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October 16, 2014

Mr. Robert H. Klauk
Hydrogeologist
Remediation & Redevelopment Program
Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, WI 54313-6727

Subject: Status Update of Closure Request
Historic Spills by SpecialtyChem at the Tyco Fire Products LP – Ansul Facility
Marinette, Wisconsin
WDNR BRRS # 02-38-000186

Dear Mr. Klauk:

LANXESS Corporation (LANXESS) submitted a request for closure for BRRS #02-38-000186 to Wisconsin Department of Natural Resources (WDNR) on May 10, 2012. WDNR responded to LANXESS in a letter dated June 19, 2012 denying closure and requesting that LANXESS take further action, including collection of additional groundwater samples from specific site monitoring wells and issuance of written notice to Tyco (the property owner) per Section NR 726.05(2)(b)4, Wis. Adm. Code. On behalf of LANXESS, and as specified in WDNR's June 19, 2012 letter, TRC Environmental Corporation has prepared this letter to confirm that the necessary requirements for closure have been met and to once again request that WDNR grant closure for the specific referenced historic spill locations identified herein.

Background

As described in detail in the May 2012 Closure Request submittal, the Tyco Fire Products LP (Tyco) facility is a complex site with a long history of chemical manufacturing. This spills closure request only applies to a small portion of this much larger entity. During our conference call with WDNR following closure denial in 2013, it was evident that there was confusion within the closure committee as to the project status within the various entities involved. We wish to clarify LANXESS' involvement:

- The spills covered by the May 10, 2012 closure request occurred over a period of approximately six years (1987-1993) when SpecialtyChem (and a subsidiary – ChemDesign), a lessee of certain buildings at the facility, was owned by the Bayer Corporation. Spill response actions taken by SpecialtyChem at the time of each spill event included stopping the source of the release, use of absorbent pads and/or materials to clean up released material, and hand excavation of impacted media where appropriate. In 2004, LANXESS purchased Bayer Corporation’s chemical manufacturing operations that included liability for the SpecialtyChem spills from the period 1987-1993.
- There are currently 22 spills associated with SpecialtyChem currently listed as Open by WDNR and each have an identification number in BRRTS. Each of these spill locations are discrete, limited areas within the footprint of the property. This closure request is for a No Further Action (NFA) determination for Historic Spills as described in the WDNR document *Understanding Historic Spills* (ReNews September 2009). Each of these spills are summarized in Table 1 (attached).
- Previously, the Spills Coordinator for the project, Mr. Jason Moeller, suggested BRRTS #02-38-000186 be used to as a “catch all” for these historic spills to avoid duplication of efforts (i.e. issuance of a separate NFA for each spill). This may have led to some confusion. It was LANXESS’ intent to obtain a NFA determination for the 22 historic spills and it is unclear if obtaining closure under NR726 is required in this case.
- The facility is currently owned by Tyco and has been in operation in various capacities for 100 years. Many of the same chemicals associated with the 22 historic SpecialtyChem spills were also used at other locations on the site, by other entities, over many years. Constituents of concern at the site include metals (including arsenic) and volatile organic compounds (VOCs). LANXESS is not responsible for the impacts at the site that are not related to the 22 discrete, historic SpecialtyChem spills.
- According to records reviewed by TRC, Tyco worked closely with WDNR and spent approximately \$17M to address groundwater contamination at the facility that included:
 - construction of 4,500 linear feet of slurry and sheet pile walls that completely encompass the facility (including the SpecialtyChem spill areas) to prevent off-site migration of contaminated groundwater to adjacent properties and the river,

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- planting of over 700 trees in three phytoremediation areas, and
- installation of a groundwater pump-and-treat system within the containment area.

We further understand that Tyco has implemented deed restrictions and institutional controls as part of the remediation process for the site that restrict groundwater use, limit the use of the property, and require operation and maintenance of the remedial system, including the groundwater control system (cutoff wall and groundwater pumping system) and surface pavement.

LANXESS issued an “Appendix A” letter dated January 28, 2013 that notified Tyco Fire Protection Products (the site owners) of their responsibilities to maintain existing containment measures (including barrier walls and impervious surfaces) in support of the Cover Maintenance Plan (see Attachment G.4 of the Closure Request). WDNR was copied on the letter. The letter also:

- Informed Tyco that temporary well TW-2 was covered during remedial activity and must be abandoned, if located in the future.
- Confirmed that Tyco must maintain existing paved surfaces throughout the property.
- Confirmed that Tyco must maintain the property as an industrial property.

To our knowledge, all of the requirements specified in the Appendix A letter are consistent with how Tyco presently manages (and must continue to manage) the property under its site-wide RCRA corrective action program. Tyco did not respond to LANXESS regarding the January 28, 2013 “Appendix A” letter.

Groundwater Monitoring Results

TRC, on behalf of LANXESS, has completed the groundwater sampling requested by WDNR as part of the closure denial dated June 19, 2012 and subsequent discussions with the agency. TRC collected groundwater samples from MW-11S, MW-41S, MW-45S, MW-45M, and TW-1 on August 28, 2014. Samples were analyzed by Pace Analytical Services, Inc. (Pace) for volatile organic compounds (VOCs) by EPA Method 8260. Analytical results were received on September 4, 2014 are discussed below and included as Attachment 1.



Table 2 summarizes the concentrations of VOCs detected in the groundwater. Figure 1 shows the locations of the monitoring wells and the spill areas referred to in the Closure Request. Constituents detected in groundwater that may be related to the spills are: 1,2-dichlorobenzene, methylene chloride, toluene, and xylenes. Constituents detected in groundwater at the site not related to the 22 historic spills include chlorinated volatile organic compounds (CVOCs) such as cis 1,2-dichloroethene (DCE), ethylbenzene, trichloroethene (TCE), and vinyl chloride (VC) and fuel-related aromatics (benzene, toluene, and ethylbenzene). The results from the August 2014 monitoring are summarized as follows:

- **MW-11S** – This well was last sampled in 2000 and is adjacent to Spill Area N, which included two spills of methylene chloride and one of xylenes. Neither compound was detected in 2000 or 2014. Non-spill related VOCs detected include benzene, chlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, and toluene.
- **MW-41S** – This well was sampled nine times over a 14 year period. The well is in proximity to methylene chloride and xylene spill areas H and I. Groundwater sample results have shown decreasing concentrations of methylene chloride (560 µg/L in 2000 to 7.9 µg/L in 2014). Xylenes have also decreased from a maximum concentration of 14,640 µg/L in 2011 to 5,780 µg/L in 2014. Other (non-spill related) compounds showing decreasing concentrations include 1,2-dichlorobenzene, chlorobenzene, cis 1,2-DCE, ethylbenzene, toluene, TCE, and VC.
- **MW-45S** – This well is also located near the H and I (methylene chloride and xylenes) spill areas. Methylene chloride concentrations have decreased from 560 µg/L in 2000 to 26.1 µg/L in 2014. Xylenes have also decreased from a maximum concentration of 7,990 µg/L in 2010 to 4,360 in 2014. Many other (non-spill related) VOCs in groundwater from this well have also decreased including 1,2-dichlorobenzene, cis-1,2 DCE, ethylbenzene, toluene, TCE, and VC. Chlorobenzene, which is not related to the Area H and I spills, increased in concentration in this well.
- **MW-45M** – This well is the only medium (approximately 30 feet below ground surface) depth well sampled during this monitoring event. VOC concentrations at depth are generally lower than in monitoring wells screened in the shallow (S suffix) groundwater. Concentrations of methylene chloride have fluctuated between 69 µg/L and 140 µg/L over the 14 year sampling period, and xylenes have been detected but at concentrations well below the ES (2,000 µg/L). Concentrations of other (non-spill related) VOCs have increased including: benzene, chlorobenzene, cis 1,2-DCE, toluene, TCE, and VC.

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- **TW-1** – this well is located near the center of Spill Area I where methylene chloride and xylenes are the primary constituents of concern. Concentrations of methylene chloride have remained below detectable limits since the well was installed in 2006. Xylene concentrations increased from 1,200 µg/L in 2006 to 65,400 µg/L in 2011, but decreased markedly in 2014 to 41.4 µg/L. Other (non-spill related) VOCs detected above the ES in this well include fuel-related components such as benzene, ethylbenzene, and toluene – all of which showed increasing concentrations from 2006 to 2011. This suggests the xylene concentrations detected in this well may be partially associated with a release of fuel and are not related to the SpecialtyChem spills.

Analytical results from groundwater samples indicate concentrations of the constituents associated with the SpecialtyChem spills are stable-to-declining as expected with the age of the releases and natural attenuation of the constituents. Decreasing concentrations are likely to continue as contaminated groundwater within the containment area is withdrawn by transpiration and Tyco's operation of the groundwater extraction system and replaced by infiltrating precipitation.

Closing and Recommendations


With submittal of the Appendix A letter to Tyco and completion of groundwater sampling described herein, LANXESS has completed the additional site work requested by WDNR to obtain NFA determination for these historic spills. With these actions we petition the WDNR to grant an NFA determination for these spills and that the site be listed on the WDNR Remediation and Redevelopment GIS Registry. LANXESS requests that the contents of this letter and the Appendix A letter previously forwarded to you, when combined with the information provided in the May 2012 Closure Request document, is sufficient to move this request forward without re-issue of the Closure Request document. Moreover, as the site-wide remedial action program implemented by Tyco is under the oversight of U.S. EPA and WDNR, it is designed to remain effective going forward and operation and maintenance of the remedial systems is assured.

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We thank you for your consideration of this matter. If you have any questions that could impact the NFA determination of these spills, please contact me at your earliest convenience.

Sincerely,

TRC Environmental Corporation


James Wedekind, P.G.
Senior Hydrogeologist

Attachments: Table 1 – Spill Summary and Recommendations
Table 2 – Summary of Detected Volatile Organic Compounds (VOCs)
Figure 1- Site Map Showing Relevant Monitoring Wells
Attachment 1 – Laboratory Analytical Results

cc: John Scrabis (LANXESS Corporation)

**Table 1
Spill Summary and Recommendations**

BRRTS (RFI) SPILL NUMBER	DATE	INCIDENT	AMOUNT RELEASED	CLEANUP ACTIVITY DESCRIBED IN THE SPILL REPORT OR SPECIALTYCHEM COMMUNICATIONS	REGULATORY EXCEEDENCES FOR SPILLED COMPOUND		DISCUSSION	RECOMMENDATION
					SOIL	GROUNDWATER		
Vapor-Phase Releases								
04-38-043038 NA	8/18/1988	Methylene chloride release	200 lb	Not described	NS	NS	Compound dissipated to atmosphere.	Spill closure
04-38-052133 (11)	11/9/1988	Hydrogen chloride and sulfur dioxide release	100 lb HCl, 100 lb SO ₂					
04-38-043682 NA	5/15/1989	Steam with xylene and sulfuric acid	500 gal xylene					
04-38-043993 NA	8/21/1989	Sulfur dioxide release	40 - 50 lb					
04-38-044023 NA	8/28/1989	Sulfur dioxide release	2000 lb					
Acid Spill in Drum Storage Area								
04-38-043561 NA	4/9/1989	Hydrochloric acid spill	400 lb	Neutralized with sodium bicarbonate and picked up. Spill occurred on a concrete surface.	NS	NS	Reactive substance readily degraded in the environment.	Spill closure
Areas H & I – Still Building (Building 62)/Drum Storage Area/Building 38								
No BRRTS # (9)	8/23/1988	Xylene (methylamine) release and spill	Unknown	Not described.	Area H – Total xylenes (up to 14,100 mg/kg) exceed the RCL of 258 mg/kg	MW041 and MW045 – Xylenes (up to 14,640 µg/L) exceed the ES (2,000 µg/L) in MW041S.	The residual xylene that is present in the soil has caused a localized ES exceedence in the groundwater.	Spill closure due to containment measures and institutional controls.
04-38-042927 (7)	7/15/1988	Methylene chloride spill	35 gal	Absorbed and picked up.	Area I – Methylene chloride was detected in one sample at a concentration of 0.63 mg/kg, which is below the RCL of 14.6 mg/kg. No other detections were reported; however, the detection limits for the other samples were elevated.	MW041 and MW045 – Methylene chloride concentrations in the shallow and intermediate level groundwater exceed the ES. Concentrations have decreased in MW041S, but have increased in MW041M	Methylene chloride appears to be a site-wide issue, with methylene chloride ES exceedences present in 10 wells (MW004, MW005, MW010, MW029, MW033, MW041, MW044, MW045, MW050, and MW051). With the exception of MW041, MW044, and MW045, these wells are not downgradient from reported SpecialtyChem methylene chloride spills. Most notably, the methylene chloride concentration in the shallow groundwater at MW050 (2,700 µg/L), which is 800 feet sidegradient from the location of Spill No. 7, is higher than at MW041 and MW045.	Spill closure due to containment measures and institutional controls.

