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ENVIRONMENT

Subject:
September 2008 Groundwater Sampling Event
Ford Twin Cities Assembly Plant, St. Paul, Minnesota

Date:
December 31, 2008

in St. Paul, Minnesota (see Figure 1).
conducted in accordance with the
Control Agency (MPCA) Voluntary
and the Petroleum Brownfields Program
Sampling Plan (FSP) developed for the TCAP
Groundwater Sampling Events and Annual
Large Monitoring Work Plan.

Our ref:
MN000593.0003

at the Twin Cities Assembly Plant (TCAP).
Groundwater monitoring at the TCAP was
requirements of the Minnesota Pollution
Investigation and Cleanup (VIC) Program
(PBP), as well as the June 2007 *Field Sampling*
and the December 2007 *Quarterly Groundwater*
Underground Storage Tank (UST) Discharge

Site Location

The TCAP is located at 966 South Mississippi
County, Minnesota at the approximate easting
northing coordinate 4973822.5 m. The TCAP is
commercial-, and residential-use area on
along the east side of South Mississippi
west of South Cleveland Avenue, in St. Paul.

Mississippi River Boulevard in St. Paul, Ramsey
easting coordinate 484562.5 meters (m) and
TCAP is located in a mixed industrial-,
the eastern shore of the Mississippi River,
River Boulevard, south of Ford Parkway and
St. Paul, Minnesota (see Figure 1).

Imagine the result

Monitoring Well Network

A network of 15 groundwater monitoring wells located at the TCAP was sampled during the monitoring event. Groundwater elevations and samples were collected from these wells to characterize each of the saturated zones as indicated in the table below:

Unconsolidated Soils Perched Water (Shallow Saturated Zone)	Platteville Limestone (Intermediate Saturated Zone)	St. Peter Sandstone (Deep Saturated Zone)
MW-4	AMW-01	AMW-03B
MW-5	AMW-02	AMW-05
MW-6	AMW-03A	AMW-05B
	AMW-04	AMW-07
	AMW-06	
	AMW-08	
	AMW-09	
	AMW-10	

The monitoring well construction details are summarized in Table 1, and the well locations are shown on Figure 2. The following sections of this report summarize the procedures followed and the analytical results from this groundwater sampling event.

Groundwater Sampling Procedures

Water-Level Measurements

On September 10, 2008, site-wide groundwater elevation levels were measured at the monitoring wells using an electronic water-level indicator in accordance with procedures outlined in the FSP. These levels were measured to the nearest 0.01 foot. Groundwater elevations were calculated using surveyed top-of-well casing elevations. The water-level indicator was cleaned between each well using a detergent solution and rinsed with clean distilled water prior to deploying it into the next monitoring well. The water-level data were used to calculate purge volumes and

evaluate groundwater gradients and flow directions where applicable. Groundwater levels for Monitoring Well AMW-05 could not be determined because the well did not contain water during this monitoring event. A summary of water levels and groundwater elevations collected to date are presented in Table 2. A copy of the water sample logs are provided in Appendix A.

Unconsolidated Soils Perched Groundwater

No evidence exists of a continuous water body within the unconsolidated soils at this site. Isolated areas of perched water are likely located throughout the area and vary in thickness and extent. These factors are affected by the surface topography, ability to receive rainwater infiltration, and bedrock topography. During the site-wide water-level monitoring event conducted in September 2008, groundwater was observed at depths ranging from 2.45 to 4.81 feet below ground surface (bgs) at elevations from 825.35 to 825.92 feet above mean sea level (amsl). From the data collected to date at the site, the perched groundwater observed in the unconsolidated soils is discontinuous.

Platteville Limestone Groundwater

Based on the data collected during this monitoring event, groundwater was present in the Platteville Limestone at depths ranging from 15.72 to 79.67 feet bgs at elevations from 778.72 to 794.37 feet amsl. The Platteville Formation is a dolomitic limestone, with water movement generally controlled by fractures, joints, and bedding planes. Groundwater migration through these structural features cannot be reliably evaluated using water-elevation measurements.

St. Peter Sandstone Groundwater

Based on the data collected during this monitoring event, groundwater was present in the St. Peter Sandstone at depths ranging from 30.29 to 100.86 feet bgs at elevations from 690.49 to 711.07 feet amsl. Monitoring Well AMW-05 did not contain water. Based on the data from the three wells that contained water, the apparent direction of groundwater flow was west toward the nearby Mississippi River (see Figure 3).

Underground Storage Tank Site Monitoring

UST collection system discharge samples were collected on October 2, 2008. Samples were collected from the sampling port on the discharge line of the collection

system. The sample was submitted for analysis of volatile organic compounds (VOCs). Following the sample collection, water-quality parameters were measured for specific conductivity, temperature, pH, and oxidation/reduction potential using a multi-parameter water-quality monitor and a pH meter. The field water sampling log is provided in Appendix A. The UST collection system monitoring results are summarized in Tables 3 and 6.

Groundwater Sample Collection

Groundwater samples were collected on September 11, 12, 15 and 16, 2008. Based on the observed water level and total well depth for a given well, approximately three well volumes were purged prior to collecting a water sample. Monitoring Wells AMW-01, AMW-02, AMW-03A, AMW-04, AMW-06, AMW-07, AMW-08, AMW-09, and AMW-10 were purged and sampled using disposable bailers and nylon rope or a check valve and disposable tubing. Monitoring Wells AMW-03B and AMW-05B were purged and sampled using a submersible pump and disposable tubing. The submersible pump was decontaminated prior to its first use and after use in each well by circulating a detergent solution through the pump, followed by two distilled water rinses. New tubing was used in each monitoring well and was disposed when sampling was complete. Because insufficient water was present at the time of sampling, Monitoring Well AMW-05 could not be sampled.

Immediately following sample collection, groundwater field parameters, including specific conductivity, temperature, pH, dissolved oxygen, and oxidation/reduction potential, were measured at each well using a multi-parameter water-quality monitor. Groundwater field parameter measurements are presented in Table 4.

Groundwater samples were collected into laboratory-supplied containers and submitted with appropriate chain-of-custody documentation to TestAmerica of North Canton, Ohio. Groundwater samples collected from Monitoring Wells AMW-01, AMW-02, AMW-03A, AMW-03B, AMW-04, AMW-05B, AMW-07, AMW-08, AMW-09, and AMW-10 were submitted for analysis of VOCs using United States Environmental Protection Agency (USEPA) Method 8260, semi-volatile organic compounds (SVOCs) using USEPA Method 8270, Resource Conservation and Recovery Act (RCRA) metals (dissolved) using USEPA Method 6010, polychlorinated biphenyls (PCBs) using USEPA Method 8082, and diesel range organics (DRO) and gasoline range organics (GRO) using the Wisconsin Modified Method. Monitoring Wells AMW-06, MW-4, MW-5, and MW-6 could not produce sufficient sample volume to allow analyses for all parameters. The groundwater sample collected from Monitoring Well AMW-06 was submitted for analysis of only

VOCs, SVOCs, RCRA metals (dissolved), DRO, and GRO; the groundwater sample collected from Monitoring Well MW-4 was submitted for analysis of only VOCs and GRO; the groundwater sample collected from Monitoring Well MW-5 was submitted for analysis of only VOCs and GRO; and the groundwater sample collected from Monitoring Well MW-6 was submitted for analysis of only VOCs, SVOCs, and GRO.

Samples for dissolved metals analyses were field filtered in accordance with the FSP. Following the December 2007 sampling event, it was determined that there was no need to collect and analyze both filtered and unfiltered samples for metals analyses. Thus, only filtered (dissolved) metals analyses were required for this monitoring event.

In accordance with the FSP, quality assurance/quality control (QA/QC) samples (duplicates, field blanks, trip blanks, and matrix spikes/matrix spike duplicates) were collected and analyzed. The QA/QC protocols meet or exceed the standards of care required by the State of Minnesota and by Ford. Level 4 QA/QC was completed on 10 percent of all samples collected. The sample analyzed at Monitoring Well AMW-01 underwent a Level 4 validation, and all other samples underwent Enovis verification.

Groundwater Sampling Results

Groundwater sample analytical results were compared to the Minnesota Department of Health (MDH) Health Risk Limits (HRLs)/USEPA Maximum Contaminant Levels (MCLs). The groundwater analytical results are summarized in Table 5. The laboratory analytical reports are provided in Appendix B.

Trip Blank and Equipment Blank Sample Results

During the September 2008 quarterly groundwater sampling event, 12 trip blanks and one equipment blank were submitted to the laboratory for analysis. The trip blanks and equipment blank data were reviewed during verification and validation for conditions that may impact the quality of the analytical results for groundwater samples collected during the sampling event.

Analytical Results – Unconsolidated Soils Perched Groundwater

Monitoring Wells MW-4, MW-5, and MW-6 are completed into the perched groundwater within the unconsolidated formation. Monitoring Wells MW-4, MW-5, and MW-6 were sampled for VOCs, SVOCs, RCRA metals (dissolved), PCBs, DRO,

and GRO. As indicated previously, Monitoring Wells MW-4, MW-5, and MW-6 could not produce sufficient sample volume to allow analyses for all parameters. Monitoring Wells MW-4 and MW-5 were sampled for VOCs and GRO, and Monitoring Well MW-6 was sampled for VOCs, SVOCs, and GRO.

No analytes were detected at concentrations exceeding the HRLs in the unconsolidated formation groundwater samples collected during this sampling event. The following text summarizes the analytes that were detected.

Semi-Volatile Organic Compounds

The constituent bis(2-ethylhexyl)phthalate was detected in Monitoring Well MW-6 at an estimated concentration of 0.93 micrograms per liter ($\mu\text{g/L}$), which is less than the HRL. Note, however, that bis(2-ethylhexyl)phthalate was detected in the equipment blank, and thus, its presence in the sample could be a result of cross-contamination.

Analytical Results – Platteville Limestone

Platteville Limestone Monitoring Wells AMW-01, AMW-02, AMW-03A, AMW-04, AMW-08, AMW-09, and AMW-10 were sampled and analyzed for VOCs, SVOCs, RCRA metals (dissolved), PCBs, DRO, and GRO. As indicated previously, Monitoring Wells AMW-06 could not produce sufficient sample volume to allow analyses for all parameters. The groundwater sample collected from Monitoring Well AMW-06 was submitted for analysis of only VOCs, SVOCs, RCRA metals (dissolved), DRO, and GRO. Figure 4 highlights the constituents that previously exceeded the HRLs, along with their detected concentrations in individual wells from the past four sampling events (July 2007, December 2007, March 2008, and September 2008).

No analytes were detected at concentrations exceeding the HRLs in the Platteville groundwater samples collected during this sampling event. The following text summarizes the analytes that were detected.

Volatile Organic Compounds

The constituent 2-butanone (MEK) was detected in Monitoring Well AMW-02 at an estimated concentration of 0.57 $\mu\text{g/L}$, in Monitoring Well AMW-04 at an estimated concentration of 1.2 $\mu\text{g/L}$, and in Monitoring Well AMW-06 at an estimated concentration of 0.61 $\mu\text{g/L}$; these concentrations are less than the HRL.

Carbon disulfide was detected in Monitoring Well AMW-02 at an estimated concentration of 0.33 µg/L, in Monitoring Well AMW-04 at an estimated concentration of 0.3 µg/L, and in Monitoring Well AMW-09 at an estimated concentration of 0.54 µg/L; these concentrations are less than the HRL.

The constituent cis-1,2-dichloroethene was detected in Monitoring Well AMW-03A at an estimated concentration of 0.4 µg/L, which is less than the HRL.

Semi-Volatile Organic Compounds

The constituent bis(2-ethylhexyl)phthalate was detected in Monitoring Well AMW-01 at an estimated concentration of 0.98 µg/L, in Monitoring Well AMW-04 at an estimated concentration of 1.4 µg/L, in Monitoring Well AMW-06 at an estimated concentration of 1.6 µg/L, and in Monitoring Well AMW-10 at an estimated concentration of 1.5 µg/L; these concentrations are less than the HRL.

Resource Conservation and Recovery Act Metals (Dissolved)

Barium was detected in Monitoring Well AMW-01 at an estimated concentration of 111 µg/L, in Monitoring Well AMW-02 at an estimated concentration of 117 µg/L, in Monitoring Well AMW-03A at an estimated concentration of 116 µg/L, in Monitoring Well AMW-04 at an estimated concentration of 73.5 µg/L, in Monitoring Well AMW-06 at an estimated concentration of 59.5 µg/L, in Monitoring Well AMW-08 at an estimated concentration of 92.1 µg/L, and in Monitoring Well AMW-10 at an estimated concentration of 58.9 µg/L. These concentrations are less than the HRL.

Diesel Range Organics and Gasoline Range Organics

DRO was detected in Monitoring Well AMW-01 at a concentration of 1.1 µg/L, in Monitoring Well AMW-02 at a concentration of 0.87 µg/L, in Monitoring Well AMW-03A at a concentration of 0.48 µg/L, in Monitoring Well AMW-04 at a concentration of 1.2 µg/L, in Monitoring Well AMW-06 at a concentration of 0.69 µg/L, in Monitoring Well AMW-08 at a concentration of 0.13 µg/L, in Monitoring Well AMW-09 at a concentration of 1.4 µg/L, and in Monitoring Well AMW-10 at an estimated concentration of 0.072 µg/L. There is no HRL established for DRO.

Analytical Results – St. Peter Sandstone

St. Peter Sandstone Monitoring Wells AMW-03B and AMW-05B were sampled and analyzed for VOCs, SVOCs, RCRA metals (dissolved), PCBs, DRO, and GRO.

Monitoring Well AMW-07 was sampled for free cyanide, in addition to the above listed constituents. Figure 5 highlights the constituents exceeding the HRLs, along with their detected concentrations in individual wells from the past four sampling events (July 2007, December 2007, March 2008, and September 2008).

Total PCBs was detected at concentrations that exceeded the HRL in the St. Peter Sandstone groundwater samples from Monitoring Wells AMW-05B and AMW-07 collected during this sampling event. The following text summarizes the analytes that were detected.

Volatile Organic Compounds

Carbon disulfide was detected in Monitoring Well AMW-05B at an estimated concentration of 0.95 µg/L, which is less than the HRL.

Methylene chloride was detected in Monitoring Well AMW-03B at a concentration of 4.3 µg/L and in Monitoring Well AMW-05B at an estimated concentration of 0.72 µg/L. These concentrations are less than the HRL.

Tetrachloroethene was detected in Monitoring Well AMW-03B at a concentration of 3.2 µg/L and in Monitoring Well AMW-05B at a concentration of 3.7 µg/L. These concentrations are less than the HRL.

Trichloroethene was detected in Monitoring Well AMW-7 at an estimated concentration of 0.43 µg/L, which is less than the HRL.

Semi-Volatile Organic Compounds

The constituent caprolactam was detected in Monitoring Well AMW-03B at an estimated concentration of 1.5 µg/L. There is no HRL established for this constituent.

Polychlorinated Biphenyls

Total PCBs (consisting entirely of Aroclor 1254) were detected in Monitoring Well AMW-05B at a concentration of 0.97 µg/L. Total PCBs (consisting entirely of Aroclor 1260) were detected in Monitoring Well AMW-07 at an estimated concentration of 0.059 µg/L. These concentrations exceed the HRL for total PCBs of 0.04 µg/L.

Resource Conservation and Recovery Act Metals (Dissolved)

Barium was detected in Monitoring Well AMW-03B at an estimated concentration of 79.1 µg/L, in Monitoring Well AMW-05B at an estimated concentration of 61.9 µg/L, and in Monitoring Well AMW-07 at an estimated concentration of 29.2 µg/L. These concentrations are less than the HRL.

Cadmium was detected in Monitoring Well AMW-07 at an estimated concentration of 0.99 µg/L, which is less than the HRL.

