

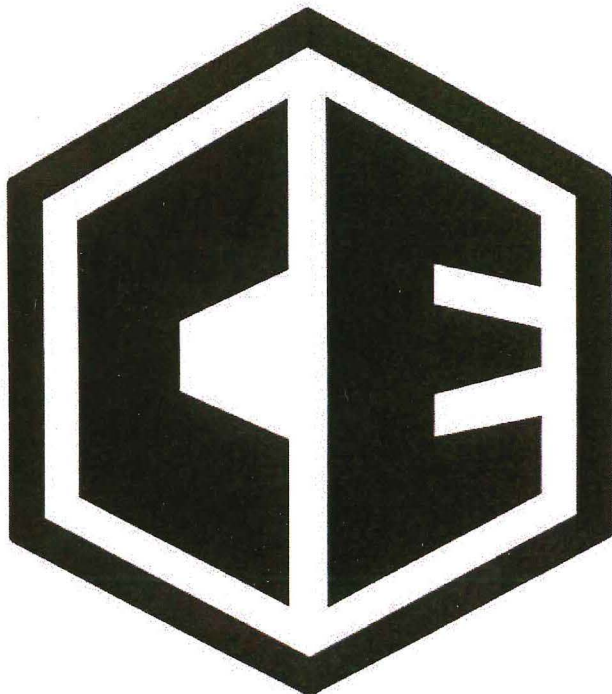
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**PHASE II ENVIRONMENTAL SITE ASSESSMENT  
ADDENDUM**

**FOR**

**FORMER THOMAS SERVICE STATION  
55 WISCONSIN AVENUE  
MONTREAL, IRON COUNTY, WISCONSIN  
OCTOBER 2011**



**Coleman  
Engineering**

Civil Engineering • Environmental Engineering  
Geotechnical Engineering • Land Surveying • Test Drilling  
Construction Quality Control • Materials Laboratory Testing

**PHASE II ENVIRONMENTAL SITE ASSESSMENT ADDENDUM**

**FOR**

**FORMER THOMAS SERVICE STATION  
55 WISCONSIN AVENUE  
MONTREAL, IRON COUNTY, WISCONSIN**

**OCTOBER 2011**

**COLEMAN ENGINEERING COMPANY  
635 Circle Drive  
Iron Mountain, MI 49801**

**CEC Project #EE-10201A**

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**PHASE II ENVIRONMENTAL SITE ASSESSMENT ADDENDUM  
FOR  
FORMER THOMAS SERVICE STATION  
55 WISCONSIN AVENUE  
MONTREAL, WISCONSIN**

**1.0 INTRODUCTION**

In the early 1990's the Wisconsin Department of Transportation (WisDOT) planned to reconstruct State Highway 77 (Wisconsin Avenue) through Montreal, Wisconsin. As part of the pre-construction planning, WisDOT identified the former Thomas Service Station, 55 Wisconsin Avenue, Montreal, Wisconsin (Subject Property) as a place of potential environmental contamination. WisDOT contracted Envirosience, Inc. of Eau Claire, Wisconsin to perform a Phase II Environmental Site Assessment (ESA) along State Highway 77 including in the right-of-way at the Subject Property. The Envirosience Phase II ESA found impacted soil on the Subject Property and the State Highway 77 right-of-way. This finding resulted with the June 1994 listing of the Subject Property as a Wisconsin Department of Natural Resources (DNR) Leaking Underground Storage Tank (LUST) site. The LUST site has the DNR BRRTS #03-26-000788. Figure 1, Appendix A displays the site location.

In October 2009 ownership of the Subject Property was obtained by Iron County through tax default.

In June 2010 Coleman Engineering Company (CEC) was retained by Iron County to conduct a Phase I ESA in accordance with American Society for Testing and Materials E 1527-05 Standard Practice for Environmental Site Assessments. The Phase I ESA resulted in the identification of several recognized environmental conditions (RECs) regarding the property at the former Subject Property. The RECs are as follows:

- The Subject Property is listed by the DNR as a LUST Site (BRRTS #03-26-000788). This indicates the Subject Property is a source of a release of a hazardous substance(s) to the environment and is, therefore, considered a REC.
- Underground storage tanks (USTs) were reported and observed on the Subject Property. The presence of a petroleum retailer indicates large quantities of hazardous materials had been stored on the Subject Property in USTs and aboveground storage tanks (ASTs). The presence of these USTs containing fluid presents evidence for the potential of a release of a possible petroleum product and a material threat of a release of a petroleum product to the environment at the Subject Property and is, therefore, considered a REC.
- The Subject Property was an operating service station from the 1940s (or before) to the mid-1980s. The disposal of automotive fluids at service stations of the 1940s through the 1960s was often via on-site land application. The presence of this historic former service station site presents evidence for the potential of a release of possible petroleum products to the environment at the Subject Property and is, therefore, considered a REC.

- The wastewater discharge from the service station was reportedly directly into the West Branch of the Montreal River until the station closed in the 1980s. This indicates the Subject Property was a source of a release of potentially hazardous substance(s) to the environment and is, therefore, considered a REC.

In August 2010, Iron County retained CEC to oversee removal of the UST remaining on the Subject Property and to perform further site assessment work of the release associated with the LUST site.

CEC contracted SGS Environmental Contracting, LLC of Merrill, Wisconsin, to remove the USTs and provide disposal and/or treatment of all associated wastes. On September 15<sup>th</sup>, 2010, SGS mobilized to the Subject Property to perform the tank removal. A UST site assessment (as per Department of Commerce COMM 10) was not performed as the Subject Property was already a DNR listed LUST site with a BRRTS identification number (#03-26-000788); however, soil and groundwater samples were collected and analyzed as part of the Phase II ESA. The tank removal activities were fully documented in the March 2011 Phase II ESA Report.

In November 2010 CEC performed Phase II ESA activities associated with the LUST site at the Subject Property. The November 2010 Phase II ESA field efforts defined the degree and extent of petroleum impact to soil exceeding Wisconsin Administrative Code (WAC) NR 720 Residual Contaminant Levels (RCLs). The soil impact appeared to be limited to the area around the former pump island/former UST location to a depth of approximately 5 feet below ground surface (BGS). A preliminary definition of impact to groundwater was also part of the Phase II ESA efforts through installation/sampling of temporary wells and laboratory analysis of the samples and found impacted groundwater in the same area as the impacted soil. The September 2010 UST removal and November 2010 site assessment activities are further documented in a March 2011 Phase II ESA report.

To further assess the groundwater impact associated with the LUST site on the Subject Property, Phase II ESA Addendum field activities were conducted in September 2011. This report is intended to document the Phase II ESA Addendum activities and findings regarding groundwater impact.

## **2.0 PHASE II ADDENDUM PROCEDURES**

### Field Procedure Summary

Coleman Engineering Company (CEC) mobilized on September 19, 2011 to install permanent groundwater monitoring wells at the Subject Property. Prior to mobilization, Diggers Hotline was contacted for a utilities clearance of the Subject Property. The only underground utility identified was a fiber optic communications cable lying under the sidewalk along State Highway 77. Due to shallow bedrock, approximately 5 feet BGS, and shallow groundwater, approximately 4 feet BGS, Mr. Phil Richard, DNR Hydrogeologist, Park Falls office, was contacted prior to mobilization regarding well installation. It was determined that the boring would be advanced to 8 feet BGS (if possible) and a 5-foot well screen utilized, no sand pack

above the top of screen and bentonite chips to the ground surface or bottom of the flush mount well protector.

A total of four (4) borings were advanced at the Subject Property on September 20, 2011 using a Diedrich D-50 drilling rig mounted on a tracked carrier. Borings were advanced to bedrock refusal using 4 ¼ inch hollow stem augers. Soil cuttings from the boring in the previously identified soil impact area were collected and containerized in a 55-gallon drum. Auger refusal in all borings was generally around 8 feet BGS. The wells were constructed as per discussions with Mr. Richard. All wells were constructed using 2-inch PVC screen and riser. Three (3) of four (4) wells installed utilized flush mount well protectors. The wells were developed on September 20, 2011 using surge/purge bailing methods.

Purge water was collected and containerized in a 55-gallon drum. Disposal of the two (2) drums of investigative waste was performed by Wausau Chemical of Wausau, Wisconsin. Disposal documentation is provided in Appendix D.

### 3.0 GROUNDWATER CONDITIONS

Soil conditions encountered were varied from fill materials to native peat and till. The till is red, silty sand with varying amounts of gravel and clay. Sand and gravel fill was found from ground surface to 1 to 2 feet BGS. Peat was found underlying the sand and gravel to 3 to 4 feet BGS with till underlying the peat. Advancement of the borehole was difficult when rock conditions were encountered in all boreholes at 5 to 6 feet BGS due to assumed bedrock (Tyler Formation). Auger refusal was encountered in all borings at approximately 8 to 9 feet BGS. Groundwater was encountered at approximately 4 to 6 feet BGS in all borings. The wells were surveyed for elevation referenced to an on-site benchmark of 100.00. Depth to water was measured on September 21, 2011 using an electric water level indicator. The following table summarizes elevational data:

WELL ID	GROUND ELEVATION	WELL ELEVATION	WELL BOTTOM	TOP OF SCREEN	DEPTH TO WATER	WATER ELEVATION
MW-1	100.47	103.38	92.63	97.63	7.18	96.2
MW-2	99.41	98.99	91.44	96.44	4.33	94.66
MW-3	100.01	99.71	91.61	96.61	5.29	94.42
MW-4	100.13	99.86	91.91	96.91	4.11	95.75

ALL ELEVATIONS REFERENCED TO AN ON SITE BENCHMARK OF 100.00  
 DEPTH TO WATER FROM SEPT. 21, 2011

The well and groundwater elevational data was used to generate a groundwater contour map, included in Appendix A as Figure 3. The groundwater contours shown on Figure 3 indicate groundwater flows west-northwest toward the West Branch of the Montreal River approximately 200 feet away. Well MW-4 was placed within the area of impacted soil and groundwater defined in the previous Phase II ESA efforts; well MW-2 lays directly downgradient of the impacted soil/groundwater area.

Groundwater samples were collected on September 21, 2011 from each of the four (4) wells installed at the site. Disposable bailers were utilized at each well for well purging and sample collection. The groundwater samples were submitted to Pace Analytical, Green Bay, Wisconsin for analysis of petroleum volatile organics and naphthalene (PVOC/NAP). The following table summarizes laboratory results. The tables also compare the analytical results WAC NR 140 Preventive Action Limits (PALs) and Enforcement Standard (ES) for groundwater.

### GROUNDWATER SAMPLE ANALYSIS RESULTS

Sample Identification	MW-1	MW-2	MW-3	MW-4	NR 140 PAL/ES
Sample Date	09/21/11	09/21/11	09/21/11	09/21/11	
Benzene	<b>1.6</b>	<0.39	<0.39	<b>18.8</b>	0.5/5
Ethylbenzene	0.54J	<0.41	<0.41	99.5	140/700
Methyl-tert-butyl ether	<0.38	<0.38	<0.38	7.1	12/60
Toluene	1.9	<0.40	<0.40	6.3	200/1000
1,2,4 Trimethylbenzene	3.3	<0.43	<0.43	<b>358</b>	14/70
1,3,5 Trimethylbenzene	0.64J	<0.40	<0.40	122	na
Total Xylene	1.9	<0.87	<0.87	505	1000/10000
Naphthalene	0.99J	<0.40	<0.40	<b>36.3</b>	10/100

**NOTES:**

All concentrations in micrograms per kilogram (µg/kg) for soil and micrograms per liter (µg/l) for water

na- not available

J-laboratory footnote concentration estimated

NR 720 RCL- Residual Contaminant Level from WI Administrative Code NR 720.11 from WI Administrative Code NR 141

NR 141 PAL/ES - Preventive Action Level/Enforcement Standard from WI Administrative Code NR 140.10 Table 1.

