Der 1-19-16



January 12, 2016

Mr. David G. Volkert, Hydrogeologist
Wisconsin Department of Natural Resources
Bureau for Remediation & Redevelopment
Waukesha Service Center
141 NW Barstow Street
Waukesha, Wisconsin 53188

Re: Results of Further WDNR Requested Site Investigations Supplemental to the NR 716

Site Investigation Report OHM - Oconomowoc 36929 Plank Road Oconomowoc, Wisconsin

FID # 268087380; BRRTS # 02-68-551911

Dear Mr. Volkert:

As consultant to Mr. Charles Cass of OHM Holdings, Inc., Environmental Forensic Investigations, Inc. (EnviroForensics) is providing this results report of additional site investigation activities at the One Hour Martinizing (OHM) facility formerly located at 36929 Plank Road in Oconomowoc, Wisconsin (Site). This report is in response to the Wisconsin Department of Natural Resources (the Department) request of January 12, 2015 for additional groundwater and vapor intrusion information to supplement the Site Investigation Report dated November 20, 2014.

As stated in the Department letter, the Department requested additional groundwater monitoring wells on neighboring properties located east of the Site. Specifically, one (1) monitoring well on the KIA Dealership property (KIA) between existing wells MW-11 and MW-12, and wells further to the east on the NAPA Auto Parts Store (NAPA) property. It is our understanding that the Department concerns are as follows:

- 1. There may be a vapor intrusion risk to the Ewald KIA building if groundwater concentrations adjacent to the building are above the groundwater Enforcement Standards (ES); and
- 2. If groundwater impacts have spread further to the east to encroach the NAPA property at concentrations above the ES, then there may be a vapor intrusion risk to this building. Also, a Groundwater Use Restriction would need to be registered for this property.



#### **Proposed Additional Sampling**

To address these concerns, EnviroForensics proposed the following in a work scope titled *Work Scope for Further Site Investigations*, dated February 2, 2015:

- Three (3) wells to be installed on the NAPA auto parts store property to include two (2) water table wells (MW-14 and MW-15) and one deeper piezometer (PZ-2) to define vertical and downgradient extent of chlorinated solvent impacts (see attached **Figure 1**); and
- Five (5) sub-slab vapor samples would be collected inside the KIA building to determine if a vapor risk was present, rather than installing a permanent monitoring well. This was deemed a more practical approach. The exact sample locations would be selected based on configuration of office and other potential partially closed spaces within the building and areas where installation of the sub-slab vapor probes would be most inconspicuous.

#### Access Issues and Modifications to Scope

Several attempts were made to gain access to the Ewald KIA building for the planned sub-slab sampling. The owner, Mr. Brian Ewald, refused to allow sub-slab sampling ports to be installed in his building. Alternative options were discussed with WDNR project manager Dave Volkert and Mr. Ewald in an attempt to resolve Mr. Ewald's concerns. It was decided that groundwater conditions would be evaluated on the Ewald KIA property near the building by installing and sampling the groundwater monitoring well originally requested by the WDNR (MW-17 on attached **Figure 1**). If groundwater impacts were detected in this well at concentrations exceeding the ES, then a vapor sample would be collected from the well, and the concentrations detected in the vapor sample would be compared to vapor risk levels (VRLs) established for deep soil gas.

#### Well Installation Procedures and Groundwater Sampling Results

### NAPA Auto Parts Store Property

Two (2) water table observation wells (MW-14 and MW-15) and piezometer PZ-2 were installed in April, 2015 on the NAPA Auto Parts property at the locations shown on **Figure 1**. The wells were constructed in accordance with the requirements of the Department regulation Chapter NR 141. The water table wells and piezometer were constructed of 2-inch diameter schedule 40 PVC.

The water table observation wells were installed with screen lengths of ten-feet and factory cut 0.010-inch wide factory-cut slots. The screens were placed to intersect the water table, which was at a depth of approximately 31 feet below ground surface at the time of installation.

The piezometer was constructed of similar materials, except it was installed with a screen length of five-feet and installed below the water table at a depth of 61.5 feet below ground surface. **Well construction logs** are attached.



The new wells were developed according to NR 141 and sampled according to guidance in the Department Groundwater Sampling Desk Reference, PUBL-DGT-037. The wells were sampled using low-flow procedures, sent to a Wisconsin Certified laboratory, and analyzed by EPA Method 8260 for the short list of chlorinated dry cleaning solvents, only. **Well Development Logs** are attached.

The wells have been sampled two to four (2-4) times on a quarter year basis since their installation (see attached **Table 1** for a summary of all analytical results, and attached **laboratory sheets** for the June sampling event, only). As can be seen in **Table 1**, the concentration of tetrachloroethylene (PCE) in MW-14 has been above the ES during all four (4) sampling events and MW-15 has alternately contained PCE above the PAL and ES, respectively. This prompted the installation of an additional water table observation well further down-gradient, MW-16. Concentrations of PCE in MW-16 have been above the groundwater Preventative Action Limit (PAL), but below the ES. Piezometer PZ-2 did not contain chlorinated compounds above laboratory detection limits.

During the initial sampling event of April, 2015, MW-15 had a concentration of PCE that was above the PAL, but below the ES (**Table 1**). However, during the subsequent sampling event in June, 2015, MW-15 contained PCE in a concentration above the ES. This well is nearest to the NAPA building (**Figure 1**), and as such, the concentrations of PCE above the ES poses a potential vapor intrusion risk to the NAPA building. To evaluate this risk, a vapor sample was later collected from this well.

#### **Ewald KIA Property**

Water table observation well MW-17 was installed on the Ewald KIA property in July, 2015, after access was granted (**Figure 1**). This well was constructed in a similar fashion to the other water table observation wells with the exception of a longer screen length of 15 feet to provide adequate open screen length above the water table for potential collection of a soil vapor sample. The screen was installed to a depth of 37.5 feet below ground surface with the water table residing at a depth of 32.5 feet below ground surface. As can be seen in **Table 1**, the concentrations of PCE detected during the August 2015 sampling event exceeded the ES indicating the potential for a vapor intrusion risk to the building. To evaluate this risk, a vapor sample was collected from this well.

#### Vapor Sampling in Monitoring Wells MW-15 and MW-17

The vapor intrusion risk to the NAPA Auto Parts Store and the Ewald KIA dealership was evaluated by collecting soil vapor samples from monitoring wells MW-15 and MW-17, respectively. The vapor samples were analyzed by EPA Method TO-15 for the dry cleaning list of chlorinated solvents, only.

#### Vapor Sampling Procedures

A custom sample collection train was fashioned to allow the following adaptations (see attached **photographs**):

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- A rubber connector was fitted to one end of the sample train with a screw-tightened hose clamp to allow an air-tight connection to the 2-inch diameter PVC well riser;
- Another rubber connector was fitted with a screw-tightened hose clamp on the opposite end of the sample train to allow attachment of a vacuum source for purging of the dead air space in the monitoring well;
- A shut off lever-operated valve was installed to isolate the open vacuum end used for purging stagnant air in the well prior to sample collection; and
- A tee connector and hose barb was installed below the shut-off valve to allow attachment of tubing for helium leak testing and for sample collection.

To ensure that the sub-slab vapor samples were representative of subsurface vapor conditions, leak testing was performed generally in accordance with methods presented in the *Standard Practice for Active Soil Gas Sampling in the Vadose Zone for Vapor Intrusion Evaluation*, ASTM Standard D7663-11, and WDNR Publication RR-800.

Testing the integrity of the sample ports was conducted utilizing a helium tracer gas inside of a shroud (sealed plastic bag) that covered the sample collection train. While purging stagnant air from the well, if there was no detection of helium, the train was considered free of leaks. The integrity of the sampling lines was tested prior to sampling using a hand pump with a pressure gauge. Negative pressure was added to the line and observed for 60 seconds for changes. If no change to the pressure is observed the line was considered to be intact.

#### Calculating the Purge Volume

Prior to testing the integrity of the sampling ports, the depth to groundwater was measured to calculate the amount of unsaturated sand pack and well column.

The air flow of a small vacuum pump was calculated by connecting the pump to the entire sampling system and purging into a bag of known volume. The flow rate was calculated to be about 4 liters per second.

The amount of air per well volume was found by adding the calculated volume of air in the PVC riser ( $V_{riser}$ ) and calculated amount of air in the unsaturated sand pack which includes the two foot filter pack above the well screen ( $V_{unsat}$ ). The  $V_{unsat}$  was then adjusted for effective porosity of 35%. The amount of air per well volume was calculated using the following formulae:

	*	



#### **Equations**

 $V_{unsat} = \pi \times r^2 \times h_{unsat} \times ef$  $V_{riser} = \pi \times r^2 \times h_{riser}$ 

 $V_{total} = V_{riser} + V_{unsat}$ 

 $1 \text{ ft}^3 = 28.31 \text{ liters}$ 

 $t = (V_{total} / vacuum flow rate)$ 

#### **Definitions**

V<sub>unsat</sub> = volume of air in unsaturated filter pack

 $V_{riser}$  = volume of air in well riser

V<sub>total</sub> = total volume of air in well

t = length of purge time

ef = effective porosity

h<sub>riser</sub> = height of riser

h<sub>unsat</sub> = height of unsaturated zone

r = radius

1 = 1iter

 $ft^3$  = cubic feet

 $1 \text{ ft}^3 = 28.31 \text{ liters}$ 

flow rate = 4 liters/second

The amount of time and air purged is equal to the total volume of air in one well, divided by the flow rate. About three well volumes were purged from each well. 50.1 liters was purged from MW-15 and 44.1 liters was purged from MW-17.

Following purging, the vapor samples were collected in laboratory batch-certified one-liter sample vacuum canisters. In order to avoid the potential desorption of contaminants from the soil and to avoid leaks in the sampling system, a recommended sampling flow rate of 200 milliliters per minute (mL/min) was maintained by using a laboratory supplied flow controller. The vacuum canisters were connected to each vapor port using compression fittings and Teflon®-lined polyethylene tubing. Initial and final pressure readings were collected from the vacuum canisters and recorded on the attached **Field Sampling Forms**, along with all other required information. Soil gas vapor samples were submitted to Envision Laboratories of Indianapolis, Indiana for analysis of VOCs according to EPA Method TO-15. The samples were shipped via courier under appropriate chain-of-custody procedures.

#### Vapor Sampling Results

The vapor sampling results are recorded in attached **Table 2**, and attached **Laboratory Results Sheets**. As can be seen in **Table 2**, PCE was detected in both wells, but at concentrations well below the VRSLs established for deep soil gas samples.

#### **Conclusions**

PCE concentrations in down-gradient monitoring well MW-16 exceed the PAL, but do not exceed the ES. However, PCE in groundwater at concentrations above the ES have migrated to the adjacent NAPA and Ewald properties, and groundwater use restrictions will be needed for these properties. The concentrations of PCE detected in vapor samples collected from groundwater monitoring wells located near the Ewald KIA and NAPA buildings are well below VRSLs. These concentrations of PCE do not pose a vapor intrusion risk to the buildings. Based on these findings, the site investigations are



considered complete. EnviroForensics recommends that no further site investigations are needed to determine the extent of impacts. Instead, efforts should be focused on pilot testing and selecting the most appropriate and cost effective methods for remediation.

If you have any questions or require additional information, please don't hesitate to contact me at 414-982-3988.