Diesel Range Organics and Gasoline Range Organics

DRO was detected in Monitoring Well AMW-05B at a concentration of 0.029 µg/L and in Monitoring Well AMW-07 at a concentration of 0.21 µg/L. There is no HRL established for DRO.

Underground Storage Tank Site Monitoring Results

The UST collection system analytical results were compared to the HRLs. The laboratory analyses of the UST collection system sample detected 1,2,4-trimethylbenzene; 1,3,5-trimethylbenzene; ethylbenzene; methyl isobutyl ketone; methylene chloride; naphthalene; toluene; and xylenes. The concentrations of the five constituents (ethylbenzene, methyl isobutyl ketone, naphthalene, toluene, and xylenes) detected exceed their respective HRL. The UST collection system analytical results are summarized in Table 6. The laboratory analytical reports are provided in Appendix B.

Summary

Unconsolidated Soils Perched Groundwater

Monitoring Wells MW-4, MW-5, and MW-6 are completed into the perched groundwater within the unconsolidated formation. During the September 2008 sampling event, the monitoring wells did not produce sufficient groundwater volume to collect the full suite of analytical parameters. Groundwater samples collected from Monitoring Well MW-4, MW-5 and MW-6 did not contain constituents at concentrations that exceed the HRLs during the sampling event.

Platteville Limestone

The wells screened in the Platteville Limestone (AMW-01, AMW-02, AMW-03A, AMW-04, AMW-06, AMW-08, AMW-09, and AMW-10) did not contain constituents at concentrations that exceed the HRLs during this sampling event.

St. Peter Sandstone

Monitoring Wells AMW-03B, AMW-05B, and AMW-07 are screened in the St. Peter Sandstone. Monitoring Well AMW-03B did not contain constituents at concentrations that exceed the HRLs during this sampling event, the March 2008 sampling event, or the December 2007 sampling event.

Total PCBs were detected at concentrations that exceed the HRLs at Monitoring Wells AMW-05B and AMW-07 during the September 2008 sampling event. PCBs had not been detected in any of the previous sampling events.

No other constituents were detected above the HRLs at Monitoring Wells AMW-05B and AMW-07 during the September 2008 sampling event.

Potentiometric head levels measured during this monitoring event were consistent with historical measurements, with the projected direction of groundwater flow generally to the west.

Underground Storage Tank Site Monitoring

Four constituents (ethylbenzene, methyl isobutyl ketone, methylene chloride, and toluene) were detected at concentrations that exceed the HRLs during the UST collection system monitoring event in September 2008. The concentrations of the constituents detected were similar to the concentrations detected during previous monitoring events.

Conclusion

Total PCBs were the detected at concentrations that exceed the HRLs in the groundwater samples collected during this sampling event. After four rounds of groundwater sampling at the site, this was the first time PCBs were detected. No other constituents were detected at concentrations that exceeded the HRLs during this sampling event.

The next sampling event of the UST collection system is scheduled for summer 2009.

A total of four rounds of groundwater monitoring have been performed at the site. As Ford is continuing to operate the plant and intends to for several more years, it is recommended that the site groundwater monitoring program will be discontinued until the plant is permanently shut down. Following shutdown, river and seep sampling will be reevaluated and groundwater.

We appreciate your assistance with this project. If you have questions or need additional information, please call Bryan Zinda of ARCADIS at your convenience.

Sincerely,

ARCADIS U.S., Inc.



Bryan Zinda, PE
Project Manager



Andrew Fiskness, PG
Staff Geologist

+Copies:

- Ms. Barbara Rusinowski, Ford Motor Company, Dearborn, Michigan
- Mr. John Meyers, Ford Twin Cities Assembly Plant, St. Paul, Minnesota

I hereby certify that this plan, document, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Geologist under the laws of the State of Minnesota.

Print Name: Andrew M. Fiskness

Signature: 

Date: 12-31-08 License # 44133

ARCADIS

Tables

Table 1. Monitoring Well Construction
Twin Cities Assembly Plant, St. Paul, Minnesota

Well ID	Unique Well Number	Date Installed	Surface Elevation (feet amsl)	Top of Casing Elevation (feet amsl)	Bottom of Well Elevation (feet amsl)	Screen Interval (Elevation - Elevation) (feet amsl)	Surface Completion Type
AMW-01	751337	7/9/2007	810.32	813.03	774.03	784.03 - 774.03	Aboveground
AMW-02	751330	6/22/2007	810.35	812.86	772.86	782.86 - 772.86	Aboveground
AMW-03A	751333	7/2/2007	812.03	811.80	771.80	781.80 - 771.80	Flush Mount
AMW-03B	751332	6/29/2007	811.93	811.72	660.72	670.72 - 660.72	Flush Mount
AMW-04	751334	7/10/2007	830.13	829.92	768.92	778.92 - 768.92	Flush Mount
AMW-05	751339	7/2/2007	722.07	725.25	696.25	706.25 - 696.25	Aboveground
AMW-05B	756581	7/19/2007	721.79	723.99	670.99	680.99 - 670.99	Aboveground
AMW-06	751331	7/3/2007	811.56	814.06	773.06	783.06 - 773.06	Aboveground
AMW-07	751338	7/4/2007	733.71	733.48	688.48	698.48 - 688.48	Flush Mount
AMW-08	751336	6/20/2007	831.07	830.80	785.80	795.80 - 785.80	Flush Mount
AMW-09	751335	6/21/2007	858.39	858.13	768.13	778.13 - 768.13	Flush Mount
AMW-10	756582	7/20/2007	808.77	811.27	771.27	781.27 - 771.27	Aboveground
MW-4	487652	5/6/1991	830.73	833.66	825.53	825.53 - 823.53	Aboveground
MW-5	487653	5/6/1991	827.86	827.76	823.56	823.56 - 821.56	Flush Mount
MW-6	487654	5/6/1991	827.86	827.76	823.42	823.42 - 821.42	Flush Mount

Notes:

- amsl Above mean sea level.
- AMW ARCADIS Monitoring Well.
- MW Monitoring Well.

**Table 2. Groundwater-Elevation Data
Twin Cities Assembly Plant, St. Paul, Minnesota**

Well ID	Date	Top of Casing Elevation (feet amsl)	Bottom of Well Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
AMW-01	7/16/2007	813.03	774.03	27.86	785.17
	8/13/2007	813.03	774.03	27.20	785.83
	1/9/2008	813.03	774.03	26.76	786.27
	3/11/2008	813.03	774.03	26.21	786.82
	9/10/2008	813.03	774.03	26.81	786.22
AMW-02	7/16/2007	812.86	772.86	23.99	788.87
	8/13/2007	812.86	772.86	24.43	788.43
	1/9/2008	812.86	772.86	25.00	787.86
	3/11/2008	812.86	772.86	26.18	786.68
	9/10/2008	812.86	772.86	26.66	786.20
AMW-03A	7/16/2007	811.80	771.80	18.02	793.78
	8/13/2007	811.80	771.80	18.71	793.09
	1/9/2008	811.80	771.80	17.90	793.90
	3/11/2008	811.80	771.80	18.27	793.53
	9/10/2008	811.80	771.80	17.43	794.37
AMW-03B	7/16/2007	811.72	660.72	100.86	710.86
	8/13/2007	811.72	660.72	100.82	710.90
	1/9/2008	811.72	660.72	100.86	710.86
	3/11/2008	811.72	660.72	100.67	711.05
	9/10/2008	811.72	660.72	100.65	711.07
AMW-04	7/16/2007	829.92	768.92	40.65	789.27
	8/13/2007	829.92	768.92	39.14	790.78
	1/9/2008	829.92	768.92	39.13	790.79
	3/11/2008	829.92	768.92	NA	NA
	9/10/2008	829.92	768.92	36.28	793.64
AMW-05	7/16/2007	725.25	696.25	Dry	Dry
	8/13/2007	725.25	696.25	Dry	Dry
	1/9/2008	725.25	696.25	Dry	Dry
	3/11/2008	725.25	696.25	Dry	Dry
	9/10/2008	725.25	696.25	Dry	Dry

See page 3 for notes.

**Table 2. Groundwater-Elevation Data
Twin Cities Assembly Plant, St. Paul, Minnesota**

Well ID	Date	Top of Casing Elevation (feet amsl)	Bottom of Well Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
AMW-05B	7/16/2007	723.99	670.99	32.53	691.46
	8/13/2007	723.99	670.99	32.83	691.16
	1/9/2008	723.99	670.99	32.43	691.56
	3/11/2008	723.99	670.99	32.82	691.17
	9/10/2008	723.99	670.99	32.49	691.50
AMW-06	7/16/2007	814.06	773.06	37.83	776.23
	8/13/2007	814.06	773.06	30.22	783.84
	1/9/2008	814.06	773.06	30.53	783.53
	3/11/2008	814.06	773.06	26.78	787.28
	9/10/2008	814.06	773.06	26.89	787.17
AMW-07	7/16/2007	733.48	688.48	42.82	690.66
	8/13/2007	733.48	688.48	43.21	690.27
	1/9/2008	733.48	688.48	42.85	690.63
	3/11/2008	733.48	688.48	43.23	690.25
	9/10/2008	733.48	688.48	42.99	690.49
AMW-08	7/16/2007	830.8	785.80	42.89	787.91
	8/13/2007	830.8	785.80	38.13	792.67
	1/9/2008	830.8	785.80	38.19	792.61
	3/11/2008	830.8	785.80	38.04	792.76
	9/10/2008	830.8	785.80	37.92	792.88
AMW-09	7/16/2007	858.13	768.13	83.86	774.27
	8/13/2007	858.13	768.13	78.82	779.31
	1/9/2008	858.13	768.13	81.23	776.90
	3/11/2008	858.13	768.13	79.60	778.53
	9/10/2008	858.13	768.13	79.41	778.72
AMW-10	7/16/2007	811.27	771.27	20.09	791.18
	8/13/2007	811.27	771.27	18.90	792.37
	1/9/2008	811.27	771.27	18.45	792.82
	3/11/2008	811.27	771.27	19.18	792.09
	9/10/2008	811.27	771.27	18.22	793.05

See page 3 for notes.

**Table 2. Groundwater-Elevation Data
Twin Cities Assembly Plant, St. Paul, Minnesota**

Well ID	Date	Top of Casing Elevation (feet amsl)	Bottom of Well Elevation (feet amsl)	Depth to Water (feet)	Groundwater Elevation (feet amsl)
MW-4	7/16/2007	833.66	825.53	7.75	825.91
	8/13/2007	833.66	825.53	7.64	826.02
	1/9/2008	833.66	825.53	7.47	826.19
	3/11/2008	833.66	825.53	Dry	Dry
	9/10/2008	833.66	825.53	7.74	825.92
MW-5	7/16/2007	827.76	823.56	2.07	825.69
	8/13/2007	827.76	823.56	2.72	825.04
	1/9/2008	827.76	823.56	Dry	Dry
	3/11/2008	827.76	823.56	Dry	Dry
	9/10/2008	827.76	823.56	2.35	825.41
MW-6	7/16/2007	827.76	823.42	2.11	825.65
	8/13/2007	827.76	823.42	2.12	825.64
	1/9/2008	827.76	823.42	Dry	Dry
	3/11/2008	827.76	823.42	Dry	Dry
	9/10/2008	827.76	823.42	2.41	825.35

Notes:
 amsl Above mean sea level.
 AMW ARCADIS Monitoring Well.
 MW Monitoring Well.
 NA Not accessible.

Table 3. Underground Storage Tank Collection System Monitoring
Twin Cities Assembly Plant, St. Paul, Minnesota

Location ID	Sample ID	Date	Temperature (°C)	pH	Field Specific Conductivity (umhos/cm)	Adjusted Specific Conductivity (umhos/cm @ 25°C)
UST Sump*	W-070913-CA-01	9/13/2007	16.80	6.28	646	773
UST Sump	Sump	10/2/2008	14.90	6.51	620	777

Notes:

* Data from the Conestoga-Rovers & Associates 2007 Annual Monitoring Report for the Undergroundstorage Tank (UST) Site, October 2, 2007.

°C	Degrees Celsius.	ORP	Oxidation/Reduction Potential.
mV	Millivolts.	umhos/cm	Micromhos per centimeter.
NM	Not Measured.	UST	Underground Storage Tank.

**Table 4. Natural Attenuation Parameters in Groundwater
Twin Cities Assembly Plant, St. Paul, Minnesota**

Well ID	Date	Temperature (°C)	Dissolved Oxygen (ppm)	pH	Field Specific Conductivity (umhos/cm)	Adjusted Specific Conductivity (umhos/cm @ 25°C)	ORP (mV)
AMW-01	7/17/2007	15.40	3.57	7.85	916	1,134	-150.6
AMW-01	12/19/2007	9.09	4.66	7.11	930	1,364	-139.6
AMW-01	3/13/2008	12.22	2.30	7.18	887	1,174	-76.6
AMW-01	9/15/2008	12.23	1.75	7.55	876	1,176	-1.8
AMW-02	7/17/2007	14.02	8.04	12.29	2,371	3,038	-127.8
AMW-02	12/20/2007	9.42	6.60	7.57	897	1,303	-83.5
AMW-02	3/13/2008	10.31	8.62	7.66	649	902	50.5
AMW-02	9/16/2008	10.71	2.17	7.79	791	1,108	60.3
AMW-03A	7/17/2007	17.64	5.32	6.22	1,061	1,244	-9.0
AMW-03A	12/18/2007	9.21	4.84	7.15	929	1,358	-91.1
AMW-03A	3/13/2008	11.52	2.51	7.10	690	930	-84.6
AMW-03A	9/16/2008	11.69	2.28	7.62	725	988	16.0
AMW-03B	6/12/2007	16.50	5.88	7.81	430	518	-91.5
AMW-03B	12/17/2007	9.09	4.66	7.11	454	666	-139.6
AMW-03B	3/11/2008	11.96	0.06	7.05	355	470	-111.2
AMW-03B	9/11/2008	12.52	0.11	6.81	396	528	18.9
AMW-04	7/17/2007	17.35	7.07	8.63	786	928	-11.7
AMW-04	12/19/2007	9.13	6.54	7.15	975	1,428	-135.9
AMW-04	3/13/2008	NS	NS	NS	NS	NS	NS
AMW-04	9/16/2008	10.93	2.53	7.38	797	1,109	8.7
AMW-05	7/17/2007	NS	NS	NS	NS	NS	NS
AMW-05	12/17/2007	NS	NS	NS	NS	NS	NS
AMW-05	3/13/2008	NS	NS	NS	NS	NS	NS
AMW-05	9/16/2008	NS	NS	NS	NS	NS	NS
AMW-05B	7/24/2007	17.10	1.82	6.19	1,041	1,236	-25.7
AMW-05B	12/17/2007	11.03	1.21	6.60	997	1,384	-183.5
AMW-05B	3/11/2008	14.21	1.20	6.57	NM	1,008	-148.9
AMW-05B	9/10/2008	14.28	0.17	6.20	850	1,082	47.2
AMW-06	7/18/2007	16.91	12.89	7.68	528	630	20.1
AMW-06	12/21/2007	NM	NM	NM	NM	NM	NM
AMW-06	3/13/2008	NM	NM	NM	NM	NM	NM
AMW-06	9/15/2008	NM	NM	NM	NM	NM	NM
AMW-07	7/17/2007	16.22	7.48	7.42	747	906	47.4
AMW-07	12/20/2007	10.77	6.38	6.00	581	812	-51.9
AMW-07	3/13/2008	12.16	7.01	5.63	461	611	147.5
AMW-07	9/15/2008	13.90	6.53	4.88	484	622	217.5

See page 2 for notes.

