ARCADIS U.S., Inc.
430 First Avenue North
Suite 720
Minneapolis
Minnesota 55401
Tel 612 339 9434
Fax 612 336 4538

MEMO

To:
Ms. Shanna Schmitt &
Ms. Stacey Hendry-Van Patten
Minnesota Pollution Control Agency

Copies:
Mr. Chuck Pinter, Ford Motor Company
Mr. John Meyers, Ford Twin Cities Assembly Plant

From:
Angharad Pagnon

Date:
December 5, 2012

ARCADIS Project No.:
DE000440.0001

Subject:
Summary of Underground Storage Tank (UST) Sump Sampling Events Conducted
Ford Twin Cities Assembly Plant, St. Paul, Minnesota
MPCA VIC Project Number BP23530
MPCA PBP Project Number PB3682

On behalf of Ford Motor Company (Ford), ARCADUS U.S., Inc. (ARCADIS) has prepared this memo report summarizing the results of the underground storage tank sump sampling completed by ARCADIS in October 2012 at the Twin Cities Assembly Plant (TCAP) in St. Paul, Minnesota (Figure 1). This memo report also includes cumulative analytical data summary tables as requested per the Minnesota Pollution Control Agency (MPCA) “Report Approval for UST System Sampling” response letter dated August 8, 2011. UST sump sampling at the TCAP was conducted in accordance with the requirements of the MPCA Voluntary Investigation and Cleanup (VIC) Program and the Petroleum Brownfields Program (PBP), as well as the TCAP Field Sampling Plan (June,2007) and Quarterly Groundwater Sampling Events and Annual Underground Storage Tank Discharge Monitoring Work Plan (December 2007).

UST sump sampling activities have been performed at the site since the MPCA issued a Final Record of Decision (ROD) letter, dated March 23, 1993.

Site Location

The TCAP is located at 966 South Mississippi River Boulevard in St. Paul, Ramsey County, Minnesota at the approximate easting coordinate 484562.5 meters (m) and northing coordinate 4973822.5 m. The TCAP is located in a mixed industrial-, commercial-, and residential-use area on the eastern shore of the

Mississippi River, along the east side of South Mississippi River Boulevard, south of Ford Parkway and west of South Cleveland Avenue, in St. Paul, Minnesota (Figure 1).

Background – Former Bulk Storage and Waste Solvent UST Area

During the fall of 1984, the former bulk storage and waste solvent UST area (Feature 36) was constructed and four USTs were installed to store paints, resin, and new solvents delivered to TCAP in tanker trucks. The USTs were double walled steel tanks with corrosion protection and were anchored on buried 24-inch thick concrete pads. Only two of the four USTs were apparently utilized, one of which was placed into use in 1987 and the other was put into use in 1988 (other documentation reviewed indicates that all four USTs may have been utilized to store materials during different periods of time). Based on an analysis of the waste materials stored within the two USTs that were operated, the waste solvent in the tanks consisted of 45 percent xylene; 13.5 percent methyl isobutyl ketone (MIBK) and 12.5 percent toluene with a waste density of 0.882.

Ford conducted site investigation activities in this area in 1992 and 1993 based on a release of solvent related compound into the surrounding subsurface. It was determined that the impacted area was confined to the UST basin and that the Decorah shale approximately six to eight feet below grade is essentially impermeable to groundwater flow and would prevent vertical migration of contaminants. Based on the UST investigation results, an interim response action (IRA) for tank removal and remediation was implemented in 1992. The IRA consisted of removal of the four USTs, removal of 790 cubic yards of soil, replacement of the drain tile and sump system associated with the UST system, on-site thermal treatment of soils and backfill of the excavation with imported clean soil and treated soils. Two waste solvent USTs (Feature 35) were installed in this area in 1992, following the removal and remedial activities associated with the four former USTs. The UST location is depicted on Figure 2.

In addition to the IRA, the final remedy for the UST site as stated in MPCA's March 23, 1993 ROD included continued pumping of the UST sump (feature 46) to the wastewater treatment plant, periodic monitoring of the UST sump discharge, and periodic monitoring of the three monitoring wells present near the UST site. The UST site was de-listed from the Permanent List of Priorities (PLP) on July 8, 1993, and monitoring of the three UST site monitoring wells continued until 2003. At that time, the MPCA approved discontinuation of the well monitoring. Based on a 2006 Annual Monitoring Report completed by Conestoga Rovers and Associates (CRA), a sample obtained from the UST sump (Feature 46) revealed a continued decrease in the overall volatile organic compound (VOC) concentration since initial sampling in 1999. Subsequent sampling by ARCADIS since 2010 has identified analytical results below the United States Environmental Protection Agency (USEPA) Maximum Contaminant Level (MCL) and as of 2012 below the Minnesota Department of Health Health Risk Levels (HRLs).

Underground Storage Tank Sump Monitoring 2012

To satisfy the annual monitoring requirement, ARCADIS collected one liquid sample from the former bulk storage and waste solvent UST area collection system (sump), related to Features 35, 36, and 46. The UST sump sample was collected on October 25, 2012 from the exposed collection system with a disposable polyethylene bailer. Previously, annual samples were collected from a sampling port along the discharge line downstream of the dedicated sump pump. The dedicated sump pump is no longer operational and was taken out of service as a result of cessation of vehicle production and facility shutdown in December 2011. The sample was immediately placed into laboratory-supplied containers and submitted with appropriate chain-of-custody documentation to TestAmerica of North Canton, Ohio. The sample was submitted for analysis of VOCs using USEPA Method 8260. The sump sample location is depicted on Figure 2.

Immediately prior to sample collection, field parameters, including specific conductivity, temperature, pH, dissolved oxygen, and oxidation/reduction potential, were measured at the sample location using a multi-parameter water-quality monitor. Field parameter measurements are presented in Table 1.

Underground Storage Tank Sump Monitoring Results 2012

The UST sump sample analytical results were compared to the Minnesota Department of Health HRLs. A total of ten VOCs were detected above analytical reporting limits, with all detected concentrations of VOCs below their respective HRL. These results are a significant improvement in the quality of the liquid contained within the sump compared to historical results (See Table 2).

The laboratory analytical and Enovis data verification reports are provided in Attachment 1. Furthermore, a summary of UST sump sample analytical results from 1999 through 2012 are also summarized in Table 2 and supporting historical documentation provided in Attachment 2.

Data Quality Assurance Data Verification

In accordance with the FSP, a quality assurance/quality control (QA/QC) sample (trip blank) was submitted with the original sample and analyzed. The QA/QC protocols meet or exceed the standards of care required by the State of Minnesota. All samples submitted for analysis by ARCADIS underwent third party verification by Enovis, Inc. of Detroit, Michigan. Verification is a reduced validation, which includes the review of hold times, blank contamination, and surrogate recoveries. Enovis completed verification of the monitoring results and trip blank. There were no significant findings that would affect the overall usability of the data. As summarized in the Enovis report, results that were detected between the method detection limit and the reporting limited are estimated and qualified with a “J” flag. In addition, a limited number of compounds, including naphthalene, were detected in the method blank associated with the samples. As a result, the naphthalene result reported in the sample by the laboratory below the reporting

limit was verified as “non-detect” at the reporting limit. One compound (acetone) was detected in the trip blank at concentrations below the reporting limit. Therefore, the acetone result reported in the sample below the reporting limit was also verified as “non-detect” at the reporting limit.

Closing

Tank removal, as part of the overall plant decommissioning, is currently scheduled to occur in 2013. Annual sampling of the sump will continue until these USTs are removed. We appreciate your assistance with this project. If you have questions or need additional information, please call Angharad Pagnon of ARCADIS at 612.373.0223 or Chuck Pinter of Ford at 313.390.0875.

Attachments:
Table 1 - Underground Storage Tank Collection System Monitoring Parameters
Table 2 - Analytical Summary of Underground Storage Tank Collection System Sump Samples
Figure 1 - Site Location / Property Layout
Figure 2 - Sample Locations
Attachment 1 - 2012 Laboratory and Validation Reports
Attachment 2 – 1999 through 2007 Historical Analytical Tabulation

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Tables

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Table 1. Underground Storage Tank Collection System Monitoring Parameters
Twin Cities Assembly Plant, St. Paul, Minnesota

Location ID	Sample ID	Date	Temperature (°C)	pH	Field Specific Conductivity (µmhos/cm)	Adjusted Specific Conductivity (µmhos/cm @ 25°C)	ORP (mV)
UST Sump*	W-070913-CA-01	9/13/2007	16.80	6.28	646	773	NM
UST Sump	Sump	10/2/2008	14.90	6.51	620	777	51.3
UST Sump	Sump	9/30/2009	14.71	6.44	626	788	76.1
UST Sump	Sump	11/4/2010	9.09	6.16	428	628	104.3
UST Sump	Sump	11/7/2011	11.95	7.22	874	1,183	-87
UST Sump	Sump	10/25/2012	11.85	7.70	490	665	31

Notes:

*	Data from the Conestoga-Rovers & Associates 2007 Annual Monitoring Report for the Undergroundstorage Tank (UST) Site, October 2, 2007.
^{o}C	Degrees Celsius.
mV	Millivolts.
NM	Not Measured.
ORP	Oxidation/Reduction Potential.
µmhos/cm	Micromhos per centimeter.
UST	Underground Storage Tank.