Sincerely yours,

Wayne P. Fassbender, PG, PMP

Senior Project Manager

Attachments:

Attachment 1: Figure 1 showing locations of groundwater monitoring wells

Attachment 2: Well Construction Logs

Attachment 3: Well development logs

Attachment 4: Table 1 of groundwater analytical results

Attachment 5: Laboratory results sheets

Attachment 6: Photographs of vapor sampling train

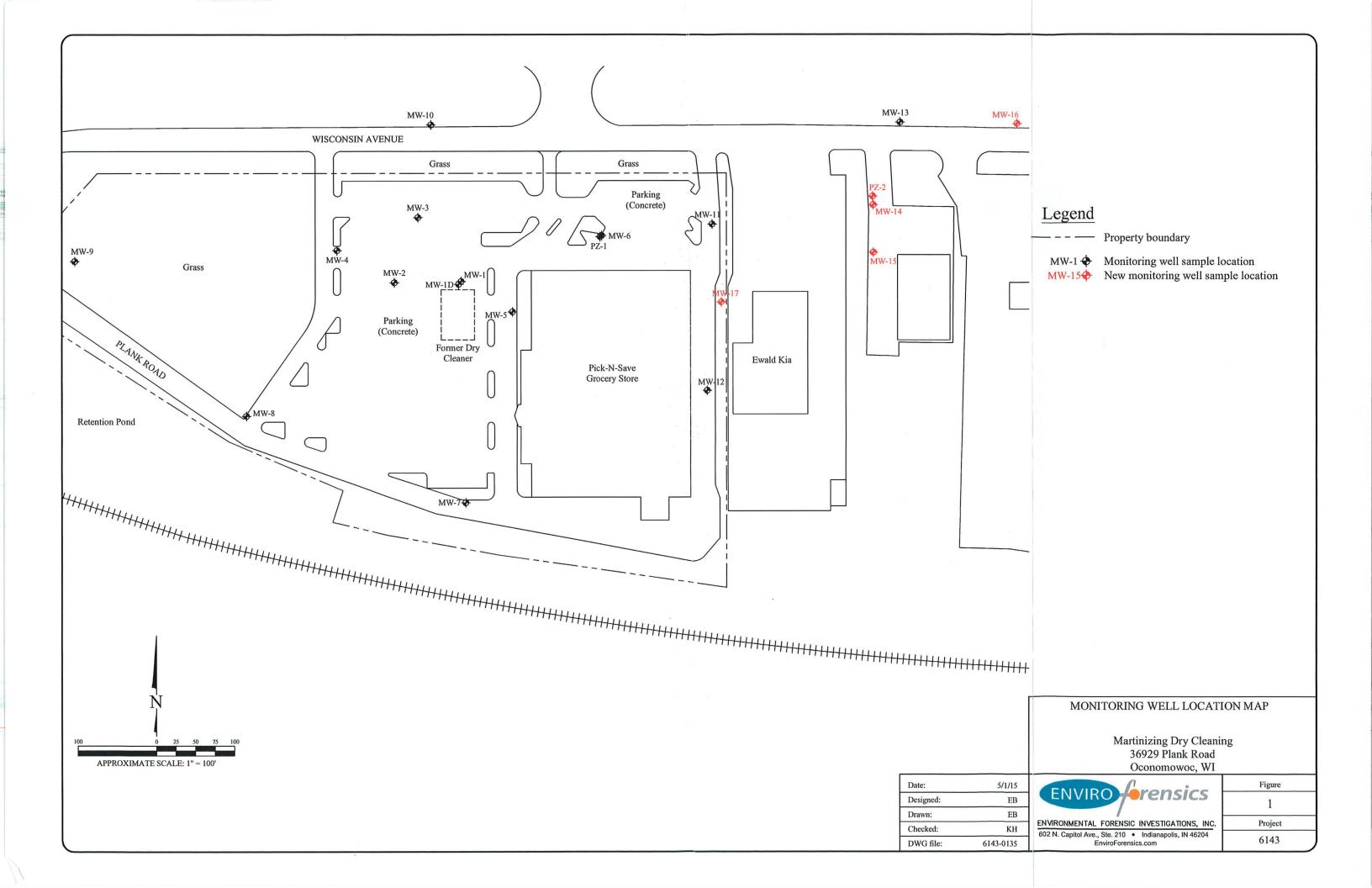
Attachment 7: Field sampling logs

Attachment 8: Table 2 of vapor sampling results



# **ATTACHMENT 1**

Figure 1 Showing Locations of Groundwater Monitoring Wells



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# **ATTACHMENT 2**

**Well Construction Logs** 

State of Wisconsin Department of Natural Resources Route to: Watershed/Wastewater Remediation/Redevelo	
Remediation/Redevelor Facility/Project Name Local Grid Location of CHW Ocenomouses	of Well Day Well Name
OHW Oconomoude	r = 8 r = 8 mw-14
Facility License, Permit or Monitoring No. Local Grid Origin	(estimated:   ) or Well Location   Wis. Unique Well No.   DNR Well ID No.   Long.   'ar   VY - 86
71 111 775	Long. Or VY-801
268087380 Section Location of V	ft. N. ft. E. S/C/N Date Well Installed 106/2015  Waste/Source
Type of Well	E, Well Installed By: Name (first, last) and Firm
Well Code 1/1 / Location of Well Rel	ative to Waste/Source   Gov. Lot Number
Distance from Waste/ Enf. Stds. u Upgradient Source ft. Apply d M Downgradient	s   Sidegradient t n   Not Known   Bodger State Drilling
A. Protective pipe, top elevation ft. MSL	1. Cap and look? Yes No
6 MG	2. Protective cover pipe:
b. Well cashing, top cite value = = = = = =	a. Inside diameter:
C. Land surface elevation ft. MSL	b. Length:  c. Material:  Steel 20 0 4
D. Surface seal, bottom ft. MSL or _ 1 _ ft.	Other 🗆
12. USCS classification of soil near screen:	d. Additional protection?
GP [] GM [] GC [] GW [] SW JSK SP [] SM J* SC [] ML [] MH [] CL [] CH []	If yes, describe:
Bedrock 🗆	3. Surface scal:  Bentonite □ 30  Concrete ☑ 01
13. Sieve analysis performed? ☐ Yes ≅ No	Other 🗆 🧼
14. Drilling method used: Rotary	4. Material between well casing and protective pipe;
8 4 inch CD Other D	Bentonite 🗷 30
OTHER LI WAR	Other Cl S. Annular space seal: a. Granular/Chipped Bentonite Zl 3 3
15. Drilling fluid used: Water □ 02 Air □ 01	5. Armular space seal: a. Granular/Chipped Bentonite 3 3 bLbs/gal mud weight Bentonite-sand slurry 3 3 5
Drilling Mud 🗆 03 None 🗷 99	CLbs/gal mud weight Bentonite slurry [ 31
16. Drilling additives used? ☐ Yes ☑ No	d % Bentonite Bentonite-cement grout 50
	eFt <sup>3</sup> volume added for any of the above f. How installed: Tremie □ 0 1
Describe	f. How installed:
17. Source of water (attach analysis, if required):	Gravity Er 08
	6. Bentonite seal: a. Bentonite granules ☐ 3 3 b. ☐ 1/4 in. ☐ 2/8 in. ☐ 1/2 in. Bentonite chips ☑ 3 2
E. Bentonite seal, top ft. MSL or ft.	b. 11/4 in. 199/8 in. 11/2 in. Bentonite chips 2. 32
2) 5	7. Fine sand meterial: Manufacturer, product name & mesh size
F. Fine sand, top ft. MSL or ft.	a Red Flint #15
G. Filter pack, top ft. MSL or _24 ft.	b. Volume added O.25 n3
H. Screen joint, topft. MSL or 26_ft.	8. Filter pack material: Manufacturer, product name & mesh size
	a Ohie 45 b. Volume added 2.5 ft <sup>3</sup>
I. Well bottomft. MSL or _36ft.	9. Well easing: Flush threaded PVC schedule 40 Z 23
J. Filter pack, bottomft. MSL or 37 ft.	Flush threaded PVC schedule 80 24 Other  Other
	10. Screen material:
K. Borehole, bottom ft. MSL or ft.	a. Screen type: Factory cut ☑ 11 Continuous slot □ 01
L. Borehole, diameter 8.25 in.	Other 🗆
M. O.D. well casing 2.335 in.	b. Manufacturer MonoFlex c. Slot size: 0.1 in.
CHO C	d. Slotted length:lQft.
N. I.D. well casing 2.044 in.	11. Backfill material (below filter pack): None 🕬 14
I hereby certify that the information on this form is true and corre	
Signature Firm	EnviroForensics
	~ I VITO LORANCIC

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: Sea the instructions for more information, including where the completed forms should be sent.

State of Wisconsin Department of Natural Resources Route to: Watershed/Wastewater Waste Management MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 7-98
Remediation/Redevelopment ✓ Other ☐ Well Name   Local Grid Location of Well ☐ N   Well Name   Control of We
OHM Oconomouse ft S. ft. B. Mu-15  Facility License, Permit or Monitoring No. Local Grid Origin (estimated: ) or Well Location   Wis. Unique Well No.   DNR Well ID No.
C2-68-SS191 Lat. "Long. "I Long. " " Long. VY-862
Facility ID
Type of Well  St. Plane  St. N,  St. E. S/C/N  Section Location of Waste/Source  Type of Well  Well Installed By: Name (first, last) and First
Type of Well  Well Code  1/4 of Sec, TN, R
Distance from Waste/ Enf. Stds. u Upgradient s Sidegradient
A. Protective pipe, top elevation ft. MSL 1. Cap and lock?
ft. MSI. 2. Protective cover pipe:
a. Handle.
Steel ST 0.4
D. Surface seal, bottom ft. MSL or ft. Other 🗆
12. USCS classification of soil near screen:  OP □ GM□ GC□ GW□ SW SP□  If yes, describe:  If yes, describe:
SM SC ML MH CL CH CH CH SE Bentomite C 30
Bedrock Concrete 20 01
13. Sieve analysis performed? ☐ Yes ☑ No  14. Drilling method used: Rotary ☐ 5 0  4. Material between well casing and protective pipe;
Hollow Stem Auger 4.1 Bentonite 4.30
15. Drilling fluid used: Water $\square$ 0 2 Air $\square$ 0 1
15. Drilling fluid used: Water □ 0 2 Air □ 0 1  Drilling Mud □ 0 3 None ☑ 9 9  bLbs/gal mud weight Bentonite-sand slurry □ 3 5  cLbs/gal mud weight Bentonite slurry □ 3 1
d% Bentonite Bentonite-cement grout [] 50
eft volume added for any of the above
Describe f. How installed: Tremie □ 01  Tremie pumped □ 02
Gravity -E3 08
6. Bentonite seal: a. Bentonite granules 33
E. Bentonite seal, topft, MSL orft.    b.
F. Fine sand, top ft MSL or 23.5 ft. 7. Fine sand meterial: Manufacturer, product name & mesh size
a Red Fint #15
G. Filter pack, top ft. MSL or 5.5 ft. b. Volume added G.25 n <sup>3</sup>
H. Screen joint, topft. MSL 33.5 ft. 8. Filter pack material: Manufacturer, product name & mesh size
b. Volume added $< .5$ ft <sup>3</sup>
Flush threaded PVC schedule, 80, Fl. 2.4
I. Filter pack, bottomft. MSL or _58 _ ft. Other []
K. Borehole, bottom ft. MSL or _ 38 _ ft a. Screen type: Factory cut 🖽 11
Continuous slot 01
h Manufacturer Man a Ellar
M. O.D. well easing 2.37) in.
M. I.D. well casing  d. Slotted length:  11. Backfill material (below filter pack);  None E 14
Other []
I hereby certify that the information on this form is true and correct to the best of my knowledge.  Signature  Firm
En uno Forensics

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 283, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

State of Wisconsin Department of Natural Resources Route to: Watershed/Was	lewater	nagement [	MONITORING WELL CONSTRUCTION
Remediation/Re	edevelopment Other		Form 4400-113A Rev. 7-98
	cation of Well	f.   E.	Well Name
Facility License, Permit or Monitoring No. Local Grid Ori	gin 🗆 (estimated: 🗆 ) o	r Well Location	Wis. Unique Well No. DNR Well ID No.
02-68-55(911 Lat		or	VY-860
Facility ID 268087380 St. Plane	ft. N,	ft. E. S/C/N	Date Well Installed 04/07/2015
Type of Well	on of Waste/Source	n.r. 🛮 🕏	well Installed By: Name (first, last) and Firm
W-11 C-da   2 , 02  1/4 of _	1/4 of Sec, T /ell Relative to Waste/Source	N, R. W	- Alex Plummer
Distance from Waste/ Enf. Stds. u 🗆 Upgrad	lient s Sidegradier		
	gradient n 🗆 Not Known		Badger State Drilling
A. Protective pipe, top elevation ft. MS		1. Cap and lock? 2. Protective cover	Yes No
B. Well casing, top elevation ft. MS		a. Inside diamete	
C. Land surface elevation ft. MS	. ]	b. Length:	_ <u>1_ n.</u>
D. Surface seal, bottom ft. MSL or	A Laborator	c. Material:	Steel ⊠ 04
12. USCS classification of soil near screen:		1 6 7 324 1	Other 🗆
GP GM GC GW SW K SP C		d. Additional pro	
SM C SC ML MH CL C CH C	5   <b>\          </b>     \		Bentonite □ 30
Bedrock 🗆		3. Surface scal:	Concrete K 01
13. Sieve analysis performed? Yes K.No			Other 🗆
14. Drilling method used: Rotary 52.50 Hollow Stem Auger 4.1		4. Material between	well casing and protective pipe:  Bentonite  30
Other D			Other 🗆 🎎
		5. Annular space se	
15. Drilling fluid used: Water □ 02 Air □ 01 Drilling Mud ☑ 03 None □ 99			nud weight Bentonite-sand slurry □ 35
Drilling Mud 2 0 3 None  99			nud weight Bentonite slurry   31
16. Drilling additives used? ☐ Yes ☑ No			ite Bentonite-cement grout 5 0 3 volume added for any of the above
		f. How installed	PM 4
Describe		I. IIVW MISSELLOW	Tremie pumped 🗆 02
			Gravity № 08
Madison, WI	J ▓ ▓	6. Bentonite seal:	a. Bentonite granules ☐ 33  3/8 in. ☐ 1/2 in. Bentonite chips া 32
E. Bentonite seal, top ft. MSL or _ 1	_Ու 🖁 🖟 🖊	c. Black	
F. Fine sand, topft. MSL or _53		7. Fine sand materi	al: Manufacturer, product name & mesh size
	\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	a Red Flim	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
G. Filter pack, top ft. MSL or 54.5	A	b. Volume added	
			ial: Manufacturer, product name & mesh size
H. Screen joint, top ft. MSL or 56.5	. ft	a. Ohio #	
I. Well bottom ft. MSL or 61.5	a B	<ol> <li>Volume adde</li> <li>Well casing:</li> </ol>	
		9, wen casing:	Flush threaded PVC schedule 40 \( \sigma \) 2 3  Flush threaded PVC schedule 80 \( \sigma \) 2 4
J. Filter pack, bottom ft. MSL or 62	A.		Other 🗆 🌉
(2		10. Screen material:	
K. Borehole, bottom ft. MSL or	-ft.	<ol> <li>Screen type:</li> </ol>	Factory cut 🗹 11
L. Borehole, diameter			Continuous slot 0 1
	\	b. Manufacturer	Other []
M. O.D. well casing $2.375$ in.	\	c. Slot size:	0, 1 in.
2 017	\	d. Slotted length	
N. I.D. well casing 2.047 in.		11. Backfill material	The state of the s
I hereby certify that the information on this form is true ar	ad correct to the best of my kn	owledge.	Other 🗆 🎎
Signature	Firm		
y ~ ~ ~	Enviroforens	ics	