**Table 4. Natural Attenuation Parameters in Groundwater
Twin Cities Assembly Plant, St. Paul, Minnesota**

Well ID	Date	Temperature (°C)	Dissolved Oxygen (ppm)	pH	Field Specific Conductivity (umhos/cm)	Adjusted Specific Conductivity (umhos/cm @ 25°C)	ORP (mV)
AMW-08	7/18/2007	13.71	2.27	7.88	1,185	1,531	-51.5
AMW-08	12/20/2007	11.27	1.76	7.33	1,022	1,409	-189.9
AMW-08	3/13/2008	NM	NM	NM	NM	NM	NM
AMW-08	9/15/2008	13.76	2.90	7.44	806	1,040	158.7
AMW-09	7/18/2007	14.65	5.88	7.20	1,361	1,716	-13.0
AMW-09	12/20/2007	NM	NM	NM	NM	NM	NM
AMW-09	3/13/2008	NM	NM	NM	NM	NM	NM
AMW-09	9/16/2008	NM	NM	NM	NM	NM	NM
AMW-10	7/25/2007	15.55	7.91	6.75	898	1,107	43.0
AMW-10	12/20/2007	11.77	1.74	7.54	954	1,297	-163.5
AMW-10	3/13/2008	11.95	2.40	7.15	759	1,010	-138.9
AMW-10	9/15/2008	11.97	-0.19	7.01	799	1,081	-65.1
MW-4	7/18/2007	17.82	2.50	6.95	1,020	1,191	-13.5
MW-4	12/19/2007	3.36	12.64	7.50	830	1,463	-149.7
MW-4	3/13/2008	NS	NS	NS	NS	NS	NS
MW-4	9/16/2008	NM	NM	NM	NM	NM	NM
MW-5	7/18/2007	25.79	2.96	7.24	1,196	1,177	-30.2
MW-5	12/17/2007	NS	NS	NS	NS	NS	NS
MW-5	3/13/2008	NS	NS	NS	NS	NS	NS
MW-5	9/16/2008	NM	NM	NM	NM	NM	NM
MW-6	7/18/2007	25.55	7.62	7.00	1,078	1,066	9.2
MW-6	12/17/2007	NS	NS	NS	NS	NS	NS
MW-6	3/13/2008	NS	NS	NS	NS	NS	NS
MW-6	9/16/2008	NM	NM	NM	NM	NM	NM

Notes:

°C	Degrees Celsius.	NM	Not Measured.
AMW	ARCADIS Monitoring Well.	NS	Not sampled.
mV	Millivolts.	ORP	Oxidation/Reduction Potential.
MW	Monitoring Well.	ppm	Parts per million.
		umhos/cm	Micromhos per centimeter.

Table 5. Summary of Compounds Detected in Groundwater Sampling Events
Twin Cities Assembly Plant, St. Paul, Minnesota

Location Sample Name Sample Date	MDH HRLs/ Units USEPA MCL Standards	AMW-01				AMW-02				AMW-03A	
		AMW-01(20070717) 7/17/2007	AMW-01(20071219) 12/19/2007	AMW-01(20080313) 3/13/2008	AMW-01(20080915) 9/15/2008	AMW-02(20070717) 7/17/2007	AMW-02(20071220) 12/20/2007	AMW-02(20080313) 3/13/2008	AMW-02(20080916) 9/16/2008	AMW-03A(20070717) 7/17/2007	
Diesel Range Organics	mg/L	NS	NA	NA	2.3 J	1.1	NA	NA	0.38 J	0.87	NA
VOC											
1,2,3-Trichlorobenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	µg/L	NS	0.48 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	µg/L	4000	< 10	< 10	< 10	< 10	< 10	0.68 J	2 J	0.57 J	< 10
Acetone	µg/L	700	4.2 J	< 10	< 10	< 10	< 10	3.1 J	3.3 J	< 10	< 10
Benzene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	µg/L	6	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1 J	< 1
Carbon disulfide	µg/L	700	< 1	< 1	< 1	< 1	< 1	0.64 J	1.3	0.33 J	< 1
Chloroform	µg/L	60	0.33 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L	70	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.45 J
Cyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methyl isobutyl ketone	µg/L	300	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylcyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Naphthalene	µg/L	300	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Styrene	µg/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	5	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1 J	< 1
Tetrahydrofuran	µg/L	NS	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Toluene	µg/L	1000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
SVOC											
Acetophenone	µg/L	NS	< 10	< 10	< 10	< 10	0.77 J	< 10	< 10	< 10	< 10
Benzaldehyde	µg/L	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo(a)pyrene	µg/L	0.2	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo(b)fluoranthene	µg/L	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
bis(2-Ethylhexyl)phthalate	µg/L	6	< 10	1.1 J	1.5 J	0.98 J	< 10	4.9 J	< 10	< 10	< 10
Caprolactam	µg/L	NS	< 10	< 10	< 10 J	< 10	< 10	< 10	< 10	< 10	< 10
Fluoranthene	µg/L	300	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Isophorone	µg/L	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	300	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4000	< 10	< 10	< 10	< 10	3.2 J	< 10	< 10	< 10	< 10
Pyrene	µg/L	200	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
PCB											
Aroclor 1016	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Aroclor 1221	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Aroclor 1232	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Aroclor 1242	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Aroclor 1248	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Aroclor 1254	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Aroclor 1260	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Total PCBs	µg/L	0.04 ¹	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Metals - Total											
Arsenic	µg/L	10	< 10	< 10	NA	NA	< 10	6 J	NA	NA	< 10
Barium	µg/L	2000	145 J	124 J	NA	NA	48.4 J	248	NA	NA	162 J
Cadmium	µg/L	4	< 5	< 5	NA	NA	< 5	< 5	NA	NA	< 5
Chromium	µg/L	100	14.8	14.8	NA	NA	5.6 J	30.3	NA	NA	4.7 J
Lead	µg/L	15	< 3	< 3	NA	NA	< 3	3	NA	NA	< 3
Silver	µg/L	30	< 10	< 10	NA	NA	< 10	< 10	NA	NA	< 10
Mercury	µg/L	2	< 0.2	< 0.2	NA	NA	< 0.2	< 0.2	NA	NA	< 0.2
Metals - Dissolved											
Arsenic	µg/L	10	NA	< 10	< 10	< 10	NA	3.7 J	< 10	< 10	NA
Barium	µg/L	2000	NA	134 J	92.4 J	111 J	NA	160 J	131 J	117 J	NA
Cadmium	µg/L	4	NA	< 5	< 5	< 5	NA	< 5	< 5	< 5	NA
Chromium	µg/L	100	NA	< 10	< 10	< 10	NA	< 10	< 10	< 10	NA
Lead	µg/L	15	NA	< 3	< 3	< 3	NA	< 3	< 3	< 3	NA
Silver	µg/L	30	NA	< 10	< 10	< 10	NA	< 10	< 10	< 10	NA
Mercury	µg/L	2	NA	< 0.2	< 0.2	< 0.2	NA	< 0.2	< 0.2	< 0.2	NA
Other											
Cyanide, Free	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA

Footnotes on Page 11.

Table 5. Summary of Compounds Detected in Groundwater Sampling Events
Twin Cities Assembly Plant, St. Paul, Minnesota

Location Sample Name Sample Date	MDH HRLs/ Units USEPA MCL Standards	AMW-03A										
		DUP-001(20070717)(AMW-03A)	AMW-3A(20071218)	AMW-03A (DUP001(20071218))	AMW-03A(20080313)	AMW-03A (DUP 001(20080313))	AMW-3A(20080915)	AMW-03B(20070718)	AMW-3B(20071217)	AMW-03B(20080311)		
		7/17/2007	12/18/2007	12/18/2007	3/13/2008	3/13/2008	9/16/2008	7/18/2007	12/17/2007	3/11/2008		
Diesel Range Organics	mg/L	NS	NA	NA	NA	0.43	0.41	0.48	NA	NA	<0.1	
VOC												
1,2,3-Trichlorobenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
1,2,4-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
1,3,5-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
2-Butanone (MEK)	µg/L	4000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
Acetone	µg/L	700	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	
Benzene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Bromodichloromethane	µg/L	6	< 1	< 1	< 1	< 1	< 1	< 1 J	0.29 J	< 1	< 1	
Carbon disulfide	µg/L	700	< 1	< 1	< 1	0.61 J	0.31 J	< 1	1.2	< 1	< 1	
Chloroform	µg/L	60	< 1	< 1	< 1	< 1	< 1	< 1	2.3	< 1	< 1	
Chloromethane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
cis-1,2-Dichloroethene	µg/L	70	0.53 J	0.57 J	0.55 J	0.55 J	0.54 J	0.4 J	< 1	< 1	< 1	
Cyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Methyl isobutyl ketone	µg/L	300	< 5	< 5 J	< 5 J	< 5	< 5	< 5	< 5	< 5	< 5	
Methylcyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Methylene chloride	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Naphthalene	µg/L	300	< 1	< 1 J	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	
Styrene	µg/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Tetrachloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	
Tetrahydrofuran	µg/L	NS	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	
Toluene	µg/L	1000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
Trichloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	
SVOC												
Acetophenone	µg/L	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J	
Benzaldehyde	µg/L	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J	
Benzo(a)pyrene	µg/L	0.2	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J	
Benzo(b)fluoranthene	µg/L	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J	
bis(2-Ethylhexyl)phthalate	µg/L	6	< 10	0.97 J	1.7 J	< 10	< 10	< 10	< 10	< 10	< 10 J	
Caprolactam	µg/L	NS	< 10	< 10	< 10	< 10 J	< 10 J	< 10	< 10	< 10 J	< 10 J	
Fluoranthene	µg/L	300	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J	
Isophorone	µg/L	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J	
Naphthalene	µg/L	300	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J	
Phenanthrene	µg/L	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J	
Phenol	µg/L	4000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J	
Pyrene	µg/L	200	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10 J	
PCB												
Aroclor 1016	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Aroclor 1221	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Aroclor 1232	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Aroclor 1242	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Aroclor 1248	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Aroclor 1254	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Aroclor 1260	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Total PCBs	µg/L	0.04 ¹	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	
Metals - Total												
Arsenic	µg/L	10	< 10	< 10	< 10	NA	NA	NA	5.6 J	< 10	NA	
Barium	µg/L	2000	161 J	182 J	184 J	NA	NA	NA	123 J	89.6 J	NA	
Cadmium	µg/L	4	< 5	< 5	< 5	NA	NA	NA	< 5	< 5	NA	
Chromium	µg/L	100	3.9 J	3.5 J	3.1 J	NA	NA	NA	24	4.2 J	NA	
Lead	µg/L	15	< 3	< 3	< 3	NA	NA	NA	< 3	< 3	NA	
Silver	µg/L	30	< 10	< 10	< 10	NA	NA	NA	< 10	< 10	NA	
Mercury	µg/L	2	< 0.2	< 0.2	< 0.2	NA	NA	NA	0.24	< 0.2	NA	
Metals - Dissolved												
Arsenic	µg/L	10	NA	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	
Barium	µg/L	2000	NA	170 J	177 J	137 J	159 J	116 J	NA	85.3 J	84.2 J	
Cadmium	µg/L	4	NA	< 5	< 5	< 5	< 5	< 5	NA	< 5	< 5	
Chromium	µg/L	100	NA	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	
Lead	µg/L	15	NA	< 3	< 3	< 3	< 3	< 3	NA	< 3	< 3	
Silver	µg/L	30	NA	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	
Mercury	µg/L	2	NA	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	NA	< 0.2	< 0.2	
Other												
Cyanide, Free	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Footnotes on Page 11.

Table 5. Summary of Compounds Detected in Groundwater Sampling Events
Twin Cities Assembly Plant, St. Paul, Minnesota

Location Sample Name Sample Date	MDH HRLs/ Units USEPA MCL Standards	AMW-03B	AMW-04			AMW-05B				AMW-06	
		AMW-3B(20080911) 9/11/2008	AMW-04(20070717) 7/17/2007	AMW-4(20071219) 12/19/2007	AMW-4(20080916) 9/16/2008	AMW-05B(20070724) 7/24/2007	AMW-05B(12172007) 12/17/2007	AMW-05B(20080311) 3/11/2008	AMW-05B(20080910) 9/10/2008	AMW-06(20070718) 7/18/2007	
Diesel Range Organics	mg/L	NS	<0.1	NA	NA	1.2	NA	NA	<0.1	0.029	NA
VOC											
1,2,3-Trichlorobenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	µg/L	4000	< 10	< 10	< 10	1.2 J	< 10	< 10	< 10	< 10	< 10
Acetone	µg/L	700	< 10	2.1 J	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.69 J
Bromodichloromethane	µg/L	6	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	700	< 1	0.82 J	< 1	0.3 J	< 1	< 1	< 1	0.95 J	1.1
Chloroform	µg/L	60	< 1	0.7 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	NS	< 1	< 1	< 1	< 1	0.54 J	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L	70	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methyl isobutyl ketone	µg/L	300	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5	< 5	0.38 J
Methylcyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	5	4.3	< 1	< 1	< 1	< 1	< 1	< 1	0.72 J	< 1
Naphthalene	µg/L	300	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1
Styrene	µg/L	100	< 1 J	0.57 J	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1
Tetrachloroethene	µg/L	5	3.2	< 1	< 1	< 1	< 1	< 1	< 1	3.7	< 1
Tetrahydrofuran	µg/L	NS	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Toluene	µg/L	1000	< 1	0.2 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
SVOC											
Acetophenone	µg/L	NS	< 10	0.93 J	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzaldehyde	µg/L	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo(a)pyrene	µg/L	0.2	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzo(b)fluoranthene	µg/L	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
bis(2-Ethylhexyl)phthalate	µg/L	6	< 10	< 10	< 10	1.4 J	< 10	< 10	< 10	< 10	< 10
Caprolactam	µg/L	NS	1.5 J	44	< 10	< 10	< 10	< 10 J	< 10	< 10	0.68 J
Fluoranthene	µg/L	300	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Isophorone	µg/L	100	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Naphthalene	µg/L	300	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	NS	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Phenol	µg/L	4000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Pyrene	µg/L	200	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
PCB											
Aroclor 1016	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Aroclor 1221	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Aroclor 1232	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Aroclor 1242	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Aroclor 1248	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Aroclor 1254	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.97	< 0.2
Aroclor 1260	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Total PCBs	µg/L	0.04 ¹	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2	0.97	< 0.2
Metals - Total											
Arsenic	µg/L	10	NA	< 10	< 10	NA	< 10	< 10	NA	NA	10.7
Barium	µg/L	2000	NA	130 J	136 J	NA	371	88.8 J	NA	NA	246
Cadmium	µg/L	4	NA	< 5	< 5	NA	0.63 J	< 5	NA	NA	< 5
Chromium	µg/L	100	NA	33.7	15.3	NA	54.6	7.9 J	NA	NA	99.6
Lead	µg/L	15	NA	4.8	2.7 J	NA	77.6	< 9.3	NA	NA	16
Silver	µg/L	30	NA	< 10	< 10	NA	2.4 J	< 10	NA	NA	< 10
Mercury	µg/L	2	NA	< 0.2	< 0.2	NA	< 0.2	< 0.2	NA	NA	0.13 J
Metals - Dissolved											
Arsenic	µg/L	10	< 10	NA	< 10	< 10	NA	< 10	< 10	< 10	NA
Barium	µg/L	2000	79.1 J	NA	118 J	73.5 J	NA	82.3 J	79.7 J	61.9 J	NA
Cadmium	µg/L	4	< 5	NA	< 5	< 5	NA	< 5	< 5	< 5	NA
Chromium	µg/L	100	< 10	NA	< 10	< 10	NA	4.2 J	3.4 J	< 10	NA
Lead	µg/L	15	< 3	NA	< 3	< 3	NA	< 3	< 3	< 3	NA
Silver	µg/L	30	< 10	NA	< 10	< 10	NA	< 10	< 10	< 10	NA
Mercury	µg/L	2	< 0.2	NA	< 0.2	< 0.2	NA	< 0.2	< 0.2	< 0.2	NA
Other											
Cyanide, Free	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 5. Summary of Compounds Detected in Groundwater Sampling Events
Twin Cities Assembly Plant, St. Paul, Minnesota