Table 2. Analytical Summary of Underground Storage Tank Collection System Sump Samples
Twin Cities Assembly Plant, St. Paul, Minnesota

Feature or Area				MDH Health Based Water Guidance		SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP
Sample ID			EPA			SUMP	SUMP (DUP)	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP
Sample Date	Analytical Method	Unit	MCL	Value	Basis	6/9/1999	6/9/1999	10/4/1999	6/30/2000	9/15/2000	6/7/2001	10/8/2001	6/27/2002	10/11/2002	6/30/2003	10/2/2003	8/17/2004
VOCs																	
1,1,1,2-Tetrachloroethane	OSW-8260B	ug/l	NS	70	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,1-Trichloroethane	OSW-8260B	ug/l	200	9000	2009 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	OSW-8260B	ug/l	NS	2	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	OSW-8260B	ug/l	NS	200000	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	OSW-8260B	ug/l	5	3	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	OSW-8260B	ug/l	NS	100	2009 RAA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	OSW-8260B	ug/l	7	200	2009 HBV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloropropene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	OSW-8260B	ug/l	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2,3-Trichloropropane	OSW-8260B	ug/l	NS	0.003	2010 HBV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	OSW-8260B	ug/l	70	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trimethylbenzene	OSW-8260B	ug/l	NS	100	2010 RAA	310	340	ND	360	ND	250	ND	150	130	94 J	260 J	ND
1,2-Dibromo-3-chloropropane (DBCP)	OSW-8260B	ug/l	0.2	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	OSW-8260B	ug/l	600	600	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	OSW-8260B	ug/l	5	4	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	OSW-8260B	ug/l	5	5	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3,5-Trimethylbenzene	OSW-8260B	ug/l	NS	100	2008 HRL	420	430	ND	ND	ND	ND	ND	75	50	ND	ND	ND
1,3-Dichlorobenzene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	OSW-8260B	ug/l	75	10	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1.3-Dichloropropane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,2-Dichloropropane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone (MEK)	OSW-8260B	ug/l	NS	4000	1993/94 HRL	25000	25000	ND	2100	ND	ND	ND	ND	ND	ND	ND	ND
2-Chlorotoluene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Chlorotoluene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	OSW-8260B	ug/l	NS	4000	2011 HRL	43000	43000	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Allyl chloride	OSW-8260B	ug/l	NS	30	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	OSW-8260B	ug/l	5	2	2008 HRL	ND	ND	ND	ND	ND	ND	ND	ND	24	ND	ND	ND
Bromobenzene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	OSW-8260B	ug/l	80	6	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	OSW-8260B	ug/l	80	40	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	OSW-8260B	ug/l	NS	10	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Butylbenzene	OSW-8260B	ug/l	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	45	32	ND	ND	ND
Carbon disulfide	OSW-8260B	ug/l	NS	700	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	OSW-8260B	ug/l	5	1	2010 HBV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	OSW-8260B	ug/l	100	100	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorodibromomethane	OSW-8260B	ug/l	80	10	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	OSW-8260B	ug/l	70	30	2008 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	OSW-8260B	ug/l	70	50	2008 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromomethane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane (CFC-12)	OSW-8260B	ug/l	NS	700	2009 HBV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorofluoromethane (Freon 21)	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diethyl ether	OSW-8260B	ug/l	NS	200	2010 RAA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	OSW-8260B	ug/l	700	50	2011 HRL	3300	3500	8000	1200	2300	1600	6600	390	1000	630	5100	3000

Table 2. Analytical Summary of Underground Storage Tank Collection System Sump Samples
Twin Cities Assembly Plant, St. Paul, Minnesota

Feature or Area				MDH Health Based Water		SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP
Sample ID			EPA	Guidance		SUMP	SUMP (DUP)	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP
Sample Date	Analytical Method	Unit	MCL	Value	Basis	6/9/1999	6/9/1999	10/4/1999	6/30/2000	9/15/2000	6/7/2001	10/8/2001	6/27/2002	10/11/2002	6/30/2003	10/2/2003	8/17/2004
Ethylene dibromide	OSW-8260B	ug/l	0.05	0.004	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobutadiene	OSW-8260B	ug/l	NS	1	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	OSW-8260B	ug/l	NS	300	1993/94 HRL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	440 J
Methyl acetate	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl isobutyl ketone	OSW-8260B	ug/l	NS	300	1993/94 HRL	200000	200000	74000	48000	32000	31000	18000	5600	9000	3600	32000	11000
Methyl tertiary butyl ether (MTBE)	OSW-8260B	ug/l	NS	70	2000 HBV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	OSW-8260B	ug/l	5	5	2009 HRL/MCL	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
m-Xylene & p-Xylene	OSW-8260B	ug/l	10000*	300*	2011 HRL	15000	16000	35000	7600	14000	9200	33000	5300	10000	8500	36000	33000
Naphthalene	OSW-8260B	ug/l	NS	300	1994 HRL	ND	ND	ND	ND	ND	ND	ND	34	77	210	220 J	ND
n-Propylbenzene	OSW-8260B	ug/l	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
p-Isopropyltoluene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
sec-Butylbenzene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	OSW-8260B	ug/l	100	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tert-butylbenzene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	OSW-8260B	ug/l	5	5	MCL HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrahydrofuran	OSW-8260B	ug/l	NS	100	1995 HBV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	OSW-8260B	ug/l	1000	200	2011 HRL	3000	3300	4300	1700	1800	1700	4600	460	800	610	2900	ND
trans-1,2-Dichloroethene	OSW-8260B	ug/l	100	100	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	OSW-8260B	ug/l	5	5	MCL HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane (CFC-11)	OSW-8260B	ug/l	NS	2000	1993/94 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	OSW-8260B	ug/l	2	0.2	2009 HRL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Xylene, -o	OSW-8260B	ug/l	10000*	300*	2011 HRL	6800	6800	11000	3800	5800	4300	13000	2300	3200	2300	8600	7800

Notes:

Results are reported in micrograms per liter (ug/l) unless otherwise noted.

Historical results from 1999 through 2007 acquired through VOC detection tabulation presented in the 2007 UST Sump Sampling submittal by Conestoga Rovers and Associates (Attachment 2).

NS	No standard.
NA	Not analyzed, historical analysis of constituent can not be confirmed.
ND	Not detected, Reporting Limit not available.
<	Constitutent not detected above Reporting Limit.
J	Estimated result.
Shaded	Value is above the EPA Maximum Contaminant Level (MCL)
Boxed	Value is above the MDH Health Based Water Guidance
Italic	Reporting limit for non detect result exceeds MDH Health Based Water Guidance Criteria
HRL	Health Risk Limit
HBV	Health Based Values
RAA	Risk Assessment Advice
DUP	Duplicate
VOCs	Volatile organic compounds.
MEK	Methyl ethyl ketone.
ft bgs	Feet below ground surface.
*	Combined before comparison - Criteria for Total Xylenes used.

Table 2. Analytical Summary of Underground Storage Tank Collection System Sump Samples
Twin Cities Assembly Plant, St. Paul, Minnesota

Feature or Area				MDH Health Based Water Guidance		SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP
Sample ID			EPA			SUMP	SUMP	SUMP (09132007)	SUMP (10/2/2008)	SUMP (09/30/2009)	SUMP-01 (11/4/2010)	SUMP (20111107)	SUMP (20121025)
Sample Date	Analytical Method	Unit	MCL	Value	Basis	10/21/2005	5/17/2006	9/13/2007	10/2/2008	9/30/2009	11/4/2010	11/7/2011	10/25/2012
VOCs													
1,1,1,2-Tetrachloroethane	OSW-8260B	ug/l	NS	70	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
1,1,1-Trichloroethane	OSW-8260B	ug/l	200	9000	2009 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
1,1,2,2-Tetrachloroethane	OSW-8260B	ug/l	NS	2	1993/94 HRL	NA	NA	ND	< 500 J	< 710 J	< 33	< 140	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	OSW-8260B	ug/l	NS	200000	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
1,1,2-Trichloroethane	OSW-8260B	ug/l	5	3	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
1,1-Dichloroethane	OSW-8260B	ug/l	NS	100	2009 RAA	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
1,1-Dichloroethene	OSW-8260B	ug/l	7	200	2009 HBV	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
1,1-Dichloropropene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
1,2,3-Trichlorobenzene	OSW-8260B	ug/l	NS	NS	NS	ND	ND	ND	< 500	< 710 J	< 33	< 140	< 1.0
1,2,3-Trichloropropane	OSW-8260B	ug/l	NS	0.003	2010 HBV	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
1,2,4-Trichlorobenzene	OSW-8260B	ug/l	70	NS	NS	NA	NA	ND	< 500	< 710 J	< 33	< 140	< 1.0
1,2,4-Trimethylbenzene	OSW-8260B	ug/l	NS	100	2010 RAA	20	15	120 J	220 J	250 J	12 J	80 J	0.88 J
1,2-Dibromo-3-chloropropane (DBCP)	OSW-8260B	ug/l	0.2	NS	NS	NA	NA	ND	< 1000	< 1400	< 67	< 290	< 2.0
1,2-Dichlorobenzene	OSW-8260B	ug/l	600	600	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
1,2-Dichloroethane	OSW-8260B	ug/l	5	4	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
1,2-Dichloropropane	OSW-8260B	ug/l	5	5	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
1,3,5-Trimethylbenzene	OSW-8260B	ug/l	NS	100	2008 HRL	19	7.2	59 J	91 J	120 J	9.0 J	43 J	0.39 J
1,3-Dichlorobenzene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
1,4-Dichlorobenzene	OSW-8260B	ug/l	75	10	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
1.3-Dichloropropane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
2,2-Dichloropropane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
2-Butanone (MEK)	OSW-8260B	ug/l	NS	4000	1993/94 HRL	ND	ND	ND	< 5000	< 7100	< 330	< 1400	1.0 J
2-Chlorotoluene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
2-Hexanone	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	< 5000	< 7100	< 330	< 1400	< 10
4-Chlorotoluene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Acetone	OSW-8260B	ug/l	NS	4000	2011 HRL	ND	ND	ND	< 5000	< 7100	< 330	< 1400	< 10
Allyl chloride	OSW-8260B	ug/l	NS	30	1993/94 HRL	NA	NA	ND	< 1000	< 1400	< 67	< 290	< 2.0
Benzene	OSW-8260B	ug/l	5	2	2008 HRL	ND	ND	ND	< 500	< 710	< 33	< 140	< 1.0
Bromobenzene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Bromochloromethane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Bromodichloromethane	OSW-8260B	ug/l	80	6	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Bromoform	OSW-8260B	ug/l	80	40	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Bromomethane	OSW-8260B	ug/l	NS	10	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Butylbenzene	OSW-8260B	ug/l	NS	NS	NS	ND	ND	ND	< 500	< 710	< 33	< 140	< 1.0
Carbon disulfide	OSW-8260B	ug/l	NS	700	1993/94 HRL	NA	NA	NA	< 500	< 710	< 33	< 140	< 1.0
Carbon tetrachloride	OSW-8260B	ug/l	5	1	2010 HBV	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Chlorobenzene	OSW-8260B	ug/l	100	100	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Chlorodibromomethane	OSW-8260B	ug/l	80	10	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Chloroethane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Chloroform	OSW-8260B	ug/l	70	30	2008 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Chloromethane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
cis-1,2-Dichloroethene	OSW-8260B	ug/l	70	50	2008 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
cis-1,3-Dichloropropene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500 J	< 710	< 33	< 140	< 1.0
Cyclohexane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	< 500	< 710	< 33	< 140	< 1.0
Dibromomethane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Dichlorodifluoromethane (CFC-12)	OSW-8260B	ug/l	NS	700	2009 HBV	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Dichlorofluoromethane (Freon 21)	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	< 500	< 710	< 33	< 290	< 2.0
Diethyl ether	OSW-8260B	ug/l	NS	200	2010 RAA	NA	NA	ND	< 500	< 710	< 33	< 290	< 2.0
Ethylbenzene	OSW-8260B	ug/l	700	50	2011 HRL	82	120	1100	5800	6900	54	700	18

