation have been included as **Attachment 1**.
- VPS's radon mitigation certification is included as **Attachment 2**.
- VI Mitigation Installation Checklist is included as **Attachment 3**.
- O & M manual is included as **Attachment 4**.
- Annual Operating Costs is included as **Attachment 5**.
- RadonAway fan 5 year warranty is included as **Attachment 6.**
- MSDS sheet is included as **Attachment 7**.

Conclusion:

VPS submits this report as written and visual documentation that the contracted work scope for vapor mitigation as detailed in Proposal No. 201504186 was successfully completed to the approval of EnviroForensics at Site. Please do not hesitate to contact me with any questions you might have regarding this report.

Respectfully Submitted,

Nick Martinez
Director of Technical Services
nick@vaporprotection.com
Vapor Protection Services®
6544 Ferguson Street
Indianapolis, IN 46220
317.252.5295
www.vaporprotection.com
NRPP Certification #106792 RMT
Indiana Mitigator License #RTM 00633
Indianapolis Contractor License #0555673

Figure 2
System Layout

VAPOR PROTECTION SERVICES®

Prepared for: EnviroForensics
Kyle Heimstead & Wayne Fassbender
Site: 2262 S. 108th St.
West Allis, WI 53227
VPS # 201504186

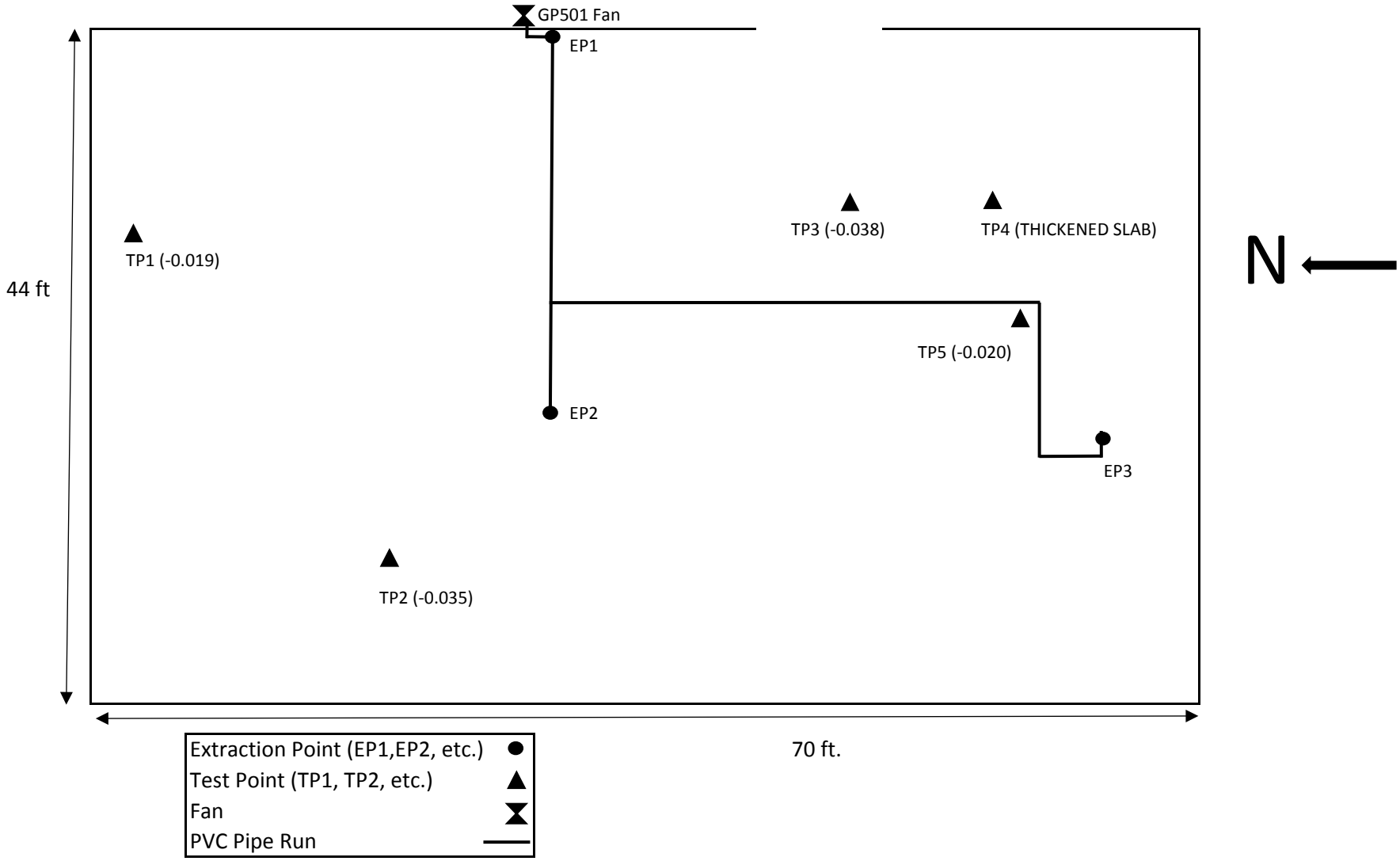


Figure 2
Pre-Install PFE Readings

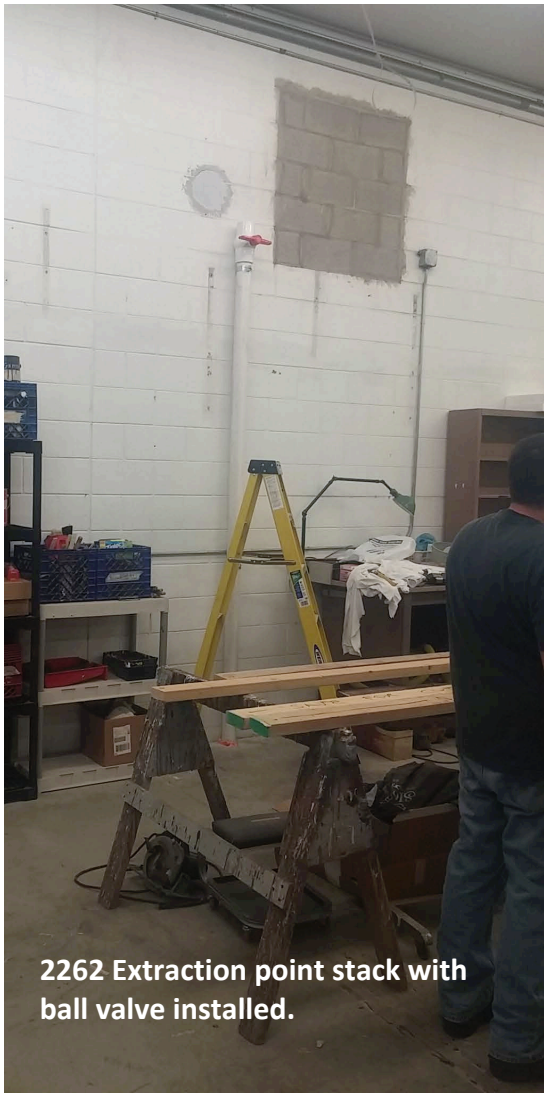
Company: EnviroForensics
Contact Name: Kyle Heimstead/ Wayne Fassbender
Proposal #: 201504186

Pre-Install PFE Readings

Site Address: 2262 South 108th St., W. Allis, WI 53227

Test Point	Ext. Point 1	Ext. Point 2	Ext. Point 3	Ext. Point 4
TP 1	-0.012	-0.015		-0.008
TP 2	-0.003	-0.016	-0.001	-0.037
TP 3	-0.028	-0.004	-0.002	-0.010
TP 4	Thickened slab	Thickened slab	Thickened slab	Thickened slab
TP 5	-0.002	-0.001	-0.140	-0.003

Attachment 1 cont d
Installation Photos



2262 Extraction point stack with ball valve installed.

2262 Exit Point with TP501 fan installed on exterior wall with run time meter.

Attachment 2
Mitigation Certifications

AARST

Nicolas Martinez

Has satisfactorily fulfilled the requirements set forth by the
National Radon Proficiency Program and is therefore certified as a:

Residential Measurement Provider

NRPP ID 107225 RT Expires 08/31/2017

NATIONAL RADON PROFICIENCY PROGRAM
AARST

Valid for specific activities or measurement devices, which can be verified with NRPP.
State and local agencies may have additional requirements.

In witness Whereof,
I have subscribed my name as a
Representative of NRPP

Janna M. Sinclair
NRPP Credentialing Coordinator

National Radon Proficiency Program

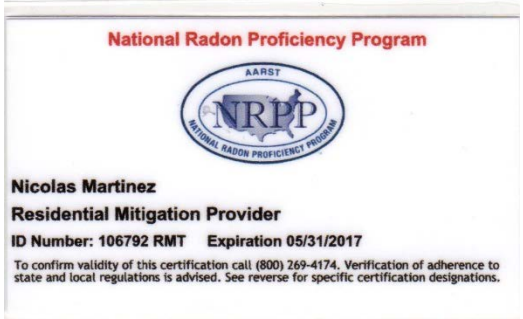
AARST NRPP NATIONAL RADON PROFICIENCY PROGRAM

Nicolas Martinez

Residential Measurement Provider

ID Number: 107225 RT Expiration 08/31/2017

To confirm validity of this certification call (800) 269-4174. Verification of adherence to state and local regulations is advised. See reverse for specific certification designations.



National Radon Proficiency Program

AARST NRPP NATIONAL RADON PROFICIENCY PROGRAM

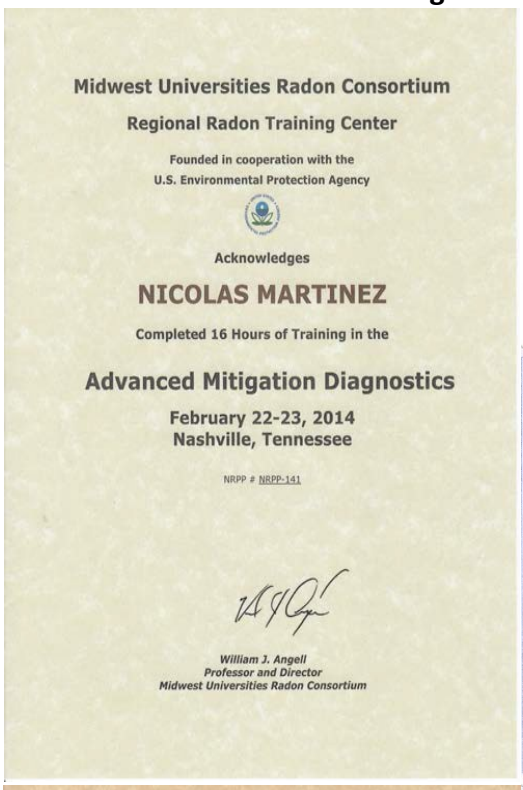
Nicolas Martinez

Residential Mitigation Provider

ID Number: 106792 RMT Expiration 05/31/2017

To confirm validity of this certification call (800) 269-4174. Verification of adherence to state and local regulations is advised. See reverse for specific certification designations.

Attachment 2 (cont'd)
Mitigation Certification



Midwest Universities Radon Consortium

Regional Radon Training Center

Founded in cooperation with the
U.S. Environmental Protection Agency

Acknowledges

NICOLAS MARTINEZ

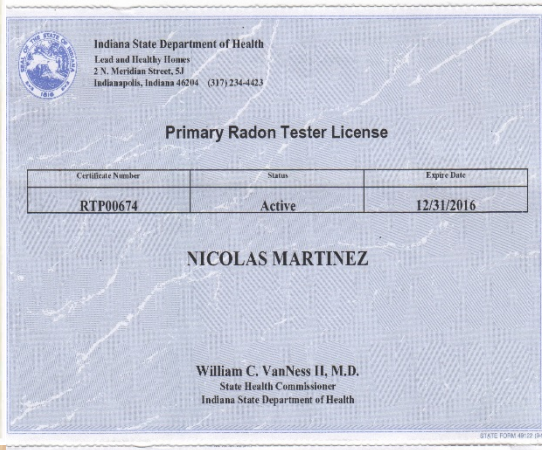
Completed 16 Hours of Training in the

Advanced Mitigation Diagnostics

February 22-23, 2014
Nashville, Tennessee

NRPP # NRPP-141

William J. Angell
Professor and Director
Midwest Universities Radon Consortium



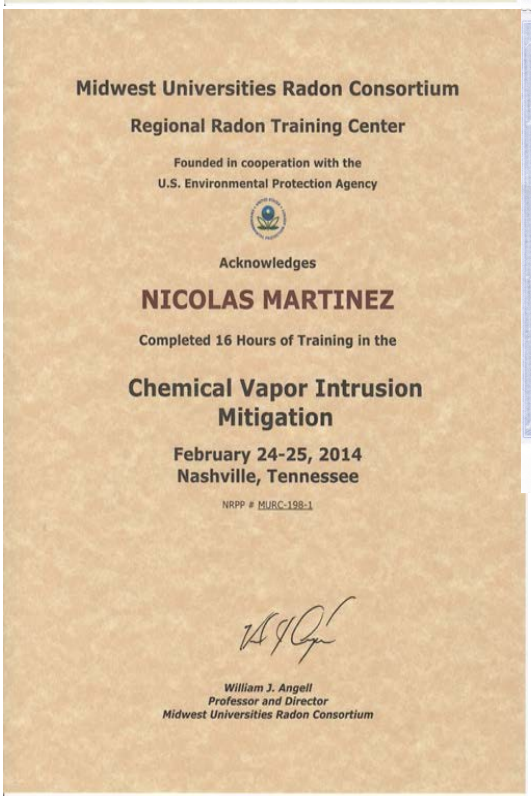
Indiana State Department of Health
Lead and Healthy Homes
2 N. Meridian Street, 5J
Indianapolis, Indiana 46204 (317) 234-1423