Location Sample Name Sample Date	MDH HRLs/ Units USEPA MCL Standards	AMW-06			AMW-07			AMW-08				
		AMW-06(20071221) 12/21/2007	AMW-06(20080313) 3/13/2008	AMW-06(20080915) 9/15/2008	AMW-07(20070717) 7/17/2007	AMW-07(20071220) 12/20/2007	AMW-07(20080313) 3/13/2008	AMW-07(20080313)R2 3/13/2008	AMW-07(20080915) 9/15/2008	AMW-08(20070718) 7/18/2007		
Diesel Range Organics	mg/L	NS	NA	NA	0.69	NA	NA	0.13 J	NA	0.21	NA	
VOC												
1,2,3-Trichlorobenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	NA	< 1	< 1	
1,2,4-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	NA	< 1	< 1	
1,3,5-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	NA	< 1	< 1	
2-Butanone (MEK)	µg/L	4000	1 J	1.7 J	0.61 J	< 10	< 10	< 10	NA	< 10	< 10	
Acetone	µg/L	700	8.9 J	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	
Benzene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	NA	< 1	< 1	
Bromodichloromethane	µg/L	6	< 1	< 1	< 1	< 1	< 1	< 1	NA	< 1	< 1	
Carbon disulfide	µg/L	700	0.56 J	< 1	< 1	< 1	< 1	< 1	NA	< 1	4.1	
Chloroform	µg/L	60	< 1	< 1	< 1	0.35 J	< 1	< 1	NA	< 1	< 1	
Chloromethane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	NA	< 1	< 1	
cis-1,2-Dichloroethene	µg/L	70	< 1	< 1	< 1	< 1	< 1	< 1	NA	< 1	< 1	
Cyclohexane	µg/L	NS	< 1	0.5 J	< 1	< 1	< 1	< 1	NA	< 1	< 1	
Methyl isobutyl ketone	µg/L	300	< 5	< 5	< 5	< 5	< 5 J	< 5	NA	< 5	0.64 J	
Methylcyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	NA	< 1	< 1	
Methylene chloride	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	NA	< 1	< 1	
Naphthalene	µg/L	300	< 1	< 1	< 1	< 1	< 1 J	< 1	NA	< 1	< 1	
Styrene	µg/L	100	< 1	< 1	< 1	< 1	< 1	< 1	NA	< 1 J	< 1	
Tetrachloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	NA	< 1	< 1	
Tetrahydrofuran	µg/L	NS	< 5	< 5	< 5	< 5	< 5	< 5	NA	< 5	< 5	
Toluene	µg/L	1000	< 1	< 1	< 1	< 1	< 1	< 1	NA	< 1	< 1	
Trichloroethene	µg/L	5	< 1	< 1	< 1	2.9	2.7	2.9	NA	0.43 J	< 1	
SVOC												
Acetophenone	µg/L	NS	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	
Benzaldehyde	µg/L	NS	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	
Benzo(a)pyrene	µg/L	0.2	< 10	< 10	< 10	0.79 J	< 10	< 10	NA	< 10	< 10	
Benzo(b)fluoranthene	µg/L	NS	< 10	< 10	< 10	0.78 J	< 10	< 10	NA	< 10	< 10	
bis(2-Ethylhexyl)phthalate	µg/L	6	1 J	< 10	1.6 J	< 10	< 10	< 10	NA	< 10	< 10	
Caprolactam	µg/L	NS	1.6 J	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	
Fluoranthene	µg/L	300	< 10	< 10	< 10	0.84 J	< 10	< 10	NA	0.25 J	< 10	
Isophorone	µg/L	100	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	0.66 J	
Naphthalene	µg/L	300	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	
Phenanthrene	µg/L	NS	< 10	< 10	< 10	0.39 J	< 10	< 10	NA	< 10	< 10	
Phenol	µg/L	4000	< 10	< 10	< 10	< 10	< 10	< 10	NA	< 10	< 10	
Pyrene	µg/L	200	< 10	< 10	< 10	1 J	< 10	< 10	NA	< 10	< 10	
PCB												
Aroclor 1016	µg/L	NS	NA	NA	NA	< 0.2	< 0.2	< 0.2	NA	< 0.2	< 0.2	
Aroclor 1221	µg/L	NS	NA	NA	NA	< 0.2	< 0.2	< 0.2	NA	< 0.2	< 0.2	
Aroclor 1232	µg/L	NS	NA	NA	NA	< 0.2	< 0.2	< 0.2	NA	< 0.2	< 0.2	
Aroclor 1242	µg/L	NS	NA	NA	NA	< 0.2	< 0.2	< 0.2	NA	< 0.2	< 0.2	
Aroclor 1248	µg/L	NS	NA	NA	NA	< 0.2	< 0.2	< 0.2	NA	< 0.2	< 0.2	
Aroclor 1254	µg/L	NS	NA	NA	NA	< 0.2	< 0.2	< 0.2	NA	< 0.2	< 0.2	
Aroclor 1260	µg/L	NS	NA	NA	NA	< 0.2	< 0.2	< 0.2	NA	< 0.2	< 0.2	
Total PCBs	µg/L	0.04 ¹	NA	NA	NA	< 0.2	< 0.2	< 0.2	NA	0.059 J	< 0.2	
Metals - Total												
Arsenic	µg/L	10	7.5 J	NA	NA	< 10	4.9 J	NA	NA	NA	20.7	
Barium	µg/L	2000	198 J	NA	NA	142 J	84.7 J	NA	NA	NA	993	
Cadmium	µg/L	4	< 5	NA	NA	< 5	1.1 J	NA	NA	NA	2.1 J	
Chromium	µg/L	100	61.2	NA	NA	19.3	26.8	NA	NA	NA	252	
Lead	µg/L	15	8.1	NA	NA	3.1	6.4	NA	NA	NA	27.5	
Silver	µg/L	30	< 10	NA	NA	< 10	< 10	NA	NA	NA	< 10	
Mercury	µg/L	2	< 0.2	NA	NA	< 0.2	< 0.2	NA	NA	NA	0.19 J	
Metals - Dissolved												
Arsenic	µg/L	10	< 10	NA	< 10	NA	< 10	< 10	NA	< 10	NA	
Barium	µg/L	2000	70.3 J	NA	59.5 J	NA	49.4 J	26 J	NA	29.2 J	NA	
Cadmium	µg/L	4	< 5	NA	< 5	NA	1.3 J	0.85 J	NA	0.99 J	NA	
Chromium	µg/L	100	< 10	NA	< 10	NA	< 10	< 10	NA	< 10	NA	
Lead	µg/L	15	< 3	NA	< 3	NA	< 3	< 3	NA	< 3	NA	
Silver	µg/L	30	< 10	NA	< 10	NA	< 10	< 10	NA	< 10	NA	
Mercury	µg/L	2	< 0.2	NA	< 0.2	NA	< 0.2	< 0.2	NA	< 0.2	NA	
Other												
Cyanide, Free	µg/L	NS	NA	NA	NA	NA	NA	5.9 J	NA	< 10	NA	

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Table 5. Summary of Compounds Detected in Groundwater Sampling Events
Twin Cities Assembly Plant, St. Paul, Minnesota

Location Sample Name Sample Date	MDH HRLs/ Units USEPA MCL Standards	AMW-08			AMW-09				AMW-10		
		AMW-08(20071220) 12/20/2007	AMW-08(20080313) 3/13/2008	AMW-08(20080915) 9/15/2008	AMW-09(20070718) 7/18/2007	AMW-09(20071220) 12/20/2007	AMW-09(20080313) 3/13/2008	AMW-09(20080916) 9/16/2008	AMW-10(20070725) 7/25/2007	AMW-10(20071220) 12/20/2007	
Diesel Range Organics	mg/L	NS	NA	0.79 J	0.13	NA	NA	NA	1.4	NA	NA
VOC											
1,2,3-Trichlorobenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	µg/L	4000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone	µg/L	700	< 10	< 10	< 10	< 20	1.6 J	< 10	< 10	< 10	1.4 J
Benzene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	µg/L	6	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1
Carbon disulfide	µg/L	700	0.41 J	0.33 J	< 1	5.1	< 1	0.37 J	0.54 J	< 1	< 1
Chloroform	µg/L	60	< 1	< 1	< 1	0.91 J	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L	70	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methyl isobutyl ketone	µg/L	300	< 5 J	< 5	< 5	0.83 J	< 5	< 5	< 5	< 5	< 5
Methylcyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Naphthalene	µg/L	300	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Styrene	µg/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1
Tetrahydrofuran	µg/L	NS	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Toluene	µg/L	1000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
SVOC											
Acetophenone	µg/L	NS	< 10	< 10	< 10	< 10 J	< 24	< 10	< 10	< 10	< 10
Benzaldehyde	µg/L	NS	< 10	< 10	< 10	< 10 J	< 24	< 10	< 10	< 10	< 10
Benzo(a)pyrene	µg/L	0.2	< 10	< 10	< 10	< 10 J	< 24	< 10	< 10	< 10	< 10
Benzo(b)fluoranthene	µg/L	NS	< 10	< 10	< 10	< 10 J	< 24	< 10	< 10	< 10	< 10
bis(2-Ethylhexyl)phthalate	µg/L	6	< 10	< 10	< 10	< 10	8.8 J	< 10	< 10	< 10	0.91 J
Caprolactam	µg/L	NS	< 10	< 10	< 10	< 10 J	< 24	< 10 J	< 10	< 10	< 10
Fluoranthene	µg/L	300	< 10	< 10	< 10	< 10 J	< 24	< 10	< 10	< 10	< 10
Isophorone	µg/L	100	< 10	< 10	< 10	< 10 J	< 24	< 10	< 10	< 10	< 10
Naphthalene	µg/L	300	< 10	< 10	< 10	< 10 J	< 24	< 10	< 10	< 10	< 10
Phenanthrene	µg/L	NS	< 10	< 10	< 10	< 10 J	< 24	< 10	< 10	< 10	< 10
Phenol	µg/L	4000	< 10	< 10	< 10	< 10	< 24	< 10	< 10	< 10	< 10
Pyrene	µg/L	200	< 10	< 10	< 10	< 10 J	< 24	< 10	< 10	< 10	< 10
PCB											
Aroclor 1016	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2 J	< 0.2	NA	< 2	< 0.2	< 0.2
Aroclor 1221	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2 J	< 0.2	NA	< 2	< 0.2	< 0.2
Aroclor 1232	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2 J	< 0.2	NA	< 2	< 0.2	< 0.2
Aroclor 1242	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2 J	< 0.2	NA	< 2	< 0.2	< 0.2
Aroclor 1248	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2 J	< 0.2	NA	< 2	< 0.2	< 0.2
Aroclor 1254	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2 J	< 0.2	NA	< 2	< 0.2	< 0.2
Aroclor 1260	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2 J	< 0.2	NA	< 2	< 0.2	< 0.2
Total PCBs	µg/L	0.04 ¹	< 0.2	< 0.2	< 0.2	< 0.2 J	< 0.2	NA	< 2	< 0.2	< 0.2
Metals - Total											
Arsenic	µg/L	10	6.1 J	NA	NA	171	10.5	NA	NA	< 10	< 10
Barium	µg/L	2000	380	NA	NA	1240	821	NA	NA	150 J	109 J
Cadmium	µg/L	4	< 5	NA	NA	13	< 5	NA	NA	< 5	< 5
Chromium	µg/L	100	43.3	NA	NA	802	98.4	NA	NA	7.1 J	4.5 J
Lead	µg/L	15	4	NA	NA	733	24.1	NA	NA	< 3	< 3
Silver	µg/L	30	< 10	NA	NA	< 10	< 10	NA	NA	< 10	< 10
Mercury	µg/L	2	< 0.2	NA	NA	1.8	< 0.2	NA	NA	< 0.2	< 0.2
Metals - Dissolved											
Arsenic	µg/L	10	< 10	< 10	< 10	NA	5.5 J	3.9	< 10	NA	< 10
Barium	µg/L	2000	152 J	105 J	92.1 J	NA	69.8 J	68.5 J	58.9 J	NA	105 J
Cadmium	µg/L	4	< 5	< 5	< 5	NA	< 5	< 5	< 5	NA	< 5
Chromium	µg/L	100	< 10	< 10	< 10	NA	< 10	< 10	< 10	NA	< 10
Lead	µg/L	15	< 3	< 3	< 3	NA	< 3	< 3	< 3	NA	< 3
Silver	µg/L	30	< 10	< 10	< 10	NA	< 10	< 10	< 10	NA	< 10
Mercury	µg/L	2	< 0.2	< 0.2	< 0.2	NA	< 0.2	< 0.2	< 0.2	NA	< 0.2
Other											
Cyanide, Free	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 5. Summary of Compounds Detected in Groundwater Sampling Events
Twin Cities Assembly Plant, St. Paul, Minnesota