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 283, 291, 292, 293, 295, and 299, Wis. Statu., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 293, and 299, Wis. Statu., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

	Watershed/Wastowater ☐ Remediation/Redevelopment⊠	Waste Management	MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 7-98
Facility/Project Name	Remediation/Redevelopment/Local Grid Location of Well ft.		Well Name
OHM Oconomowas		Nfr. B.	6143-mw-16
Facility License, Permit or Monitoring No.	, Local Grid Origin 📋 (estima	ned: 🔲 ) or Well Location 🔲	Wis. Unique Well No. DNR Well ID No.
02-68-551911	Lat.	Longor	
Facility ID		n. e. s/c/n	Date Well Installed
268087380	Section Location of Waste/Sou		m m d d y y y y
Type of Well			
Well Code 11 / MW	1/4 of1/4 of Sec_ Location of Well Relative to W		- Levin Duerse -
Distance from Waste/ Enf. Stds.		Sidegradient Gov. Lot Number	
Sourceft. Apply		Not Known	Badger State Drilling
	ft. MSL	1. Cap and lock?	X Yes No
	11	2. Protective cover	pipe:
B. Well casing, top elevation	ft. MSL	a. Inside diamete	or: _\delta_in.
C. Land surface elevation	ft. MSL	b. Length:	_ <u>l</u> _ ft.
		c. Material:	Steel 🗀 04
D. Surface seal, bottom ft. M			Other 🗆 🏬
12. USCS classification of soil near scree	m: 23.20	d. Additional pro	otection? 🔯 Yes 🗆 No
GP GM GC GC GW G	SW D SP X	If yes, describ	e: Concrete Flush and
	CL CH CH	3 Sunface analy	Bentonite . ₩ 30
Bedrock	1 1881	3. Surface scal:	Concrete 🗆 01
13. Sieve analysis performed?	Yes ⊠ No	<b>X</b>	Other 🗹 🧼
14. Drilling method used: Ro	otary 🗆 50	4. Material between	n well casing and protective pipe:
Hollow Stem A			Bentonite 🗆 30
	Other 🗆 🎎		Other 🌠 🏬
	_	5. Annular space se	al: a. Granular/Chipped Bentonite 2 3 3
15. Drilling fluid used: Water □ 0 2	Air 🗆 01		mud weight Bentonite-sand slurry □ 35
Drilling Mud 🖂 0 3	None 1299		mud weight Bentonite slurry 🗖 31
16 Delline additions used?	Van El No		nite Bentonite-cement grout 50
16. Drilling additives used?	Yes No	eFt	volume added for any of the above
Describe		f. How installed	
17. Source of water (attach analysis, if req	- visad)		Tremie pumped 🗖 02
17. Source of Water (adacat analysis, if fee	lanea):		Gravity 🖾 08
,		6. Bentonite seal:	a. Bentonite granules   3 3
	1.5	b. □1/4 in, □	13/8 in. □ 1/2 in. Bentonite chips ■ 32
E. Bentonite seal, top ft. M	SL or	C	Other 🗆 🎇
		7. Fine sand materi	al: Manufacturer, product name & mesh size
F. Fine sand, top ft. M	SL or _ ddft.		int ±15
	. 22	a. 100 11	10000
G. Filter pack, top ft. M	SL or 22_A	b. Volume adde	
VI 0	SLor 26 A	8. Filter pack mate	rial: Manufacturer, product name & mesh size
H. Screen joint, top ft. M	SL OF IL	a. R.W. Sic	
v water	SLor_36ft.	b. Volume adde	
I. Well bottom ft. M	SLOT I	9. Well casing:	Flush threaded PVC schedule 40 🗷 23
I. Filter pack, bottomft. M	er = 36.5 A		Flush threaded PVC schedule 80   24
1. Filter pack, bottom tt. Iv.	SE diIL		PVC Other □
K. Borehole, bottom ft. M	SL or _36,5_ft.	10. Screen material:	
	SL ofn	a. Screen type:	Factory cut 11
L. Borehole, diameter $\frac{8}{2}$ in.			Continuous slot   01
L. Borehole, diameter _ 2 2 in.		1 11	Other 🗆
M. O.D. well casing 2.375 in.		o. Slot size:	Monaflex
Mr. O.D. well casting		d. Slotted length	0 in. _ <u>  O_</u> ft.
N. I.D. well casing 2.067 in.			
N. I.D. well casing		II. Dackiųi maicha	JAME
I hereby certify that the information on thi	e form is true and correct to the	hest of my knowledge	Other 🗆 🌉
	In.	war or my vinowiouge.	
Signature /		ira Farensiu	
	1 3/0		

Please complete both Forms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.

	ershed/Wastewater Waste I	Management	MONITORING WELL CONSTRUCTION Form 4400-113A Rev. 7-98
Reme	ediation/Redevelopment D Other		
Constitution of the state of th	cal Grid Location of Well N.	f. 🗆 🕏	Well Name 6143 - MW-17
Pacility License, Permit or Monitoring No. Loc	IL  S	On Well Location C	
	Long.	or Mail Tocariou [7]	
PR 111. WWW.			Data Wall Installed
2 48087380	Plane ft. N,	ft. B. S/C/N	
Type of Well	ction Location of Waste/Source	N.R. BE	Well Installed By: Name (first, last) and Firm
Well Code II / Male!	1/4 ofTT	The second secon	Kevin Duerst
Loc	cation of Well Relative to Waste/Source Upgradient s	Gov. Lot Number	
	Downgradient n   Not Kno		Bodger State Drilling
	_ ft. MSL	- 1. Cap and lock?	☑ Yes □ No
AND TO SELECT THE SELECT SHEET S		2. Protective cover	pipe:
B. Well casing, top elevation	ft. MSL	a. Inside diamete	_ \( \frac{1}{2} \) in.
C. Land surface elevation	ft MSL	b. Length:	_ <u> </u>
	1.5	c. Material:	Steel 💆 04
D. Surface seal, bottom ft. MSL o	" IL		Other 🗆 🌉
12. USCS classification of soil near screen:	Again A.	d. Additional pr	otection? Yes 🗆 No
GP GM GC GW SW		If yes, descri	be concrete flush pad
SM SC ML MH CL	псип / / / / / / / / / / / / / / / / / / /	3. Surface scal:	Bentonite 🗷 30
Bedrock 🗆		5. Surface scar:	Concrete □ 01
13. Sieve analysis performed?	2001 8503	1	Other 🗆
	□ 5 0	<ol><li>Material between</li></ol>	n well casing and protective pipe:
Hollow Stem Auger	241   88	2	Bentonite 🗆 30
Other		sand	Other 🖾 🎎
16 Palling Study wards Water FLO2	. 🗆 01	5. Amular space s	eal; a. Granular/Chipped Bentonite 🖾 33
	e 127 99		mud weight Bentonite-sand slurry 35
Political Co. Market	5 90 7 7		mud weight Bentonite slurry 🛄 31
16. Drilling additives used?	VZÍ No		nite Bentonite-cement grout 50
			volume added for any of the above
Describe		f. How installed	
17. Source of water (attach analysis, if required	i):		Tremie pumped □ 02 Gravity 図 08
		6. Bentonite seal:	Gravity 図 08 a. Bentunite granules □ 33
			33/8 in. 1/2 in. Bentonite chips 2 32
E. Bentonite seal, top ft. MSL or	r 1.5 AL 💹 🖼	1 0	Other 🗆 🔐
	· · · · · · · · · · · · · · · · · · ·	/	
F. Fine sand, top ft. MSL or	r_193_ft、\엉엉 🖼 /		ial: Manufacturer, product name & mesh size
		a Red F	line #15
G. Filter pack, top ft. MSL or	1 21.6 A. \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	b. Volume adde	ad ft <sup>3</sup>
	End Lond		rial: Manufacturer, product name & meah size
H. Screen joint, top ft. MSL or	, dan A	a. R.W. Sib	lley *5
	Tylamad'.	b. Volume add	
I. Well bottom ft. MSL or	- 37.8 n.	9. Well casing:	Flush threaded PVC schedule 40 🕱 23
	310		Flush threaded PVC schedule 80 🔲 24
J. Filter pack, bottom ft. MSL or	1 1 5 M		Other 🗆 🎇
		10. Screen material	
K. Borehole, bottom ft. MSL or	rfft.	a. Screen type:	Factory cut 2 11
L. Borchole, diameter $-\frac{8}{2}\frac{1}{2}$ in.			Continuous slot 🗖 01
L. Borehole, diameter0_2_ in.			Other 🗆 🌉
2.37	\	b. Manufactures	
M. O.D. well easing 2.375 in.	`	c. Slot size:	0. Te - in.
N. I.D. well casing 2-067 in.		d. Slotted lengt	
N. I.D. well casing		11. Backfill materia	I (below filter pack): None 🖾 14
I hereby certify that the information on this form	en is tous and co	kanulada	Other 🗆 🌉
Signature	Eirm		
L- V- IM	Envirata	rensics	

Please complete both Porms 4400-113A and 4400-113B and return them to the appropriate DNR office and bureau. Completion of these reports is required by chs. 160, 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats., and ch. NR 141, Wis. Adm. Code. In accordance with chs. 281, 289, 291, 292, 293, 295, and 299, Wis. Stats., failure to file these forms may result in a forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on these forms is not intended to be used for any other purpose. NOTE: See the instructions for more information, including where the completed forms should be sent.