Primary Radon Tester License

Certificate Number	Status	Expire Date
RTP00674	Active	12/31/2016

NICOLAS MARTINEZ

William C. VanNess II, M.D.
State Health Commissioner
Indiana State Department of Health



Midwest Universities Radon Consortium

Regional Radon Training Center

Founded in cooperation with the
U.S. Environmental Protection Agency

Acknowledges

NICOLAS MARTINEZ

Completed 16 Hours of Training in the

Chemical Vapor Intrusion Mitigation

February 24-25, 2014
Nashville, Tennessee

NRPP # MURC-198-1

William J. Angell
Professor and Director
Midwest Universities Radon Consortium

Indiana State Department of Health
Lead and Healthy Homes
2 N. Meridian Street, 5J
Indianapolis, Indiana 46204 (317) 234-1423

Radon Mitigator License

Certificate Number	Status	Expire Date
RTM00633	Active	12/31/2015

NICOLAS MARTINEZ

Gregory N. Larkin
Gregory N. Larkin M.D. F.A.A.F.P.
State Health Commissioner
Indiana State Department of Health

Attachment 3
Installation hec list

VAPOR PROTECTION SERVICES®

Company:	**EnviroForensics**
Name:	**Kyle Heimstead**
Address:	**2248/2262 S.108th St.**
	West Allis, WI 53227
Proposal Number:	**201504186**
Date:	**9/8/15-9/11/15**
Fan Make/Model:	**GP501 (2)**

VI Mitigation Installation Checklist

Piping	**Yes**	**No**	**N/A**
Are all pipes solid schedule 40 PVC?	X		
Are all pipe connections permanently sealed?	X		
Are the system pipes supported by existing ductwork, piping, or any equipment?		X	
Do any of the system pipes obstruct windows, doors or service access points?		X	
Are horizontal pipe supports installed at 6- 4 foot increments?	X		
Are vertical pipe runs supported properly in accordance to building code?	X		
Extraction point vertical pipes supported and sealed permanently?	X		
Do Horizontal pipes slope toward extraction pits for condensate drainage?	X		
Are permanent test ports installed on extraction point suction pipes?		X	
Fans			
Is the fan level and properly supported to prevent unnecessary vibration?	X		
Does the fan have a condensate by-pass installed?	X		
Has the fan been mounted to piping using flexible connections?	X		
Is the exhaust vent pipe at least 10 feet above grade, 10 feet from any doors or windows, and 2 feet above the top of any opening into the conditioned space?	X		
If vent pipe exits through a roof penetration, does it extend at least 12 inches above the surface?			X
If vent pipe runs along the exterior wall, is it supported by brackets placed at least every 8 feet?	X		
Is the vent stack made of schedule 40 PVC piping?	X		
Vapor Barrier			
I crawl space(s) free or debris and obstruction that may prevent proper installation of vapor retarder or sub-slab depressurization system?			X
Has sub-membrane depressurization system been installed?			X
Was 6mil or thicker reinforced skrim used as the vapor retarder?			X
Are heavy traffic areas and/or storage areas protected from tears and punctures by carpet or heavy felt padding?			X
Are all membrane seams overlapped at least 12 inches and sealed properly?			X
Has the membrane been secured to walls with tape, furring strips, and/or caulk?			X
Has a perforated/slotted pipe been installed under the membrane and above the soil for proper de-pressurization?			X
Does suction pipe have permanent test port installed?			X
Are all utility, foundation, or other penetrations sealed properly?			X

Attachment 3 cont d
Installation hec list

Electrical	**Yes**	**No**	**N/A**
Has electrical wiring/switching been performed by a licensed electrician?	X		
Is the fan's power supply shutoff switch mounted in a weather tight enclosure?	X		
Is the circuit breaker clearly labeled "Vapor Mitigation System"?	X		
Has a run-time meter been installed, and is it in a weather tight enclosure?	X		
Has a KW meter been installed?		X	

Sump Pit			
Is there a sump pit(s) in the basement or crawl space?	X		
Does sump pit have impermeable cover attached with proper sealant?	X		
Are sump lid penetrations properly sealed?	X		
Has sump pit been used as an extraction point?		X	
Does sump lid have a clear view port for pump/pit observation and maintenance?	X		

Labels and Monitors			
Does each suction pipe have a u-tube manometer or magnehelic gage to measure pressure?	X		
Does each suction pipe have a permanent test port?		X	
Has an audible alarm to inform of possible system malfunction been installed?		X	
Are labels placed on pipes, membrane(s), and prominent locations to identify system components?	X		
Does label include name and number of person(s) to contact in case of system emergency?	X		

Testing and Sealing			
Has PFE testing been completed to verify system performance?	X		
Has foundation been smoke tested after mitigation system installation?		X	
Have leaks in slab, walls or membrane been sealed properly?	X		

Report			
Has an as built drawing been completed depicting system installation?	X		
Have all test point reading been recorded and inserted into the drawing?	X		
Has the system installation been recorded with photographs?	X		

Notes:

Attachment 4
Vapor Mitigation System Operation and Maintenance

We advise consultants, maintenance personnel or property owners to conduct routine visual inspections of all SSDS to verify that vapor mitigation system components are operating properly. The inspection should include but not be limited to the following:

- Observe the u tube or magnehelic gauges for pressure indication; a pressure of '0' indicates that there is a problem with system piping or fan operation.

- Observe the mitigation fan(s) and note any abnormal sounds or noises coming from the fan including buzzing, scraping, rattling, or et cetera. If any abnormal noises or sounds are audible, contact VPS.

- Most mitigation fans are factory sealed and designed to be maintenance free for the life of the fan. Should the fan's casing be opened or the factory seal broken, any service warranty may be voided. Factory maintenance documentation has been provided to consultant with recommended schedule for maintenance of fans if required.

- Inspect the PVC piping of the system for damage or cracks. If any damage occurs to the PVC piping, contact VPS Piping supports and Hangers should also be inspected for wear and integrity.

- Roof penetrations for system exhaust piping should be inspected to assure no moisture or other intrusion is apparent.

- Sub-membrane depressurization system (SMDS) components should also be periodically inspected to assure proper performance. Should a vapor barrier or membrane become damaged, loss of system pressure can occur affecting overall system performance. Tears should be repaired properly using approved methods.

- Any significant changes to building or structure can and may affect system performance. VPS should be advised of planned changes beforehand to avoid any possible performance issues or system failure.

Contact VPS for Additional Service & Maintenance should any occasion arise that may causes concern that the SMDS is not functioning properly as vapor intrusion may no longer be mitigated to meet performance criteria provided to VPS by consultant.

Attachment 5
ANNUAL OPERATING COSTS

RADONAWAY FANS	AVERAGE KWH	AVERAGE COST PER YEAR
RP140	$0.0894	$13.31
RP145	$0.0894	$42.29
RP260	$0.0894	$48.55
RP265	$0.0894	$88.50
RP380	$0.0894	$101.03
SF180	$0.0894	$42.29
GP201	$0.0894	$39.16
GP301	$0.0894	$56.39
GP401	$0.0894	$66.57
GP500	$0.0894	$78.31
GP501	$0.0894	$82.23
XP151	$0.0894	$40.72
XP201	$0.0894	$43.07
XP261	$0.0894	$66.57
HS2000	$0.0894	$164.46
HS3000	$0.0894	$117.47
HS5000	$0.0894	$250.61
FANTECH FANS		
HP2133	$0.0894	$13.31
HP2190	$0.0894	$56.78
HP175	$0.0894	$42.68
HP190	$0.0894	$56.78
HP220	$0.0894	$92.80
PLASTEC VENTILATION		
STORM 12		$250.00
PLASTEC 20		$250.00

RadonAway™

The World's Leading Radon Fan Manufaturer



GP/XP/XR Series Installation & Operating Instructions

Please Read And Save These Instructions

DO NOT CONNECT POWER SUPPLY UNTIL FAN IS COMPLETELY INSTALLED. MAKE SURE ELECTRICAL SERVICE TO FAN IS LOCKED IN "OFF" POSITION. DISCONNECT POWER BEFORE SERVICING FAN.

1. **WARNING!** Do not use fan in hazardous environments where fan electrical system could provide ignition to combustible of flammable materials.
2. **WARNING!** Do not use fan to pump explosive or corrosive gases.
   See Vapor Intrusion Application Note #AN001 for important information on VI applications. RadonAway.com/vapor-intrusion
3. **WARNING!** Check voltage at the fan to insure it corresponds with nameplate.
4. **WARNING!** Normal operation of this device may affect the combustion airflow needed for safe operation of fuel burning equipment. Check for possible backdraft conditions on all combustion devices after installation.
5. **NOTICE!** There are no user serviceable parts located inside the fan unit.
   Do NOT attempt to open. Return unit to the factory for service.
6. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician.
7. **WARNING!** Do not leave fan unit installed on system piping without electrical power for more than 48 hours. Fan failure could result from this non-operational storage.
8. **WARNING - TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, OR INJURY TO PERSONS, OBSERVE THE FOLLOWING:**
   a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.
   b) Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

RadonAway
3 Saber Way | Ward Hill, MA 01835
www.radonaway.com

RadonAway™

Installation & Operating Instructions IN014 Rev J

XP/XR Series		GP Series	
XP101	p/n 23008-1	GP201	p/n 23007-1
XP151	p/n 23010-1	GP301	p/n 23006-1
XP201	p/n 23011-1	GP401	p/n 23009-1
XR261	p/n 23019-1	GP501	p/n 23005-1

1.0 SYSTEM DESIGN CONSIDERATIONS

1.1 INTRODUCTION

The GP/XP/XR Series Radon Fans are intended for use by trained, professional, certified/licensed Radon mitigators. The purpose of this instruction is to provide additional guidance for the most effective use of a fan. This instruction should be considered as a supplement to EPA/radon industry standard practices, state and local building codes and state regulations. In the event of a conflict, those codes, practices and regulations take precedence over this instruction.

1.2 ENVIRONMENTALS

The GP/XP/XR Series Fans are designed to perform year-round in all but the harshest climates without additional concern for temperature or weather. For installations in an area of severe cold weather, please contact RadonAway for assistance. When not in operation, the fan should be stored in an area where the temperature is never less than 32 degrees F. or more than 100 degrees F.

1.3 ACOUSTICS

The GP/XP/XR Series Fan, when installed properly, operates with little or no noticeable noise to the building occupants. The velocity of the outgoing air should be considered in the overall system design. In some cases the "rushing" sound of the outlet air may be disturbing. In these instances, the use of a RadonAway Exhaust Muffler is recommended.

1.4 GROUND WATER

In the event that a temporary high water table results in water at or above slab level, water may be drawn into the riser pipes thus blocking air flow to the GP/XP/XR Series Fan. The lack of cooling air may result in the fan cycling on and off as the internal temperature rises above the thermal cutoff and falls upon shutoff. Should this condition arise, it is recommended that the fan be turned off until the water recedes allowing for return to normal operation.

1.5 SLAB COVERAGE

The GP/XP/XR Series Fan can provide coverage up to 2000+ sq. ft. per slab penetration. This will primarily depend on the sub-slab material in any particular installation. In general, the tighter the material, the smaller the area covered per penetration. Appropriate selection of the GP/XP/XR Series Fan best suited for the sub-slab material can improve the slab coverage. The GP & XP Series have a wide range of models to choose from to cover a wide range of subslab material. The higher static suction fans are generally used for tighter subslab materials. The XR Series is specifically designed for high flow applications such as stone/gravel and drain tile. Additional suction points can be added as required. It is recommended that a small pit (5 to 10 gallons in size) be created below the slab at each suction hole.

1.6 CONDENSATION & DRAINAGE

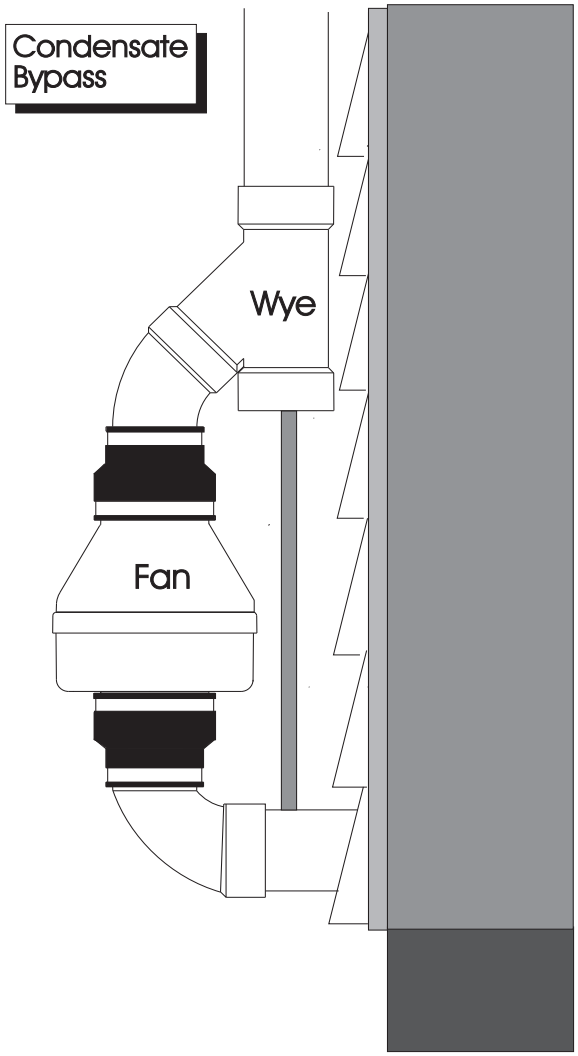
Condensation is formed in the piping of a mitigation system when the air in the piping is chilled below its dew point. This can occur at points where the system piping goes through unheated space such as an attic, garage or outside. The system design must provide a means for water to drain back to a slab hole to remove the condensation. The GP/XP/XR Series Fan **MUST** be mounted vertically plumb and level, with the outlet pointing up for proper drainage through the fan. Avoid mounting the fan in any orientation that will allow water to accumulate inside the fan housing. The GP/XP/XR Series Fans are **NOT** suitable for underground burial.