Table 2. Analytical Summary of Underground Storage Tank Collection System Sump Samples
Twin Cities Assembly Plant, St. Paul, Minnesota

Feature or Area				MDH Health Based Water		SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP
Sample ID			EPA	Guidance		SUMP	SUMP	SUMP (09132007)	SUMP (10/2/2008)	SUMP (09/30/2009)	SUMP-01 (11/4/2010)	SUMP (20111107)	SUMP (20121025)
Sample Date	Analytical Method	Unit	MCL	Value	Basis	10/21/2005	5/17/2006	9/13/2007	10/2/2008	9/30/2009	11/4/2010	11/7/2011	10/25/2012
Ethylene dibromide	OSW-8260B	ug/l	0.05	0.004	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Hexachlorobutadiene	OSW-8260B	ug/l	NS	1	1993/94 HRL	NA	NA	ND	< 500	< 710 J	< 33	< 140	< 1.0
Isopropylbenzene	OSW-8260B	ug/l	NS	300	1993/94 HRL	15	ND	ND	< 500	< 710	< 33	< 140	0.18 J
Methyl acetate	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	< 5000	< 7100	< 330	< 1400	< 10
Methyl isobutyl ketone	OSW-8260B	ug/l	NS	300	1993/94 HRL	39	1900	530 J	2900	4100	< 170	250 J	0.34 J
Methyl tertiary butyl ether (MTBE)	OSW-8260B	ug/l	NS	70	2000 HBV	NA	NA	ND	< 1000	< 1400	< 67	< 710	< 5.0
Methylcyclohexane	OSW-8260B	ug/l	NS	NS	NS	NA	NA	NA	< 500	< 710	< 33	< 140	< 1.0
Methylene chloride	OSW-8260B	ug/l	5	5	2009 HRL/MCL	ND	ND	ND	< 520	< 710	< 33	< 140	< 1.0
m-Xylene & p-Xylene	OSW-8260B	ug/l	10000*	300*	2011 HRL	1200	1300	12000	36000	46000	1200	7400 J	70
Naphthalene	OSW-8260B	ug/l	NS	300	1994 HRL	28	51	88 J	150 J	500 J	8.1 J	61 J	< 1.0
n-Propylbenzene	OSW-8260B	ug/l	NS	NS	NS	9.6	ND	ND	< 500	420 J	< 33	< 140	0.20 J
p-Isopropyltoluene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
sec-Butylbenzene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Styrene	OSW-8260B	ug/l	100	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Tert-butylbenzene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Tetrachloroethene	OSW-8260B	ug/l	5	5	MCL HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Tetrahydrofuran	OSW-8260B	ug/l	NS	100	1995 HBV	NA	NA	ND	< 2500	< 3600	< 170	< 710	< 5.0
Toluene	OSW-8260B	ug/l	1000	200	2011 HRL	46	39	470	2100	2100	26 J	180	0.34 J
trans-1,2-Dichloroethene	OSW-8260B	ug/l	100	100	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
trans-1,3-Dichloropropene	OSW-8260B	ug/l	NS	NS	NS	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Trichloroethene	OSW-8260B	ug/l	5	5	MCL HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Trichlorofluoromethane (CFC-11)	OSW-8260B	ug/l	NS	2000	1993/94 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Vinyl chloride	OSW-8260B	ug/l	2	0.2	2009 HRL	NA	NA	ND	< 500	< 710	< 33	< 140	< 1.0
Xylene, -o	OSW-8260B	ug/l	10000*	300*	2011 HRL	370	350	2900	9100	10000	280	1600	6.2

Notes:

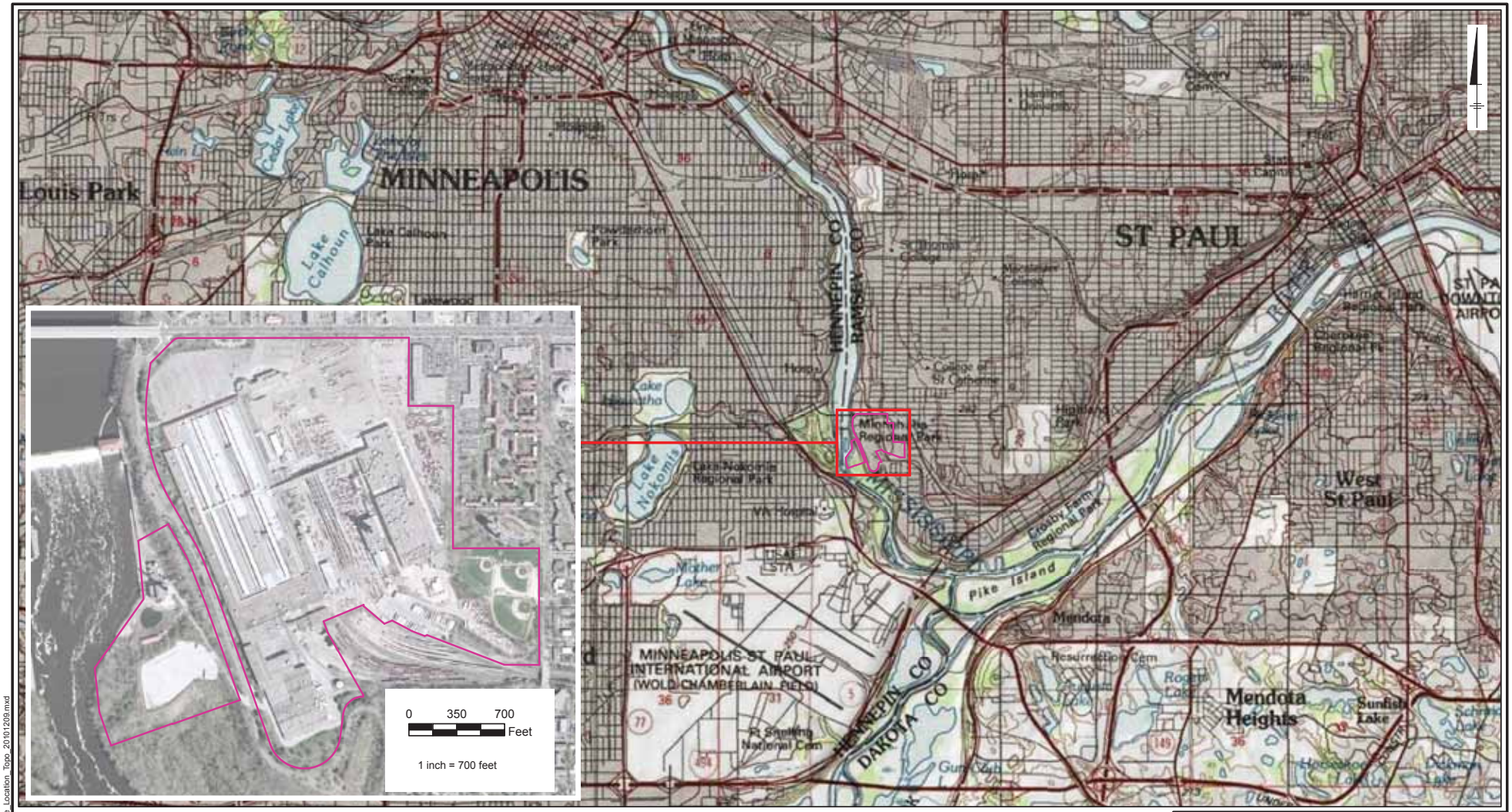
Results are reported in micrograms per liter (ug/l) unless otherwise noted.

Historical results from 1999 through 2007 acquired through VOC detection tabulation presented in the 2007 UST Sump Sampling submittal by Conestoga Rovers and Associates (Attachment 2).

NS	No standard.
NA	Not analyzed, historical analysis of constituent can not be confirmed.
ND	Not detected, Reporting Limit not available.
<	Constitutent not detected above Reporting Limit.
J	Estimated result.
Shaded	Value is above the EPA Maximum Contaminant Level (MCL)
Boxed	Value is above the MDH Health Based Water Guidance
Italic	Reporting limit for non detect result exceeds MDH Health Based Water Guidance Criteria
HRL	Health Risk Limit
HBV	Health Based Values
RAA	Risk Assessment Advice
DUP	Duplicate
VOCs	Volatile organic compounds.
MEK	Methyl ethyl ketone.
ft bgs	Feet below ground surface.
*	Combined before comparison - Criteria for Total Xylenes used.

ARCADIS

Figures



LEGEND:

Ford Property Boundary

NOTES:

Imagery Source: United States Geological Survey
High Resolution Orthoimagery for the Minneapolis-St. Paul, Minnesota Urban Area