# **ATTACHMENT 3**

Well Development Logs

State of Wisconsin Department of Natural Resources

# MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

Route to: Watershed/Wastew	vater	Waste Management
Remediation/Rede	velopment 🔀	Other
	County Name	Well Name
OHM Ocanomowac	Worder	esha MW-14
Facility License. Permit or Monitoring Number	County Code	Wis. Unique Well Number DNR Well ID Number
02-68-551911	67	<u> </u>
1. Can this well be purged dry?	s 🔭 No	Before Development After Development  11. Depth to Water
Well development method     surged with bailer and bailed	1	(from top of well casing)  a. 31.84 ft. 31.84 ft.
surged with bailer and pumped surged with block and bailed surged with block and pumped surged with block, bailed and pumped compressed air bailed only pumped only pumped slowly Other  3. Time spent developing well  4. Depth of well (from top of well casisng)  5. Inside diameter of well  6. Volume of water in filter pack and well casing	1 2 2 0 0 0 0 1 0 0 1 0 0 0 0 0 0 0 0 0	Date  b. O4/2015 O4/2015 O4/2015 of d d y y y y y  Time  c. O4:32 p.m. O5:27 p.m.  12. Sediment in well
7. Volume of water removed from well <u>a</u>	. <u>S</u> gal.	14. Total suspended mg/l mg/l mg/l mg/l
9. Source of water added NA		15. COD mg/l mg/l
		16. Well developed by: Name (first, last) and Firm
10. Analysis performed on water added?  (If yes, attach results)	s 🗷 No	First Name: Kyle Last Name: Vander Heider  Firm: Enviro Forensia
17. Additional comments on development:		-
purged chear		•
Name and Address of Facility Contact/Owner/Responsible First Last Name: Name:	e Party	I hereby certify that the above information is true and correct to the best of my knowledge.
Facility/Firm:		Signature: La Value
Street:		Print Name: Kyle Vander Heiden
City/State/Zip:		Firm: <u>Enuratarensics</u>

State of Wisconsin Department of Natural Resources

## MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

Route to: Watershed/Waster	water	Waste Management
Remediation/Rede	evelopment 🗲	Other
Facility/Project Name	County Name	Well Name
OHM Oconomouoc Facility License. Permit or Monitoring Number	Waukes	that MW-15
Facility License. Permit or Monitoring Number	County Code	Wis. Unique Well Number DNR Well ID Number
02-68-81911	67	NA-865
	es 🛒 No	11. Depth to Water (from top of a3 \ _3 \ _ft3 \ _ft.
surged with bailer and pumped surged with block and bailed surged with block and pumped		well casing)  Date $b\frac{O + 1}{m m} / \frac{O + 1}{d d} / \frac{O + 1}{y y y y} = \frac{O + 1}{m m} / \frac{O + 1}{d d} / \frac{O + 1}{y y y y} = \frac{O + 1}{y y y y y}$
bailed only 1 pumped only 5 pumped slowly 5		Time c. 03:08 p.m. 04:18 p.m.  12. Sediment in well linches linches bottom  13. Water clarity Clear 10 Clear 20  Turbid 15 Turbid 25
3. Time spent developing well  4. Depth of well (from top of well casisng)  2.1	O min.	(Describe) (Describe)  Very murky Slightly murky
5. Inside diameter of well 2		
	3 gal.	Fill in if drilling fluids were used and well is at solid waste facility:
	gal.	14. Total suspended mg/l mg/l solids
9. Source of water added		15. COD mg/l mg/l
10. Analysis performed on water added?   (If yes, attach results)	es 🗷 No	16. Well developed by: Name (first, last) and Firm  First Name: Kyle Last Name: Grader Heiden  Firm: Enuived Forensics
17. Additional comments on development:		· · · · · · · · · · · · · · · · · · ·
Name and Address of Facility Contact/Owner/Responsible  First Last  Name: Name:	e Party	I hereby certify that the above information is true and correct to the best of my knowledge.
Facility/Firm:		Signature:
Street:		Print Name: Kyle Vander Heiden
City/State/Zip:		Firm: Envira Farensics

*			
	**		

State of Wisconsin Department of Natural Resources

## MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

Route to: Watershed/Wastewater	Waste Management			
Remediation/Redevelopment	Other			
Facility/Project Name   County Name	Well Name			
OHM Ocenamos Wankes Facility License. Permit or Monitoring Number County Code	ha PZ-2			
	Wis. Unique Well Number DNR Well Number			
02-68-551911	VY-860			
1. Can this well be purged dry?  2. Well development method  surged with bailer and bailed  surged with block and pumped  surged with block and pumped  surged with block and pumped  surged with block, bailed and pumped  compressed air  bailed only  pumped only  pumped slowly  Other  3. Time spent developing well  4. Depth of well (from top of well casisng)	Before Development After Development  11. Depth to Water (from top of well casing)  Date  b. Cy/Co/A/2015			
5. Inside diameter of well				
6. Volume of water in filter pack and well casing	Fill in if drilling fluids were used and well is at solid waste facility:			
7. Volume of water removed from well gal.  8. Volume of water added (if any) gal.	14. Total suspended mg/l mg/l solids			
9. Source of water added	15. CODmg/lmg/l			
	16. Well developed by: Name (first, last) and Firm			
10. Analysis performed on water added?   Yes No (If yes, attach results)	First Name: Kyle Last Name: Vander Heiden			
17 Additional comments on developments	Firm: Enviraforencis			
17. Additional comments on development:				
* pretty clear after 4 minute	5) V4			
* purped clear				
Name and Address of Facility Contact/Owner/Responsible Party	I hereby certify that the above information is true and correct to the best			
First Last	of my knowledge.			
Name: Name:				
Facility/Firm:	Signature:			
Street:	Print Name: Kyle Vander Heiden			
City/State/Zip:	Firm: Enuita Farensics			

NOTE: See instructions for more information including a list of county codes and well type codes.

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State of Wisconsin Department of Natural Resources

### MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

Route to: Watershed/Waster	water	Waste Management [			
Remediation/Red	evelopment[X]	Other			
Facility/Project Name	County Name		Well Name		
OHM Oconomouse Facility License, Permit or Monitoring Number	Waukesh			- Mm-	-16
	County Code	Wis. Unique Well Nu		DNR We	II ID Number
C2-68-551911	67	<u> </u>	866		
<ol> <li>Can this well be purged dry?</li> <li>Well development method</li> </ol>	S No	11. Depth to Water (from top of			After Development
	1	well casing)	*		
surged with bailer and pumped surged with block and bailed surged with block and pumped surged with block, bailed and pumped compressed air bailed only pumped only pumped slowly Other  3. Time spent developing well	51 42 52 70 20 10 51 50 9_min.	i	.14.35	a.m. p.m. inches	5 07 /28 /2015 y m m d d y y y y y  16:44 p.m. inches  Clear □ 20  Turbid ≥ 25  (Describe)
5. Inside diameter of well	67_ in.				
7. Volume of water removed from well3	9-92 <sub>gal.</sub> 9gal.	Fill in if drilling fluid  14. Total suspended solids			at solid waste facility:
9. Source of water added		15. COD		mg/l	mg/l
10. Analysis performed on water added? Ye (If yes, attach results)	es 👿 No	16. Well developed by First Name: Kyle Firm: EnviroForen			no: Vander Heider
17. Additional comments on development:					
Name and Address of Facility Contact/Owner/Responsible First Last Name: Name:	le Party	I hereby certify that of my knowledge.	t the above inf	formation i	is true and correct to the best
Facility/Firm:		Signature:	1_	1	
Street:		Print Name: Ky	le Var	nder 1	teiden
City/State/Zip: WI	· .	Firm: Environ	Forensics		

NOTE: See instructions for more information including a list of county codes and well type codes.

State of Wisconsin Department of Natural Resources

### MONITORING WELL DEVELOPMENT Form 4400-113B Rev. 7-98

Route to: Watershed/Wa	stewater	Waste Management [		
Remediation/F	Redevelopment[X]	Other 🗀		
Facility/Project Name	County Name		Well Name	
OHM Oconomowac	Wauke		0	MW-17
Facility License, Permit or Monitoring Number	County Code	Wis. Unique Well Nu		NR Well ID Number
02-68-551911	67	<u>vy</u>	867	Milital Militar House
1. Can this well be purged dry?	Yes 💆 No	11. Depth to Water		opment After Development
2. Well development method		(from top of	<u>. 32.4</u>	2 ft 32.43 ft.
surged with bailer and bailed	41	well casing)		
surged with bailer and pumped	61			
surged with block and bailed	42	Date	b. 07/28/	<u>2015</u> 07/28/2015 y y y y m m d d y y y
surged with block and pumped	62		m m d d	y y y y m m d d y y y
surged with block, bailed and pumped 💢	70		13 05	am. 14:15 am.
compressed air	-,-	Time	c. 13:05	□ p.m. 17:15 □ p.m.
bailed only		10 6 1	0.1	
pumped only		12. Sediment in well bottom	<u></u>	inches inches
pumped slowly  Other	50	13. Water clarity	Clear 10 10	
3. Time spent developing well	٠ ،		(Describe)	Turbid □ 25 (Describe)
	70 min.		(DOSCITOC)	Slightly turbid
4. Depth of well (from top of well casisng) 33	7.54 <sub>ft.</sub>		-	
2	0/7			
5. Inside diameter of well	.067 in.			
6. Volume of water in filter pack and well casing	4-24 gal.			
	_ gal.	Eill in it deilling fluid	a verse veed and	well is at solid waste facility:
7. Volume of water removed from well	$27_{gal.}$	Fin in in drining maid	s were used and	wen is at sond waste facility.
		14. Total suspended		mg/l mg/l
8. Volume of water added (if any)	NA gal.	solids		
9. Source of water added		15. COD		mg/l mg/l
10 4 1 2 6 1 1 1 10 7	77 🛏	16. Well developed by		and Firm
10. Analysis performed on water added?  (If yes, attach results)	Yes 🔀 No	First Name: Kyl	e i	Last Name: Vander Heiden
(if you, assessit rooms)		Firm: EnviroForen	sics	
17. Additional comments on development:				
	*			
Name and Address of Facility Contact/Owner/Respon	sible Party	I hereby certify that	t the above infor	mation is true and correct to the best
First Last		of my knowledge.		
Name: Name:			, 7	/ 1 -
Facility/Firm:		Signature:		
•		1	1 11	1 11 . 1
Street:		Print Name: Ky	ile Vai	wer Heiden
City/State/7in: WI		Firm: Envirof	orensics	
City/State/Zip: WI		Linii.		W. L. L. L. W. W. W. P.

			i.



### **ATTACHMENT 4**

**Table 1 of Groundwater Analytical Results** 

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# **Table 1 Summary of Groundwater Analytical Results**

Former One Hour Martinizing Cleaners Oconomowoc, Wisconsin

Monitoring Well ID	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
Preventive Action	Limit	0.5	0.5	7	20	0.02
Enforcement Star	ndard	5	5	70	100	0.2
	4/15/2015	10.50	< 0.47	< 0.45	< 0.54	< 0.17
MW-14	6/22/2015	12.6	< 0.47	< 0.45	< 0.54	< 0.17
IVI W - 14	8/3/2015	6.7	< 0.47	< 0.45	< 0.54	< 0.17
	11/6/2015	12.2	< 0.47	< 0.45	< 0.54	< 0.17
	4/15/2015	2.97	< 0.47	< 0.45	< 0.54	< 0.17
MW-15	6/22/2015	10.7	< 0.47	< 0.45	< 0.54	< 0.17
IVI W -13	8/3/2015	3.2	< 0.47	< 0.45	< 0.54	< 0.17
	11/6/2015	8.2	< 0.47	7         20         0.02           70         100         0.2           2         <0.45         <0.54         <0.17           3         <0.45         <0.54         <0.17           4         <0.45         <0.54         <0.17           5         <0.45         <0.54         <0.17           6         <0.45         <0.54         <0.17           7         <0.45         <0.54         <0.17           8         <0.45         <0.54         <0.17           9         <0.45         <0.54         <0.17           9         <0.45         <0.54         <0.17           9         <0.45         <0.54         <0.17           9         <0.45         <0.54         <0.17           9         <0.45         <0.54         <0.17           9         <0.45         <0.54         <0.17           9         <0.45         <0.54         <0.17           9         <0.45         <0.54         <0.17           10         <0.45         <0.54         <0.17           10         <0.45         <0.54         <0.17           10         <0.45 <t< td=""><td>&lt; 0.17</td></t<>	< 0.17	
MW-16	8/3/2015	2.99	< 0.47	< 0.45	< 0.54	< 0.17
IVI W - 10	11/6/2015	4.6	< 0.47	< 0.45	< 0.54	< 0.17
MW-17	8/3/2015	8.4	< 0.47	<0.45	<0.54	< 0.17
171 77 - 1 /	11/5/2015	11.1	< 0.47	< 0.45	< 0.54	< 0.17
	4/15/2015	< 0.74	< 0.47	<0.45	< 0.54	< 0.17
PZ-2	6/23/2015	< 0.74	< 0.47	< 0.45	< 0.54	< 0.17
1 2-2	8/3/2015	< 0.74	< 0.47	< 0.45	< 0.54	< 0.17
	11/6/2015	<0.49	<0.47	< 0.45	< 0.54	< 0.17

#### Notes:

Samples analyzed using EPA SW-846 Method 8260

All concentrations reported in µg/L

**Bolded** and orange shaded values are above Public Health Enforcement Standards

Bolded and blue shaded values are above Public Health Preventive Action Limits





## **ATTACHMENT 5**

**Laboratory Results Sheets** 

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# 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 29-Jun-15