For GP/XP/XR Series Fan piping, the following table provides the minimum recommended pipe diameter and pitch under several system conditions.

Pipe Dia.	Minimum Rise per Foot of Run* @25 CFM	@50 CFM	@100 CFM
4″	1/8″	1/4″	3/8″
3"	1/4"	3/8"	1 1/2"

*Typical GP/XP/XR Series Fan operational flow rate is 25 - 90 CFM.
(For more precision, determine flow rate by using the chart in the addendum.)

Under some circumstances in an outdoor installation a condensate bypass should be installed in the outlet ducting as shown. This may be particularly true in cold climate installations which require long lengths of outlet ducting or where the outlet ducting is likely to produce large amounts of condensation because of high soil moisture or outlet duct material. Schedule 20 piping and other thin-walled plastic ducting and Aluminum downspout will normally produce much more condensation than Schedule 40 piping.



The bypass is constructed with a 45 degree Wye fitting at the bottom of the outlet stack. The bottom of the Wye is capped and fitted with a tube that connects to the inlet piping or other drain. The condensation produced in the outlet stack is collected in the Wye fitting and drained through the bypass tube. The bypass tubing may be insulated to prevent freezing.

1.7 SYSTEM MONITOR & LABEL

A System Monitor, such as a manometer (P/N 50006-1) or audible alarm (P/N 28001-2) is required to notify the occupants of a fan system malfunction. A System Label (P/N 15022) with instructions for contacting the installing contractor for service and also identifying the necessity for regular radon tests to be conducted by the building occupants, must be conspicuously placed where the occupants frequent and can see the label.

1.8 ELECTRICAL WIRING

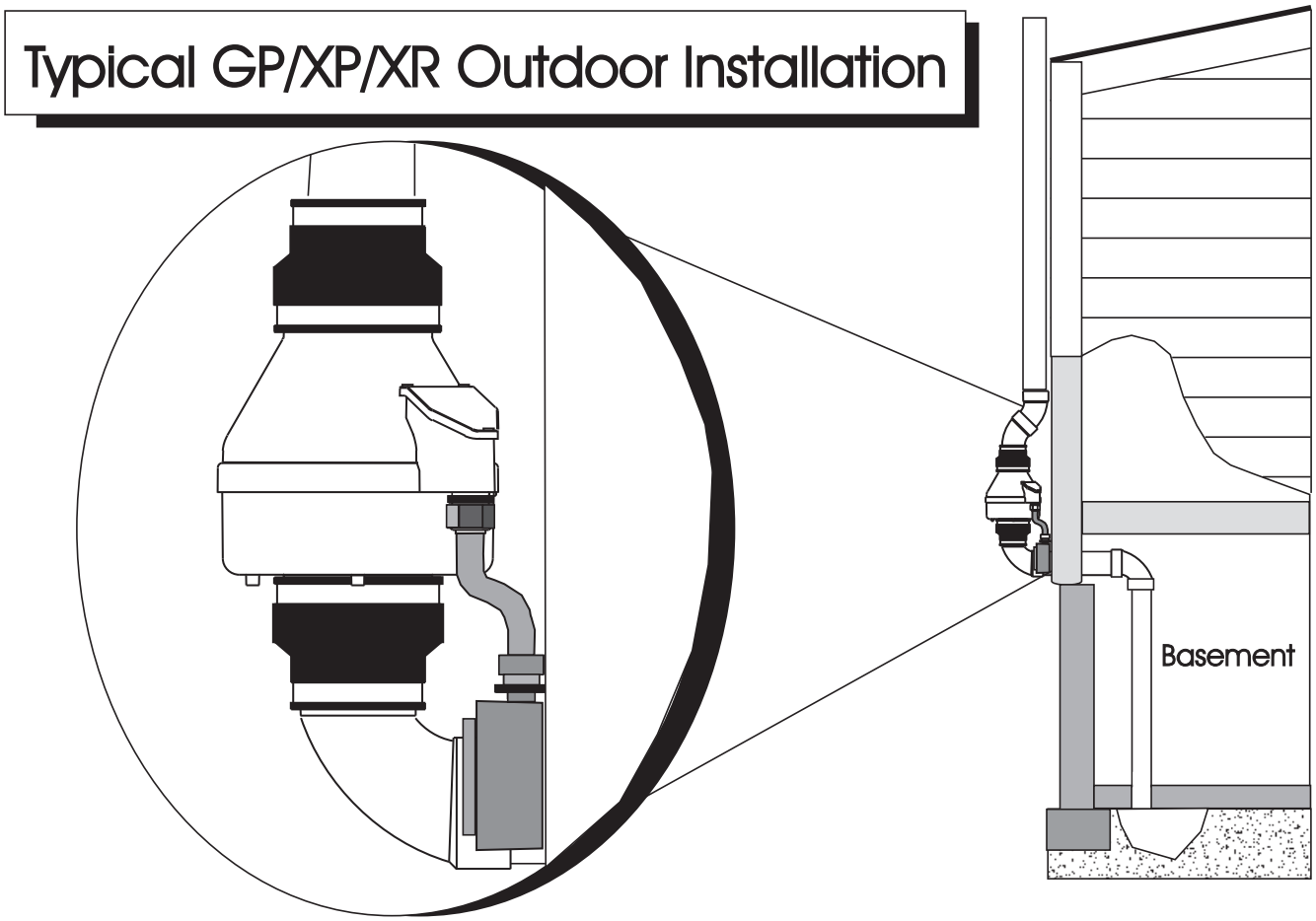
The GP/XP/XR Series Fans operate on standard 120V 60 Hz. AC. All wiring must be performed in accordance with the National Fire Protection Association's (NFPA)"National Electrical Code, Standard #70"-current edition for all commercial and industrial work, and state and local building codes. All wiring must be performed by a qualified and licensed electrician. Outdoor installations require the use of a U.L. listed watertight conduit. Ensure that all exterior electrical boxes are outdoor rated and properly sealed to prevent water penetration into the box. A means, such as a weep hole, is recommended to drain the box.

1.9 SPEED CONTROLS

The GP/XP/XR Series Fans are rated for use with electronic speed controls, however, they are generally not recommended. If used, the speed control recommended is Pass & Seymour Solid State Speed Control Cat. No. 94601-I.

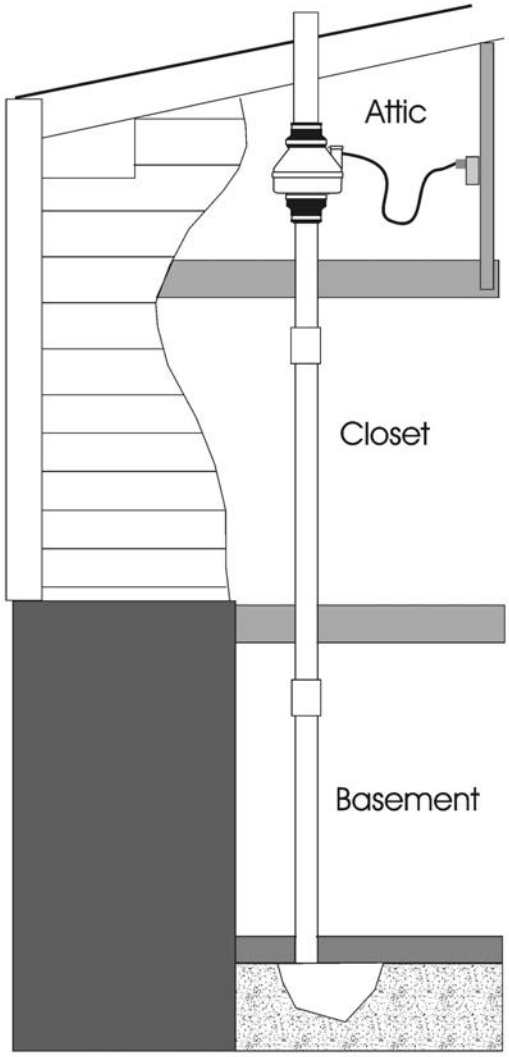
2.0 INSTALLATION

The GP/XP/XR Series Fan can be mounted indoors or outdoors. (It is suggested that EPA recommendations be followed in choosing the fan location.) The GP/XP/XR Series Fan may be mounted directly on the system piping or fastened to a supporting structure by means of optional mounting bracket.



2.1 MOUNTING

Mount the GP/XP/XR Series Fan vertically with outlet up. Insure the unit is plumb and level. When mounting directly on the system piping assure that the fan does not contact any building surface to avoid vibration noise.



2.2 MOUNTING BRACKET (optional)

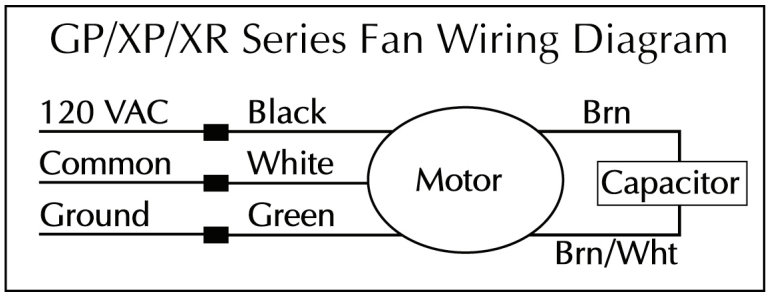
The GP/XP/XR Series Fan may be optionally secured with the integral mounting bracket on the GP Series fan or with RadonAway P/N 25007-2 mounting bracket for an XP/XR Series Fan. Foam or rubber grommets may also be used between the bracket and mounting surface for vibration isolation.

2.3 SYSTEM PIPING

Complete piping run, using flexible couplings as means of disconnect for servicing the unit and vibration isolation.

2.4 ELECTRICAL CONNECTION

Connect wiring with wire nuts provided, observing proper connections (See Section 1.8):



2.5 VENT MUFFLER (optional)

Install the muffler assembly in the selected location in the outlet ducting. Solvent weld all connections. The muffler is normally installed at the end of the vent pipe.

2.6 OPERATION CHECKS AND ANNUAL SYSTEM MAINTENANCE

_____ **Verify** all connections are tight and **leak-free**.

_____ **Insure** the GP/XP/XR Series Fan and all ducting is secure and vibration-free.

_____ **Verify** system vacuum pressure with manometer. **Insure** vacuum pressure is within normal operating range and **less than** the maximum recommended operating pressure.

(*Based on sea-level operation, at higher altitudes reduce by about 4% per 1000 Feet.)*
(Further reduce Maximum Operating Pressure by 10% for High Temperature environments)
See Product Specifications. If this is exceeded, increase the number of suction points.

_____ **Verify Radon levels by testing to EPA protocol.**

XP/XR SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the XP & XR Series Fan:

Typical CFM Vs Static Suction "WC									
	0"	.25"	.5"	.75"	1.0"	1.25"	1.5"	1.75"	2.0"
XP101	125	118	90	56	5	-	-	-	-
XP151	180	162	140	117	78	46	10	-	-
XP201	150	130	110	93	74	57	38	20	-
XR261	250	215	185	150	115	80	50	20	-

Maximum Recommended Operating Pressure*		
XP101	0.9" W.C.	(Sea Level Operation)**
XP151	1.3" W.C.	(Sea Level Operation)**
XP201	1.7" W.C.	(Sea Level Operation)**
XR261	1.6" W.C.	(Sea Level Operation)**

**Reduce by 10% for High Temperature Operation*
***Reduce by 4% per 1000 feet of altitude*

Power Consumption @ 120 VAC	
XP101	40 - 49 watts
XP151	45 - 60 watts
XP201	45 - 66 watts
XR261	65 - 105 watts

XP Series Inlet/Outlet: 4.5" OD (4.0" PVC Sched 40 size compatible)
XR Series Inlet/Outlet: 5.875" OD
Mounting: Mount on the duct pipe or with optional mounting bracket.
Recommended ducting: 3" or 4" Schedule 20/40 PVC Pipe
Storage temperature range: 32 - 100 degrees F.
Normal operating temperature range: -20 - 120 degrees F.
Maximum inlet air temperature: 80 degrees F.
Size: 9.5H" x 8.5" Dia.
Weight: 6 lbs. (XR261 - 7 lbs)

Continuous Duty
Thermally Protected
Class B Insulation
3000 RPM
Rated for Indoor or Outdoor Use

LISTED Electric Fan ETL® 77728 Tested to UL Std. 507

GP SERIES PRODUCT SPECIFICATIONS

The following chart shows fan performance for the GP Series Fan:

Typical CFM Vs Static Suction "WC	1.0"	1.5"	2.0"	2.5"	3.0"	3.5"	4.0"
GP501	95	87	80	70	57	30	5
GP401	93	82	60	38	12	-	-
GP301	92	77	45	10	-	-	-
GP201	82	58	5	-	-	-	-

Maximum Recommended Operating Pressure*		
GP501	3.8" W.C.	(Sea Level Operation)**
GP401	3.0" W.C.	(Sea Level Operation)**
GP301	2.4" W.C.	(Sea Level Operation)**
GP201	1.8" W.C.	(Sea Level Operation)**

**Reduce by 10% for High Temperature Operation*
***Reduce by 4% per 1000 feet of altitude*

Power Consumption @ 120 VAC	
GP501	70 - 140 watts
GP401	60 - 110 watts
GP301	55 - 90 watts
GP201	40 - 60 watts

Inlet/Outlet: 3.5" OD (3.0" PVC Sched 40 size compatible)

Mounting: Fan may be mounted on the duct pipe or with integral flanges.