Topographic Map Source:
© 2007 National Geographic Society

0 1 2 Miles

1 inch = 1 miles

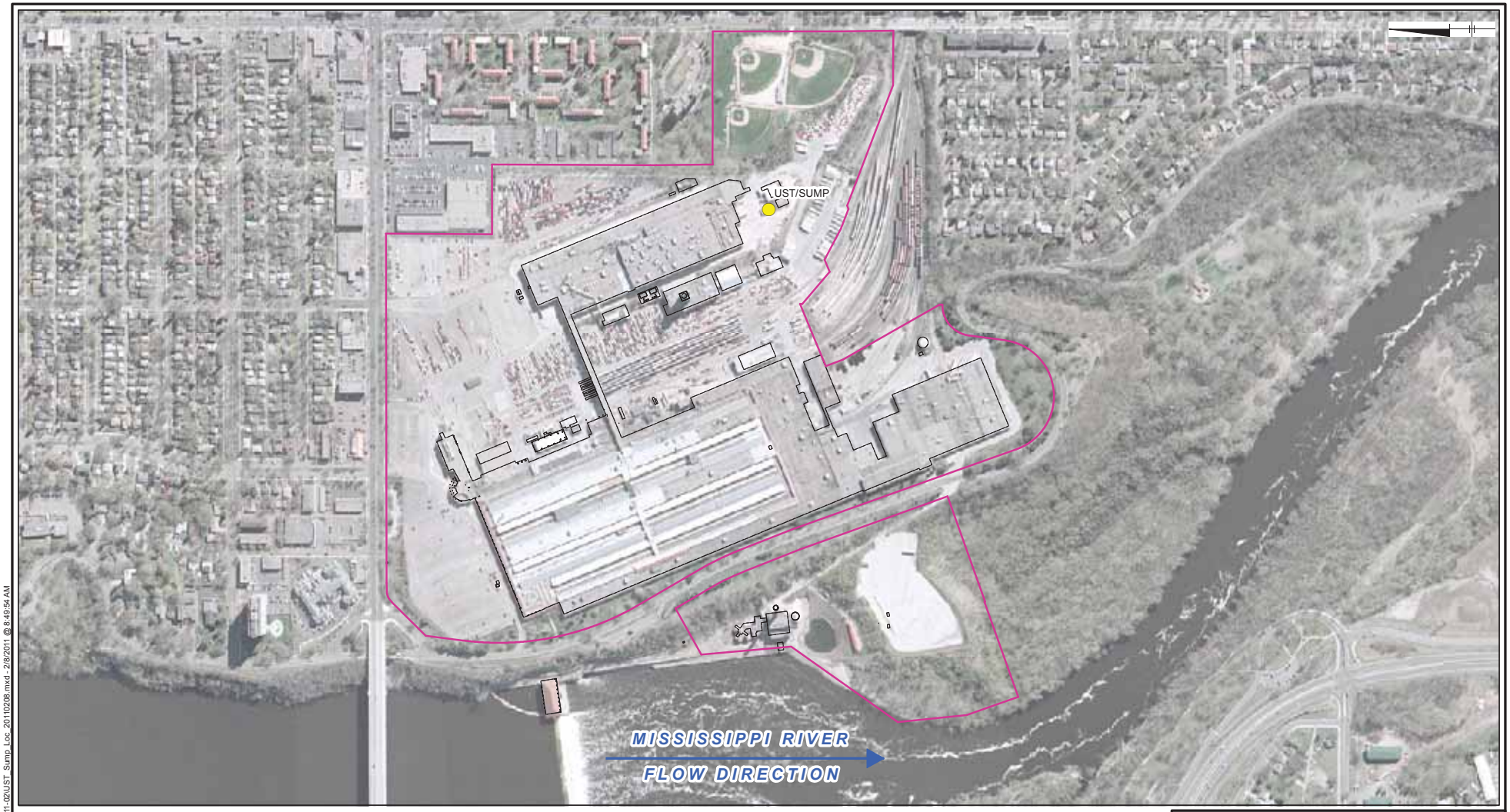
Twin Cities Assembly Plant
Ford Motor Company
St. Paul, Minnesota

Site Location / Property Layout

ARCADIS

FIGURE 1

CITY: Minneapolis MN DB: MGress PM: BZinda
Project Mgr: Bob Zinda
G:\GIS\Projects\Ford Ranger\ArcMap\Fig1_Site_Location_Topo_20101209.mxd



LEGEND:

- UST/Sump Sampling Location
- Ford Property Boundary

0 450 900 Feet

GRAPHIC SCALE

Imagery Source: United States Geological Survey
High Resolution Orthoimagery for the Minneapolis-St. Paul, Minnesota Urban Area

Twin Cities Assembly Plant
Ford Motor Company
St. Paul, Minnesota

Sample Locations

ARCADIS

FIGURE 2

CITY: MPLS DIV/GROUP: IM DB: MG LD: TW PM: BZ
FORD ST PAUL
G:\GIS\Projects\Ford Ranger\ArcMap\2011\2011-02\UST_Sump_Loc_20110208.mxd - 2/8/2011 @ 8:49:54 AM

Attachment 1

2012 Laboratory and Validation Reports

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

Job Number: 240-16901-1

Job Description: Ford TCAP - E200572

For:
ARCADIS U.S., Inc.
28550 Cabot Drive
Suite 500
Novi, MI 48377

Attention: Mr. Rob Ellis

Approved for release.
Denise Pohl
Project Manager II
11/16/2012 1:54 PM

Denise Pohl
Project Manager II
denise.pohl@testamericainc.com
11/16/2012

CASE NARRATIVE

Client: ARCADIS U.S., Inc.

Project: Ford TCAP - E200572

Report Number: 240-16901-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica North Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

RECEIPT

The samples were received on 10/27/2012; the samples arrived in good condition, properly preserved and on ice. The temperature of the cooler at receipt was 2.6 C.

VOLATILE ORGANIC COMPOUNDS (GC-MS)

Samples SUMP (20121025) (240-16901-1) and TB-01 (2012102) (240-16901-2) were analyzed for volatile organic compounds (GC-MS) in accordance with EPA SW-846 Method 8260B. The samples were analyzed on 11/06/2012.

Methylene Chloride was detected in method blank MB 240-63934/5 at a level exceeding the reporting limit. If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Several analytes were detected in method blank MB 240-63934/5 at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged "J". If the associated sample reported a result above the MDL and/or RL, the result has been "B" flagged. Refer to the QC report for details.

1,1,2-Trichloro-1,2,2-trifluoroethane and Methylcyclohexane failed the recovery criteria high for LCS 240-63934/4. Refer to the QC report for details.

Method 8260B: The laboratory control sample (LCS) for batch 63934 exceeded control limits for the following analytes: 1,1,2-Trichloro-1,2,2-trifluoroethane and Methylcyclohexane. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No other difficulties were encountered during the VOCs analyses.

All other quality control parameters were within the acceptance limits.

EXECUTIVE SUMMARY - Detections

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Lab Sample ID / Analyte	Client Sample ID	Result	Qualifier	Reporting Limit	Units	Method
240-16901-1	**SUMP (20121025)**					
1,2,4-Trimethylbenzene		0.88	J	1.0	ug/L	8260B
1,3,5-Trimethylbenzene		0.39	J	1.0	ug/L	8260B
Acetone		2.2	J	10	ug/L	8260B
Ethylbenzene		18		1.0	ug/L	8260B
Naphthalene		0.88	J B	1.0	ug/L	8260B
m-Xylene & p-Xylene		70		2.0	ug/L	8260B
Isopropylbenzene		0.18	J	1.0	ug/L	8260B
N-Propylbenzene		0.20	J	1.0	ug/L	8260B
2-Butanone (MEK)		1.0	J	10	ug/L	8260B
4-Methyl-2-pentanone (MIBK)		0.34	J	10	ug/L	8260B
o-Xylene		6.2		1.0	ug/L	8260B
Toluene		0.34	J	1.0	ug/L	8260B
240-16901-2TB	**TB-01 (2012102)**					
Acetone		1.6	J	10	ug/L	8260B

METHOD SUMMARY

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Description	Lab Location	Method	Preparation Method
Matrix: Water			
Volatile Organic Compounds (GC/MS)	TAL NC	SW846 8260B	
Purge and Trap	TAL NC		SW846 5030B

Lab References:

TAL NC = TestAmerica Canton

Method References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

METHOD / ANALYST SUMMARY

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Method	Analyst	Analyst ID
SW846 8260B	Williams, Larry	LW

SAMPLE SUMMARY

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Lab Sample ID	Client Sample ID	Client Matrix	Date/Time Sampled	Date/Time Received
240-16901-1	SUMP (20121025)	Water	10/25/2012 0855	10/27/2012 0945
240-16901-2TB	TB-01 (2012102)	Water	10/25/2012 0000	10/27/2012 0945

SAMPLE RESULTS

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Client Sample ID: **SUMP (20121025)**

Lab Sample ID: 240-16901-1 Date Sampled: 10/25/2012 0855
Client Matrix: Water Date Received: 10/27/2012 0945

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	UXM8554.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 1942			Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 1942				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.23	1.0
1,1,1-Trichloroethane	ND		0.22	1.0
1,1,2,2-Tetrachloroethane	ND		0.18	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	*	0.28	1.0
1,1,2-Trichloroethane	ND		0.27	1.0
1,1-Dichloroethane	ND		0.15	1.0
1,1-Dichloroethene	ND		0.19	1.0
1,1-Dichloropropene	ND		0.13	1.0
1,2,3-Trichlorobenzene	ND		0.17	1.0
1,2,3-Trichloropropane	ND		0.43	1.0
1,2,4-Trichlorobenzene	ND		0.15	1.0
1,2,4-Trimethylbenzene	0.88	J	0.12	1.0
1,2-Dibromo-3-Chloropropane	ND		0.67	2.0
1,2-Dichlorobenzene	ND		0.13	1.0
1,2-Dichloroethane	ND		0.22	1.0
1,2-Dichloropropane	ND		0.18	1.0
1,3,5-Trimethylbenzene	0.39	J	0.096	1.0
1,3-Dichlorobenzene	ND		0.14	1.0
1,3-Dichloropropane	ND		0.16	1.0
1,4-Dichlorobenzene	ND		0.13	1.0
Allyl chloride	ND		0.35	2.0
2,2-Dichloropropane	ND		0.13	1.0
2-Chlorotoluene	ND		0.11	1.0
2-Hexanone	ND		0.41	10
Bromobenzene	ND		0.13	1.0
Bromochloromethane	ND		0.29	1.0
4-Chlorotoluene	ND		0.18	1.0
p-Isopropyltoluene	ND		0.12	1.0
Acetone	2.2	J	1.1	10
Benzene	ND		0.13	1.0
Bromoform	ND		0.64	1.0
Bromomethane	ND		0.41	1.0
Carbon disulfide	ND		0.13	1.0
Carbon tetrachloride	ND		0.13	1.0
Chlorobenzene	ND		0.15	1.0
Chloroethane	ND		0.29	1.0
Chloroform	ND		0.16	1.0
Chloromethane	ND		0.30	1.0
cis-1,2-Dichloroethene	ND		0.17	1.0
cis-1,3-Dichloropropene	ND		0.14	1.0
Cyclohexane	ND		0.12	1.0
Hexachlorobutadiene	ND		0.30	1.0
Dibromomethane	ND		0.28	1.0
Bromodichloromethane	ND		0.15	1.0
Dichlorodifluoromethane	ND		0.31	1.0
Dichlorofluoromethane	ND		0.42	2.0

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Client Sample ID: **SUMP (20121025)**

Lab Sample ID: 240-16901-1 Date Sampled: 10/25/2012 0855
Client Matrix: Water Date Received: 10/27/2012 0945