<b>Project Name</b>	OHM	Invoice #	E29155

Project #	6143 PO#2015536	
Lab Code	5029155A	

Sample ID 6143-MW-1
Sample Matrix Water
Sample Date 6/23/2015

	Resul	t	Unit	LOD	LOQ 1	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic											
VOC's											
cis-1,2-Dichloroethene	<	2.25	ug/l	2.25	7	5	8260B		6/25/2015	CJR	1
trans-1,2-Dichloroethene	<	2.7	ug/l	2.7	8.5	5	8260B		6/25/2015	CJR	1
Tetrachloroethene	78		ug/l	3.7	12	5	8260B		6/25/2015	CJR	1
Trichloroethene (TCE)	<	2.35	ug/l	2.35	7.5	5	8260B		6/25/2015	CJR	1
Vinyl Chloride	<	0.85	ug/l	0.85	2.7	5	8260B		6/25/2015	CJR	1
SUR - 1,2-Dichloroethane-d4	103		REC %			5	8260B		6/25/2015	CJR	1
SUR - 4-Bromofluorobenzene	. 103		REC %			5	8260B		6/25/2015	CJR	1
SUR - Dibromofluoromethane	109		REC %			5	8260B		6/25/2015	CJR	1
SUR - Toluene-d8	93		REC %			5	8260B		6/25/2015	CJR	1

Lab Code 5029155B Sample ID 6143-MW-1d Sample Matrix Water Sample Date 6/23/2015

LOD LOQ Dil Ext Date Run Date Analyst Code Result Unit Method Organic VOC's cis-1,2-Dichloroethene 6/25/2015 **CJR** < 0.45 0.45 1.4 8260B ug/l 1.7 trans-1,2-Dichloroethene < 0.54 ug/l 0.54 8260B 6/25/2015 CJR ug/l Tetrachloroethene 2.33 "J" 0.74 2.4 8260B 6/25/2015 CJR Trichloroethene (TCE) < 0.47 0.47 8260B 6/25/2015 **CJR** ug/l 1.5 Vinyl Chloride ug/l 0.54 8260B 6/25/2015 CJR 98 REC % **CJR** SUR - 1,2-Dichloroethane-d4 8260B 6/25/2015 1 REC % 8260B CJR SUR - 4-Bromofluorobenzene 98 6/25/2015 1 SUR - Dibromofluoromethane 104 REC % 8260B 6/25/2015 CJR 1 1 SUR - Toluene-d8 REC % 8260B 6/25/2015 CJR

.

Project Name OHM

Project #

6143 PO#2015536

Lab Code

5029155C

Sample ID Sample Matrix Water

6143-MW-2

Sample Date	6/23/2015		×								
-		Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic					_					•	
VOC's											
cis-1,2-Dichloroeth		< 0.45	ug/l	0.45		1	8260B		6/25/2015	CJR	1
trans-1,2-Dichloroe	ethene	< 0.54	ug/l	0.54		1	8260B		6/25/2015	CJR	1
Tetrachloroethene	CE)	16.9	ug/l	0.74		1	8260B		6/25/2015	CJR	1
Trichloroethene (To Vinyl Chloride	CE)	< 0.47 < 0.17	ug/l	0.47 0.17		1 1	8260B 8260B		6/25/2015	CJR CJR	1
SUR - Toluene-d8		93	ug/l REC %	0.17	0.34	1	8260B		6/25/2015 6/25/2015	CJR	1
SUR - Dibromofluc	nmmethane	106	REC %			1	8260B		6/25/2015	CJR	1
SUR - 4-Bromofluo		103	REC %			1	8260B		6/25/2015	CJR	1
SUR - 1,2-Dichloro		99	REC %			1	8260B		6/25/2015	CJR	1
						-	02002		0,20,2010		•
Lab Code	5029155D										
Sample ID	6143-MW-3	3									
Sample Matrix	Water										
Sample Date	6/23/2015										
Sample Date	0/23/2013	Dogul4	TI\$4	LOD	1.00	D:I	Madhad	Ent Data	D D.4.	A 14	C-1-
		Result	Unit	LOD	LOQ	DII	Method	Ext Date	Run Date	Anaiyst	Code
Organic											
VOC's											
cis-1,2-Dichloroeth		< 0.45	ug/l	0.45		1	8260B		6/25/2015	CJR	1
trans-1,2-Dichloroe	ethene	< 0.54	ug/l	0.54		1	8260B		6/25/2015	CJR	1
Tetrachloroethene	GP)	64	ug/l	0.74		1	8260B		6/25/2015	CJR	1
Trichloroethene (To	CE)	1.55	ug/l	0.47		1	8260B		6/25/2015	CJR	1
Vinyl Chloride SUR - 1,2-Dichloro	oothomo dd	< 0.17 96	ug/l REC %	0.17	0.54	1	8260B 8260B		6/25/2015	CJR	1
SUR - 4-Bromofluc		95	REC %			1 1	8260B		6/25/2015 6/25/2015	CJR CJR	1 1
SUR - Dibromofluo		109	REC %			1	8260B		6/25/2015	CJR	1
SUR - Toluene-d8	oromemane	96	REC %			1	8260B		6/25/2015	CJR	1
			1120 70			•	02002		0/20/2010	Core	
Lab Code	5029155E										
Sample ID	6143-MW-4	4									
Sample Matrix	Water										
Sample Date	6/23/2015										
1		Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic		Result	Ont	LOD	LOQ	DII	Methou	Ext Date	Run Date	Analyst	Couc
VOC's											
		-0.45		0.45			00.000		(10.5.10.01.5	CID	
cis-1,2-Dichloroeth		< 0.45 < 0.54	ug/1	0.45		1	8260B		6/25/2015	CJR	1
trans-1,2-Dichloroe Tetrachloroethene	culette	< 0.54	ug/l	0.54 0.74		1	8260B 8260B		6/25/2015	CJR	1 1
Trichloroethene (To	CF)	< 0.47	ug/l ug/l	0.74		1 1	8260B 8260B		6/25/2015 6/25/2015	CJR CJR	1
Vinyl Chloride	CL)	< 0.17	ug/l	0.47		1	8260B		6/25/2015	CJR	1
SUR - 1,2-Dichlord	oethane-d4	98	REC %	0.17	0.54	1	8260B		6/25/2015	CJR	1
SUR - 4-Bromofluo		103	REC %			1	8260B		6/25/2015	CJR	1
SUR - Dibromofluo		106	REC %			1	8260B		6/25/2015	CJR	1
SUR - Toluene-d8		98	REC %			1	8260B		6/25/2015	CJR	1

Project Name OHM

**Project** # 6143 PO#2015536

Lab Code5029155FSample ID6143-MW-5Sample MatrixWaterSample Date6/23/2015

	Result	Unit	LOD I	LOQ D	il	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		6/25/2015	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		6/25/2015	CJR	1
Tetrachloroethene	152	ug/l	0.74	2.4	1	8260B		6/25/2015	CJR	1
Trichloroethene (TCE)	0.89 "J"	ug/l	0.47	1.5	1	8260B		6/25/2015	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		6/25/2015	CJR	1
SUR - 1,2-Dichloroethane-d4	97	REC %			1	8260B		6/25/2015	CJR	1
SUR - Toluene-d8	93	REC %			1	8260B		6/25/2015	CJR	1
SUR - 4-Bromofluorobenzene	97	REC %			1	8260B		6/25/2015	CJR	1
SUR - Dibromofluoromethane	106	REC %			1	8260B		6/25/2015	CJR	1

Lab Code5029155GSample ID6143-MW-6Sample MatrixWaterSample Date6/23/2015

	Result	Unit	LOD I	OQ D	il	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		6/25/2015	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		6/25/2015	CJR	1
Tetrachloroethene	45	ug/l	0.74	2.4	1	8260B		6/25/2015	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		6/25/2015	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		6/25/2015	CJR	1
SUR - 1,2-Dichloroethane-d4	112	REC %			1	8260B		6/25/2015	CJR	1
SUR - 4-Bromofluorobenzene	92	REC %			1	8260B		6/25/2015	CJR	1
SUR - Dibromofluoromethane	107	REC %			1	8260B		6/25/2015	CJR	1
SUR - Toluene-d8	97	REC %			1	8260B		6/25/2015	CJR	1

Lab Code5029155HSample ID6143-MW-7Sample MatrixWaterSample Date6/23/2015

	Result	Unit	LOD I	OQ D	il	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		6/25/2015	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		6/25/2015	CJR	1
Tetrachloroethene	< 0.74	ug/l	0.74	2.4	1	8260B		6/25/2015	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		6/25/2015	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		6/25/2015	CJR	1
SUR - 1,2-Dichloroethane-d4	103	REC %			1	8260B		6/25/2015	CJR	1
SUR - 4-Bromofluorobenzene	102	REC %			1	8260B		6/25/2015	CJR	1
SUR - Dibromofluoromethane	107	REC %			1	8260B		6/25/2015	CJR	1
SUR - Toluene-d8	93	REC %			1	8260B		6/25/2015	CJR	1

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**Project Name** OHM

Project #

6143 PO#2015536

Lab Code Sample ID 5029155I

6143-MW-8

Sample Matrix Water **Sample Date** 

6/23/2015

		Result	Unit	LOD L	OQ D	il	Method	Ext Date	Run Date	Analyst	Code
O	rganic										
	VOC's										
	cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		6/26/2015	CJR	1
	trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		6/26/2015	CJR	1
	Tetrachloroethene	2.12 "J"	ug/l	0.74	2.4	1	8260B		6/26/2015	CJR	1
	Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		6/26/2015	CJR	1
	Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		6/26/2015	CJR	1
	SUR - Toluene-d8	97	REC %			1	8260B		6/26/2015	CJR	1
	SUR - Dibromofluoromethane	108	REC %			1	8260B		6/26/2015	CJR	1
	SUR - 4-Bromofluorobenzene	110	REC %			1	8260B		6/26/2015	CJR	1
	SUR - 1,2-Dichloroethane-d4	105	REC %			1	8260B		6/26/2015	CJR	1

Lab Code Sample ID 5029155J

6143-MW-9

Sample Matrix Water

Sample Date 6/22/2015

	Result	Unit	LOD I	LOQ I	il	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		6/26/2015	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		6/26/2015	CJR	1
Tetrachloroethene	< 0.74	ug/l	0.74	2.4	1	8260B		6/26/2015	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		6/26/2015	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		6/26/2015	CJR	1
SUR - 1,2-Dichloroethane-d4	103	REC %			1	8260B		6/26/2015	CJR	1
SUR - 4-Bromofluorobenzene	102	REC %			1	8260B		6/26/2015	CJR	1
SUR - Dibromofluoromethane	102	REC %			1	8260B		6/26/2015	CJR	1
SUR - Toluene-d8	95	REC %			1	8260B		6/26/2015	CJR	1

Lab Code

5029155K

Sample ID

6143-MW-10

Sample Matrix Water

Sample Date

6/23/2015

	Result	Unit	LOD I	LOQ D	il	Method	<b>Ext Date</b>	Run Date	Analyst	Code
Organic										
VOC's										
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		6/26/2015	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		6/26/2015	CJR	1
Tetrachloroethene	< 0.74	ug/l	0.74	2.4	1	8260B		6/26/2015	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		6/26/2015	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		6/26/2015	CJR	1
SUR - 1,2-Dichloroethane-d4	103	REC %			1	8260B		6/26/2015	CJR	1
SUR - 4-Bromofluorobenzene	101	REC %			1	8260B		6/26/2015	CJR	1
SUR - Dibromofluoromethane	106	REC %			1	8260B		6/26/2015	CJR	1
SUR - Toluene-d8	96	REC %			1	8260B		6/26/2015	CJR	1