Weight: 12 lbs.

Size: 13H" x 12.5" x 12.5"

Recommended ducting: 3″ or 4" Schedule 20/40 PVC Pipe

Storage temperature range: 32 - 100 degrees F.

Normal operating temperature range: -20 - 120 degrees F.

Maximum inlet air temperature: 80 degrees F.

Continuous Duty
Class B Insulation
3000 RPM
Thermally Protected
Rated for Indoor or Outdoor Use

LISTED Electric Fan ETL® 77728 Tested to UL Std. 507

Attachment 6 cont d
Fan Warranty
IMPORTANT INSTRUCTIONS TO INSTALLER

Inspect the GPx01/XP/XR Series Fan for shipping damage within 15 days of receipt. Notify RadonAway of any damages immediately. Radonaway is not responsible for damages incurred during shipping. However, for your benefit, Radonaway does insure shipments.

There are no user serviceable parts inside the fan. **Do not attempt to open.** Return unit to factory for service.

Install the GPx01/XP/XR Series Fan in accordance with all EPA standard practices, and state and local building codes and state regulations.

Provide a copy of this instruction or comparable radon system and testing information to the building occupants after completing system installation.

WARRANTY

Subject to any applicable consumer protection legislation, RadonAway warrants that the GPx01/XP/XR Series Fan (the "Fan") will be free from defects in materials and workmanship for a period of 90 days from the date of purchase (the "Warranty Term").

RadonAway will replace any Fan which fails due to defects in materials or workmanship. The Fan must be returned (at Owner's cost) to the RadonAway factory. Any Fan returned to the factory will be discarded unless the Owner provides specific instructions along with the Fan when it is returned regardless of whether or not the Fan is actually replaced under this warranty. Proof of purchase must be supplied upon request for service under this Warranty.

This Warranty is contingent on installation of the Fan in accordance with the instructions provided. This Warranty does not apply where any repairs or alterations have been made or attempted by others, or if the unit has been abused or misused. Warranty does not cover damage in shipment unless the damage is due to the negligence of RadonAway.

5 YEAR EXTENDED WARRANTY WITH PROFESSIONAL INSTALLATION.

RadonAway will extend the Warranty Term of the fan to 5 years from date of manufacture if the Fan is installed in a professionally designed and professionally installed radon system or installed as a replacement fan in a professionally designed and professionally installed radon system. Proof of purchase and/or proof of professional installation may be required for service under this warranty. Outside the Continental United States and Canada the extended Warranty Term is limited to one (1) year from the date of manufacture.

RadonAway is not responsible for installation, removal or delivery costs associated with this Warranty.

EXCEPT AS STATED ABOVE, THE GPx01/XP/XR SERIES FANS ARE PROVIDED WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, WITHOUT LIMITATION, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL RADONAWAY BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES ARISING OUT OF, OR RELATING TO, THE FAN OR THE PERFORMANCE THEREOF. RADONAWAY'S AGGREGATE LIABILITY HEREUNDER SHALL NOT IN ANY EVENT EXCEED THE AMOUNT OF THE PURCHASE PRICE OF SAID PRODUCT. THE SOLE AND EXCLUSIVE REMEDY UNDER THIS WARRANTY SHALL BE THE REPAIR OR REPLACEMENT OF THE PRODUCT, TO THE EXTENT THE SAME DOES NOT MEET WITH RADONAWAY'S WARRANTY AS PROVIDED ABOVE.

For service under this Warranty, contact RadonAway for a Return Material Authorization (RMA) number and shipping information. No returns can be accepted without an RMA. If factory return is required, the customer assumes all shipping cost to and from factory.

RadonAway
3 Saber Way
Ward Hill, MA 01835
TEL. (978) 521-3703
FAX (978) 521-3964

2 P501

2262 & 2248 S.108th St.
West Allis, WI.

Record the following information for your records:

Serial No. **2262 170417 2248 170418**
Purchase Date **2262 9 8 15 2248 - 9 10 15**

Material Name: OATEY PURPLE OR CLEAR PRIMER NSF LISTED

* * * Section 1 - Product and Company Identification * * *

MSDS #1402E

Part Numbers: Purple – 30755(TV), 30756(TV), 30757(TV), 30758, 30759, 30927 Clear - 30749, 30750, 30751, 30752, 30753, 30754, 31652, 31653

Manufacturer Information

Oatey Co.
4700 West 160th Street
Cleveland, OH 44135

Phone: 216-267-7100

For Emergency First Aid call 1-877-740-5015. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1- 703-527-3887.

* * * Section 2 - Hazards Identification * * *

GHS Classification:

Flammable Liquids - Category 2
Acute Toxicity Oral - Category 4
Acute Toxicity Dermal - Category 4
Acute Toxicity Inhalation - Category 4
Eye Damage/Irritation - Category 2A
Carcinogenicity - Category 2
Specific Target Organ Toxicity Single Exposure - Category 3

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor.
Harmful if swallowed.
Harmful in contact with skin.
Harmful if inhaled.
Causes serious eye irritation.
Contains a chemical classified by the US EPA as a suspected possible carcinogen.
May cause respiratory irritation.
May cause drowsiness or dizziness.

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames and hot surfaces. - No smoking.
Keep container tightly closed.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/eye protection/face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing fume/gas/mist/vapors.
Use only outdoors or in a well-ventilated area.

Response

If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
If swallowed: Call a poison center or doctor/physician if you feel unwell. Rinse mouth. Do not induce vomiting.
If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
If exposed or concerned: Get medical advice/attention.
In case of fire: Use dry chemical, CO2, or foam to extinguish fire.

Storage

Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
78-93-3	Methyl ethyl ketone	25-40
67-64-1	Acetone	25-40
108-94-1	Cyclohexanone	15-30
109-99-9	Tetrahydrofuran	15-30

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.

First Aid: Skin

Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with hand cleaner or baby oil.

First Aid: Ingestion

DO NOT INDUCE VOMITING. Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

First Aid: Inhalation

If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.
Highly flammable liquid and vapor. Keep away from heat and all sources of ignition including sparks, flames, lighted cigarettes and pilot lights. Containers may rupture or explode in the heat of a fire. Vapors are heavier than air and may travel to a remote ignition source and flash back. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

Hazardous Combustion Products

Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

Extinguishing Media

Use dry chemical, CO2, or foam to extinguish fire. Cool fire exposed container with water. Water may be ineffective as an extinguishing agent.

Unsuitable Extinguishing Media

None.

Fire Fighting Equipment/Instructions

Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Stop leak if it can be done without risk.

Materials and Methods for Clean-Up

Remove all sources of ignition and ventilate area. Soak up spill with an inert absorbent such as sand, earth or other noncombusting material. Put absorbent material in covered, labeled metal containers.

Emergency Measures

Isolate area. Keep unnecessary personnel away.

Personal Precautions and Protective Equipment

Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high.

Environmental Precautions

Prevent liquid from entering watercourses, sewers and natural waterways.

Prevention of Secondary Hazards

None

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use. "Empty" containers retain product residue and can be hazardous. Follow all SDS precautions in handling empty containers. Do not cut or weld on or near empty or full containers.

Storage Procedures

Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.

Incompatibilities

Oxidizing agents, alkalis, amines, ammonia, acids, chlorine compounds, chlorinated inorganics (potassium, calcium and sodium hypochlorite) and hydrogen peroxides. May attack plastic, resins and rubber.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Component Exposure Limits

Acetone (67-64-1)

ACGIH: 500 ppm TWA
750 ppm STEL
OSHA: 1000 ppm TWA; 2400 mg/m3 TWA
NIOSH: 250 ppm TWA; 590 mg/m3 TWA

Methyl ethyl ketone (78-93-3)

ACGIH: 200 ppm TWA
300 ppm STEL
OSHA: 200 ppm TWA; 590 mg/m3 TWA
NIOSH: 200 ppm TWA; 590 mg/m3 TWA
300 ppm STEL; 885 mg/m3 STEL

Cyclohexanone (108-94-1)

ACGIH: 20 ppm TWA
50 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 50 ppm TWA; 200 mg/m3 TWA
NIOSH: 25 ppm TWA; 100 mg/m3 TWA
Potential for dermal absorption

Tetrahydrofuran (109-99-9)

ACGIH: 50 ppm TWA
100 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 200 ppm TWA; 590 mg/m3 TWA
NIOSH: 200 ppm TWA; 590 mg/m3 TWA
250 ppm STEL; 735 mg/m3 STEL

Engineering Measures

Open doors & windows. Provide ventilation capable of maintaining emissions at the point of use below recommended exposure limits. If used in enclosed area, use exhaust fans. Exhaust fans should be explosion-proof or set up in a way that flammable concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.

Personal Protective Equipment: Respiratory

For operations where the exposure limit may be exceeded, a NIOSH approved organic vapor respirator or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration, select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

Personal Protective Equipment: Hands

Rubber gloves are suitable for normal use of the product. For long exposures chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.

Personal Protective Equipment: Eyes

Safety glasses with side shields or safety goggles.

Personal Protective Equipment: Skin and Body

No additional protective equipment needed.

* * * Section 9 - Physical & Chemical Properties * * *

Appearance:	Purple or clear	**Odor:**	Ether-like
Physical State:	Liquid	**pH:**	NA
Vapor Pressure:	145 mmHg @ 20°C	**Vapor Density:**	2.5
Boiling Point:	151°F (66°C)	**Melting Point:**	NA
Solubility (H2O):	Negligible	**Specific Gravity:**	0.84 +/- 0.02 @ 20°C
Evaporation Rate:	(BUAC = 1) = 5.5 - 8.0	**VOC:**	99.96%
Octanol/H2O Coeff.:	ND	**Flash Point:**	14-23°F (-10 to -5°C)
Flash Point Method:	CCCFP	**Upper Flammability Limit (UFL):**	11.8
Lower Flammability Limit (LFL):	1.8	**Burning Rate:**	ND
Auto Ignition:	ND		

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid heat, sparks, flames and other sources of ignition.

Incompatible Products

Oxidizing agents, alkalis, amines, ammonia, acids, chlorine compounds, chlorinated inorganics (potassium, calcium and sodium hypochlorite) and hydrogen peroxides. May attack plastic, resins and rubber.

Hazardous Decomposition Products

Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

Component Analysis - LD50/LC50

Acetone (67-64-1)
Oral LD50 Rat 5800 mg/kg

Methyl ethyl ketone (78-93-3)
Inhalation LC50 Mouse 32 g/m3 4 h; Oral LD50 Rat 2737 mg/kg; Dermal LD50 Rabbit 6480 mg/kg

Cyclohexanone (108-94-1)
Inhalation LC50 Rat 10.7 mg/L 4 h; Inhalation LC50 Rat 8000 ppm 4 h; Oral LD50 Rat 800 mg/kg; Dermal LD50 Rabbit 948 mg/kg

Tetrahydrofuran (109-99-9)
Inhalation LC50 Rat 53.9 mg/L 4 h; Inhalation LC50 Rat 180 mg/L 1 h; Oral LD50 Rat 1650 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

May cause irritation with redness, itching and pain. Methyl ethyl ketone and cyclohexanone may be absorbed through the skin causing effects similar to those listed under inhalation.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Vapors may cause irritation. Direct contact may cause irritation with redness, stinging and tearing of the eyes. May cause eye damage.

Potential Health Effects: Ingestion

Swallowing may cause abdominal pain, nausea, vomiting and diarrhea. Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.

Potential Health Effects: Inhalation

Vapors or mists may cause mucous membrane and respiratory irritation, coughing, headache, dizziness, dullness, nausea, shortness of breath and vomiting. High concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.

Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any skin sensitization effects.

Generative Cell Mutagenicity

Cyclohexanone has been positive in bacterial and mammalian assays. Acetone, methyl ethyl ketone and tetrahydrofuran are generally thought not to be mutagenic.

Carcinogenicity

A: General Product Information

In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

B: Component Carcinogenicity

Acetone (67-64-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

Cyclohexanone (108-94-1)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC: Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))

Tetrahydrofuran (109-99-9)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

Reproductive Toxicity

Methyl ethyl ketone and cyclohexanone have been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone and tetrahydrofuran has been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.