**BOLD** results indicate regulatory standard exceedance

The groundwater sample analysis results indicate the groundwater impact is limited to the area around well MW-4, which is located within the area of soil impact. The MW-4 sample results show exceedances of NR 140 Enforcement Standards (ES) for benzene, 1,2,4 trimethylbenzene and naphthalene. Well MW-1 does display a NR 140 Preventive Action Level exceedance of benzene. Downgradient wells MW-2 and MW-3 sample results were all non-detect for the PVOC/NAP and no NR 140 ES/PAL exceedances indicating impact to groundwater is limited to the area around MW-4/soil impact area. Figure 4 in Appendix A displays the estimated area of groundwater impact exceeding WAC NR 140 ES.

## **4.0 CONCLUSION AND RECOMMENDATIONS**

The purpose of the Phase II ESA Addendum was to document the assessment of groundwater conditions associated with the LUST site on the Subject Property. The previous Phase II ESA work defined soil impact exceeding WAC NR 720 RCLs to be limited to around the former pump island/UST location, from near ground surface to approximately 5 to 6 feet BGS. The Phase II ESA Addendum efforts have defined groundwater impact exceeding WAC NR 140 ES to the same area as the soil impact.

It is recommended to perform a limited source reduction by removing and disposing of the most impacted soil on the Subject Property. This area is approximately 30 feet by 30 feet by 5 to 6 feet deep, estimated to be approximately 500 tons of soil. After source reduction, groundwater monitoring should be performed to verify the effectiveness of the removal of impacted soil to groundwater.

## **5.0 LIMITATIONS**

There are limitations inherent to the environmental investigation process. No environmental investigation can wholly eliminate uncertainty regarding actual environmental conditions of the subject study area(s). This is because when dealing with existing conditions that are hidden from view, affected by time, changes in state and other limitations, it would require a substantial level of financial and technical effort in order to remove all of the uncertainty associated with a Subject Property evaluation.

It must be understood that the laboratory results and the conclusions drawn from the results have inherent limitations and uncertainty. The limitations and uncertainty exist when Subject Property samples are collected and laboratory analyzed for the purpose of representing existing Subject Property conditions. Although special care is taken in the field to assure adequate sampling, the laboratory analytical results of those samples are most representative of the exact location of where the samples were collected. The results, however, are used as a basis for demonstrating existing conditions, when in fact the overall actual conditions may be different. Additional limitations are included as Appendix E of this report.

## **6.0 REFERENCES**

Phase I Environmental Site Assessment Report prepared by Coleman Engineering Company dated July 2010.

Phase II Environmental Site Assessment Report prepared by Coleman Engineering Company dated March 2011.

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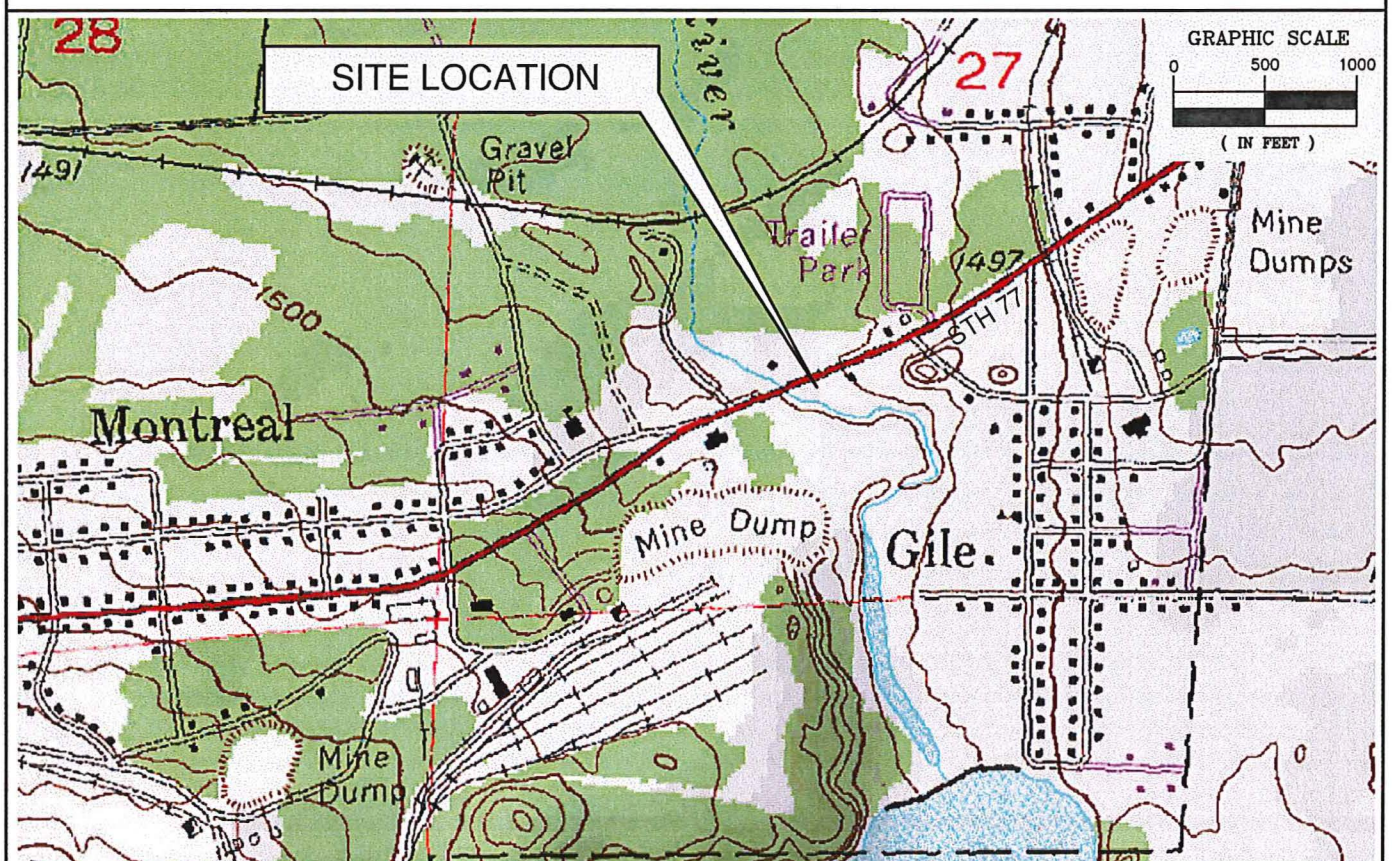
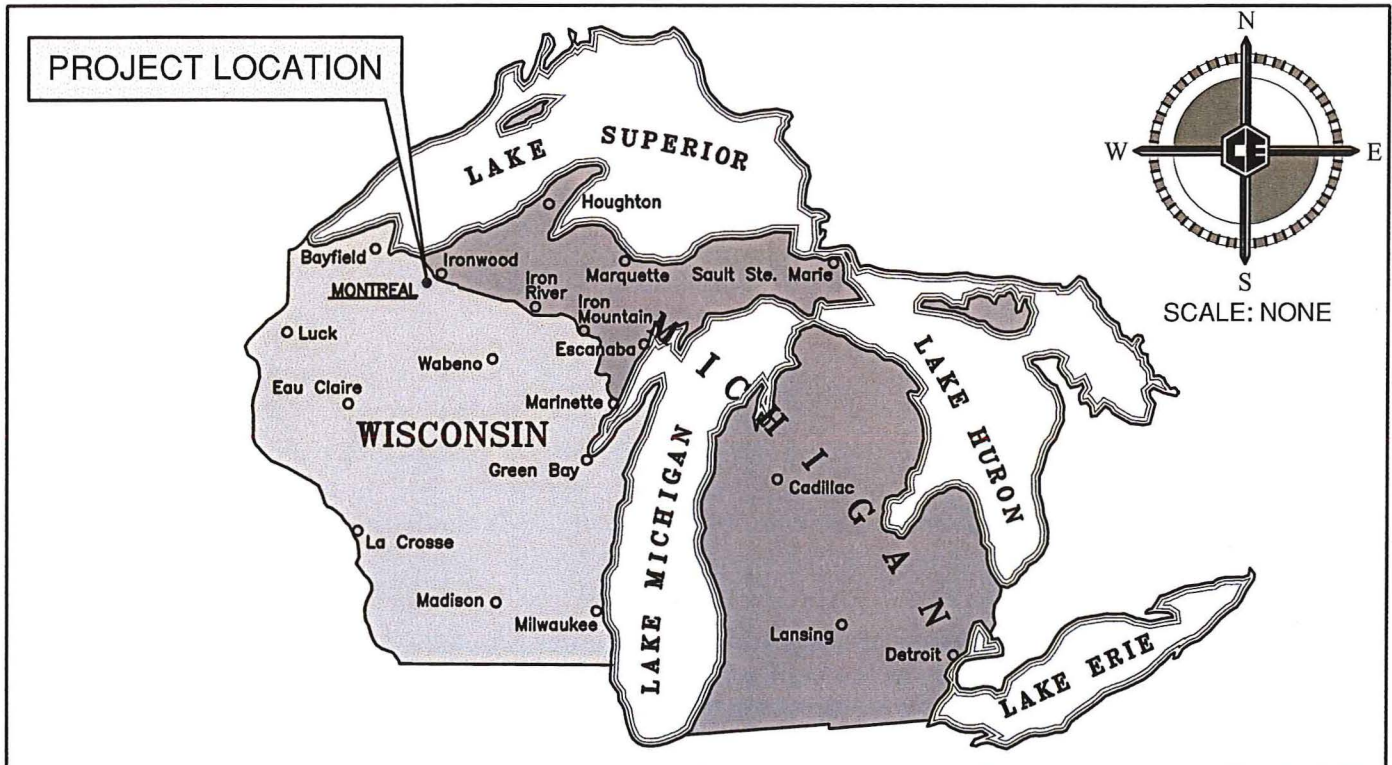


## **APPENDIX A**

### **FIGURES**

- Figure 1 – Project Location Map
- Figure 2 – Well Location Map
- Figure 3 – Groundwater Contour Map
- Figure 4 – Groundwater Impact Area