Project Name OHM

Project #

6143 PO#2015536

Lab Code

5029155L

Sample ID

6143-MW-11

Sample Matrix Water

Sample Matrix Sample Date	Water 6/22/2015										
•		Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic VOC's											
cis-1,2-Dichloroeth trans-1,2-Dichloroe Tetrachloroethene Trichloroethene (TC Vinyl Chloride SUR - 1,2-Dichloro SUR - 4-Bromofluc SUR - Dibromofluc SUR - Toluene-d8	thene CE) ethane-d4 probenzene	<0.45 <0.54 24 <0.47 <0.17 101 110 105 95	ug/l ug/l ug/l ug/l ug/l REC % REC % REC % REC %	0.45 0.54 0.74 0.47 0.17	1.7 2.4 1.5	1 1 1	8260B 8260B 8260B 8260B 8260B 8260B 8260B 8260B 8260B		6/26/2015 6/26/2015 6/26/2015 6/26/2015 6/26/2015 6/26/2015 6/26/2015 6/26/2015	CJR	1 1 1 1 1 1 1 1
Lab Code Sample ID Sample Matrix	5029155M 6143-MW-1 Water	12									
Sample Date	6/22/2015										100
Organic		Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
VOC's											
cis-1,2-Dichloroeth trans-1,2-Dichloroe Tetrachloroethene Trichloroethene (TC Vinyl Chloride SUR - Dibromofluc SUR - Toluene-d8 SUR - 4-Bromofluc SUR - 1,2-Dichloro	thene CE) promethane probenzene ethane-d4	< 0.45 < 0.54 < 0.74 < 0.47 < 0.17 108 95 106 99	ug/l ug/l ug/l ug/l ug/l ug/l REC % REC % REC % REC %	0.45 0.54 0.74 0.47 0.17	1.7 2.4 1.5	1 1 1	8260B 8260B 8260B 8260B 8260B 8260B 8260B 8260B 8260B		6/26/2015 6/26/2015 6/26/2015 6/26/2015 6/26/2015 6/26/2015 6/26/2015 6/26/2015	CJR	1 1 1 1 1 1 1 1
Lab Code Sample ID	5029155N 6143-MW-	13									
Sample Matrix Sample Date	Water 6/22/2015										
		Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic VOC's											
cis-1,2-Dichloroeth trans-1,2-Dichloroe Tetrachloroethene Trichloroethene (TO Vinyl Chloride SUR - 1,2-Dichloro SUR - 4-Bromofluc SUR - Dibromofluc SUR - Toluene-d8	thene CE) ethane-d4 probenzene	< 0.45 < 0.54 3.9 < 0.47 < 0.17 107 103 104 97	ug/l ug/l ug/l ug/l ug/l REC % REC % REC % REC %	0.45 0.54 0.74 0.47 0.17	1.7 2.4 1.5	1 1 1 1 1	8260B 8260B 8260B 8260B 8260B 8260B 8260B 8260B 8260B		6/26/2015 6/26/2015 6/26/2015 6/26/2015 6/26/2015 6/26/2015 6/26/2015 6/26/2015	CJR	1 1 1 1 1 1 1 1

			×		

**Project Name** OHM

6143 PO#2015536 Project #

Lab Code Sample ID 50291550 6143-MW-14

Sample Matrix Water

SUR - 4-Bromofluorobenzene

SUR - Dibromofluoromethane

SUR - Toluene-d8

103

107

94

REC %

REC %

REC %

Sample Matrix	6/22/2015										
Sample Date	6/22/2015								_		
		Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic											
VOC's											
cis-1,2-Dichloroeth	ene	< 0.45	ug/l	0.45	1.4	1	8260B		6/26/2015	CJR	1
trans-1,2-Dichloroe		< 0.54	ug/l	0.54	1.7	1	8260B		6/26/2015	CJR	1
Tetrachloroethene		12.6	ug/l	0.74			8260B		6/26/2015	CJR	1
Trichloroethene (To	CE)	< 0.47	ug/l	0.47			8260B		6/26/2015	CJR	1
Vinyl Chloride	-4h	< 0.17	ug/l	0.17	0.54		8260B		6/26/2015	CJR	1
SUR - 1,2-Dichlord SUR - 4-Bromoflud		104 103	REC % REC %			1	8260B 8260B		6/26/2015 6/26/2015	CJR CJR	1 1
SUR - Dibromofluo		110	REC %			1	8260B		6/26/2015	CJR	1
SUR - Toluene-d8		98	REC %			1	8260B		6/26/2015	CJR	1
	5020155D										
Lab Code	5029155P	1.5									
Sample ID	6143-MW-	15									
Sample Matrix	Water										
Sample Date	6/22/2015										
		Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic											
VOC's											
cis-1,2-Dichloroeth	ene	< 0.45	ug/l	0.45	1.4	1	8260B		6/26/2015	CJR	1
trans-1,2-Dichloroe		< 0.54	ug/l	0.54			8260B		6/26/2015	CJR	1
Tetrachloroethene		10.7	ug/l	0.74	2.4	1	8260B		6/26/2015	CJR	1
Trichloroethene (To	CE)	< 0.47	ug/l	0.47			8260B		6/26/2015	CJR	1
Vinyl Chloride		< 0.17	ug/l	0.17	0.54		8260B		6/26/2015	CJR	1
SUR - 4-Bromofluo		105	REC %			1	8260B		6/26/2015	CJR	1
SUR - Dibromofluc SUR - 1,2-Dichloro		103 99	REC % REC %			1 1	8260B 8260B		6/26/2015 6/26/2015	CJR CJR	1 1
SUR - Toluene-d8	etilane-u+	93	REC %			1	8260B		6/26/2015	CJR	1
		,,	1120 70			•	02002		0/20/2010	CVIC	•
Lab Code	5029155Q										
Sample ID	6143-PZ-1										
Sample Matrix	Water										
Sample Date	6/23/2015										
		Result	Unit	LOD	LOQ	Dil	Method	Ext Date	Run Date	Analyst	Code
Organic											
VOC's											
cis-1,2-Dichloroeth	ene	< 0.45	ug/l	0.45	1.4	1	8260B		6/26/2015	CJR	1
trans-1,2-Dichloroe		< 0.54	ug/l	0.54			8260B		6/26/2015	CJR	1
Tetrachloroethene		10.6	ug/l	0.74			8260B		6/26/2015	CJR	1
Trichloroethene (To	CE)	< 0.47	ug/l	0.47			8260B		6/26/2015	CJR	1
Vinyl Chloride	athana 14	< 0.17	ug/l	0.17	0.54		8260B		6/26/2015	CJR	1
SUR - 1,2-Dichlord	emane-d4	104	REC %			1	8260B		6/26/2015	CJR	1

8260B

8260B

8260B

6/26/2015

6/26/2015

6/26/2015

CJR

CJR

CJR

1

1

Project Name OHM

**Project** # 6143 PO#2015536

 Lab Code
 5029155R

 Sample ID
 6143-PZ-2

 Sample Matrix
 Water

 Sample Date
 6/23/2015

	Result	Unit	LOD I	LOQ D	il	Method	Ext Date	Run Date	Analyst	Code
Organic										
VOC's										
cis-1,2-Dichloroethene	< 0.45	ug/l	0.45	1.4	1	8260B		6/27/2015	CJR	1
trans-1,2-Dichloroethene	< 0.54	ug/l	0.54	1.7	1	8260B		6/27/2015	CJR	1
Tetrachloroethene	< 0.74	ug/l	0.74	2.4	1	8260B		6/27/2015	CJR	1
Trichloroethene (TCE)	< 0.47	ug/l	0.47	1.5	1	8260B		6/27/2015	CJR	1
Vinyl Chloride	< 0.17	ug/l	0.17	0.54	1	8260B		6/27/2015	CJR	1
SUR - 1,2-Dichloroethane-d4	106	REC %			1	8260B		6/27/2015	CJR	1
SUR - 4-Bromofluorobenzene	102	REC %			1	8260B		6/27/2015	CJR	1
SUR - Dibromofluoromethane	110	REC %			1	8260B		6/27/2015	CJR	1
SUR - Toluene-d8	96	REC %			1	8260B		6/27/2015	CJR	1

Lab Code5029155SSample ID6143-DUP-1Sample MatrixWater

**Sample Date** 6/23/2015

Result	Unit	LOD I	LOQ L	il	Method	Ext Date	Run Date	Analyst	Code
< 0.45	ug/l	0.45	1.4	1	8260B		6/27/2015	CJR	1
< 0.54	ug/l	0.54	1.7	1	8260B		6/27/2015	CJR	1
138	ug/l	0.74	2.4	1	8260B		6/27/2015	CJR	1
1.15 "J"	ug/l	0.47	1.5	1	8260B		6/27/2015	CJR	1
< 0.17	ug/l	0.17	0.54	1	8260B		6/27/2015	CJR	1
99	REC %			1	8260B		6/27/2015	CJR	1
95	REC %			1	8260B		6/27/2015	CJR	1
102	REC %			1	8260B		6/27/2015	CJR	1
107	REC %			1	8260B		6/27/2015	CJR	1
	<0.45 <0.54 138 1.15 "J" <0.17 99 95	<0.45 ug/l <0.54 ug/l 138 ug/l 1.15 "J" ug/l <0.17 ug/l 99 REC % 95 REC % 102 REC %	<0.45 ug/l 0.45 <0.54 ug/l 0.54 138 ug/l 0.74 1.15 "J" ug/l 0.47 <0.17 ug/l 0.17 99 REC % 95 REC % 102 REC %	<0.45 ug/l 0.45 1.4 <0.54 ug/l 0.54 1.7 138 ug/l 0.74 2.4 1.15 "J" ug/l 0.47 1.5 <0.17 ug/l 0.17 0.54 99 REC % 95 REC % 102 REC %	<pre>&lt;0.45     ug/l     0.45     1.4     1 &lt; 0.54     ug/l     0.54     1.7     1 138     ug/l     0.74     2.4     1 1.15 "J"     ug/l     0.47     1.5     1 &lt; 0.17     ug/l     0.17     0.54     1 99     REC %</pre>	<pre></pre>	< 0.45	< 0.45	< 0.45

Lab Code5029155TSample ID6143-DUP-2Sample MatrixWaterSample Date6/23/2015

LOD LOQ Dil Result Unit Method Ext Date Run Date Analyst Code Organic VOC's < 0.45 8260B CJR cis-1,2-Dichloroethene 0.45 1.4 6/27/2015 1 ug/l trans-1,2-Dichloroethene < 0.54 ug/l 0.54 1.7 8260B 6/27/2015 CJR 1 Tetrachloroethene 85 0.74 2.4 8260B 6/27/2015 CJR ug/l 0.53 "J" Trichloroethene (TCE) ug/l 0.47 1.5 8260B 6/27/2015 CJR Vinyl Chloride < 0.17 0.17 0.54 8260B 6/27/2015 CJR ug/l 1 6/27/2015 SUR - 1,2-Dichloroethane-d4 102 REC % 8260B CJR 1 8260B CJR SUR - 4-Bromofluorobenzene 105 REC % 6/27/2015 1 SUR - Dibromofluoromethane 106 REC % 8260B 6/27/2015 CJR 1 SUR - Toluene-d8 REC % 8260B 6/27/2015 CJR

**Project Name** OHM Invoice # E29155 Project # 6143 PO#2015536 5029155U Lab Code 6143-EB-1 Sample ID Sample Matrix Water Sample Date 6/22/2015 Unit LOD LOQ Dil Result Method Ext Date Run Date Analyst Code Organic VOC's cis-1,2-Dichloroethene < 0.45 1.4 8260B 6/25/2015 CJR 1 ug/l 0.45 1 trans-1,2-Dichloroethene < 0.54 0.54 1.7 8260B 6/25/2015 CJR ug/l 1 1 Tetrachloroethene < 0.74 0.74 2.4 8260B 6/25/2015 **CJR** 1 ug/l 1 Trichloroethene (TCE) < 0.47 0.47 1.5 8260B 6/25/2015 ug/l 1 CJR Vinyl Chloride < 0.17 ug/l 0.17 0.54 8260B 6/25/2015 CJR 1 SUR - 1,2-Dichloroethane-d4 96 REC % 8260B 1 6/25/2015 CJR 1 SUR - 4-Bromofluorobenzene 96 REC % 8260B 6/25/2015 CJR 1 1 SUR - Dibromofluoromethane 103 REC % 1 8260B 6/25/2015 **CJR** 1 REC % 8260B SUR - Toluene-d8 92 6/25/2015 **CJR** 1 5029155V Lab Code 6143-EB-2 Sample ID Sample Matrix Water 6/23/2015 Sample Date Result Unit LOD LOQ Dil Method Ext Date Run Date Analyst Code Organic VOC's cis-1,2-Dichloroethene < 0.45 8260B CJR ug/l 0.45 1.4 1 6/26/2015 1 < 0.54 8260B trans-1,2-Dichloroethene 0.54 1.7 6/26/2015 CIR ug/l 1 Tetrachloroethene < 0.74 0.74 2.4 8260B 6/26/2015 CJR ug/l 1 1 Trichloroethene (TCE) < 0.47 ug/l 0.47 1.5 1 8260B 6/26/2015 CJR 1 Vinyl Chloride < 0.17 ug/l 0.17 0.54 8260B 6/26/2015 CJR SUR - Toluene-d8 94 REC % 1 8260B 6/26/2015 **CJR** 1 SUR - Dibromofluoromethane 102 REC % 8260B 6/26/2015 CJR 1 SUR - 1,2-Dichloroethane-d4 REC % 8260B 6/26/2015 98 CIR 1 SUR - 4-Bromofluorobenzene 112 REC % 8260B 6/26/2015 CJR 1 5029155W Lab Code TRIP BLANK Sample ID Sample Matrix Water Sample Date 6/23/2015 Result Unit LOD LOQ Dil Method Ext Date Run Date Analyst Code Organic VOC's cis-1,2-Dichloroethene < 0.45 1.4 8260B CJR ug/l 0.45 6/26/2015 1 < 0.54 8260B trans-1,2-Dichloroethene ug/1 0.54 1.7 1 6/26/2015 CIR 1 Tetrachloroethene < 0.74 0.74 2.4 8260B 6/26/2015 CJR ug/l 1 1 Trichloroethene (TCE) < 0.47 ug/1 0.47 1.5 8260B 6/26/2015 CJR 1 1

8260B

8260B

8260B

8260B

8260B

1

Vinyl Chloride

SUR - Toluene-d8

SUR - 1,2-Dichloroethane-d4

SUR - 4-Bromofluorobenzene

SUR - Dibromofluoromethane

< 0.17

95

99

108

110

ug/l

REC %

REC %

REC %

REC %

0.17

0.54

6/26/2015

6/26/2015

6/26/2015

6/26/2015

6/26/2015

CJR

CJR

**CJR** 

CJR

CJR

1

1

1

1

1

Project Name OHM Invoice # E29155

Proiect # 6143 PO#2015536

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

Code Comment

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.