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	UXM8554.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 1942			Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 1942				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Ethyl ether	ND		0.31	2.0
Ethylbenzene	18		0.17	1.0
1,2-Dibromoethane	ND		0.24	1.0
Naphthalene	0.88	J B	0.24	1.0
m-Xylene & p-Xylene	70		0.24	2.0
n-Butylbenzene	ND		0.12	1.0
Isopropylbenzene	0.18	J	0.13	1.0
Methyl acetate	ND		0.38	10
N-Propylbenzene	0.20	J	0.14	1.0
2-Butanone (MEK)	1.0	J	0.57	10
4-Methyl-2-pentanone (MIBK)	0.34	J	0.32	10
sec-Butylbenzene	ND		0.13	1.0
Methyl tert butyl ether	ND		0.17	5.0
Methylene Chloride	ND		0.33	1.0
o-Xylene	6.2		0.14	1.0
Styrene	ND		0.11	1.0
tert-Butylbenzene	ND		0.13	1.0
Tetrachloroethene	ND		0.29	1.0
Tetrahydrofuran	ND		0.42	5.0
Toluene	0.34	J	0.13	1.0
trans-1,2-Dichloroethene	ND		0.19	1.0
trans-1,3-Dichloropropene	ND		0.19	1.0
Trichloroethene	ND		0.17	1.0
Trichlorofluoromethane	ND		0.21	1.0
Vinyl chloride	ND		0.22	1.0
Methylcyclohexane	ND	*	0.13	1.0
Chlorodibromomethane	ND		0.18	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	98		63 - 129
4-Bromofluorobenzene (Surr)	94		66 - 117
Toluene-d8 (Surr)	89		74 - 115
Dibromofluoromethane (Surr)	96		75 - 121

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Client Sample ID: **TB-01 (2012102)**

Lab Sample ID: 240-16901-2TB Date Sampled: 10/25/2012 0000
Client Matrix: Water Date Received: 10/27/2012 0945

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	UXM8555.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 2005			Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 2005				

Analyte	Result (ug/L)	Qualifier	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.23	1.0
1,1,1-Trichloroethane	ND		0.22	1.0
1,1,2,2-Tetrachloroethane	ND		0.18	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	*	0.28	1.0
1,1,2-Trichloroethane	ND		0.27	1.0
1,1-Dichloroethane	ND		0.15	1.0
1,1-Dichloroethene	ND		0.19	1.0
1,1-Dichloropropene	ND		0.13	1.0
1,2,3-Trichlorobenzene	ND		0.17	1.0
1,2,3-Trichloropropane	ND		0.43	1.0
1,2,4-Trichlorobenzene	ND		0.15	1.0
1,2,4-Trimethylbenzene	ND		0.12	1.0
1,2-Dibromo-3-Chloropropane	ND		0.67	2.0
1,2-Dichlorobenzene	ND		0.13	1.0
1,2-Dichloroethane	ND		0.22	1.0
1,2-Dichloropropane	ND		0.18	1.0
1,3,5-Trimethylbenzene	ND		0.096	1.0
1,3-Dichlorobenzene	ND		0.14	1.0
1,3-Dichloropropane	ND		0.16	1.0
1,4-Dichlorobenzene	ND		0.13	1.0
Allyl chloride	ND		0.35	2.0
2,2-Dichloropropane	ND		0.13	1.0
2-Chlorotoluene	ND		0.11	1.0
2-Hexanone	ND		0.41	10
Bromobenzene	ND		0.13	1.0
Bromochloromethane	ND		0.29	1.0
4-Chlorotoluene	ND		0.18	1.0
p-Isopropyltoluene	ND		0.12	1.0
Acetone	1.6	J	1.1	10
Benzene	ND		0.13	1.0
Bromoform	ND		0.64	1.0
Bromomethane	ND		0.41	1.0
Carbon disulfide	ND		0.13	1.0
Carbon tetrachloride	ND		0.13	1.0
Chlorobenzene	ND		0.15	1.0
Chloroethane	ND		0.29	1.0
Chloroform	ND		0.16	1.0
Chloromethane	ND		0.30	1.0
cis-1,2-Dichloroethene	ND		0.17	1.0
cis-1,3-Dichloropropene	ND		0.14	1.0
Cyclohexane	ND		0.12	1.0
Hexachlorobutadiene	ND		0.30	1.0
Dibromomethane	ND		0.28	1.0
Bromodichloromethane	ND		0.15	1.0
Dichlorodifluoromethane	ND		0.31	1.0
Dichlorofluoromethane	ND		0.42	1.0

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Client Sample ID: **TB-01 (2012102)**

Lab Sample ID: 240-16901-2TB Date Sampled: 10/25/2012 0000
Client Matrix: Water Date Received: 10/27/2012 0945

8260B Volatile Organic Compounds (GC/MS)

Analysis Method:	8260B	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Prep Method:	5030B	Prep Batch:	N/A	Lab File ID:	UXM8555.D
Dilution:	1.0			Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 2005			Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 2005				

Analyte	Result (ug/L)	Qualifier	MDL	RL
Ethyl ether	ND		0.31	1.0
Ethylbenzene	ND		0.17	1.0
1,2-Dibromoethane	ND		0.24	1.0
Naphthalene	ND		0.24	1.0
m-Xylene & p-Xylene	ND		0.24	2.0
n-Butylbenzene	ND		0.12	1.0
Isopropylbenzene	ND		0.13	1.0
Methyl acetate	ND		0.38	10
N-Propylbenzene	ND		0.14	1.0
2-Butanone (MEK)	ND		0.57	10
4-Methyl-2-pentanone (MIBK)	ND		0.32	5.0
sec-Butylbenzene	ND		0.13	1.0
Methyl tert butyl ether	ND		0.17	2.0
Methylene Chloride	ND		0.33	1.0
o-Xylene	ND		0.14	1.0
Styrene	ND		0.11	1.0
tert-Butylbenzene	ND		0.13	1.0
Tetrachloroethene	ND		0.29	1.0
Tetrahydrofuran	ND		0.42	5.0
Toluene	ND		0.13	1.0
trans-1,2-Dichloroethene	ND		0.19	1.0
trans-1,3-Dichloropropene	ND		0.19	1.0
Trichloroethene	ND		0.17	1.0
Trichlorofluoromethane	ND		0.21	1.0
Vinyl chloride	ND		0.22	1.0
Methylcyclohexane	ND	*	0.13	1.0
Chlorodibromomethane	ND		0.18	1.0

Surrogate	%Rec	Qualifier	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	88		63 - 129
4-Bromofluorobenzene (Surr)	74		66 - 117
Toluene-d8 (Surr)	80		74 - 115
Dibromofluoromethane (Surr)	83		75 - 121

DATA REPORTING QUALIFIERS

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Lab Section	Qualifier	Description
GC/MS VOA		
	B	Compound was found in the blank and sample.
	*	LCS or LCSD exceeds the control limits
	J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

QUALITY CONTROL RESULTS

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

QC Association Summary

Lab Sample ID	Client Sample ID	Report Basis	Client Matrix	Method	Prep Batch
GC/MS VOA					
Analysis Batch:240-63934					
LCS 240-63934/4	Lab Control Sample	T	Water	8260B	
MB 240-63934/5	Method Blank	T	Water	8260B	
240-16895-D-16 MS	Matrix Spike	T	Water	8260B	
240-16895-E-16 MSD	Matrix Spike Duplicate	T	Water	8260B	
240-16901-1	SUMP (20121025)	T	Water	8260B	
240-16901-2TB	TB-01 (2012102)	T	Water	8260B	

Report Basis
T = Total

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Surrogate Recovery Report

8260B Volatile Organic Compounds (GC/MS)

Client Matrix: Water

Lab Sample ID	Client Sample ID	DCA %Rec	BFB %Rec	TOL %Rec	DBFM %Rec
240-16901-1	SUMP (20121025)	98	94	89	96
240-16901-2	TB-01 (2012102)	88	74	80	83
MB 240-63934/5		88	80	81	83
LCS 240-63934/4		89	101	93	85
240-16895-D-16 MS		82	95	87	83
240-16895-E-16 MSD		83	94	89	81

Surrogate	Acceptance Limits
DCA = 1,2-Dichloroethane-d4 (Surr)	63-129
BFB = 4-Bromofluorobenzene (Surr)	66-117
TOL = Toluene-d8 (Surr)	74-115
DBFM = Dibromofluoromethane (Surr)	75-121

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Method Blank - Batch: 240-63934

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 240-63934/5	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	UXM8534.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 1157	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 1157				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
1,1,1,2-Tetrachloroethane	ND		0.23	1.0
1,1,1-Trichloroethane	ND		0.22	1.0
1,1,2,2-Tetrachloroethane	ND		0.18	1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.28	1.0
1,1,2-Trichloroethane	ND		0.27	1.0
1,1-Dichloroethane	ND		0.15	1.0
1,1-Dichloroethene	ND		0.19	1.0
1,1-Dichloropropene	ND		0.13	1.0
1,2,3-Trichlorobenzene	0.861	J	0.17	1.0
1,2,3-Trichloropropane	ND		0.43	1.0
1,2,4-Trichlorobenzene	0.381	J	0.15	1.0
1,2,4-Trimethylbenzene	ND		0.12	1.0
1,2-Dibromo-3-Chloropropane	ND		0.67	2.0
1,2-Dichlorobenzene	ND		0.13	1.0
1,2-Dichloroethane	ND		0.22	1.0
1,2-Dichloropropane	ND		0.18	1.0
1,3,5-Trimethylbenzene	ND		0.096	1.0
1,3-Dichlorobenzene	ND		0.14	1.0
1,3-Dichloropropane	ND		0.16	1.0
1,4-Dichlorobenzene	ND		0.13	1.0
Allyl chloride	ND		0.35	2.0
2,2-Dichloropropane	ND		0.13	1.0
2-Chlorotoluene	ND		0.11	1.0
2-Hexanone	ND		0.41	10
Bromobenzene	ND		0.13	1.0
Bromochloromethane	ND		0.29	1.0
4-Chlorotoluene	ND		0.18	1.0
p-Isopropyltoluene	ND		0.12	1.0
Acetone	ND		1.1	10
Benzene	ND		0.13	1.0
Bromoform	ND		0.64	1.0
Bromomethane	ND		0.41	1.0
Carbon disulfide	ND		0.13	1.0
Carbon tetrachloride	ND		0.13	1.0
Chlorobenzene	ND		0.15	1.0
Chloroethane	ND		0.29	1.0
Chloroform	ND		0.16	1.0
Chloromethane	ND		0.30	1.0
cis-1,2-Dichloroethene	ND		0.17	1.0
cis-1,3-Dichloropropene	ND		0.14	1.0
Cyclohexane	ND		0.12	1.0
Hexachlorobutadiene	0.310	J	0.30	1.0
Dibromomethane	ND		0.28	1.0
Bromodichloromethane	ND		0.15	1.0
Dichlorodifluoromethane	ND		0.31	1.0