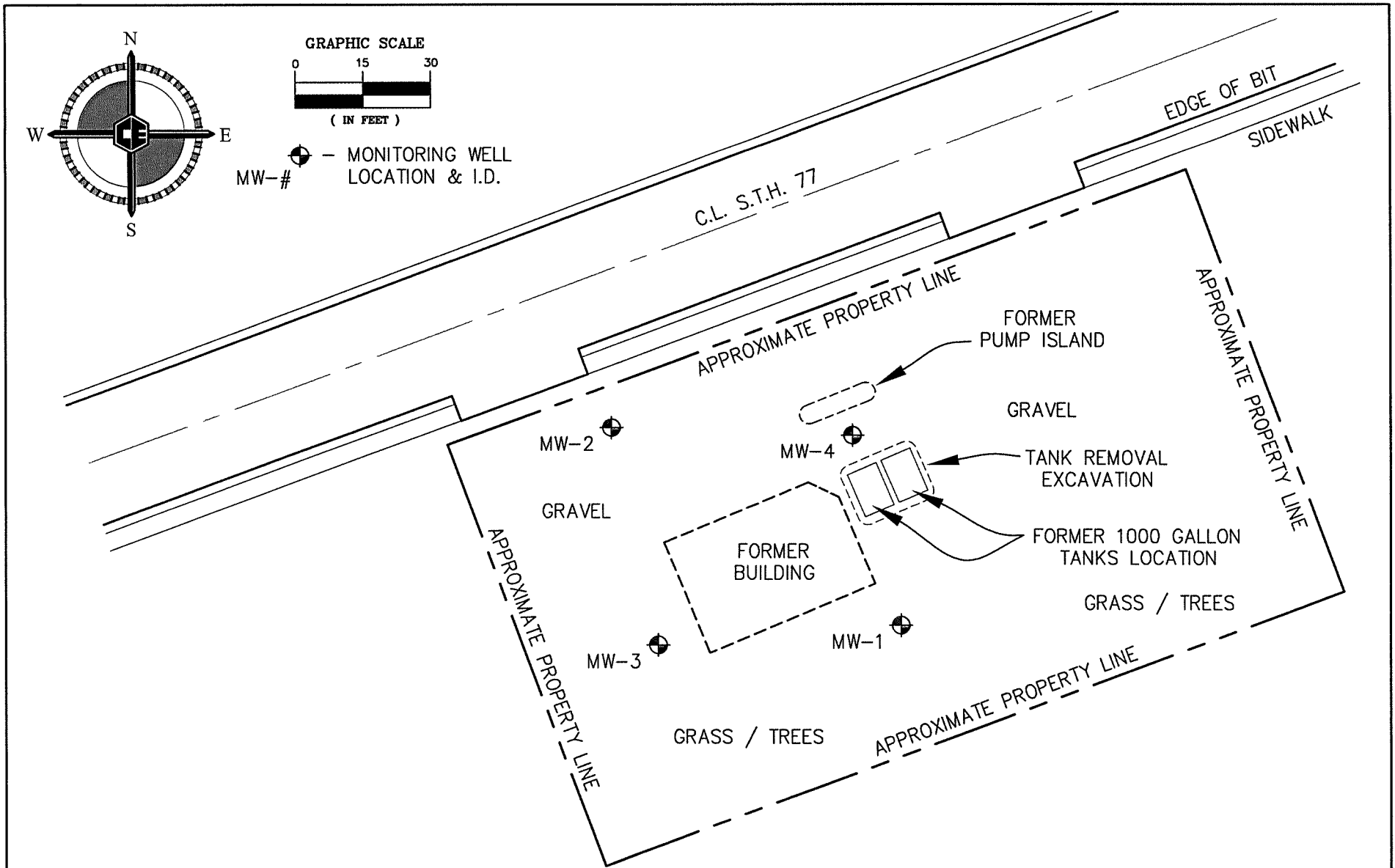
**FIGURE 1 - PROJECT LOCATION MAP**  
**FORMER THOMAS SERVICE STATION**  
**PHASE II ENVIRONMENTAL SITE ASSESSMENT**  
**MONTREAL, WISCONSIN**

3D TOPOQUADS



**COLEMAN ENGINEERING COMPANY**  
 635 CIRCLE DRIVE - IRON MOUNTAIN, MICHIGAN 49801 (906) 774-3440  
 200 EAST AYER STREET - IRONWOOD, MICHIGAN 49938 (906) 932-5048

DATE 2/17/11  
 JOB NO 10201-B  
 CADD FILE 10201-B-WIW-WIQ.DWG  
 PDF FILE 10201-B-WIW-WIQ.PDF



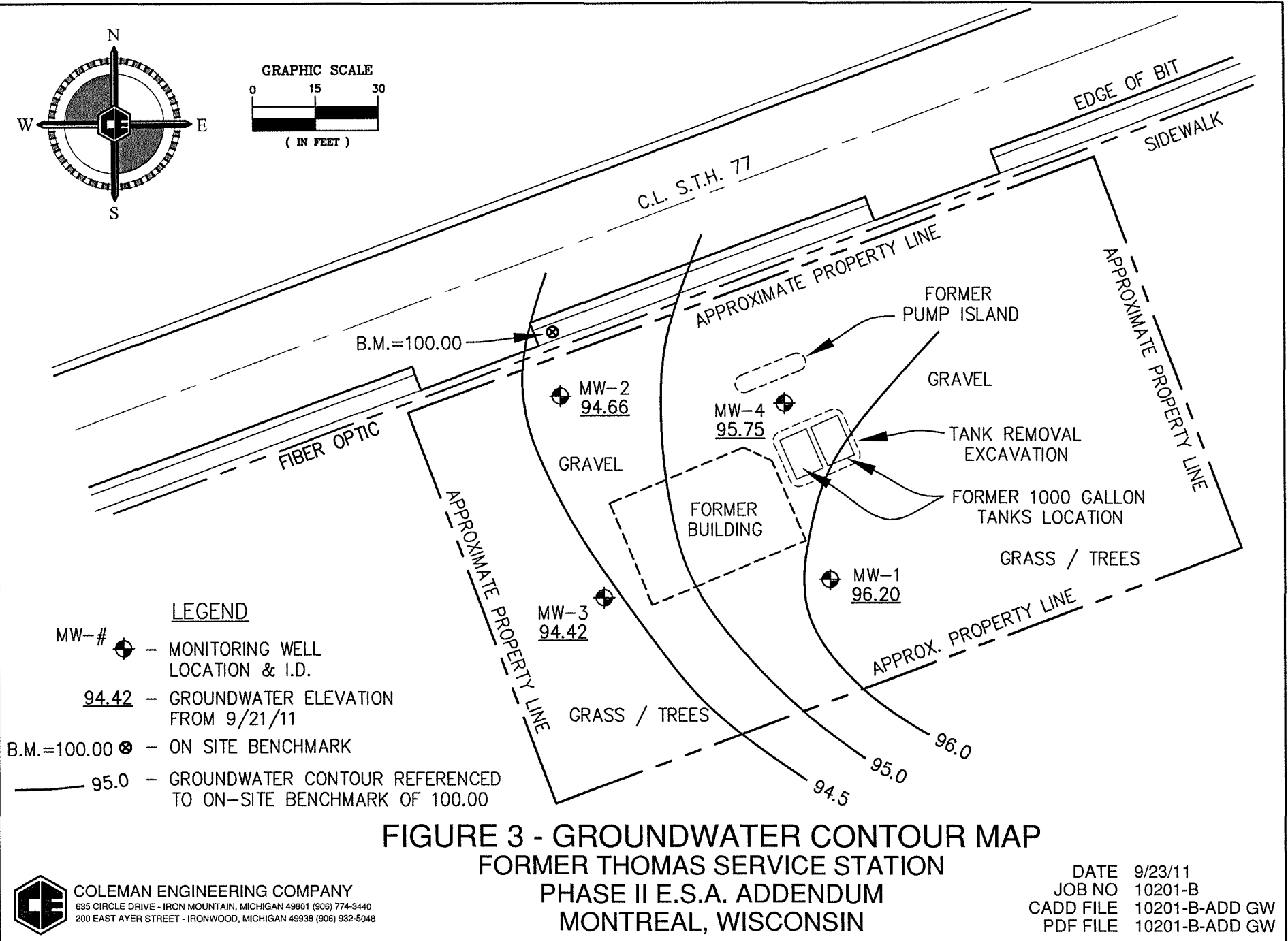
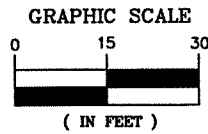
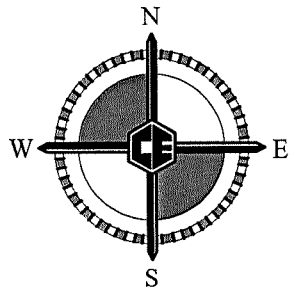
**FIGURE 2 - WELL LOCATION MAP  
 FORMER THOMAS SERVICE STATION  
 PHASE II E.S.A. ADDENDUM  
 MONTREAL, WISCONSIN**



COLEMAN ENGINEERING COMPANY  
 635 CIRCLE DRIVE - IRON MOUNTAIN, MICHIGAN 49801 (906) 774-3440  
 200 EAST AYER STREET - IRONWOOD, MICHIGAN 49939 (906) 932-5048

DATE 9/23/11  
 JOB NO 10201-B  
 CADD FILE 10201-B-ADD SITE  
 PDF FILE 10201-B-ADD SITE





**LEGEND**

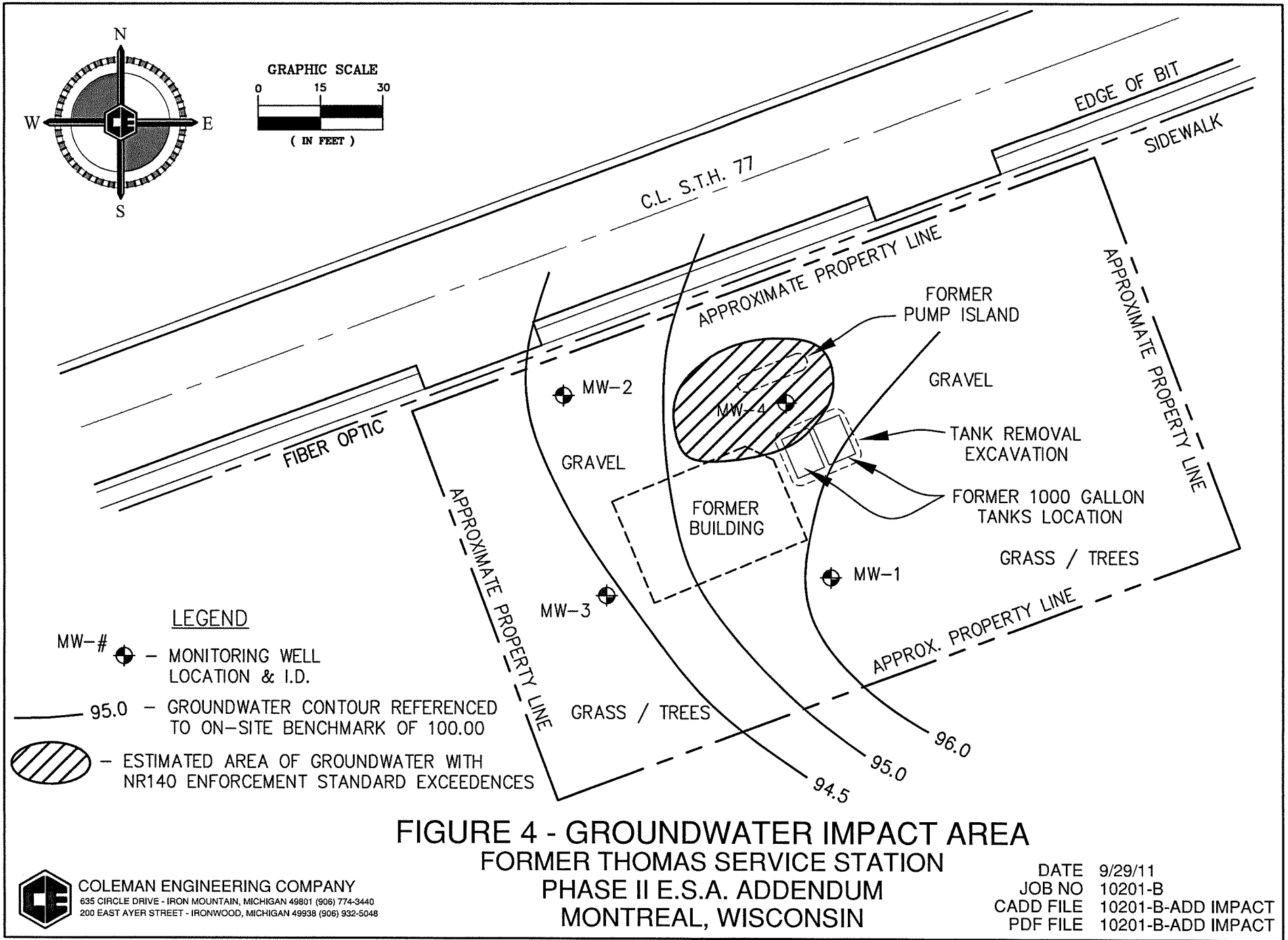
- MW-# - MONITORING WELL LOCATION & I.D.
- 94.42 - GROUNDWATER ELEVATION FROM 9/21/11
- B.M.=100.00 - ON SITE BENCHMARK
- 95.0 - GROUNDWATER CONTOUR REFERENCED TO ON-SITE BENCHMARK OF 100.00