Location Sample Name Sample Date	MDH HRLs/ Units USEPA MCL Standards	AMW-10			MW-4			MW-5		MW-6	
		AMW-10(20080313)R2 3/13/2008	AMW-10(20080313) 3/13/2008	AMW-10(20080915) 9/15/2008	MW-4(20070718) 7/18/2007	MW-4(20071219) 12/19/2007	MW-4(20080916) 9/16/2008	MW-5(20070718) 7/18/2007	MW-5(20080916) 9/16/2008	MW-6(20070718) 7/18/2007	MW-6(20080916) 9/16/2008
Diesel Range Organics	mg/L	NS	NA	1.2 J	0.072 J	NA	NA	NA	NA	NA	NA
VOC											
1,2,3-Trichlorobenzene	µg/L	NS	NA	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	µg/L	NS	NA	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	µg/L	NS	NA	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	µg/L	4000	NA	1.5 J	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone	µg/L	700	NA	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Benzene	µg/L	5	NA	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	µg/L	6	NA	< 1	< 1 J	< 1	< 1	< 1 J	< 1	< 1 J	< 1
Carbon disulfide	µg/L	700	NA	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	60	NA	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	NS	NA	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L	70	NA	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1
Cyclohexane	µg/L	NS	NA	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methyl isobutyl ketone	µg/L	300	NA	< 5	< 5	< 5	< 5 J	< 5	< 5	< 5	< 5
Methylcyclohexane	µg/L	NS	NA	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	5	NA	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Naphthalene	µg/L	300	NA	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1
Styrene	µg/L	100	NA	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	5	NA	< 1	< 1 J	< 1	< 1	< 1 J	< 1	< 1 J	< 1
Tetrahydrofuran	µg/L	NS	NA	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Toluene	µg/L	1000	NA	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethene	µg/L	5	NA	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
SVOC											
Acetophenone	µg/L	NS	NA	< 10	< 10	NA	NA	NA	NA	NA	< 12
Benzaldehyde	µg/L	NS	NA	< 10	< 10	NA	NA	NA	NA	NA	< 12
Benzo(a)pyrene	µg/L	0.2	NA	< 10	< 10	NA	NA	NA	NA	NA	< 12
Benzo(b)fluoranthene	µg/L	NS	NA	< 10	< 10	NA	NA	NA	NA	NA	< 12
bis(2-Ethylhexyl)phthalate	µg/L	6	NA	< 10	1.5 J	NA	NA	NA	NA	NA	< 12
Caprolactam	µg/L	NS	NA	< 10	< 10	NA	NA	NA	NA	NA	< 12
Fluoranthene	µg/L	300	NA	< 10	< 10	NA	NA	NA	NA	NA	< 12
Isophorone	µg/L	100	NA	< 10	< 10	NA	NA	NA	NA	NA	< 12
Naphthalene	µg/L	300	NA	< 10	< 10	NA	NA	NA	NA	NA	< 12
Phenanthrene	µg/L	NS	NA	< 10	< 10	NA	NA	NA	NA	NA	< 12
Phenol	µg/L	4000	NA	< 10	< 10	NA	NA	NA	NA	NA	< 12
Pyrene	µg/L	200	NA	< 10	< 10	NA	NA	NA	NA	NA	< 12
PCB											
Aroclor 1016	µg/L	NS	NA	< 0.2	< 0.2	NA	NA	NA	NA	NA	NA
Aroclor 1221	µg/L	NS	NA	< 0.2	< 0.2	NA	NA	NA	NA	NA	NA
Aroclor 1232	µg/L	NS	NA	< 0.2	< 0.2	NA	NA	NA	NA	NA	NA
Aroclor 1242	µg/L	NS	NA	< 0.2	< 0.2	NA	NA	NA	NA	NA	NA
Aroclor 1248	µg/L	NS	NA	< 0.2	< 0.2	NA	NA	NA	NA	NA	NA
Aroclor 1254	µg/L	NS	NA	< 0.2	< 0.2	NA	NA	NA	NA	NA	NA
Aroclor 1260	µg/L	NS	NA	< 0.2	< 0.2	NA	NA	NA	NA	NA	NA
Total PCBs	µg/L	0.04 ¹	NA	< 0.2	< 0.2	NA	NA	NA	NA	NA	NA
Metals - Total											
Arsenic	µg/L	10	NA	NA	NA	< 10	< 10	NA	< 10	NA	< 20
Barium	µg/L	2000	NA	NA	NA	333	142 J	NA	60.9 J	NA	52.8
Cadmium	µg/L	4	NA	NA	NA	3.5 J	< 5	NA	2.4 J	NA	2.4 J
Chromium	µg/L	100	NA	NA	NA	72.3	79.6	NA	907	NA	11.3
Lead	µg/L	15	NA	NA	NA	8.9	2.7 J	NA	11.4	NA	15.9
Silver	µg/L	30	NA	NA	NA	< 10	< 10	NA	< 10	NA	< 10
Mercury	µg/L	2	NA	NA	NA	0.15 J	< 0.2	NA	0.1 J	NA	< 0.2
Metals - Dissolved											
Arsenic	µg/L	10	NA	< 10	< 10	NA	< 10	NA	NA	NA	NA
Barium	µg/L	2000	NA	87.7 J	87.1 J	NA	107 J	NA	NA	NA	NA
Cadmium	µg/L	4	NA	< 5	< 5	NA	< 5	NA	NA	NA	NA
Chromium	µg/L	100	NA	< 10	< 10	NA	< 10	NA	NA	NA	NA
Lead	µg/L	15	NA	< 3	< 3	NA	< 3	NA	NA	NA	NA
Silver	µg/L	30	NA	< 10	< 10	NA	< 10	NA	NA	NA	NA
Mercury	µg/L	2	NA	< 0.2	< 0.2	NA	< 0.2	NA	NA	NA	NA
Other											
Cyanide, Free	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA

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Table 5. Summary of Compounds Detected in Groundwater Sampling Events
Twin Cities Assembly Plant, St. Paul, Minnesota

Location Sample Name Sample Date	MDH HRLs/ Units USEPA MCL Standards	Equipment Blanks				Trip Blanks				
		EB-001(20070719)EB	EB-001(20071217)EB	EB-001(20080311)EB	EB-001(20080910)EB	TRIP BLANK01(20070717)TB	TB-002(20070718)TB	TB-003(20070718)TB	TRIP BLANKTB (7/24/2007)	
		7/19/2007	12/17/2007	3/11/2008	9/10/2008	7/17/2007	7/18/2007	7/18/2007	7/24/2007	
Diesel Range Organics	mg/L	NS	NA	NA	0.023 J	0.025 J	NA	NA	NA	NA
VOC										
1,2,3-Trichlorobenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	0.18 J
1,3,5-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	µg/L	4000	1.5 J	0.73 J	2.3 J	1.4 J	1.2 J	1.1 J	1.4 J	< 10
Acetone	µg/L	700	2.4 J	3.6 J	7.9 J	4.3 J	< 10	< 10	1.4 J	1.4 J
Benzene	µg/L	5	< 1	< 1	< 1	0.44 J	< 1	< 1	< 1	< 1
Bromodichloromethane	µg/L	6	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	60	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L	70	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methyl isobutyl ketone	µg/L	300	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylcyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Naphthalene	µg/L	300	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Styrene	µg/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrahydrofuran	µg/L	NS	0.73 J	< 5	< 5	< 5	< 5	< 5	0.48 J	< 5
Toluene	µg/L	1000	0.25 J	0.39 J	< 1	0.5 J	< 1	< 1	0.2 J	< 1
Trichloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
SVOC										
Acetophenone	µg/L	NS	< 10	< 10	< 10	< 10	NA	NA	NA	NA
Benzaldehyde	µg/L	NS	1.9 J	< 10	< 10	< 10	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	0.2	< 10	< 10	< 10	< 10	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	NS	< 10	< 10	< 10	< 10	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	µg/L	6	1.8 J	< 10	< 10	< 10	0.99 J	NA	NA	NA
Caprolactam	µg/L	NS	< 10	< 10 J	< 10	< 10	NA	NA	NA	NA
Fluoranthene	µg/L	300	< 10	< 10	< 10	< 10	NA	NA	NA	NA
Isophorone	µg/L	100	< 10	< 10	< 10	< 10	NA	NA	NA	NA
Naphthalene	µg/L	300	< 10	< 10	< 10	< 10	NA	NA	NA	NA
Phenanthrene	µg/L	NS	< 10	< 10	< 10	< 10	NA	NA	NA	NA
Phenol	µg/L	4000	< 10	< 10	< 10	< 10	NA	NA	NA	NA
Pyrene	µg/L	200	< 10	< 10	< 10	< 10	NA	NA	NA	NA
PCB										
Aroclor 1016	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	NA	NA	NA	NA
Aroclor 1221	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	NA	NA	NA	NA
Aroclor 1232	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	NA	NA	NA	NA
Aroclor 1242	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	NA	NA	NA	NA
Aroclor 1248	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	NA	NA	NA	NA
Aroclor 1254	µg/L	NS	< 0.2	< 0.2	< 0.2	< 0.2	NA	NA	NA	NA
Aroclor 1260	µg/L	NS	< 0.2	< 0.2	0.071 J	< 0.2	NA	NA	NA	NA
Total PCBs	µg/L	0.04 ¹	< 0.2	< 0.2	0.071 J	< 0.2	NA	NA	NA	NA
Metals - Total										
Arsenic	µg/L	10	< 10	< 10	NA	NA	NA	NA	NA	NA
Barium	µg/L	2000	< 200	< 200	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	4	< 5	< 5	NA	NA	NA	NA	NA	NA
Chromium	µg/L	100	< 10	< 10	NA	NA	NA	NA	NA	NA
Lead	µg/L	15	< 3	< 3	NA	NA	NA	NA	NA	NA
Silver	µg/L	30	< 10	< 10	NA	NA	NA	NA	NA	NA
Mercury	µg/L	2	< 0.2	< 0.2	NA	NA	NA	NA	NA	NA
Metals - Dissolved										
Arsenic	µg/L	10	NA	< 10	< 10	< 10	NA	NA	NA	NA
Barium	µg/L	2000	NA	< 200	< 200	< 200	NA	NA	NA	NA
Cadmium	µg/L	4	NA	< 5	< 5	< 5	NA	NA	NA	NA
Chromium	µg/L	100	NA	< 10	< 10	< 10	NA	NA	NA	NA
Lead	µg/L	15	NA	< 3	< 3	< 3	NA	NA	NA	NA
Silver	µg/L	30	NA	< 10	< 10	< 10	NA	NA	NA	NA
Mercury	µg/L	2	NA	< 0.2	< 0.2	< 0.2	NA	NA	NA	NA
Other										
Cyanide, Free	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA

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Table 5. Summary of Compounds Detected in Groundwater Sampling Events
Twin Cities Assembly Plant, St. Paul, Minnesota

Location Sample Name Sample Date	MDH HRLs/ Units USEPA MCL Standards	Trip Blanks							
		TRIP BLANKTB (7/25/2007) 7/25/2007	TRIP BLANK TB-001(20071217)TB 12/17/2007	TRIPBLANK-TB-004(20071218)TB 12/18/2007	TB-006(20071219)TB 12/20/2007	TB-003(20071220)TB 12/20/2007	TRIPBLANK-TB-005(20071220)TB 12/20/2007	TRIPBLANK-TB-001(20071221)TB 12/21/2007	
Diesel Range Organics	mg/L	NS	NA	NA	NA	NA	NA	NA	NA
VOC									
1,2,3-Trichlorobenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	µg/L	4000	1.1 J	< 10	< 10	< 10	< 10	< 10	< 10
Acetone	µg/L	700	4 J	3.9 J	5 J	4.2 J	4.3 J	3.9	3.3 J
Benzene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	µg/L	6	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	60	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L	70	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methyl isobutyl ketone	µg/L	300	< 5	< 5	< 5 J	< 5	< 5 J	< 5 J	< 5 J
Methylcyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Naphthalene	µg/L	300	< 1	< 1	< 1 J	< 1	< 1 J	< 1	< 1
Styrene	µg/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrahydrofuran	µg/L	NS	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Toluene	µg/L	1000	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1
SVOC									
Acetophenone	µg/L	NS	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	NS	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	0.2	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	NS	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	µg/L	6	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	NS	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	300	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	100	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	300	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	NS	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4000	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	200	NA	NA	NA	NA	NA	NA	NA
PCB									
Aroclor 1016	µg/L	NS	NA	NA	NA	NA	NA	NA	NA
Aroclor 1221	µg/L	NS	NA	NA	NA	NA	NA	NA	NA
Aroclor 1232	µg/L	NS	NA	NA	NA	NA	NA	NA	NA
Aroclor 1242	µg/L	NS	NA	NA	NA	NA	NA	NA	NA
Aroclor 1248	µg/L	NS	NA	NA	NA	NA	NA	NA	NA
Aroclor 1254	µg/L	NS	NA	NA	NA	NA	NA	NA	NA
Aroclor 1260	µg/L	NS	NA	NA	NA	NA	NA	NA	NA
Total PCBs	µg/L	0.04 ¹	NA	NA	NA	NA	NA	NA	NA
Metals - Total									
Arsenic	µg/L	10	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	2000	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	4	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	100	NA	NA	NA	NA	NA	NA	NA
Lead	µg/L	15	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	30	NA	NA	NA	NA	NA	NA	NA
Mercury	µg/L	2	NA	NA	NA	NA	NA	NA	NA
Metals - Dissolved									
Arsenic	µg/L	10	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	2000	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	4	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	100	NA	NA	NA	NA	NA	NA	NA
Lead	µg/L	15	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	30	NA	NA	NA	NA	NA	NA	NA
Mercury	µg/L	2	NA	NA	NA	NA	NA	NA	NA
Other									
Cyanide, Free	µg/L	NS	NA	NA	NA	NA	NA	NA	NA

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Table 5. Summary of Compounds Detected in Groundwater Sampling Events
Twin Cities Assembly Plant, St. Paul, Minnesota

Location Sample Name Sample Date	MDH HRLs/ Units	Trip Blanks								
		USEPA MCL Standards	TB-001(20080311)TB 3/11/2008	TB-002(20080311)TBA8C130246 3/11/2008	TB-002(20080313)TB216 3/13/2008	TB-001(20080313)TB 3/13/2008	TB-002(20080313)TB158 3/13/2008	TB-001(20080910) 9/10/2008	TB-002(20080910)TB 9/10/2008	TB-001(20080911)TB 9/11/2008
Diesel Range Organics	mg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA
VOC										
1,2,3-Trichlorobenzene	µg/L	NS	0.25 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	µg/L	4000	2.2 J	2.1 J	< 10	< 10	< 10	< 10	< 10	< 10
Acetone	µg/L	700	7.2 J	6.8 J	7.8 J	7.8 J	7.3 J	2.8 J	3.1 J	1.8 J
Benzene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	µg/L	6	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Carbon disulfide	µg/L	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	60	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L	70	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methyl isobutyl ketone	µg/L	300	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylcyclohexane	µg/L	NS	0.5 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	5	< 1	< 1	2	1.7	1.6	< 1	< 1	< 1
Naphthalene	µg/L	300	0.26 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Styrene	µg/L	100	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1 J
Tetrachloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Tetrahydrofuran	µg/L	NS	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Toluene	µg/L	1000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
SVOC										
Acetophenone	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	0.2	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	µg/L	6	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	300	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	100	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	300	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4000	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	200	NA	NA	NA	NA	NA	NA	NA	NA
PCB										
Aroclor 1016	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1221	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1232	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1242	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1248	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1254	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1260	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	µg/L	0.04 ¹	NA	NA	NA	NA	NA	NA	NA	NA
Metals - Total										
Arsenic	µg/L	10	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	2000	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	4	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	100	NA	NA	NA	NA	NA	NA	NA	NA
Lead	µg/L	15	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	30	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	µg/L	2	NA	NA	NA	NA	NA	NA	NA	NA
Metals - Dissolved										
Arsenic	µg/L	10	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	2000	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	4	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	100	NA	NA	NA	NA	NA	NA	NA	NA
Lead	µg/L	15	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	30	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	µg/L	2	NA	NA	NA	NA	NA	NA	NA	NA
Other										
Cyanide, Free	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA

Footnotes on Page 11.

Table 5. Summary of Compounds Detected in Groundwater Sampling Events
Twin Cities Assembly Plant, St. Paul, Minnesota

Location Sample Name Sample Date	MDH HRLs/ Units USEPA MCL Standards	Trip Blanks											
		TB-02(20080915)TBA81170274 9/15/2008	TB-03(20080915)TB 9/15/2008	TB-05(20080915)TB 9/15/2008	TB-04(20080915)TB 9/15/2008	TB-01(20080915)TB 9/15/2008	TB-03(20080916) 9/16/2008	TB-01(20080916)TB 9/16/2008	TB-02(20080915)TB 9/16/2008	TB-04(20080916)TB 9/16/2008			
Diesel Range Organics	mg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
VOC													
1,2,3-Trichlorobenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,2,4-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
1,3,5-Trimethylbenzene	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
2-Butanone (MEK)	µg/L	4000	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Acetone	µg/L	700	4.5 J	2.8 J	2.3 J	4.9 J	< 10	3 J	4.4 J	4.8 J	3.6 J		
Benzene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Bromodichloromethane	µg/L	6	< 1 J	< 1	< 1	< 1 J	< 1	< 1	< 1 J	< 1	< 1 J	< 1	< 1 J
Carbon disulfide	µg/L	700	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloroform	µg/L	60	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Chloromethane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
cis-1,2-Dichloroethene	µg/L	70	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Cyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methyl isobutyl ketone	µg/L	300	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Methylcyclohexane	µg/L	NS	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Methylene chloride	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Naphthalene	µg/L	300	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Styrene	µg/L	100	< 1	< 1	< 1	< 1	< 1 J	< 1	< 1	< 1	< 1	< 1	< 1
Tetrachloroethene	µg/L	5	< 1 J	< 1	< 1	< 1 J	< 1	< 1	< 1 J	< 1	< 1 J	< 1	< 1 J
Tetrahydrofuran	µg/L	NS	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
Toluene	µg/L	1000	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
Trichloroethene	µg/L	5	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
SVOC													
Acetophenone	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzaldehyde	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
bis(2-Ethylhexyl)phthalate	µg/L	6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Caprolactam	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Fluoranthene	µg/L	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isophorone	µg/L	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Naphthalene	µg/L	300	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenanthrene	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phenol	µg/L	4000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pyrene	µg/L	200	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCB													
Aroclor 1016	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1221	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1232	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1242	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1248	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1254	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1260	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total PCBs	µg/L	0.04 ¹	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals - Total													
Arsenic	µg/L	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	µg/L	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	µg/L	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals - Dissolved													
Arsenic	µg/L	10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Barium	µg/L	2000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cadmium	µg/L	4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	µg/L	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	µg/L	15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Silver	µg/L	30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	µg/L	2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Other													
Cyanide, Free	µg/L	NS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Footnotes on Page 11.