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Method Blank - Batch: 240-63934

Method: 8260B
Preparation: 5030B

Lab Sample ID:	MB 240-63934/5	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	UXM8534.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 1157	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 1157				
Leach Date:	N/A				

Analyte	Result	Qual	MDL	RL
Dichlorofluoromethane	ND		0.42	2.0
Ethyl ether	ND		0.31	2.0
Ethylbenzene	ND		0.17	1.0
1,2-Dibromoethane	ND		0.24	1.0
Naphthalene	0.706	J	0.24	1.0
m-Xylene & p-Xylene	ND		0.24	2.0
n-Butylbenzene	ND		0.12	1.0
Isopropylbenzene	ND		0.13	1.0
Methyl acetate	ND		0.38	10
N-Propylbenzene	ND		0.14	1.0
2-Butanone (MEK)	ND		0.57	10
4-Methyl-2-pentanone (MIBK)	ND		0.32	10
sec-Butylbenzene	ND		0.13	1.0
Methyl tert butyl ether	ND		0.17	5.0
Methylene Chloride	1.49		0.33	1.0
o-Xylene	ND		0.14	1.0
Styrene	ND		0.11	1.0
tert-Butylbenzene	ND		0.13	1.0
Tetrachloroethene	ND		0.29	1.0
Tetrahydrofuran	ND		0.42	5.0
Toluene	ND		0.13	1.0
trans-1,2-Dichloroethene	ND		0.19	1.0
trans-1,3-Dichloropropene	ND		0.19	1.0
Trichloroethene	ND		0.17	1.0
Trichlorofluoromethane	ND		0.21	1.0
Vinyl chloride	ND		0.22	1.0
Methylcyclohexane	ND		0.13	1.0
Chlorodibromomethane	ND		0.18	1.0

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	88	63 - 129
4-Bromofluorobenzene (Surr)	80	66 - 117
Toluene-d8 (Surr)	81	74 - 115
Dibromofluoromethane (Surr)	83	75 - 121

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Lab Control Sample - Batch: 240-63934

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 240-63934/4	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	UXM8533.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 1134	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 1134				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
1,1,1,2-Tetrachloroethane	10.0	9.12	91	72 - 116	
1,1,1-Trichloroethane	10.0	9.30	93	74 - 118	
1,1,2,2-Tetrachloroethane	10.0	10.9	109	68 - 118	
1,1,2-Trichloro-1,2,2-trifluoroethane	10.0	15.7	157	74 - 151	*
1,1,2-Trichloroethane	10.0	10.7	107	80 - 112	
1,1-Dichloroethane	10.0	9.73	97	82 - 115	
1,1-Dichloroethene	10.0	10.1	101	78 - 131	
1,1-Dichloropropene	10.0	10.2	102	83 - 114	
1,2,3-Trichlorobenzene	10.0	7.98	80	54 - 126	
1,2,3-Trichloropropane	10.0	11.2	112	73 - 129	
1,2,4-Trichlorobenzene	10.0	8.71	87	48 - 135	
1,2,4-Trimethylbenzene	10.0	11.0	110	76 - 120	
1,2-Dibromo-3-Chloropropane	10.0	9.49	95	42 - 136	
1,2-Dichlorobenzene	10.0	9.90	99	81 - 110	
1,2-Dichloroethane	10.0	10.3	103	71 - 127	
1,2-Dichloropropane	10.0	10.2	102	81 - 115	
1,3,5-Trimethylbenzene	10.0	10.6	106	72 - 118	
1,3-Dichlorobenzene	10.0	9.87	99	80 - 110	
1,3-Dichloropropane	10.0	10.7	107	79 - 116	
1,4-Dichlorobenzene	10.0	9.92	99	82 - 110	
2,2-Dichloropropane	10.0	9.28	93	50 - 129	
2-Chlorotoluene	10.0	10.8	108	76 - 116	
2-Hexanone	20.0	22.2	111	55 - 133	
Bromobenzene	10.0	10.2	102	76 - 115	
Bromochloromethane	10.0	9.42	94	77 - 120	
4-Chlorotoluene	10.0	10.6	106	77 - 115	
p-Isopropyltoluene	10.0	10.9	109	74 - 120	
Acetone	20.0	22.1	110	43 - 136	
Benzene	10.0	10.1	101	83 - 112	
Bromoform	10.0	8.83	88	40 - 131	
Bromomethane	10.0	8.39	84	11 - 185	
Carbon disulfide	10.0	8.81	88	62 - 142	
Carbon tetrachloride	10.0	10.0	100	66 - 128	
Chlorobenzene	10.0	9.73	97	85 - 110	
Chloroethane	10.0	8.33	83	25 - 153	
Chloroform	10.0	9.39	94	79 - 117	
Chloromethane	10.0	7.78	78	44 - 126	
cis-1,2-Dichloroethene	10.0	9.55	96	80 - 113	
cis-1,3-Dichloropropene	10.0	9.32	93	61 - 115	
Cyclohexane	10.0	11.8	118	54 - 121	
Hexachlorobutadiene	10.0	8.22	82	36 - 134	

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Lab Control Sample - Batch: 240-63934

Method: 8260B
Preparation: 5030B

Lab Sample ID:	LCS 240-63934/4	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	UXM8533.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 1134	Units:	ug/L	Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 1134				
Leach Date:	N/A				

Analyte	Spike Amount	Result	% Rec.	Limit	Qual
Dibromomethane	10.0	10.2	102	81 - 120	
Bromodichloromethane	10.0	10.2	102	72 - 121	
Dichlorodifluoromethane	10.0	8.69	87	19 - 129	
Ethyl ether	10.0	11.7	117	53 - 135	
Ethylbenzene	10.0	10.1	101	83 - 112	
1,2-Dibromoethane	10.0	10.4	104	79 - 113	
Naphthalene	10.0	8.41	84	32 - 141	
m-Xylene & p-Xylene	20.0	20.5	102	83 - 113	
n-Butylbenzene	10.0	10.7	107	66 - 125	
Isopropylbenzene	10.0	9.91	99	75 - 114	
Methyl acetate	10.0	9.95	99	58 - 131	J
N-Propylbenzene	10.0	11.1	111	74 - 121	
2-Butanone (MEK)	20.0	22.6	113	60 - 126	
4-Methyl-2-pentanone (MIBK)	20.0	23.0	115	63 - 128	
sec-Butylbenzene	10.0	10.5	105	70 - 117	
Methyl tert butyl ether	10.0	9.22	92	52 - 144	
Methylene Chloride	10.0	10.9	109	66 - 131	
o-Xylene	10.0	9.93	99	83 - 113	
Styrene	10.0	10.4	104	79 - 114	
tert-Butylbenzene	10.0	10.6	106	71 - 115	
Tetrachloroethene	10.0	9.93	99	79 - 114	
Tetrahydrofuran	10.0	10.3	103	23 - 143	
Toluene	10.0	10.2	102	84 - 111	
trans-1,2-Dichloroethene	10.0	9.67	97	83 - 117	
trans-1,3-Dichloropropene	10.0	9.76	98	58 - 117	
Trichloroethene	10.0	10.1	101	76 - 117	
Trichlorofluoromethane	10.0	14.6	146	49 - 157	
Vinyl chloride	10.0	8.06	81	53 - 127	
Methylcyclohexane	10.0	13.0	130	56 - 127	*
Chlorodibromomethane	10.0	9.45	94	64 - 119	

Surrogate	% Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	89	63 - 129
4-Bromofluorobenzene (Surr)	101	66 - 117
Toluene-d8 (Surr)	93	74 - 115
Dibromofluoromethane (Surr)	85	75 - 121

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 240-63934

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	240-16895-D-16 MS	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	UXM8557.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 2049			Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 2049				
Leach Date:	N/A				

MSD Lab Sample ID:	240-16895-E-16 MSD	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	UXM8558.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 2112			Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 2112				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
1,1,1,2-Tetrachloroethane	89	89	64 - 118	0	30		
1,1,1-Trichloroethane	84	88	68 - 121	5	30		
1,1,2,2-Tetrachloroethane	100	104	63 - 122	5	30		
1,1,2-Trichloro-1,2,2-trifluoroethane	136	114	70 - 152	18	30		
1,1,2-Trichloroethane	101	106	75 - 115	4	30		
1,1-Dichloroethane	89	91	79 - 116	2	30		
1,1-Dichloroethene	92	92	74 - 135	0	30		
1,1-Dichloropropene	94	96	80 - 114	2	30		
1,2,3-Trichlorobenzene	63	74	45 - 129	15	30		
1,2,3-Trichloropropane	108	111	67 - 132	3	30		
1,2,4-Trichlorobenzene	68	72	38 - 138	5	30		
1,2,4-Trimethylbenzene	90	91	67 - 124	1	30		
1,2-Dibromo-3-Chloropropane	95	93	32 - 139	1	30		
1,2-Dichlorobenzene	89	91	75 - 111	2	30		
1,2-Dichloroethane	96	99	68 - 129	3	30		
1,2-Dichloropropane	95	101	78 - 115	6	30		
1,3,5-Trimethylbenzene	87	91	63 - 121	4	30		
1,3-Dichlorobenzene	84	88	73 - 110	5	30		
1,3-Dichloropropane	101	105	74 - 118	4	30		
1,4-Dichlorobenzene	87	88	75 - 110	2	30		
2,2-Dichloropropane	81	84	38 - 127	4	30		
2-Chlorotoluene	91	93	69 - 117	2	30		
2-Hexanone	110	112	47 - 139	2	30		
Bromobenzene	95	97	71 - 116	2	30		
Bromochloromethane	88	95	73 - 121	7	30		
4-Chlorotoluene	89	95	71 - 116	6	30		
p-Isopropyltoluene	87	86	64 - 122	1	30		
Acetone	100	100	33 - 145	1	30		
Benzene	94	98	72 - 121	5	30		
Bromoform	91	88	32 - 128	3	30		
Bromomethane	71	78	10 - 186	9	30		
Carbon disulfide	82	83	57 - 147	1	30		

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 240-63934

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	240-16895-D-16 MS	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	UXM8557.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 2049			Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 2049				
Leach Date:	N/A				