**FIGURE 3 - GROUNDWATER CONTOUR MAP  
FORMER THOMAS SERVICE STATION  
PHASE II E.S.A. ADDENDUM  
MONTREAL, WISCONSIN**



COLEMAN ENGINEERING COMPANY  
635 CIRCLE DRIVE - IRON MOUNTAIN, MICHIGAN 49801 (906) 774-3440  
200 EAST AYER STREET - IRONWOOD, MICHIGAN 49938 (906) 932-5048

DATE 9/23/11  
JOB NO 10201-B  
CADD FILE 10201-B-ADD GW  
PDF FILE 10201-B-ADD GW



COLEMAN ENGINEERING COMPANY  
 635 CIRCLE DRIVE - IRON MOUNTAIN, MICHIGAN 49801 (906) 774-3440  
 200 EAST AYER STREET - IRONWOOD, MICHIGAN 49938 (906) 932-5048

DATE 9/29/11  
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**BORING LOGS AND WELL REPORTS**

**APPENDIX B**

Route To: Watershed/Wastewater  Waste Management   
Remediation/Revelopment  Other

Page 1 of 1

Facility/Project Name <u>FORMER THOMAS SERVICE</u>			License/Permit/Monitoring Number		Boring Number <u>MW-1</u>
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: <u>CRAIG</u> Last Name: <u>REIDNER</u> Firm: <u>COLEMAN ENGINEERING</u>			Date Drilling Started <u>9/20/2011</u> m m d d y y y y	Date Drilling Completed <u>9/20/2011</u> m m d d y y y y	Drilling Method <u>HSA</u>
WI Unique Well No.	DNR Well ID No.	Well Name <u>MW-1</u>	Final Static Water Level ____ Feet MSL		Surface Elevation ____ Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input type="checkbox"/> State Plane _____ N, _____ E			Local Grid Location Lat _____ ° ' " _____ Long _____ ° ' " _____		Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W
Facility ID <u>03-26-000788</u>	County <u>IRON</u>	County Code <u>26</u>	Civil Town/City/ or Village <u>MONTREAL</u>		

Number and Type	Length Att. & Recovered (m)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FTD	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
				BLIND DRILL  TILL  SLATE ± 5'  REFUSAL EOL ± 8.5 FEET										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature John Hunt Firm COLEMAN ENGINEERING

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in 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 this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Facility/Project Name <u>FARMER THOMAS SERVICE</u>	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> E. ft. <input type="checkbox"/> S. <input type="checkbox"/> W.	Well Name <u>MW-1</u>
Facility License, Permit or Monitoring No.	Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input type="checkbox"/> Lat. _____ " Long. _____ " or _____ "	Wis. Unique Well No. _____ DNR Well ID No. _____
Facility ID <u>03-26-000788</u>	St. Plane _____ ft. N. _____ ft. E. S/C/N	Date Well Installed <u>9/20/2011</u> m m d d y y y y
Type of Well Well Code <u>1</u>	Section Location of Waste/Source <u>SE 1/4 of SW 1/4 of Sec. 27, T. 46 N, R. 2 E W</u>	Well Installed By: Name (first, last) and Firm <u>CRAIG REIDNER</u>
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Gov. Lot Number _____ <u>COLEMAN ENGINEERING</u>

A. Protective pipe, top elevation \_\_\_\_\_ ft. MSL  
 B. Well casing, top elevation 103.28 ft. MSL  
 C. Land surface elevation 100.47 ft. MSL  
 D. Surface seal, bottom 92.47 ft. MSL or \_\_\_\_\_ ft.

12. USCS classification of soil near screen:  
 GP  GM  GC  GW  SW  SP   
 SM  SC  ML  MH  CL  CH   
 Bedrock

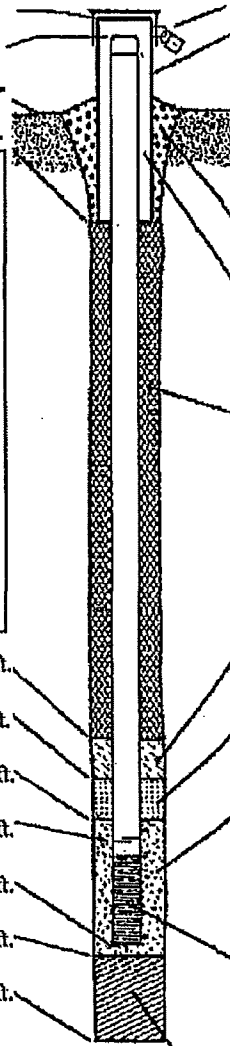
13. Sieve analysis performed?  Yes  No

14. Drilling method used: Rotary  50  
 Hollow Stem Auger  41  
 Other

15. Drilling fluid used: Water  02 Air  01  
 Drilling Mud  03 None  99

16. Drilling additives used?  Yes  No  
 Describe \_\_\_\_\_

17. Source of water (attach analysis, if required): \_\_\_\_\_



1. Cap and lock?  Yes  No

2. Protective cover pipe:  
 a. Inside diameter: \_\_\_\_\_ in.  
 b. Length: \_\_\_\_\_ ft.  
 c. Material: Steel  04  
 Other

d. Additional protection?  Yes  No  
 If yes, describe: \_\_\_\_\_

3. Surface seal: Bentonite  30  
 Concrete  01  
 Other

4. Material between well casing and protective pipe:  
 Bentonite  30  
 Other

5. Annular space seal:  
 a. Granular/Chipped Bentonite  33  
 b. \_\_\_\_\_ Lbs/gal mud weight ... Bentonite-sand slurry  35  
 c. \_\_\_\_\_ Lbs/gal mud weight ... Bentonite slurry  31  
 d. \_\_\_\_\_ % Bentonite ... Bentonite-cement grout  50  
 e. \_\_\_\_\_ Ft<sup>3</sup> volume added for any of the above  
 f. How installed: Tremie  01  
 Tremie pumped  02  
 Gravity  08

6. Bentonite seal:  
 a. Bentonite granules  33  
 b.  1/4 in.  3/8 in.  1/2 in. Bentonite chips  32  
 c. \_\_\_\_\_ Other

7. Fine sand material: Manufacturer, product name & mesh size  
 a. NA  
 b. Volume added NA ft<sup>3</sup>

8. Filter pack material: Manufacturer, product name & mesh size  
 a. BADGER 20/40  
 b. Volume added \_\_\_\_\_ ft<sup>3</sup>

9. Well casing: Flush threaded PVC schedule 40  23  
 Flush threaded PVC schedule 80  24  
 Other

10. Screen material: PVC  
 a. Screen type: Factory cut  11  
 Continuous slot  01  
 Other

b. Manufacturer \_\_\_\_\_  
 c. Slot size: \_\_\_\_\_ 0.01 in.  
 d. Slotted length: \_\_\_\_\_ 5 ft.

11. Backfill material (below filter pack): None  14  
SAND Other

E. Bentonite seal, top \_\_\_\_\_ ft. MSL or \_\_\_\_\_ ft.  
 F. Fine sand, top NA ft. MSL or NA ft.  
 G. Filter pack, top 92.62 ft. MSL or 3 ft.  
 H. Screen joint, top 97.62 ft. MSL or 3 ft.  
 I. Well bottom 92.62 ft. MSL or 8 ft.  
 J. Filter pack, bottom 92.12 ft. MSL or 8.5 ft.  
 K. Borehole, bottom \_\_\_\_\_ ft. MSL or 8.5 ft.  
 L. Borehole, diameter 8 in.  
 M. O.D. well casing 2 in.  
 N. I.D. well casing \_\_\_\_\_ in.

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
 Signature [Signature] Firm COLEMAN ENGINEERING

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.



Route to: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name <u>FORMER THOMAS SERVICE</u>	County Name <u>IRON</u>	Well Name <u>MW-1</u>
Facility License, Permit or Monitoring Number	County Code <u>26</u>	Wis. Unique Well Number _____
		DNR Well ID Number _____

1. Can this well be purged dry?  Yes  No
2. Well development method
- surged with bailer and bailed  41
  - surged with bailer and pumped  61
  - surged with block and bailed  42
  - surged with block and pumped  62
  - surged with block, bailed and pumped  70
  - compressed air  20
  - bailed only  10
  - pumped only  51
  - pumped slowly  50
  - Other  \_\_\_\_\_
3. Time spent developing well 30 min.
4. Depth of well (from top of well casing) 8 ft.
5. Inside diameter of well 2 in.
6. Volume of water in filter pack and well casing ± 2 gal.
7. Volume of water removed from well ± 6 gal.
8. Volume of water added (if any) NA gal.
9. Source of water added NA
10. Analysis performed on water added?  Yes  No  
(If yes, attach results) NA

- |  | Before Development  | After Development   |
|--|---|---|
| 11. Depth to Water (from top of well casing) | a. <u>7.18</u> ft.  | <u>DRY</u> ft.  |
| Date   | b. <u>9/21/2011</u><br>m m d d y y y y  | <u>9/21/2011</u><br>m m d d y y y y   |
| Time   | c. _____ a.m.<br>_____ p.m.   | _____ a.m.<br>_____ p.m.  |
| 12. Sediment in well bottom                  | <u>0</u> inches   | <u>0</u> inches   |
| 13. Water clarity                            | Clear <input type="checkbox"/> 10<br>Turbid <input checked="" type="checkbox"/> 15<br>(Describe) <u>RED</u><br><u>V. TURBID</u> | Clear <input type="checkbox"/> 20<br>Turbid <input checked="" type="checkbox"/> 25<br>(Describe) <u>PINK</u><br><u>TURBID</u> |

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids NA mg/l \_\_\_\_\_ mg/l

15. COD NA mg/l \_\_\_\_\_ mg/l

16. Well developed by: Name (first, last) and Firm

First Name: JOHN Last Name: HUNT

Firm: COLEMAN ENGINEERING

17. Additional comments on development:  
PURGED DRY SEVERAL TIMES

Name and Address of Facility Contact/Owner/Responsible Party

First Name: Tom Last Name: BERGMAN

Facility/Firm: IRON COUNTY WISCONSIN

Street: 300 TACONITE ST

City/State/Zip: LARLEY WI 54534

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: [Signature]

Print Name: JOHN HUNT

Firm: COLEMAN ENGINEERING

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

Route To: Watershed/Wastewater  Waste Management   
Remediation/Revelpment  Other

Page 1 of 1

Facility/Project Name <b>FORMER THOMAS SERVICE</b>			License/Permit/Monitoring Number		Boring Number <b>MW-2</b>
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: <b>CRAIG</b> Last Name: <b>REIDNER</b> Firm: <b>COLEMAN ENGINEERING</b>			Date Drilling Started <b>9/20/2011</b> m m d d y y y y	Date Drilling Completed <b>9/20/2011</b> m m d d y y y y	Drilling Method <b>HSA</b>
WI Unique Well No.	DNR Well ID No.	Well Name <b>MW-2</b>	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter <b>8</b> inches
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input type="checkbox"/> State Plane <u>N</u> <input type="checkbox"/> E <input type="checkbox"/> Lat <u>0</u> ' " <input type="checkbox"/> N <input type="checkbox"/> E			Local Grid Location Feet <input type="checkbox"/> S <input type="checkbox"/> W		
SE 1/4 of SW 1/4 of Section <b>27</b> , T <b>46</b> N, R <b>2</b> E			Long		
Facility ID <b>03-26-000788</b>		County <b>IRON</b>	County Code <b>26</b>	Civil Town/City/ or Village <b>MONTREAL</b>	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
				BLIND DRILL  TILL  SLATE @ ± 6  REFUSAL EOB ± 9										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature *John H. [Signature]* Firm **COLEMAN ENGINEERING**

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in 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 this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.