Muchaelyllul

**Authorized Signature** 

# CHAIN OF C STODY RECORD



Chain # Nº 246

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WIF	Page	of	<
001	. ago		_

.ab I.D. #								ir	8		a					0.		le Hen	dlina	Pague	not.	
Account No. :	Quote No.:				MVITC	nme	ntal i	lo ĉ	7 <i>L</i>	77	II.	C	A 25							Requir		
Project #: 6143							t. • Appleton,							1		es a	ссер	ted only	y with p	rior auti	horizat	tion)
Sampler: (signature)	K-T	0			92	0-830-2455	• FAX 920-7	733-	063	31						_	X	Norma	al Turr	1 Arour	1d	
Project (Name / Location): OHA	1-Occurra	vec	100	inoma	uce, in	T				Anal	ysis	Re	ques	ted					C	ther A	nalysi	is
Reports To: W. Frishender	K. Heimsterd		ice To:				Y															
Company EnviroFerensice		Com	npany												Ø.							
Address Nuls w23330 St	em Rolyn Dr.	Addi	ress						(6)					ш	SOLIDS							
Address NIB W23390 St City State Zip Walkerha W	T 5388	City	State Z	Op				Sep 95)	ep 95)					LEN	ED S	(Z)						
Phone 317-972-78	870	Pho	ne	politicana i printry y the Colonia				DRO S	3O S	THE	1	100	8021)	計	END	A 542.	ALS ALS		1			
FAX	•	FAX						d Di	od GF	THAN	SEAS	A 8270)	PA 8	NAP	USP	DW (EPA	(LPA 5260) RA METALS					PID/ FID
Lab I.D. Sample I.	D. Collection Date Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	DRO (Mod	GRO (Mod GRO Sep	LEAD	OII & GREASE	PAH (EPA	PVOC (EPA	PVOC + NAPHTHALENE SULFATE	TOTAL SUSPENDED S	VOC DW	VUC (EPA 5260) 8-RCRA METALS					110
5029155A GUS ML.	1 63,5 935		1	ليو	3	Ger	Hel									1						
B 6143-12W-	6.		1	υ	3	6w	HCI									4	(					
C 6143-14W-			×	N	3	Eur	Hei								-		4					
D 6143-14w			2	N	3	Cen	HCC									د	ď					
€ 6143. Mu-		-	×	Λί	3	GW	1461									,						
F 6143-142			×	N	3	Con	Hei				_	$\perp$				2	<					
5 6143 Mer			4	,u	3	Gw	He (	-								×	-					
H 6143 176-			1	N	3	GW	HCL			_	-	- Tel Saineser				>	4					
I 6143. Her-		-	~	N	5	CW	Hel	-		_	-	-				٥	<					
J 61-13-12cm	-9 812-15 1205	-	×	N	5	Gen	HC(	1								5	4					
Comments/Special Instruction	P0# 20	1553	6		ON	y repor	PCE,	TC		-	is E	- I,	z -			Tran Le	45	), Z - D		ime	Da	ile
Sample Integrity - To be com Method of Shipm Temp. of Temp. 1			1	lyh.	by: (sign)		6-74-15	_1	(10	<u></u>		12	6	D.				-24	11.	201	4/0	24/1
Cooler seal intact upon rece			Rec	eived in La	boratory By:	D. J	10								Time:	c	. ~	_	Da	ite:/ lo	-110	_

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# CHAIN OF C STODY RECORD

Chain # Nº 245

Page Z of 3

_	9	- Contract C	
	Cample	Llandlina	Daminant
	Sample	Handling	Request

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

Normal Turn Around

Synergy	u
ironmental Lab,	Inc.

Lab I.D. #			
Account No. :	Quote No.:	Environmental	l Lab,
Project #: 6/43		1990 Prospect Ct. • Apple	ton, WI 54914
Sampler: (signature)	with	920-830-2455 • FAX 92	0-733-0631
Project (Name / Location):	+M Occomowor / Occomen	erac, wI	Anai
Reports To: W. Fassband	Louis To:	-	

30-2455 • FAX 920-733-0631 Analysis Requested Other Analysis Invoice To: (K. Heimstead Company Envire Ferensics Company Address PVOC (EPA 8021) PVOC + NAPHTHALENE DRO (Mod DRO Sep 95) City State Ziputukesha LI 53188 City State Zip TOTAL SUSPENDED VOC DW (EPA 542.2) NITRATE/NITRITE GRO VOC (EPA 8260) Phone Phone 317-972-7870 OIL & GREASE PID/ FAX FAX SULFATE FID Sample Collection Filtered No. of Type Lab I.D. Sample I.D. Comp Grab Preservation Date Time Y/N Containers (Matrix)\* 23.15 1445 5029155E Gu 6143-MW-10 HEL 2-15 1355 6143 - MW-11 GW × HCL 3 25. 1300 X GW 6143-12-12 Hici 1 32/5 1730 Gas 6143 - Mw-13 1 HCC K 0 2-15- 1450 6143 - Hu-14 GW 401 22.15 1635 6143-124-15 Ged HEL X 1340 IS40 Gev Hei 22/5 1545 GW Hei × 3.15 GEN 44 × - 53.12 N GW HCI

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

PO# 2015 536

Only report PLE, TLE, Cis-1, 2-DE, Tras-1, 2-DEE & Unyl Chloride

Sample Integrity - To be completed by receiving lab.  Method of Shipment:	Relinquished By: (sign)	Time Date F	Received By: (sign)	Time Date
Temp. of Temp. Blank °C On Ice:XCooler seal intact upon receipt: X Yes No	Received in Laboratory By:		Time: c	Date: / \25~/16

w-		

# CHAIN OF L STODY RECORD

Quote No.:

Lab I.D. #

Account No. :



Chain # Nº 245

Environmental Lat	i, inc.
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### Sample Handling Request

Buch Applyeig Data Required

Project #: 614	Sampler: :signature)  Project (Name / Location): OHM Occurrence / Occu						1990		t. • Appleton							-	(Rushes accepted only with prior authorization)  Normal Turn Around							
Sampler: (signature)	14/1.12	<			,		92	0-830-2455	• FAX 920-7	33						L				Noima				
Project (Name / Lo	ocation): OHM	Lener	40000	oc/	Occi	econocio	c, 65			-		Analy	/sis	Rec	lues	ted	_	1			Oth	er Analy	/sis	
Reports To:	Kiss Bender Kis	Heimst	Lead	invo	ice To:																			
Company Eve	Fernices				Company												DS							
Address NIE W	1850 sku Z. Washa wit	ge D		Add	Address 4					95)	(2)					ų.	SOLIDS							
City State Zip	nlegha wit	53188		City	State Z	ip				Sep 9	Sep 95)	п				ALE	ED 8	22						
Phone 3(7-				Pho	ne					DRO 8	SHO	TRIT	S	(023	8021		PEN	A 54	(092	ALS				
FAX				FAX						(Mod D	od G	ING	& GREASE	A 82	PA	AA H	SUS	V (EF	A 82	ME			PID/ FID	
Lab I.D.	Sample I.D.		ection Time	Comp	Grab	Filtered Y/N	No. of Containers	Sample Type (Matrix)*	Preservation	-	GRO (Mod GRO	LEAD	OIL & G	PAH (EI	PVOC (EPA 8021)	PVOC + N	TOTAL SUSPENDED	VOC DW (EPA 542.2)	VOC (EPA 8260)	8-RCRA METALS				
5029155 U	6143-EB-1	64.15			*	~	3	Gu	1+41										×					
V	6143-68-2	6.53.15			*	N	3	6m	Hec		-	_	-			_	-		×					
	TRIP BLANK	-	-			~													×	-				
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	cial Instructions (*	Specify	ground						"WW", Soil "S"							u	ł->	-(	26	tande				
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Cooler Sear Inta	aci upon receipt.	re		NO	Rec	eived in La	boratory By:	Char	10.0	-4-		_					Time	: 5	ķ.	-	Date:	6/25	110	

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

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

September 29, 2015

ENVision Project Number: 2015-538

Client Project Name: 6143 - OHM-Oconomowoc

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received September 17, 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



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:

6143 - OHM-OCONOMOWOC

Client Project Manager:

W. FASSBENDER

EnvisionAir Project Number: 2015-538

#### Sample Summary

Canister Pressure / Vacuum

<u>Laboratory Sample Number:</u> <u>Sample Description:</u> 6143-SG-5 (MW-15)

START START 
 Date
 Time
 End Date
 End Time
 Date
 Time
 Initial Field
 Final Field

 Matrix:
 Collected:
 Collected:
 Collected:
 Received:
 Received:
 (in. Hg)
 (in. Hg)
 (in. Hg)
 Time Initial Field Final Field Received (in, Hg) 9/15/15 13:10 9/15/15 13:17 9/17/15 9:15



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:

6143 - OHM-OCONOMOWOC

Client Project Manager:

W. FASSBENDER

**EnvisionAir Project Number:** 

2015-538

**Analytical Method:** 

TO-15

Analytical Batch:

092515AIR

Client Sample ID:

6143-SG-5 (MW-15)

Sample Collection START Date/Time: 9/15/15

13:10

15-1972

**Envision Sample Number: Sample Matrix:** 

AIR

Sample Collection END Date/Time: 9/15/15 13:17 Sample Received Date/Time: 9/17/15 9:15

Compounds	Sample	Results ug/m³	Reporting Limit ug/m³	Flag
cis-1,2-Dichloroethene	< 198		198	1
Tetrachloroethene	661		31.9	1
trans-1,2-Dichloroethene	< 396		396	1
Trichlorethene	< 10.7		10.7	1
Vinyl Chloride	< 12.8		12.8	1
4-bromofluorobenzene (sur	rogate)	108%		
Analysis Date/Time:		09-25-15/12:47		
Analyst Initials		tjg		



Analytical Report

**EnvisionAir** 

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Fax: 317-351-0882 www.envision-air.com

## **TO-15 Quality Control Data**

**EnvisionAir Batch Number:** 

092515AIR

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)	111%		
Analysis Date/Time:	09-24-15/20:19		
Analyst Initials	tjg		

			LCS/D	LCS	LCSD		
LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	Conc(ppbv)	Rec.	Rec.	RPD Flag	
cis-1,2-Dichloroethene	9.71	8.52	10	97%	85%	13.1%	
Tetrachloroethene	8.91	8.14	10	89%	81%	9.0%	
trans-1,2-Dichloroethene	9.35	8.05	10	94%	81%	14.9%	
Trichlorethene	8.91	8.85	10	89%	89%	0.7%	
Vinyl Chloride	9.36	9.32	10	94%	93%	0.4%	
4-bromofluorobenzene (surrogate)	116%	109%					
Analysis Date/Time:	09-24-15/19:09	09-24-15/19:45					
Analyst Initials	tjg	tjg					

*			
			**



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www.envision-air.com

Flag Number

1

**Comments** 

Reported value is from a 10x dilution. TJG 09-29-15

## CHAIN OF CUSTODY RECORD WAF

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

Client: Envir Forensics  Report 10 to 23890 Star 1  Address: Circules has of 1  Report To: W. Fasser C. 1  Phone: 817-972-78  Invoice Address:  Desired TAT: (Please Circle One)	70 Pedge De 53:88	Project  OHM  Sample  QA/QC  Reporti  ug/m  Media type	t Name or  Cococc ed by:  Required: Leve ting Units r mg/m size = 11C=11tter size = 61ter	: (circle if appli rel III Lev needed: (circ n <sup>3</sup> PPBV	cicable)		REQUI	PARAME	//_			SIC	)NAIR
1 day 2 days 3 days Std (5	Media Type	Colf. Date	Coll. Time	Coll. Date (comp. End)	Coll. Time		/ ~ / 	Canister Serial #	Flow Controller Serial #	Canister Initial Field (in. Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
6143-5G-5 (rw-15)	14	9-15-15	1310	3-12-12	1317		*	<i>84049</i>		- 29	-2	-2	15-1972
									,		-		
Comments:													
Relinc	quished	by:			Date	Ti	me	Rec	eived by:		Da	ate .	Time

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		4	
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**EnvisionAir** 1441 Sadlier Circle West Drive Indianapolis, IN 46239 Ph: 317-351-0885 Fax: 317-351-0882

www.envision-air.com

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

September 29, 2015

ENVision Project Number: 2015-537

Client Project Name: 6143 - OHM-Oconomowoc

Dear Mr. Fassbender,

Please find the attached analytical report for the samples received September 17, 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** 

		_	



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:

6143 - OHM-OCONOMOWOC

Client Project Manager:

W. FASSBENDER

EnvisionAir Project Number: 2015-537

### Sample Summary

Canister Pressure / Vacuum

<u>Laboratory Sample Number:</u> <u>Sample Description:</u> 15-1971

6143-SG-4 (MW-17)

START START Date Time End Date End Time Date Time Initial Field Final Field

Matrix: Collected: Collected: Collected: Received: Received: (in, Hg) Time Initial Field Final Field Received (in. Hg) 9/15/15 13:55 9/15/15 14:01 9/17/15 9:15



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:

6143 - OHM-OCONOMOWOC

Client Project Manager:

W. FASSBENDER

**EnvisionAir Project Number:** 

2015-537

**Analytical Method:** 

**Analytical Batch:** 

TO-15 092515AIR

Client Sample ID:

6143-SG-4 (MW-17)

Sample Collection START Date/Time: 9/15/15 15:55

**Envision Sample Number:** 

15-1971

Sample Matrix:

**AIR** 

Sample Collection END Date/Time: 14:01 9/15/15 Sample Received Date/Time: 9/17/15 9:15

Compounds	Sample Results ug/m³	Reporting Limit ug/m <sup>3</sup>	<u>Flag</u>
cis-1,2-Dichloroethene	< 198	198	1
Tetrachloroethene	54.9	31.9	1
trans-1,2-Dichloroethene	< 396	396	1
Trichlorethene	< 10.7	10.7	1
Vinyl Chloride	< 12.8	12.8	1
4-bromofluorobenzene (surro	ogate) 107%		
Analysis Date/Time:	09-25-15/08:48		
Analyst Initials	tjg		

	4			
_				



Analytical Report

**EnvisionAir** 

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

www.envision-air.com

## **TO-15 Quality Control Data**

**EnvisionAir Batch Number:** 

092515AIR

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)	111%			
Analysis Date/Time:	09-24-15/20:19			
Analyst Initials	tjg			
			LCS/D	LC
LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	Conc(ppbv)	Re
cis-1,2-Dichloroethene	9.71	8.52	10	979
T	0.04	0.44	40	000

			LCS/D	<u>LCS</u>	LCSD		
LCS/LCSD	LCS Results (ppbv)	LCSD Results (ppbv)	Conc(ppbv)	Rec.	Rec.	RPD	Flag
cis-1,2-Dichloroethene	9.71	8.52	10	97%	85%	13.1%	
Tetrachloroethene	8.91	8.14	10	89%	81%	9.0%	
trans-1,2-Dichloroethene	9.35	8.05	10	94%	81%	14.9%	
Trichlorethene	8.91	8.85	10	89%	89%	0.7%	
Vinyl Chloride	9.36	9.32	10	94%	93%	0.4%	
4-bromofluorobenzene (surrogate)	116%	109%					
Analysis Date/Time:	09-24-15/19:09	09-24-15/19:45					
Analyst Initials	tjg	tjg					



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

www.envision-air.com

Flag Number

**Comments** 

1

Reported value is from a 10x dilution. TJG 09-29-15

		s#	

0915

# **CHAIN OF CUSTODY RECORD**

WAT

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

Client: Emiro Focusio	-5	P.O. N		20152	332	]	D	EOUE	CTED	PARAME	TEDE	٦			
Report Nº6 223390 Ster Address: Circulastia w T Report To: L. Fessberdes	e Robye I	Project	Name or	Number: 6	243	<u> </u>		EQUE	7	PARAME	//				
Controla wi	53:88		24M-0	conomo	we	-			/ ,	13/		TRIVING			
Report To: 1235 Back	Kitkins +	Sample	ed by:	h. Heurs	tead				/,	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		FI	IVI	SIC	NAIR
Phone: 317-972-78		QA/QC	Required	: (circle if app	licable) vel IV		/		\ \ar\	7/,			AAI		
Invoice Address:		Report ug/m		needed: (cir 13 PPBV				Se Car	¥/	//	Sampling Type: Soil-Gas:   Sub-Slab: □			vision sin s	
Desired TAT: (Please Circle One) 1 day 2 days 3 days Std (5		Media type	: 1LC = 1 Liter 6LC = 6 Liter TB = Tedfar TD = Therm	Canister	ne.	1	1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	\$ \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			Indoor-Air: □	Canister	www.envision-air.com  Canister Pressure / Vacuum		om
Air Sample ID	Media Type (ser code slove)	Coll. Date	Coll. Time (Grab/Comp. Start)	Coll. Date (Comp. End)	Coll. Time					Canister Serial#	Flow Controller Serial #	Initial Field (in: Hg)	Final Field (in. Hg)	Lab Received (in. Hg)	EnvisionAir Sample Number
6143-56-4 (rw-17)	ik	9.15.15	1355	9-15-15	1401		×			2235	_	-79	-2	-2	15-1971
·															
														1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
		***													
													1		
											.,				
Comments:			l		J	1	<u></u>	<u> </u>	<u> </u>		50.00		1		
Relina	uished l	bv:			Date	T	ime	1		Rec	eived by:		D:	ite	Time

9-16-15

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## **ATTACHMENT 6**

Photographs of Vapor Sampling Train



**ATTACHMENT 7** 

Field Sampling Logs



## Sub-Slab Vapor/ Soil Gas Field Sampling Form

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

PROJECT NAME LOCATION/ADDRESS PROJECT NO. CLIENT/CONTACT DATA COLLECTION;		OHM. Cecnomono 36929 Plank 6143 Brian Cass 9-15-2015	Rd Osenamor	SAMPLE DATE  SAMPLE ID  SAMPLE TIME  CANISTER ID  END DATE	9-15-2015 6143-5G-4(Hun-17) 2235 9-15-2015		
Time	Vacuum Reading	Wind Direction	Wind Speed	Temperature	Barometer	Relative Humidity	
hh;mm	In. of Hg		– mph	° F	Hg	%	
1355	-29	S	10-15	80	30.15	42	
।५०१	-ح						
		-					
		· 7					
		-					
				187			
					-	-	
	Heliu	ım Leak Test		P	Negative Pressure Test		
Date/Time performed	d:	9.15-8	2015 1	Date/Time performed:	9-15-	-2015 /	
Background He conce	entration (ppm):			Negative pressure of at l	east -15 in. Hg induced or	n sampling train?	
Shroud He concentrate	tion (%):	57.		(circle one):	<u>(es)</u>	no	
Sub-slab vapor/soil-g	gas He concentration (	(post helium insertion):	0	Did pressure hold?		no	
Helium Leak Test Par	sand:	yes	no				

Notes:

...



## Sub-Slab Vapor/ Soil Gas Field Sampling Form

Negative pressure of at least -15 in. Hg induced on sampling train?

(circle one):

Did pressure hold?

(ves)

(yes)

no

no

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

PROJECT NAME LOCATION/ADDRESS PROJECT NO. CLIENT/CONTACT DATA COLLECTION:		0HM-Quantomouses 56929 Plank Poli 6173		SAMPLE DATE SAMPLE ID SAMPLE TIME CANISTER ID END DATE	9-15-15 6143-56-5 (MW. 15) 84049 9-15-15		
Time hh:mm	Vacuum Reading	Wind Direction	Wind Speed	Temperature ° F	Barometer	Relative Humidity %	
1510 1517	In. of Hg -29 - 2		mph 10 · 15	80	30:15	42	
						4	
		-					
		-					
		-					
	Heli	um Leak Test		1	Negative Pressure Test		
Date/Time performed	d:	9-15-15	/	Date/Time performed:	9-15-15	1	

0

61.8

0

no

Notes:

Background He concentration (ppm):

Sub-slab vapor/soil-gas He concentration (post helium insertion):

Shroud He concentration (%):

Helium Leak Test Passed:



## **ATTACHMENT 8**

**Table 2 of Vapor Sampling Results** 

# **Table 2 Summary of Soil Gas Analytical Results**

Former One Hour Martinizing Oconomowoc, Wisconsin

Soil Gas Well ID	Sample Date	Tetrachloroethene	Trichloroethene	cis-1,2-Dichloroethene	trans-1,2-Dichloroethene	Vinyl chloride
Deep Vapor Risk Screening Level <sup>1</sup>		18,000	880	NE	NE	2,800
NAPA 6143-SG-5 (MW-15)	9/15/2015	661	<10.7	<198	<396	<12.8
Ewald 6143-SG-4 (MW-17)	9/15/2015	54.9	<10.7	<198	<396	<12.8

#### Notes:

Bolded values are above laboratory detection limits

NE = Not Established

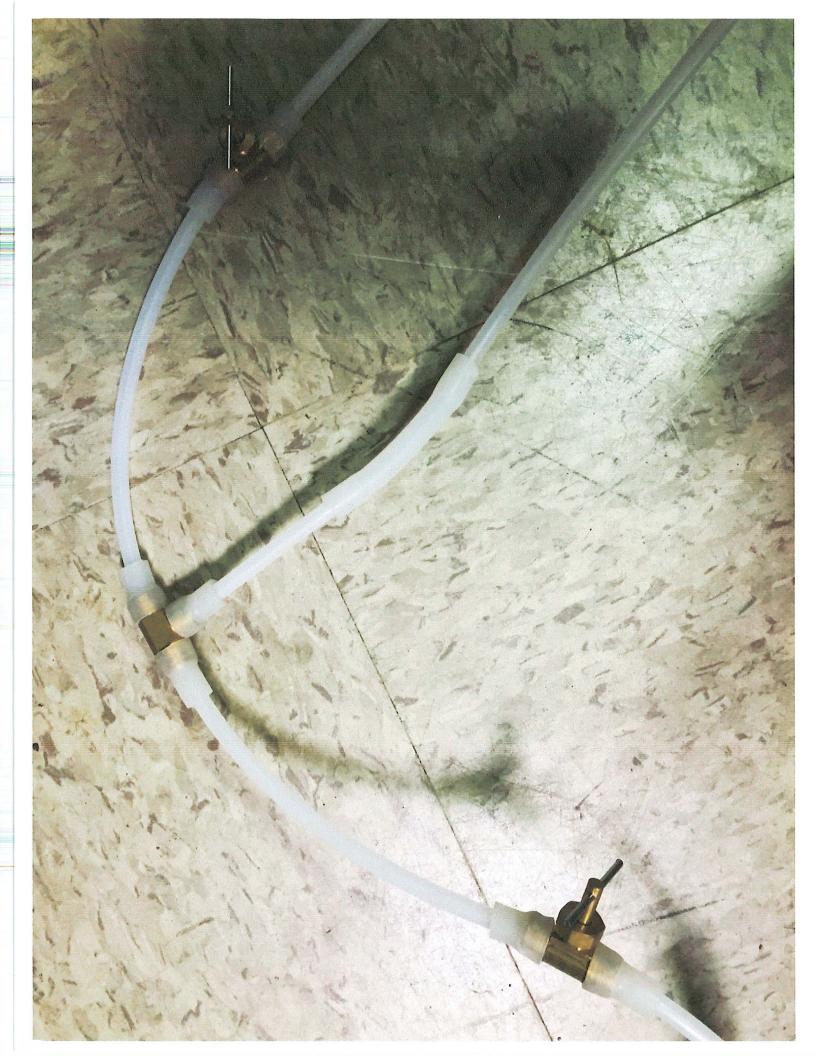
<sup>&</sup>lt;sup>1</sup> The Vapor Risk Screeing Levels are based on U.S. E.P.A.'s Regional Screening Levels (RSL's) for non-residential indoor air with an attenuation factor of 0.001 for soil gas deeper than 5 feet below the foundation of a large commercial buildings and a 0.1 adjustment for 1 x 10-5 lifetime cancer risk for carcinogens.











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