Table 5. Summary of Compounds Detected in Groundwater Sampling Events
Twin Cities Assembly Plant, St. Paul, Minnesota

Notes:

Results are reported in micrograms per liter ($\mu\text{g/L}$), unless otherwise noted.

AMW ARCADIS Monitoring Well.

mg/L Milligrams per liter.

NA Not analyzed.

NS No standard.

J Estimated result.

Value is above the Minnesota Department of Health (MDH) Health Risk Limits (HRLs) and United States Environmental Protection Agency (USEPA) Maximum Contaminant Levels (MCLs).

DUP Duplicate.

VOCs Volatile organic compounds.

SVOCs Semi-volatile organic compounds.

MEK Methyl ethyl ketone.

¹ Standard is for total polychlorinated biphenyls.



Table 6. Summary of Detected Compounds, Sump
Twin Cities Assembly Plant, St. Paul, Minnesota

Location	MDH HRLs/ USEPA MCL		SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP
Sample ID	Standards	Units	SUMP	SUMP (DUP)	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP
Sample Date			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
VOC											
1,2,3-Trichlorobenzene	NS	µg/L	<	<	<	<	<	<	<	<	<
1,2,4-Trimethylbenzene	NS	µg/L	310	340	<	360	<	250	<	150	130
1,3,5-Trimethylbenzene	NS	µg/L	420	430	<	<	<	<	<	75	50
2-Butanone (MEK)	4000	µg/L	<u>25000</u>	<u>25000</u>	<	2100	<	<	<	<	<
Acetone	700	µg/L	<u>43000</u>	<u>43000</u>	<	<	<	<	<	<	<
Benzene	5	µg/L	<	<	<	<	<	<	<	<	<u>24</u>
Butylbenzene	NS	µg/L	<	<	<	<	<	<	<	45	32
Ethylbenzene	700	µg/L	<u>3300</u>	<u>3500</u>	<u>8000</u>	<u>1200</u>	<u>2300</u>	<u>1600</u>	<u>6600</u>	390	<u>1000</u>
Isopropylbenzene	300	µg/L	<	<	<	<	<	<	<	<	<
Methyl isobutyl ketone	300	µg/L	<u>200000</u>	<u>200000</u>	<u>74000</u>	<u>48000</u>	<u>32000</u>	<u>31000</u>	<u>18000</u>	<u>5600</u>	<u>9000</u>
Methylene chloride	5	µg/L	<	<	<	<	<	<	<	<	<
Naphthalene	300	µg/L	<	<	<	<	<	<	<	34	77
n-Propylbenzene	NS	µg/L	<	<	<	<	<	<	<	<	<
Toluene	1000	µg/L	<u>3000</u>	<u>3300</u>	<u>4300</u>	<u>1700</u>	<u>1800</u>	<u>1700</u>	<u>4600</u>	460	800
Xylene, -m & p	NS	µg/L	15000	16000	35000	7600	14000	9200	33000	5300	10000
Xylene, -o	NS	µg/L	6800	6800	11000	3800	5800	4300	13000	2300	3200

Results are reported in micrograms per liter (µg/L), unless otherwise noted.

NS No standard.

J Estimated result.

B Detected in laboratory blank.

3000 Value is above the Minnesota Department of Health (MDH) Health Risk Limits (HRLs) and United States Environmental Protection Agency (USEPA) Maximum Contaminant Levels (MCLs).

DUP Duplicate.

VOCs Volatile organic compounds.

MEK Methyl ethyl ketone.

< Constituent not detected above Reporting Limit. Reporting Limits are not available for historical data.



Table 6. Summary of Detected Compounds, Sump
Twin Cities Assembly Plant, St. Paul, Minnesota

Location	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	SUMP	Trip Blank	Trip Blank
Sample ID	SUMP	SUMP	SUMP	SUMP	SUMP	W-070913-CA	SUMP	W-070913-CA-TB	TB-01TB
Sample Date	6/30/2003	10/2/2003	8/17/2004	10/21/2005	5/17/2006	9/13/2007	10/2/2008	9/13/2007	10/2/2008
VOC									
1,2,3-Trichlorobenzene	<	<	<	<	<	< 170	< 500	0.18 JB	< 1
1,2,4-Trimethylbenzene	94 J	260 J	<	20	15	120 J	220 J	< 1	< 1
1,3,5-Trimethylbenzene	<	<	<	19	7.2	59 J	91 J	< 1	< 1
2-Butanone (MEK)	<	<	<	<	<	< 1700	< 5000	< 10	< 10
Acetone	<	<	<	<	<	< 1700	< 5000	2.3 J	1.5 J
Benzene	<	<	<	<	<	< 170	< 500	< 1	< 1
Butylbenzene	<	<	<	<	<	< 170	< 500	< 1	< 1
Ethylbenzene	630	<u>5100</u>	<u>3000</u>	82	120	<u>1100</u>	<u>5800</u>	< 1	< 1
Isopropylbenzene	<	<	<u>440 J</u>	15	<	< 170	< 500	< 1	< 1
Methyl isobutyl ketone	<u>3600</u>	<u>32000</u>	<u>11000</u>	39	<u>1900</u>	<u>530 J</u>	<u>2900</u>	< 10	< 5
Methylene chloride	<	<	<	<	<	< 170	<u>520</u>	< 1	< 1
Naphthalene	210	220 J	<	28	51	88 J	150 J	< 1	< 1
n-Propylbenzene	<	<	<	10	<	< 170	< 500	< 1	< 1
Toluene	610	<u>2900</u>	<	46	39	470	<u>2100</u>	< 1	< 1
Xylene, -m & p	8500	36000	33000	1200	1300	12000	36000	< 1	< 2
Xylene, -o	2300	8600	7800	370	350	2900	9100	< 1	< 1

Results are reported in micrograms per liter (µg/L), unless otherwise noted.

NS No standard.

J Estimated result.

B Detected in laboratory blank.

3000 Value is above the Minnesota Department of Health (MDH) Health Risk Limits (HRLs) and United States Environmental Protection Agency (USEPA) Maximum Contaminant Levels (MCLs).

Dup Duplicate.

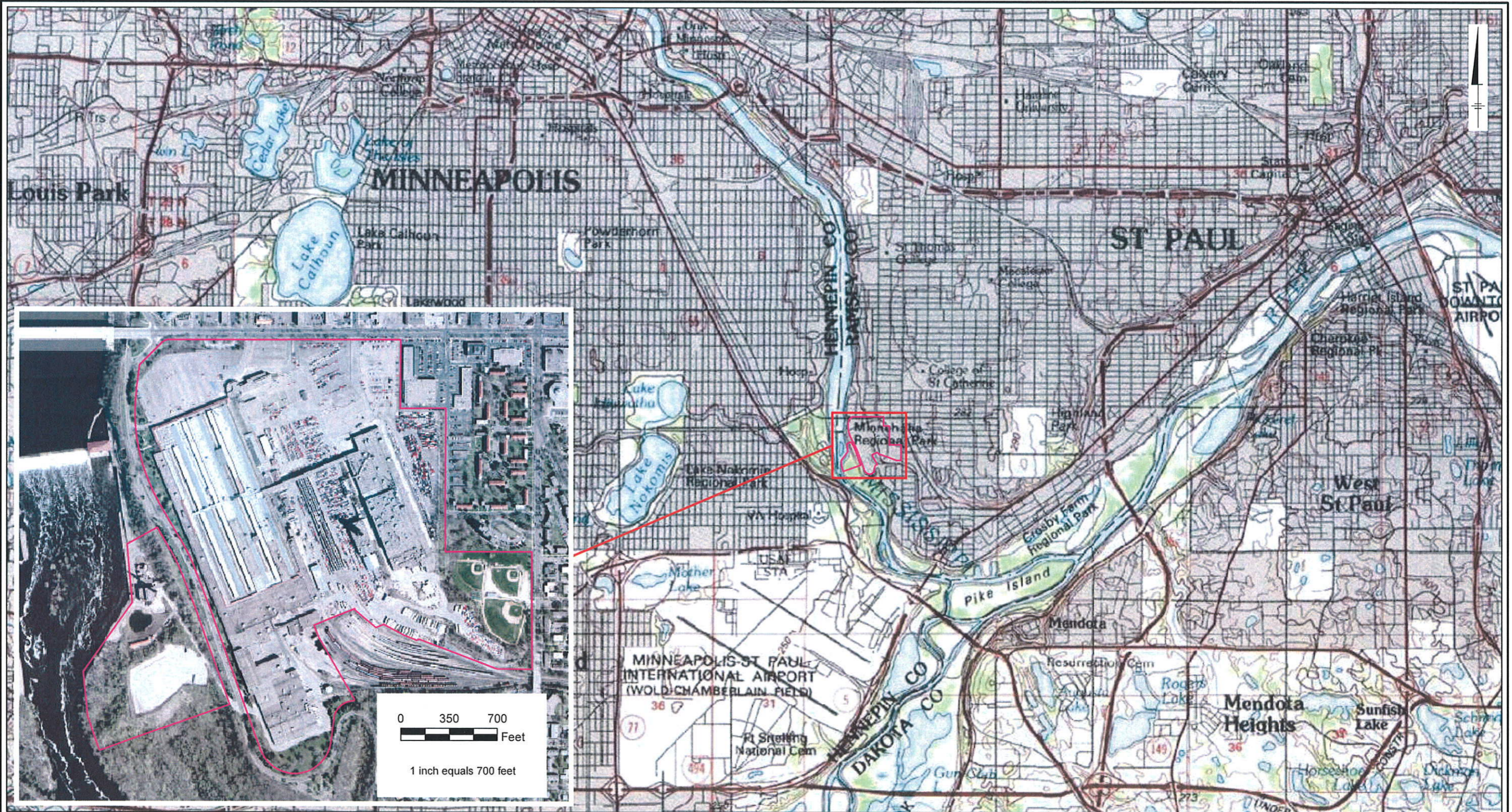
VOCs Volatile organic compounds.

MEK Methyl ethyl ketone.

< Constituent not detected above Reporting Limit. Reporting Limits are not available for historical data.

ARCADIS

Figures



CITY: Minneapolis, MN DB: MGress PM: BZinda
 Project: MN00093
 G:\GIS\Projects\Ford Ranger\ArchMap\Fig1_Site_Location_Topo.mxd

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



1 inch equals 1 miles



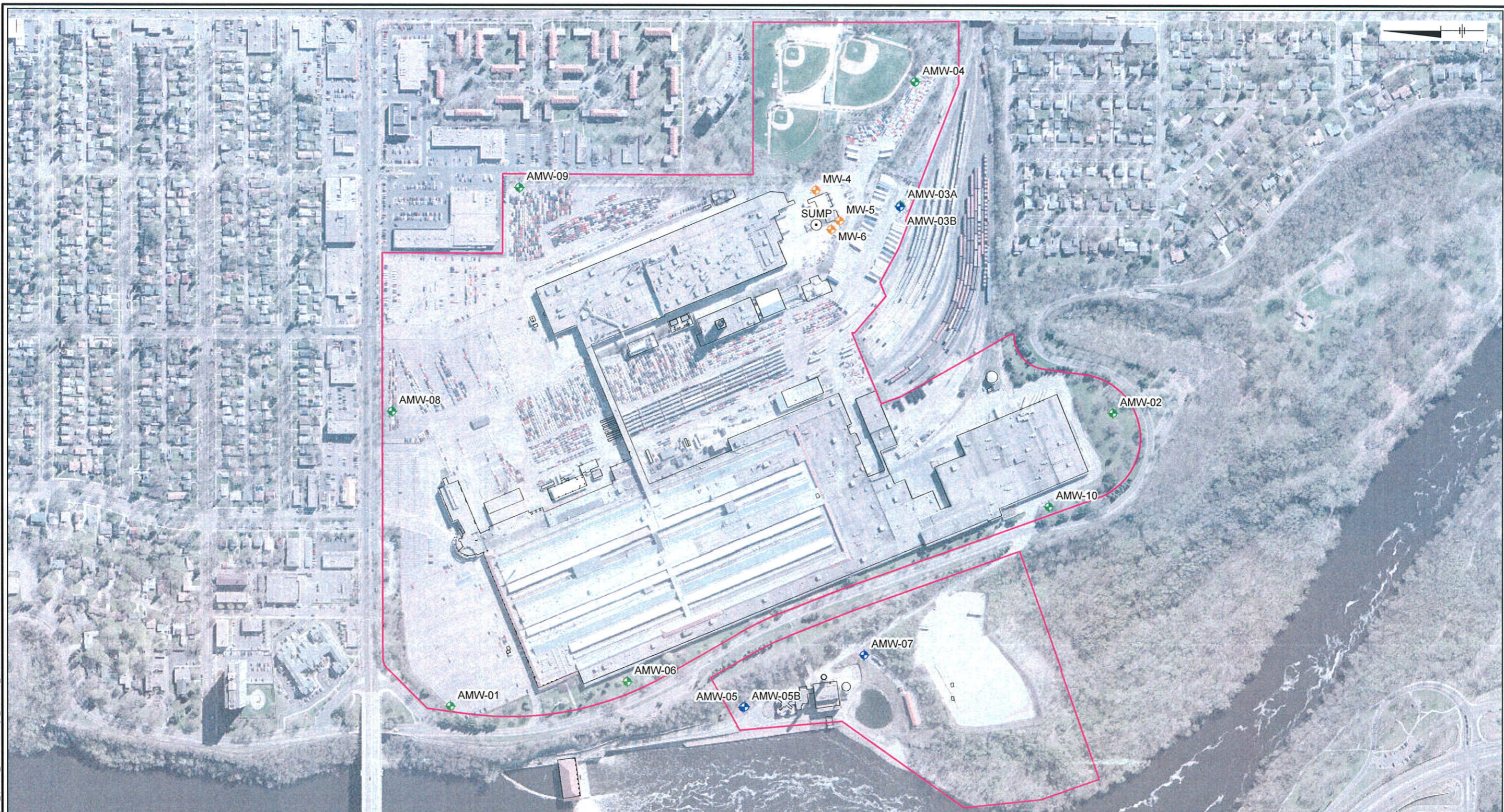
Twin Cities Assembly Plant
 Ford Motor Company
 St. Paul, Minnesota

Site Location / Property Layout



FIGURE
1

CITY: Minneapolis, MN DB: M:Gress PM: BZ:inda
 Project: MN000593
 G:\GIS\Projects\Ford Ranger\ArcMap\GW_Report_4th_qtr\Rev_20081024\Fig2_SiteMap_20081023.mxd



LEGEND:

Monitoring Wells

- Unconsolidated Soils Perched Groundwater Monitoring Well
- Platteville Monitoring Well
- St. Peter Monitoring Well
- Sump
- Ford Property Boundary

NOTES:

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

AMW: ARCADIS Monitoring Well
 MW: Monitoring Well



1 inch equals 400 feet



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

Site Map



CITY: Minneapolis, MN DB: M/Gress PM: BZinda
 Project: MN000593
 G:\GIS\Projects\Ford Ranger\Map\GW_Report_4th_qtr\Rev_20081024\Fig3_SS_Contour.mxd



LEGEND:

- ◆ St. Peter Monitoring Well
- Groundwater Elevation (705)
- Ford Property Boundary

NOTES:

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

Groundwater Elevations (690.63)
 (Feet above Mean Sea Level)
 Measured on September 15, 2008

AMW: ARCADIS Monitoring Well
 MW: Monitoring Well



1 inch equals 400 feet



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

**St. Peter Sandstone
 Groundwater Contours**



AMW-09				
Analyte	7/18/2007	12/20/2007	3/13/2008	9/16/2008
SVOCs				
Bis(2-Ethylhexyl)phthalate	< 10	8.8 J	<10	<10
Metals				
Arsenic - Total	171	10.5	NA	NA
Cadmium - Total	13	< 5	NA	NA
Chromium - Total	802	98.4	NA	NA
Lead - Total	733	24.1	NA	NA
Arsenic - Dissolved	NA	5.5 J	3.9	< 10
Cadmium - Dissolved	NA	< 5	< 5	< 5
Chromium - Dissolved	NA	< 10	< 10	< 10
Lead - Dissolved	NA	< 3	< 3	< 3

AMW-08				
Analyte	7/18/2007	12/20/2007	3/13/2008	9/15/2008
Metals				
Arsenic - Total	20.7	6.1 J	NA	NA
Chromium - Total	252	43.3	NA	NA
Lead - Total	27.5	4	NA	NA
Arsenic - Dissolved	NA	< 10	< 10	< 10
Chromium - Dissolved	NA	< 10	< 10	< 10
Lead - Dissolved	NA	< 3	< 3	< 3

AMW-06				
Analyte	7/18/2007	12/21/2007	3/13/2008	9/15/2008
Metals				
Arsenic - Total	10.7	7.5 J	NA	NA
Lead - Total	16	8.1	NA	NA
Arsenic - Dissolved	NA	< 10	NA	< 10
Lead - Dissolved	NA	< 3	NA	< 3

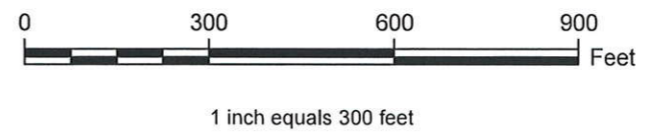
Results reported in micrograms per liter (µg/L).


