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Golder Associates

February 21, 2014

Project No. 1301341

Paul Knoerr
Environmental Quality Analyst/Geologist
Department of Environmental Quality
Grand Rapids District
350 Ottawa, NW
Grand Rapids, Michigan 49503

**RE: 2013 ANNUAL WATER QUALITY MONITORING REPORT
FORMER WHITE CONSOLIDATED INDUSTRIES – BELDING SITE
100 EAST MAIN STREET, BELDING, MICHIGAN**

Dear Mr. Knoerr:

As authorized by Electrolux, Golder Associates Inc. (Golder) completed the 2013 annual water quality monitoring event for the former White Consolidated Industries (WCI) Belding site (the "Site") on September 25, 2013 and October 25, 2013 (Golder returned to the site to sample one well that was not sampled during the first site visit). The Site is located at 100 East Main Street in Belding, Ionia County, Michigan (Figure 1). The 2013 annual water quality monitoring event was conducted in general conformance with an approved monitoring plan and subsequent correspondence from the Michigan Department of Environmental Quality (MDEQ). The findings of the 2013 annual groundwater and surface water sampling event are presented in this report.

BACKGROUND

An approved annual groundwater monitoring plan, prepared in December 1996, was appended to the *Limited Industrial Remedial Action Plan* (RAP) prepared by the Dragun Corporation of Berkley, Michigan (Dragun) in 1998. Annual groundwater monitoring has been conducted since 1999 in accordance with the 1996 monitoring plan and the MDEQ's requested variation of sampling time to evaluate seasonal variation, if any.

2013 ANNUAL WATER QUALITY MONITORING EVENT

The groundwater monitoring network at the Site consisted of 12 permanent monitoring wells through 2009: MW-1 through MW-11 with shallow (MW-4S) and deep (MW-4D) wells at MW-4. Two monitoring wells (MW-10 and MW-11) are located on the adjoining VFW property. The flush-mount surface completion for monitoring well MW-5 has been missing since 2010 and the casing became filled with sediment above the screened interval. Golder has not been able to obtain reliable static water level data or sample this well since 2010. Monitoring well MW-5 was subsequently abandoned and dropped from the monitoring program with the MDEQ's approval. As part of a drilling program carried out during January 2013 in support of a revised mixing zone determination, a new deep well was installed at the MW-2 location (MW-2D) and three piezometers (PZ-1, PZ-2, and PZ-3) were installed at upgradient locations. Figures 2 and 3 show the current groundwater monitoring well and piezometer locations.

Golder measured static water levels in the wells on March 11, 2013 and September 4, 2013. Water levels were measured in early September, prior to sampling on September 25, 2013 in anticipation of Site work that would alter the top-of-casing (TOC) elevations of some monitoring wells and piezometers. The casings for flush-mount monitoring wells and piezometers were raised to bring the TOCs to grade after Site work was completed.

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Golder collected groundwater samples from 12 monitoring wells and two surface water samples from the Flat River at locations SW1 and SW2 (Figures 2 and 3). The groundwater and surface water samples were collected in accordance with the 1996 monitoring plan and the sampling procedure revisions that comply with MDEQ's Remediation and Redevelopment Division Operational Memorandum No. 2 (RRD OM2), Attachment 5. Golder also collected QA/QC samples in accordance with RRD OM2.

A total of 17 samples (including a field duplicate and trip blank) were submitted to TriMatrix Laboratories, Inc. located in Grand Rapids, Michigan for analysis of volatile organic compounds (VOCs). In addition, groundwater samples from monitoring wells MW-4S, MW-6, MW-7, MW-10, MW-11 and surface water sample SW2 were analyzed for the following bioremediation indicator parameters:

- Dissolved iron and manganese
- Nitrogen, ammonia
- Nitrogen, Kjeldahl
- Nitrogen, nitrate plus nitrite
- Sulfate and chloride
- Total organic carbon

RESULTS

Well construction details and static water levels measured on March 11, 2013 and September 4, 2013 are summarized on Table 1. As shown on Figures 2 and 3, the majority of the wells comprising the monitoring network are located at the groundwater-surface water interface (GSI) along the Flat River. The static water elevations in Table 1 were used to develop groundwater contours on Figures 2 and 3 for the March 11 and September 4 measurement events, respectively. The groundwater contours on both figures show that the direction of groundwater flow is northeast toward the Flat River.

As noted on Figures 2 and 3, the groundwater elevations in the deep wells, MW-2D and MW-4D, were not used to develop the groundwater contours. During both measurement events, the elevations in these deep wells were approximately 2 to 3 feet higher than the elevation in the adjacent shallow well as summarized on the following table:

Well	Water Elev. 3/11/2013	Water Elev. 9/4/2013
MW2	764.00	763.67
MW2D	767.13	767.13
Difference	3.13	3.46
MW4S	764.00	763.70
MW4D	766.36	766.17
Difference	2.36	2.47

The calculated water elevation differences indicate an upward gradient at the MW-2D and MW-4D locations, further confirming groundwater flows toward the Flat River. The contrast in static water elevations in the well pairs also indicates that the deep wells are screened in a water-bearing zone that is hydraulically isolated from the water-bearing zone of the shallower wells.

The 2013 groundwater analytical results are summarized on Table 2 along with historical groundwater quality data from 2008 through 2012 (2001 through 2007 groundwater quality data were included in previous annual reports). Note that the new deep well (MW-2D) was sampled twice in 2013, first in March 2013 following installation and again in October as part of the 2013 annual monitoring event. Golder compared the results to generic GSI criteria and nonresidential drinking water (NRDW) criteria (Remediation Division "Revised Part 201 Cleanup Criteria and Part 213 Risk-Based Screening Levels", September 28, 2012).

The 2013 analytical results are consistent with results for the 2008 through 2012 sampling events. The highest VOC concentrations remain at monitoring well MW-6, which is located adjacent to the historical source area (former Catch Basin No. 10). Detected concentrations of trichloroethene (TCE) (1,900 µg/L) and *cis*-1,2-dichloroethene (140 µg/L) in the sample from MW-6 are above the NRDW criteria of 5.0 µg/L and 70 µg/L, respectively.

TCE was not detected above the laboratory reporting limit in any of the GSI wells during 2013 and has not been detected in the GSI wells since 2009 when it was detected at 3.5 µg/L in monitoring well MW-4S. In general, concentrations of TCE degradation by-products (e.g., *cis*-1,2-dichloroethene and vinyl chloride) increase towards the Flat River. These observations are consistent with previous sampling results. Vinyl chloride was detected in MW-1, MW-2, MW-4S, and MW-8 in concentrations above the generic GSI criterion for Vinyl Chloride (13 µg/L) but more than an order of magnitude below the mixing zone-based GSI criterion (1,600 µg/L) as presented in the July 2013 Revised Mixing Zone Determination report submitted to MDEQ.

Previous groundwater sampling events demonstrated that concentrations of electron receptors for anaerobic degradation (manganese and iron) and chloride increase downgradient from the historical source area suggesting that reduction of chlorinated hydrocarbons at the Site is due to intrinsic bioremediation. The 2013 analytical results for the bioremediation indicator parameters are consistent with previous results, supporting the conclusion that anaerobic degradation is continuing.

No VOCs were detected in the two surface water samples collected during the September 2013 sampling event confirming groundwater is not adversely impacting surface water quality in the Flat River adjacent to the Site. This conclusion is further supported by information presented in the July 2013 Revised Mixing Zone Determination report submitted to MDEQ.

Overall, groundwater quality at the Site has improved since 2001. Source area concentrations, as represented by groundwater quality at MW-6, have remained relatively stable since 2004.

CLOSING

Please contact Brad Johnson (517-318-3250) if you have any questions regarding this groundwater monitoring report for the former WCI site in Belding, Michigan.

GOLDER ASSOCIATES INC.

Bradley S. Johnson

David Regalbuto (for)

Bradley S. Johnson, Ph.D.
Senior Consultant

Alistair Macdonald, CPG, LSP
Senior Consultant and Principal

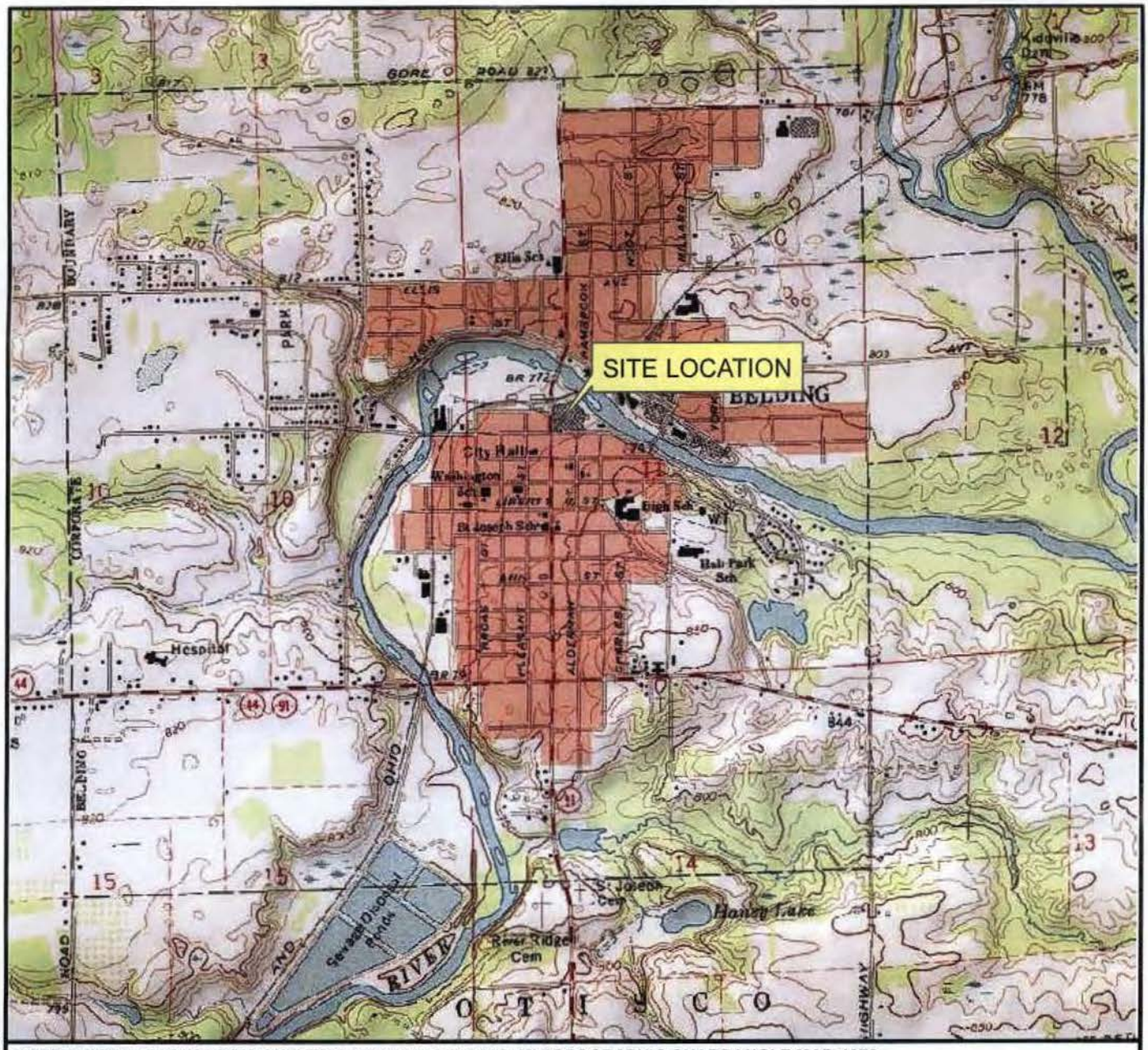
Attachments:

Figure 1	Site Location Map
Figure 2	Groundwater Flow Direction on March 11, 2013
Figure 3	Groundwater Flow Direction on September 4, 2013
Table 1	Well Construction Details and Static Water Elevations
Table 2	Summary of Groundwater and Surface Water Analytical Results
Attachment A	TriMatrix Laboratories, Inc. Analytical Report

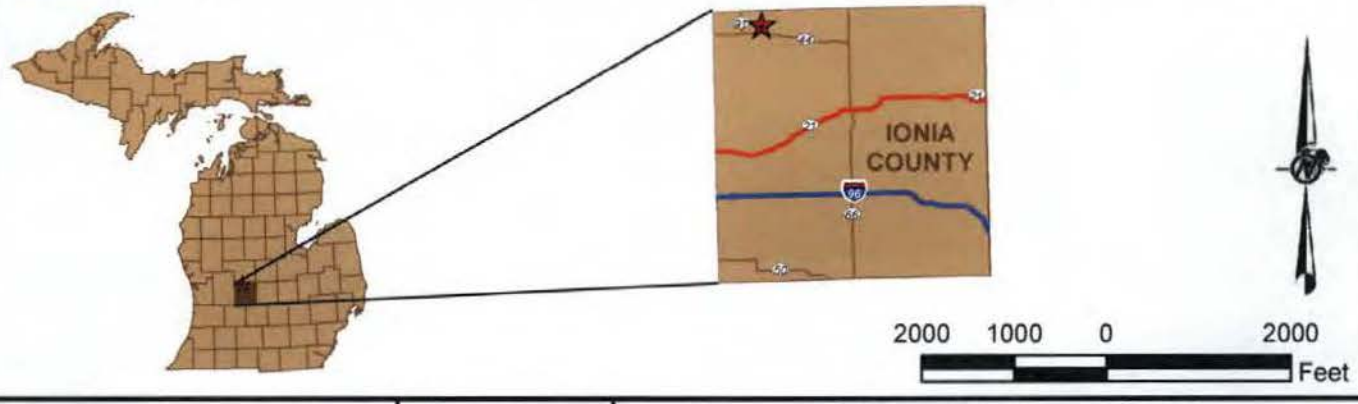
cc: Andrew Stienecker – Electrolux North America, Inc.
John A. Heer – Walter | Haverfield LLP
Douglas J. Ucci – Quantum Management Group, Inc.