Facility/Project Name <u>FORMER THOMAS SERVICE</u>	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name <u>MW-2</u>
Facility License, Permit or Monitoring No.	Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input type="checkbox"/> Lat. _____ Long. _____ or _____	Wis. Unique Well No. _____ DNR Well ID No. _____
Facility ID <u>03-26-000788</u>	St. Plane _____ ft. N. _____ ft. E. S/C/N	Date Well Installed <u>9/20/2011</u> m m d d y y y y
Type of Well Well Code <u>1</u>	Section Location of Waste/Source <u>SE 1/4 of SW 1/4 of Sec. 27, T. 46 N. R. 2</u> <input checked="" type="checkbox"/> E <input type="checkbox"/> W	Well Installed By: Name (first, last) and Firm <u>CRAIG REIDNER</u> <u>COLEMAN ENGINEERING</u>
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	
Enf. Stds. Apply <input type="checkbox"/>	Gov. Lot Number _____	

A. Protective pipe, top elevation _____ ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation <u>98.99</u> ft. MSL	2. Protective cover pipe: a. Inside diameter: _____ in. b. Length: _____ ft. c. Material: Steel <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/>
C. Land surface elevation <u>99.41</u> ft. MSL	d. Additional protection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____
D. Surface seal, bottom <u>98.41</u> ft. MSL or _____ ft.	3. Surface seal: Bentonite <input type="checkbox"/> 30 Concrete <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/>
12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input checked="" type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/>	4. Material between well casing and protective pipe: Bentonite <input checked="" type="checkbox"/> 30 Other <input type="checkbox"/>
13. Sieve analysis performed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/> 33 b. _____ Lbs/gal mud weight ... Bentonite-sand slurry <input type="checkbox"/> 35 c. _____ Lbs/gal mud weight ... Bentonite slurry <input type="checkbox"/> 31 d. _____ % Bentonite ... Bentonite-cement grout <input type="checkbox"/> 50 e. _____ Ft <sup>3</sup> volume added for any of the above f. How installed: Tremie <input type="checkbox"/> 01 Tremie pumped <input type="checkbox"/> 02 Gravity <input checked="" type="checkbox"/> 08
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/>	6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 33 b. <input type="checkbox"/> 1/4 in. <input type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input type="checkbox"/> 32 c. _____ Other <input type="checkbox"/>
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input checked="" type="checkbox"/> 99	7. Fine sand material: Manufacturer, product name & mesh size a. <u>NA</u> b. Volume added <u>NA</u> ft <sup>3</sup>
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Describe _____	8. Filter pack material: Manufacturer, product name & mesh size a. <u>BADGER 20/40</u> b. Volume added _____ ft <sup>3</sup>
17. Source of water (attach analysis, if required): _____	9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 23 Flush threaded PVC schedule 80 <input type="checkbox"/> 24 Other <input type="checkbox"/>
E. Bentonite seal, top <u>98.41</u> ft. MSL or <u>1</u> ft.	10. Screen material: <u>PVC</u> a. Screen type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/> b. Manufacturer <u>DIEDRICH</u> c. Slot size: <u>0.01</u> in. d. Slotted length: <u>5</u> ft.
F. Fine sand, top <u>NA</u> ft. MSL or _____ ft.	11. Backfill material (below filter pack): None <input type="checkbox"/> 14 <u>SAND</u> Other <input checked="" type="checkbox"/>
G. Filter pack, top <u>96.41</u> ft. MSL or <u>3</u> ft.	
H. Screen joint, top <u>96.41</u> ft. MSL or <u>3</u> ft.	
I. Well bottom <u>91.41</u> ft. MSL or <u>8</u> ft.	
J. Filter pack, bottom <u>90.41</u> ft. MSL or <u>9</u> ft.	
K. Borehole, bottom <u>90.41</u> ft. MSL or <u>9</u> ft.	
L. Borehole, diameter <u>2</u> in.	
M. O.D. well casing <u>2</u> in.	
N. I.D. well casing _____ in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature [Signature] Firm COLEMAN ENGINEERING

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.

Route to: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name <u>FORMER THOMAS SERVICE</u>	County Name <u>IRON</u>	Well Name <u>MW-2</u>
Facility License, Permit or Monitoring Number	County Code <u>26</u>	Wis. Unique Well Number _____
		DNR Well ID Number _____

1. Can this well be purged dry?  Yes  No

2. Well development method

- surged with bailer and bailed  41
- surged with bailer and pumped  61
- surged with block and bailed  42
- surged with block and pumped  62
- surged with block, bailed and pumped  70
- compressed air  20
- bailed only  10
- pumped only  51
- pumped slowly  50
- Other  \_\_\_\_\_

3. Time spent developing well 30 min.

4. Depth of well (from top of well casing) 8 ft.

5. Inside diameter of well 2 in.

6. Volume of water in filter pack and well casing ± 2 gal.

7. Volume of water removed from well ± 6 gal.

8. Volume of water added (if any) NA gal.

9. Source of water added NA

10. Analysis performed on water added?  Yes  No  
(If yes, attach results) NA

11. Depth to Water Before Development After Development

(from top of well casing) a. 4.33 ft. DRY ft.

Date b. 9/21/2011 9/21/2011  
m m d d y y y y m m d d y y y y

Time c. \_\_\_\_\_:\_\_\_\_ a.m. \_\_\_\_\_:\_\_\_\_ a.m.  
\_\_\_\_\_:\_\_\_\_ p.m. \_\_\_\_\_:\_\_\_\_ p.m.

12. Sediment in well bottom 0 inches 0 inches

13. Water clarity Clear  10 Turbid  15 (Describe) RED  
V. TURBID Clear  20 Turbid  25 (Describe) PINK  
TURBID

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended NA mg/l \_\_\_\_\_ mg/l  
solids

15. COD NA mg/l \_\_\_\_\_ mg/l

16. Well developed by: Name (first, last) and Firm

First Name: JOHN Last Name: HUNT

Firm: COLEMAN ENGINEERING

17. Additional comments on development:

PURGED DRY SEVERAL TIMES

Name and Address of Facility Contact/Owner/Responsible Party

First Name: Tom Last Name: BERGMAN

Facility/Firm: IRON COUNTY WISCONSIN

Street: 300 TACONITE ST

City/State/Zip: HURLEY WI 54534

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: [Signature]

Print Name: JOHN HUNT

Firm: COLEMAN ENGINEERING

Route To: Watershed/Wastewater  Waste Management   
Remediation/Revelopment  Other

Page 1 of 1

Facility/Project Name <b>FORMER THOMAS SERVICE</b>			License/Permit/Monitoring Number		Boring Number <b>MW-3</b>
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: <b>CICALI</b> Last Name: <b>REIDNER</b> Firm: <b>COLEMAN ENGINEERING</b>			Date Drilling Started <b>9/20/2011</b> m m d d y y y y	Date Drilling Completed <b>9/20/2011</b> m m d d y y y y	Drilling Method <b>HSA</b>
WI Unique Well No.	DNR Well ID No.	Well Name <b>MW-3</b>	Final Static Water Level Feet MSL	Surface Elevation Feet MSL	Borehole Diameter <b>8</b> inches
Local Grid Origin <input type="checkbox"/> (estimated; <input type="checkbox"/> ) or Boring Location <input type="checkbox"/> State Plane <b>N</b> <input type="checkbox"/> E <input type="checkbox"/> Lat <b>0</b> ' "			Local Grid Location <input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W		
Facility ID <b>03-26-000788</b>		County <b>IRON</b>	County Code <b>26</b>	Civil Town/City/ or Village <b>MONTREAL</b>	

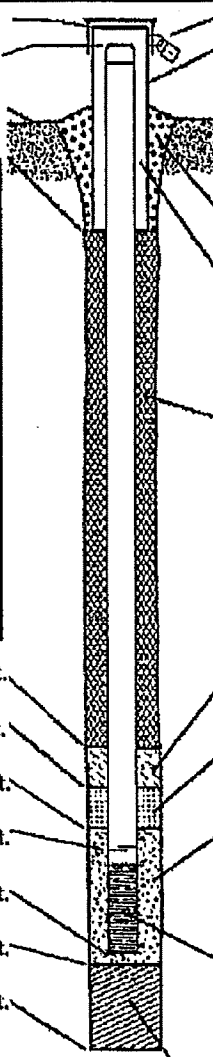
Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth in Feet (Below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
									Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
				BLIND DRILL  TILL  SLATE @ ± 6  <del>REFUSAL</del> EOB ± 8.4'										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature John Reidner Firm COLEMAN ENGINEERING

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Facility/Project Name <b>FORMER THOMAS SERVICE</b>	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> S. <input type="checkbox"/> E. <input type="checkbox"/> W.	Well Name <b>MW-3</b>
Facility License, Permit or Monitoring No.	Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Well Location <input type="checkbox"/> Lat. _____ "Long. _____ " or _____	Wis. Unique Well No. _____ DNR Well ID No. _____
Facility ID <b>03-26-000788</b>	St. Plane _____ ft. N. _____ ft. E. S/C/N	Date Well Installed <b>9/20/2011</b> m m d d y y y y
Type of Well Well Code <b>1</b>	Section Location of Waste/Source <b>SE 1/4 of SW 1/4 of Sec. 27, T. 46 N, R. 2 E W</b>	Well Installed By: Name (first, last) and Firm <b>CRAIG REIDNER</b>
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Gov. Lot Number _____ <b>COLEMAN ENGINEERING</b>