Specified Target Organ General Toxicity: Single Exposure

May cause respiratory irritation. Inhalation of high concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.

Specified Target Organ General Toxicity: Repeated Exposure

This product is not reported to have any specific target organ toxicity repeat exposure effects.

Aspiration Respiratory Organs Hazard

Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

This product is not expected to be toxic to aquatic organisms.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Acetone (67-64-1)

Test & Species		Conditions
96 Hr LC50 Oncorhynchus mykiss	4.74 - 6.33 mL/L	
96 Hr LC50 Pimephales promelas	6210 - 8120 mg/L [static]	
96 Hr LC50 Lepomis macrochirus	8300 mg/L	
48 Hr EC50 Daphnia magna	10294 - 17704 mg/L [Static]	
48 Hr EC50 Daphnia magna	12600 - 12700 mg/L	

Methyl ethyl ketone (78-93-3)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	3130-3320 mg/L [flow-through]	
48 Hr EC50 Daphnia magna	>520 mg/L	
48 Hr EC50 Daphnia magna	5091 mg/L	
48 Hr EC50 Daphnia magna	4025 - 6440 mg/L [Static]	

Cyclohexanone (108-94-1)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	481-578 mg/L [flow-through]	
96 Hr LC50 Pimephales promelas	8.9 mg/L	
96 Hr EC50 Chlorella vulgaris	20 mg/L	
24 Hr EC50 Daphnia magna	800 mg/L	

Tetrahydrofuran (109-99-9)

Test & Species		Conditions
96 Hr LC50 Pimephales promelas	1970-2360 mg/L [flow-through]	
96 Hr LC50 Pimephales promelas	2700-3600 mg/L [static]	
24 Hr EC50 Daphnia magna	5930 mg/L	

Persistence/Degradability

No information available for the product.

Bioaccumulation

No information available for the product.

Mobility in Soil

No information available for the product.

* * * Section 13 - Disposal Considerations * * *

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 14 - Transportation Information * * *

DOT Information

For Greater than 1 liter (0.3 gal):
Shipping Name: Flammable Liquid, n.o.s (Methyl Ethyl Ketone, Acetone)
UN #: 1993 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): Flammable Liquid

For Less than 1 liter (0.3 gal):
Shipping Name: Consumer Commodity, ORM-D

IMDG Information

For Greater than 1 liter (0.3 gal):
Shipping Name: Flammable Liquid, n.o.s (Methyl Ethyl Ketone, Acetone)
UN #: 1993 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): Flammable Liquid

For Less than 1 liter (0.3 gal):
Shipping Name: Flammable Liquid, n.o.s (Limited Quantity)
UN #: 1993 **Hazard Class:** 3 **Packing Group:** II

Required Label(s): None (Limited Quantities are expected from labeling)

* * * Section 15 - Regulatory Information * * *

Regulatory Information

US Federal Regulations

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Acetone (67-64-1)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Methyl ethyl ketone (78-93-3)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Cyclohexanone (108-94-1)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Tetrahydrofuran (109-99-9)

CERCLA: 1000 lb final RQ; 454 kg final RQ

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Acetone	67-64-1	Yes	Yes	Yes	Yes	Yes	No
Methyl ethyl ketone	78-93-3	Yes	Yes	Yes	Yes	Yes	No
Cyclohexanone	108-94-1	Yes	Yes	Yes	Yes	Yes	No
Tetrahydrofuran	109-99-9	Yes	Yes	Yes	Yes	Yes	No

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Acetone	67-64-1	1 %
Methyl ethyl ketone	78-93-3	1 %
Cyclohexanone	108-94-1	0.1 %
Tetrahydrofuran	109-99-9	1 %

Additional Regulatory Information

A: General Product Information

This product contains trace amounts of chemicals known to the State of California to cause cancer. Under normal use conditions, exposure to these chemicals at levels above the State of California "No Significant Risk Level" (NSRL) are unlikely. The use of proper personal protective equipment (PPE) and ventilation guidelines noted in Section 8 will minimize exposure to these chemicals.

B: Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Acetone	67-64-1	Yes	DSL	EINECS
Methyl ethyl ketone	78-93-3	Yes	DSL	EINECS
Cyclohexanone	108-94-1	Yes	DSL	EINECS
Tetrahydrofuran	109-99-9	Yes	DSL	EINECS

* * * Section 16 - Other Information * * *

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References

None

Other Information

NFPA and HMIS:
NFPA Hazard Signal: Health: 2 Flammability: 3 Reactivity: 1 Special: None
HMIS Hazard Signal: Health: 2* Flammability: 3 Reactivity: 1 PPE: G

Disclaimer:
The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, we cannot give any guarantees regarding information from other sources, and expressly do not make warranties, nor assume any liability for its use.

End of Sheet

Material Name: OATEY PVC HEAVY DUTY CLEAR or GRAY CEMENT - LO-VOC FORMULA

* * * Section 1 - Product and Company Identification * * *

MSDS #1102E

Part Numbers: Clear 30850, 30863, 30876(TV), 30882, 31008(TV), 31011, 31950, 31951, 31952, 31953
Gray 30349, 31093, 31094, 31095, 31105, 31118, 31978, 31979, 31980, 31981, 32050, 32051, 32052, 32210, 32211

Manufacturer Information

Oatey Co.
4700 West 160th Street
Cleveland, OH 44135

Phone: 216-267-7100

For Emergency First Aid call 1-877-740-5015. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1- 703-527-3887.

* * * Section 2 - Hazards Identification * * *

GHS Classification:

Flammable Liquids - Category 2
Acute Toxicity Oral - Category 4
Acute Toxicity Dermal - Category 4
Acute Toxicity Inhalation - Category 4
Eye Damage/Irritation - Category 2A
Carcinogenicity - Category 2
Specific Target Organ Toxicity Single Exposure - Category 3

GHS LABEL ELEMENTS

Symbol(s)

Signal Word

Danger

Hazard Statements

Highly flammable liquid and vapor.
Harmful if swallowed.
Harmful in contact with skin.
Harmful if inhaled.
Causes serious eye irritation.
Contains a chemical classified by the US EPA as a suspected possible carcinogen.
May cause respiratory irritation.
May cause drowsiness or dizziness.

Precautionary Statements

Prevention

Keep away from heat/sparks/open flames and hot surfaces. - No smoking.
Keep container tightly closed.
Use explosion-proof electrical/ventilating/lighting/equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Wear protective gloves/eye protection/face protection.
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Avoid breathing fume/gas/mist/vapors.
Use only outdoors or in a well-ventilated area.

Response

If on skin (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
If swallowed: Call a poison center or doctor/physician if you feel unwell. Rinse mouth. Do not induce vomiting.
If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or doctor/physician if you feel unwell.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
If exposed or concerned: Get medical advice/attention.
In case of fire: Use dry chemical, CO2, or foam to extinguish fire.

Storage

Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 3 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
109-99-9	Tetrahydrofuran	40-60
108-94-1	Cyclohexanone	10-25
67-64-1	Acetone	10-25
9002-86-2	PVC (Chloroethylene, polymer)	12-20
78-93-3	Methyl ethyl ketone	5-15
112945-52-5	Silica, amorphous, fumed, crystalline-free	1-4

* * * Section 4 - First Aid Measures * * *

First Aid: Eyes

If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.

First Aid: Skin

Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with hand cleaner or baby oil.

First Aid: Ingestion

DO NOT INDUCE VOMITING. Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

First Aid: Inhalation

If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.

* * * Section 5 - Fire Fighting Measures * * *

General Fire Hazards

See Section 9 for Flammability Properties.

Highly flammable liquid and vapor. Keep away from heat and all sources of ignition including sparks, flames, lighted cigarettes and pilot lights. Containers may rupture or explode in the heat of a fire. Vapors are heavier than air and may travel to a remote ignition source and flash back. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.

Hazardous Combustion Products

Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

Extinguishing Media

Use dry chemical, CO2, or foam to extinguish fire. Cool fire exposed container with water. Water may be ineffective as an extinguishing agent.

Unsuitable Extinguishing Media

None.

Fire Fighting Equipment/Instructions

Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored.

* * * Section 6 - Accidental Release Measures * * *

Recovery and Neutralization

Stop leak if it can be done without risk.

Materials and Methods for Clean-Up

Remove all sources of ignition and ventilate area. Soak up spill with an inert absorbent such as sand, earth or other non-combusting material. Put absorbent material in covered, labeled metal containers.

Emergency Measures

Isolate area. Keep unnecessary personnel away.

Personal Precautions and Protective Equipment

Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high.

Environmental Precautions

Prevent liquid from entering watercourses, sewers and natural waterways.

Prevention of Secondary Hazards

None

* * * Section 7 - Handling and Storage * * *

Handling Procedures

Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use. Other: "Empty" containers retain product residue and can be hazardous. Follow all SDS precautions in handling empty containers. Do not cut or weld on or near empty or full containers.

Storage Procedures

Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.

Incompatibilities

Oxidizing agents, alkalis, amines, ammonia, acids, chlorine compounds, chlorinated inorganics (potassium, calcium and sodium hypochlorite) and hydrogen peroxides. May attack plastic, resins and rubber.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Component Exposure Limits

Tetrahydrofuran (109-99-9)

ACGIH: 50 ppm TWA
100 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 200 ppm TWA; 590 mg/m3 TWA
NIOSH: 200 ppm TWA; 590 mg/m3 TWA
250 ppm STEL; 735 mg/m3 STEL

Cyclohexanone (108-94-1)

ACGIH: 20 ppm TWA
50 ppm STEL
Skin - potential significant contribution to overall exposure by the cutaneous route
OSHA: 50 ppm TWA; 200 mg/m3 TWA
NIOSH: 25 ppm TWA; 100 mg/m3 TWA
Potential for dermal absorption

Acetone (67-64-1)

ACGIH: 500 ppm TWA
750 ppm STEL
OSHA: 1000 ppm TWA; 2400 mg/m3 TWA
NIOSH: 250 ppm TWA; 590 mg/m3 TWA

PVC (Chloroethylene, polymer) (9002-86-2)

ACGIH: 1 mg/m3 TWA (respirable fraction)

Methyl ethyl ketone (78-93-3)

ACGIH: 200 ppm TWA
300 ppm STEL
OSHA: 200 ppm TWA; 590 mg/m3 TWA
NIOSH: 200 ppm TWA; 590 mg/m3 TWA
300 ppm STEL; 885 mg/m3 STEL

Engineering Measures

Open doors & windows. Provide ventilation capable of maintaining emissions at the point of use below recommended exposure limits. If used in enclosed area, use exhaust fans. Exhaust fans should be explosion-proof or set up in a way that flammable concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.

Personal Protective Equipment: Respiratory

For operations where the exposure limit may be exceeded, a NIOSH approved organic vapor respirator or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration, select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.

Personal Protective Equipment: Hands

Rubber gloves are suitable for normal use of the product. For long exposures chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.

Personal Protective Equipment: Eyes

Safety glasses with side shields or safety goggles.

Personal Protective Equipment: Skin and Body

No additional protective equipment needed.

* * * Section 9 - Physical & Chemical Properties * * *

Appearance:	Clear or Gray	**Odor:**	Ether-like
Physical State:	Liquid	**pH:**	NA
Vapor Pressure:	145 mmHg @ 20°C	**Vapor Density:**	2.5
Boiling Point:	151°F (66°C)	**Melting Point:**	NA
Solubility (H2O):	Negligible	**Specific Gravity:**	0.94 +/- 0.02 @ 20°C
Evaporation Rate:	(BUAC = 1) = 5.5 - 8.0	**VOC:**	80-84% Maximum 510 g/L per SCAQMD Test Method 316A.
Octanol/H2O Coeff.:	ND	**Flash Point:**	14-23°F (-10 to -5°C)
Flash Point Method:	CCCFP	**Upper Flammability Limit (UFL):**	11.8
Lower Flammability Limit (LFL):	1.8	**Burning Rate:**	ND
Auto Ignition:	ND		

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability

This is a stable material.

Hazardous Reaction Potential

Will not occur.

Conditions to Avoid

Avoid heat, sparks, flames and other sources of ignition.

Incompatible Products

Oxidizing agents, alkalis, amines, ammonia, acids, chlorine compounds, chlorinated inorganics.

Hazardous Decomposition Products

Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

* * * Section 11 - Toxicological Information * * *

Acute Toxicity

Component Analysis - LD50/LC50

Tetrahydrofuran (109-99-9)
Inhalation LC50 Rat 53.9 mg/L 4 h; Inhalation LC50 Rat 180 mg/L 1 h; Oral LD50 Rat 1650 mg/kg

Cyclohexanone (108-94-1)
Inhalation LC50 Rat 10.7 mg/L 4 h; Inhalation LC50 Rat 8000 ppm 4 h; Oral LD50 Rat 800 mg/kg; Dermal LD50 Rabbit 948 mg/kg

Acetone (67-64-1)
Oral LD50 Rat 5800 mg/kg

Methyl ethyl ketone (78-93-3)
Inhalation LC50 Mouse 32 g/m3 4 h; Oral LD50 Rat 2737 mg/kg; Dermal LD50 Rabbit 6480 mg/kg

Silica, amorphous, fumed, crystalline-free (112945-52-5)
Oral LD50 Rat 3160 mg/kg

Potential Health Effects: Skin Corrosion Property/Stimulativeness

May cause irritation with redness, itching and pain. Methyl ethyl ketone and cyclohexanone may be absorbed through the skin causing effects similar to those listed under inhalation.