MSD Lab Sample ID:	240-16895-E-16 MSD	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	UXM8558.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 2112			Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 2112				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
Carbon tetrachloride	92	89	59 - 129	2	30		
Chlorobenzene	90	95	80 - 110	5	30		
Chloroethane	75	80	21 - 165	7	30		
Chloroform	90	94	76 - 118	4	30		
Chloromethane	71	74	33 - 132	4	30		
cis-1,2-Dichloroethene	87	94	70 - 120	8	30		
cis-1,3-Dichloropropene	81	88	51 - 110	8	30		
Cyclohexane	96	87	49 - 123	10	30		
Hexachlorobutadiene	57	60	27 - 132	6	30		
Dibromomethane	100	103	77 - 121	3	30		
Bromodichloromethane	97	99	67 - 120	3	30		
Dichlorodifluoromethane	71	61	17 - 128	16	30		
Ethyl ether	102	101	63 - 136	1	30		
Ethylbenzene	89	91	75 - 116	1	30		
1,2-Dibromoethane	99	99	74 - 113	0	30		
Naphthalene	67	76	15 - 158	12	30		
m-Xylene & p-Xylene	92	95	75 - 117	3	30		
n-Butylbenzene	83	81	56 - 127	2	30		
Isopropylbenzene	83	85	68 - 116	3	30		
Methyl acetate	87	85	47 - 130	2	30	J	J
N-Propylbenzene	91	93	64 - 124	2	30		
2-Butanone (MEK)	104	108	54 - 129	3	30		
4-Methyl-2-pentanone (MIBK)	105	111	56 - 131	5	30		
sec-Butylbenzene	82	81	60 - 119	1	30		
Methyl tert butyl ether	84	89	46 - 144	6	30		
Methylene Chloride	77	79	63 - 128	3	30		
o-Xylene	88	91	76 - 116	4	30		
Styrene	94	99	71 - 117	5	30		
tert-Butylbenzene	83	86	61 - 119	3	30		
Tetrachloroethene	88	91	70 - 117	3	30		
Tetrahydrofuran	95	104	10 - 167	9	30		
Toluene	93	98	78 - 114	5	30		

Client: ARCADIS U.S., Inc. Job Number: 240-16901-1

Matrix Spike/
Matrix Spike Duplicate Recovery Report - Batch: 240-63934

Method: 8260B
Preparation: 5030B

MS Lab Sample ID:	240-16895-D-16 MS	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	UXM8557.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 2049			Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 2049				
Leach Date:	N/A				

MSD Lab Sample ID:	240-16895-E-16 MSD	Analysis Batch:	240-63934	Instrument ID:	A3UX16
Client Matrix:	Water	Prep Batch:	N/A	Lab File ID:	UXM8558.D
Dilution:	1.0	Leach Batch:	N/A	Initial Weight/Volume:	5 mL
Analysis Date:	11/06/2012 2112			Final Weight/Volume:	5 mL
Prep Date:	11/06/2012 2112				
Leach Date:	N/A				

	% Rec.						
Analyte	MS	MSD	Limit	RPD	RPD Limit	MS Qual	MSD Qual
trans-1,2-Dichloroethene	87	90	80 - 119	3	30		
trans-1,3-Dichloropropene	89	98	46 - 116	9	30		
Trichloroethene	91	95	66 - 120	5	30		
Trichlorofluoromethane	126	122	46 - 157	3	30		
Vinyl chloride	75	72	49 - 130	5	30		
Methylcyclohexane	95	85	49 - 127	11	30		
Chlorodibromomethane	93	98	56 - 118	6	30		

Surrogate	MS % Rec	MSD % Rec	Acceptance Limits
1,2-Dichloroethane-d4 (Surr)	82	83	63 - 129
4-Bromofluorobenzene (Surr)	95	94	66 - 117
Toluene-d8 (Surr)	87	89	74 - 115
Dibromofluoromethane (Surr)	83	81	75 - 121

Chain of Custody Record

enovis # e200572

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratory location: North Canton, OH

Regulatory program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other _____

TestAmerica Laboratories, Inc.

Client Contact				
Company Name: ARCADIS	Client Project Manager: Rob Ellis	Site Contact: Angharad Pagnon	Lab Contact: Denise Pohl	COC No: 022999
Address: 430 First Ave N, Ste 720	Telephone: 248-994-2252	Telephone: 612-373-0223	Telephone: 330-966-9789	1 of 1 COCs
City/State/Zip: Minneapolis, MN 55401	Email: rob.ellis@arcadis-us.com	Analysis Turnaround Time (in BUS days)	Analyses	
Phone: 612-339-9434		TAT if different from below _____ ☐ 3 weeks ☒ 2 weeks ☐ 1 week ☐ 2 days ☐ 1 day		
Project Name: Ford - TCAP	Method of Shipment/Carrier: FedEx / courier			
Project Number: DE000440.0001	Shipping/Tracking No:			
PO#				

Sample Identification	Sample Date	Sample Time	Matrix: Air	Aqueous	Sediment	Solid	Other:	Containers & Preservatives: H2SO4	HNO3	HCl	NaOH	ZnAc/NaOH	Unpres	Other:	Filtered Sample (Y/N)	Composite C/G (Grab)	VOCs (8260)	Temperature	Sample Specific Notes / Special Instructions:
SUMP ~~(20121018)~~ (20121025)	10/25/12	0855		X						3					N	G	3		
TB-01 (20121102)	10/25/12	—		X						1							1		
Temp Blank	—	—		X									1					1	

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return to Client ☐ Disposal By Lab ☐ Archive For _____ Months

Special Instructions/QC Requirements & Comments:

Level 4 QA/QC ; Level 2 Verification

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Kelly Hoehn	ARCADIS	10/26/12 1512		TAmerica	10-
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
	TAmerica	10-26-12 1a			
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
				TA	10/27/12 0945

11/16/2012

TestAmerica Canton Sample Receipt Form/Narrative Login # : 16901

Client Arcadis Site Name Ford-TCAP By: [signature]

Cooler Received on 10/27/12 Opened on 10/29/12 (Signature)

FedEx: 1st Grd (Exp) UPS FAS Stetson Client Drop Off TestAmerica Courier Other

TestAmerica Cooler # Foam Box (Client Cooler) Box Other

Packing material used: (Bubble Wrap) Foam Plastic Bag None Other

COOLANT: (Wet Ice) Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

IR GUN# 1	(CF 0°C)	Observed Sample Temp. °C	Corrected Sample Temp. °C	
IR GUN# 4G	(CF −1°C)	Observed Sample Temp. °C	Corrected Sample Temp. °C	Multiple
IR GUN# 5G	(CF −1°C)	Observed Sample Temp. °C	Corrected Sample Temp. °C	on Back
IR GUN# 8	(CF 0°C)	Observed Sample Temp 2.6 °C	Corrected Sample Temp. 2.6 °C	

2. Were custody seals on the outside of the cooler(s)? If Yes Quantity	Yes (No)
-Were custody seals on the outside of the cooler(s) signed & dated?	Yes No (NA)
-Were custody seals on the bottle(s)?	Yes (No)
3. Shippers' packing slip attached to the cooler(s)?	(Yes) No
4. Did custody papers accompany the sample(s)?	(Yes) No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes) No
6. Did all bottles arrive in good condition (Unbroken)?	(Yes) No
7. Could all bottle labels be reconciled with the COC?	(Yes) No
8. Were correct bottle(s) used for the test(s) indicated?	(Yes) No
9. Sufficient quantity received to perform indicated analyses?	(Yes) No
10. Were sample(s) at the correct pH upon receipt?	Yes No (NA)
11. Were VOAs on the COC?	(Yes) No
12. Were air bubbles >6 mm in any VOA vials?	Yes (No) NA
13. Was a trip blank present in the cooler(s)?	(Yes) No

Contacted PM Date by via Verbal Voice Mail Other

Concerning

14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES

15. SAMPLE CONDITION

Sample(s) were received after the recommended holding time had expired.

Sample(s) were received in a broken container.

Sample(s) were received with bubble >6 mm in diameter. (Notify PM)

16. SAMPLE PRESERVATION

Sample(s) ______________________________ were further preserved in Sample Receiving to meet recommended pH level(s). Nitric Acid Lot# 031512-HNO3; Sulfuric Acid Lot# 041911-H2SO4; Sodium Hydroxide Lot# 121809 - NaOH; Hydrochloric Acid Lot# 041911-HCl; Sodium Hydroxide and Zinc Acetate Lot# 100108-(CH3COO)2ZN/NaOH. What time was preservative added to sample(s)? ______________________

Client ID	pH	Date	Initials

Cooler #	Observed Sample Temp. °C	Corrected Sample Temp. °C	IR #	Coolant

November 19, 2012

Rob Ellis
ARCADIS
430 First Avenue North, Ste 720
Minneapolis, MN US 55401

Enovis project ID: E200572
Project: FORD-Twin Cities Assembly Plant
Project number: DE000440.0001.00005
Laboratory: TestAmerica - North Canton
Laboratory submittal: 16901-1
Sample date: 2012-10-25
Report received by Enovis: 2012-11-16
Initial Data Verification completed by Enovis: 2012-11-19

Data verification for the report specified above was completed using the Ford Motor Company Environmental Laboratory Technical Specification, the Enovis Standard Operating Procedure for the Verification of Environmental Analytical Data and the associated analytical methods as references for evaluating the batch QC, sample data and report content. The EPA National Functional Guidelines for validating organic and inorganic data were used as guidance when addressing out of control QC results and the associated data qualifiers.

1 Water sample(s) and 1 trip blank were analyzed for GCMS VOC parameter(s).

Sample/MS/MSD Surrogate Recovery, Blank/LCS Surrogate Recovery, LCS/LCD Recovery, Blank Contamination and Hold Time Exception were reviewed as part of our verification.

Analytical results reported between RDL and MDL are flagged 'J' and considered estimated values.

Qualifiers added during verification have been added to the electronic data which is available for download from the Enovis CLMS. Refer to the attached table of analytical results that have been qualified during verification.

The following minor QC exceptions or missing information were noted:

GCMS VOC method blank had detections above the RL for methylene chloride and below the RL for 1,2,3-trichlorobenzene, 1,2,4-trichlorobenzene, hexachlorobutadiene and naphthalene. Client sample -001 naphthalene results should be considered to be non-detect at the RL and qualified with a UB flag.

GCMS VOC trip blank had a detection below the RL for acetone. Client sample -001 acetone result should be considered to be non-detect at the RL and qualified with a UB flag.