<p>A. Protective pipe, top elevation _____ ft. MSL</p> <p>B. Well casing, top elevation <b>99.71</b> ft. MSL</p> <p>C. Land surface elevation <b>100.01</b> ft. MSL</p> <p>D. Surface seal, bottom <b>99.01</b> ft. MSL or <b>1</b> ft.</p> <div style="border: 1px solid black; padding: 5px;"> <p>12. USCS classification of soil near screen:                  GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/>                  SM <input checked="" type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/>                  Bedrock <input checked="" type="checkbox"/></p> <p>13. Sieve analysis performed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>14. Drilling method used: Rotary <input type="checkbox"/> 50                  Hollow Stem Auger <input checked="" type="checkbox"/> 41                  Other <input type="checkbox"/></p> <p>15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01                  Drilling Mud <input type="checkbox"/> 03 None <input checked="" type="checkbox"/> 99</p> <p>16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p> <p>Describe _____</p> <p>17. Source of water (attach analysis, if required): _____</p> </div> <p>E. Bentonite seal, top <b>99.01</b> ft. MSL or <b>1</b> ft.</p> <p>F. Fine sand, top <b>NA</b> ft. MSL or _____ ft.</p> <p>G. Filter pack, top <b>96.6</b> ft. MSL or <b>3.4</b> ft.</p> <p>H. Screen joint, top <b>96.6</b> ft. MSL or <b>3.4</b> ft.</p> <p>I. Well bottom <b>91.6</b> ft. MSL or <b>8.4</b> ft.</p> <p>J. Filter pack, bottom <b>91.6</b> ft. MSL or <b>8.4</b> ft.</p> <p>K. Borehole, bottom <b>91.6</b> ft. MSL or <b>8.4</b> ft.</p> <p>L. Borehole, diameter <b>8</b> in.</p> <p>M. O.D. well casing <b>2</b> in.</p> <p>N. I.D. well casing _____ in.</p>	 <p>1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>2. Protective cover pipe:                  a. Inside diameter: <b>10</b> in.                  b. Length: <b>1</b> ft.                  c. Material: Steel <input checked="" type="checkbox"/> 04                  Other <input type="checkbox"/>                  d. Additional protection? <input type="checkbox"/> Yes <input type="checkbox"/> No                  If yes, describe: _____</p> <p>3. Surface seal:                  Bentonite <input type="checkbox"/> 30                  Concrete <input checked="" type="checkbox"/> 01                  Other <input type="checkbox"/></p> <p>4. Material between well casing and protective pipe:                  Bentonite <input checked="" type="checkbox"/> 30                  Other <input type="checkbox"/></p> <p>5. Annular space seal:                  a. Granular/Chipped Bentonite <input checked="" type="checkbox"/> 33                  b. _____ Lbs/gal mud weight... Bentonite-sand slurry <input type="checkbox"/> 35                  c. _____ Lbs/gal mud weight... Bentonite slurry <input type="checkbox"/> 31                  d. _____ % Bentonite... Bentonite-cement grout <input type="checkbox"/> 50                  e. _____ Ft<sup>3</sup> volume added for any of the above                  f. How installed: Tremie <input type="checkbox"/> 01                  Tremie pumped <input type="checkbox"/> 02                  Gravity <input checked="" type="checkbox"/> 08</p> <p>6. Bentonite seal:                  a. Bentonite granules <input type="checkbox"/> 33                  b. <input type="checkbox"/> 1/4 in. <input type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input type="checkbox"/> 32                  c. _____ Other <input type="checkbox"/></p> <p>7. Fine sand material: Manufacturer, product name &amp; mesh size                  a. <b>NA</b>                  b. Volume added <b>NA</b> ft<sup>3</sup></p> <p>8. Filter pack material: Manufacturer, product name &amp; mesh size                  a. <b>BADGER 20/40</b>                  b. Volume added _____ ft<sup>3</sup></p> <p>9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 23                  Flush threaded PVC schedule 80 <input type="checkbox"/> 24                  Other <input type="checkbox"/></p> <p>10. Screen material: <b>PVC</b>                  a. Screen type: Factory cut <input checked="" type="checkbox"/> 11                  Continuous slot <input type="checkbox"/> 01                  Other <input type="checkbox"/>                  b. Manufacturer _____                  c. Slot size: <b>0.01</b> in.                  d. Slotted length: <b>5</b> ft.</p> <p>11. Backfill material (below filter pack): <b>SAND</b>                  None <input type="checkbox"/> 14                  Other <input checked="" type="checkbox"/></p>
---	--

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature *[Signature]* Firm COLEMAN ENGINEERING

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.

Route to: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name <u>FORMER THOMAS SERVICE</u>	County Name <u>IRON</u>	Well Name <u>MW-3</u>
Facility License, Permit or Monitoring Number	County Code <u>26</u>	Wis. Unique Well Number _____
		DNR Well ID Number _____

1. Can this well be purged dry?  Yes  No
2. Well development method
- surged with bailer and bailed  41
  - surged with bailer and pumped  61
  - surged with block and bailed  42
  - surged with block and pumped  62
  - surged with block, bailed and pumped  70
  - compressed air  20
  - bailed only  10
  - pumped only  51
  - pumped slowly  50
  - Other \_\_\_\_\_
3. Time spent developing well 30 min.
4. Depth of well (from top of well casing) 8 ft.
5. Inside diameter of well 2 in.
6. Volume of water in filter pack and well casing ± 2 gal.
7. Volume of water removed from well ± 6 gal.
8. Volume of water added (if any) NA gal.
9. Source of water added NA
10. Analysis performed on water added?  Yes  No  
(If yes, attach results) NA

- |   | Before Development  | After Development   |
|---|---|---|
| 11. Depth to Water (from top of well casing)                              | a. <u>5.29</u> ft.  | <u>DRY</u> ft.  |
| Date  | b. <u>9/21/2011</u><br>m m d d y y y y  | <u>9/21/2011</u><br>m m d d y y y y   |
| Time  | c. _____:____ a.m.<br>_____:____ p.m.   | _____:____ a.m.<br>_____:____ p.m.  |
| 12. Sediment in well bottom   | <u>0</u> inches   | <u>0</u> inches   |
| 13. Water clarity   | Clear <input type="checkbox"/> 10<br>Turbid <input checked="" type="checkbox"/> 15<br>(Describe) <u>RED</u><br><u>V. TURBID</u> | Clear <input type="checkbox"/> 20<br>Turbid <input checked="" type="checkbox"/> 25<br>(Describe) <u>PINK</u><br><u>TURBID</u> |
| Fill in if drilling fluids were used and well is at solid waste facility: |   |   |
| 14. Total suspended solids  | <u>NA</u> mg/l  | _____ mg/l  |
| 15. COD   | <u>NA</u> mg/l  | _____ mg/l  |
| 16. Well developed by: Name (first, last) and Firm                        |   |   |
| First Name:   | <u>JOHN</u>   | Last Name: <u>HUNT</u>  |
| Firm: <u>COLEMAN ENGINEERING</u>  |   |   |

17. Additional comments on development:  
PURGED DRY SEVERAL TIMES

Name and Address of Facility Contact/Owner/Responsible Party

First Name: Tom Last Name: BERGMAN

Facility/Firm: IRON COUNTY WISCONSIN

Street: 300 TACONITE ST

City/State/Zip: HURLEY WI 54534

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: [Signature]

Print Name: JOHN HUNT

Firm: COLEMAN ENGINEERING

Route To: Watershed/Wastewater  Waste Management   
Remediation/Revelpment  Other

Page 1 of 1

Facility/Project Name <u>FORMER THOMAS SERVICE</u>		License/Permit/Monitoring Number	Boring Number <u>MW-4</u>	
Boring Drilled By: Name of crew chief (first, last) and Firm First Name: <u>CICALI</u> Last Name: <u>REIDNER</u> Firm: <u>COLEMAN ENGINEERING</u>		Date Drilling Started <u>9/20/2011</u> m m d d y y y y	Date Drilling Completed <u>9/20/2011</u> m m d d y y y y	Drilling Method <u>HSA</u>
WI Unique Well No.	DNR Well ID No.	Well Name <u>MW-4</u>	Final Static Water Level Feet MSL	Surface Elevation Feet MSL
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/> ) or Boring Location <input type="checkbox"/>		Local Grid Location		
State Plane <u>N</u> , <u>E</u>		Lat <u>0</u> ' <u>0</u> "	<input type="checkbox"/> N <input type="checkbox"/> E	
<u>SE 1/4 of SW 1/4 of Section 27, T 46 N, R 2 E</u>		Long <u>0</u> ' <u>0</u> "	<input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID <u>03-26-000788</u>	County <u>IRON</u>	County Code <u>26</u>	Civil Town/City/ or Village <u>MONTREAL</u>	

Sample	Number and Type	Length An. & Recovered (in)	Blow Counts	Depth in Feet (below ground surface)	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID/FID	Soil Properties					RQD/ Comments
										Compressive Strength	Moisture Content	Liquid Limit	Plasticity Index	P 200	
					BLIND DRILL  TILL  SLATE @ ± 5.5  REFUSAL EOB ± 8.1'										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature [Signature] Firm COLEMAN ENGINEERING

This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in 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 this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.



Facility/Project Name <b>FORMER THOMAS SERVICE</b>	Local Grid Location of Well ft. <input type="checkbox"/> N. <input type="checkbox"/> E. <input type="checkbox"/> S. <input type="checkbox"/> W.	Well Name <b>MW-4</b>
Facility License, Permit or Monitoring No. <b>03-26-000788</b>	Local Grid Origin (estimated: <input type="checkbox"/> ) or Well Location <input type="checkbox"/> Lat. _____ " Long. _____ " or St. Plane _____ ft. N. _____ ft. E. S/C/N	Wis. Unique Well No. _____ DNR Well ID No. _____
Type of Well Well Code <b>1</b>	Section Location of Waste/Source <b>SE 1/4 of SW 1/4 of Sec. 27, T. 46 N, R. 2 E W</b>	Date Well Installed <b>9/20/2011</b> m m d d y y y y
Distance from Waste/Source _____ ft.	Location of Well Relative to Waste/Source u <input type="checkbox"/> Upgradient s <input type="checkbox"/> Sidegradient d <input type="checkbox"/> Downgradient n <input type="checkbox"/> Not Known	Well Installed By: Name (first, last) and Firm <b>CRAIG REIDNER COLEMAN ENGINEERING</b>