Potential Health Effects: Eye Critical Damage/ Stimulativeness

Vapors may cause irritation. Direct contact may cause irritation with redness, stinging and tearing of the eyes. May cause eye damage.

Potential Health Effects: Ingestion

Swallowing may cause abdominal pain, nausea, vomiting and diarrhea. Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.

Potential Health Effects: Inhalation

Vapors or mists may cause mucous membrane and respiratory irritation, coughing, headache, dizziness, dullness, nausea, shortness of breath and vomiting. High concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.

Respiratory Organs Sensitization/Skin Sensitization

This product is not reported to have any skin sensitization effects.

Generative Cell Mutagenicity

Cyclohexanone has been positive in bacterial and mammalian assays. Acetone, methyl ethyl ketone and tetrahydrofuran are generally thought not to be mutagenic.

Carcinogenicity

A: General Product Information

In 2012 USEPA Integrated Risk Information System (IRIS) reviewed a two species inhalation lifetime study on THF conducted by NTP (1998). Male rats developed renal tumors and female mice developed liver tumors while neither the female rats nor the male mice showed similar results. Because the carcinogenic mechanisms could not be identified clearly in either species for either tumor, the EPA determined that the male rat and female mouse findings are relevant to the assessment of carcinogenic potential in humans. Therefore, the IRIS review concludes that these data in aggregate indicate that there is "suggestive evidence of carcinogenic potential" following exposure to THF by all routes of exposure.

B: Component Carcinogenicity

Tetrahydrofuran (109-99-9)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans

Cyclohexanone (108-94-1)

ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans
IARC: Monograph 71 [1999]; Monograph 47 [1989] (Group 3 (not classifiable))

Acetone (67-64-1)

ACGIH: A4 - Not Classifiable as a Human Carcinogen

PVC (Chloroethylene, polymer) (9002-86-2)

ACGIH: A4 - Not Classifiable as a Human Carcinogen
IARC: Supplement 7 [1987]; Monograph 19 [1979] (Group 3 (not classifiable))

Silica, amorphous, fumed, crystalline-free (112945-52-5)

IARC: Monograph 68 [1997] (listed under Amorphous silica) (Group 3 (not classifiable))

Reproductive Toxicity

Methyl ethyl ketone and cyclohexanone have been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone and tetrahydrofuran has been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.

Specified Target Organ General Toxicity: Single Exposure

May cause respiratory irritation. Inhalation of high concentrations may cause central nervous system depression, narcosis and unconsciousness. May cause kidney, liver and lung damage.

Specified Target Organ General Toxicity: Repeated Exposure

This product is not reported to have any specific target organ toxicity repeat exposure effects.

Aspiration Respiratory Organs Hazard

Aspiration during swallowing or vomiting can cause chemical pneumonia and lung damage. May cause kidney and liver damage.

* * * Section 12 - Ecological Information * * *

Ecotoxicity

A: General Product Information

This product is not expected to be toxic to aquatic organisms.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Tetrahydrofuran (109-99-9)

Test & Species	Conditions

96 Hr LC50 Pimephales promelas	1970-2360 mg/L [flow-through]
96 Hr LC50 Pimephales promelas	2700-3600 mg/L [static]
24 Hr EC50 Daphnia magna	5930 mg/L

Cyclohexanone (108-94-1)

Test & Species	Conditions
96 Hr LC50 Pimephales promelas	481-578 mg/L [flow-through]
96 Hr LC50 Pimephales promelas	8.9 mg/L
96 Hr EC50 Chlorella vulgaris	20 mg/L
24 Hr EC50 Daphnia magna	800 mg/L

Acetone (67-64-1)

Test & Species	Conditions
96 Hr LC50 Oncorhynchus mykiss	4.74 - 6.33 mL/L
96 Hr LC50 Pimephales promelas	6210 - 8120 mg/L [static]
96 Hr LC50 Lepomis macrochirus	8300 mg/L
48 Hr EC50 Daphnia magna	10294 - 17704 mg/L [Static]
48 Hr EC50 Daphnia magna	12600 - 12700 mg/L

Methyl ethyl ketone (78-93-3)

Test & Species	Conditions
96 Hr LC50 Pimephales promelas	3130-3320 mg/L [flow-through]
48 Hr EC50 Daphnia magna	>520 mg/L
48 Hr EC50 Daphnia magna	5091 mg/L
48 Hr EC50 Daphnia magna	4025 - 6440 mg/L [Static]

Persistence/Degradability

No information available for the product.

Bioaccumulation

No information available for the product.

Mobility in Soil

No information available for the product.

* * * Section 13 - Disposal Considerations * * *

Waste Disposal Instructions

See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.

US EPA Waste Number & Descriptions

Component Waste Numbers

Tetrahydrofuran (109-99-9)
RCRA: waste number U213 (Ignitable waste)

Cyclohexanone (108-94-1)
RCRA: waste number U057 (Ignitable waste)

Acetone (67-64-1)
RCRA: waste number U002 (Ignitable waste)

Methyl ethyl ketone (78-93-3)
RCRA: waste number U159 (Ignitable waste, Toxic waste)
200.0 mg/L regulatory level

Disposal of Contaminated Containers or Packaging

Dispose of contents/container in accordance with local/regional/national/international regulations.

* * * Section 14 - Transportation Information * * *

DOT Information

For Greater than 1 liter (0.3 gal):
Shipping Name: Adhesives
UN #: 1133 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): Flammable Liquid

For Less than 1 liter (0.3 gal):
Shipping Name: Consumer Commodity, ORM-D

IMDG Information

For Greater than 1 liter (0.3 gal):
Shipping Name: Adhesives
UN #: 1133 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): Flammable Liquid

For Less than 1 liter (0.3 gal):
Shipping Name: Adhesives
UN #: 1133 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): None (Limited Quantites are expected from labeling)

* * * Section 15 - Regulatory Information * * *

Regulatory Information

US Federal Regulations

Material Name: OATEY PVC HEAVY DUTY CLEAR or GRAY CEMENT - LO-VOC FORMULA

Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Tetrahydrofuran (109-99-9)

CERCLA: 1000 lb final RQ; 454 kg final RQ

Cyclohexanone (108-94-1)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Acetone (67-64-1)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

Methyl ethyl ketone (78-93-3)

CERCLA: 5000 lb final RQ; 2270 kg final RQ

State Regulations

Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
Tetrahydrofuran	109-99-9	Yes	Yes	Yes	Yes	Yes	No
Cyclohexanone	108-94-1	Yes	Yes	Yes	Yes	Yes	No
Acetone	67-64-1	Yes	Yes	Yes	Yes	Yes	No
PVC (Chloroethylene, polymer)	9002-86-2	No	No	No	Yes	No	No
Methyl ethyl ketone	78-93-3	Yes	Yes	Yes	Yes	Yes	No

This product contains trace amounts of chemicals known to the State of California to cause cancer. Under normal use conditions, exposure to these chemicals at levels above the State of California "No Significant Risk Level" (NSRL) are unlikely. The use of proper personal protective equipment (PPE) and ventilation guidelines noted in Section 8 will minimize exposure to these chemicals.

Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Tetrahydrofuran	109-99-9	1 %
Cyclohexanone	108-94-1	0.1 %
Acetone	67-64-1	1 %
Methyl ethyl ketone	78-93-3	1 %

Additional Regulatory Information

Component Analysis - Inventory

Component	CAS #	TSCA	CAN	EEC
Tetrahydrofuran	109-99-9	Yes	DSL	EINECS
Cyclohexanone	108-94-1	Yes	DSL	EINECS
Acetone	67-64-1	Yes	DSL	EINECS
PVC (Chloroethylene, polymer)	9002-86-2	Yes	DSL	ELINCS
Methyl ethyl ketone	78-93-3	Yes	DSL	EINECS
Silica, amorphous, fumed, crystalline-free	112945-52-5	No	DSL	No

* * * Section 16 - Other Information * * *

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration., NJTSR = New Jersey Trade Secret Registry.

Literature References

None

Other Information

NFPA and HMIS:
NFPA Hazard Signal: Health: 2 Flammability: 3 Reactivity: 1 Special: None
HMIS Hazard Signal: Health: 2* Flammability: 3 Reactivity: 1 PPE: G

Disclaimer:
The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, we cannot give any guarantees regarding information from other sources, and expressly do not make warranties, nor assume any liability for its use.

End of Sheet

Attachment 7 cont d
S S Sheet

MATERIAL SAFETY DATA SHEET

Date Issued: 08/03/2007
MSDS No: 68101
Date Revised: 03/07/2008
Revision No: 2

3300 Colors

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 3300 Colors

MANUFACTURER

Geocel Corporation
P.O. Box 398
Elkhart IN 46515-0398
Product Stewardship: 574-264-0645

24 HR. EMERGENCY TELEPHONE NUMBERS

ChemTel - 800-255-3924

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

IMMEDIATE CONCERNS: This product is irritating to the eyes and skin. Thermal decomposition/burning may produce toxic gases and fume. Closed containers may rupture when exposed to high temperatures, or when the product has been contaminated with water.

Avoid breathing hot mists and vapors. This product contains a respiratory and skin sensitizer. Causes respiratory tract irritation and may cause allergic respiratory reaction. May cause permanent respiratory damage. Product vapors are potentially irritating to skin. May cause allergic skin reaction and dermatitis.

POTENTIAL HEALTH EFFECTS

EYES: This product may cause irritation to the eyes. May cause temporary corneal injury.

SKIN: Skin contact may cause irritation. Isocyanates may react with skin protein and moisture to cause itching, reddening, swelling, scaling or blistering. Individuals previously sensitized to this material may experience these sysptoms from exposure to very small amounts of liquid or vapor.

INGESTION: May cause irritation and corrosive action in the mouth, throat and digestive tract.

INHALATION: Single large does, and/or repeated exposures, may lead to sensitization to diisocyanates or polyisocyanates (asthma or asthma-like symptoms), causing an individual to experience adverse effects at exposure levels well below exposure limits or guidelines. Symptoms may include chest tightness, wheezing, shortness of breath, coughing or asthmatic attack, and may be delayed up to several hours. Extreme asthmatic reactions can be life threatening. Once sensitized, an individual may experience adverse symptoms upon exposure to dust, cold air or other irritants. Sensitization can last several months, years or be permanent in some cases.

SIGNS AND SYMPTOMS OF OVEREXPOSURE

EYES: Visual effects may include eye irritation, blurred vision, diplopia, changes in color perception, restricition of visual fields, and complete blindness.

SKIN: Irritation of the skin.

INGESTION: Diarrhea.

INHALATION: Irritation of upper respiratory tract, asthmatic symptoms, chest tightness, breathing difficulty, coughing, short throat.

TARGET ORGAN STATEMENT: The lungs and skin may be targeted and damaged by components of the product. Eyes.

HEALTH HAZARDS: This product contains Methylene Diphenyl Isocyanate (MDI) which is a potential skin sensitizer and has been shown to alter cells in certain experiments. Although inconclusive, these cellular changes are thought to indicate potential carcinogenicity. Risk to your health depends on duration and concentration of exposure.

COMMENTS: Signs and symptoms of overexposure to this product include headache, irritation of upper respiratory tract, asthmatic symptoms, chest tightness, breathing difficulty, coughing, dizziness, weakness, fatigue, eye irritation, skin irritation, diarrhea.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Attachment 7 cont d
S S Sheet

Chemical Name	Wt.%	CAS	EINECS
Xylenes (o-,m-,p- Isomers)	1 - 5	001330-20-7	215-535-7
Ethyl Benzene	0.5 - 1.5	000100-41-4	- -
Methylene Disphenyl Isocyanate	0.1 - 1	000101-68-8	202-966-0

4. FIRST AID MEASURES

EYES: Immediately flush with plenty of water for at least 15 minutes. Get medical attention or advice.

SKIN: Remove contaminated clothing to prevent further skin exposure and dispose of properly. In situations involving considerable skin contact, place the contaminated person in a deluge shower for at least 15 minutes. For minor exposures, wash thoroughly with soap and clean water. Get medical attention if irritation persists.

INGESTION: If ingested, get immediate medical attention. Do not induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to a victim who is unconscious or is having convulsions.

INHALATION: Remove to fresh air. Get medical attention immediately for a large dose exposure or if cough or other symptoms develop. Administer oxygen or artifical respiration as needed.

NOTES TO PHYSICIAN: Treat symptomatically and supportively.
Eyes: Stain for evidence of corneal injury. If cornea is burned, apply antibiotic/steroid preparation as needed.
Skin: This product contains a skin sensitizer. Treat symptomatically as for contact dermatitis or thermal burn.
Ingestion: Treat symptomatically.
Inhalation: This material contains a known pulmonary sensitizer.
Any individual experiencing dermal or pulmonary sensitization should be removed from exposure to any diisocyanate. May aggravate existing heart conditions, particularly those with abnormal heart rhythms. If overexposure to the solvents in this product is suspected, testing should include nervous system and brain effects including recent memory, mood, concentration, headaches and altered sleep patterns. Liver and kidney function should be evaluated. This material, if aspirated into the lungs, may cause chemical pneumonitis; treat the affected person appropriately.

5. FIRE FIGHTING MEASURES

FLASHPOINT AND METHOD: 74.4°C (166°F)

EXTINGUISHING MEDIA: Use dry chemical, carbon dioxide, or foam. Water spray (fog).