Chemical	Health Risk Limit (HRL) / Maximum Contaminant Level (MCL)
SVOCs/PAHs	
Bis(2-Ethylhexyl)phthalate	6
Metals	
Arsenic - Total or Dissolved	10
Cadmium - Total or Dissolved	4
Chromium - Total or Dissolved	100
Lead - Total or Dissolved	15

Location ID	Sample Date
Chemical	Result

- LEGEND:**
- ◆ Platteville Monitoring Well
 - Ford Property Boundary

- NOTES:**
- Imagery Source: United States Geological Survey High Resolution Orthoimagery for the Minneapolis-St. Paul, Minnesota Urban Area
 - AMW ARCADIS Monitoring Well
 - SVOCs Semi-Volatile Organic Compounds
 - PAHs Polynuclear Aromatic Hydrocarbons
 - NA Not Analyzed
 - Bold** Exceeds Health Risk Limit and Maximum Contaminant Level
 - USEPA United States Environmental Protection Agency
 - J Estimated Result



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

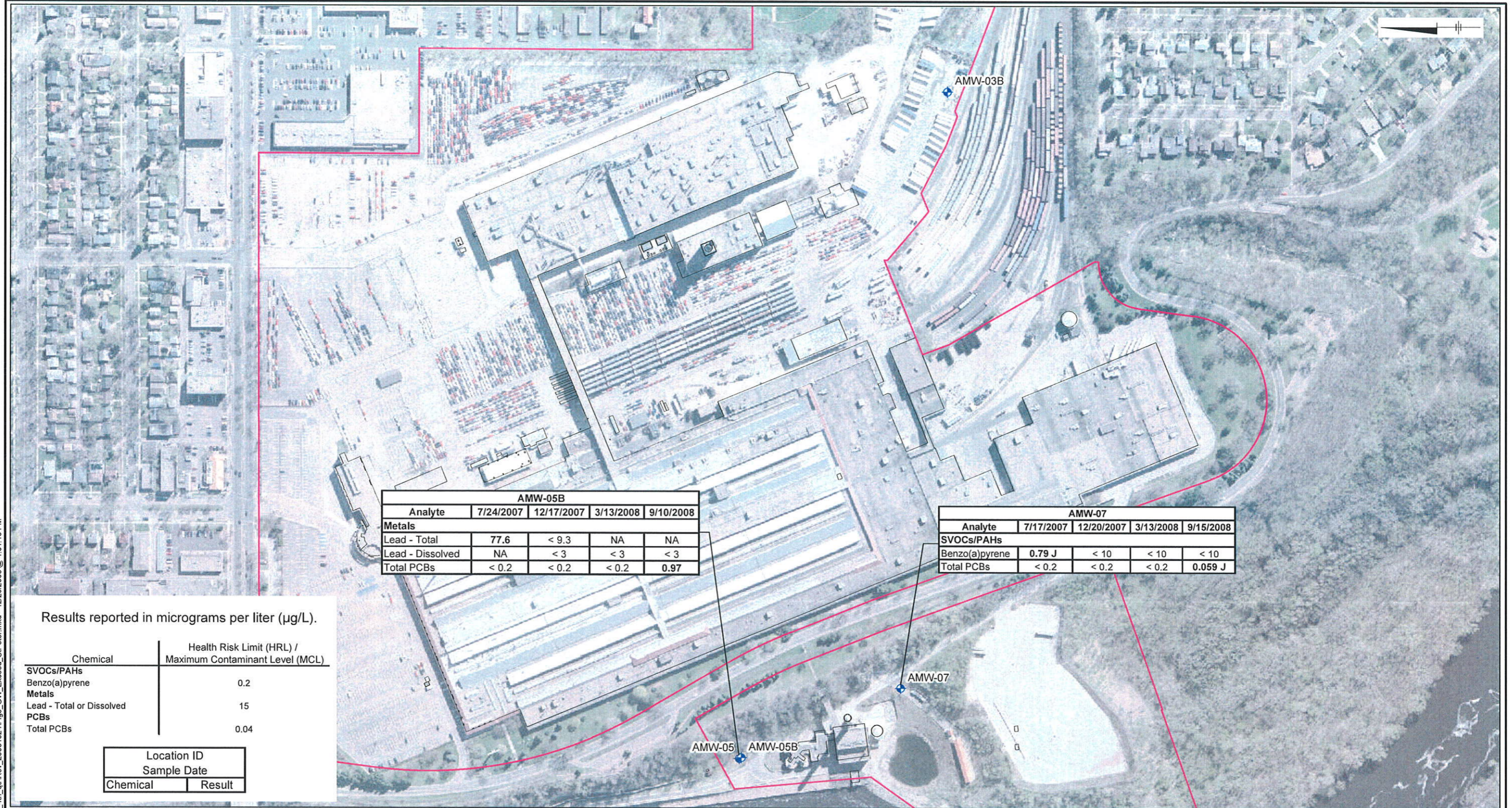
Platteville Monitoring Well Locations
Exceeding Minnesota Department of Health, Health Risk Limits
and USEPA Maximum Contaminant Levels

 **ARCADIS**

FIGURE 4

CITY: Minneapolis, MN DB: MGress PM: BZinda
Project MN000593
G:\GIS\Projects\Ford Ranger\ArcMap\GW_Report_4th_qtr\Rev_20081024\Fig4_GW_Exceed_Platteville.mxd - 12/1/2008 @ 10:36:03 AM

CITY: Minneapolis, MN DB: MGress PM: BZinda
 Project: MN000593
 G:\GIS\Projects\Ford Ranger\ArchMap\GW_Report_4th_qtr\Rev_20081024\Fig5_GW_Exceed_SIPeter.mxd - 12/29/2008 @ 1:01:18 PM



AMW-05B				
Analyte	7/24/2007	12/17/2007	3/13/2008	9/10/2008
Metals				
Lead - Total	77.6	< 9.3	NA	NA
Lead - Dissolved	NA	< 3	< 3	< 3
Total PCBs	< 0.2	< 0.2	< 0.2	0.97

AMW-07				
Analyte	7/17/2007	12/20/2007	3/13/2008	9/15/2008
SVOCs/PAHs				
Benzo(a)pyrene	0.79 J	< 10	< 10	< 10
Total PCBs	< 0.2	< 0.2	< 0.2	0.059 J

Results reported in micrograms per liter (µg/L).

Chemical	Health Risk Limit (HRL) / Maximum Contaminant Level (MCL)
SVOCs/PAHs	
Benzo(a)pyrene	0.2
Metals	
Lead - Total or Dissolved	15
PCBs	
Total PCBs	0.04

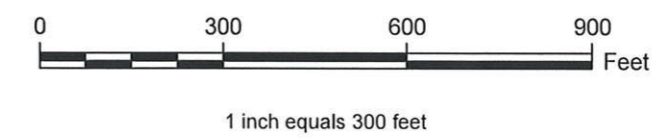
Location ID	
Sample Date	Result
Chemical	Result


- LEGEND:**
- ◆ St. Peter Monitoring Well
 - Ford Property Boundary

NOTES:

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

AMW ARCADIS Monitoring Well
 SVOCs Semi-Volatile Organic Compounds
 PAHs Polynuclear Aromatic Hydrocarbons
 NA Not Analyzed
Bold Exceeds Health Risk Limit and
 Maximum Contaminant Level
 USEPA United States Environmental Protection Agency
 J Estimated Result





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

St. Peter Monitoring Well Locations
 Exceeding Minnesota Department of Health, Health Risk Limits
 and USEPA Maximum Contaminant Levels




FIGURE 5

ARCADIS

Appendix A

Water Sampling Logs

ARCADIS

Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/15/08
 Site/Well No. AMW-01 Replicate No. _____ Code No. _____
 Weather 60's Sampling Time: Begin 16:55 End 17:25

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 813.03
 Land Surface Elevation (ft) 810.32
 Sounded Well Depth (ft bmp) 41.63 9/10/08
 Depth to Water (ft bmp) 26.81
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 14.82
 Casing Diameter/Type 2" Black Steel/Stick up
 Gallons in Well 2.4
 Gallons Pumped/Bailed Prior to Sampling 9 day twice
 Sample Pump Intake Setting (ft bmp) ---
 Purge Time begin _____ end _____
 Pumping Rate (gpm) ---
 Evacuation Method Disposable Bailer

Field Parameters

Color clear
 Odor Slight
 Appearance clear
 pH (s.u.) 7.55
 Conductivity (mS/cm) 0.876
 (µmhos/cm) ---
 Turbidity (NTU) ---
 Temperature (°C) 12.23
 Dissolved Oxygen (mg/L) 1.75
 ORP (mV) -1.8
 Sampling Method Grab
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
RCRA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
GRO + DRO			

Sampling Personnel Melissa Meeuwsen

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

ARCADIS

Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/16/08
 Site/Well No. AMW-02 Replicate No. _____ Code No. _____
 Weather Sunny 60's Sampling Time: Begin 07:30 End 09:00

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 812.86
 Land Surface Elevation (ft) 810.35
 Sounded Well Depth (ft bmp) 42.64 9/10/08
 Depth to Water (ft bmp) 26.66
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 15.98
 Casing Diameter/Type 2" Black Steel/Stick Up
 Gallons in Well 2.6
 Gallons Pumped/Bailed Prior to Sampling 8 dry twice
 Sample Pump Intake Setting (ft bmp) ---
 Purge Time begin _____ end _____
 Pumping Rate (gpm) ---
 Evacuation Method Disposable Bailer

Field Parameters

Color Clear
 Odor No Odor
 Appearance Clear
 pH (s.u.) 7.79
 Conductivity (mS/cm) 0.791
 (µmhos/cm) ---
 Turbidity (NTU) ---
 Temperature (°C) 10.71
 Dissolved Oxygen (mg/L) 2.17
 ORP (mV) 60.3
 Sampling Method Grab
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
RCRA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
<u>GRO + DRO</u>			

Sampling Personnel Melissa Meeuwsen

Gal./Ft.	Well Casing Volumes			
	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47	

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/16/08
 Site/Well No. AMW-03A Replicate No. _____ Code No. _____
 Weather Sunny 60's Sampling Time: Begin 08:20 End 08:45

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 811.80
 Land Surface Elevation (ft) 812.03
 Sounded Well Depth (ft bmp) 39.35
 Depth to Water (ft bmp) 17.43
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 21.92
 Casing Diameter/Type 2" Black Steel/Flush Mount
 Gallons in Well 3.5
 Gallons Pumped/Bailed Prior to Sampling 17
 Sample Pump Intake Setting (ft bmp) ---
 Purge Time begin _____ end _____
 Pumping Rate (gpm) ---
 Evacuation Method Disposable Bailer

Field Parameters

Color Clear
 Odor Slight
 Appearance Clear
 pH (s.u.) 7.62
 Conductivity (mS/cm) 0.725
 (µmhos/cm) ---
 Turbidity (NTU) ---
 Temperature (°C) 11.69
 Dissolved Oxygen (mg/L) 2.28
 ORP (mV) 16.0
 Sampling Method Grab
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
RCRA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
<u>PRO & GRO</u>	_____	_____	_____

Sampling Personnel Melissa Meeuwsen

Well Casing Volumes				
Gal./Ft.	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp below measuring point ml milliliter NTU Nephelometric Turbidity Units
 °C Degrees Celsius mS/cm Milisiemens per centimeter PVC Polyvinyl chloride
 ft feet msl mean sea-level s.u. Standard units
 gpm Gallons per minute N/A Not Applicable umhos/cm Micromhos per centimeter
 mg/L Miligrams per liter NR Not Recorded VOC Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/11/08
 Site/Well No. AMW-03B Replicate No. _____ Code No. _____
 Weather _____ Sampling Time: Begin 14:25 End 14:35

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 811.72
 Land Surface Elevation (ft) 811.93
 Sounded Well Depth (ft bmp) 152.67 9/10/08
 Depth to Water (ft bmp) 100.65
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 52.02
 Casing Diameter/Type 2" Black Steel/Flush Mount
 Gallons in Well 4.3
 Gallons Pumped/Bailed Prior to Sampling 38
 Sample Pump Intake Setting (ft bmp) _____
 Purge Time begin 13:15 end 14:25
 Pumping Rate (gpm) _____
 Evacuation Method Grundfos Pump

Field Parameters

Color _____
 Odor _____
 Appearance _____
 pH (s.u.) 6.81
 Conductivity (mS/cm) 0.396
 (µmhos/cm) ~
 Turbidity (NTU) ---
 Temperature (°C) 12.52
 Dissolved Oxygen (mg/L) 0.11
 ORP (mV) 18.9
 Sampling Method Grab
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
RCRA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
<u>DRO + GRO</u>			

Sampling Personnel Trika Nelson-Kalmes & Ally Aufferman

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Millisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/16/09
 Site/Well No. AMW-04 Replicate No. _____ Code No. _____
 Weather Sunny 60's Sampling Time: Begin 09:00 End 09:30

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 829.92
 Land Surface Elevation (ft) 830.13
 Sounded Well Depth (ft bmp) 60.77 9/10/09
 Depth to Water (ft bmp) 36.28
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 24.49
 Casing Diameter/Type 2" Black Steel/Flush Mount
 Gallons in Well 3.9
 Gallons Pumped/Bailed Prior to Sampling 10 dry twice
 Sample Pump Intake Setting (ft bmp) ---
 Purge Time begin _____ end _____
 Pumping Rate (gpm) ---
 Evacuation Method Disposable Bailer

Field Parameters

Color Dark Gray
 Odor No Odor
 Appearance Cloudy
 pH (s.u.) 7.33
 Conductivity (mS/cm) 0.797
 (µmhos/cm) ---
 Turbidity (NTU) ---
 Temperature (°C) 10.93
 Dissolved Oxygen (mg/L) 2.53
 ORP (mV) 8.7
 Sampling Method Grab
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
RCRA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
<u>DRO + GRO</u>			