Table 1 (continued)
Spill Summary and Recommendations

BRRTS (RFI) SPILL NUMBER	DATE	INCIDENT	AMOUNT RELEASED	CLEANUP ACTIVITY DESCRIBED IN THE SPILL REPORT OR SPECIALTYCHEM COMMUNICATIONS	REGULATORY EXCEEDENCES FOR SPILLED COMPOUND		DISCUSSION	RECOMMENDATION
					SOIL	GROUNDWATER		
04-38-044170 (17)	10/25/1989	Xylene spill	25 gal	Absorbed and picked up.	Area I – Total xylenes (up to 10,300 mg/kg) exceed the RCL (258 mg/kg).	MW041 and MW045 – Xylenes (up to 14,640 µg/L) exceed the ES (2,000 µg/L) in MW041S.	The residual xylene that is present in the soil has caused a localized ES exceedence in the groundwater.	Spill closure due to containment measures and institutional controls.
04-38-045340 (21)	12/27/1990	Ortho xylene spill	15 gal	Absorbed and picked up.				
No BRRTS # (23)	3/6/1991	Ortho xylene spill	30 – 40 gal	Absorbed and picked up.				
No BRRTS # (26)	8/22/1991	Xylene spill	20 gal	Absorbed and picked up.				
Areas L & M – East of Buildings 83 and 84								
04-38-043872 (13)	7/11/1989	Toluene spill	10 gal	Contained/Recovered	Toluene detected in 7 of 10 samples. Maximum concentration of 3.2J mg/kg. RCL is 818 mg/kg.	GW008 – Toluene detected in GW008M at 0.48J µg/L. Concentration <3.6 µg/L in GW008S. ES is 800 µg/L.		Spill closure.
04-38-043986 (14)	8/18/1989	Hydrogen peroxide spill	20 gal	Diluted with water.	Area L – No hydrogen peroxide analyses.	GW008 – No hydrogen peroxide analyses performed on groundwater.	Hydrogen peroxide and sulfuric acid are reactive substances readily degraded in the environment. Area M - Soil pH ranges from 8.4 to 10.2, which does not indicate a significant acid release.	Spill closure.
No BRRTS # (2)	7/20/1987	Sulfuric acid spill	100 gal	Neutralized with limestone and picked up. Spill occurred on an asphalt surface.				
04-38-042830 (5)	6/9/1988	Sulfuric acid spill	400 lb	Neutralized with limestone and picked up. Spill occurred on an asphalt surface.				
04-38-042960 (8)	7/27/1988	Sulfuric acid spill	50 – 100 gal	Material contained on a roof. Pumped to a tank.				
Area N – South and West of Building 69								
04-38-042653 (4)	4/6/1988	Dimethyl formamide spill (DMF)	15 gal	Water pumped to treatment plant. Impacted soil to be removed.	Area N – No DMF was detected in soil.	GW044 – No DMF analyses conducted.	No detections of spilled constituent in soil.	Spill closure due to containment measures and institutional controls.
04-38-042923 (6)	7/14/1988	Methylene chloride spill	60 gal	Absorbed and picked up.	Methylene chloride concentrations near the reported spill locations ranged from nondetect to 0.022 mg/kg, which are below the RCL (14.6 mg/kg).	GW044 – Methylene chloride concentrations are consistently below the ES.	Elevated methylene chloride concentrations (2.0 mg/kg) are present in the soil to the south of Building 69; however, this is not near the two reported methylene chloride spills (No. 6 and No. 16).	Spill closure due to containment measures and institutional controls.

Table 1 (continued)
Spill Summary and Recommendations

BRRTS (RFI) SPILL NUMBER	DATE	INCIDENT	AMOUNT RELEASED	CLEANUP ACTIVITY DESCRIBED IN THE SPILL REPORT OR SPECIALTYCHEM COMMUNICATIONS	REGULATORY EXCEEDENCES FOR SPILLED COMPOUND		DISCUSSION	RECOMMENDATION
					SOIL	GROUNDWATER		
04-38-043130 (10)	9/21/1988	2-ethyl phenol spill	35 gal	Contained and recovered	2-ethyl phenol detected in 1 of 13 samples at 0.11 mg/kg.	GW044 – 2-ethyl phenol not detected.	No RCL for 2-ethyl phenol. No detections in groundwater and one detection near the detection limit suggest <i>de minimis</i> impact.	Spill closure.
04-38-044092 (16)	9/20/1989	Methylene chloride spill	35 gal	Absorbed and picked up with impacted soil.	Methylene chloride concentrations near the reported spill locations ranged from nondetect to 0.022 mg/kg, which are below the RCL (14.6 mg/kg).	GW044 –Methylene chloride concentrations are consistently below the ES.	Elevated methylene chloride concentrations (2.0 mg/kg) are present in the soil to the south of Building 69; however, this is not near the two reported methylene chloride spills (No. 6 and No. 16).	Spill closure due to containment measures and institutional controls.
04-38-044197 (18)	11/6/1989	Sodium hydroxide spill	150 gal	Neutralized and collected residue. Spill occurred on an asphalt surface.	No analysis performed.	No analysis performed.	Sodium hydroxide is a reactive substance readily degraded in the environment.	Spill closure.
04-38-045372 (22)	1/8/1991	Sodium hydroxide spill	200 lb	Neutralized and collected residue. Spill occurred on an asphalt surface.				
Area O – South of Building 70								
04-38-052213 (15)	8/22/1989	2,1,5 Diazo salt spill (NAS 5)	700 lb	Contained on an impervious surface and pumped to a dike and then a tank for final disposition. Spill occurred on an asphalt surface.	Area O – 2,1,5 Diazo salt is present at concentrations up to 25 mg/kg. There is no regulatory standard.	No analysis performed.	No regulatory standards for 2,1,5-diazo salt. Diazo salt is a solid at standard temperature and pressure, and is hazardous because of flammability.	Spill closure due to containment measures and institutional controls.
Areas P & Q – North and East of Building 52								
No BRRTS # (3)	2/2/1988	AP5 process wastewater spill (Xylene)	100 gal	Absorbed and picked up. Spill occurred on a concrete surface.	Area P – Total xylenes (up to 98 mg/kg) are below the RCL (258 mg/kg).	GW010 – Total xylenes in the shallow well (2,020 µg/L) exceed the ES (2,000 µg/L).	The residual xylene that is present in the soil has not caused ES exceedences in the groundwater.	Spill closure due to containment measures and institutional controls.
No BRRTS # (12)	3/9/1989	Methyl isobutyl ketone spill (MIBK)	5 – 10 gal	Absorbed and picked up. Spill occurred on a concrete surface.	Area P – MIBK detected in 1 of 12 samples (up to 0.730 mg/kg) does not exceed the RCL of 3,360 mg/kg.	GW010 – MIBK was not detected in the shallow groundwater. The concentration of MIBK in the mid-level well (10J µg/L) does not exceed the ES (500 µg/L).	No regulatory exceedences for MIBK at the source area. Exceedences of MIBK near Areas H and I suggest other sources present at the facility.	Spill closure due to containment measures and institutional controls.

Table 1 (continued)
Spill Summary and Recommendations

BRRTS (RFI) SPILL NUMBER	DATE	INCIDENT	AMOUNT RELEASED	CLEANUP ACTIVITY DESCRIBED IN THE SPILL REPORT OR SPECIALTYCHEM COMMUNICATIONS	REGULATORY EXCEEDENCES FOR SPILLED COMPOUND		DISCUSSION	RECOMMENDATION
					SOIL	GROUNDWATER		
04-38-045164 (19)	10/9/1990 (8/7/1990 – date listed in RFI and on WDNR spill report)	Orthodichlorobenzene (1,2-dichlorobenzene) spill	50 – 100 gal	Absorbed and picked up.	Area Q – 1,2 dichlorobenzene (up to 93 mg/kg) does not exceed the RCL of 376 mg/kg.	GW010 – 1,2-dichlorobenzene in shallow groundwater (2,900 µg/L) exceeds the ES (600 µg/L) 1,2-dichlorobenzene in the mid-level well (35 µg/L) is below the ES.	Elevated concentrations of 1,2-dichlorobenzene were found 300 to 400 feet upgradient from Spill No. 19 in the shallow groundwater at GW011 and in the mid-depth groundwater at GW012 (750 µg/L and 1,900 µg/L, respectively). An elevated concentration of 1,2-dichlorobenzene is also present in the shallow groundwater at GW045 (1,400 µg/L), which is located 750 feet sidegradient from GW010. None of these three wells (GW011, GW012, and GW045) is near a reported SpecialtyChem spill of 1,2-dichlorobenzene.	Spill closure due to containment measures and institutional controls.
No BRRTS # (24)	3/8/1991	Chloroacetaldehyde dimethyl acetal (CADMA) 97-97-2	10 gal	Absorbed and picked up.	Area Q - CADMA detected in two of 14 samples at 0.92 mg/kg and 24 mg/kg.	GW010 - No analyses for CADMA.	No regulatory standards for CADMA.	Spill closure.
04-38-046747 (27)	1/26/1992	Butyl alcohol spill (Butanol)	200 – 300 gal	Absorbed and picked up.	Area Q - No butyl alcohol analyses.	No analysis performed.	Reactive substance readily degraded in the environment.	Spill closure.

Notes:

NA = spill either a vapor or reactive chemical not assessed in RFI (URS, 2001).

NS = no regulatory standard.

⁽¹⁾ Spill numbers are based on the online WDNR BRRTS listing and the RFI (URS, 2001) spill closure list.

⁽²⁾ Chemical data for soil and groundwater were obtained from the RFI report for the Ansul facility (URS, 2001). Soil exceedences are based on comparison of the site data to current WDNR NR 720 Residual Contaminant Levels. Groundwater exceedences are based on a comparison of the site data to WDNR NR 140 Enforcement Standards (ESs).

Table 2
Summary of Detected Volatile Organic Compounds (VOCs)
Historic SpecialtyChem Spills, Marinette, Wisconsin

CONSTITUENT (µg/L)	ES (µg/L)	PAL (µg/L)	MW-11S	
			9/11/2000	6/7/2014
1,2-Dichlorobenzene	600	60	730	145
1,4-Dichlorobenzene	75	15	95	56.8
Benzene	5	0.5	<9.2	11.6
Chlorobenzene	100	20	390	482
Chloromethane	3	0.3	< 9	<2.0
cis-1,2-Dichloroethene	70	7	NA	<1.0
Ethylbenzene	700	140	<11	<2.0
Methylene chloride	5	0.5	<9	<0.93
Methyl-tert-butyl-ether	60	12	NA	<0.7
Naphthalene	100	10	<14	<10.0
Toluene	800	160	<9	<2.0
Trichloroethene	5	0.5	<8.4	< 1.3
Vinyl chloride	0.2	0.02	<7.7	< 0.7
Xylene, o	--	--	<9.8	<2.0
Xylene, m + p	--	--	<20	<4.0
Xylene, total	2,000	400	<20	<4.0

Notes:

Q or J = the analyte was detected between the Limit of Detection (LOD) and the Limit of Quantitation (LOQ).

NA = not analyzed.

-- = not available.

Bold = Indicates that the detected value exceeds the Enforcement Standard (ES).

PAL = WDNR Preventive Action Limit.

ES = Wisconsin Department of Natural Resources (WDNR) Enforcement Standard.

Table 2 (continued)
 Summary of Detected Volatile Organic Compounds (VOCs)
 Historic SpecialtyChem Spills, Marinette, Wisconsin

CONSTITUENT (µg/L)	ES (µg/L)	PAL (µg/L)	MW-41S								
			9/21/2000	6/7/2006	11/29/2006	8/30/2007	5/5/2008	10/29/2009	10/26/2010	10/25/2011	8/28/2014
1,2-Dichlorobenzene	600	60	270	480	730	520	283	224	419	427	144
1,4-Dichlorobenzene	75	15	< 38	< 120	<190	< 95	< 38.0	<38.0	<95	<95	<5.0
Benzene	5	0.5	< 37	< 51	<82	< 41	38.2 Q	25.6J	45.6J	<41	22.7
Chlorobenzene	100	20	440	880	1200	1,000	1,170	658	1,280	997	371
Chloromethane	3	0.3	< 36	< 30	<48	< 24	< 9.6	<9.6	<24	<24	<5.0
cis-1,2-Dichloroethene	70	7	NA	120 Q	<170	< 83	321	<33.2	116	<83	11.4
Ethylbenzene	700	140	1,100	2,200	2,200	1,800	2,080	1,860	2,030	2,270	465
Methylene chloride	5	0.5	560	160 Q	220 Q	120 Q	33.7 Q	51.7	52.7J	57.3Q	7.9J
Methyl-tert-butyl-ether	60	12	NA	< 76	<120	< 61	< 24.4	<24.4	<61	<61	<1.7
Naphthalene	100	10	< 58	< 92	<150	160 Q	< 29.6	<35.6	<89	<89	<25.0
Toluene	800	160	6,600	12,000	16,000	12,000	4,360	4,300	4,120	5,300	776
Trichloroethene	5	0.5	170	110Q	190 Q	110 Q	26.3 Q	31.2J	<48	59	5.8J
Vinyl chloride	0.2	0.02	40 J	< 22	<36	< 18	36.6	<7.2	<18	<18	2.7J
Xylene, o	–	–	1,200	4,500	6,400	5,500	1,810	2,570	2,980	4,760	1,370
Xylene, m + p	–	–	3,800	8,500	7,200	6,200	6,960	8,440	10,100	9,880	4,410
Xylene, total	2,000	400	5,000	13,000	13,600	11,700	8,770	11,010	13,080	14,640	5,780

Notes:

Q or J = the analyte was detected between the Limit of Detection (LOD) and the Limit of Quantitation (LOQ).

NA = not analyzed.

– = not available.

Bold = Indicates that the detected value exceeds the Enforcement Standard (ES).

PAL = WDNR Preventive Action Limit.

ES = Wisconsin Department of Natural Resources (WDNR) Enforcement Standard.

Table 2 (continued)
 Summary of Detected Volatile Organic Compounds (VOCs)
 Historic SpecialtyChem Spills, Marinette, Wisconsin

CONSTITUENT (µg/L)	ES (µg/L)	PAL (µg/L)	MW-45S								
			9/21/2000	6/7/2006	11/29/2006	8/30/2007	5/5/2008	10/29/2009	10/26/2010	10/25/2011	8/28/2014
1,2-Dichlorobenzene	600	60	1,400	2,100	2,200	2,100	2,130	1,940	2,350	2,670	1,160
1,4-Dichlorobenzene	75	15	46 J	< 48	80 Q	53 Q	70.7 Q	74.7	86.5	89.3	77.8
Benzene	5	0.5	45 J	51 Q	61 Q	41 Q	48.8	58.5	76.8	89.9	77.9
Chlorobenzene	100	20	950	2,800	2,900	2,900	3,300	3,120	4,010	3,980	5,180
Chloromethane	3	0.3	< 18	< 12	<12	< 9.6	18.6 Q	<9.6	<12	<12	<25.0
cis-1,2-Dichloroethene	70	7	NA	470	420	290	346	454	491	560	131
Ethylbenzene	700	140	300	880	870	840	1,070	960	1,130	953	859
Methylene chloride	5	0.5	560	190	190	120	128	194	99.6	85.7	26.1J
Methyl-tert-butyl-ether	60	12	NA	< 30	<30	< 24	< 15.2	<24.4	<30.5	<30.5	<8.7
Naphthalene	100	10	< 29	170	<37	< 30	< 18.5	<35.6	<44.5	<44.5	<125
Toluene	800	160	2,500	7,000	5,800	4,600	4,750	4,770	3,860	3,050	793
Trichloroethene	5	0.5	380	560	600	470	469	204	254	209	<16.5
Vinyl chloride	0.2	0.02	37 J	39	37	18 Q	31.1	32.3J	40.7	30.6	14.4J
Xylene, o	--	--	270	2,900	2,700	3,000	3,930	3,630	4,300	3,860	1,570
Xylene, m + p	--	--	720	2,800	2,700	2,800	3,510	3,060	3,690	3,380	2,790
Xylene, total	2,000	400	990	5,700	5,400	5,800	7,440	6,690	7,990	7,240	4,360

Notes:

Q or J = the analyte was detected between the Limit of Detection (LOD) and the Limit of Quantitation (LOQ).

NA = not analyzed.

-- = not available.

Bold = Indicates that the detected value exceeds the Enforcement Standard (ES).

PAL = WDNR Preventive Action Limit.

ES = Wisconsin Department of Natural Resources (WDNR) Enforcement Standard.

Table 2 (continued)
 Summary of Detected Volatile Organic Compounds (VOCs)
 Historic SpecialtyChem Spills, Marinette, Wisconsin

CONSTITUENT (µg/L)	ES (µg/L)	PAL (µg/L)	MW-45M								
			9/21/2000	6/7/2006	11/29/2006	8/30/2007	5/5/2008	10/29/2009	10/26/2010	10/25/2011	8/28/2014
1,2-Dichlorobenzene	600	60	15	< 42	13 Q	8.9 Q	< 83.0	10.1	13.7	41.9	241
1,4-Dichlorobenzene	75	15	< 3.8	< 48	<9.5	<4.8	< 95.0	<2.4	<9.5	<4.8	<5.0
Benzene	5	0.5	5.2 J	< 20	8.8 Q	6.4 Q	< 41.0	10.1	10.9	12.8	22.8
Chlorobenzene	100	20	15	< 20	18	17	< 41.0	24.5	33	66.7	221
Chloromethane	3	0.3	< 3.6	< 12	<2.4	< 1.2	< 24.0	<0.60	<2.4	< 1.2	<5.0
cis-1,2-Dichloroethene	70	7	NA	87 Q	130	110	138 Q	160	164	214	309
Ethylbenzene	700	140	< 4.3	< 27	<5.4	< 2.7	< 54.0	1.6J	<5.4	3.4J	17
Methylene chloride	5	0.5	91	71 Q	74	69	140 Q	90.2	94.5	98.9 Q	99
Methyl-tert-butyl-ether	60	12	NA	< 30	<6.1	< 3.0	< 61.0	<1.5	<6.1	< 3.0	<1.7
Naphthalene	100	10	< 5.8	< 37	<7.4	< 3.7	< 74.0	<2.2	<8.9	<4.4	<25.0
Toluene	800	160	36	< 34	38	33	< 67.0	49.2	61.6	86.2	225
Trichloroethene	5	0.5	250	380	500	480	667	673	804	1,030	1,580
Vinyl chloride	0.2	0.02	17	14 Q	20	17	< 18.0	37.7	41.4	45.1	54.4
Xylene, o	--	--	< 3.9	< 42	<8.3	< 4.1	< 83.0	2.8	<8.3	7.3	52.8
Xylene, m + p	--	--	< 7.8	< 90	<18	< 9.0	< 180	<4.5	<9	<9	38
Xylene, total	2,000	400	< 11.7	< 132	<26.3	< 13.1	< 263	2.8	<17.3	7.3	90.8

Notes:

Q or J = the analyte was detected between the Limit of Detection (LOD) and the Limit of Quantitation (LOQ).

NA = not analyzed.

-- = not available.

Bold = Indicates that the detected value exceeds the Enforcement Standard (ES).

PAL = WDNR Preventive Action Limit.

ES = Wisconsin Department of Natural Resources (WDNR) Enforcement Standard.

Table 2 (continued)
Summary of Detected Volatile Organic Compounds (VOCs)
Historic SpecialtyChem Spills, Marinette, Wisconsin

CONSTITUENT (µg/L)	ES (µg/L)	PAL (µg/L)	TW-1						
			6/8/2006	11/29/2006	8/30/2007	5/5/2008	10/29/2009	10/25/2011	8/28/2014
1,2-Dichlorobenzene	600	60	< 4.1	< 83	< 83	< 104	<83.0	<332	<0.5
1,4-Dichlorobenzene	75	15	< 4.8	< 95	< 95	< 119	<95.0	<380	<0.5
Benzene	5	0.5	17	< 41	< 41	< 51.2	<41.0	<164	<0.5
Chlorobenzene	100	20	< 2.0	< 41	< 1	< 51.2	<41.0	<164	<0.5
Chloromethane	3	0.3	25	< 24	< 24	< 30	<24.0	<96	<0.5
cis-1,2-Dichloroethene	70	7	< 4.1	< 83	< 83	< 104	<83.0	<332	<0.26
Ethylbenzene	700	140	260	6,900	7,400	5,700	13,100	15,700	17
Methylene chloride	5	0.5	< 2.2	< 43	< 43	< 53.8	<43	<172	<0.23
Methyl-tert-butyl-ether	60	12	< 3.0	< 61	< 61	< 76.2	<61	<244	<0.17
Naphthalene	100	10	< 3.7	< 74	< 74	< 92.5	<89	<356	<2.5
Toluene	800	160	< 3.4	2,700	5,100	14,200	11,200	4,600	27.3
Trichloroethene	5	0.5	< 2.4	< 48	<48	< 60.0	<48	<192	<0.33
Vinyl chloride	0.2	0.02	< 0.90	< 18	< 18	< 22.5	<18	<72	<0.18
Xylene, o	–	–	< 4.1	2,900	4,700	5,430	10,400	11,500	6.6
Xylene, m + p	–	–	1,200	19,000	23,000	16,900	39,100	53,900	34.8
Xylene, total	2,000	400	1,200	21,900	27,700	22,330	49,500	65,400	41.4

Notes:

Q or J = the analyte was detected between the Limit of Detection (LOD) and the Limit of Quantitation (LOQ).

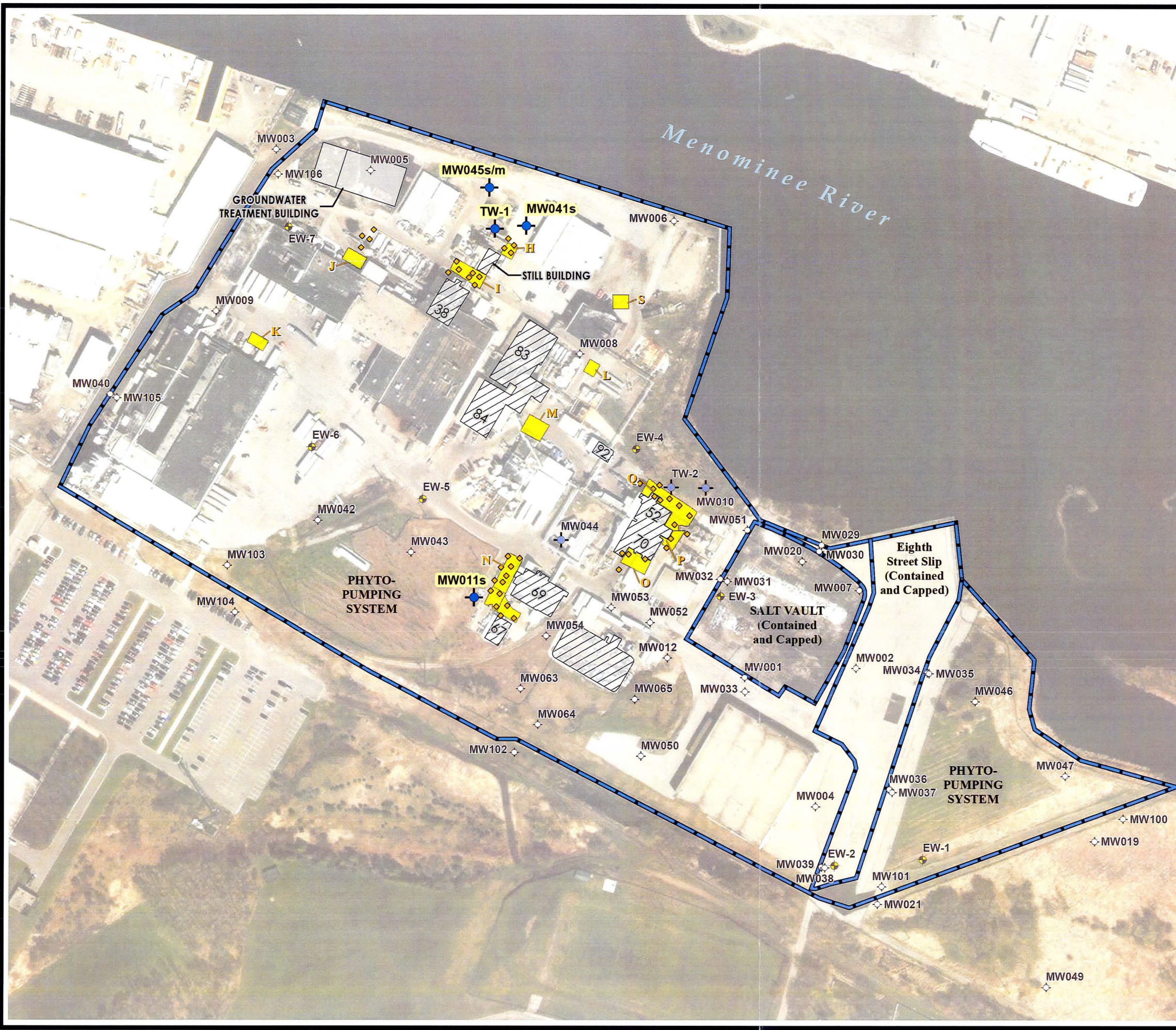
NA = not analyzed.

– = not available.

Bold = Indicates that the detected value exceeds the Enforcement Standard (ES).

PAL = WDNR Preventive Action Limit.

ES = Wisconsin Department of Natural Resources (WDNR) Enforcement Standard.

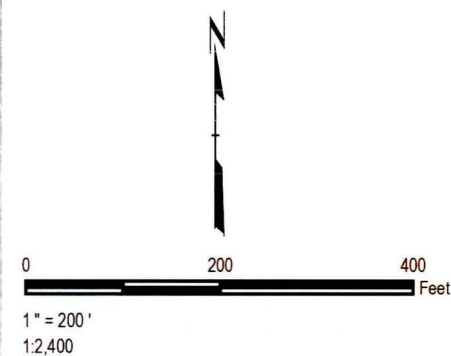


LEGEND

- WELL NEST LOCATION USED FOR SPECIALTY CHEM SITES
- GROUNDWATER EXTRACTION WELL
- OTHER WELL LOCATION
- SOIL SAMPLE
- APPROXIMATE CONTAINMENT WALL LOCATION
- SPECIALTY CHEM OPERATIONS BUILDING
- SPILL AREA WITH RFI AREA DESIGNATION

NOTES

1. BASE MAP IMAGERY FROM WISCONSIN REGIONAL ORTHOPHOTOGRAPHY CONSORTIUM, SPRING 2010.



PROJECT:		LANXESS - SPECIALTY CHEM MARINETTE, WISCONSIN	
SHEET TITLE:			
SITE MAP SHOWING RELEVANT MONITORING WELLS			
DRAWN BY:	PAPEZ J	SCALE:	PROJ. NO. 194937
CHECKED BY:	WEDEKIND J	1:2,400	FILE NO. 194937-002.mxd
APPROVED BY:	WEDEKIND J	DATE PRINTED:	FIGURE 1
DATE:	OCTOBER 2014		



708 Heartland Trail, Suite 3000
Madison, WI 53717
Phone: 608.826.3600
www.trcsolutions.com

Attachment 1
Laboratory Analytical Results

September 03, 2014

JAMES WEDEKIND
TRC - MADISON
708 HEARTLAND TRAIL
Madison, WI 53717


RE: Project: 194937 LANXESS
Pace Project No.: 40102439

Dear JAMES WEDEKIND:

Enclosed are the analytical results for sample(s) received by the laboratory on August 28, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Tod Noltemeyer
tod.noltemeyer@pacelabs.com
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: 194937 LANXESS
Pace Project No.: 40102439

Green Bay Certification IDs

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

New York Certification #: 11888
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750

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SAMPLE SUMMARY

Project: 194937 LANXESS
Pace Project No.: 40102439

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40102439001	MW-11S	Water	08/28/14 10:45	08/28/14 17:30
40102439002	MW-45M	Water	08/28/14 12:05	08/28/14 17:30
40102439003	MW-45S	Water	08/28/14 13:20	08/28/14 17:30
40102439004	MW-41S	Water	08/28/14 14:20	08/28/14 17:30
40102439005	TW-1	Water	08/28/14 15:00	08/28/14 17:30
40102439006	BLANK	Water	08/28/14 00:00	08/28/14 17:30

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Green Bay, WI 54302
(920)469-2436

SAMPLE ANALYTE COUNT

Project: 194937 LANXESS
Pace Project No.: 40102439

Lab ID	Sample ID	Method	Analysts	Analytes Reported
40102439001	MW-11S	EPA 8260	HNW	64
40102439002	MW-45M	EPA 8260	HNW	64
40102439003	MW-45S	EPA 8260	HNW	64
40102439004	MW-41S	EPA 8260	HNW	64
40102439005	TW-1	EPA 8260	HNW	64
40102439006	BLANK	EPA 8260	HNW	64

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SUMMARY OF DETECTION

Project: 194937 LANXESS
Pace Project No.: 40102439

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
40102439001	MW-11S					
EPA 8260	1,2-Dichlorobenzene	145 ug/L		4.0	08/30/14 02:49	
EPA 8260	1,3-Dichlorobenzene	5.2 ug/L		4.0	08/30/14 02:49	
EPA 8260	1,4-Dichlorobenzene	56.8 ug/L		4.0	08/30/14 02:49	
EPA 8260	Benzene	11.6 ug/L		4.0	08/30/14 02:49	
EPA 8260	Chlorobenzene	482 ug/L		4.0	08/30/14 02:49	
40102439002	MW-45M					
EPA 8260	1,1-Dichloroethane	6.9J ug/L		10.0	08/30/14 14:29	
EPA 8260	1,1-Dichloroethene	4.3J ug/L		10.0	08/30/14 14:29	
EPA 8260	1,2-Dichlorobenzene	241 ug/L		10.0	08/30/14 14:29	
EPA 8260	Benzene	22.8 ug/L		10.0	08/30/14 14:29	
EPA 8260	Chlorobenzene	221 ug/L		10.0	08/30/14 14:29	
EPA 8260	Ethylbenzene	17.0 ug/L		10.0	08/30/14 14:29	
EPA 8260	Methylene Chloride	99.0 ug/L		10.0	08/30/14 14:29	
EPA 8260	Toluene	225 ug/L		10.0	08/30/14 14:29	
EPA 8260	Trichloroethene	1580 ug/L		10.0	08/30/14 14:29	
EPA 8260	Vinyl chloride	54.4 ug/L		10.0	08/30/14 14:29	
EPA 8260	cis-1,2-Dichloroethene	309 ug/L		10.0	08/30/14 14:29	
EPA 8260	m&p-Xylene	38.0 ug/L		20.0	08/30/14 14:29	
EPA 8260	o-Xylene	52.8 ug/L		10.0	08/30/14 14:29	
40102439003	MW-45S					
EPA 8260	1,2-Dichlorobenzene	1160 ug/L		50.0	08/30/14 03:35	
EPA 8260	1,4-Dichlorobenzene	77.8 ug/L		50.0	08/30/14 03:35	
EPA 8260	Benzene	77.9 ug/L		50.0	08/30/14 03:35	
EPA 8260	Chlorobenzene	5180 ug/L		50.0	08/30/14 03:35	
EPA 8260	Ethylbenzene	859 ug/L		50.0	08/30/14 03:35	
EPA 8260	Methylene Chloride	26.1J ug/L		50.0	08/30/14 03:35	
EPA 8260	Toluene	793 ug/L		50.0	08/30/14 03:35	
EPA 8260	Vinyl chloride	14.4J ug/L		50.0	08/30/14 03:35	
EPA 8260	cis-1,2-Dichloroethene	131 ug/L		50.0	08/30/14 03:35	
EPA 8260	m&p-Xylene	2790 ug/L		100	08/30/14 03:35	
EPA 8260	o-Xylene	1570 ug/L		50.0	08/30/14 03:35	
40102439004	MW-41S					
EPA 8260	1,2-Dichlorobenzene	144 ug/L		10.0	09/02/14 12:00	
EPA 8260	Benzene	22.7 ug/L		10.0	09/02/14 12:00	
EPA 8260	Chlorobenzene	371 ug/L		10.0	09/02/14 12:00	
EPA 8260	Ethylbenzene	465 ug/L		10.0	09/02/14 12:00	
EPA 8260	Isopropylbenzene (Cumene)	3.2J ug/L		10.0	09/02/14 12:00	
EPA 8260	Methylene Chloride	7.9J ug/L		10.0	09/02/14 12:00	
EPA 8260	Toluene	776 ug/L		10.0	09/02/14 12:00	
EPA 8260	Trichloroethene	5.8J ug/L		10.0	09/02/14 12:00	
EPA 8260	Vinyl chloride	2.7J ug/L		10.0	09/02/14 12:00	
EPA 8260	cis-1,2-Dichloroethene	11.4 ug/L		10.0	09/02/14 12:00	
EPA 8260	m&p-Xylene	4410 ug/L		20.0	09/02/14 12:00	
EPA 8260	o-Xylene	1370 ug/L		10.0	09/02/14 12:00	

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SUMMARY OF DETECTION

Project: 194937 LANXESS
Pace Project No.: 40102439

Lab Sample ID	Client Sample ID	Result	Units	Report Limit	Analyzed	Qualifiers
Method	Parameters					
40102439005	TW-1					
EPA 8260	1,2-Dichloroethane	0.81J	ug/L	1.0	09/02/14 15:22	
EPA 8260	Ethylbenzene	17.0	ug/L	1.0	09/02/14 15:22	
EPA 8260	Toluene	27.3	ug/L	1.0	09/02/14 15:22	
EPA 8260	m&p-Xylene	34.8	ug/L	2.0	09/02/14 15:22	
EPA 8260	o-Xylene	6.6	ug/L	1.0	09/02/14 15:22	

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PROJECT NARRATIVE

Project: 194937 LANXESS
Pace Project No.: 40102439

Method: EPA 8260
Description: 8260 MSV
Client: TRC - MADISON
Date: September 03, 2014

General Information:

6 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

- pH: Post-analysis pH measurement indicates insufficient VOA sample preservation.
- MW-45M (Lab ID: 40102439002)

Hold Time:

The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):

All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:

All criteria were within method requirements with any exceptions noted below.

Internal Standards:

All internal standards were within QC limits with any exceptions noted below.

Surrogates:

All surrogates were within QC limits with any exceptions noted below.

Method Blank:

All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:

All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:

All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: 194937 LANXESS
Pace Project No.: 40102439

Sample: MW-11S Lab ID: 40102439001 Collected: 08/28/14 10:45 Received: 08/28/14 17:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
1,1,1,2-Tetrachloroethane	<0.72	ug/L	4.0	0.72	4		08/30/14 02:49	630-20-6	
1,1,1-Trichloroethane	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	71-55-6	
1,1,2,2-Tetrachloroethane	<1.0	ug/L	4.0	1.0	4		08/30/14 02:49	79-34-5	
1,1,2-Trichloroethane	<0.62	ug/L	4.0	0.62	4		08/30/14 02:49	79-00-5	
1,1-Dichloroethane	<0.97	ug/L	4.0	0.97	4		08/30/14 02:49	75-34-3	
1,1-Dichloroethene	<1.6	ug/L	4.0	1.6	4		08/30/14 02:49	75-35-4	
1,1-Dichloropropene	<1.8	ug/L	4.0	1.8	4		08/30/14 02:49	563-58-6	
1,2,3-Trichlorobenzene	<8.5	ug/L	20.0	8.5	4		08/30/14 02:49	87-61-6	
1,2,3-Trichloropropane	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	96-18-4	
1,2,4-Trichlorobenzene	<8.8	ug/L	20.0	8.8	4		08/30/14 02:49	120-82-1	
1,2,4-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	95-63-6	
1,2-Dibromo-3-chloropropane	<8.7	ug/L	20.0	8.7	4		08/30/14 02:49	96-12-8	
1,2-Dibromoethane (EDB)	<0.66	ug/L	4.0	0.66	4		08/30/14 02:49	106-93-4	
1,2-Dichlorobenzene	145	ug/L	4.0	2.0	4		08/30/14 02:49	95-50-1	
1,2-Dichloroethane	<0.67	ug/L	4.0	0.67	4		08/30/14 02:49	107-06-2	
1,2-Dichloropropane	<0.93	ug/L	4.0	0.93	4		08/30/14 02:49	78-87-5	
1,3,5-Trimethylbenzene	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	108-67-8	
1,3-Dichlorobenzene	5.2	ug/L	4.0	2.0	4		08/30/14 02:49	541-73-1	
1,3-Dichloropropane	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	142-28-9	
1,4-Dichlorobenzene	56.8	ug/L	4.0	2.0	4		08/30/14 02:49	106-46-7	
2,2-Dichloropropane	<1.9	ug/L	4.0	1.9	4		08/30/14 02:49	594-20-7	
2-Chlorotoluene	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	95-49-8	
4-Chlorotoluene	<0.85	ug/L	4.0	0.85	4		08/30/14 02:49	106-43-4	
Benzene	11.6	ug/L	4.0	2.0	4		08/30/14 02:49	71-43-2	
Bromobenzene	<0.92	ug/L	4.0	0.92	4		08/30/14 02:49	108-86-1	
Bromochloromethane	<1.4	ug/L	4.0	1.4	4		08/30/14 02:49	74-97-5	
Bromodichloromethane	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	75-27-4	
Bromoform	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	75-25-2	
Bromomethane	<9.7	ug/L	20.0	9.7	4		08/30/14 02:49	74-83-9	
Carbon tetrachloride	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	56-23-5	
Chlorobenzene	482	ug/L	4.0	2.0	4		08/30/14 02:49	108-90-7	
Chloroethane	<1.5	ug/L	4.0	1.5	4		08/30/14 02:49	75-00-3	
Chloroform	<10.0	ug/L	20.0	10.0	4		08/30/14 02:49	67-66-3	
Chloromethane	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	74-87-3	
Dibromochloromethane	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	124-48-1	
Dibromomethane	<1.7	ug/L	4.0	1.7	4		08/30/14 02:49	74-95-3	
Dichlorodifluoromethane	<0.81	ug/L	4.0	0.81	4		08/30/14 02:49	75-71-8	
Diisopropyl ether	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	108-20-3	
Ethylbenzene	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	100-41-4	
Hexachloro-1,3-butadiene	<8.4	ug/L	20.0	8.4	4		08/30/14 02:49	87-68-3	
Isopropylbenzene (Cumene)	<0.57	ug/L	4.0	0.57	4		08/30/14 02:49	98-82-8	
Methyl-tert-butyl ether	<0.70	ug/L	4.0	0.70	4		08/30/14 02:49	1634-04-4	
Methylene Chloride	<0.93	ug/L	4.0	0.93	4		08/30/14 02:49	75-09-2	
Naphthalene	<10.0	ug/L	20.0	10.0	4		08/30/14 02:49	91-20-3	
Styrene	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	100-42-5	
Tetrachloroethene	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	127-18-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: 194937 LANXESS
Pace Project No.: 40102439

Sample: MW-11S Lab ID: 40102439001 Collected: 08/28/14 10:45 Received: 08/28/14 17:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Toluene	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	108-88-3	
Trichloroethene	<1.3	ug/L	4.0	1.3	4		08/30/14 02:49	79-01-6	
Trichlorofluoromethane	<0.69	ug/L	4.0	0.69	4		08/30/14 02:49	75-69-4	
Vinyl chloride	<0.70	ug/L	4.0	0.70	4		08/30/14 02:49	75-01-4	
cis-1,2-Dichloroethene	<1.0	ug/L	4.0	1.0	4		08/30/14 02:49	156-59-2	
cis-1,3-Dichloropropene	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	10061-01-5	
m&p-Xylene	<4.0	ug/L	8.0	4.0	4		08/30/14 02:49	179601-23-1	
n-Butylbenzene	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	104-51-8	
n-Propylbenzene	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	103-65-1	
o-Xylene	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	95-47-6	
p-Isopropyltoluene	<2.0	ug/L	4.0	2.0	4		08/30/14 02:49	99-87-6	
sec-Butylbenzene	<8.7	ug/L	20.0	8.7	4		08/30/14 02:49	135-98-8	
tert-Butylbenzene	<0.72	ug/L	4.0	0.72	4		08/30/14 02:49	98-06-6	
trans-1,2-Dichloroethene	<1.0	ug/L	4.0	1.0	4		08/30/14 02:49	156-60-5	
trans-1,3-Dichloropropene	<0.92	ug/L	4.0	0.92	4		08/30/14 02:49	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	95 %		59-130		4		08/30/14 02:49	460-00-4	
Dibromofluoromethane (S)	104 %		70-130		4		08/30/14 02:49	1868-53-7	
Toluene-d8 (S)	97 %		70-130		4		08/30/14 02:49	2037-26-5	

Sample: MW-45M Lab ID: 40102439002 Collected: 08/28/14 12:05 Received: 08/28/14 17:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,1,2-Tetrachloroethane	<1.8	ug/L	10.0	1.8	10		08/30/14 14:29	630-20-6	
1,1,1-Trichloroethane	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	71-55-6	
1,1,1,2,2-Tetrachloroethane	<2.5	ug/L	10.0	2.5	10		08/30/14 14:29	79-34-5	
1,1,2-Trichloroethane	<1.6	ug/L	10.0	1.6	10		08/30/14 14:29	79-00-5	
1,1-Dichloroethane	6.9J	ug/L	10.0	2.4	10		08/30/14 14:29	75-34-3	
1,1-Dichloroethene	4.3J	ug/L	10.0	4.1	10		08/30/14 14:29	75-35-4	
1,1-Dichloropropene	<4.4	ug/L	10.0	4.4	10		08/30/14 14:29	563-58-6	
1,2,3-Trichlorobenzene	<21.3	ug/L	50.0	21.3	10		08/30/14 14:29	87-61-6	
1,2,3-Trichloropropane	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	96-18-4	
1,2,4-Trichlorobenzene	<22.1	ug/L	50.0	22.1	10		08/30/14 14:29	120-82-1	
1,2,4-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	95-63-6	
1,2-Dibromo-3-chloropropane	<21.6	ug/L	50.0	21.6	10		08/30/14 14:29	96-12-8	
1,2-Dibromoethane (EDB)	<1.6	ug/L	10.0	1.6	10		08/30/14 14:29	106-93-4	
1,2-Dichlorobenzene	241	ug/L	10.0	5.0	10		08/30/14 14:29	95-50-1	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		08/30/14 14:29	107-06-2	
1,2-Dichloropropane	<2.3	ug/L	10.0	2.3	10		08/30/14 14:29	78-87-5	
1,3,5-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	108-67-8	
1,3-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	541-73-1	
1,3-Dichloropropane	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	142-28-9	

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ANALYTICAL RESULTS

Project: 194937 LANXESS

Pace Project No.: 40102439

Sample: MW-45M Lab ID: 40102439002 Collected: 08/28/14 12:05 Received: 08/28/14 17:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,4-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	106-46-7	
2,2-Dichloropropane	<4.8	ug/L	10.0	4.8	10		08/30/14 14:29	594-20-7	
2-Chlorotoluene	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	95-49-8	
4-Chlorotoluene	<2.1	ug/L	10.0	2.1	10		08/30/14 14:29	106-43-4	
Benzene	22.8	ug/L	10.0	5.0	10		08/30/14 14:29	71-43-2	
Bromobenzene	<2.3	ug/L	10.0	2.3	10		08/30/14 14:29	108-86-1	
Bromochloromethane	<3.4	ug/L	10.0	3.4	10		08/30/14 14:29	74-97-5	
Bromodichloromethane	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	75-27-4	
Bromoform	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	75-25-2	
Bromomethane	<24.3	ug/L	50.0	24.3	10		08/30/14 14:29	74-83-9	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	56-23-5	
Chlorobenzene	221	ug/L	10.0	5.0	10		08/30/14 14:29	108-90-7	
Chloroethane	<3.7	ug/L	10.0	3.7	10		08/30/14 14:29	75-00-3	
Chloroform	<25.0	ug/L	50.0	25.0	10		08/30/14 14:29	67-66-3	
Chloromethane	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	74-87-3	
Dibromochloromethane	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	124-48-1	
Dibromomethane	<4.3	ug/L	10.0	4.3	10		08/30/14 14:29	74-95-3	
Dichlorodifluoromethane	<2.0	ug/L	10.0	2.0	10		08/30/14 14:29	75-71-8	
Diisopropyl ether	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	108-20-3	
Ethylbenzene	17.0	ug/L	10.0	5.0	10		08/30/14 14:29	100-41-4	
Hexachloro-1,3-butadiene	<21.1	ug/L	50.0	21.1	10		08/30/14 14:29	87-68-3	
Isopropylbenzene (Cumene)	<1.4	ug/L	10.0	1.4	10		08/30/14 14:29	98-82-8	
Methyl-tert-butyl ether	<1.7	ug/L	10.0	1.7	10		08/30/14 14:29	1634-04-4	
Methylene Chloride	99.0	ug/L	10.0	2.3	10		08/30/14 14:29	75-09-2	
Naphthalene	<25.0	ug/L	50.0	25.0	10		08/30/14 14:29	91-20-3	
Styrene	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	100-42-5	
Tetrachloroethene	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	127-18-4	
Toluene	225	ug/L	10.0	5.0	10		08/30/14 14:29	108-88-3	
Trichloroethene	1580	ug/L	10.0	3.3	10		08/30/14 14:29	79-01-6	
Trichlorofluoromethane	<1.7	ug/L	10.0	1.7	10		08/30/14 14:29	75-69-4	
Vinyl chloride	54.4	ug/L	10.0	1.8	10		08/30/14 14:29	75-01-4	
cis-1,2-Dichloroethene	309	ug/L	10.0	2.6	10		08/30/14 14:29	156-59-2	
cis-1,3-Dichloropropene	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	10061-01-5	
m&p-Xylene	38.0	ug/L	20.0	10.0	10		08/30/14 14:29	179601-23-1	
n-Butylbenzene	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	104-51-8	
n-Propylbenzene	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	103-65-1	
o-Xylene	52.8	ug/L	10.0	5.0	10		08/30/14 14:29	95-47-6	
p-Isopropyltoluene	<5.0	ug/L	10.0	5.0	10		08/30/14 14:29	99-87-6	
sec-Butylbenzene	<21.9	ug/L	50.0	21.9	10		08/30/14 14:29	135-98-8	
tert-Butylbenzene	<1.8	ug/L	10.0	1.8	10		08/30/14 14:29	98-06-6	
trans-1,2-Dichloroethene	<2.6	ug/L	10.0	2.6	10		08/30/14 14:29	156-60-5	
trans-1,3-Dichloropropene	<2.3	ug/L	10.0	2.3	10		08/30/14 14:29	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	95 %		59-130		10		08/30/14 14:29	460-00-4	
Dibromofluoromethane (S)	104 %		70-130		10		08/30/14 14:29	1868-53-7	pH
Toluene-d8 (S)	98 %		70-130		10		08/30/14 14:29	2037-26-5	

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ANALYTICAL RESULTS

Project: 194937 LANXESS
Pace Project No.: 40102439

Sample: MW-455 Lab ID: 40102439003 Collected: 08/28/14 13:20 Received: 08/28/14 17:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,1,2-Tetrachloroethane	<9.0	ug/L	50.0	9.0	50		08/30/14 03:35	630-20-6	
1,1,1-Trichloroethane	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	71-55-6	
1,1,1,2,2-Tetrachloroethane	<12.5	ug/L	50.0	12.5	50		08/30/14 03:35	79-34-5	
1,1,2-Trichloroethane	<7.8	ug/L	50.0	7.8	50		08/30/14 03:35	79-00-5	
1,1-Dichloroethane	<12.1	ug/L	50.0	12.1	50		08/30/14 03:35	75-34-3	
1,1-Dichloroethene	<20.5	ug/L	50.0	20.5	50		08/30/14 03:35	75-35-4	
1,1-Dichloropropene	<22.1	ug/L	50.0	22.1	50		08/30/14 03:35	563-58-6	
1,2,3-Trichlorobenzene	<107	ug/L	250	107	50		08/30/14 03:35	87-61-6	
1,2,3-Trichloropropane	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	96-18-4	
1,2,4-Trichlorobenzene	<110	ug/L	250	110	50		08/30/14 03:35	120-82-1	
1,2,4-Trimethylbenzene	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	95-63-6	
1,2-Dibromo-3-chloropropane	<108	ug/L	250	108	50		08/30/14 03:35	96-12-8	
1,2-Dibromoethane (EDB)	<8.2	ug/L	50.0	8.2	50		08/30/14 03:35	106-93-4	
1,2-Dichlorobenzene	1160	ug/L	50.0	25.0	50		08/30/14 03:35	95-50-1	
1,2-Dichloroethane	<8.4	ug/L	50.0	8.4	50		08/30/14 03:35	107-06-2	
1,2-Dichloropropane	<11.7	ug/L	50.0	11.7	50		08/30/14 03:35	78-87-5	
1,3,5-Trimethylbenzene	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	108-67-8	
1,3-Dichlorobenzene	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	541-73-1	
1,3-Dichloropropane	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	142-28-9	
1,4-Dichlorobenzene	77.8	ug/L	50.0	25.0	50		08/30/14 03:35	106-46-7	
2,2-Dichloropropane	<24.2	ug/L	50.0	24.2	50		08/30/14 03:35	594-20-7	
2-Chlorotoluene	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	95-49-8	
4-Chlorotoluene	<10.7	ug/L	50.0	10.7	50		08/30/14 03:35	106-43-4	
Benzene	77.9	ug/L	50.0	25.0	50		08/30/14 03:35	71-43-2	
Bromobenzene	<11.5	ug/L	50.0	11.5	50		08/30/14 03:35	108-86-1	
Bromochloromethane	<17.0	ug/L	50.0	17.0	50		08/30/14 03:35	74-97-5	
Bromodichloromethane	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	75-27-4	
Bromoform	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	75-25-2	
Bromomethane	<122	ug/L	250	122	50		08/30/14 03:35	74-83-9	
Carbon tetrachloride	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	56-23-5	
Chlorobenzene	5180	ug/L	50.0	25.0	50		08/30/14 03:35	108-90-7	
Chloroethane	<18.7	ug/L	50.0	18.7	50		08/30/14 03:35	75-00-3	
Chloroform	<125	ug/L	250	125	50		08/30/14 03:35	67-66-3	
Chloromethane	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	74-87-3	
Dibromochloromethane	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	124-48-1	
Dibromomethane	<21.3	ug/L	50.0	21.3	50		08/30/14 03:35	74-95-3	
Dichlorodifluoromethane	<10.1	ug/L	50.0	10.1	50		08/30/14 03:35	75-71-8	
Diisopropyl ether	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	108-20-3	
Ethylbenzene	859	ug/L	50.0	25.0	50		08/30/14 03:35	100-41-4	
Hexachloro-1,3-butadiene	<105	ug/L	250	105	50		08/30/14 03:35	87-68-3	
Isopropylbenzene (Cumene)	<7.2	ug/L	50.0	7.2	50		08/30/14 03:35	98-82-8	
Methyl-tert-butyl ether	<8.7	ug/L	50.0	8.7	50		08/30/14 03:35	1634-04-4	
Methylene Chloride	26.1J	ug/L	50.0	11.6	50		08/30/14 03:35	75-09-2	
Naphthalene	<125	ug/L	250	125	50		08/30/14 03:35	91-20-3	
Styrene	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	100-42-5	
Tetrachloroethene	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	127-18-4	

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ANALYTICAL RESULTS

Project: 194937 LANXESS
Pace Project No.: 40102439

Sample: MW-45S Lab ID: 40102439003 Collected: 08/28/14 13:20 Received: 08/28/14 17:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Toluene	793	ug/L	50.0	25.0	50		08/30/14 03:35	108-88-3	
Trichloroethene	<16.5	ug/L	50.0	16.5	50		08/30/14 03:35	79-01-6	
Trichlorofluoromethane	<8.6	ug/L	50.0	8.6	50		08/30/14 03:35	75-69-4	
Vinyl chloride	14.4J	ug/L	50.0	8.8	50		08/30/14 03:35	75-01-4	
cis-1,2-Dichloroethene	131	ug/L	50.0	12.8	50		08/30/14 03:35	156-59-2	
cis-1,3-Dichloropropene	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	10061-01-5	
m&p-Xylene	2790	ug/L	100	50.0	50		08/30/14 03:35	179601-23-1	
n-Butylbenzene	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	104-51-8	
n-Propylbenzene	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	103-65-1	
o-Xylene	1570	ug/L	50.0	25.0	50		08/30/14 03:35	95-47-6	
p-Isopropyltoluene	<25.0	ug/L	50.0	25.0	50		08/30/14 03:35	99-87-6	
sec-Butylbenzene	<109	ug/L	250	109	50		08/30/14 03:35	135-98-8	
tert-Butylbenzene	<9.0	ug/L	50.0	9.0	50		08/30/14 03:35	98-06-6	
trans-1,2-Dichloroethene	<12.8	ug/L	50.0	12.8	50		08/30/14 03:35	156-60-5	
trans-1,3-Dichloropropene	<11.5	ug/L	50.0	11.5	50		08/30/14 03:35	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	96 %		59-130		50		08/30/14 03:35	460-00-4	
Dibromofluoromethane (S)	102 %		70-130		50		08/30/14 03:35	1868-53-7	
Toluene-d8 (S)	98 %		70-130		50		08/30/14 03:35	2037-26-5	

Sample: MW-41S Lab ID: 40102439004 Collected: 08/28/14 14:20 Received: 08/28/14 17:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,1,2-Tetrachloroethane	<1.8	ug/L	10.0	1.8	10		09/02/14 12:00	630-20-6	
1,1,1-Trichloroethane	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	71-55-6	
1,1,2,2-Tetrachloroethane	<2.5	ug/L	10.0	2.5	10		09/02/14 12:00	79-34-5	
1,1,2-Trichloroethane	<1.6	ug/L	10.0	1.6	10		09/02/14 12:00	79-00-5	
1,1-Dichloroethane	<2.4	ug/L	10.0	2.4	10		09/02/14 12:00	75-34-3	
1,1-Dichloroethene	<4.1	ug/L	10.0	4.1	10		09/02/14 12:00	75-35-4	
1,1-Dichloropropene	<4.4	ug/L	10.0	4.4	10		09/02/14 12:00	563-58-6	
1,2,3-Trichlorobenzene	<21.3	ug/L	50.0	21.3	10		09/02/14 12:00	87-61-6	
1,2,3-Trichloropropane	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	96-18-4	
1,2,4-Trichlorobenzene	<22.1	ug/L	50.0	22.1	10		09/02/14 12:00	120-82-1	
1,2,4-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	95-63-6	
1,2-Dibromo-3-chloropropane	<21.6	ug/L	50.0	21.6	10		09/02/14 12:00	96-12-8	
1,2-Dibromoethane (EDB)	<1.6	ug/L	10.0	1.6	10		09/02/14 12:00	106-93-4	
1,2-Dichlorobenzene	144	ug/L	10.0	5.0	10		09/02/14 12:00	95-50-1	
1,2-Dichloroethane	<1.7	ug/L	10.0	1.7	10		09/02/14 12:00	107-06-2	
1,2-Dichloropropane	<2.3	ug/L	10.0	2.3	10		09/02/14 12:00	78-87-5	
1,3,5-Trimethylbenzene	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	108-67-8	
1,3-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	541-73-1	
1,3-Dichloropropane	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	142-28-9	

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ANALYTICAL RESULTS

Project: 194937 LANXESS
Pace Project No.: 40102439

Sample: MW-41S Lab ID: 40102439004 Collected: 08/28/14 14:20 Received: 08/28/14 17:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,4-Dichlorobenzene	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	106-46-7	
2,2-Dichloropropane	<4.8	ug/L	10.0	4.8	10		09/02/14 12:00	594-20-7	
2-Chlorotoluene	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	95-49-8	
4-Chlorotoluene	<2.1	ug/L	10.0	2.1	10		09/02/14 12:00	106-43-4	
Benzene	22.7	ug/L	10.0	5.0	10		09/02/14 12:00	71-43-2	
Bromobenzene	<2.3	ug/L	10.0	2.3	10		09/02/14 12:00	108-86-1	
Bromochloromethane	<3.4	ug/L	10.0	3.4	10		09/02/14 12:00	74-97-5	
Bromodichloromethane	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	75-27-4	
Bromoform	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	75-25-2	
Bromomethane	<24.3	ug/L	50.0	24.3	10		09/02/14 12:00	74-83-9	
Carbon tetrachloride	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	56-23-5	
Chlorobenzene	371	ug/L	10.0	5.0	10		09/02/14 12:00	108-90-7	
Chloroethane	<3.7	ug/L	10.0	3.7	10		09/02/14 12:00	75-00-3	
Chloroform	<25.0	ug/L	50.0	25.0	10		09/02/14 12:00	67-66-3	
Chloromethane	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	74-87-3	
Dibromochloromethane	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	124-48-1	
Dibromomethane	<4.3	ug/L	10.0	4.3	10		09/02/14 12:00	74-95-3	
Dichlorodifluoromethane	<2.0	ug/L	10.0	2.0	10		09/02/14 12:00	75-71-8	
Diisopropyl ether	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	108-20-3	
Ethylbenzene	465	ug/L	10.0	5.0	10		09/02/14 12:00	100-41-4	
Hexachloro-1,3-butadiene	<21.1	ug/L	50.0	21.1	10		09/02/14 12:00	87-68-3	
Isopropylbenzene (Cumene)	3.2J	ug/L	10.0	1.4	10		09/02/14 12:00	98-82-8	
Methyl-tert-butyl ether	<1.7	ug/L	10.0	1.7	10		09/02/14 12:00	1634-04-4	
Methylene Chloride	7.9J	ug/L	10.0	2.3	10		09/02/14 12:00	75-09-2	
Naphthalene	<25.0	ug/L	50.0	25.0	10		09/02/14 12:00	91-20-3	
Styrene	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	100-42-5	
Tetrachloroethene	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	127-18-4	
Toluene	776	ug/L	10.0	5.0	10		09/02/14 12:00	108-88-3	
Trichloroethene	5.8J	ug/L	10.0	3.3	10		09/02/14 12:00	79-01-6	
Trichlorofluoromethane	<1.7	ug/L	10.0	1.7	10		09/02/14 12:00	75-69-4	
Vinyl chloride	2.7J	ug/L	10.0	1.8	10		09/02/14 12:00	75-01-4	
cis-1,2-Dichloroethene	11.4	ug/L	10.0	2.6	10		09/02/14 12:00	156-59-2	
cis-1,3-Dichloropropene	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	10061-01-5	
m&p-Xylene	4410	ug/L	20.0	10.0	10		09/02/14 12:00	179601-23-1	
n-Butylbenzene	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	104-51-8	
n-Propylbenzene	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	103-65-1	
o-Xylene	1370	ug/L	10.0	5.0	10		09/02/14 12:00	95-47-6	
p-Isopropyltoluene	<5.0	ug/L	10.0	5.0	10		09/02/14 12:00	99-87-6	
sec-Butylbenzene	<21.9	ug/L	50.0	21.9	10		09/02/14 12:00	135-98-8	
tert-Butylbenzene	<1.8	ug/L	10.0	1.8	10		09/02/14 12:00	98-06-6	
trans-1,2-Dichloroethene	<2.6	ug/L	10.0	2.6	10		09/02/14 12:00	156-60-5	
trans-1,3-Dichloropropene	<2.3	ug/L	10.0	2.3	10		09/02/14 12:00	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	98 %		59-130		10		09/02/14 12:00	460-00-4	
Dibromofluoromethane (S)	106 %		70-130		10		09/02/14 12:00	1868-53-7	
Toluene-d8 (S)	101 %		70-130		10		09/02/14 12:00	2037-26-5	

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ANALYTICAL RESULTS

Project: 194937 LANXESS
 Pace Project No.: 40102439

Sample: TW-1 Lab ID: 40102439005 Collected: 08/28/14 15:00 Received: 08/28/14 17:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 8260							
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		09/02/14 15:22	630-20-6	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	71-55-6	
1,1,2,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		09/02/14 15:22	79-34-5	
1,1,2-Trichloroethane	<0.16	ug/L	1.0	0.16	1		09/02/14 15:22	79-00-5	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		09/02/14 15:22	75-34-3	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		09/02/14 15:22	75-35-4	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		09/02/14 15:22	563-58-6	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		09/02/14 15:22	87-61-6	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	96-18-4	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		09/02/14 15:22	120-82-1	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	95-63-6	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		09/02/14 15:22	96-12-8	
1,2-Dibromoethane (EDB)	<0.16	ug/L	1.0	0.16	1		09/02/14 15:22	106-93-4	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	95-50-1	
1,2-Dichloroethane	0.81J	ug/L	1.0	0.17	1		09/02/14 15:22	107-06-2	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		09/02/14 15:22	78-87-5	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	108-67-8	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	541-73-1	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	142-28-9	
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	106-46-7	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		09/02/14 15:22	594-20-7	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		09/02/14 15:22	106-43-4	
Benzene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		09/02/14 15:22	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		09/02/14 15:22	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		09/02/14 15:22	74-83-9	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		09/02/14 15:22	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		09/02/14 15:22	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	74-87-3	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	124-48-1	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		09/02/14 15:22	74-95-3	
Dichlorodifluoromethane	<0.20	ug/L	1.0	0.20	1		09/02/14 15:22	75-71-8	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	108-20-3	
Ethylbenzene	17.0	ug/L	1.0	0.50	1		09/02/14 15:22	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		09/02/14 15:22	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		09/02/14 15:22	98-82-8	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		09/02/14 15:22	1634-04-4	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		09/02/14 15:22	75-09-2	
Naphthalene	<2.5	ug/L	5.0	2.5	1		09/02/14 15:22	91-20-3	
Styrene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	100-42-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	127-18-4	

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ANALYTICAL RESULTS

Project: 194937 LANXESS
Pace Project No.: 40102439

Sample: TW-1 Lab ID: 40102439005 Collected: 08/28/14 15:00 Received: 08/28/14 17:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
Toluene	27.3	ug/L	1.0	0.50	1		09/02/14 15:22	108-88-3	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		09/02/14 15:22	79-01-6	
Trichlorofluoromethane	<0.17	ug/L	1.0	0.17	1		09/02/14 15:22	75-69-4	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		09/02/14 15:22	75-01-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		09/02/14 15:22	156-59-2	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	10061-01-5	
m&p-Xylene	34.8	ug/L	2.0	1.0	1		09/02/14 15:22	179601-23-1	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	104-51-8	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	103-65-1	
o-Xylene	6.6	ug/L	1.0	0.50	1		09/02/14 15:22	95-47-6	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		09/02/14 15:22	99-87-6	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		09/02/14 15:22	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		09/02/14 15:22	98-06-6	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		09/02/14 15:22	156-60-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		09/02/14 15:22	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	95 %		59-130		1		09/02/14 15:22	460-00-4	
Dibromofluoromethane (S)	107 %		70-130		1		09/02/14 15:22	1868-53-7	
Toluene-d8 (S)	101 %		70-130		1		09/02/14 15:22	2037-26-5	

Sample: BLANK Lab ID: 40102439006 Collected: 08/28/14 00:00 Received: 08/28/14 17:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 8260									
1,1,1,2-Tetrachloroethane	<0.18	ug/L	1.0	0.18	1		09/02/14 16:29	630-20-6	
1,1,1-Trichloroethane	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	71-55-6	
1,1,1,2-Tetrachloroethane	<0.25	ug/L	1.0	0.25	1		09/02/14 16:29	79-34-5	
1,1,2-Trichloroethane	<0.16	ug/L	1.0	0.16	1		09/02/14 16:29	79-00-5	
1,1-Dichloroethane	<0.24	ug/L	1.0	0.24	1		09/02/14 16:29	75-34-3	
1,1-Dichloroethene	<0.41	ug/L	1.0	0.41	1		09/02/14 16:29	75-35-4	
1,1-Dichloropropene	<0.44	ug/L	1.0	0.44	1		09/02/14 16:29	563-58-6	
1,2,3-Trichlorobenzene	<2.1	ug/L	5.0	2.1	1		09/02/14 16:29	87-61-6	
1,2,3-Trichloropropane	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	96-18-4	
1,2,4-Trichlorobenzene	<2.2	ug/L	5.0	2.2	1		09/02/14 16:29	120-82-1	
1,2,4-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	95-63-6	
1,2-Dibromo-3-chloropropane	<2.2	ug/L	5.0	2.2	1		09/02/14 16:29	96-12-8	
1,2-Dibromoethane (EDB)	<0.16	ug/L	1.0	0.16	1		09/02/14 16:29	106-93-4	
1,2-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	95-50-1	
1,2-Dichloroethane	<0.17	ug/L	1.0	0.17	1		09/02/14 16:29	107-06-2	
1,2-Dichloropropane	<0.23	ug/L	1.0	0.23	1		09/02/14 16:29	78-87-5	
1,3,5-Trimethylbenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	108-67-8	
1,3-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	541-73-1	
1,3-Dichloropropane	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	142-28-9	

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ANALYTICAL RESULTS

Project: 194937 LANXESS
 Pace Project No.: 40102439

Sample: BLANK Lab ID: 40102439006 Collected: 08/28/14 00:00 Received: 08/28/14 17:30 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV									
Analytical Method: EPA 8260									
1,4-Dichlorobenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	106-46-7	
2,2-Dichloropropane	<0.48	ug/L	1.0	0.48	1		09/02/14 16:29	594-20-7	
2-Chlorotoluene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	95-49-8	
4-Chlorotoluene	<0.21	ug/L	1.0	0.21	1		09/02/14 16:29	106-43-4	
Benzene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	71-43-2	
Bromobenzene	<0.23	ug/L	1.0	0.23	1		09/02/14 16:29	108-86-1	
Bromochloromethane	<0.34	ug/L	1.0	0.34	1		09/02/14 16:29	74-97-5	
Bromodichloromethane	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	75-27-4	
Bromoform	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	75-25-2	
Bromomethane	<2.4	ug/L	5.0	2.4	1		09/02/14 16:29	74-83-9	
Carbon tetrachloride	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	56-23-5	
Chlorobenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	108-90-7	
Chloroethane	<0.37	ug/L	1.0	0.37	1		09/02/14 16:29	75-00-3	
Chloroform	<2.5	ug/L	5.0	2.5	1		09/02/14 16:29	67-66-3	
Chloromethane	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	74-87-3	
Dibromochloromethane	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	124-48-1	
Dibromomethane	<0.43	ug/L	1.0	0.43	1		09/02/14 16:29	74-95-3	
Dichlorodifluoromethane	<0.20	ug/L	1.0	0.20	1		09/02/14 16:29	75-71-8	
Diisopropyl ether	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	108-20-3	
Ethylbenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	100-41-4	
Hexachloro-1,3-butadiene	<2.1	ug/L	5.0	2.1	1		09/02/14 16:29	87-68-3	
Isopropylbenzene (Cumene)	<0.14	ug/L	1.0	0.14	1		09/02/14 16:29	98-82-8	
Methyl-tert-butyl ether	<0.17	ug/L	1.0	0.17	1		09/02/14 16:29	1634-04-4	
Methylene Chloride	<0.23	ug/L	1.0	0.23	1		09/02/14 16:29	75-09-2	
Naphthalene	<2.5	ug/L	5.0	2.5	1		09/02/14 16:29	91-20-3	
Styrene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	100-42-5	
Tetrachloroethene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	127-18-4	
Toluene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	108-88-3	
Trichloroethene	<0.33	ug/L	1.0	0.33	1		09/02/14 16:29	79-01-6	
Trichlorofluoromethane	<0.17	ug/L	1.0	0.17	1		09/02/14 16:29	75-69-4	
Vinyl chloride	<0.18	ug/L	1.0	0.18	1		09/02/14 16:29	75-01-4	
cis-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		09/02/14 16:29	156-59-2	
cis-1,3-Dichloropropene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	10061-01-5	
m&p-Xylene	<1.0	ug/L	2.0	1.0	1		09/02/14 16:29	179601-23-1	
n-Butylbenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	104-51-8	
n-Propylbenzene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	103-65-1	
o-Xylene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	95-47-6	
p-Isopropyltoluene	<0.50	ug/L	1.0	0.50	1		09/02/14 16:29	99-87-6	
sec-Butylbenzene	<2.2	ug/L	5.0	2.2	1		09/02/14 16:29	135-98-8	
tert-Butylbenzene	<0.18	ug/L	1.0	0.18	1		09/02/14 16:29	98-06-6	
trans-1,2-Dichloroethene	<0.26	ug/L	1.0	0.26	1		09/02/14 16:29	156-60-5	
trans-1,3-Dichloropropene	<0.23	ug/L	1.0	0.23	1		09/02/14 16:29	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	92 %		59-130		1		09/02/14 16:29	460-00-4	
Dibromofluoromethane (S)	109 %		70-130		1		09/02/14 16:29	1868-53-7	
Toluene-d8 (S)	101 %		70-130		1		09/02/14 16:29	2037-26-5	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 194937 LANXESS
Pace Project No.: 40102439

QC Batch: MSV/25530 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40102439001, 40102439002, 40102439003

METHOD BLANK: 1035361 Matrix: Water
Associated Lab Samples: 40102439001, 40102439002, 40102439003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	08/29/14 17:57	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	08/29/14 17:57	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	08/29/14 17:57	
1,1,2-Trichloroethane	ug/L	<0.16	1.0	08/29/14 17:57	
1,1-Dichloroethane	ug/L	<0.24	1.0	08/29/14 17:57	
1,1-Dichloroethene	ug/L	<0.41	1.0	08/29/14 17:57	
1,1-Dichloropropene	ug/L	<0.44	1.0	08/29/14 17:57	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	08/29/14 17:57	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	08/29/14 17:57	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	08/29/14 17:57	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	08/29/14 17:57	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	08/29/14 17:57	
1,2-Dibromoethane (EDB)	ug/L	<0.16	1.0	08/29/14 17:57	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	08/29/14 17:57	
1,2-Dichloroethane	ug/L	<0.17	1.0	08/29/14 17:57	
1,2-Dichloropropane	ug/L	<0.23	1.0	08/29/14 17:57	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	08/29/14 17:57	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	08/29/14 17:57	
1,3-Dichloropropane	ug/L	<0.50	1.0	08/29/14 17:57	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	08/29/14 17:57	
2,2-Dichloropropane	ug/L	<0.48	1.0	08/29/14 17:57	
2-Chlorotoluene	ug/L	<0.50	1.0	08/29/14 17:57	
4-Chlorotoluene	ug/L	<0.21	1.0	08/29/14 17:57	
Benzene	ug/L	<0.50	1.0	08/29/14 17:57	
Bromobenzene	ug/L	<0.23	1.0	08/29/14 17:57	
Bromochloromethane	ug/L	<0.34	1.0	08/29/14 17:57	
Bromodichloromethane	ug/L	<0.50	1.0	08/29/14 17:57	
Bromoform	ug/L	<0.50	1.0	08/29/14 17:57	
Bromomethane	ug/L	<2.4	5.0	08/29/14 17:57	
Carbon tetrachloride	ug/L	<0.50	1.0	08/29/14 17:57	
Chlorobenzene	ug/L	<0.50	1.0	08/29/14 17:57	
Chloroethane	ug/L	<0.37	1.0	08/29/14 17:57	
Chloroform	ug/L	<2.5	5.0	08/29/14 17:57	
Chloromethane	ug/L	<0.50	1.0	08/29/14 17:57	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	08/29/14 17:57	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	08/29/14 17:57	
Dibromochloromethane	ug/L	<0.50	1.0	08/29/14 17:57	
Dibromomethane	ug/L	<0.43	1.0	08/29/14 17:57	
Dichlorodifluoromethane	ug/L	<0.20	1.0	08/29/14 17:57	
Diisopropyl ether	ug/L	<0.50	1.0	08/29/14 17:57	
Ethylbenzene	ug/L	<0.50	1.0	08/29/14 17:57	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 194937 LANXESS
Pace Project No.: 40102439

METHOD BLANK: 1035361 Matrix: Water
Associated Lab Samples: 40102439001, 40102439002, 40102439003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	08/29/14 17:57	
isopropylbenzene (Cumene)	ug/L	<0.14	1.0	08/29/14 17:57	
m&p-Xylene	ug/L	<1.0	2.0	08/29/14 17:57	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	08/29/14 17:57	
Methylene Chloride	ug/L	<0.23	1.0	08/29/14 17:57	
n-Butylbenzene	ug/L	<0.50	1.0	08/29/14 17:57	
n-Propylbenzene	ug/L	<0.50	1.0	08/29/14 17:57	
Naphthalene	ug/L	<2.5	5.0	08/29/14 17:57	
o-Xylene	ug/L	<0.50	1.0	08/29/14 17:57	
p-Isopropyltoluene	ug/L	<0.50	1.0	08/29/14 17:57	
sec-Butylbenzene	ug/L	<2.2	5.0	08/29/14 17:57	
Styrene	ug/L	<0.50	1.0	08/29/14 17:57	
tert-Butylbenzene	ug/L	<0.18	1.0	08/29/14 17:57	
Tetrachloroethene	ug/L	<0.50	1.0	08/29/14 17:57	
Toluene	ug/L	<0.50	1.0	08/29/14 17:57	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	08/29/14 17:57	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	08/29/14 17:57	
Trichloroethene	ug/L	<0.33	1.0	08/29/14 17:57	
Trichlorofluoromethane	ug/L	<0.17	1.0	08/29/14 17:57	
Vinyl chloride	ug/L	<0.18	1.0	08/29/14 17:57	
4-Bromofluorobenzene (S)	%	95	59-130	08/29/14 17:57	
Dibromofluoromethane (S)	%	102	70-130	08/29/14 17:57	
Toluene-d8 (S)	%	97	70-130	08/29/14 17:57	

LABORATORY CONTROL SAMPLE & LCSD: 1035362

1035363

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	50	50.8	52.1	102	104	70-130	3	20	
1,1,1,2-Tetrachloroethane	ug/L	50	47.4	48.0	95	96	70-130	1	20	
1,1,2-Trichloroethane	ug/L	50	51.0	51.4	102	103	70-130	1	20	
1,1-Dichloroethane	ug/L	50	54.8	54.9	110	110	70-130	0	20	
1,1-Dichloroethene	ug/L	50	55.2	55.2	110	110	70-132	0	20	
1,2,4-Trichlorobenzene	ug/L	50	48.1	49.1	96	98	70-130	2	20	
1,2-Dibromo-3-chloropropane	ug/L	50	40.8	43.9	82	88	50-150	7	20	
1,2-Dibromoethane (EDB)	ug/L	50	51.5	51.4	103	103	70-130	0	20	
1,2-Dichlorobenzene	ug/L	50	50.9	51.9	102	104	70-130	2	20	
1,2-Dichloroethane	ug/L	50	54.1	54.0	108	108	70-130	0	20	
1,2-Dichloropropane	ug/L	50	51.1	50.8	102	102	70-130	0	20	
1,3-Dichlorobenzene	ug/L	50	49.8	50.4	100	101	70-130	1	20	
1,4-Dichlorobenzene	ug/L	50	49.7	50.0	99	100	70-130	1	20	
Benzene	ug/L	50	51.6	52.0	103	104	70-130	1	20	
Bromodichloromethane	ug/L	50	52.0	53.1	104	106	70-130	2	20	
Bromoform	ug/L	50	42.4	43.4	85	87	70-130	2	20	
Bromomethane	ug/L	50	51.8	54.9	104	110	34-157	6	20	

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QUALITY CONTROL DATA

Project: 194937 LANXESS
Pace Project No.: 40102439

LABORATORY CONTROL SAMPLE & LCSD: 1035362		1035363									
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers	
Carbon tetrachloride	ug/L	50	50.6	52.6	101	105	70-132	4	20		
Chlorobenzene	ug/L	50	51.8	52.4	104	105	70-130	1	20		
Chloroethane	ug/L	50	53.6	53.8	107	108	60-143	0	20		
Chloroform	ug/L	50	50.7	51.1	101	102	70-130	1	20		
Chloromethane	ug/L	50	53.1	53.7	106	107	43-148	1	20		
cis-1,2-Dichloroethene	ug/L	50	51.7	51.8	103	104	51-133	0	20		
cis-1,3-Dichloropropene	ug/L	50	46.8	47.5	94	95	70-130	1	20		
Dibromochloromethane	ug/L	50	46.4	48.1	93	96	70-130	4	20		
Dichlorodifluoromethane	ug/L	50	48.3	49.3	97	99	10-174	2	20		
Ethylbenzene	ug/L	50	52.7	52.9	105	106	70-130	0	20		
Isopropylbenzene (Cumene)	ug/L	50	52.3	52.9	105	106	70-136	1	20		
m&p-Xylene	ug/L	100	103	104	103	104	70-131	1	20		
Methyl-tert-butyl ether	ug/L	50	48.7	49.4	97	99	54-139	1	20		
Methylene Chloride	ug/L	50	53.1	53.0	106	106	70-130	0	20		
o-Xylene	ug/L	50	52.0	52.4	104	105	70-130	1	20		
Styrene	ug/L	50	52.0	52.0	104	104	70-130	0	20		
Tetrachloroethene	ug/L	50	53.1	53.8	106	108	70-130	1	20		
Toluene	ug/L	50	51.1	51.8	102	104	70-130	1	20		
trans-1,2-Dichloroethene	ug/L	50	53.2	53.8	106	108	70-130	1	20		
trans-1,3-Dichloropropene	ug/L	50	44.6	45.7	89	91	70-130	2	20		
Trichloroethene	ug/L	50	54.3	54.7	109	109	70-130	1	20		
Trichlorofluoromethane	ug/L	50	55.7	56.1	111	112	50-150	1	20		
Vinyl chloride	ug/L	50	53.5	53.6	107	107	59-157	0	20		
4-Bromofluorobenzene (S)	%				97	97	59-130				
Dibromofluoromethane (S)	%				103	104	70-130				
Toluene-d8 (S)	%				97	97	70-130				

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1036318		1036319										
Parameter	Units	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual	
		40102386010 Result	Spike Conc.	Spike Conc.	MS Result							MSD Result
1,1,1-Trichloroethane	ug/L	<0.50	50	50	50.7	51.5	101	103	70-130	2	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	45.9	46.0	92	92	70-130	0	20	
1,1,2-Trichloroethane	ug/L	<0.16	50	50	49.1	49.2	98	98	70-130	0	20	
1,1-Dichloroethane	ug/L	<0.24	50	50	53.6	53.5	107	107	70-130	0	20	
1,1-Dichloroethene	ug/L	<0.41	50	50	55.2	54.8	110	110	70-138	1	20	
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	48.1	48.4	96	96	70-130	1	20	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	41.8	41.0	84	82	50-150	2	20	
1,2-Dibromoethane (EDB)	ug/L	<0.16	50	50	49.3	49.2	99	98	70-130	0	20	
1,2-Dichlorobenzene	ug/L	<0.50	50	50	50.3	50.6	101	101	70-130	1	20	
1,2-Dichloroethane	ug/L	<0.17	50	50	51.8	52.1	104	104	70-130	0	20	
1,2-Dichloropropane	ug/L	<0.23	50	50	49.9	49.8	100	100	70-130	0	20	
1,3-Dichlorobenzene	ug/L	<0.50	50	50	49.8	49.6	100	99	70-130	0	20	
1,4-Dichlorobenzene	ug/L	<0.50	50	50	49.0	49.2	98	98	70-130	0	20	

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QUALITY CONTROL DATA

Project: 194937 LANXESS
 Pace Project No.: 40102439

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1036318		1036319		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40102386010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result										
Benzene	ug/L	<0.50	50	50	50.5	50.5	101	101	70-130	0	20				
Bromodichloromethane	ug/L	<0.50	50	50	52.0	52.2	104	104	70-130	0	20				
Bromoform	ug/L	<0.50	50	50	42.9	42.7	86	85	70-130	1	20				
Bromomethane	ug/L	<2.4	50	50	57.2	57.5	114	115	34-159	0	20				
Carbon tetrachloride	ug/L	<0.50	50	50	51.8	52.7	104	105	70-132	2	20				
Chlorobenzene	ug/L	<0.50	50	50	51.0	50.7	102	101	70-130	1	20				
Chloroethane	ug/L	<0.37	50	50	54.2	54.2	108	108	60-143	0	20				
Chloroform	ug/L	<2.5	50	50	49.6	49.6	99	99	70-130	0	20				
Chloromethane	ug/L	<0.50	50	50	57.2	57.1	114	114	43-149	0	20				
cis-1,2-Dichloroethene	ug/L	<0.26	50	50	50.6	50.3	101	101	48-137	1	33				
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	46.6	47.0	93	94	70-130	1	20				
Dibromochloromethane	ug/L	<0.50	50	50	46.7	46.7	93	93	70-130	0	20				
Dichlorodifluoromethane	ug/L	<0.20	50	50	59.1	57.6	118	115	10-174	2	20				
Ethylbenzene	ug/L	<0.50	50	50	51.7	51.7	103	103	70-130	0	20				
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	51.2	50.9	102	102	70-136	1	20				
m&p-Xylene	ug/L	<1.0	100	100	101	100	101	100	70-135	0	20				
Methyl-tert-butyl ether	ug/L	<0.17	50	50	47.5	47.2	95	94	54-139	1	20				
Methylene Chloride	ug/L	<0.23	50	50	51.9	52.4	104	105	70-133	1	20				
o-Xylene	ug/L	<0.50	50	50	50.8	50.6	102	101	70-130	0	20				
Styrene	ug/L	<0.50	50	50	50.4	50.2	101	100	70-130	0	20				
Tetrachloroethene	ug/L	<0.50	50	50	52.3	52.4	105	105	70-130	0	20				
Toluene	ug/L	<0.50	50	50	49.8	50.0	100	100	70-130	0	20				
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	52.2	52.6	104	105	70-130	1	20				
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	44.8	44.8	90	90	70-130	0	20				
Trichloroethene	ug/L	<0.33	50	50	53.0	53.3	106	107	70-130	0	20				
Trichlorofluoromethane	ug/L	<0.17	50	50	56.8	57.1	114	114	50-150	0	20				
Vinyl chloride	ug/L	<0.18	50	50	55.6	55.4	111	111	59-158	0	20				
4-Bromofluorobenzene (S)	%						97	96	59-130						
Dibromofluoromethane (S)	%						103	104	70-130						
Toluene-d8 (S)	%						97	98	70-130						

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QUALITY CONTROL DATA

Project: 194937 LANXESS
Pace Project No.: 40102439

QC Batch: MSV/25545 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 40102439004, 40102439005, 40102439006

METHOD BLANK: 1036007 Matrix: Water
Associated Lab Samples: 40102439004, 40102439005, 40102439006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	<0.18	1.0	09/02/14 07:31	
1,1,1-Trichloroethane	ug/L	<0.50	1.0	09/02/14 07:31	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	1.0	09/02/14 07:31	
1,1,2-Trichloroethane	ug/L	<0.16	1.0	09/02/14 07:31	
1,1-Dichloroethane	ug/L	<0.24	1.0	09/02/14 07:31	
1,1-Dichloroethene	ug/L	<0.41	1.0	09/02/14 07:31	
1,1-Dichloropropene	ug/L	<0.44	1.0	09/02/14 07:31	
1,2,3-Trichlorobenzene	ug/L	<2.1	5.0	09/02/14 07:31	
1,2,3-Trichloropropane	ug/L	<0.50	1.0	09/02/14 07:31	
1,2,4-Trichlorobenzene	ug/L	<2.2	5.0	09/02/14 07:31	
1,2,4-Trimethylbenzene	ug/L	<0.50	1.0	09/02/14 07:31	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	5.0	09/02/14 07:31	
1,2-Dibromoethane (EDB)	ug/L	<0.16	1.0	09/02/14 07:31	
1,2-Dichlorobenzene	ug/L	<0.50	1.0	09/02/14 07:31	
1,2-Dichloroethane	ug/L	<0.17	1.0	09/02/14 07:31	
1,2-Dichloropropane	ug/L	<0.23	1.0	09/02/14 07:31	
1,3,5-Trimethylbenzene	ug/L	<0.50	1.0	09/02/14 07:31	
1,3-Dichlorobenzene	ug/L	<0.50	1.0	09/02/14 07:31	
1,3-Dichloropropane	ug/L	<0.50	1.0	09/02/14 07:31	
1,4-Dichlorobenzene	ug/L	<0.50	1.0	09/02/14 07:31	
2,2-Dichloropropane	ug/L	<0.48	1.0	09/02/14 07:31	
2-Chlorotoluene	ug/L	<0.50	1.0	09/02/14 07:31	
4-Chlorotoluene	ug/L	<0.21	1.0	09/02/14 07:31	
Benzene	ug/L	<0.50	1.0	09/02/14 07:31	
Bromobenzene	ug/L	<0.23	1.0	09/02/14 07:31	
Bromochloromethane	ug/L	<0.34	1.0	09/02/14 07:31	
Bromodichloromethane	ug/L	<0.50	1.0	09/02/14 07:31	
Bromoform	ug/L	<0.50	1.0	09/02/14 07:31	
Bromomethane	ug/L	<2.4	5.0	09/02/14 07:31	
Carbon tetrachloride	ug/L	<0.50	1.0	09/02/14 07:31	
Chlorobenzene	ug/L	<0.50	1.0	09/02/14 07:31	
Chloroethane	ug/L	<0.37	1.0	09/02/14 07:31	
Chloroform	ug/L	<2.5	5.0	09/02/14 07:31	
Chloromethane	ug/L	<0.50	1.0	09/02/14 07:31	
cis-1,2-Dichloroethene	ug/L	<0.26	1.0	09/02/14 07:31	
cis-1,3-Dichloropropene	ug/L	<0.50	1.0	09/02/14 07:31	
Dibromochloromethane	ug/L	<0.50	1.0	09/02/14 07:31	
Dibromomethane	ug/L	<0.43	1.0	09/02/14 07:31	
Dichlorodifluoromethane	ug/L	<0.20	1.0	09/02/14 07:31	
Diisopropyl ether	ug/L	<0.50	1.0	09/02/14 07:31	
Ethylbenzene	ug/L	<0.50	1.0	09/02/14 07:31	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 194937 LANXESS
Pace Project No.: 40102439

METHOD BLANK: 1036007 Matrix: Water
Associated Lab Samples: 40102439004, 40102439005, 40102439006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Hexachloro-1,3-butadiene	ug/L	<2.1	5.0	09/02/14 07:31	
Isopropylbenzene (Cumene)	ug/L	<0.14	1.0	09/02/14 07:31	
m&p-Xylene	ug/L	<1.0	2.0	09/02/14 07:31	
Methyl-tert-butyl ether	ug/L	<0.17	1.0	09/02/14 07:31	
Methylene Chloride	ug/L	<0.23	1.0	09/02/14 07:31	
n-Butylbenzene	ug/L	<0.50	1.0	09/02/14 07:31	
n-Propylbenzene	ug/L	<0.50	1.0	09/02/14 07:31	
Naphthalene	ug/L	<2.5	5.0	09/02/14 07:31	
o-Xylene	ug/L	<0.50	1.0	09/02/14 07:31	
p-Isopropyltoluene	ug/L	<0.50	1.0	09/02/14 07:31	
sec-Butylbenzene	ug/L	<2.2	5.0	09/02/14 07:31	
Styrene	ug/L	<0.50	1.0	09/02/14 07:31	
tert-Butylbenzene	ug/L	<0.18	1.0	09/02/14 07:31	
Tetrachloroethene	ug/L	<0.50	1.0	09/02/14 07:31	
Toluene	ug/L	<0.50	1.0	09/02/14 07:31	
trans-1,2-Dichloroethene	ug/L	<0.26	1.0	09/02/14 07:31	
trans-1,3-Dichloropropene	ug/L	<0.23	1.0	09/02/14 07:31	
Trichloroethene	ug/L	<0.33	1.0	09/02/14 07:31	
Trichlorofluoromethane	ug/L	<0.17	1.0	09/02/14 07:31	
Vinyl chloride	ug/L	<0.18	1.0	09/02/14 07:31	
4-Bromofluorobenzene (S)	%	92	59-130	09/02/14 07:31	
Dibromofluoromethane (S)	%	104	70-130	09/02/14 07:31	
Toluene-d8 (S)	%	100	70-130	09/02/14 07:31	

LABORATORY CONTROL SAMPLE & LCSD: 1036008

1036009

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	50	45.8	46.2	92	92	70-130	1	20	
1,1,2,2-Tetrachloroethane	ug/L	50	52.9	51.7	106	103	70-130	2	20	
1,1,2-Trichloroethane	ug/L	50	53.9	53.1	108	106	70-130	1	20	
1,1-Dichloroethane	ug/L	50	59.2	58.1	118	116	70-130	2	20	
1,1-Dichloroethene	ug/L	50	61.8	61.7	124	123	70-132	0	20	
1,2,4-Trichlorobenzene	ug/L	50	50.6	50.0	101	100	70-130	1	20	
1,2-Dibromo-3-chloropropane	ug/L	50	37.0	36.0	74	72	50-150	3	20	
1,2-Dibromoethane (EDB)	ug/L	50	51.9	51.2	104	102	70-130	1	20	
1,2-Dichlorobenzene	ug/L	50	52.2	51.1	104	102	70-130	2	20	
1,2-Dichloroethane	ug/L	50	55.4	53.7	111	107	70-130	3	20	
1,2-Dichloropropane	ug/L	50	54.1	54.0	108	108	70-130	0	20	
1,3-Dichlorobenzene	ug/L	50	51.8	51.1	104	102	70-130	1	20	
1,4-Dichlorobenzene	ug/L	50	51.2	50.8	102	102	70-130	1	20	
Benzene	ug/L	50	54.6	53.2	109	106	70-130	3	20	
Bromodichloromethane	ug/L	50	52.6	52.1	105	104	70-130	1	20	
Bromoform	ug/L	50	41.4	40.9	83	82	70-130	1	20	
Bromomethane	ug/L	50	52.8	58.9	106	118	34-157	11	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 194937 LANXESS
Pace Project No.: 40102439

LABORATORY CONTROL SAMPLE & LCSD:		1036008	1036009							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Carbon tetrachloride	ug/L	50	43.2	44.1	86	88	70-132	2	20	
Chlorobenzene	ug/L	50	55.4	54.2	111	108	70-130	2	20	
Chloroethane	ug/L	50	56.1	54.1	112	108	60-143	4	20	
Chloroform	ug/L	50	53.1	52.3	106	105	70-130	2	20	
Chloromethane	ug/L	50	50.1	50.2	100	100	43-148	0	20	
cis-1,2-Dichloroethene	ug/L	50	59.4	58.2	119	116	51-133	2	20	
cis-1,3-Dichloropropene	ug/L	50	44.1	44.9	88	90	70-130	2	20	
Dibromochloromethane	ug/L	50	46.6	46.2	93	92	70-130	1	20	
Dichlorodifluoromethane	ug/L	50	43.4	43.7	87	87	10-174	1	20	
Ethylbenzene	ug/L	50	55.2	54.1	110	108	70-130	2	20	
Isopropylbenzene (Cumene)	ug/L	50	56.1	54.3	112	109	70-136	3	20	
m&p-Xylene	ug/L	100	109	107	109	107	70-131	3	20	
Methyl-tert-butyl ether	ug/L	50	50.4	49.1	101	98	54-139	3	20	
Methylene Chloride	ug/L	50	61.0	60.3	122	121	70-130	1	20	
o-Xylene	ug/L	50	55.0	54.1	110	108	70-130	2	20	
Styrene	ug/L	50	56.4	55.1	113	110	70-130	2	20	
Tetrachloroethene	ug/L	50	55.2	53.9	110	108	70-130	2	20	
Toluene	ug/L	50	54.7	53.4	109	107	70-130	2	20	
trans-1,2-Dichloroethene	ug/L	50	60.3	59.2	121	118	70-130	2	20	
trans-1,3-Dichloropropene	ug/L	50	37.0	37.0	74	74	70-130	0	20	
Trichloroethene	ug/L	50	56.3	55.2	113	110	70-130	2	20	
Trichlorofluoromethane	ug/L	50	59.8	58.6	120	117	50-150	2	20	
Vinyl chloride	ug/L	50	52.9	52.4	106	105	59-157	1	20	
4-Bromofluorobenzene (S)	%				100	99	59-130			
Dibromofluoromethane (S)	%				105	105	70-130			
Toluene-d8 (S)	%				100	100	70-130			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:		1036169	1036170									
Parameter	Units	40102454004		MS	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	Qual
		Result	Spike Conc.	Spike Conc.								
1,1,1-Trichloroethane	ug/L	<0.50	50	50	45.9	45.2	92	90	70-130	2	20	
1,1,2,2-Tetrachloroethane	ug/L	<0.25	50	50	52.6	50.4	105	101	70-130	4	20	
1,1,2-Trichloroethane	ug/L	<0.16	50	50	52.9	50.6	106	101	70-130	4	20	
1,1-Dichloroethane	ug/L	<0.24	50	50	59.5	57.6	119	115	70-130	3	20	
1,1-Dichloroethene	ug/L	<0.41	50	50	63.3	60.7	127	121	70-138	4	20	
1,2,4-Trichlorobenzene	ug/L	<2.2	50	50	49.3	48.1	99	96	70-130	2	20	
1,2-Dibromo-3-chloropropane	ug/L	<2.2	50	50	36.9	35.8	74	72	50-150	3	20	
1,2-Dibromoethane (EDB)	ug/L	<0.16	50	50	51.0	48.6	102	97	70-130	5	20	
1,2-Dichlorobenzene	ug/L	<0.50	50	50	51.8	49.4	104	99	70-130	5	20	
1,2-Dichloroethane	ug/L	<0.17	50	50	53.8	52.0	108	104	70-130	3	20	
1,2-Dichloropropane	ug/L	<0.23	50	50	53.9	51.5	108	103	70-130	4	20	
1,3-Dichlorobenzene	ug/L	<0.50	50	50	51.8	50.3	104	101	70-130	3	20	
1,4-Dichlorobenzene	ug/L	<0.50	50	50	51.6	49.5	103	99	70-130	4	20	

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QUALITY CONTROL DATA

Project: 194937 LANXESS

Pace Project No.: 40102439

Parameter	Units	MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1036169		1036170		MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max RPD	RPD	Qual
		40102454004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result										
Benzene	ug/L	<0.50	50	50	54.4	52.4	109	105	70-130	4	20				
Bromodichloromethane	ug/L	<0.50	50	50	51.7	49.6	103	99	70-130	4	20				
Bromoform	ug/L	<0.50	50	50	39.5	38.8	79	78	70-130	2	20				
Bromomethane	ug/L	<2.4	50	50	61.2	63.7	122	127	34-159	4	20				
Carbon tetrachloride	ug/L	<0.50	50	50	43.4	43.4	87	87	70-132	0	20				
Chlorobenzene	ug/L	<0.50	50	50	55.1	52.7	110	105	70-130	5	20				
Chloroethane	ug/L	<0.37	50	50	56.1	55.1	112	110	60-143	2	20				
Chloroform	ug/L	<2.5	50	50	53.8	51.1	108	102	70-130	5	20				
Chloromethane	ug/L	<0.50	50	50	50.5	49.3	100	98	43-149	3	20				
cis-1,2-Dichloroethene	ug/L	<0.26	50	50	60.2	57.6	120	115	48-137	4	33				
cis-1,3-Dichloropropene	ug/L	<0.50	50	50	43.8	42.1	88	84	70-130	4	20				
Dibromochloromethane	ug/L	<0.50	50	50	44.9	43.5	90	87	70-130	3	20				
Dichlorodifluoromethane	ug/L	<0.20	50	50	42.1	40.8	84	82	10-174	3	20				
Ethylbenzene	ug/L	<0.50	50	50	55.7	53.6	111	107	70-130	4	20				
Isopropylbenzene (Cumene)	ug/L	<0.14	50	50	55.9	53.6	112	107	70-136	4	20				
m&p-Xylene	ug/L	<1.0	100	100	110	105	110	105	70-135	4	20				
Methyl-tert-butyl ether	ug/L	<0.17	50	50	47.9	46.1	96	92	54-139	4	20				
Methylene Chloride	ug/L	<0.23	50	50	60.8	58.6	122	117	70-133	4	20				
o-Xylene	ug/L	<0.50	50	50	54.9	52.4	110	105	70-130	5	20				
Styrene	ug/L	<0.50	50	50	55.8	53.5	112	107	70-130	4	20				
Tetrachloroethene	ug/L	<0.50	50	50	55.7	52.9	111	106	70-130	5	20				
Toluene	ug/L	<0.50	50	50	55.2	53.1	110	106	70-130	4	20				
trans-1,2-Dichloroethene	ug/L	<0.26	50	50	60.9	58.7	122	117	70-130	4	20				
trans-1,3-Dichloropropene	ug/L	<0.23	50	50	35.7	34.9	71	70	70-130	2	20				
Trichloroethene	ug/L	<0.33	50	50	56.8	54.3	114	109	70-130	4	20				
Trichlorofluoromethane	ug/L	<0.17	50	50	60.1	58.1	120	116	50-150	3	20				
Vinyl chloride	ug/L	<0.18	50	50	53.2	51.8	106	104	59-158	3	20				
4-Bromofluorobenzene (S)	%						99	100	59-130						
Dibromofluoromethane (S)	%						104	105	70-130						
Toluene-d8 (S)	%						101	102	70-130						

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: 194937 LANXESS
Pace Project No.: 40102439

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

pH Post-analysis pH measurement indicates insufficient VOA sample preservation.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 194937 LANXESS
Pace Project No.: 40102439

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40102439001	MW-11S	EPA 8260	MSV/25530		
40102439002	MW-45M	EPA 8260	MSV/25530		
40102439003	MW-45S	EPA 8260	MSV/25530		
40102439004	MW-41S	EPA 8260	MSV/25545		
40102439005	TW-1	EPA 8260	MSV/25545		
40102439006	BLANK	EPA 8260	MSV/25545		

REPORT OF LABORATORY ANALYSIS

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(Please Print Clearly)

Company Name: TRC Environmental
 Branch/Location: Madison
 Project Contact: James Wedekind
 Phone: 608-826-3666
 Project Number: 194937
 Project Name: LanXESS
 Project State: WI
 Sampled By (Print): David Mills
 Sampled By (Sign): *[Signature]*



VGB

UPPER MIDWEST REGION

MN: 612-607-1700 WI: 920-469-2436

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40102439

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CHAIN OF CUSTODY

***Preservation Codes**
 A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
 H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

FILTERED?
(YES/NO)
 PRESERVATION
(CODE)*

V/M	Pres Label	Analysis Requested	Matrix	Collection Date	Collection Time	Matrix
N	B	VOC	GW	8/28/14	10:45	GW
					12:05	
					13:20	
					14:20	
					15:00	

Quote #:
 Mail To Contact: James Wedekind
 Mail To Company: TRC
 Mail To Address:
 Invoice To Contact:
 Invoice To Company:
 Invoice To Address:
 Invoice To Phone:
 CLIENT COMMENTS:
 LAB COMMENTS (Lab Use Only):
 Profile #:

PO #:
 Regulatory Program:
Data Package Options (billable)
 EPA Level III
 EPA Level IV
MS/MSD
 On your sample (billable)
 NOT needed on your sample
Matrix Codes
 A = Air W = Water
 B = Biota DW = Drinking Water
 C = Charcoal GW = Ground Water
 O = Oil SW = Surface Water
 S = Soil WW = Waste Water
 Sl = Sludge WP = Wipe

PACE LAB #	CLIENT FIELD ID	DATE	TIME	MATRIX
001	MW-11S	8/28/14	10:45	GW
002	MW-45M		12:05	
003	MW-45S		13:20	
004	MW-41S		14:20	
005	TW-1		15:00	
006	Blank			

Rush Turnaround Time Requested - Prelims (Rush TAT subject to approval/surcharge)
 Date Needed:
 Relinquished By: *[Signature]* Date/Time: 8/28/14 16:00
 Received By: *[Signature]* Date/Time:
 Transmit Prelim Rush Results by (complete what you want):
 Relinquished By: *[Signature]* Date/Time: 8/28/14 17:30
 Received By: *[Signature]* Date/Time: 8/28/14 17:30
 Email #1:
 Email #2:
 Telephone:
 Fax:
 Samples on HOLD are subject to special pricing and release of liability
 Receipt Temp = *R* °C
 Sample Receipt pH OK / Adjusted
 Cooler Custody Seal Present / Not Present Intact / Not Intact

FACE Project No. 40102439



Sample Condition Upon Receipt

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Client Name: FRC Environmental

Project #: WO#: 40102439



Courier: Fed Ex UPS Client Pace Other:
Tracking #:

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no
Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used NA Type of Ice: Wet Blue Dry None Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 20.1 / Corr: Biological Tissue is Frozen: yes no

Temp Blank Present: yes no

Person examining contents:
Date: 8/28/14
Initials: SB

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Table with 15 rows of inspection criteria and checkboxes. Includes items like Chain of Custody Present, Short Hold Time Analysis, Containers Intact, etc.

Client Notification/ Resolution: If checked, see attached form for additional comments
Person Contacted: Date/Time:
Comments/ Resolution:

Project Manager Review: [Signature] Date: 8/28/14