BSJ/APTM/DJU/bsj

FIGURES

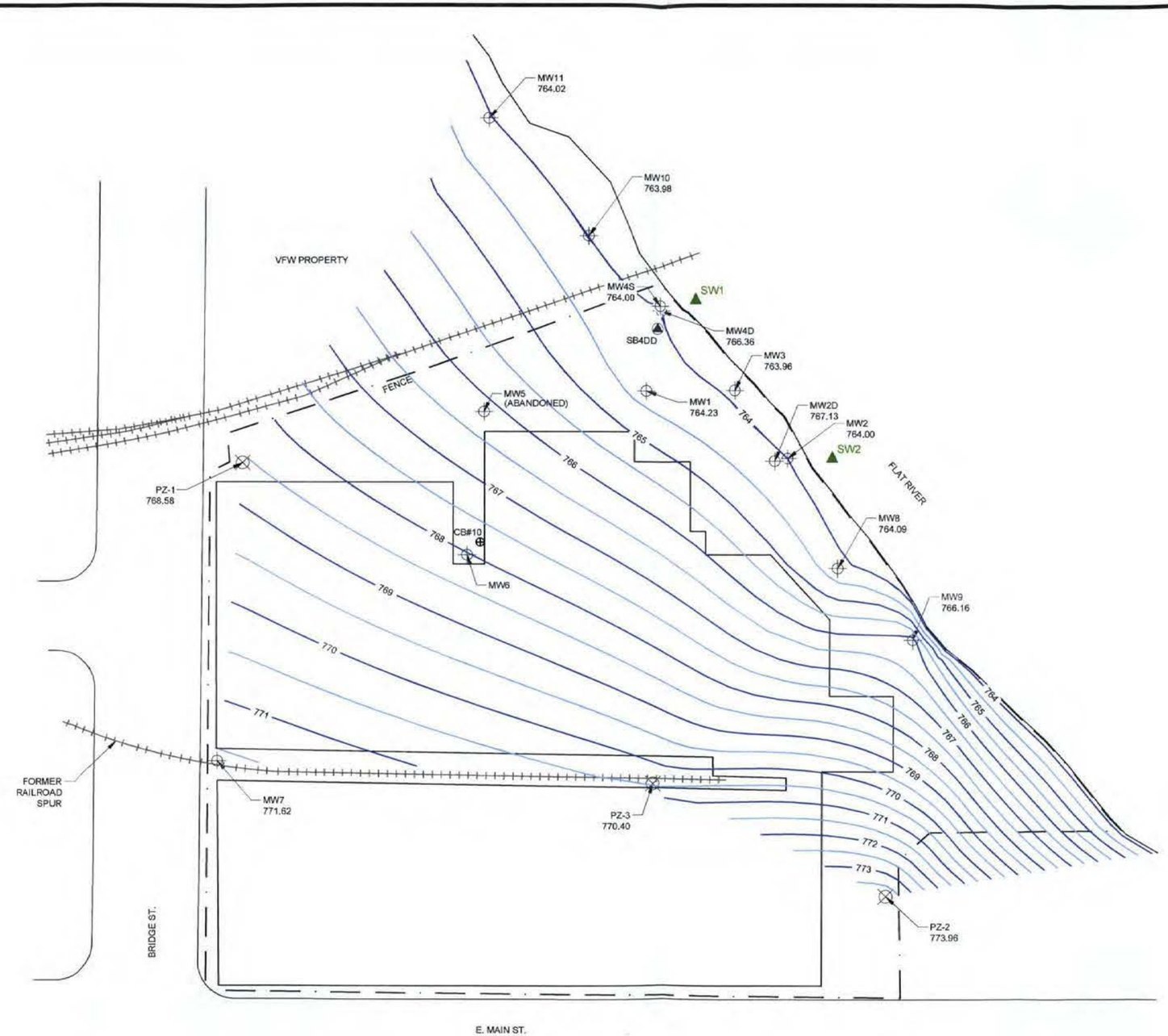


REFERENCE: U.S. GEOLOGIC SURVEY 7.5 MINUTE BELDING, MI TOPOGRAPHIC QUADRANGLE MAP, 1972.



Golder Associates Michigan	SCALE	AS SHOWN	**SITE LOCATION MAP**
	DATE	01/08/13	FORMER WHITE CONSOLIDATED INDUSTRIES - BELDING SITE
	DESIGN	BSJ	100 E. MAIN STREET
	GIS	MGG	BELDING, IONIA COUNTY, MICHIGAN
FILE No. 12388894A000-GIS	CHECK	DRL	
PROJECT No. 123-88894 REV. 0	REVIEW	BSJ	2013 ANNUAL GROUNDWATER MONITORING REPORT — FIGURE 1

H:\12x-Projects\123-88894-Belding Site\figures\A-2012 Annual GW Report\12388894A000-GIS.mxd



LEGEND

	PROPERTY BOUNDARY
	FORMER RAILROAD TRACK
MW1	MONITORING WELL
	CATCH BASIN
PZ-1	PIEZOMETER
SB4DD	SOIL BORING
SW1	SURFACE WATER SAMPLE LOCATION

NOTES

1. BASE DRAWING ADAPTED FROM "MONITOR WELL & PIEZOMETER LOCATIONS," PREPARED BY GOWER PROFESSIONAL SERVEYING, P.C., DATED 3/12/2013.
2. THE POSTED GROUNDWATER ELEVATION DATA WERE CALCULATED FROM DEPTH TO WATER MEASUREMENTS MADE BY GOLDER ON MARCH 11, 2013 FROM WELLS SCREENED ACROSS OR NEAR THE WATER TABLE. THE ELEVATION CONTOURS WERE GENERATED USING AUTOCAD CIVIL 3D. THE ACTUAL ELEVATION OF THE GROUNDWATER TABLE (PHREATIC) SURFACE IS LIKELY MORE HETEROGENEOUS THAN SHOWN DUE TO THE LIMITED NETWORK OF MONITORING POINTS. THE DIRECTION OF HORIZONTAL GROUNDWATER FLOW AT AND NEAR THE PHREATIC SURFACE CAN BE GENERALLY INTERPRETED AS BEING PERPENDICULAR TO THE GROUNDWATER ELEVATION CONTOURS. ALTHOUGH THE DEPTH TO GROUNDWATER IS KNOWN TO VARY WITH TIME, THE GENERAL PATTERN OF GROUNDWATER FLOW, TOWARDS THE FLAT RIVER, DEPICTED ON THIS DRAWING IS BELIEVED TO BE RELATIVELY CONSISTENT WITH TIME.
3. GROUNDWATER ELEVATIONS IN THE DEEP WELLS (MW4D AND MW2D) WERE NOT USED TO GENERATE THE ELEVATION CONTOURS.

0 40 80 120
SCALE FEET

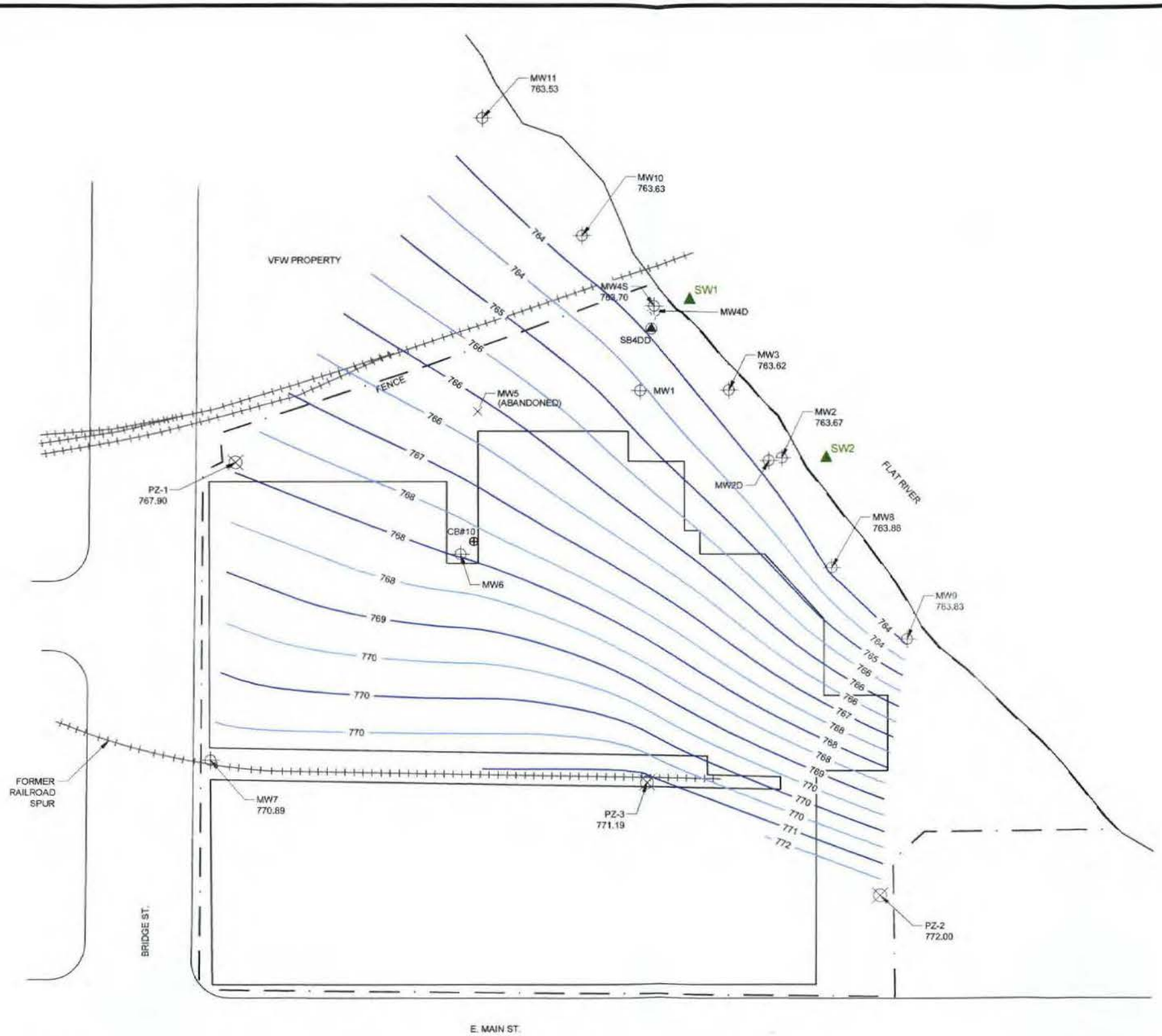
PROJECT
ELECTROLUX
FORMER WHITE CONSOLIDATED INDUSTRIES
BELDING, MICHIGAN

TITLE
GROUNDWATER CONTOUR MAP
MARCH 11, 2013

Golder Associates

PROJECT No.		123-88894	FILE No.	12388894B001
DESIGN	BSJ	2013-04-29	SCALE	AS SHOWN
CADD	JJS	2013-06-03	FIGURE	2
CHECK	DBL	2/21/14		
REVIEW	CSV	2/21/14		

K:\Projects\123-88894_WHITE CONSOLIDATED INDUSTRIES\PRODUCTION\B-GW Contours\2013-03-11\REV D\DWG\12388894B001.dwg | Layout: 2 GW CONTOUR MAP - MARCH 11 2013 | Modified: JSchmuecker 02/21/2014 4:57 PM | Plotted: JSchmuecker 02/19/2014



LEGEND

	PROPERTY BOUNDARY
	FORMER RAILROAD TRACK
MW1	MONITORING WELL
	CATCH BASIN
PZ-1	PIEZOMETER
SB4DD	SOIL BORING
SW1	SURFACE WATER SAMPLE LOCATION

NOTES

1. BASE DRAWING ADAPTED FROM "MONITOR WELL & PIEZOMETER LOCATIONS," PREPARED BY GOWER PROFESSIONAL SERVEYING, P.C., DATED 3/12/2013.
2. THE POSTED GROUNDWATER ELEVATION DATA WERE CALCULATED FROM DEPTH TO WATER MEASUREMENTS MADE BY GOLDER ON SEPTEMBER 4, 2013 FROM WELLS SCREENED ACROSS OR NEAR THE WATER TABLE. THE ELEVATION CONTOURS WERE GENERATED USING AUTOCAD CIVIL 3D. THE ACTUAL ELEVATION OF THE GROUNDWATER TABLE (PHREATIC) SURFACE IS LIKELY MORE HETEROGENEOUS THAN SHOWN DUE TO THE LIMITED NETWORK OF MONITORING POINTS. THE DIRECTION OF HORIZONTAL GROUNDWATER FLOW AT AND NEAR THE PHREATIC SURFACE CAN BE GENERALLY INTERPRETED AS BEING PERPENDICULAR TO THE GROUNDWATER ELEVATION CONTOURS. ALTHOUGH THE DEPTH TO GROUNDWATER IS KNOWN TO VARY WITH TIME, THE GENERAL PATTERN OF GROUNDWATER FLOW, TOWARDS THE FLAT RIVER, DEPICTED ON THIS DRAWING IS BELIEVED TO BE RELATIVELY CONSISTENT WITH TIME.
3. GROUNDWATER ELEVATIONS IN THE DEEP WELLS (MW4D AND MW2D) WERE NOT USED TO GENERATE THE ELEVATION CONTOURS.