HAZARDOUS COMBUSTION PRODUCTS: Additional decomposition products include oxides of nitrogen, amines, hydrogen cyanide and isocyanate-containing compounds.

EXPLOSION HAZARDS: None known.

FIRE FIGHTING EQUIPMENT: Firefighters should wear full protective clothing including self contained breathing apparatus.

SENSITIVE TO STATIC DISCHARGE: Not known.

SENSITIVITY TO IMPACT: Not known.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Wearing the personal protective equipment designated in Section 8, carefully contain the spill and transfer to the appropriate container for disposal. Do not discharge to lakes, streams, ponds, or sewers. Dispose of in compliance with local, state, and federal regulations.

LARGE SPILL: Wearing the personal protective equipment designated in Section 8, carefully contain the spill and transfer to the appropriate container for disposal. Do not discharge to lakes, streams, ponds, or sewers. Dispose of in compliance with local, state, and federal regulations. Ventilate well while cleanup is in process and until fumes dissipate.

ENVIRONMENTAL PRECAUTIONS

WATER SPILL: Isolate spill area. Stop discharge if safe to do so. Stop material from entering sewers or water streams. Scrape up polyurethane and deposit into appropriate containers.

LAND SPILL: Isolate spill area. Stop discharge if safe to do so. Stop material from contaminating soil. Scrape up polyurethane and deposit into appropriate containers.

7. HANDLING AND STORAGE

Attachment 7 cont d
S S Sheet

HANDLING: Wash hands thoroughly after handling, especially before eating, drinking, smoking, and using restroom facilities. Wash contaminated goggles, face shields, and gloves. Professionally launder contaminated clothing before re-use. Do not breathe vapors, mists or dusts. Do not breathe fumes generated when the material is overheated or burned. Use adequate ventilation. Wear respiratory protection if the material is heated, sprayed, used in a confined space or if exposure limit is exceeded. This product can produce asthmatic sensitization. Individuals with lung or breathing problems or prior allergic reactions to isocyanate must avoid fumes from this product. Wear appropriate protective equipment to avoid contact with skin and eyes.

STORAGE: Store in a cool, dry, well-ventilated area away from heat, ignition sources and direct sunlight. Water contamination should be avoided. Cool location should be 60-80 degrees F or 15-30 degrees C.

COMMENTS: Attention! Follow label warnings even after container is emptied since empty containers may retain product residues. Do not reuse empty container for food, clothing, or products for human or animal consumption, or where skin contact can occur.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		**ppm**	**mg/m^3**	**ppm**	**mg/m^3**
Xylenes (o-,m-,p- Isomers)	**TWA**	100	435	100	434
	STEL			150	651
Ethyl Benzene	**TWA**	100	435	100	434
	STEL			125	543
Methylene Disphenyl Isocyanate	**TWA**			0.005	0.051

ENGINEERING CONTROLS: Use local exhaust or general ventilation where the potential exists to exceed the PEL or TLV exposure limits.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Wear safety glasses with side shields or goggles when handling this material.

SKIN: Wear appropriate clothing to minimize skin contact with this product.

RESPIRATORY: Avoid breathing vapor and/or mists. If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection. High airborne concentrations may necessitate the use of self-contained breathing apparatus (SCBA) or a supplied air respirator.

OTHER USE PRECAUTIONS: Eyewash fountains and emergency showers should be readily available.

COMMENTS: Wash hands thoroughly after each use, especially before eating or smoking. Good personal hygiene practices should always be followed.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: Paste

ODOR: Solvent

COLOR: Various

pH: Not Applicable

PERCENT VOLATILE: 4

FREEZING POINT: NA = Not Applicable

FLASHPOINT AND METHOD: 74.4°C (166°F)

DENSITY: 11.22

(VOC): 3.900 %

Attachment 7 cont d
S S Sheet

10. STABILITY AND REACTIVITY

STABLE: Yes

HAZARDOUS POLYMERIZATION: Yes

STABILITY: This product is stable under normal conditions but will react slightly with water to release some heat and carbon dioxide. The reaction is not violent. Carbon dioxide, carbon monoxide and in high temperature (800°F) low oxygen atmospheres such as in fire situations, hydrogen cyanide may be released.

POLYMERIZATION: Hazardous polymerization can occur with elevated temperatures or contact with water.

CONDITIONS TO AVOID: Avoid strong acids. Avoid amines, strong bases, alcohols and metallic hydrides.

HAZARDOUS DECOMPOSITION PRODUCTS: Unknown due to the complex nature of this material. Fumes from complete or incomplete combustion may include carbon dioxide, carbon monoxide, water vapor, oxides of nitrogen and a wide variety of innocuous or toxic fumes. Additional decomposition products include oxides of nitrogen, amines, hydrogen cyanide and isocyanate-containing compounds.

11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: Irritating to the eyes.

SKIN EFFECTS: Irritating to the skin.

CARCINOGENICITY

Chemical Name	IARC Status
Ethyl Benzene	2B

Notes: This product contains Methylene Diphenyl Isocyanate (MDI). MDI is not listed by the NTP, IARC or regulated by OSHA as a carcinogen. However, it has been shown to alter cells in certain experiments. Although inconclusive, these cellular changes are thought to indicate potential carcinogenicity.

REPEATED DOSE EFFECTS: Single large does, and/or repeated exposures, may lead to sensitization to diisocyanates or polyisocyanates (asthma or asthma-like symptoms), causing an individual to experience adverse effects at exposure levels well below exposure limits or guidelines. Symptoms may include chest tightness, wheezing, shortness of breath, coughing or asthmatic attack, and may be delayed up to several hours. Extreme asthmatic reactions can be life threatening. Once sensitized, an individual may experience adverse symptoms upon exposure to dust, cold air or other irritants. Sensitization can last several months, years or be permanent in some cases. Chronic exposure may cause lung damage, including fibrosis and decreased lung function, which may be permanent.

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION: Organic solvents produce slight to moderate toxicity to aquatic life. Insufficient data exists to evaluate the effect on plants, birds or land animals.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Part 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

14. TRANSPORT INFORMATION

DOT (DEPARTMENT OF TRANSPORTATION)

OTHER SHIPPING INFORMATION: Generators must consult DOT laws and regulations to ensure the product is being transported appropriately.

COMMENTS: Not regulated as dangerous goods.

15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

311/312 HAZARD CATEGORIES: This product poses the following physical and health hazard(s) as defined in 40

Attachment 7 cont d
S S Sheet

CFR Part 370 and is subject to the requirements of sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act of 1986:

FIRE: Yes **PRESSURE GENERATING:** No **REACTIVITY:** No **ACUTE:** Yes **CHRONIC:** Yes

313 REPORTABLE INGREDIENTS: This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR372. CAS #: 101-68-8 MDI, CAS #: 1330-20-7 Xylene and CAS #100-41-4 Ethyl Benzene.

EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt.%	CAS
Xylenes (o-,m-,p- Isomers)	1 - 5	001330-20-7
Ethyl Benzene	0.5 - 1.5	000100-41-4

CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

Chemical Name	Wt.%	CERCLA RQ
Xylenes (o-,m-,p- Isomers)	1 - 5	100
Ethyl Benzene	0.5 - 1.5	1,000
Methylene Disphenyl Isocyanate	0.1 - 1	5,000

TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Xylenes (o-,m-,p- Isomers)	001330-20-7
Ethyl Benzene	000100-41-4
Methylene Disphenyl Isocyanate	000101-68-8

CALIFORNIA PROPOSITION 65: This product contains the following product on California's Proposition 65 List: CAS# 100-41-4 Ethyl Benzene.

16. OTHER INFORMATION

PREPARED BY: Technical Staff

REVISION SUMMARY: Revision #: 2 This MSDS replaces the November 12, 2007 MSDS. Any changes in information are as follows: In Section 1 Approval Date

NFPA STORAGE CLASSIFICATION: Health 2, Flammability 2, Physical Hazard 0

HMIS RATINGS NOTES: Health 2, Flammability 2, Physical Hazard 0, PPE X

QUIKRETE®
CEMENT & CONCRETE PRODUCTS™

MATERIAL SAFETY DATA SHEET

RAPID SETTING REPAIR MATERIALS

MATERIAL SAFETY DATA SHEET
(Complies with OSHA 29 CFR 1910.1200)

SECTION I: PRODUCT IDENTIFICATION

The QUIKRETE® Companies
One Securities Centre
3490 Piedmont Road, Suite 1300
Atlanta, GA 30329

Emergency Telephone Number
(770) 216-9580

Information Telephone Number
(770) 216-9580

MSDS D4
Revision: May-12

QUIKRETE® Product Name	**Product #**
RAPID ROAD REPAIR	FIBERED 1242-50, UN-FIBERED 1242-52 EXTENDED 1242-80
RAPID HARDENING SAND MIX	1243-50
HYDRAULIC WATER STOP	1126-00
QUICK SETTING CEMENT	1240-00
EXTERIOR USE ANCHORING CEMENT	1245-80, -81
FASTSET™ WATER-STOP CEMENT	1126-00

PRODUCT USE: HYDRAULIC CEMENT-BASED RAPID-SETTING REPAIR MATERIALS

SECTION II - HAZARD IDENTIFICATION

Route(s) of Entry: Inhalation, Skin, Ingestion
Acute Exposure: Product becomes alkaline when exposed to moisture. Exposure can dry the skin, cause alkali burns and affect the mucous membranes. Dust can irritate the eyes and upper respiratory system. Toxic effects noted in animals include, for acute exposures, alveolar damage with pulmonary edema.
Chronic Exposure: Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis.
Carcinogenicity: Since Portland cement and blended cements are manufactured from raw materials mined from the earth (limestone, marl, sand, shale, etc.) and process heat is provided by burning fossil fuels, trace, but detectable, amounts of naturally occurring, and possibly harmful, elements may be found during chemical analysis. Under ASTM standards, Portland cement may contain 0.75 % insoluble residue. A fraction of these residues may be free crystalline silica. Respirable crystalline silica (quartz) can cause silicosis, a fibrosis (scarring) of the lungs and

possibly cancer. There is evidence that exposure to respirable silica or the disease silicosis is associated with an increased incidence of Scleroderma, tuberculosis and kidney disorders.

Carcinogenicity Listings:

NTP:	Known carcinogen
OSHA:	Not listed as a carcinogen
IARC Monographs:	Group 1 Carcinogen
California Proposition 65:	Known carcinogen

NTP: The National Toxicology Program, in its "Ninth Report on Carcinogens" (released May 15, 2000) concluded that "Respirable crystalline silica (RCS), primarily quartz dusts occurring in industrial and occupational settings, is *known to be a human carcinogen*, based on sufficient evidence of carcinogenicity from studies in humans indicating a causal relationship between exposure to RCS and increased lung cancer rates in workers exposed to crystalline silica dust (reviewed in IAC, 1997; Brown *et al*., 1997; Hind *et al*., 1997)

IARC: The International Agency for Research on Cancer ("IARC") concluded that there was "*sufficient evidence* in humans for the carcinogenicity of crystalline silica in the forms of quartz or cristobalite from occupational sources", and that there is "*sufficient evidence* in experimental animals for the carcinogenicity of quartz or cristobalite." The overall IARC evaluation was that "crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is *carcinogenic to humans (*Group 1)." The IARC evaluation noted that "carcinogenicity was not detected in all industrial circumstances or studies. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." For further information on the IARC evaluation, see IARC Monographs on the Evaluation of carcinogenic Risks to Humans, Volume 68, "Silica, Some Silicates." (1997)

Signs and Symptoms of Exposure: Symptoms of excessive exposure to the dust include shortness of breath and reduced pulmonary function. Excessive exposure to skin and eyes especially when mixed with water can cause caustic burns as severe as third degree.

Medical Conditions Generally Aggravated by Exposure: Individuals with sensitive skin and with pulmonary and/or respiratory disease, including, but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure. Exposure to crystalline silica or the disease silicosis is associated with increased incidence of scleroderma, Tuberculosis and possibly increased incidence of kidney lesions.

Chronic Exposure: Dust can cause inflammation of the lining tissue of the interior of the nose and inflammation of the cornea. Hypersensitive individuals may develop an allergic dermatitis. (May contain trace (<0.05 %) amounts of chromium salts or compounds including hexavalent chromium, or other metals found to be hazardous or toxic in some chemical forms. These metals are mostly present as trace substitutions within the principal minerals)

Medical Conditions Generally Aggravated by Exposure: Individuals with sensitive skin and with pulmonary and/or respiratory disease, including, but not limited to, asthma and bronchitis, or subject to eye irritation, should be precluded from exposure.