Sampling Personnel Melissa Meeuwssen

Well Casing Volumes

Gal./Ft.	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/15/08
 Site/Well No. AMW-05 Replicate No. _____ Code No. _____
 Weather 60's Sampling Time: Begin — End —

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 725.25
 Land Surface Elevation (ft) 722.07
 Sounded Well Depth (ft bmp) 32.96 9/10/08
 Depth to Water (ft bmp) Dry
 Water-Level Elevation (ft) —
 Water Column in Well (ft) —
 Casing Diameter/Type 2" Black Steel/Stick Up
 Gallons in Well —
 Gallons Pumped/Bailed Prior to Sampling —
 Sample Pump Intake Setting (ft bmp) ---
 Purge Time begin _____ end _____
 Pumping Rate (gpm) ---
 Evacuation Method Disposable Bailer

Field Parameters

Color —
 Odor —
 Appearance —
 pH (s.u.) —
 Conductivity (mS/cm) —
 (µmhos/cm) —
 Turbidity (NTU) ---
 Temperature (°C) —
 Dissolved Oxygen (mg/L) —
 ORP (mV) —
 Sampling Method Grab

Remarks Not sampled well
dry

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
RCRA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
<u>DRD + GRO</u>			

Sampling Personnel Melissa Meeuwssen

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/10/08
 Site/Well No. AMW-05B Replicate No. _____ Code No. _____
 Weather Cloudy 60's Sampling Time: Begin 12:35 End 13:11

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 723.99
 Land Surface Elevation (ft) 721.79
 Sounded Well Depth (ft bmp) 55.94
 Depth to Water (ft bmp) 32.49
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 23.45
 Casing Diameter/Type 2" Black Steel/Stick Up
 Gallons in Well 3.8
 Gallons Pumped/Bailed Prior to Sampling 22
 Sample Pump Intake Setting (ft bmp) _____
 Purge Time begin 12:00 end 12:35
 Pumping Rate (gpm) _____
 Evacuation Method Grundfos Pump

Field Parameters

Color _____
 Odor _____
 Appearance _____
 pH (s.u.) 6.20
 Conductivity (mS/cm) 0.850
 (µmhos/cm) -
 Turbidity (NTU) ---
 Temperature (°C) 14.28
 Dissolved Oxygen (mg/L) 0.17
 ORP (mV) 47.2
 Sampling Method Grab
 Remarks collected MS + MSD

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
RCRA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
<u>DRO + GRO</u>			

Sampling Personnel Melissa Meeuwssen

Well Casing Volumes

Gal./Ft.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/15/08
 Site/Well No. AMW-06 Replicate No. _____ Code No. _____
 Weather 60's Sampling Time: Begin 17:30 End 17:57

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 814.06
 Land Surface Elevation (ft) 811.56
 Sounded Well Depth (ft bmp) 43.30 9/10/08
 Depth to Water (ft bmp) 26.89
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 16.41
 Casing Diameter/Type 2" Black Steel/Stick Up
 Gallons in Well 2.6
 Gallons Pumped/Bailed Prior to Sampling 7 dry twice
 Sample Pump Intake Setting (ft bmp) ---
 Purge Time begin _____ end _____
 Pumping Rate (gpm) ---
 Evacuation Method Disposable Bailer

Field Parameters

Color NR
 Odor NR
 Appearance NR
 pH (s.u.) NR
 Conductivity (mS/cm) NR
 (µmhos/cm) ---
 Turbidity (NTU) ---
 Temperature (°C) NR
 Dissolved Oxygen (mg/L) NR
 ORP (mV) NR
 Sampling Method Grab

Remarks No reading collected due to insufficient sample volume RCB not collected

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
RCRA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
<u>CRD + DRO</u>			

Sampling Personnel Melissa Meeuwssen

Well Casing Volumes				
Gal./Ft.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	µmhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/15/08
 Site/Well No. AMW-07 Replicate No. _____ Code No. _____
 Weather 60's Sampling Time: Begin 09:35 End 10:25

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 733.48
 Land Surface Elevation (ft) 733.71
 Sounded Well Depth (ft bmp) 44.79 9/10/08
 Depth to Water (ft bmp) 42.99
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 1.8
 Casing Diameter/Type 2" Black Steel/Flush Mount
 Gallons in Well 0.3
 Gallons Pumped/Bailed Prior to Sampling 1.5
 Sample Pump Intake Setting (ft bmp) ---
 Purge Time begin _____ end _____
 Pumping Rate (gpm) ---
 Evacuation Method Disposable Bailer

Field Parameters

Color Clear
 Odor None
 Appearance Clear
 pH (s.u.) 4.68
 Conductivity (mS/cm) 0.494
 (µmhos/cm) ---
 Turbidity (NTU) ---
 Temperature (°C) 13.70
 Dissolved Oxygen (mg/L) 6.53
 ORP (mV) 277.5
 Sampling Method Grab
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
RCRA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
Free Cyanide	250 ml Plastic	1	NaOH

DRD & GRD
 Sampling Personnel Melissa Meeuwssen

Well Casing Volumes

Gal./Ft.	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/15/08
 Site/Well No. AMW-08 Replicate No. _____ Code No. _____
 Weather 60's Sampling Time: Begin 1545 End 16:31

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 830.80
 Land Surface Elevation (ft) 831.07
 Sounded Well Depth (ft bmp) 44.46 9/10/08
 Depth to Water (ft bmp) 37.92
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 6.54
 Casing Diameter/Type 2" Black Steel/Flush Mount
 Gallons in Well 1.0
 Gallons Pumped/Bailed Prior to Sampling 3.5 dry twice
 Sample Pump Intake Setting (ft bmp) ---
 Purge Time begin _____ end _____
 Pumping Rate (gpm) ---
 Evacuation Method Disposable Bailer

Field Parameters

Color Clear
 Odor No Odor
 Appearance Clear
 pH (s.u.) 7.44
 Conductivity (mS/cm) 0.806
 (µmhos/cm) -
 Turbidity (NTU) ---
 Temperature (°C) 13.76
 Dissolved Oxygen (mg/L) 2.90
 ORP (mV) 158.7
 Sampling Method Grab
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
RCRA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
<u>DRO + GAO</u>			

Sampling Personnel Melissa Meeuwssen

Well Casing Volumes

Gal./Ft.	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/16/08
 Site/Well No. AMW-09 Replicate No. _____ Code No. _____
 Weather Sunny 60's Sampling Time: Begin 10:45 End 11:15

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 858.13
 Land Surface Elevation (ft) 858.39
 Sounded Well Depth (ft bmp) 89.34 9/10/08
 Depth to Water (ft bmp) 79.41
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 9.93
 Casing Diameter/Type 2" Black Steel/Flush Mount
 Gallons in Well 0.3
 Gallons Pumped/Bailed Prior to Sampling 3.5 dry twice
 Sample Pump Intake Setting (ft bmp) ---
 Purge Time begin _____ end _____
 Pumping Rate (gpm) ---
 Evacuation Method Disposable Bailer

Field Parameters

Color Dark Gray
 Odor Slight
 Appearance Cloudy
 pH (s.u.) NR
 Conductivity (mS/cm) NR
 (umhos/cm) ---
 Turbidity (NTU) ---
 Temperature (°C) NR
 Dissolved Oxygen (mg/L) NR
 ORP (mV) NR
 Sampling Method Grab

Remarks No readings insufficient sample volume

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
RCRA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
<u>DRO + GRO</u>			

Sampling Personnel Melissa Meeuwse

Well Casing Volumes

Gal./Ft.	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/15/08
 Site/Well No. AMW-10 Replicate No. _____ Code No. _____
 Weather 60's Sampling Time: Begin 12:15 End 12:43

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 811.27
 Land Surface Elevation (ft) 808.77
 Sounded Well Depth (ft bmp) 42.22 9/10/08
 Depth to Water (ft bmp) 16.22
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 24.00
 Casing Diameter/Type 2" Black Steel/Stick Up
 Gallons in Well 3.8
 Gallons Pumped/Bailed Prior to Sampling 13 dry
 Sample Pump Intake Setting (ft bmp) ---
 Purge Time begin _____ end _____
 Pumping Rate (gpm) ---
 Evacuation Method Disposable Bailer

Field Parameters

Color Clear
 Odor Slight
 Appearance Clear
 pH (s.u.) 7.01
 Conductivity (mS/cm) 0.799
 (µmhos/cm) ---
 Turbidity (NTU) ---
 Temperature (°C) 11.97
 Dissolved Oxygen (mg/L) 0.49
 ORP (mV) -65.1
 Sampling Method Grab
 Remarks _____

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
RCRA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
<u>DRO + GRO</u>			

Sampling Personnel Melissa Meeuwssen

Well Casing Volumes

Gal./Ft.	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/16/08
 Site/Well No. MW-4 Replicate No. _____ Code No. _____
 Weather Sunny 60's Sampling Time: Begin 10:15 End 10:26

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 833.66
 Land Surface Elevation (ft) 830.73
 Sounded Well Depth (ft bmp) 8.17 9/10/08
 Depth to Water (ft bmp) 7.74
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 0.43
 Casing Diameter/Type 2" Black Steel/Stick Up
 Gallons in Well 0.1
 Gallons Pumped/Bailed Prior to Sampling 0.5 dry twice
 Sample Pump Intake Setting (ft bmp) ---
 Purge Time begin _____ end _____
 Pumping Rate (gpm) ---
 Evacuation Method _____

Field Parameters

Color Clear
 Odor No Odor
 Appearance clear
 pH (s.u.) NR
 Conductivity (mS/cm) NR
 (µmhos/cm) NR
 Turbidity (NTU) ---
 Temperature (°C) NR
 Dissolved Oxygen (mg/L) NR
 ORP (mV) NR
 Sampling Method Grab

Remarks No readings collected
insufficient sample volume
VOC + GRO only parameters collected

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
PCBA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
<u>GRO</u>	<u>40 ml VOA</u>	<u>3</u>	<u>HCl</u>

Sampling Personnel Melissa Meeuwssen

Well Casing Volumes

Gal./Ft.	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/16/08
 Site/Well No. MW-5 Replicate No. _____ Code No. _____
 Weather 60's Sampling Time: Begin 16:55 End 17:25

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 827.76
 Land Surface Elevation (ft) 827.86
 Sounded Well Depth (ft bmp) 4.22 9/10/08
 Depth to Water (ft bmp) 2.35
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 1.87
 Casing Diameter/Type 2" Black Steel/Flush Mount
 Gallons in Well 0.3
 Gallons Pumped/Bailed Prior to Sampling 2 dry twice
 Sample Pump Intake Setting (ft bmp) ---
 Purge Time begin _____ end _____
 Pumping Rate (gpm) ---
 Evacuation Method _____

Field Parameters

Color Yellowish-Brown
 Odor No Odor
 Appearance Cloudy
 pH (s.u.) NR
 Conductivity (mS/cm) NR
 (µmhos/cm) -
 Turbidity (NTU) ---
 Temperature (°C) NR
 Dissolved Oxygen (mg/L) NR
 ORP (mV) NR
 Sampling Method Grab
 Remarks No reading collected due to insufficient sample volume. VO C & GAO only parameters collected

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
PCBA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PGBs (Method 8082)	1L Amber	2	None
<u>GAO</u>	<u>40 mL VOA</u>	<u>3</u>	<u>HCl</u>

Sampling Personnel Melissa Meeuwssen

Well Casing Volumes

Gal./Ft.	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	umhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 9/16/08
 Site/Well No. MW-6 Replicate No. _____ Code No. _____
 Weather Sunny 60's Sampling Time: Begin 09:35 End 09:50

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft) 827.76
 Land Surface Elevation (ft) 827.86
 Sounded Well Depth (ft bmp) 4.26 9/16/08
 Depth to Water (ft bmp) 2.41
 Water-Level Elevation (ft) _____
 Water Column in Well (ft) 1.85
 Casing Diameter/Type 2" Black Steel/Flush Mount
 Gallons in Well 0.3
 Gallons Pumped/Bailed Prior to Sampling 2 dry twice
 Sample Pump Intake Setting (ft bmp) ---
 Purge Time begin _____ end _____
 Pumping Rate (gpm) ---
 Evacuation Method _____

Field Parameters

Color Red Brown
 Odor No Odor
 Appearance Cloudy
 pH (s.u.) NR
 Conductivity (mS/cm) NR
 (µmhos/cm) ---
 Turbidity (NTU) ---
 Temperature (°C) NR
 Dissolved Oxygen (mg/L) NR
 ORP (mV) NR
 Sampling Method Grab

Remarks No Reading collected due to insufficient sample volume
VOC, SVOC & GAO collected only

Constituents Sampled	Container Description	Number	Preservative
VOC 465F Method 8260	40 mL VOA	3	HCl
SVOC Method 8270	1L Amber	2	None
RCRA Metals (Method 6010) Dissolved	500 mL Plastic	1	HNO ₃
PCBs (Method 8082)	1L Amber	2	None
<u>GRO</u>	<u>40 mL VOA</u>	<u>3</u>	<u>HCl</u>

Sampling Personnel Melissa Meeuwssen

Well Casing Volumes				
Gal./Ft.	1-¼" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-½" = 0.09	2-½" = 0.26	3-½" = 0.50	6" = 1.47

bmp below measuring point ml milliliter NTU Nephelometric Turbidity Units
 °C Degrees Celsius mS/cm Milisiemens per centimeter PVC Polyvinyl chloride
 ft feet msl mean sea-level s.u. Standard units
 gpm Gallons per minute N/A Not Applicable umhos/cm Micromhos per centimeter
 mg/L Milligrams per liter NR Not Recorded VOC Volatile Organic Compounds

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Water Sampling Log

Project Ford St. Paul Project No. MN000593.0001 Page 1 of 1
 Site Location St. Paul, MN Date 10/2/08
 Site/Well No. Sump Replicate No. - Code No.
 Weather 60°F, Sunny Sampling Time: Begin 10:25 End 10:25

Evacuation Data

Measuring Point North Edge TOC
 MP Elevation (ft)
 Land Surface Elevation (ft)
 Sounded Well Depth (ft bmp)
 Depth to Water (ft bmp) 9.46
 Water-Level Elevation (ft)
 Water Column in Well (ft)
 Casing Diameter/Type
 Gallons in Well
 Gallons Pumped/Bailed Prior to Sampling
 Sample Pump Intake Setting (ft bmp)
 Purge Time begin end
 Pumping Rate (gpm)
 Evacuation Method

Field Parameters

Color Clear
 Odor Slight
 Appearance Clear
 pH (s.u.) 6.51
 Conductivity (mS/cm) -
 (µmhos/cm) 620
 Turbidity (NTU) ---
 Temperature (°C) 14.9
 Dissolved Oxygen (mg/L) -
 ORP (mV) -
 Sampling Method Grab
 Remarks

Constituents Sampled	Container Description	Number	Preservative
<u>VOC</u>	<u>40 mL VOA</u>	<u>3</u>	<u>HCl</u>
<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>
<u></u>	<u></u>	<u></u>	<u></u>

Sampling Personnel Andrew Fiskness

Well Casing Volumes				
Gal./Ft.	1-1/4" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65
	1-1/2" = 0.09	2-1/2" = 0.26	3-1/2" = 0.50	6" = 1.47

bmp	below measuring point	ml	milliliter	NTU	Nephelometric Turbidity Units
°C	Degrees Celsius	mS/cm	Milisiemens per centimeter	PVC	Polyvinyl chloride
ft	feet	msl	mean sea-level	s.u.	Standard units
gpm	Gallons per minute	N/A	Not Applicable	µmhos/cm	Micromhos per centimeter
mg/L	Miligrams per liter	NR	Not Recorded	VOC	Volatile Organic Compounds

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Appendix B

Laboratory Reports