0 40 80 120
SCALE FEET

PROJECT
ELECTROLUX
FORMER WHITE CONSOLIDATED INDUSTRIES
BELDING, MICHIGAN

TITLE
GROUNDWATER CONTOUR MAP
SEPTEMBER 4, 2013

Golder Associates

PROJECT No.		123-88894	FILE No.	12388894C001
DESIGN	BSJ	2013-11-04	SCALE	AS SHOWN
CADD	JJS	2013-11-05	FIGURE	3
CHECK	TRL	2/21/14		
REVIEW	RST	2/21/14		

TABLES

TABLE 1: WELL CONSTRUCTION DETAILS AND STATIC WATER ELEVATIONS
FORMER WHITE CONSOLIDATED INDUSTRIES - BELDING SITE
BELDING, IONIA COUNTY, MICHIGAN

Monitoring Well	Northing	Easting	Ground Surface (ft)	Top of Casing (ft)	Top of Screen (ft BGS)	Bottom of Screen (ft BGS)	Screened Interval Elevation (ft)	Measured March 11, 2013			Measured September 4, 2013		
								Depth to Water (ft BTOC)	Depth to Water (ft BGS)	Water Elev. (ft)	Depth to Water (ft BTOC)	Depth to Water (ft BGS)	Water Elev. (ft)
MW1	583902.062	12893459.951	767.82	767.52	7.0	12.0	760.82 - 755.82	3.29	3.59	764.23	4.62	4.92	762.90
MW2	583856.147	12893554.539	767.69	769.99	8.0	13.0	759.69 - 754.69	5.99	3.69	764.00	6.32	4.02	763.67
MW2D	583854.374	12893546.060	767.47	767.13	23.0	28.0	744.47 739.47	0.00	0.34	767.13	0.00	0.34	767.13
MW3	583902.097	12893519.488	767.58	769.90	7.0	12.0	760.58 - 755.58	5.94	3.62	763.96	6.28	3.96	763.62
MW4S	583959.653	12893469.340	768.69	771.24	9.0	14.0	759.69 - 754.69	7.24	4.69	764.00	7.54	4.99	763.70
MW4D	583956.397	12893470.151	768.33	770.86	17.0	22.0	751.33 - 746.33	4.50	1.97	766.36	4.69	2.16	766.17
MW6	583791.090	12893339.990	772.67	772.28	6.0	11.0	766.67 - 761.67	NM	--	--	4.32	4.71	767.96
MW7	583652.077	12893172.825	775.71	775.52	7.0	12.0	768.71 - 763.71	3.90	4.09	771.62	4.63	4.82	770.89
MW8	583781.994	12893587.972	769.30	768.86	9.0	14.0	760.30 - 755.30	4.77	5.21	764.09	5.00	5.44	763.86
MW9	583733.683	12893638.008	772.36	772.15	14.0	19.0	758.36 - 753.36	5.99	6.20	766.16	8.32	8.53	763.83
MW10	584006.500	12893421.125	771.36	773.28	11.0	16.0	760.36 - 755.36	9.30	7.38	763.98	9.65	7.73	763.63
MW11	584086.135	12893354.469	770.93	773.32	10.0	15.0	760.93 - 755.93	9.30	6.91	764.02	9.79	7.40	763.53
PZ-1	583853.122	12893189.755	772.99	772.68	7.0	12.0	765.99 760.99	4.10	4.41	768.58	4.78	5.09	767.90
PZ-2	583560.467	12893620.256	777.97	777.59	6.5	11.5	771.47 766.47	3.63	4.01	773.96	5.59	5.97	772.00
PZ-3	583636.494	12893464.515	775.37	775.10	5.0	10.0	770.37 - 765.37	4.70	4.97	770.40	3.91	4.18	771.19
River Elev.	583988.311	12893503.164	N/A	772.90	N/A	N/A	N/A N/A	9.10	N/A	763.80	9.30	N/A	763.60

Notes & Abbreviations:

ft BGS - Indicates feet below ground surface
ft BTOC - Indicates feet below Top-of-Casing
"River Elev." Flat River elevation measurement location. The top-of-casing elevation in this case is the elevation of a spike driven into a tie for the former railroad bridge over the Flat River. The elevation of the Flat River is measured using a water level meter in the same manner as measuring the depth to water in the site monitoring wells and piezometers.
N/A Not applicable
NM Not Measured - MW6 could not be located on March 11, 2013 due to snow cover

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TABLE 2: SUMMARY OF GROUNDWATER AND SURFACE WATER ANALYTICAL RESULTS
FORMER WHITE CONSOLIDATED INDUSTRIES - BELDING SITE

Parameter	GSI [1]	NRDW [3]	units	MW-1 7/15/08	MW-1 5/6/09	MW-1 10/25/10	MW-1 8/18/11	MW-1 11/5/12	MW-1 9/25/13	MW-2 7/16/08	MW-2 5/6/09	MW-2 10/25/10	MW-2 8/18/11	MW-2 11/5/12	MW-2 9/25/13
Volatile Organic Compounds															
Benzene	200	5.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<2.0	ND	ND	<1.0	<1.0	<1.0	<1.0
Toluene	270	790 (E)	µg/L	ND	ND	<1.0	<1.0	<1.0	<2.0	ND	ND	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)	2,200	38,000	µg/L	ND	ND	<5.0	<5.0	<5.0	13	ND	ND	<5.0	<5.0	<5.0	<5.0
Chloroethane	1,100 (X)	1,700	µg/L	ND	ND	<1.0	<1.0	<1.0	<2.0	ND	ND	<1.0	3.1	2	1.0
Chloromethane	ID	1,100	µg/L	ND	ND	<1.0	<1.0	<1.0	<2.0	ND	ND	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	740	2,500	µg/L	ND	ND	1.8	2.1	2.1	3.1	ND	ND	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	130	7.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<2.0	ND	ND	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	620	70 (A)	µg/L	4.1	3.7	6.0	14	22	16	ND	1.3	<1.0	1.7	<1.0	14
trans-1,2-Dichloroethene	1,500	100 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<2.0	ND	ND	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	60 (X)	5.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<2.0	ND	ND	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	200	200	µg/L	ND	ND	<1.0	<1.0	<1.0	<2.0	ND	ND	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	330 (X)	5.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<2.0	ND	ND	<1.0	<1.0	<1.0	<1.0
Trichloroethene	200 (X)	5.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<2.0	ND	ND	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride [2]	1,600	2.0 (A)	µg/L	**160**	**96**	**140**	**160**	**160**	**190**	ND	**8.9**	<1.0	**9.4**	**2.6**	**31**
Metals and General Chemistry															
Iron	NA	NA	µg/L	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	NA	NA	µg/L	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Ammonia	NA	NA	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
Nitrate plus Nitrite	NA	NA	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl	NA	NA	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
Chloride	(FF)	250,000 (E)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
Sulfate	NA	250,000 (E)	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
Total Organic Carbon	NA	NA	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
Field Parameters															
Dissolved Oxygen	NA	NA	mg/L	2.10	0.29	0.21	0.00	0.02	0.05	2.40	0.30	0.34	0.00	0.00	3.51
Eh	NA	NA	mV	-71.2	-93.0	-65	-56	-111	-288	-93.6	-100	-113	-68	-150	-117
Conductivity	NA	NA	mS/cm	0.820	0.677	0.759	0.634	0.557	1.95	0.686	0.719	0.681	0.610	0.705	1.98
pH	NA	NA	s.u.	7.07	7.27	7.03	6.82	7.07	7.04	6.98	7.05	7.03	6.82	6.97	6.93
Temperature	NA	NA	C	18.0	11.5	18.1	22.26	15	20.8	16.6	11.9	16.1	17.8	13.7	18.8

Golder Associates

TABLE 2: SUMMARY OF GROUNDWATER AND SURFACE WATER ANALYTICAL RESULTS
FORMER WHITE CONSOLIDATED INDUSTRIES - BELDING SITE

Parameter	GSI [1]	NRDW [3]	units	MW-2D 3/11/13	MW-2D 10/25/13	MW-2D Duplicate 10/25/13	MW-3 7/15/08	DUP 7/15/08	MW-3 5/6/09	MW-3 10/25/10	MW-3 8/18/11	MW-3 11/5/12	MW-3 9/25/13	MW-4S 7/15/08	MW-4S 5/7/09
Volatile Organic Compounds															
Benzene	200	5.0 (A)	µg/L	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	1.1	ND
Toluene	270	790 (E)	µg/L	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND
2-Butanone (MEK)	2,200	38,000	µg/L	<5.0	<5.0	<5.0	ND	ND	ND	<5.0	<5.0	<5.0	<5.0	ND	ND
Chloroethane	1,100 (X)	1,700	µg/L	<1.0	<1.0	<1.0	60	58	66	41	50	84	65	ND	ND
Chloromethane	ID	1,100	µg/L	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND
1,1-Dichloroethane	740	2,500	µg/L	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	<1.0	<1.0	1.2	1.9	4.5
1,1-Dichloroethene	130	7.0 (A)	µg/L	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	5.5	12
cis-1,2-Dichloroethene	620	70 (A)	µg/L	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	**290**	**330**
trans-1,2-Dichloroethene	1,500	100 (A)	µg/L	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	11	ND
Tetrachloroethene	60 (X)	5.0 (A)	µg/L	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND
1,1,1-Trichloroethane	200	200	µg/L	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND
1,1,2-Trichloroethane	330 (X)	5.0 (A)	µg/L	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND
Trichloroethene	200 (X)	5.0 (A)	µg/L	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	3.5
Vinyl Chloride [2]	1,600	2.0 (A)	µg/L	<1.0	<1.0	<1.0	ND	ND	ND	<1.0	<1.0	<1.0	1.2	**740**	**380**
Metals and General Chemistry															
Iron	NA	NA	µg/L	--	--	--	--	--	--	--	--	--	--	6,600	5,600
Manganese	NA	NA	µg/L	--	--	--	--	--	--	--	--	--	--	770	750
Nitrogen, Ammonia	NA	NA	mg/L	--	--	--	--	--	--	--	--	--	--	0.78	0.49
Nitrate plus Nitrite	NA	NA	mg/L	--	--	--	--	--	--	--	--	--	--	ND	ND
Nitrogen, Kjeldahl	NA	NA	mg/L	--	--	--	--	--	--	--	--	--	--	0.90	0.60
Chloride	(FF)	250,000 (E)	mg/L	--	--	--	--	--	--	--	--	--	--	110	78
Sulfate	NA	250,000 (E)	mg/L	--	--	--	--	--	--	--	--	--	--	21	17
Total Organic Carbon	NA	NA	mg/L	--	--	--	--	--	--	--	--	--	--	--	--
Field Parameters															
Dissolved Oxygen	NA	NA	mg/L	--	0.58	--	1.70	1.70	0.67	0.36	0.00	0.01	0.10	2.80	0.13
Eh	NA	NA	mV	--	-95.8	--	-86.7	-86.7	-99.0	-110	-128	-142	-413	-46.5	-30.0
Conductivity	NA	NA	mS/cm	--	0.391	--	0.588	0.588	0.646	0.556	0.479	0.576	0.334	0.860	0.788
pH	NA	NA	s.u.	--	7.52	--	6.94	6.94	7.12	7.11	6.98	7.04	9.26	6.91	6.96
Temperature	NA	NA	C	--	12.7	--	16.9	16.9	11.6	16.8	17.6	14.6	18.9	16.3	11.0

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TABLE 2: SUMMARY OF GROUNDWATER AND SURFACE WATER ANALYTICAL RESULTS
FORMER WHITE CONSOLIDATED INDUSTRIES - BELDING SITE

Parameter	GSI [1]	NRDW [3]	units	MW-4S 10/25/10	DUP 10/25/10	MW-4S 8/18/11	MW-4S 11/5/12	MW-4S 9/25/13	MW-4D 7/15/08	MW-4D 5/6/09	MW-4D 10/25/10	MW-4D 8/18/11	MW-4D 11/5/12	MW-4D 9/25/13	MW-5 7/15/08
Volatile Organic Compounds															
Benzene	200	5.0 (A)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND
Toluene	270	790 (E)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND
2-Butanone (MEK)	2,200	38,000	µg/L	<25	<25	<25	<25	<25	ND	ND	<5.0	<5.0	<5.0	<5.0	ND
Chloroethane	1,100 (X)	1,700	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND
Chloromethane	ID	1,100	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND
1,1-Dichloroethane	740	2,500	µg/L	<5.0	<5.0	<5.0	<5.0	11	ND	ND	<1.0	<1.0	<1.0	<1.0	ND
1,1-Dichloroethene	130	7.0 (A)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND
cis-1,2-Dichloroethene	620	70 (A)	µg/L	**160**	**160**	**260**	**210**	11	ND	ND	<1.0	<1.0	<1.0	<1.0	ND
trans-1,2-Dichloroethene	1,500	100 (A)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND
Tetrachloroethene	60 (X)	5.0 (A)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND
1,1,1-Trichloroethane	200	200	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND
1,1,2-Trichloroethane	330 (X)	5.0 (A)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND
Trichloroethene	200 (X)	5.0 (A)	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND
Vinyl Chloride [2]	1,600	2.0 (A)	µg/L	**590**	**580**	**390**	**490**	**380**	ND	ND	<1.0	<1.0	<1.0	<1.0	ND
Metals and General Chemistry															
Iron	NA	NA	µg/L	7,800	7,800	8,200	6,800	5,400	--	--	--	--	--	--	2,000
Manganese	NA	NA	µg/L	800	830	590	640	490	--	--	--	--	--	--	110
Nitrogen, Ammonia	NA	NA	mg/L	0.63	0.64	0.49	0.49	0.48	--	--	--	--	--	--	1.00
Nitrate plus Nitrite	NA	NA	mg/L	<0.050	<0.050	0.49	<0.050	<0.050	--	--	--	--	--	--	ND
Nitrogen, Kjeldahl	NA	NA	mg/L	0.76	0.81	0.71	0.75	0.83	--	--	--	--	--	--	2.0
Chloride	(FF)	250,000 (E)	mg/L	84	85	56	51	110	--	--	--	--	--	--	ND
Sulfate	NA	250,000 (E)	mg/L	14	14	18	15	33	--	--	--	--	--	--	3.9
Total Organic Carbon	NA	NA	mg/L	5.0	4.9	4.8	4.1	5.5	--	--	--	--	--	--	13
Field Parameters															
Dissolved Oxygen	NA	NA	mg/L	0.50	0.50	0.00	0.51	0.03	5.20	0.80	1.23	0.06	1.51	2.58	--
Eh	NA	NA	mV	-91	-91	-69	-75	-313	-41.2	-45.0	-79	-103	-85	-360	--
Conductivity	NA	NA	mS/cm	0.861	0.861	0.748	0.723	2.51	0.367	0.404	0.388	0.390	0.396	0.170	--
pH	NA	NA	s.u.	6.87	6.87	6.76	6.88	6.97	7.65	7.72	7.73	7.56	7.68	10.22	--
Temperature	NA	NA	C	17.5	17.5	17.7	14.64	19.3	14.5	13.3	16.8	16.6	12.95	17.2	--

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TABLE 2: SUMMARY OF GROUNDWATER AND SURFACE WATER ANALYTICAL RESULTS
FORMER WHITE CONSOLIDATED INDUSTRIES - BELDING SITE

Parameter	GSI [1]	NRDW [3]	units	MW-5 5/7/09	MW-5 2010-2013	MW-6 7/16/08	DUP 7/16/08	MW-6 5/7/09	MW-6 10/25/10	MW-6 8/18/11	MW-6 11/5/12	MW-6 9/25/13	MW-7 7/16/08	MW-7 5/7/09	MW-7 10/26/10
Volatile Organic Compounds															
Benzene	200	5.0 (A)	µg/L	ND	Well filled w/ sediment above screened interval, could not sample	ND	ND	ND	<25	<25	<25	<25	ND	ND	<1.0
Toluene	270	790 (E)	µg/L	ND		ND	ND	ND	<25	<25	<25	<25	ND	ND	<1.0
2-Butanone (MEK)	2,200	38,000	µg/L	ND		ND	ND	ND	<120	<120	130	<120	ND	ND	<5.0
Chloroethane	1,100 (X)	1,700	µg/L	ND		ND	ND	ND	<25	<25	<25	<25	ND	ND	<1.0
Chloromethane	ID	1,100	µg/L	ND		ND	ND	ND	<25	<25	<25	<25	ND	ND	<1.0
1,1-Dichloroethane	740	2,500	µg/L	ND		ND	ND	ND	<25	<25	<25	<25	ND	ND	<1.0
1,1-Dichloroethene	130	7.0 (A)	µg/L	ND		ND	ND	ND	<25	<25	<25	<25	ND	ND	<1.0
cis-1,2-Dichloroethene	620	70 (A)	µg/L	1.0		62	64	**54**	**230**	**210**	**130**	**140**	ND	ND	<1.0
trans-1,2-Dichloroethene	1,500	100 (A)	µg/L	ND		6.0	5.3	ND	<25	<25	<25	<25	ND	ND	<1.0
Tetrachloroethene	60 (X)	5.0 (A)	µg/L	ND		4.9	5.6	**7.0**	<25	<25	<25	<25	ND	ND	<1.0
1,1,1-Trichloroethane	200	200	µg/L	ND		6.5	6.5	**4.6**	<25	<25	<25	<25	ND	ND	<1.0
1,1,2-Trichloroethane	330 (X)	5.0 (A)	µg/L	ND		ND	ND	ND	<25	<25	<25	<25	ND	ND	<1.0
Trichloroethene	200 (X)	5.0 (A)	µg/L	ND		**2,000**	**2,000**	**960**	**3,800**	**4,200**	**2,600**	**1,900**	2.1	ND	<1.0
Vinyl Chloride [2]	1,600	2.0 (A)	µg/L	ND		ND	ND	ND	<25	<25	<25	<25	ND	ND	<1.0
Metals and General Chemistry															
Iron	NA	NA	µg/L	2,500	No sample as noted above	ND	ND	ND	<10	21	20	49	--	160	<10
Manganese	NA	NA	µg/L	280		ND	ND	ND	<10	<10	19	1,000	--	--	<10
Nitrogen, Ammonia	NA	NA	mg/L	0.82		ND	ND	ND	<0.050	<0.050	0.098	0.087	ND	ND	<0.050
Nitrate plus Nitrite	NA	NA	mg/L	ND		3.7	3.7	5.3	3.9	4.7	4.7	0.41	1.3	2.1	0.66
Nitrogen, Kjeldahl	NA	NA	mg/L	0.90		0.3	0.3	0.2	<0.50	<0.50	<0.50	0.72	0.20	0.20	<0.50
Chloride	(FF)	250,000 (E)	mg/L	320		17	16	ND	3.5	4.8	2.6	58.0	31	11	17
Sulfate	NA	250,000 (E)	mg/L	24		37	37	32	17	27	18	300	10	9.0	10
Total Organic Carbon	NA	NA	mg/L	2.1		2.2	2.1	2.1	1.8	1.9	1.7	8.5	1.3	1.3	0.95
Field Parameters															
Dissolved Oxygen	NA	NA	mg/L	--	No sample	8.90	8.90	8.81	1.08	0.38	0.35	0.17	5.80	9.87	5.12
Eh	NA	NA	mV	--		60.4	60.4	233	57.9	69.9	117	-264	23.8	197	44.6
Conductivity	NA	NA	mS/cm	--		0.389	0.389	0.374	0.373	0.363	0.407	3.080	0.498	0.470	0.539
pH	NA	NA	s.u.	--		6.74	6.74	6.44	6.87	6.68	6.74	6.69	7.69	7.52	7.53
Temperature	NA	NA	C	--		24.3	24.3	12.0	14.3	18.2	11.65	19.4	16.3	9.62	15.7

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TABLE 2: SUMMARY OF GROUNDWATER AND SURFACE WATER ANALYTICAL RESULTS
FORMER WHITE CONSOLIDATED INDUSTRIES - BELDING SITE

Parameter	GSI [1]	NRDW [3]	units	MW-7 8/18/11	MW-7 11/6/12	MW-7 9/25/13	MW-8 7/15/08	MW-8 5/6/09	MW-8 10/25/10	MW-8 8/18/11	MW-8 11/5/12	MW-8 9/25/13	MW-9 7/15/08	MW-9 5/6/09	DUP 5/6/09
Volatile Organic Compounds															
Benzene	200	5.0 (A)	µg/L	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	ND
Toluene	270	790 (E)	µg/L	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	ND
2-Butanone (MEK)	2,200	38,000	µg/L	<5.0	<5.0	<5.0	ND	ND	<5.0	<5.0	<5.0	<5.0	ND	ND	ND
Chloroethane	1,100 (X)	1,700	µg/L	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	ND
Chloromethane	ID	1,100	µg/L	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	ND
1,1-Dichloroethane	740	2,500	µg/L	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	2.0	ND	ND	ND
1,1-Dichloroethene	130	7.0 (A)	µg/L	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	ND
cis-1,2-Dichloroethene	620	70 (A)	µg/L	<1.0	<1.0	<1.0	2.8	2.6	1.8	3.7	2.8	4.0	ND	ND	ND
trans-1,2-Dichloroethene	1,500	100 (A)	µg/L	<1.0	<1.0	<1.0	1.3	1.1	1.1	1.2	1.3	1.8	ND	ND	ND
Tetrachloroethene	60 (X)	5.0 (A)	µg/L	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	ND
1,1,1-Trichloroethane	200	200	µg/L	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	ND
1,1,2-Trichloroethane	330 (X)	5.0 (A)	µg/L	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	ND
Trichloroethene	200 (X)	5.0 (A)	µg/L	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	ND
Vinyl Chloride [2]	1,600	2.0 (A)	µg/L	<1.0	<1.0	<1.0	**37**	**26**	**31**	**23**	**31**	**24**	ND	ND	ND
Metals and General Chemistry															
Iron	NA	NA	µg/L	<10	14	<10	--	--	--	--	--	--	--	--	--
Manganese	NA	NA	µg/L	<10	<10	<10	--	--	--	--	--	--	--	--	--
Nitrogen, Ammonia	NA	NA	mg/L	<0.050	<0.025	<0.025	--	--	--	--	--	--	--	--	--
Nitrate plus Nitrite	NA	NA	mg/L	0.98	6.00	4.4	--	--	--	--	--	--	--	--	--
Nitrogen, Kjeldahl	NA	NA	mg/L	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--	--
Chloride	(FF)	250,000 (E)	mg/L	9.0	8.0	12.0	--	--	--	--	--	--	--	--	--
Sulfate	NA	250,000 (E)	mg/L	12	10	33	--	--	--	--	--	--	--	--	--
Total Organic Carbon	NA	NA	mg/L	1.3	0.9	1.40	--	--	--	--	--	--	--	--	--
Field Parameters															
Dissolved Oxygen	NA	NA	mg/L	4.85	5.95	2.27	2.80	0.24	0.49	0.00	0.06	0.07	4.60	0.28	0.28
Eh	NA	NA	mV	106	122	216	-47.3	-42	-103	-60.2	-108	-431	-112.9	-64.0	-64.0
Conductivity	NA	NA	mS/cm	0.487	0.503	2.650	0.771	0.804	0.801	0.756	0.756	0.450	0.533	0.570	0.570
pH	NA	NA	s.u.	7.37	7.47	9.99	6.91	7.09	6.98	6.92	6.89	10.07	7.35	7.37	7.37
Temperature	NA	NA	C	20.5	12.26	19.9	15.7	10.3	14.7	16.8	12.77	17.7	14.4	11.8	11.8

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TABLE 2: SUMMARY OF GROUNDWATER AND SURFACE WATER ANALYTICAL RESULTS
FORMER WHITE CONSOLIDATED INDUSTRIES - BELDING SITE

Parameter	GSI [1]	NRDW [3]	units	MW-9 10/25/10	MW-9 8/18/11	MW-9 11/5/12	MW-9 9/25/13	MW-10 7/16/08	MW-10 5/7/09	MW-10 10/26/10	MW-10 8/18/11	DUP1 8/18/11	MW-10 11/6/12	DUP 11/6/12	MW-10 9/25/13
Volatile Organic Compounds															
Benzene	200	5.0 (A)	µg/L	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Toluene	270	790 (E)	µg/L	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)	2,200	38,000	µg/L	<5.0	<5.0	<5.0	<5.0	ND	ND	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Chloroethane	1,100 (X)	1,700	µg/L	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Chloromethane	ID	1,100	µg/L	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	740	2,500	µg/L	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	130	7.0 (A)	µg/L	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	620	70 (A)	µg/L	<1.0	<1.0	<1.0	1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	1,500	100 (A)	µg/L	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	60 (X)	5.0 (A)	µg/L	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	200	200	µg/L	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	330 (X)	5.0 (A)	µg/L	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Trichloroethene	200 (X)	5.0 (A)	µg/L	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride [2]	1,600	2.0 (A)	µg/L	<1.0	**1.2**	<1.0	1.4	ND	ND	<1.0	1.0	1.0	<1.0	<1.0	1.1
Metals and General Chemistry															
Iron	NA	NA	µg/L	--	--	--	--	1,900	2,500	2,400	1,500	1,500	2,600	2,500	2,800
Manganese	NA	NA	µg/L	--	--	--	--	530	570	500	370	380	460	440	430
Nitrogen, Ammonia	NA	NA	mg/L	--	--	--	--	1.1	0.69	0.68	0.67	0.68	0.74	0.79	0.53
Nitrate plus Nitrite	NA	NA	mg/L	--	--	--	--	ND	ND	<0.050	<0.050	<0.050	<0.050	<0.050	0.19
Nitrogen, Kjeldahl	NA	NA	mg/L	--	--	--	--	3.40	0.90	0.74	0.82	0.79	0.87	0.94	0.71
Chloride	(FF)	250,000 (E)	mg/L	--	--	--	--	390	380	300	260	260	200	200	300
Sulfate	NA	250,000 (E)	mg/L	--	--	--	--	2.0	10	<1.0	8.3	8.5	<1.0	<1.0	2.4
Total Organic Carbon	NA	NA	mg/L	--	--	--	--	4.2	5.0	2.7	2.5	2.6	2.9	3	3.0
Field Parameters															
Dissolved Oxygen	NA	NA	mg/L	0.96	0.75	0.12	0.16	3.10	0.53	0.45	0.00	--	0.05	--	0.04
Eh	NA	NA	mV	-96.7	-70.9	-154	-225	-63.1	-42.0	-71.1	-54.1	--	-82.0	--	-307
Conductivity	NA	NA	mS/cm	0.467	0.720	0.446	2.48	1.71	1.95	1.65	1.71	--	1.53	--	4.86
pH	NA	NA	s.u.	7.20	7.06	7.22	7.01	7.06	7.01	7.00	6.92	--	6.97	--	7.05
Temperature	NA	NA	C	15.5	15.2	13.03	16.1	13.9	14.3	14.4	14.7	--	13.0	--	15.9

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TABLE 2: SUMMARY OF GROUNDWATER AND SURFACE WATER ANALYTICAL RESULTS
FORMER WHITE CONSOLIDATED INDUSTRIES - BELDING SITE

Parameter	GSI [1]	NRDW [3]	units	MW-11 7/16/08	MW-11 5/7/09	MW-11 10/26/10	MW-11 8/18/11	MW-11 11/6/12	MW-11 9/25/13	SW1 7/16/08	SW1 5/6/09	SW1 10/25/10	SW1 8/18/11	SW1 11/6/12	SW1 9/25/13
Volatile Organic Compounds															
Benzene	200	5.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
Toluene	270	790 (E)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)	2,200	38,000	µg/L	ND	ND	<5.0	<5.0	<5.0	<5.0	ND	ND	<5.0	<5.0	<5.0	<5.0
Chloroethane	1,100 (X)	1,700	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
Chloromethane	ID	1,100	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	740	2,500	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	130	7.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	620	70 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	1,500	100 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	60 (X)	5.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	200	200	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	330 (X)	5.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
Trichloroethene	200 (X)	5.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
Vinyl Chloride [2]	1,600	2.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	ND	ND	<1.0	<1.0	<1.0	<1.0
Metals and General Chemistry															
Iron	NA	NA	µg/L	25,000	29,000	23,000	23,000	18,000	25,000	--	--	--	--	--	--
Manganese	NA	NA	µg/L	3,200	3,200	3,100	2,500	2,500	3,100	--	--	--	--	--	--
Nitrogen, Ammonia	NA	NA	mg/L	13	21	12	15	12	17	--	--	--	--	--	--
Nitrate plus Nitrite	NA	NA	mg/L	ND	ND	<0.050	<0.050	<0.050	<0.050	--	--	--	--	--	--
Nitrogen, Kjeldahl	NA	NA	mg/L	15	19	14	17	13	17	--	--	--	--	--	--
Chloride	(FF)	250,000 (E)	mg/L	310	330	340	320	340	360	--	--	--	--	--	--
Sulfate	NA	250,000 (E)	mg/L	ND	ND	<1.0	<1.0	<1.0	<1.0	--	--	--	--	--	--
Total Organic Carbon	NA	NA	mg/L	9.5	9.3	7.3	11.0	8.3	13.0	--	--	--	--	--	--
Field Parameters															
Dissolved Oxygen	NA	NA	mg/L	2.20	0.39	0.55	0.00	0.00	0.01	--	--	--	--	11.50	10.9
Eh	NA	NA	mV	-74.2	-84	-91	-70.6	-97	-272	--	--	--	--	74.00	-176
Conductivity	NA	NA	mS/cm	1.92	2.41	2.04	2.31	2.25	1.16	--	--	--	--	0.54	2.32
pH	NA	NA	s.u.	6.70	6.73	6.76	6.62	6.64	9.29	--	--	--	--	8.33	10.45
Temperature	NA	NA	C	16.8	11.32	16.0	16.8	14.3	17.8	--	--	--	--	4.56	17.7

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TABLE 2: SUMMARY OF GROUNDWATER AND SURFACE WATER ANALYTICAL RESULTS
FORMER WHITE CONSOLIDATED INDUSTRIES - BELDING SITE

Parameter	GSI [1]	NRDW [3]	units	SW2 7/16/08	SW2 5/6/09	SW2 10/25/10	SW2 8/18/11	SW2 11/6/12	SW2 9/25/13
Volatile Organic Compounds									
Benzene	200	5.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0
Toluene	270	790 (E)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0
2-Butanone (MEK)	2,200	38,000	µg/L	ND	ND	<5.0	<5.0	<5.0	<5.0
Chloroethane	1,100 (X)	1,700	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0
Chloromethane	ID	1,100	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethane	740	2,500	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0
1,1-Dichloroethene	130	7.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0
cis-1,2-Dichloroethene	620	70 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0
trans-1,2-Dichloroethene	1,500	100 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0
Tetrachloroethene	60 (X)	5.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0
1,1,1-Trichloroethane	200	200	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0
1,1,2-Trichloroethane	330 (X)	5.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0
Trichloroethene	200 (X)	5.0 (A)	µg/L	ND	ND	3.5	<1.0	<1.0	<1.0
Vinyl Chloride [2]	1,600	2.0 (A)	µg/L	ND	ND	<1.0	<1.0	<1.0	<1.0
Metals and General Chemistry									
Iron	NA	NA	µg/L	ND	ND	130	160	230	1,100
Manganese	NA	NA	µg/L	ND	ND	30	33	50	100
Nitrogen, Ammonia	NA	NA	mg/L	0.058	0.036	<0.050	<0.050	<0.025	<0.025
Nitrate plus Nitrite	NA	NA	mg/L	0.880	0.440	0.850	0.74	1.20	1.0
Nitrogen, Kjeldahl	NA	NA	mg/L	0.700	0.800	0.630	0.65	0.54	1.30
Chloride	(FF)	250,000 (E)	mg/L	28	15	25	24	26	28
Sulfate	NA	250,000 (E)	mg/L	29	14	28	26	33	4.7
Total Organic Carbon	NA	NA	mg/L	4.9	8.5	5.3	6.2	4.8	29
Field Parameters									
Dissolved Oxygen	NA	NA	mg/L	--	--	--	--	11.50	10.1
Eh	NA	NA	mV	--	--	--	--	112.00	-138
Conductivity	NA	NA	mS/cm	--	--	--	--	0.54	1.97
pH	NA	NA	s.u.	--	--	--	--	8.16	8.16
Temperature	NA	NA	C	--	--	--	--	4.71	16.8

Golder Associates

TABLE 2: SUMMARY OF GROUNDWATER AND SURFACE WATER ANALYTICAL RESULTS FORMER WHITE CONSOLIDATED INDUSTRIES - BELDING SITE

NOTES:

[1] GSI = Groundwater surface water interface criteria (Remediation Division "Revised Part 201 Cleanup Criteria and Part 213 Risk-Based Screening Levels", Attachment 1, Table 1: Groundwater - Residential and Nonresidential. September 28, 2012).

[2] For Vinyl Chloride, a mixing zone-based GSI value of 1,600 µg/L, respectively were presented in the July 2013 Revised Mixing Zone Determination for the site (submitted to the MDEQ on July 9, 2013).

[3] NRDW - Nonresidential drinking water criteria (Attachment 1, Table 1: Groundwater - Residential and Nonresidential. September 28, 2012).

[4] For both the GSI and NRDW criteria, "NA" indicates criterion not available and "ID" indicates inadequate data to develop a criterion.

[5] ND = Non detect (laboratory reporting limits unknown for pre-2010 monitoring events).

[6] "--" indicates no sample collected for the designated analysis.

[7] Bold data exceed generic GSI and/or NRDW criteria.

Part 201 Cleanup Criteria Footnotes:

(A) Criterion is the state of Michigan drinking water standard established pursuant to Section 5 of 1976 PA 399, MCL 325.1005.

(E) Criterion is the aesthetic drinking water value, as required by Section 20120a(5) of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA).

(X) The GSI criterion shown in the generic cleanup criteria tables is not protective for surface water that is used as a drinking water source.

(FF) The chloride GSI criterion shall be 125 mg/l when the discharge is to surface waters of the state designated as public water supply sources or 50 mg/l when the discharge is to the Great Lakes or connecting waters.

ATTACHMENT A

TRIMATRIX LABORATORIES

October 10, 2013

Golder Associates, Inc. - MI
Attn: Mr. Brad Johnson
15851 S. US 27, Suite 50
Lansing, MI 48906

Project: Belding Groundwater Monitoring

Dear Mr. Brad Johnson,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1309424	09/25/2013	Laboratory Services

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/12-056-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003059); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#83658); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Texas CEQ (#T104704495-13-3); Virginia DCLS (#460153/1622); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

James D. McFadden
Project Chemist

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Individual sample results relate only to the sample tested.
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TRIMATRIX LABORATORIES

PROJECT TECHNICAL NARRATIVE(s)

Volatile Organic Compounds by EPA Method 8260B

Narrative: Manual integration was required on the analytes listed below. All manual integrations were performed and reviewed in accordance with TriMatrix laboratory policy.

Analysis: USEPA-8260B

Sample/Analyte: 1309424-03 MW-2 Chloroethane

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TRIMATRIX LABORATORIES

STATEMENT OF DATA QUALIFICATIONS

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Qualification: The following reported test methods and analyte(s) are exceptions to our NELAP Fields of Accreditation, or for which accreditation is not required, applicable, or available.

Analysis: EPA-351.2/4500-NH3G

Analyte(s): Nitrogen, Organic

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**MW-9**	Sampled:	9/25/13 10:35		
Lab Sample ID:	**1309424-01**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/4/13 21:26	By:	COR
QC Batch:	1310574	Analytical Batch:	3307052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	<1.0	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	**1.0**	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	**1.4**	1.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*91*	*85-118*
1,2-Dichloroethane-d4	*99*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*94*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**MW-9**	Sampled:	9/25/13 10:35
Lab Sample ID:	**1309424-01**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Iron	**3900**	10	ug/L	1	USEPA-6010C	09/27/13 14:33	CKD	1310129
Manganese	**380**	10	ug/L	1	USEPA-6010C	09/27/13 14:33	CKD	1310129

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**MW-9**	Sampled:	9/25/13 10:35
Lab Sample ID:	**1309424-01**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	<0.050	0.050	mg/L	1	SM 4500 NH3F+NO3G	09/26/13 12:33	CAC	[CALC]
Nitrogen, Nitrate+Nitrite	<0.050	0.050	mg/L	1	SM 4500-NO3 F-2000	09/26/13 12:33	CAC	1310221

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**MW-8**	Sampled:	9/25/13 12:00		
Lab Sample ID:	**1309424-02**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/4/13 21:53	By:	COR
QC Batch:	1310574	Analytical Batch:	3307052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	<1.0	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	**2.0**	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	**4.0**	1.0
156-60-5	trans-1,2-Dichloroethene	**1.8**	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	**24**	1.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*93*	*85-118*
1,2-Dichloroethane-d4	*97*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*98*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**MW-2**	Sampled:	9/25/13 12:00		
Lab Sample ID:	**1309424-03**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/4/13 22:20	By:	COR
QC Batch:	1310574	Analytical Batch:	3J07052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	**1.0**	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	**14**	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	**31**	1.0

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*93*	*85-118*
1,2-Dichloroethane-d4	*98*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**MW-4S**	Sampled:	9/25/13 13:10		
Lab Sample ID:	**1309424-04**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	5	Analyzed:	10/4/13 22:47	By:	COR
QC Batch:	1310574	Analytical Batch:	3J07052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<5.0	5.0
75-00-3	Chloroethane	<5.0	5.0
74-87-3	Chloromethane	<5.0	5.0
75-34-3	1,1-Dichloroethane	**11**	5.0
75-35-4	1,1-Dichloroethene	<5.0	5.0
156-59-2	cis-1,2-Dichloroethene	**11**	5.0
156-60-5	trans-1,2-Dichloroethene	<5.0	5.0
78-93-3	2-Butanone (MEK)	<25	25
127-18-4	Tetrachloroethene	<5.0	5.0
108-88-3	Toluene	<5.0	5.0
71-55-6	1,1,1-Trichloroethane	<5.0	5.0
79-00-5	1,1,2-Trichloroethane	<5.0	5.0
79-01-6	Trichloroethene	<5.0	5.0
75-01-4	Vinyl Chloride	**380**	5.0

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*92*	*85-118*
1,2-Dichloroethane-d4	*98*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**MW-4S**	Sampled:	9/25/13 13:10
Lab Sample ID:	**1309424-04**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Iron	**5400**	10	ug/L	1	USEPA-6010C	09/27/13 14:36	CKD	1310129
Manganese	**490**	10	ug/L	1	USEPA-6010C	09/27/13 14:36	CKD	1310129

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**MW-4S**	Sampled:	9/25/13 13:10
Lab Sample ID:	**1309424-04**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**0.48**	0.050	mg/L	1	SM 4500 NH3F+NO3G	10/02/13 10:26	CAC	[CALC]
Nitrogen, Ammonia	**0.48**	0.025	mg/L	1	SM 4500-NH3 G	10/02/13 10:26	CLB	1310363
Nitrogen, Nitrate+Nitrite	<0.050	0.050	mg/L	1	SM 4500-NO3 F-2000	09/26/13 12:35	CAC	1310221
Nitrogen, Total Kjeldahl	**0.83**	0.50	mg/L	1	USEPA-351.2 Rev. 2.0	09/30/13 10:49	CLB	1310232
Nitrogen, Organic	<0.50	0.50	mg/L	1	EPA-351.2/4500-NH3G	10/03/13 10:13	CLB	1310290
Chloride	**110**	2.0	mg/L	2	SM 4500-Cl E	10/02/13 10:29	LMA	1310371
Sulfate	**33**	10	mg/L	2	ASTM D516-90 (07)	10/01/13 09:13	LMA	1310358
Carbon, Total Organic	**5.5**	0.50	mg/L	1	SM 5310 C	09/26/13 20:41	WAH	1310306

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**MW-4D**	Sampled:	9/25/13 13:05		
Lab Sample ID:	**1309424-05**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/4/13 23:14	By:	COR
QC Batch:	1310574	Analytical Batch:	3J07052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	<1.0	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*94*	*85-118*
1,2-Dichloroethane-d4	*97*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**MW-3**	Sampled:	9/25/13 14:10		
Lab Sample ID:	**1309424-06**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/4/13 23:41	By:	COR
QC Batch:	1310574	Analytical Batch:	3J07052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	**65**	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	**1.2**	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	**1.2**	1.0

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*94*	*85-118*
1,2-Dichloroethane-d4	*98*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**MW-1**	Sampled:	9/25/13 13:50		
Lab Sample ID:	**1309424-07**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/7/13 15:00	By:	DLV
Dilution Factor:	2	Analyzed:	10/7/13 17:44	By:	COR
QC Batch:	1310620	Analytical Batch:	3J08023		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<2.0	2.0
75-00-3	Chloroethane	<2.0	2.0
74-87-3	Chloromethane	<2.0	2.0
75-34-3	1,1-Dichloroethane	**3.1**	2.0
75-35-4	1,1-Dichloroethene	<2.0	2.0
156-59-2	cis-1,2-Dichloroethene	**16**	2.0
156-60-5	trans-1,2-Dichloroethene	<2.0	2.0
78-93-3	2-Butanone (MEK)	**13**	10
127-18-4	Tetrachloroethene	<2.0	2.0
108-88-3	Toluene	<2.0	2.0
71-55-6	1,1,1-Trichloroethane	<2.0	2.0
79-00-5	1,1,2-Trichloroethane	<2.0	2.0
79-01-6	Trichloroethene	<2.0	2.0
75-01-4	Vinyl Chloride	**190**	2.0

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*94*	*85-118*
1,2-Dichloroethane-d4	*99*	*87-122*
Toluene-d8	*100*	*85-113*
4-Bromofluorobenzene	*102*	*82-110*

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ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**SW-2**	Sampled:	9/25/13 14:00		
Lab Sample ID:	**1309424-08**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/5/13 0:35	By:	COR
QC Batch:	1310574	Analytical Batch:	3J07052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	<1.0	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*93*	*85-118*
1,2-Dichloroethane-d4	*97*	*87-122*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**SW-2**	Sampled:	9/25/13 14:00
Lab Sample ID:	**1309424-08**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Iron	**1100**	10	ug/L	1	USEPA-6010C	09/27/13 14:40	CKD	1310129
Manganese	**100**	10	ug/L	1	USEPA-6010C	09/27/13 14:40	CKD	1310129

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**SW-2**	Sampled:	9/25/13 14:00
Lab Sample ID:	**1309424-08**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**0.99**	0.050	mg/L	1	SM 4500 NH3F+NO3G	10/02/13 10:26	CAC	[CALC]
Nitrogen, Ammonia	<0.025	0.025	mg/L	1	SM 4500-NH3 G	10/02/13 10:26	CLB	1310363
Nitrogen, Nitrate+Nitrite	**0.99**	0.050	mg/L	1	SM 4500-NO3 F-2000	09/26/13 12:36	CAC	1310221
Nitrogen, Total Kjeldahl	**1.3**	0.50	mg/L	1	USEPA-351.2 Rev. 2.0	09/30/13 10:55	CLB	1310232
Nitrogen, Organic	**1.3**	0.50	mg/L	1	EPA-351.2/4500-NH3G	10/03/13 10:13	CLB	1310290
Chloride	**28**	1.0	mg/L	1	SM 4500-Cl E	10/02/13 09:59	LMA	1310371
Carbon, Total Organic	**4.7**	0.50	mg/L	1	SM 5310 C	09/26/13 20:52	WAH	1310306
Sulfate	**29**	10	mg/L	2	ASTM D516-90 (07)	10/01/13 09:14	LMA	1310358

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**MW-6**	Sampled:	9/25/13 15:05		
Lab Sample ID:	**1309424-09**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	25	Analyzed:	10/5/13 1:02	By:	COR
QC Batch:	1310574	Analytical Batch:	3J07052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<25	25
75-00-3	Chloroethane	<25	25
74-87-3	Chloromethane	<25	25
75-34-3	1,1-Dichloroethane	<25	25
75-35-4	1,1-Dichloroethene	<25	25
156-59-2	cis-1,2-Dichloroethene	**140**	25
156-60-5	trans-1,2-Dichloroethene	<25	25
78-93-3	2-Butanone (MEK)	<120	120
127-18-4	Tetrachloroethene	<25	25
108-88-3	Toluene	<25	25
71-55-6	1,1,1-Trichloroethane	<25	25
79-00-5	1,1,2-Trichloroethane	<25	25
79-01-6	Trichloroethene	**1900**	25
75-01-4	Vinyl Chloride	<25	25

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*93*	*85-118*
1,2-Dichloroethane-d4	*96*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*96*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**MW-6**	Sampled:	9/25/13 15:05
Lab Sample ID:	**1309424-09**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Iron	**49**	10	ug/L	1	USEPA-6010C	09/27/13 14:43	CKD	1310129
Manganese	**1000**	10	ug/L	1	USEPA-6010C	09/27/13 14:43	CKD	1310129

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**MW-6**	Sampled:	9/25/13 15:05
Lab Sample ID:	**1309424-09**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**0.49**	0.050	mg/L	1	SM 4500 NH3F+NO3G	10/02/13 10:26	CAC	[CALC]
Nitrogen, Ammonia	**0.087**	0.025	mg/L	1	SM 4500-NH3 G	10/02/13 10:26	CLB	1310363
Nitrogen, Nitrate+Nitrite	**0.41**	0.050	mg/L	1	SM 4500-NO3 F-2000	09/26/13 12:36	CAC	1310221
Nitrogen, Total Kjeldahl	**0.72**	0.50	mg/L	1	USEPA-351.2 Rev. 2.0	09/30/13 10:55	CLB	1310232
Nitrogen, Organic	**0.63**	0.50	mg/L	1	EPA-351.2/4500-NH3G	10/03/13 10:13	CLB	1310290
Chloride	**58**	1.0	mg/L	1	SM 4500-Cl E	10/02/13 09:59	LMA	1310371
Sulfate	**300**	50	mg/L	10	ASTM D516-90 (07)	10/01/13 09:16	LMA	1310358
Carbon, Total Organic	**8.5**	0.50	mg/L	1	SM 5310 C	09/26/13 21:04	WAH	1310306

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**MW-7**	Sampled:	9/25/13 15:40		
Lab Sample ID:	**1309424-10**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/5/13 1:29	By:	COR
QC Batch:	1310574	Analytical Batch:	3J07052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	<1.0	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*92*	*85-118*
1,2-Dichloroethane-d4	*96*	*87-122*
Toluene-d8	*97*	*85-113*
4-Bromofluorobenzene	*96*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**MW-7**	Sampled:	9/25/13 15:40
Lab Sample ID:	**1309424-10**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Iron	<10	10	ug/L	1	USEPA-6010C	09/27/13 14:46	CKD	1310129
Manganese	<10	10	ug/L	1	USEPA-6010C	09/27/13 14:46	CKD	1310129

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**MW-7**	Sampled:	9/25/13 15:40
Lab Sample ID:	**1309424-10**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**4.4**	1.2	mg/L	25	SM 4500 NH3F+NO3G	10/02/13 10:26	CAC	[CALC]
Nitrogen, Ammonia	<0.025	0.025	mg/L	1	SM 4500-NH3 G	10/02/13 10:26	CLB	1310363
Nitrogen, Nitrate+Nitrite	**4.4**	1.2	mg/L	25	SM 4500-NO3 F-2000	09/26/13 13:38	CAC	1310221
Nitrogen, Total Kjeldahl	<0.50	0.50	mg/L	1	USEPA-351.2 Rev. 2.0	09/30/13 10:55	CLB	1310232
Nitrogen, Organic	<0.50	0.50	mg/L	1	EPA-351.2/4500-NH3G	10/03/13 10:13	CLB	1310290
Chloride	**12**	1.0	mg/L	1	SM 4500-Cl E	10/02/13 09:59	LMA	1310371
Sulfate	**33**	10	mg/L	2	ASTM D516-90 (07)	10/01/13 09:19	LMA	1310358
Carbon, Total Organic	**1.4**	0.50	mg/L	1	SM 5310 C	09/26/13 21:15	WAH	1310306

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**MW-10**	Sampled:	9/25/13 17:10		
Lab Sample ID:	**1309424-11**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/5/13 1:56	By:	COR
QC Batch:	1310574	Analytical Batch:	3J07052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	<1.0	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	**1.1**	1.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*94*	*85-118*
1,2-Dichloroethane-d4	*97*	*87-122*
Toluene-d8	*99*	*85-113*
4-Bromofluorobenzene	*97*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**MW-10**	Sampled:	9/25/13 17:10
Lab Sample ID:	**1309424-11**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Iron	**2800**	10	ug/L	1	USEPA-6010C	09/27/13 14:50	CKD	1310129
Manganese	**430**	10	ug/L	1	USEPA-6010C	09/27/13 14:50	CKD	1310129

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**MW-10**	Sampled:	9/25/13 17:10
Lab Sample ID:	**1309424-11**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**0.72**	0.050	mg/L	1	SM 4500 NH3F+NO3G	10/02/13 10:26	CAC	[CALC]
Nitrogen, Ammonia	**0.53**	0.025	mg/L	1	SM 4500-NH3 G	10/02/13 10:26	CLB	1310363
Nitrogen, Nitrate+Nitrite	**0.19**	0.050	mg/L	1	SM 4500-NO3 F-2000	09/26/13 12:42	CAC	1310221
Nitrogen, Total Kjeldahl	**0.71**	0.50	mg/L	1	USEPA-351.2 Rev. 2.0	09/30/13 10:55	CLB	1310232
Nitrogen, Organic	<0.50	0.50	mg/L	1	EPA-351.2/4500-NH3G	10/03/13 10:13	CLB	1310290
Chloride	**300**	5.0	mg/L	5	SM 4500-Cl E	10/02/13 10:29	LMA	1310371
Sulfate	**2.4**	1.0	mg/L	1	ASTM D516-90 (07)	10/01/13 10:41	LMA	1310358
Carbon, Total Organic	**3.0**	0.50	mg/L	1	SM 5310 C	09/26/13 21:26	WAH	1310306

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**MW-11**	Sampled:	9/25/13 17:20		
Lab Sample ID:	**1309424-12**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/5/13 2:23	By:	COR
QC Batch:	1310574	Analytical Batch:	3J07052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	<1.0	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*93*	*85-118*
1,2-Dichloroethane-d4	*95*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*95*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**MW-11**	Sampled:	9/25/13 17:20
Lab Sample ID:	**1309424-12**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Total Metals by EPA 6000/7000 Series Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Iron	**25000**	10	ug/L	1	USEPA-6010C	09/27/13 14:53	CKD	1310129
Manganese	**3100**	10	ug/L	1	USEPA-6010C	09/27/13 14:53	CKD	1310129

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services
Client Sample ID:	**MW-11**	Sampled:	9/25/13 17:20
Lab Sample ID:	**1309424-12**	Sampled By:	S. Tatum
Matrix:	Water	Received:	9/25/13 19:00

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

Analyte	Analytical Result	RL	Unit	Dilution Factor	Method	Date Time Analyzed	By	QC Batch
Nitrogen, Inorganic	**17**	0.25	mg/L	10	SM 4500 NH3F+NO3G	10/02/13 10:53	CAC	[CALC]
Nitrogen, Ammonia	**17**	0.25	mg/L	10	SM 4500-NH3 G	10/02/13 10:53	CLB	1310363
Nitrogen, Nitrate+Nitrite	<0.050	0.050	mg/L	1	SM 4500-NO3 F-2000	09/26/13 12:42	CAC	1310221
Nitrogen, Total Kjeldahl	**17**	5.0	mg/L	10	USEPA-351.2 Rev. 2.0	09/30/13 11:14	CLB	1310232
Nitrogen, Organic	<0.50	0.50	mg/L	1	EPA-351.2/4500-NH3G	10/03/13 10:13	CLB	1310290
Chloride	**360**	5.0	mg/L	5	SM 4500-Cl E	10/02/13 10:36	LMA	1310371
Sulfate	<1.0	1.0	mg/L	1	ASTM D516-90 (07)	10/01/13 10:41	LMA	1310358
Carbon, Total Organic	**13**	1.0	mg/L	2	SM 5310 C	09/26/13 12:00	WAH	1310306

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**SW-1**	Sampled:	9/25/13 17:30		
Lab Sample ID:	**1309424-13**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/5/13 2:50	By:	COR
QC Batch:	1310574	Analytical Batch:	3J07052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	<1.0	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*93*	*85-118*
1,2-Dichloroethane-d4	*97*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*96*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**Dup-1**	Sampled:	9/25/13 0:00		
Lab Sample ID:	**1309424-14**	Sampled By:	S. Tatum		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/5/13 3:17	By:	COR
QC Batch:	1310574	Analytical Batch:	3J07052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	<1.0	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0

Surrogates:	*% Recovery*	*Control Limits*
Dibromofluoromethane	*93*	*85-118*
1,2-Dichloroethane-d4	*98*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*97*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1309424**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**Trip Blank**	Sampled:	9/25/13 0:00		
Lab Sample ID:	**1309424-15**	Sampled By:	TML		
Matrix:	Water	Received:	9/25/13 19:00		
Unit:	ug/L	Prepared:	10/4/13 19:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/5/13 3:44	By:	COR
QC Batch:	1310574	Analytical Batch:	3307052		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	<1.0	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*94*	*85-118*
1,2-Dichloroethane-d4	*98*	*87-122*
Toluene-d8	*98*	*85-113*
4-Bromofluorobenzene	*96*	*82-110*

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

QC Batch: 1310574 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank — Analyzed: 10/04/2013 By: COR
Unit: ug/L — Analytical Batch: 3J07052

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Benzene			<1.0			--		1.0
Chloroethane			<1.0					1.0
Chloromethane			<1.0			--		1.0
1,1-Dichloroethane			<1.0					1.0
1,1-Dichloroethene			<1.0					1.0
cis-1,2-Dichloroethene			<1.0					1.0
trans-1,2-Dichloroethene			<1.0					1.0
2-Butanone (MEK)			<5.0					5.0
Tetrachloroethene			<1.0					1.0
Toluene			<1.0			--		1.0
1,1,1-Trichloroethane			<1.0					1.0
1,1,2-Trichloroethane			<1.0					1.0
Trichloroethene			<1.0					1.0
Vinyl Chloride			<1.0					1.0
Surrogates:								
Dibromofluoromethane				*94*	*85-118*			
1,2-Dichloroethane-d4				*99*	*87-122*			
Toluene-d8				*100*	*85-113*			
4-Bromofluorobenzene				*97*	*82-110*			

Laboratory Control Sample — Analyzed: 10/04/2013 By: COR
Unit: ug/L — Analytical Batch: 3J07052

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Benzene		40.0	**43.5**	109	84-119	--		1.0
1,1-Dichloroethene		40.0	**33.2**	83	77-123	--		1.0
Toluene		40.0	**42.8**	107	85-118	--		1.0
Trichloroethene		40.0	**41.8**	104	82-119	--		1.0
Surrogates:								
Dibromofluoromethane				*99*	*85-118*			
1,2-Dichloroethane-d4				*97*	*87-122*			
Toluene-d8				*102*	*85-113*			

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
QC Batch: 1310574 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B								
Laboratory Control Sample (Continued)					Analyzed:		10/04/2013	By: COR
Unit: ug/L					Analytical Batch:		3J07052	
Surrogates (Continued):								
4-Bromofluorobenzene				*101*	*82-110*			
Matrix Spike 1309424-04 MW-4S					Analyzed:		10/05/2013	By: COR
Unit: ug/L					Analytical Batch:		3J07052	
Benzene	<5.0	200	**218**	109	80-129	--		5.0
1,1-Dichloroethene	<5.0	200	**172**	86	74-134	--		5.0
Toluene	<5.0	200	**211**	106	79-129	--		5.0
Trichloroethene	<5.0	200	**206**	103	75-127	--		5.0
Surrogates:								
Dibromofluoromethane				*99*	*85-118*			
1,2-Dichloroethane-d4				*95*	*87-122*			
Toluene-d8				*101*	*85-113*			
4-Bromofluorobenzene				*103*	*82-110*			
Matrix Spike Duplicate 1309424-04 MW-4S					Analyzed:		10/05/2013	By: COR
Unit: ug/L					Analytical Batch:		3J07052	
Benzene	<5.0	200	**228**	114	80-129	4	9	5.0
1,1-Dichloroethene	<5.0	200	**177**	89	74-134	3	11	5.0
Toluene	<5.0	200	**222**	111	79-129	5	9	5.0
Trichloroethene	<5.0	200	**215**	108	75-127	5	10	5.0
Surrogates:								
Dibromofluoromethane				*99*	*85-118*			
1,2-Dichloroethane-d4				*97*	*87-122*			
Toluene-d8				*100*	*85-113*			
4-Bromofluorobenzene				*99*	*82-110*			
QC Batch: 1310620 5030B Aqueous Purge & Trap/USEPA-8260B								
Method Blank					Analyzed:		10/07/2013	By: COR
Unit: ug/L					Analytical Batch:		3J08023	
Benzene			<1.0					1.0

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B (Continued)

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL

QC Batch: 1310620 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank (Continued) Analyzed: 10/07/2013 By: COR
Unit: ug/L Analytical Batch: 3J08023

Chloroethane			<1.0				1.0
Chloromethane			<1.0			--	1.0
1,1-Dichloroethane			<1.0				1.0
1,1-Dichloroethene			<1.0				1.0
cis-1,2-Dichloroethene			<1.0				1.0
trans-1,2-Dichloroethene			<1.0				1.0
2-Butanone (MEK)			<5.0			--	5.0
Tetrachloroethene			<1.0				1.0
Toluene			<1.0			--	1.0
1,1,1-Trichloroethane			<1.0				1.0
1,1,2-Trichloroethane			<1.0				1.0
Trichloroethene			<1.0				1.0
Vinyl Chloride			<1.0				1.0
Surrogates:							
Dibromofluoromethane				*92*	*85-118*		
1,2-Dichloroethane-d4				*100*	*87-122*		
Toluene-d8				*101*	*85-113*		
4-Bromofluorobenzene				*101*	*82-110*		

Laboratory Control Sample Analyzed: 10/07/2013 By: COR
Unit: ug/L Analytical Batch: 3J08023

Benzene	40.0	**43.3**		108	84-119	--	1.0
1,1-Dichloroethene	40.0	**32.2**		80	77-123	--	1.0
Toluene	40.0	**42.8**		107	85-118	--	1.0
Trichloroethene	40.0	**44.5**		111	82-119	--	1.0
Surrogates:							
Dibromofluoromethane				*98*	*85-118*		
1,2-Dichloroethane-d4				*100*	*87-122*		
Toluene-d8				*102*	*85-113*		
4-Bromofluorobenzene				*105*	*82-110*		

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Total Metals by EPA 6000/7000 Series Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: **Iron**/USEPA-6010C									
QC Batch: 1310129 (3010A Digestion)							Analyzed:	09/27/2013	By: CKD
Method Blank			<10	ug/L					10
Laboratory Control Sample		400	**402**	ug/L	100	80-120			10
Analyte: **Manganese**/USEPA-6010C									
QC Batch: 1310129 (3010A Digestion)							Analyzed:	09/27/2013	By: CKD
Method Blank			<10	ug/L					10
Laboratory Control Sample		400	**398**	ug/L	100	80-120			10

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Carbon, Total Organic/SM 5310 C									
QC Batch: 1310306 (Method Specific Preparation)							Analyzed:	09/26/2013	By: WAH
Method Blank			<0.50	mg/L					0.50
Laboratory Control Sample		2.00	**2.33**	mg/L	116	84-118			0.50
Analyte: Chloride/SM 4500-Cl E									
QC Batch: 1310371 (General Inorganic Prep)							Analyzed:	10/02/2013	By: LMA
Method Blank			<1.0	mg/L					1.0
Laboratory Control Sample		50.0	**51.9**	mg/L	104	90-106			1.0
Analyte: Nitrogen, Ammonia/SM 4500-NH3 G									
QC Batch: 1310363 (Method Specific Preparation)							Analyzed:	10/02/2013	By: CLB
Method Blank			<0.025	mg/L					0.025
Laboratory Control Sample		0.500	**0.495**	mg/L	99	90-110			0.025
1309424-04 [MW-4S]									
Matrix Spike	0.480	0.500	**0.961**	mg/L	96	90-110			0.025
Matrix Spike Duplicate	0.480	0.500	**0.940**	mg/L	92	90-110	2	20	0.025
Analyte: Nitrogen, Nitrate+Nitrite/SM 4500-NO3 F-2000									
QC Batch: 1310221 (General Inorganic Prep)							Analyzed:	09/26/2013	By: CAC
Method Blank			<0.050	mg/L					0.050
Laboratory Control Sample		0.500	**0.529**	mg/L	106	90-110			0.050
1309424-01 [MW-9]									
Matrix Spike	0.0266	0.500	**0.523**	mg/L	99	90-110			0.050
Matrix Spike Duplicate	0.0266	0.500	**0.563**	mg/L	107	90-110	7	20	0.050
Analyte: Nitrogen, Total Kjeldahl/USEPA-351.2 Rev. 2.0									
QC Batch: 1310232 (351.2 TKN Digestion)							Analyzed:	09/30/2013	By: CLB
Method Blank			<0.50	mg/L					0.50
Laboratory Control Sample		2.00	**2.14**	mg/L	107	90-110			0.50
1309424-04 [MW-4S]									
Matrix Spike	0.830	2.00	**2.89**	mg/L	103	90-110			0.50

Continued on next page

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Physical/Chemical Parameters by EPA/APHA/ASTM Methods (Continued)

QC Type	Sample Conc.	Spike Qty.	Result	Unit	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Analyte: Nitrogen, Total Kjeldahl/USEPA-351.2 Rev. 2.0 (Continued)									
QC Batch: 1310232 (Continued) (351.2 TKN Digestion)							Analyzed:	09/30/2013	By: CLB
1309424-04 [MW-4S]									
Matrix Spike Duplicate	0.830	2.00	**2.95**	mg/L	106	90-110	2	20	0.50
Analyte: Sulfate/ASTM D516-90 (07)									
QC Batch: 1310358 (General Inorganic Prep)							Analyzed:	10/01/2013	By: LMA
Method Blank			<1.0	mg/L					1.0
Method Blank			<1.0	mg/L					1.0
Laboratory Control Sample		10.0	**10.2**	mg/L	102	88-116			1.0
Laboratory Control Sample		20.0	**21.5**	mg/L	107	88-116			1.0
1309424-04 [MW-4S]									
Matrix Spike	32.6	20.0	**53.0**	mg/L	102	55-151			2.0
Matrix Spike Duplicate	32.6	20.0	**53.5**	mg/L	104	55-151	1	20	2.0

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Chain of Custody Record

COC No. 12085

Pg. 1 of 2

For Lab Use Only	
Cart	3
VOA Rack/Tray	91, 71-B
Receipt Log No.	31-30
Project Chemist	Jim McFadden
Work Order No.	1309424

Client Name	Golder Associates, Inc., MI
Address	15851S. US 27, Suite 50
City, State Zip	Lansing, MI 48906
Phone/Fax	D: 517-318-3250. F: 517-482-2460
Email:	Brad Johnson (brad_johnson@golder.com)
Project Name	Belding Groundwater Monitoring
Client Project No. / P.O. No.	
Invoice To	(●) Client ( ) Other (comments)
Contact/Report To	Brad Johnson

Analyses Requested

Schedule	Matrix Code	Sample Number		Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	D Volatiles (8260)	A sulfate, chloride	C NH3, TKN, NO3+NO2	B Fe, Mn	C TOC	Total	Sample Comments
				Container Type (corresponds to Container Packing List)							1p	3	4	6	11		
				Number of Containers Submitted													
		01	1	MW-9	2520	9/25/13	1035		X	GW	X	X	X	X	X	9	
		02	2	MW-8		9/25/13	1200		X	GW	X					3	
		03	3	MW-2		9/25/13	1200		X	GW	X					3	
		04	4	MW-4S		9/25/13	1310		X	GW	X	X	X	X	X	9	
		05	5	MW-4D		9/25/13	1305		X	GW	X					3	
		06	6	MW-3		9/25/13	1410		X	GW	X					3	
		07	7	MW-1		9/25/13	1350		X	GW	X					3	
		08	8	SW-2		9/25/13	1400		X	SW	X	X	X	X	X	9	
		09	9	MW-6		9/25/13	1505		X	GW	X	X	X	X	X	9	
		10	10	MW-7		9/25/13	1540		X	GW	X	X	X	X	X	9	

⇦ PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

Sampled By (print): Stephen Tatum
Sampler's Signature:
Company: Golder

How Shipped? Hand ☒ Carrier
Tracking No.

Comments. 3RL for VOCs (2RL for inorganics/metals). List of VOCs: Site specific list. Report Total inorganic and Total organic nitrogen on report. Email and Hard copy inv/report to Brad Johnson. cc: email inv to Golder AP

1. Relinquished By	Date	Time	2. Relinquished By	Date	Time	3. Relinquished By	Date	Time
Stephen Tatum	9/25/13	1900						
1. Received By	**Date**	**Time**	**2. Received By**	**Date**	**Time**	**3. Received For Lab By**	**Date**	**Time**
						[illegible]	9-25-13	190[illegible]

ORIGINAL - LABORATORY COPY - FIELD/SAMPLER

Golder-Belding COC 9/23/2013

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Chain of Custody Record

COC No. 12086

Pg. 2 of 2

For Lab Use Only
Cart: 3
VOA Rack/Tray: 91, 71-B
Receipt Log No.: 31-20
Project Chemist: Jim McFadden
Work Order No.: 1309424

Client Name: Golder Associates, Inc., MI
Address: 15851S. US 27, Suite 50
City, State Zip: Lansing, MI 48906
Phone/Fax: D: 517-318-3250, F: 517-482-2460
Email: Brad Johnson (brad_johnson@golder.com)

Project Name: Belding Groundwater Monitoring
Client Project No. / P.O. No.:
Invoice To: (●) Client ( ) Other (comments)
Contact/Report To: Brad Johnson

Analyses Requested

	D	A	C	B	C						
	Volatiles (8260)	sulfate, chloride	NH3, TKN, NO3+NO2	Fe, Mn	TOC						
Container Type (corresponds to Container Packing List)	1p	3	4	6	11						

⇦ PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

Schedule	Matrix Code	Sample Number		Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	Volatiles (8260)	sulfate, chloride	NH3, TKN, NO3+NO2	Fe, Mn	TOC						Total	Sample Comments
		11	1	MW-10	3520	9/25/13	1710		X	GW	X	X	X	X	X						9	
		12	2	MW-11	↓	9/25/13	1720		X	GW	X	X	X	X	X						9	
		13	3	SW-1		9/25/13	1730		X	SW	X										3	
		14	4	Dup-1		9/25/13			X	GW	X										1	
			5	Trip Blank		9.25.13					X											
			6																			
			7																			
			8																			
			9																			
			10																			

Number of Containers Submitted

Sampled By (print): Stephen Tatum
Sampler's Signature:
How Shipped? Hand ✓ Carrier
Tracking No.

Comments: 3RL for VOCs (2RL for inorganics/metals). List of VOCs: Site specific list. Report Total inorganic and Total organic nitrogen on report. Email and Hard copy inv/report to Brad Johnson cc: email inv to Golder AP.

Company: Golder

1. Relinquished By	Date	Time	2. Relinquished By	Date	Time	3. Relinquished By	Date	Time
Stephen Tatum	9/25/13	1900						

1. Received By	Date	Time	2. Received By	Date	Time	3. Received For Lab By	Date	Time
						D. Jordin	9-25-13	1900

ORIGINAL - LABORATORY COPY - FIELD/SAMPLER

Golder-Belding COC 9/23/2013

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TRIMATRIX LABORATORIES

SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: Golder
Receipt Record Page/Line #: 31-20
Work Order #: 1309434
New / Add To
Project Chemist: JDC
Sample #s

Recorded by (initials/date): JN 9-25-13
☑ Cooler ☐ Box ☐ Other
Qty Received: 1
Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#____)
☐ See Additional Cooler Information Form

Cooler # 112520	Cooler #	Cooler #	Cooler #
Time 2:23	Time	Time	Time
Custody Seals: ☑ None ☐ Present / Intact ☐ Present / Not Intact	Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact	Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact	Custody Seals: ☐ None ☐ Present / Intact ☐ Present / Not Intact
Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom
Coolant/Temperature Taken Via: ☑ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	Coolant/Temperature Taken Via: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	Coolant/Temperature Taken Via: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers	Coolant/Temperature Taken Via: ☐ Loose Ice / Avg 2-3 containers ☐ Bagged Ice / Avg 2-3 containers ☐ Blue Ice / Avg 2-3 containers ☐ None / Avg 2-3 containers
Alternate Temperature Taken Via: ☑ Temperature Blank (TB) ☐ 1 Container	Alternate Temperature Taken Via: ☐ Temperature Blank (TB) ☐ 1 Container	Alternate Temperature Taken Via: ☐ Temperature Blank (TB) ☐ 1 Container	Alternate Temperature Taken Via: ☐ Temperature Blank (TB) ☐ 1 Container

Recorded °C	Correction Factor °C	Actual °C
Temp Blank: 0		9.9
TB location: Representative / Not Representative		
1 17.5	0	17.5
2 18.9	0	18.9
3 19.2	0	19.2
Average °C		18.5
☐ Cooler ID on COC?		
☑ VOC Trip Blank received?		

Recorded °C	Correction Factor °C	Actual °C
Temp Blank:		
TB location: Representative / Not Representative		
1		
2		
3		
Average °C		
☐ Cooler ID on COC?		
☐ VOC Trip Blank received?		

Recorded °C	Correction Factor °C	Actual °C
Temp Blank:		
TB location: Representative / Not Representative		
1		
2		
3		
Average °C		
☐ Cooler ID on COC?		
☐ VOC Trip Blank received?		

Recorded °C	Correction Factor °C	Actual °C
Temp Blank:		
TB location: Representative / Not Representative		
1		
2		
3		
Average °C		
☐ Cooler ID on COC?		
☐ VOC Trip Blank received?		

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	☐	Chain of Custody record(s)? If No, Initiated By ____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other ____

COC Information

☑ TriMatrix COC ☐ Other ____

COC ID Numbers: 12085, 12086

Check Sample Preservation

N/A	Yes	No	
	☐	☑	Average sample temperature ≤6° C?
☐	☑	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Initials: ____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☐	☑		Completed Sample Preservation Verification Form?
☐	☑	☐	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	☐	Sample ID matches COC?
☐	☑	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	☐	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☑ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☐ NONE RECEIVED
☑ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	☐	☑	Broken containers/lids?
	☐	☑	Missing or incomplete labels?
	☐	☑	Illegible information on labels?
	☐	☑	Low volume received?
	☐	☑	Inappropriate or non-TriMatrix containers received?
☐	☐	☑	VOC vials / TOX containers have headspace?
☑	☐	☐	Extra sample locations / containers not listed on COC?

Notes

☐ Trip Blank received ☑ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
JN 9-25-13	9-25-13	Yes / No

Log In Forms - Receiving Log-In_Checklist

revision: 3.4

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TRIMATRIX LABORATORIES

SAMPLE PRESERVATION VERIFICATION FORM

page 1 of 1

Client: GOLDER		Work Order #: 1309424	
Receipt Log #: 31-20	Completed By (initials/date): DM 9-25-13	Project Chemist: JDM	

COC ID #: 12085			Adjusted by: ____ Date: ____		DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
Container Type	5 / 23	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		6-8	<2	<2	
COC Line #1		✓			✓	✓		
COC Line #2								
COC Line #3								
COC Line #4		✓			✓	✓		
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8		✓			✓	✓		
COC Line #9		✓			✓	✓		
COC Line #10		✓			✓	✓		

Comments

Ph Strip Lot #	
☑	HC270245
☐	

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 3, 6, and 15.

COC ID #: 12086			Adjusted by: ____ Date: ____		DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
Container Type	5 / 23	4	13		3	6	15	
Tag Color	Lt. Blue	Blue	Brown		Green	Red	Red Stripe	
Preservative	NaOH	H_2SO_4	H_2SO_4		None	HNO_3	HNO_3	
Expected pH	>12	<2	<2		6-8	<2	<2	
COC Line #1		✓			✓	✓		
COC Line #2		✓			✓	✓		
COC Line #3								
COC Line #4								
COC Line #5								
COC Line #6								
COC Line #7								
COC Line #8								
COC Line #9								
COC Line #10								

Comments

Container Size (mL)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H_2SO_4
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H_2SO_4
500	2.5

Log In Forms – Sample_Preserve_Verification

version: 3.0

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TRIMATRIX LABORATORIES

SAMPLE RECEIVING NON-CONFORMANCE REPORT

Client: Folder
Receipt Log #: 31-20
Completed By (initials/date): DN 9-25-13
Work Order #: 1309424
Project Chemist: JDN

List non-conformance issues associated with this work order in the chart below/left. Identify discrepancies between the COC and sample tags in the chart below/right. Add comments as needed.

COC ID #	Line #	Type of Problem: Discrepancy	Missing Container	Broken Container	Label Missing / Incomplete	Label Illegible	Low Volume	Inappropriate Container	Headspace	Not Listed on COC	Preservation	COC: Sample Field ID	Date Sampled	Time Sampled	Container Type	Qty	Sample Tag: Sample Field ID	Date Sampled	Time Sampled	Container Type	Qty	Line Item Comments
12085	2	✓										MW-8		1200					1150			LOGGED IN PER COC TIME
↓	4	✓										MW-4S		1310					1305			↓
↓	10	✓										MW-7	9/25/13	1540				9/24/13	→	VOCs ONLY		
										✓							TRIP Blank					
											✓											TM2520

General Comments:

Project Chemist (initials/date):

Log In Forms -- Sample_Receipt_Non-Conformance page ____ of ____ revision: 3.0

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November 01, 2013

Golder Associates, Inc. - MI
Attn: Mr. Brad Johnson
15851 S. US 27, Suite 50
Lansing, MI 48906

Project: Belding Groundwater Monitoring

Dear Mr. Brad Johnson,

Enclosed is a copy of the laboratory report for the following work order(s) received by TriMatrix Laboratories:

Work Order	Received	Description
1310522	10/25/2013	Laboratory Services

This report relates only to the sample(s) as received. Test results are in compliance with the requirements of the National Environmental Laboratory Accreditation Program (NELAP) and/or one of the following certification programs:

ACLASS DoD-ELAP/ISO17025 (#ADE-1542); Arkansas DEP (#88-0730/12-056-0); Florida DEP (#E87622-24); Georgia EPD (#E87622-24); Illinois DEP (#200026/003059); Kansas DPH (#E-10302); Kentucky DEP (#0021); Louisiana DEP (#83658); Michigan DPH (#0034); Minnesota DPH (#491715); New York ELAP (#11776/48855); North Carolina DNRE (#659); Texas CEQ (#T104704495-13-3); Virginia DCLS (#460153/1622); Wisconsin DNR (#999472650); USDA Soil Import Permit (#P330-12-00236).

Any qualification or narration of results, including sample acceptance requirements and test exceptions to the above referenced programs, is presented in the Statement of Data Qualifications and Project Technical Narrative sections of this report. Estimates of analytical uncertainties and certification documents for the test results contained within this report are available upon request.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

James D. McFadden
Project Chemist

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TRIMATRIX LABORATORIES

PROJECT TECHNICAL NARRATIVE(s)

No Project Narrative is associated with this report.

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STATEMENT OF DATA QUALIFICATIONS

All analyses have been validated and comply with our Quality Control Program.
No Qualification is required.

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1310522**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**MW-2D**	Sampled:	10/25/13 10:20		
Lab Sample ID:	**1310522-01**	Sampled By:	R. Heslop		
Matrix:	Water	Received:	10/25/13 17:05		
Unit:	ug/L	Prepared:	10/31/13 9:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/31/13 13:52	By:	DLV
QC Batch:	1311662	Analytical Batch:	3K01009		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	<1.0	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*103*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*98*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1310522**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**MW-2D Duplicate**	Sampled:	10/25/13 10:20		
Lab Sample ID:	**1310522-02**	Sampled By:	R. Heslop		
Matrix:	Water	Received:	10/25/13 17:05		
Unit:	ug/L	Prepared:	10/31/13 9:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/31/13 14:20	By:	DLV
QC Batch:	1311662	Analytical Batch:	3K01009		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	<1.0	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*103*	*87-122*
Toluene-d8	*94*	*85-113*
4-Bromofluorobenzene	*97*	*82-110*

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TRIMATRIX LABORATORIES

ANALYTICAL REPORT

Client:	**Golder Associates, Inc. - MI**	Work Order:	**1310522**		
Project:	Belding Groundwater Monitoring	Description:	Laboratory Services		
Client Sample ID:	**Trip Blank**	Sampled:	10/25/13 0:00		
Lab Sample ID:	**1310522-03**	Sampled By:	TML		
Matrix:	Water	Received:	10/25/13 17:05		
Unit:	ug/L	Prepared:	10/31/13 9:00	By:	DLV
Dilution Factor:	1	Analyzed:	10/31/13 14:47	By:	DLV
QC Batch:	1311662	Analytical Batch:	3K01009		

Volatile Organic Compounds by EPA Method 8260B

CAS Number	Analyte	Analytical Result	RL
71-43-2	Benzene	<1.0	1.0
75-00-3	Chloroethane	<1.0	1.0
74-87-3	Chloromethane	<1.0	1.0
75-34-3	1,1-Dichloroethane	<1.0	1.0
75-35-4	1,1-Dichloroethene	<1.0	1.0
156-59-2	cis-1,2-Dichloroethene	<1.0	1.0
156-60-5	trans-1,2-Dichloroethene	<1.0	1.0
78-93-3	2-Butanone (MEK)	<5.0	5.0
127-18-4	Tetrachloroethene	<1.0	1.0
108-88-3	Toluene	<1.0	1.0
71-55-6	1,1,1-Trichloroethane	<1.0	1.0
79-00-5	1,1,2-Trichloroethane	<1.0	1.0
79-01-6	Trichloroethene	<1.0	1.0
75-01-4	Vinyl Chloride	<1.0	1.0

Surrogates:	***% Recovery***	***Control Limits***
Dibromofluoromethane	*97*	*85-118*
1,2-Dichloroethane-d4	*105*	*87-122*
Toluene-d8	*95*	*85-113*
4-Bromofluorobenzene	*96*	*82-110*

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B

QC Batch: 1311662 5030B Aqueous Purge & Trap/USEPA-8260B

Method Blank — Analyzed: 10/31/2013 By: DLV
Unit: ug/L — Analytical Batch: 3K01009

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Benzene			<1.0					1.0
Chloroethane			<1.0					1.0
Chloromethane			<1.0					1.0
1,1-Dichloroethane			<1.0					1.0
1,1-Dichloroethene			<1.0					1.0
cis-1,2-Dichloroethene			<1.0					1.0
trans-1,2-Dichloroethene			<1.0					1.0
2-Butanone (MEK)			<5.0					5.0
Tetrachloroethene			<1.0					1.0
Toluene			<1.0			–		1.0
1,1,1-Trichloroethane			<1.0					1.0
1,1,2-Trichloroethane			<1.0					1.0
Trichloroethene			<1.0					1.0
Vinyl Chloride			<1.0					1.0
Surrogates:								
Dibromofluoromethane				*94*	*85-118*			
1,2-Dichloroethane-d4				*101*	*87-122*			
Toluene-d8				*94*	*85-113*			
4-Bromofluorobenzene				*97*	*82-110*			

Laboratory Control Sample — Analyzed: 10/31/2013 By: DLV
Unit: ug/L — Analytical Batch: 3K01009

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Benzene		40.0	**39.9**	100	84-119	–		1.0
1,1-Dichloroethene		40.0	**39.6**	99	77-123	–		1.0
Toluene		40.0	**38.7**	97	85-118	–		1.0
Trichloroethene		40.0	**37.8**	94	82-119	–		1.0
Surrogates:								
Dibromofluoromethane				*97*	*85-118*			
1,2-Dichloroethane-d4				*102*	*87-122*			
Toluene-d8				*96*	*85-113*			

Continued on next page

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TRIMATRIX LABORATORIES

QUALITY CONTROL REPORT

Volatile Organic Compounds by EPA Method 8260B (Continued)

QC Batch: 1311662 (Continued) 5030B Aqueous Purge & Trap/USEPA-8260B

Laboratory Control Sample (Continued) — Analyzed: 10/31/2013 By: DLV
Unit: ug/L — Analytical Batch: 3K01009

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Surrogates (Continued):								
4-Bromofluorobenzene				*99*	*82-110*			

Matrix Spike 1310522-01 MW-2D — Analyzed: 10/31/2013 By: DLV
Unit: ug/L — Analytical Batch: 3K01009

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Benzene	<1.0	40.0	**43.8**	110	80-129	--		1.0
1,1-Dichloroethene	<1.0	40.0	**43.7**	109	74-134	--		1.0
Toluene	<1.0	40.0	**42.9**	107	79-129	--		1.0
Trichloroethene	<1.0	40.0	**41.6**	104	75-127	--		1.0
Surrogates:								
Dibromofluoromethane				*96*	*85-118*			
1,2-Dichloroethane-d4				*105*	*87-122*			
Toluene-d8				*96*	*85-113*			
4-Bromofluorobenzene				*101*	*82-110*			

Matrix Spike Duplicate 1310522-01 MW-2D — Analyzed: 10/31/2013 By: DLV
Unit: ug/L — Analytical Batch: 3K01009

Analyte	Sample Conc.	Spike Qty.	Result	Spike % Rec.	Control Limits	RPD	RPD Limits	RL
Benzene	<1.0	40.0	**42.6**	106	80-129	3	9	1.0
1,1-Dichloroethene	<1.0	40.0	**41.9**	105	74-134	4	11	1.0
Toluene	<1.0	40.0	**41.4**	103	79-129	4	9	1.0
Trichloroethene	<1.0	40.0	**40.3**	101	75-127	3	10	1.0
Surrogates:								
Dibromofluoromethane				*96*	*85-118*			
1,2-Dichloroethane-d4				*104*	*87-122*			
Toluene-d8				*96*	*85-113*			
4-Bromofluorobenzene				*98*	*82-110*			

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Chain of Custody Record

COC No. 12199

Pg. 1 of 1

For Lab Use Only	
Cart	-
VOA Rack/Tray	75-G
Receipt Log No.	31-17
Project Chemist	Jim McFadden
Work Order No.	1310522

Client Name	Golder Associates, Inc., MI
Address	15851S. US 27, Suite 50
City, State Zip	Lansing, MI 48906
Phone/Fax	D: 517-318-3250, F: 517-482-2460
Email:	Brad Johnson (brad_johnson@golder.com)
Project Name	Belding Groundwater Monitoring
Client Project No. / P.O. No.	
Invoice To	(●) Client ( ) Other (comments)
Contact/Report To	Brad Johnson

Analyses Requested

Volatiles (8260): D A C B C

Container Type (corresponds to Container Packing List)

⇦ PRESERVATIVES
A NONE pH~7
B HNO_3 pH<2
C H_2SO_4 pH<2
D 1+1 HCl pH<2
E NaOH pH>12
F ZnAc/NaOH pH>9
G MeOH
H Other (note below)

Schedule	Matrix Code	Sample Number		Field Sample ID	Cooler ID	Sample Date	Sample Time	COMP	GRAB	Matrix	1p									Total	Sample Comments
											Number of Containers Submitted										
		-01	1	MW-2D	HSE	10/25/13	1020		X		3										
		-02	2	MW-2D Dup	↓	10/25/13	1020		X		3										
		-03	3	Trip Blank		—	—				1										
			4																		
			5																		
			6																		
			7																		
			8																		
			9																		
			10																		

Sampled By (print): Ryan Heslop
Sampler's Signature: [signature]
Company: Golder

How Shipped? Hand ___ Carrier ___
Tracking No.

Comments: 3RL for VOCs (2RL for inorganics/metals). List of VOCs: Site specific list. Report Total inorganic and Total organic nitrogen on report. Email and Hard copy inv/report to Brad Johnson. cc: email inv to Golder AP.

Relinquished By	Date	Time	Received By	Date	Time
1. [signature]			1. Ryan Johnson	10-25-13	1545
2. Ryan Johnson	10-25-13	1705	2.		
3.			3. [signature]	10-25-13	1705

ORIGINAL - LABORATORY

COPY - FIELD/SAMPLER

Golder-Belding COC

10/22/2013

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TRIMATRIX LABORATORIES

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SAMPLE RECEIVING / LOG-IN CHECKLIST

TRIMATRIX LABORATORIES

Client: GOWER ASSOC.
Work Order #: 1310522
New / Add To
Receipt Record Page/Line #: 31-17
Project Chemist: JDR
Sample #s

Recorded by (initials/date): SN 10-25-13

Qty Received: 1

☑ Cooler ☐ Box ☐ Other

Thermometer Used: ☑ IR Gun (#202) ☐ Digital Thermometer (#54) ☐ Other (#____)

☐ See Additional Cooler Information Form

Cooler #	Time	Custody Seals	Coolant Location	Coolant/Temperature Taken Via	Alternate Temperature Taken Via	Recorded °C	Correction Factor °C	Actual °C
HSE	1755	☑ None; ☐ Present / Intact; ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers; ☑ Bagged Ice / Avg 2-3 containers; ☐ Blue Ice / Avg 2-3 containers; ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB); ☐ 1 Container			
Temp Blank								
TB location: Representative / Not Representative								
1	5.4					0		5.4
2	5.1					0		5.1
3	3.6					0		3.6
Average °C								4.7
☑ Cooler ID on COC?								
☑ VOC Trip Blank received?								

Cooler #	Time	Custody Seals	Coolant Location	Coolant/Temperature Taken Via	Alternate Temperature Taken Via	Recorded °C	Correction Factor °C	Actual °C
		☐ None; ☐ Present / Intact; ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers; ☐ Bagged Ice / Avg 2-3 containers; ☐ Blue Ice / Avg 2-3 containers; ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB); ☐ 1 Container			
Temp Blank								
TB location: Representative / Not Representative								
1								
2								
3								
Average °C								
☐ Cooler ID on COC?								
☐ VOC Trip Blank received?								

Cooler #	Time	Custody Seals	Coolant Location	Coolant/Temperature Taken Via	Alternate Temperature Taken Via	Recorded °C	Correction Factor °C	Actual °C
		☐ None; ☐ Present / Intact; ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers; ☐ Bagged Ice / Avg 2-3 containers; ☐ Blue Ice / Avg 2-3 containers; ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB); ☐ 1 Container			
Temp Blank								
TB location: Representative / Not Representative								
1								
2								
3								
Average °C								
☐ Cooler ID on COC?								
☐ VOC Trip Blank received?								

Cooler #	Time	Custody Seals	Coolant Location	Coolant/Temperature Taken Via	Alternate Temperature Taken Via	Recorded °C	Correction Factor °C	Actual °C
		☐ None; ☐ Present / Intact; ☐ Present / Not Intact	Dispersed / Top / Middle / Bottom	☐ Loose Ice / Avg 2-3 containers; ☐ Bagged Ice / Avg 2-3 containers; ☐ Blue Ice / Avg 2-3 containers; ☐ None / Avg 2-3 containers	☐ Temperature Blank (TB); ☐ 1 Container			
Temp Blank								
TB location: Representative / Not Representative								
1								
2								
3								
Average °C								
☐ Cooler ID on COC?								
☐ VOC Trip Blank received?								

If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form

Paperwork Received

Yes	No	
☑	■	Chain of Custody record(s)? If No, Initiated By ____
☑		Received for Lab Signed/Date/Time?
☐	☑	Shipping document?
☐	☑	Other ____

COC Information

☑ TriMatrix COC ☐ Other ____

COC ID Numbers: 12199

Check Sample Preservation

N/A	Yes	No	
	☑	☐	Average sample temperature ≤6° C?
☑	■	☐	Was thermal preservation required?
☑	☐		If "No", Project Chemist Approval Initials: ____
☑	☐		If "Yes" Completed Non Con Cooler - Cont Inventory Form?
☑	☐		Completed Sample Preservation Verification Form?
☑	☐	■	Samples chemically preserved correctly?
☑	☐		If "No", added orange tag?
	☐	☑	Received pre-preserved VOC soils? ☐ MeOH ☐ Na_2SO_4

Check COC for Accuracy

Yes	No	
☑	☐	Analysis Requested?
☑	■	Sample ID matches COC?
☑	■	Sample Date and Time matches COC?
☑		Container type completed on COC?
☑	■	All container types indicated are received?

Check for Short Hold-Time Prep/Analyses

☐ Bacteriological
☐ Air Bags
☐ EnCores / Methanol Pre-Preserved
☐ Formaldehyde/Aldehyde
☐ Green-tagged containers
☐ Yellow/White-tagged 1L ambers (SV Prep-Lab)

AFTER HOURS ONLY:
COPIES OF COC TO LAB AREA(S)
☑ NONE RECEIVED
☐ RECEIVED, COCs TO LAB(S)

Sample Condition Summary

N/A	Yes	No	
	■	☑	Broken containers/lids?
	■	☑	Missing or incomplete labels?
	■	☑	Illegible information on labels?
	■	☑	Low volume received?
	■	☑	Inappropriate or non-TriMatrix containers received?
☐	■	☑	VOC vials / TOX containers have headspace?
☑	■	☐	Extra sample locations / containers not listed on COC?

Notes

☑ Trip Blank received ☐ Trip Blank not listed on COC

Cooler Received (Date/Time)	Paperwork Delivered (Date/Time)	≤1 Hour Goal Met?
SN 10-25-13	10-25-13	Yes / No

Log In Forms - Receiving.Log-In_Checklist

revision: 3.4

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