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SECTION III - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Hazardous Components	CAS No.	PEL (OSHA) mg/M^3	TLV (ACGIH) mg/M^3
Silica Sand, crystalline	14808-60-7	$\frac{10}{\%SiO_2+2}$	0.05 (respirable)
Portland Cement	65997-15-1	5	5
May Contain one or more of the following ingredients:			
Amorphous Silica	07631-86-9	$\frac{80\ mg/M^3}{\%\ SiO_2}$	10
Calcium Sulfate	10101-41-4 or 13397-24-5	5	5
Lime	01305-62-0	5	5
Fly Ash	68131-74-8	5	5
Calcium Aluminate Cement	65997-16-2	5	5
Clay	01332-58-7	5	5
Pulverized Limestone	01317-65-3	5	5

Other Limits: National Institute for Occupational Safety and Health (NIOSH). Recommended standard maximum permissible concentration=0.05 mg/M^3 (respirable free silica) as determined by a full-shift sample up to 10-hour working day, 40-hour work week. See NIOSH Criteria for a Recommended Standard Occupational Exposure to Crystalline Silica

SECTION IV – First Aid Measures

Eyes: Immediately flush eye thoroughly with water. Continue flushing eye for at least 15 minutes, including under lids, to remove all particles. Call physician immediately.
Skin: Wash skin with cool water and pH-neutral soap or a mild detergent. Seek medical treatment if irritation or inflammation develops or persists. Seek immediate medical treatment in the event of burns.
Inhalation: Remove person to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration. Seek medical help if coughing and other symptoms do not subside. Inhalations of large amounts of Portland cement require immediate medical attention.
Ingestion: Do not induce vomiting. If conscious, have the victim drink plenty of water and call a physician immediately.

SECTION V - FIRE AND EXPLOSION HAZARD DATA

Flammability: Noncombustible and not explosive.
Auto-ignition Temperature: Not Applicable
Flash Points: Not Applicable

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MATERIAL SAFETY DATA SHEET

SECTION VI – ACCIDENTAL RELEASE MEASURES

If spilled, use dustless methods (vacuum) and place into covered container for disposal (if not contaminated or wet). Use adequate ventilation to keep exposure to airborne contaminants below the exposure limit.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND STORAGE

Do not allow water to contact the product until time of use. DO NOT BREATHE DUST. In dusty environments, the use of an OSHA, MSHA or NIOSH approved respirator and tight fitting goggles is recommended.

SECTION VIII – EXPOSURE CONTROL MEASURES

Engineering Controls: Local exhaust can be used, if necessary, to control airborne dust levels.

Personal Protection: The use of barrier creams or impervious gloves, boots and clothing to protect the skin from contact is recommended. Following work, workers should shower with soap and water. Precautions must be observed because burns occur with little warning -- little heat is sensed.

WARN EMPLOYEES AND/OR CUSTOMERS OF THE HAZARDS AND REQUIRED OSHA PRECAUTIONS ASSOCIATED WITH THE USE OF THIS PRODUCT.

Exposure Limits: Consult local authorities for acceptable exposure limits

SECTION IX - PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance: Gray to gray-brown colored powder. Some products contain coarse aggregate.

Specific Gravity:	2.6 to 3.15	**Melting Point:**	>2700^{o}F
Boiling Point:	>2700^{o}F	**Vapor Pressure:**	Not Applicable
Vapor Density:	Not Applicable	**Evaporation Rate:**	Not Applicable
Solubility in Water:	Slight	**Odor:**	Not Applicable

SECTION X - REACTIVITY DATA

Stability: Stable.
Incompatibility (Materials to Avoid): Material when mixed with water will react with Aluminum and other alkali and alkaline earth elements liberating hydrogen gas.
Hazardous Decomposition or By-products: None
Hazardous Polymerization: Will Not Occur.
Condition to Avoid: Keep dry until used to preserve product utility.

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SECTION XI – TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, Ingestion
Toxicity to Animals:
LD50: Not Available
LC50: Not Available
Chronic Effects on Humans: Conditions aggravated by exposure include eye disease, skin disorders and Chronic Respiratory conditions.
Special Remarks on Toxicity: Not Available

SECTION XII – ECOLOGICAL INFORMATION

Ecotoxicity: Not Available
BOD5 and COD: Not Available
Products of Biodegradation: Not available
Toxicity of the Products of Biodegradation: Not available
Special Remarks on the Products of Biodegradation: Not available

SECTION XIII – DISPOSAL CONSIDERATIONS

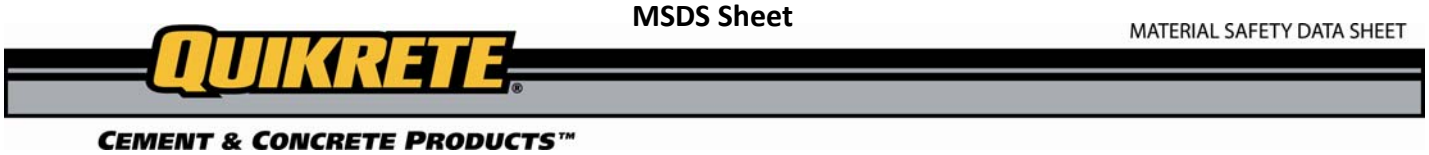
Waste Disposal Method: The packaging and material may be land filled; however, material should be covered to minimize generation of airborne dust. This product is not classified as a hazardous waste under the authority of the RCRA (40CFR 261) or CERCLA (40CFR 117&302).

SECTION XIV – TRANSPORT INFORMATION

DOT/UN Shipping Name: Non-regulated
DOT Hazard Class: Non-regulated
Shipping Name: Non-regulated
Non-Hazardous under U.S. DOT and TDG Regulations

SECTION XV – OTHER REGULATORY INFORMATION

US OSHA 29CFR 1910.1200: Considered hazardous under this regulation and should be included in the employers hazard communication program
SARA (Title III) Sections 311 & 312: Qualifies as a hazardous substance with delayed health effects
SARA (Title III) Section 313: Not subject to reporting requirements
TSCA (May 1997): All components are on the TSCA inventory list
Federal Hazardous Substances Act: Is a hazardous substance subject to statues promulgated under the subject act
California Regulation: WARNING: This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



Canadian Environmental Protection Act: Not listed
WHMIS Classification: Considered to be a hazardous material under the Hazardous Products Act as defined by the Controlled Products Regulations (Class D2A, E- Corrosive Material) and subject to the requirements of Health Canada's Workplace Hazardous Material Information (WHMIS). This product has been classified according to the hazard criteria of the Controlled Products Regulation (CPR). This document complies with the WHMIS requirements of the Hazardous Products Act (HPA) and the CPR.

SECTION XVI – OTHER INFORMATION

HMIS-III:

Health –	0 = No significant health risk
	1 = Irritation or minor reversible injury possible
	2 = Temporary or minor injury possible
	3 = Major injury possible unless prompt action is taken
	4 = Life threatening, major or permanent damage possible
Flammability-	0 = Material will not burn
	1 = Material must be preheated before ignition will occur
	2 = Material must be exposed to high temperatures before ignition
	3 = Material capable of ignition under normal temperatures
	4 = Flammable gases or very volatile liquids; may ignite spontaneously
Physical Hazard-	0 = Material is normally stable, even under fire conditions
	1 = Material normally stable but may become unstable at high temps
	2 = Materials that are unstable and may undergo react at room temp
	3 = Materials that may form explosive mixtures with water
	4 = Materials that are readily capable of explosive water reaction

Abbreviations:

ACGIH	American Conference of Government Industrial Hygienists
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation & Liability Act
CFR	Code of Federal Regulations
CPR	Controlled Products Regulations (Canada)
DOT	Department of Transportation
IARC	International Agency for Research
MSHA	Mine Safety and Health Administration
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicity Program
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
TLV	Threshold Limit Value
TWA	Time-weighted Average
WHMIS	Workplace Hazardous Material Information System

Revision #07-01, supersedes all previous revisions.

QUIKRETE®
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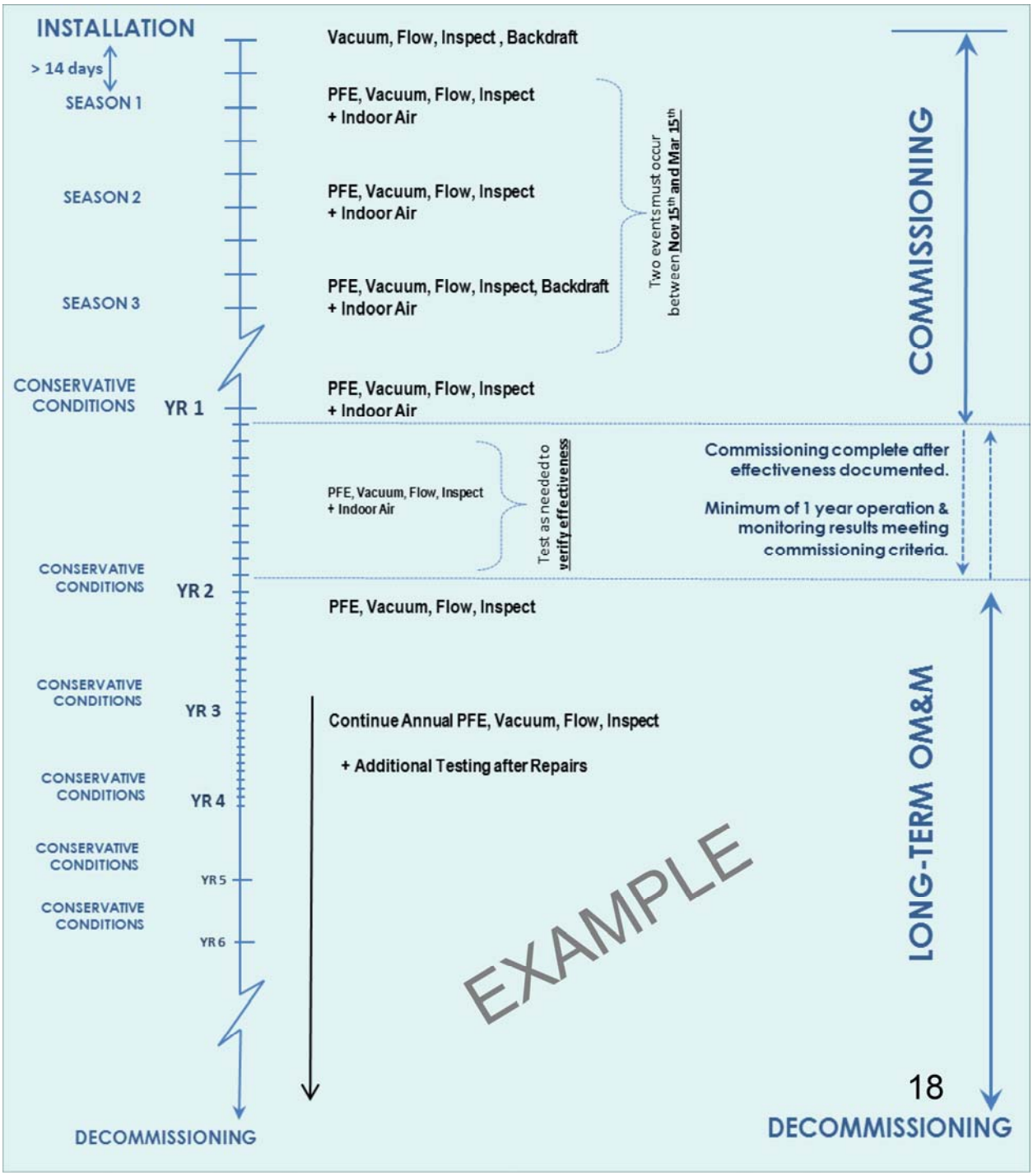
MATERIAL SAFETY DATA SHEET

Created: 10/25/2006
Last Updated: May 8, 2012

NOTE: The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, express or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to silica contained in our products.

ATTACHMENT 2

Example OM&M Program



Reference: Alyssa Sellwood, Wisconsin DNR, Issues & Trends 2015 webinar [PDF Document]. Retrieved from http://dnr.wi.gov/topic/Brownfields/TrainingLibrary.html

ATTACHMENT 3

Continuing Obligations Inspection and Maintenance Log (Form 4400-305)

State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Continuing Obligations Inspection and Maintenance Log

Form 4400-305 (2/14)

Directions: In accordance with s. NR 727.05 (1) (b) 3., Wis. Adm. Code, use of this form for documenting the inspections and maintenance of certain continuing obligations is required. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Open Records law [ss. 19.31-19.39, Wis. Stats.]. When using this form, identify the condition that is being inspected. See the closure approval letter for this site for requirements regarding the submittal of this form to the Department of Natural Resources. A copy of this inspection log is required to be maintained either on the property, or at a location specified in the closure approval letter. Do NOT delete previous inspection results. This form was developed to provide a continuous history of site inspection results. The Department of Natural Resources project manager is identified in the closure letter. The project manager may also be identified from the database, BRRTS on the Web, at http://dnr.wi.gov/botw/SetUpBasicSearchForm.do, by searching for the site using the BRRTS ID number, and then looking in the "Who" section.

Activity (Site) Name	BRRTS No.

Inspections are required to be conducted (see closure approval letter):	When submittal of this form is required, submit the form electronically to the DNR project manager. An electronic version of this filled out form, or a scanned version may be sent to the following email address (see closure approval letter):
◯ annually ◯ semi-annually ◯ other – specify ________________	

Inspection Date	Inspector Name	Item	Describe the condition of the item that is being inspected	Recommendations for repair or maintenance	Previous recommendations implemented?	Photographs taken and attached?
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			◯ Y ◯ N	◯ Y ◯ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			◯ Y ◯ N	◯ Y ◯ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			◯ Y ◯ N	◯ Y ◯ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			◯ Y ◯ N	◯ Y ◯ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			◯ Y ◯ N	◯ Y ◯ N
		☐ monitoring well ☐ cover/barrier ☐ vapor mitigation system ☐ other:			◯ Y ◯ N	◯ Y ◯ N

{Click to Add/Edit Image} Date added:

Title:

{Click to Add/Edit Image} Date added:

Title: