

FORD MOTOR COMPANY  
TWIN CITIES ASSEMBLY PLANT

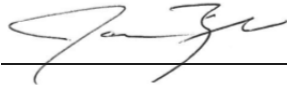
INTERIM RESPONSE ACTION PLAN -  
ISOLATED IMPACT AREAS

June 2016



**INTERIM RESPONSE  
ACTION PLAN -  
ISOLATED IMPACT AREAS**

Twin Cities Assembly Plant  
St. Paul, Minnesota




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## 1 INTRODUCTION

This Interim Response Action Plan (IRAP) provides a description of a portion of the environmental corrective actions which will be implemented by Arcadis U.S., Inc. (Arcadis), on behalf of Ford Motor Company (Ford), at the Twin Cities Assembly Plant (TCAP; Site) in St. Paul, Minnesota (Figure 1). These corrective actions will be implemented to address the isolated impacted areas identified during the Phase II investigation that was completed at the Site. This document is specific to the main parcel (east of South Mississippi River Boulevard) and is restricted to address soil impacts only.

## 2 SCOPE AND REMEDIAL OBJECTIVES

The scope of this IRAP was developed to provide detail on the soil removal activities to take place within isolated areas of impacts identified during the Phase II investigation of the Site. Other response actions are already underway (e.g. implementation of certain Site Decommissioning Response Action Plan (SDRAP) Addendums), or are still pending, with a future RAP to be submitted. In particular, of the 19 SDRAP Addendums in which a response action was deferred until a later date, 18 are not addressed in this IRAP. One SDRAP Addendum (SDRAP Addendum #9, south end of former paint building) is addressed herein as IRAP Area #18. VOC impacts at the south end of the former paint building were identified during the Phase II drilling investigation and during site decommissioning activities, and appear to represent a fairly discrete area, hence its inclusion in the IRAP. The other 18 SDRAP Addendums fall within a larger and more continuous area of impact and will be addressed in a future RAP submittal.

As discussed in detail below, the interim remedial action will include excavation of impacted soil, screening of all excavated soil using a photo ionization detector (PID), visual inspections of all excavated and exposed soil, confirmation analytical sampling to ensure the removal of impacted soil is complete and backfilling of excavations. A total of nineteen isolated areas of impact have been identified to be excavated and soil disposed of off-site at a properly permitted landfill.

Analytical results from soil borings completed during Phase II investigations (Table 2) indicate isolated impact locations exist with concentrations of one or more of the following constituents that exceed screening criteria: volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), metals, and diesel range organics (DRO). The objective of the remedial actions proposed is the excavation and disposal of soils exceeding Minnesota Pollution Control Agency (MPCA) Tier I Soil Reference Values (SRVs) for metals and PAHs, MPCA Soil Leaching Values (SLVs) for VOCs (when applicable), and Petroleum Brownfields Program guidance values for DRO/GRO.

This plan was prepared in accordance with MPCA guidance.

### 3 SUMMARY OF HISTORICAL INVESTIGATION ACTIVITIES

The following is a brief summary of the Phase II environmental investigations and other related investigations that have been completed at the Site.

- Soil investigations and a Surface Soil Risk Assessment were completed in 2007 to evaluate the Potential Battery Waste Disposal Area (Feature 139), located east of the plant.
- A Phase II investigation of the Site was initiated in June 2007, while the Site was still operational. The majority of this work was completed to investigate exterior RECs identified in the Phase I ESA.
- A Phase II investigation of interior RECs was initiated in August 2010, with additional work completed from May 2012 through January 2014.
- Phase II delineation work was completed in several mobilizations through July 2015 as data from initial investigations was received and as additional areas being accessible following removal of the building slab.
- A General Site-wide Characterization was completed in 2015 to fill in spatial gaps where no features were present and where no analytical or field screening data had been collected.

A comprehensive summary of the results of these investigations are included in the Comprehensive Phase II Site Investigation Report (Arcadis 2016).

## 4 PROPOSED REMEDIAL ACTIVITIES

Analytical results from soil borings completed as part of the investigation activities described in Section 3 above identified nineteen locations of isolated impacted soil based on MPCA Tier I SRVs and Petroleum Brownfields Program guidance values (Figure 2). A summary of the borings, sample depths and names, and constituents that exceeded applicable criteria at each isolated impact area are shown in Table 1. Each boring that identified a location with impacted soil was delineated using additional or existing adjacent soil boring sample results. The remedial action for each isolated impact area is excavation of impacted soil and off-site disposal at a properly permitted landfill. Monitoring, inspection, documentation, analytical sampling and surveying of all excavations will be completed during excavation activities as discussed in the sections below.

### 4.1 Field Screening of Excavated Soil

An ARCADIS representative will be present during soil excavations to monitor and inspect the soil as it is removed. The soil will be field screened with a PID (11.7 eV lamp) at a frequency of once for every 10 cubic yards and monitored for visual or olfactory indications of impacts including odors, staining, free-product and/or non-organic debris. The screening frequency will be reduced to once for every 25 cubic yards in areas of known impacted soil. PID screening of excavated soil will be completed in accordance with MPCA Petroleum Brownfields Program Guidance Document 4-04 *Soil Sample Collection and Analysis Procedures*.

Excavated soil will be separated based on the following criteria:

- Soil with observed PID readings below 10 parts per million (ppm) and without any visual or olfactory indication of impacts will be stockpiled for re-use on-site as clean backfill.
- Soil with observed PID readings above 10 ppm or with any visual or olfactory indication of impacts will be segregated for off-site removal.

Excavations will be extended until the sidewall soil does not exhibit PID readings above 10 ppm or any visual or olfactory indications of impacts.

If the compounds exceeding regulatory analytical criteria include SVOCs or metals, the impacts may not be easily characterized using the field screening methods above. At those locations that include SVOC and/or metals impacts, a minimum pre-determined lateral and vertical extent of each excavation has been determined. The minimum lateral extent of each excavation is defined as half the distance between the boring where impacts were identified and the nearest boring where results were below applicable regulatory criteria. The minimum vertical extent of each excavation will be defined as at least two feet below the deepest detection of impacted soil (based on Phase II Investigation borings) or down to bedrock, whichever is shallower.

### 4.2 Confirmation Analytical Sampling

Base and sidewall confirmation samples will be collected to verify that any remaining soil is below applicable standards for residential development. The confirmation samples will be analyzed for each of the constituents previously encountered in their respective isolated impact area (Table 1) and will be

## INTERIM RESPONSE ACTION PLAN - ISOLATED IMPACT AREAS

compared to MPCA Tier 1 SRVs, SLVs, and/or Petroleum Brownfields Program guidance values, as applicable.

Confirmation sampling frequency will be completed in accordance with the table below:

Square Feet of Excavation Floor Area	Minimum Number of Confirmation Samples
Less than 500	2 base and 4 sidewall
500 to <1,000	3 base and 5 sidewall
1,000 to <1,500	4 base and 6 sidewall
1,500 to <2,000	5 base and 7 sidewall
2,000 to <2,500	5 base and 8 sidewall
2,500 to <3,000	6 base and 8 sidewall
3,000 to <4,000	6 base and 9 sidewall
4,000 to <6,000	7 base and 1 sample per 45 lineal feet of sidewall
6,000 to <8,500	8 base and 1 sample per 45 lineal feet of sidewall
8,500 to <10,890 (.25 acres)	9 base and 1 sample per 45 lineal feet of sidewall
Greater than 10,890	Use Guidance Below

The following guidance is to be used when excavation floor areas exceed 10,890 square feet:

Floor Acreage	Square Feet	Base Grid Interval	Sidewall Samples
.25 – 3.0	10,890 – 130,680	15 – 30 Feet	1 sample per 45 lineal feet
3.0 and over	130,680 +	30 Feet plus	1 sample per 45 lineal feet

When sampling the sidewalls of excavations that exceed five feet in depth, the sidewall sampling locations must be staggered in the vertical plane. If excavations are completed down to bedrock, base sampling will not be completed. If perched groundwater is encountered during excavations, confirmation samples will be collected only from the soil above the saturated perched zone. GPS locations of each confirmation sample will be collected in the field.

### 4.3 Water Sampling and Management

If perched groundwater is encountered during soil excavation a water sample will be collected if the initial samples collected from that area exceed any applicable SLV (Table 1). This sample will be collected for characterization purposes only. No groundwater recovery or remediation is anticipated as part of this work.



## INTERIM RESPONSE ACTION PLAN - ISOLATED IMPACT AREAS

If perched groundwater is encountered during a remedial excavation which limits the removal of remaining impacted soil at depth (without dewatering), the MPCA staff is to be contacted to discuss whether dewatering and continued soil excavation is warranted in that circumstance.

### 4.4 Stockpile Management

All excavated soil requiring off-site disposal will be relocated to a designated staging area. The stockpile will be placed on a minimum of 6-mil reinforced plastic and covered with securely anchored 10-mil reinforced plastic. Excavated soil designated for off-site disposal will be at a Ford-approved and MPCA-permitted off-site facility.

Prior to disposal, excavated soil will be sampled for waste characterization. Samples will be analyzed for total metals, Toxic Characteristic Leaching Procedure (TCLP) metals, VOCs, SVOCs, GRO, DRO, and polychlorinated biphenyls (PCBs). The number of samples will be dependent on the excavated soil volume as specified in the table on the next page, which is consistent with MPCA Petroleum Remediation Program Guidance Document 4-04 Soil Sample Collection and Analysis Procedures.

Cubic Yards of Soil	Number of Grab Samples
Less than 50	1
51-500	2
501-1,000	3
1,001-2,000	4
2,001-4,000	5
Each additional 2,000	One additional sample

Stockpiles of soil that did not exhibit any PID readings over 10 ppm and did not show any visual or olfactory indication of impacts will be stockpiled for re-use on-site as clean fill.

### 4.5 Backfilling

Excavated areas will be backfilled and returned to the original grade of the surrounding area after removal of impacted soil. Excavations will be backfilled using non-impacted soil removed from the excavation, Class 5 backfill material created during the site decommissioning, non-impacted soil obtained from other portions of the Site, or an approved off-site borrow source.

If possible, excavations will not be backfilled until sidewall and base analytical samples confirm all impacted soil has been removed. However, excavations may be backfilled prior to receiving analytical results if needed to allow for access to the Site, to avoid a safety hazard associated with an open excavation in a high traffic area, or to prevent accumulation of stormwater. Ford acknowledges that this backfill material may have to be disposed off-Site if confirmatory samples indicate the extent of impacts have not been removed and additional excavation is required.

## 4.6 Dust Control

Construction activities are not expected to produce excessive dust, however, a water truck will be utilized to mitigate dust generated during on-site truck movement if needed.

## 4.7 Documentation and Surveying

Prior to backfilling, Arcadis will photo document each excavation and have the final lateral and vertical extents of each excavation surveyed. Excavation extents will be surveyed for X, Y and Z (ground surface) coordinates referencing the National Geodetic Vertical Datum of 1929 (NGVD 29) and North American Datum of 1983 (NAD 83).

## 4.8 Construction Contingency Plan

If unexpected conditions are encountered during soil excavation, work will be stopped and the area will be isolated until the conditions can be fully characterized and appropriate safety precautions and sampling procedures can be put in place.

### 4.8.1 Unexpected Debris

If unexpected debris (bricks, metal pieces, etc.) are encountered that cannot be easily separated from the surrounding soil, the soil will be removed and properly disposed of off-Site.

### 4.8.2 Unidentified Waste

If unidentified wastes, including drums or underground storage tanks, are encountered during soil excavation, work in the area will be stopped and the area will be secured until the wastes can be characterized and appropriate safety measures can be put in place. Any unidentified waste will be properly disposed off-Site following characterization.

### 4.8.3 Unidentified Utilities

If any unidentified utilities are encountered during excavation, work will be stopped in the area until the utility is identified and evaluated to determine if it is in use and if there is any immediate safety or environmental hazard to human health. If the utility is no longer in use it will be removed from the site. If the utility is active, the response plan will be modified to either reroute the utility or work around it.

### 4.8.4 Additional Soil Removal

Upon the receipt of analytical results of the confirmation samples from each isolated impact area, Arcadis will review the results to determine if additional soil needs to be removed to meet applicable regulatory standards. If confirmation samples exceed applicable regulatory standards, additional soil from the sample location will be removed. After additional impacted soil is removed, confirmation samples will be re-collected from the areas where additional soil was removed. The new confirmation samples will be analyzed only for those criteria that exceeded an applicable regulatory standard during the initial round of confirmation sampling.

## 5 REPORTING

Activities discussed in this IRAP will be documented in the field and reported in a Response Action Implementation Report. That report will include a summary of all field observations (e.g., PID screening values, visual and olfactory observations, volume of soil removed at each location) as well as confirmation sample analytical results, surveyed extents of each excavation and final placement of all excavated soil that was reused on-site.

## 6 SCHEDULE

Excavation of contaminated soils and successive backfilling and restoration are expected to be completed in 2016, pending approval by the MPCA.

## 7 REFERENCES

Arcadis. 2007. Phase I Environmental Site Assessment. Ford Motor Company, Twin Cities Assembly Plant, St. Paul, Minnesota. June 29.

Arcadis. 2008. Supplemental Phase II – Exterior Investigation Work Plan. Ford Motor Company, Twin Cities Assembly Plant, St. Paul, Minnesota. May 13.

Arcadis 2010. Phase II – Interior Investigation Work Plan. Ford Motor Company, Twin Cities Assembly Plant, St. Paul, Minnesota. May 28.

Arcadis. 2016. Comprehensive Phase II Site Investigation Report, Twin Cities Assembly Plant, St. Paul, Minnesota. April 1.

MPCA. 2008. Guidance Document 4-04, Soil Sample Collection and Analysis Procedures. September. Available online at: <https://www.pca.state.mn.us/sites/default/files/c-prp4-04.pdf>.

# TABLES



**Table 1**  
**Summary of Boring Locations**  
**Ford Motor Company - Twin Cities Assembly Plant**  
**966 South Mississippi River Boulevard**  
**St. Paul, Minnesota**

Isolated Impact Area	Boring Designation	Depth of Sample (feet bgs)	Date Sample Taken	Sample ID Name	SLV Exceedance	Minimum Extent (SVOCs & Metals)			Constituent Observed							
						Vertical Depth	Lateral Length	Lateral Width	VOCs	SVOCs	Metals	DRO				
1	ASB-046	0-2	7/6/2007	ASB046_0-2(20070706)DL	-	-	-					X				
	ASB-0119S	0-2	7/24/2015	ASB-0119S_0-2(20150724)		-	-						X			
2	ASB-0104W	0-2	10/22/2013	ASB-0104W_0-2(20131022)	VOCs, Metals	8'	170'	52'					X			
	ASB-0104N	2-3	10/22/2013	ASB-0104N_2-3(20131022)												X
	ASB-128	0-2	8/25/2011	ASB-128_0-2(20110825)												X
	ASB-0121N	0-2	7/23/2015	ASB-0121N_0-2(20150723)												X
	ASB-0121S	0-2	7/23/2015	ASB-0121S_0-2(20150723)												X
	A090	3.5-5	5/6/2015	S-150506-RA-A090			10'			X				X		
3	ASB-045	2-4	7/6/2007	ASB045_2-4(20070706)DL	-	-	-						X			
4	ASB-134	2-4	8/26/2011	ASB-134_2-4(20110826)	-	-	-						X			
5	ASB-139	6-8	8/29/2011	ASB-139_6-8(20110829)	-	-	-						X			
	ASB-0124E	2-4	7/24/2015	ASB-0124E_2-4(20150724)		-	-						X			
	ASB-0124W	4-6	7/23/2015	ASB-0124W_4-6(20150723)		-	-						X			
6	ASB-0503	2-4	4/13/2015	ASB-0503_2-4 (20150413)	-	-	-						X			
7	HA-208	0-2	5/23/2012	HA-208_0-2(20120523)	Metals	-	-						X			
	ASB-0521E	0-2	7/27/2015	ASB-0521E_0-2(20150727)		-	-						X			
	ASB-0521W	2-4	7/27/2015	ASB-0521W_2-4(20150727)		-	-						X			
8	ASB-0511	8-10	12/17/2014	ASB-0511_8-10(20141217)	-	-	-						X			
	ASB-0522N	8-10	7/27/2015	ASB-0522N_8-10(20150727)		-	-						X			
	ASB-0522N	8-10	7/24/2015	ASB-0522N_8-10(20150727)DUP		-	-						X			
	ASB-0522W	8-10	7/27/2015	ASB-0522W_8-10(20150727)		-	-						X			
9	HA-111	1-2	8/6/2010	HA-111_1-2(20100806)DL	-	-	-						X			
10	ASB-213	0-2	5/24/2012	ASB-213_0-2 (20120524)	-	-	-						X			
	ASB-0325E	0-2	7/21/2015	ASB-0325E_0-2(20150721)		-	-							X		
11	ASB-0314	7-9	4/14/2015	ASB-0314_7-9 (20150414)	Metals	14'	70'	48'					X			
12	ASB-168	0-2	9/7/2011	ASB-168_0-2(20110907)	SVOCs, Metals	7'	140'	64'						X		
	ASB-0410	0-2	4/13/2015	ASB-0410_0-2 (20150413)												X
	ASB-0401NE	0-2	1/16/2014	ASB-0401NE_0-2 (20140116)												X
	ASB-011	0-2	6/25/2007	ASB011_0-2(20070625)DL												

Abbreviations and Acronyms on Page 2.

**Table 1**  
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**966 South Mississippi River Boulevard**  
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Isolated Impact Area	Boring Designation	Depth of Sample (feet bgs)	Date Sample Taken	Sample ID Name	SLV Exceedance	Minimum Extent (SVOCs & Metals)			Constituent Observed			
						Vertical Depth	Lateral Length	Lateral Width	VOCs	SVOCs	Metals	DRO
12	ASB-170	0-2	9/7/2011	ASB-170_0-2(20110907)	SVOCs, Metals	7'	140'	64'		X	X	
	ASB-170	4-6	9/7/2011	ASB-170_4-6(20110907)							X	
	ASB-012	0-2	6/25/2007	ASB012_0-2(20070625)DL								X
	ASB-0414E	0-2	7/21/2015	ASB-0414E_0-2(20150721)								X
	ASB-0414N	0-2	7/21/2015	ASB-0414N_0-2(20150721)								X
	ASB-0415S	0-2	7/20/2015	ASB-0415S_0-2(20150720)								X
	ASB-0404NE	0-2	1/16/2014	ASB-0404NE_0-2 (20140116)			13'		X	X		
13	ASB-227	0-2	5/30/2012	ASB-227_0-2 (20120530)	Metals	7'	60'	16'			X	X
	ASB-0306S	0-2	12/3/2014	ASB-0306S_0-2(20141203)							X	
14	ASB-219	8-9	5/29/2012	ASB-219_8-9 (20120529)	VOCs	14'	48'	30'	X	X	X	X
	ASB-106	4-5.5	8/5/2010	ASB-106_4-5.5(20100805)DL			-					
15	ASB-0906	2-4	12/10/2014	ASB-0906_2-4(20141210)	SVOCs	9'	78'	28'		X		X
16	ASB-0924	2-5	12/2/2014	ASB-0924_2-5(20141202)	SVOCs	10'	90'	75'		X		
17	D128	1.5-5	4/21/2015	S-150421-RA-D128	Metals	10'	94'	65'			X	
18	ASB-0507	3-5	12/17/2014	ASB-0507_3-5(20141217)	-	-	-					X
	ASB-0516	6-8	12/17/2014	ASB-0516_6-8(20141217)	VOCs	-	-		X			
19	ASB-0619	7-9	4/13/2015	ASB-0619_7-9 (20150413)	VOCs	-	-		X			
	ASB-0615	6-8	4/14/2015	ASB-0615_6-8 (20150414)		-	-		X			
	ASB-0615	10-12	4/14/2015	ASB-0615_10-12 (20150414)		-	-		X			
	ASB-0620	8.5-9.5	4/13/2015	ASB-0620_8.5-9.5 (20150413)		-	-		X			
	ASB-0622	7-8	4/22/2015	ASB-0622_7-8(20150422)		-	-		X			