GCMS VOC LCS recoveries were outliers biased high for 1,1,2-trichloro-1,2,2-trifluoroethane and methylcyclohexane. Qualification of client sample results was not required based on these high bias QC outliers.

The definitions of the qualifiers used for this data package are defined in the analytical report. Enovis valid qualifiers are defined in the table below. To view and download a PDF copy of the laboratory's analytical report access the Enovis CLMS at http://enovis-inc.com/enovis53/index.cfm.

Please contact me if you have any questions.

Sincerely,

Jim Tomalia

Project Scientist

Enovis Valid Qualifiers

Valid Qualifiers	Description
<	Less than the reported concentration.
>	Greater than the reported concentration.
B	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was greater than the RDL and less than 5x (or 10x for common lab contaminates) the blank concentration and is considered non-detect at the reported concentration. For Inorganic methods the sample concentration was greater than the RDL and less than 10x the blank concentration and is considered non-detect at the reported concentration.
E	The analyte / Compound reported exceeds the calibration range and is considered estimated.
EMPC	Estimated Minimum Potential Contamination - Dioxin/Furan analyses only.
J	Indicates an estimated value. This flag is used either when estimating a concentration for a tentatively identified compound or when the data indicates the presence of an analyte / compound but the result is less than the sample Quantitation limit, but greater than zero. The flag is also used in data validation to indicate a reported value should be considered estimated due to associated quality assurance deficiencies.
JH	The sample result is considered estimated and is potentially biased high.
JL	The sample result is considered estimated and is potentially biased low.
NJ	Tentatively identified compound with approximated concentration.
R	Indicates the value is considered to be unusable. (Note: The analyte / compound may or may not be present.)
TNTC	Too Numerous to Count - Asbestos and Microbiological Results.
U	Indicates that the analyte / compound was analyzed for, but not detected.
UB	The analyte / compound was detected in the associated blank. For Organic methods the sample concentration was less than the RDL and less than 5x (or 10x for common lab contaminates) the blank concentration and is considered non-detect at the RDL. For Inorganic methods the sample concentration was less than the RDL and less than 10x the blank concentration and is considered non-detect at the RDL.
UJ	The analyte / compound was not detected above the reported sample Quantitation limit. However, the Quantitation limit is considered to be approximate due to associated quality assurance results and may or may not represent the actual limit of Quantitation to accurately and precisely report the analyte in the sample.

SAMPLING AND ANALYSIS SUMMARY

Enovis Project ID: E200572
Laboratory: TestAmerica-North Canton
Laboratory Submittal: 16901-1

Lab Sample ID	Sample ID	Collection Date (mm/yy/dd)	Collection Time (hh:mm:ss)	Volatile Organics by GCMS
240169011	SUMP (20121025)	10/25/2012	8:55:00	X
240169012	TB-01 (2012102)	10/25/2012	12:00:00	X

Qualified Results Summary

Enovis Project ID: E200572
Laboratory: TestAmerica - North Canton
Laboratory Submittal: 16901-1

Sample Name: SUMP (20121025)
Lab Sample ID: 240169011
Sample Date: 10/25/2012

Analyte	Cas No.	Result	Report Limit	Units	Valid Qualifier
GC/MS VOC					
OSW-8260B					
Acetone	67-64-1	2.2	10	ug/l	UB
Naphthalene	91-20-3	0.88	1.0	ug/l	UB

Analytical Results Summary

Enovis Project ID: E200572
Laboratory: TestAmerica - North Canton
Laboratory Submittal: 16901-1

		Sample Name:	SUMP (20121025)				TB-01 (2012102)			
		Lab Sample ID:	240169011				240169012			
		Sample Date:	10/25/2012				10/25/2012			
Analyte	Cas No.	Result	Report Limit	Units	Valid Qualifier	Result	Report Limit	Units	Valid Qualifier
GC/MS VOC									
OSW-8260B									
1,1,1,2-Tetrachloroethane	630-20-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,1-Trichloroethane	71-55-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2,2-Tetrachloroethane	79-34-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1,2-Trichloroethane	79-00-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethane	75-34-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloroethene	75-35-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,1-Dichloropropene	563-58-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,3-Trichlorobenzene	87-61-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,3-Trichloropropane	96-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,4-Trichlorobenzene	120-82-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2,4-Trimethylbenzene	95-63-6	0.88	1.0	ug/l	J	ND	1.0	ug/l	---
1,2-Dibromo-3-Chloropropane	96-12-8	ND	2.0	ug/l	---	ND	2.0	ug/l	---
1,2-Dibromoethane	106-93-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichlorobenzene	95-50-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloroethane	107-06-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,2-Dichloropropane	78-87-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3,5-Trimethylbenzene	108-67-8	0.39	1.0	ug/l	J	ND	1.0	ug/l	---
1,3-Dichlorobenzene	541-73-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,3-Dichloropropane	142-28-9	ND	1.0	ug/l	---	ND	1.0	ug/l	---
1,4-Dichlorobenzene	106-46-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---
2,2-Dichloropropane	594-20-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---
2-Butanone (MEK)	78-93-3	1.0	10	ug/l	J	ND	10	ug/l	---
2-Chlorotoluene	95-49-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---
2-Hexanone	591-78-6	ND	10	ug/l	---	ND	10	ug/l	---
4-Chlorotoluene	106-43-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---
4-Methyl-2-pentanone (MIBK)	108-10-1	0.34	10	ug/l	J	ND	5.0	ug/l	---
Acetone	67-64-1	2.2	10	ug/l	UB	1.6	10	ug/l	J
Allyl chloride	107-05-1	ND	2.0	ug/l	---	ND	2.0	ug/l	---
Benzene	71-43-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromobenzene	108-86-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromochloromethane	74-97-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromodichloromethane	75-27-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromoform	75-25-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Bromomethane	74-83-9	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Carbon disulfide	75-15-0	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Carbon tetrachloride	56-23-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chlorobenzene	108-90-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chlorodibromomethane	124-48-1	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroethane	75-00-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloroform	67-66-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Chloromethane	74-87-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,2-Dichloroethene	156-59-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---
cis-1,3-Dichloropropene	10061-01-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Cyclohexane	110-82-7	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dibromomethane	74-95-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dichlorodifluoromethane	75-71-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Dichlorofluoromethane	75-43-4	ND	2.0	ug/l	---	ND	1.0	ug/l	---
Ethyl ether	60-29-7	ND	2.0	ug/l	---	ND	1.0	ug/l	---
Ethylbenzene	100-41-4	18	1.0	ug/l	---	ND	1.0	ug/l	---
Hexachlorobutadiene	87-68-3	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Isopropylbenzene	98-82-8	0.18	1.0	ug/l	J	ND	1.0	ug/l	---
m-Xylene & p-Xylene	179601-23-1	70	2.0	ug/l	---	ND	2.0	ug/l	---
Methyl acetate	79-20-9	ND	10	ug/l	---	ND	10	ug/l	---
Methyl tert butyl ether	1634-04-4	ND	5.0	ug/l	---	ND	2.0	ug/l	---
Methylcyclohexane	108-87-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Methylene Chloride	75-09-2	ND	1.0	ug/l	---	ND	1.0	ug/l	---
n-Butylbenzene	104-51-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---
N-Propylbenzene	103-65-1	0.20	1.0	ug/l	J	ND	1.0	ug/l	---
Naphthalene	91-20-3	0.88	1.0	ug/l	UB	ND	1.0	ug/l	---
o-Xylene	95-47-6	6.2	1.0	ug/l	---	ND	1.0	ug/l	---
p-Isopropyltoluene	99-87-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---
sec-Butylbenzene	135-98-8	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Styrene	100-42-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---
tert-Butylbenzene	98-06-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrachloroethene	127-18-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Tetrahydrofuran	109-99-9	ND	5.0	ug/l	---	ND	5.0	ug/l	---
Toluene	108-88-3	0.34	1.0	ug/l	J	ND	1.0	ug/l	---
trans-1,2-Dichloroethene	156-60-5	ND	1.0	ug/l	---	ND	1.0	ug/l	---
trans-1,3-Dichloropropene	10061-02-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichloroethene	79-01-6	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Trichlorofluoromethane	75-69-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---
Vinyl chloride	75-01-4	ND	1.0	ug/l	---	ND	1.0	ug/l	---

Attachment 2

1999 through 2007 Historical Analytical Tabulation

TABLE 2

SUMMARY OF HISTORICAL SUMP DATA
VOC DETECTIONS
UNDERGROUND STORAGE TANK (UST) SITE
FORD MOTOR COMPANY, SAINT PAUL, MINNESOTA

Date		*Acetone*	*Benzene*	*n-Butylbenzene*	*Ethylbenzene*	*Isopropylbenzene*	*Methyl ethyl ketone*	*Methyl isobutyl ketone (MIBK)*	*Naphthalene*	*n-Propylbenzene*	*Toluene*	*1,2,4-Trimethylbenzene*	*1,3,5-Trimethylbenzene*	*m-Xylene & p-Xylene*	*o-Xylene*
06/09/99		43000			3300		25000	200000			3000	310	420	15000	6800
06/09/99	Dup	43000			3500		25000	200000			3300	340	430	16000	6800
10/04/99					8000			74000			4300			35000	11000
06/30/00					1200		2100	48000			1700	360		7600	3800
09/15/00					2300			32000			1800			14000	5800
06/07/01					1600			31000			1700	250		9200	4300
10/08/01					6600			18000			4600			33000	13000
06/27/02				45	390			5600	34		460	150	75	5300	2300
10/11/02			24	32	1000			9000	77		800	130	50	10000	3200
06/30/03					630			3600	210		610	94 J		8500	2300
10/02/03					5100			32000	220 J		2900	260 J		36000	8600
08/17/04					3000	440 J		11000						33000	7800
10/21/05					82	15		39	28	9.6	46	20	19	1200	370
05/17/06					120			1900	51		39	15	7.2	1300	350
9/13/07					1100			530 J	88 J		470	120 J	59 J	12000	2900
HRL		700	10	No HRL	700	300	4000	300	300	No HRL	1,000	No HRL	No HRL	10,000* Total Xylenes	10,000* Total Xylenes

Notes:
All results in µg/L.
HRL (Health Risk Limit) - Minnesota drinking water/ groundwater criteria, July 2007.
Isopropylbenzene is also known as cumene.
Methyl isobutyl ketone or MIBK is also known as 4-Methyl-2-pentanone.
J- Estimated result– value is greater than laboratory detection limit, but less than the laboratory reporting limit.