A. Protective pipe, top elevation _____ ft. MSL	1. Cap and lock? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
B. Well casing, top elevation <b>99.86</b> ft. MSL	2. Protective cover pipe: a. Inside diameter: <b>10</b> in. b. Length: <b>1</b> ft. c. Material: Steel <input checked="" type="checkbox"/> 04 Other <input type="checkbox"/>
C. Land surface elevation <b>100.13</b> ft. MSL	d. Additional protection? <input type="checkbox"/> Yes <input type="checkbox"/> No If yes, describe: _____
D. Surface seal, bottom <b>99.13</b> ft. MSL or _____ ft.	3. Surface seal: Bentonite <input type="checkbox"/> 30 Concrete <input checked="" type="checkbox"/> 01 Other <input type="checkbox"/>
12. USCS classification of soil near screen: GP <input type="checkbox"/> GM <input type="checkbox"/> GC <input type="checkbox"/> GW <input type="checkbox"/> SW <input type="checkbox"/> SP <input type="checkbox"/> SM <input checked="" type="checkbox"/> SC <input type="checkbox"/> ML <input type="checkbox"/> MH <input type="checkbox"/> CL <input type="checkbox"/> CH <input type="checkbox"/> Bedrock <input checked="" type="checkbox"/>	4. Material between well casing and protective pipe: Bentonite <input checked="" type="checkbox"/> 30 Other <input type="checkbox"/>
13. Sieve analysis performed? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5. Annular space seal: a. Granular/Chipped Bentonite <input checked="" type="checkbox"/> 33 b. _____ Lbs/gal mud weight . . . Bentonite-sand slurry <input type="checkbox"/> 35 c. _____ Lbs/gal mud weight . . . Bentonite slurry <input type="checkbox"/> 31 d. _____ % Bentonite . . . . Bentonite-cement grout <input type="checkbox"/> 50 e. _____ Ft <sup>3</sup> volume added for any of the above
14. Drilling method used: Rotary <input type="checkbox"/> 50 Hollow Stem Auger <input checked="" type="checkbox"/> 41 Other <input type="checkbox"/>	f. How installed: Tremie <input type="checkbox"/> 01 Tremie pumped <input type="checkbox"/> 02 Gravity <input checked="" type="checkbox"/> 08
15. Drilling fluid used: Water <input type="checkbox"/> 02 Air <input type="checkbox"/> 01 Drilling Mud <input type="checkbox"/> 03 None <input checked="" type="checkbox"/> 99	6. Bentonite seal: a. Bentonite granules <input type="checkbox"/> 33 b. <input type="checkbox"/> 1/4 in. <input type="checkbox"/> 3/8 in. <input type="checkbox"/> 1/2 in. Bentonite chips <input type="checkbox"/> 32 c. _____ Other <input type="checkbox"/>
16. Drilling additives used? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Describe _____	7. Fine sand material: Manufacturer, product name & mesh size a. <b>NA</b> b. Volume added <b>NA</b> ft <sup>3</sup>
17. Source of water (attach analysis, if required): _____	8. Filter pack material: Manufacturer, product name & mesh size a. <b>BADGER 20/40</b> b. Volume added _____ ft <sup>3</sup>
E. Bentonite seal, top <b>99.13</b> ft. MSL or _____ ft.	9. Well casing: Flush threaded PVC schedule 40 <input checked="" type="checkbox"/> 23 Flush threaded PVC schedule 80 <input type="checkbox"/> 24 Other <input type="checkbox"/>
F. Fine sand, top <b>NA</b> ft. MSL or _____ ft.	10. Screen material: <b>PVC</b> a. Screen type: Factory cut <input checked="" type="checkbox"/> 11 Continuous slot <input type="checkbox"/> 01 Other <input type="checkbox"/>
G. Filter pack, top <b>96.91</b> ft. MSL or <b>3.1</b> ft.	b. Manufacturer _____ c. Slot size: <b>0.01</b> in. d. Slotted length: <b>5</b> ft.
H. Screen joint, top <b>96.91</b> ft. MSL or <b>3.1</b> ft.	11. Backfill material (below filter pack): None <input type="checkbox"/> 14 <b>SAND</b> Other <input checked="" type="checkbox"/>
I. Well bottom <b>91.91</b> ft. MSL or <b>8.1</b> ft.	
J. Filter pack, bottom <b>91.63</b> ft. MSL or <b>8.3</b> ft.	
K. Borehole, bottom <b>91.63</b> ft. MSL or <b>8.5</b> ft.	
L. Borehole, diameter <b>8</b> in.	
M. O.D. well casing <b>2</b> in.	
N. I.D. well casing _____ in.	

I hereby certify that the information on this form is true and correct to the best of my knowledge.  
Signature *[Signature]* Firm COLEMAN ENGINEERING

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.

Route to: Watershed/Wastewater  Waste Management   
Remediation/Redevelopment  Other

Facility/Project Name <u>FORMER THOMAS SERVICE</u>	County Name <u>IRON</u>	Well Name <u>MW-4</u>
Facility License, Permit or Monitoring Number	County Code <u>26</u>	Wis. Unique Well Number _____
		DNR Well ID Number _____

1. Can this well be purged dry?  Yes  No

2. Well development method
- surged with bailer and bailed  41
  - surged with bailer and pumped  61
  - surged with block and bailed  42
  - surged with block and pumped  62
  - surged with block, bailed and pumped  70
  - compressed air  20
  - bailed only  10
  - pumped only  51
  - pumped slowly  50
  - Other  \_\_\_\_\_

3. Time spent developing well 30 min.

4. Depth of well (from top of well casing) 8 ft.

5. Inside diameter of well 2 in.

6. Volume of water in filter pack and well casing ± 2 gal.

7. Volume of water removed from well ± 6 gal.

8. Volume of water added (if any) NA gal.

9. Source of water added NA

10. Analysis performed on water added?  Yes  No  
(If yes, attach results) NA

11. Depth to Water (from top of well casing)

	Before Development	After Development
a.	_____ ft.	<u>DRY</u> ft.
Date	b. <u>9/21/2011</u>	<u>9/21/2011</u>
	m m d d y y y y	m m d d y y y y
Time	c. _____ a.m.	_____ a.m.
	_____ p.m.	_____ p.m.

12. Sediment in well bottom 0 inches 0 inches

13. Water clarity

Clear <input type="checkbox"/> 10	Clear <input type="checkbox"/> 20
Turbid <input checked="" type="checkbox"/> 15	Turbid <input checked="" type="checkbox"/> 25
(Describe)	(Describe)
<u>RED</u>	<u>PINK</u>
<u>V. TURBID</u>	<u>TURBID</u>

Fill in if drilling fluids were used and well is at solid waste facility:

14. Total suspended solids NA mg/l \_\_\_\_\_ mg/l

15. COD NA mg/l \_\_\_\_\_ mg/l

16. Well developed by: Name (first, last) and Firm  
First Name: JOHN Last Name: HUNT  
Firm: CREMAN ENGINEERING

17. Additional comments on development:  
PURGED DRY SEVERAL TIMES

Name and Address of Facility Contact/Owner/Responsible Party

First Name: TOM Last Name: BERGMAN

Facility/Firm: IRON COUNTY WISCONSIN

Street: 300 TACONITE ST

City/State/Zip: HURLEY WI 54534

I hereby certify that the above information is true and correct to the best of my knowledge.

Signature: [Signature]

Print Name: JOHN HUNT

Firm: CREMAN ENGINEERING

**LABORATORY REPORTS**

**APPENDIX C**



Pace Analytical Services, Inc.  
1241 Bellevue Street - Suite 9  
Green Bay, WI 54302  
(920)469-2436

September 27, 2011

John Hunt  
COLEMAN ENGINEERING  
635 Circle Drive  
Iron Mountain, MI 49801

RE: Project: EE10201A IC THOMAS  
Pace Project No.: 4051162

Dear John Hunt:

Enclosed are the analytical results for sample(s) received by the laboratory on September 22, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Steven Mleczo

steve.mleczo@pacelabs.com  
Project Manager

Enclosures



**REPORT OF LABORATORY ANALYSIS**

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1241 Bellevue Street - Suite 9  
Green Bay, WI 54302  
(920)469-2436

### CERTIFICATIONS

Project: EE10201A IC THOMAS  
Pace Project No.: 4051162

**Green Bay Certification IDs**

1241 Bellevue Street, Green Bay, WI 54302  
Florida/NELAP Certification #: E87948  
Illinois Certification #: 200050  
Kentucky Certification #: 82  
Louisiana Certification #: 04168  
Minnesota Certification #: 055-999-334  
New York Certification #: 11888

North Carolina Certification #: 503  
North Dakota Certification #: R-150  
South Carolina Certification #: 83006001  
US Dept of Agriculture #: S-76505  
Wisconsin Certification #: 405132750  
Wisconsin DATCP Certification #: 105-444

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### REPORT OF LABORATORY ANALYSIS

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1241 Bellevue Street - Suite 9  
Green Bay, WI 54302  
(920)469-2436

### SAMPLE SUMMARY

Project: EE10201A IC THOMAS  
Pace Project No.: 4051162

Lab ID	Sample ID	Matrix	Date Collected	Date Received
4051162001	MW-1	Water	09/21/11 10:15	09/22/11 08:30
4051162002	MW-2	Water	09/21/11 10:30	09/22/11 08:30
4051162003	MW-3	Water	09/21/11 10:45	09/22/11 08:30
4051162004	MW-4	Water	09/21/11 11:00	09/22/11 08:30

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### SAMPLE ANALYTE COUNT

Project: EE10201A IC THOMAS  
Pace Project No.: 4051162

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
4051162001	MW-1	WI MOD GRO	SES	10	PASI-G
4051162002	MW-2	WI MOD GRO	SES	10	PASI-G
4051162003	MW-3	WI MOD GRO	SES	10	PASI-G
4051162004	MW-4	WI MOD GRO	SES	10	PASI-G

### REPORT OF LABORATORY ANALYSIS

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**ANALYTICAL RESULTS**

Project: EE10201A IC THOMAS  
 Pace Project No.: 4051162

Sample: MW-1 Lab ID: 4051162001 Collected: 09/21/11 10:15 Received: 09/22/11 08:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>WIGRO GCV</b>		Analytical Method: WI MOD GRO							
Benzene	1.6	ug/L	1.0	0.39	1		09/26/11 17:11	71-43-2	
Ethylbenzene	0.54J	ug/L	1.0	0.41	1		09/26/11 17:11	100-41-4	
Methyl-tert-butyl ether	<0.38	ug/L	1.0	0.38	1		09/26/11 17:11	1634-04-4	
Naphthalene	0.99J	ug/L	1.0	0.40	1		09/26/11 17:11	91-20-3	
Toluene	1.9	ug/L	1.0	0.42	1		09/26/11 17:11	108-88-3	
1,2,4-Trimethylbenzene	3.3	ug/L	1.0	0.43	1		09/26/11 17:11	95-63-6	
1,3,5-Trimethylbenzene	0.64J	ug/L	1.0	0.40	1		09/26/11 17:11	108-67-8	
m&p-Xylene	<0.87	ug/L	2.0	0.87	1		09/26/11 17:11	179601-23-1	
o-Xylene	0.83J	ug/L	1.0	0.38	1		09/26/11 17:11	95-47-6	
a,a,a-Trifluorotoluene (S)	104	%	80-120		1		09/26/11 17:11	98-08-8	





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**ANALYTICAL RESULTS**

Project: EE10201A IC THOMAS  
 Pace Project No.: 4051162

Sample: MW-2 Lab ID: 4051162002 Collected: 09/21/11 10:30 Received: 09/22/11 08:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>WIGRO GCV</b>		Analytical Method: WI MOD GRO							
Benzene	<0.39	ug/L	1.0	0.39	1		09/26/11 17:36	71-43-2	
Ethylbenzene	<0.41	ug/L	1.0	0.41	1		09/26/11 17:36	100-41-4	
Methyl-tert-butyl ether	<0.38	ug/L	1.0	0.38	1		09/26/11 17:36	1634-04-4	
Naphthalene	<0.40	ug/L	1.0	0.40	1		09/26/11 17:36	91-20-3	
Toluene	<0.42	ug/L	1.0	0.42	1		09/26/11 17:36	108-88-3	
1,2,4-Trimethylbenzene	<0.43	ug/L	1.0	0.43	1		09/26/11 17:36	95-63-6	
1,3,5-Trimethylbenzene	<0.40	ug/L	1.0	0.40	1		09/26/11 17:36	108-87-8	
m&p-Xylene	<0.87	ug/L	2.0	0.87	1		09/26/11 17:36	179601-23-1	
o-Xylene	<0.38	ug/L	1.0	0.38	1		09/26/11 17:36	95-47-6	
a,a,a-Trifluorotoluene (S)	109	%	80-120		1		09/26/11 17:36	98-08-8	



**ANALYTICAL RESULTS**

Project: EE10201A IC THOMAS  
 Pace Project No.: 4051162

Sample: MW-3 Lab ID: 4051162003 Collected: 09/21/11 10:45 Received: 09/22/11 08:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>WIGRO GCV</b>									
Analytical Method: WI MOD GRO									
Benzene	<0.39	ug/L	1.0	0.39	1		09/26/11 19:16	71-43-2	
Ethylbenzene	<0.41	ug/L	1.0	0.41	1		09/26/11 19:16	100-41-4	
Methyl-tert-butyl ether	<0.38	ug/L	1.0	0.38	1		09/26/11 19:16	1634-04-4	
Naphthalene	<0.40	ug/L	1.0	0.40	1		09/26/11 19:16	91-20-3	
Toluene	<0.42	ug/L	1.0	0.42	1		09/26/11 19:16	108-88-3	
1,2,4-Trimethylbenzene	<0.43	ug/L	1.0	0.43	1		09/26/11 19:16	95-63-6	
1,3,5-Trimethylbenzene	<0.40	ug/L	1.0	0.40	1		09/26/11 19:16	108-67-8	
m&p-Xylene	<0.87	ug/L	2.0	0.87	1		09/26/11 19:16	179601-23-1	
o-Xylene	<0.38	ug/L	1.0	0.38	1		09/26/11 19:16	95-47-6	
a,a,a-Trifluorotoluene (S)	104	%	80-120		1		09/26/11 19:16	98-08-8	



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**ANALYTICAL RESULTS**

Project: EE10201A IC THOMAS  
 Pace Project No.: 4051162

Sample: MW-4      Lab ID: 4051162004      Collected: 09/21/11 11:00      Received: 09/22/11 08:30      Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
<b>WIGRO GCV</b>		Analytical Method: WI MOD GRO							
Benzene	18.8	ug/L	1.0	0.39	1		09/26/11 19:41	71-43-2	
Ethylbenzene	99.5	ug/L	1.0	0.41	1		09/26/11 19:41	100-41-4	
Methyl-tert-butyl ether	7.1	ug/L	1.0	0.38	1		09/26/11 19:41	1634-04-4	
Naphthalene	36.3	ug/L	1.0	0.40	1		09/26/11 19:41	91-20-3	
Toluene	6.3	ug/L	1.0	0.42	1		09/26/11 19:41	108-88-3	
1,2,4-Trimethylbenzene	358	ug/L	1.0	0.43	1		09/26/11 19:41	95-63-6	
1,3,5-Trimethylbenzene	122	ug/L	1.0	0.40	1		09/26/11 19:41	108-67-8	
m&p-Xylene	390	ug/L	2.0	0.87	1		09/26/11 19:41	179601-23-1	
o-Xylene	115	ug/L	1.0	0.38	1		09/26/11 19:41	95-47-6	
a,a,a-Trifluorotoluene (S)	110	%	80-120		1		09/26/11 19:41	98-08-8	

**QUALITY CONTROL DATA**

Project: EE10201A IC THOMAS  
Pace Project No.: 4051162

QC Batch: GCV/7266 Analysis Method: WI MOD GRO  
QC Batch Method: WI MOD GRO Analysis Description: WIGRO GCV Water  
Associated Lab Samples: 4051162001, 4051162002, 4051162003, 4051162004

METHOD BLANK: 508062 Matrix: Water  
Associated Lab Samples: 4051162001, 4051162002, 4051162003, 4051162004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trimethylbenzene	ug/L	<0.43	1.0	09/26/11 12:11	
1,3,5-Trimethylbenzene	ug/L	<0.40	1.0	09/26/11 12:11	
Benzene	ug/L	<0.39	1.0	09/26/11 12:11	
Ethylbenzene	ug/L	<0.41	1.0	09/26/11 12:11	
m&p-Xylene	ug/L	<0.87	2.0	09/26/11 12:11	
Methyl-tert-butyl ether	ug/L	<0.38	1.0	09/26/11 12:11	
Naphthalene	ug/L	<0.40	1.0	09/26/11 12:11	
o-Xylene	ug/L	<0.38	1.0	09/26/11 12:11	
Toluene	ug/L	<0.42	1.0	09/26/11 12:11	
a,a,a-Trifluorotoluene (S)	%	104	80-120	09/26/11 12:11	

LABORATORY CONTROL SAMPLE & LCSD: 508063

508064

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2,4-Trimethylbenzene	ug/L	20	20.0	22.2	100	111	80-120	10	20	
1,3,5-Trimethylbenzene	ug/L	20	19.7	21.8	99	109	80-120	10	20	
Benzene	ug/L	20	21.2	22.7	106	114	80-120	7	20	
Ethylbenzene	ug/L	20	20.1	22.0	101	110	80-120	9	20	
m&p-Xylene	ug/L	40	39.7	43.5	99	109	80-120	9	20	
Methyl-tert-butyl ether	ug/L	20	20.9	21.6	105	108	80-120	3	20	
Naphthalene	ug/L	20	19.3	20.8	97	104	80-120	7	20	
o-Xylene	ug/L	20	20.0	21.8	100	109	80-120	9	20	
Toluene	ug/L	20	20.5	22.0	102	110	80-120	7	20	
a,a,a-Trifluorotoluene (S)	%				105	104	80-120			



Pace Analytical Services, Inc.  
1241 Bellevue Street - Suite 9  
Green Bay, WI 54302  
(920)469-2436

## QUALIFIERS

Project: EE10201A IC THOMAS  
Pace Project No.: 4051162

### DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

### LABORATORIES

PAS-G Pace Analytical Services - Green Bay

**APPENDIX D**

**INVESTIGATIVE WASTE DISPOSAL DOCUMENTATION**



# BILL OF LADING



**WRR Environmental Services Co., Inc.**

**5200 Ryder Road, Eau Claire, WI 54701  
(715) 834-9624 FAX (715) 836-8785**

GENERATOR CLAIMING VERY SMALL QUANTITY

GENERATOR STATUS: Todd Maki  
(SIGNED)

Shippers #	Your P.O. No.
All Information must be typed or printed.	

1. Generator's Name and Mailing Address <i>Iron County Planning Land Zoning Dept 55 Wisconsin Ave, Montpelier WI 55650</i>		A. Profile #
2. Generator's Phone (715) <i>561-5414</i>		B. State Generator's ID
3. Transporter 1 Company Name <i>Whitcomb Chemical Corporation</i>	4. US EPA ID Number <i>WID 990 136 22</i>	C. State Transporter's ID <i>11308</i>
5. Transporter 2 Company Name	6. US EPA ID Number	D. Transporter's Phone <i>715-834-2245</i>
7. Designated Facility Name and Site Address WRR Environmental Services Co., Inc. 5200 Ryder Road Eau Claire, WI 54701		E. State Transporter's ID
8. US EPA ID Number  WID 990 829 475		F. Transporter's Phone
		G. State Facility's ID
		H. Facility's Phone  715-834-9624

9. US DOT Description (Including Proper Shipping Name, Hazard Class, ID Number and Packing Group) H.M.	10. Containers No.	11. Total Quantity	12. Unit Wt/Vol	I. Waste No.
a. <i>Non-hazardous Special Waste (Bulk)</i>	1	1	P	11308
b. <i>Non-hazardous Special Waste (Bulk)</i>	1	1	P	11308
c.				
d.				

J. Additional Descriptions for Materials Listed Above <i>204090194-400304 204090143-110214</i>	K. Handling Code for Wastes Listed Above
---	--

13. Special Handling Instructions and Additional Information

14. Emergency Phone# 715-834-9624

15. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national governmental regulations and according to the requirements of the Wisconsin Department of Natural Resources.

Printed/Typed Name & Position Title <i>TODD MAKI</i>	Signature <i>Todd Maki</i>	Date Month Day Year <i>10 11 11</i>
16. TRANSPORTER 1 Acknowledgement of Receipt of Materials	Signature <i>[Signature]</i>	Date Month Day Year <i>10 16 11</i>
17. TRANSPORTER 2 Acknowledgement of Receipt of Materials	Signature	Date
Printed/Typed Name & Position Title	Signature	Month Day Year

18. Discrepancy Indication Space

19. FACILITY OWNER OR OPERATOR: Certification of receipt of hazardous materials covered by this document except as noted in Item 18.

Printed/Typed Name & Position Title	Signature	Date Month Day Year
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LIMITATIONS

APPENDIX E



LIMITATIONS  
FOR  
PHASE I & II ENVIRONMENTAL SITE ASSESSMENT REPORTS

1. In preparation of this report, Coleman Engineering Company (CEC) has relied on certain information provided by the parties referenced herein. Although there may have been some degree of overlap in the information provided by these various sources, we did not attempt to independently verify the accuracy or completeness of all information reviewed or received during the course of this site review.
2. Our conclusions regarding the site are based on observations of existing site conditions, our interpretation of available site history and site usage information. The findings are relevant to the dates of our site visit and should not be relied upon to represent conditions or information available at other dates. The findings and conclusions must be considered probabilities based on professional judgment concerning the significance of the limited data gathered during the course of the site review. Conclusions regarding the condition of the site do not represent a warranty that all areas within the site are of the same quality as may be inferred from observable site conditions and readily available site history and limited exploration program carried out as part of this review. Should additional information on environmental conditions at the site which is not contained in this report be obtained, such information should be brought to CEC's attention. We will evaluate such information and, on the basis of our evaluation, may modify the conclusions stated in the report.
3. Observations were made of the site and of structures on the site as indicated within the report. Where access to portions of the site or to structures on the site was unavailable or limited, CEC renders no opinion as to the presence of hazardous material or to the presence of indirect evidence relating to hazardous material in that portion of the site or structure. In addition, CEC renders no opinion as to the presence of hazardous material or to the presence of indirect evidence relating to hazardous material where direct observation of interior walls, floor, or ceiling of a structure on the site was obstructed by objects or coverings on or over these surfaces.
4. CEC did not perform testing or analyses to determine the presence or concentration of asbestos, lead-based paints, or radon or other naturally occurring materials, nor did it include an evaluation of latent conditions at the site or in the environment at the site.
5. No specific attempt was made to check the compliance of present or past owners or operators of the site with federal, state, or local laws and regulations, environmental or otherwise.
6. The conclusions and recommendations contained in this report are based in part upon the data obtained from a limited number of soil and groundwater samples obtained from widely spaced subsurface explorations. The nature and extent of variations between these explorations may not become evident until further exploration. If various or other latent conditions then appear evident, it will be necessary to re-evaluate the conclusions and recommendations of this report.

7. Water level observations have been made in the borings and/or monitoring wells at the times and under the conditions stated on the boring logs. However, it must be noted that fluctuations in the level of groundwater may occur due to variations in rainfall and other factors different from those prevailing at the time measurements were made.
8. Where quantitative laboratory testing has been conducted by an outside laboratory, CEC has relied upon data provided, and has not conducted an independent evaluation of the reliability of these data.
9. The conclusions and recommendations contained in this report are based in part upon various types of chemical data and are contingent upon their validity. These data have been reviewed and interpretations made in this report. It should be noted that variations in the types and concentrations of contaminants and variations in their flow paths may occur due to seasonal water table fluctuations, past disposal practices, the passage of time, and other factors. Should additional chemical data become available in the future, these data should be reviewed by CEC and the conclusions and recommendations presented herein modified accordingly.
10. Chemical analyses have been performed for specific parameters during the course of this site review, as described in the text. However, it should be noted that additional chemical constituents not searched for during the current study may be present in soil and/or groundwater at the site.
11. This report has been prepared for, and is intended for the exclusive use of Iron County, Wisconsin. The contents of this report should not be relied upon by any other party without the express written consent of CEC. However, CEC acknowledges that the report may be conveyed to the owner and lending institution associated with the prospective sale and/or lease of the site.