**Abbreviations and Acronyms:**

bgs = below ground surface

SLV = soil leaching value

VOCs = volatile organic compounds

SVOCs = semi-volatile organic compounds

DRO = diesel range organics



Table 2  
Analytical Results of Soil Borings  
Ford Motor Company - Twin Cities Assembly Plant  
966 South Mississippi River Boulevard  
St. Paul, Minnesota

Isolated Impact Area				1	1	2	2	2	2	2
Location Code				Ford TCAP_SO_Initial	Ford TCAP_SO_Supple1	Ford TCAP_SO_Supple1	Ford TCAP_SO_Supple1	Ford TCAP_SO_Initial2	Ford TCAP CRA Borings	Ford TCAP_SO_Supple1
Location ID				ASB-046	ASB-0119S	ASB-0104N	ASB-0104W	ASB-128	A090	ASB-0121N
Sample ID			Soil Leaching Values	ASB046_0-2(20070706)DL	ASB-0119S_0-2(20150724)	ASB-0104N_2-3(20131022)	ASB-0104W_0-2(20131022)	ASB-128_0-2(20110825)	S-150506-RA-A090	ASB-0121N_0-2(20150723)
Sample Date		Tier I SRVs		7/6/2007	7/24/2015	10/22/2013	10/22/2013	8/25/2011	5/6/2015	7/23/2015
Depth Interval	Units			0-2	0-2	2-3	0-2	0-2	3.5-5	0-2
<b>VOCs</b>										
1,2,4-Trimethylbenzene	mg/kg	8	2.745	NA	NA	NA	NA	NA	23	NA
1,3,5-Trimethylbenzene	mg/kg	3	2.733	NA	NA	NA	NA	NA	7.6	NA
4-Methyl-2-Pentanone	mg/kg	1700	0.757	NA	NA	NA	NA	NA	< 3.7	NA
Dichloromethane	mg/kg	97	0.017	NA	NA	NA	NA	NA	0.35 J	NA
Ethylbenzene	mg/kg	200	1.048	NA	NA	NA	NA	NA	1.2	NA
Naphthalene	mg/kg	10	4.468	NA	NA	NA	NA	NA	NA	NA
Toluene	mg/kg	107	2.459	NA	NA	NA	NA	NA	0.11 J	NA
Total Xylenes	mg/kg	45	5.415	NA	NA	NA	NA	NA	7.5	NA
<b>SVOCs</b>										
Acenaphthene	mg/kg	1200	**	< 1.7	NA	NA	NA	< 0.4	< 0.15	NA
Benzo(a)pyrene	mg/kg	2	**	< 1.7	NA	NA	NA	< 0.4	< 0.15	NA
Fluoranthene	mg/kg	1080	**	0.086 J	NA	NA	NA	< 0.4	0.18	NA
Naphthalene	mg/kg	10	**	< 1.7	NA	NA	NA	< 0.4	2.5	NA
Pyrene	mg/kg	890	**	0.099 J	NA	NA	NA	< 0.4	0.16	NA
Benzo(a)pyrene (BaP) Equivalents	mg/kg	2	**	0.00827	NA	NA	NA	ND	ND	NA
<b>Total Metals</b>										
Arsenic	mg/kg	9	**	NA	NA	9.7	2.0	17 J	2.2	NA
Chromium	mg/kg	87/44000	**	NA	NA	15	15	8.5	5.1	NA
Iron	mg/kg	24,000*	**	NA	NA	NA	NA	NA	14000	NA
Lead	mg/kg	300	**	NA	NA	5.2	5.8	10 J	22	NA
Manganese	mg/kg	3600	**	NA	NA	NA	NA	NA	660	NA
Thallium	mg/kg	3	**	NA	NA	NA	NA	NA	< 0.78	NA
Vanadium	mg/kg	50*	**	NA	NA	NA	NA	NA	9.2	NA
<b>TPH</b>										
Diesel Range Organics	mg/kg	100	NS	330	250	NA	790	< 10	NA	460

Notes and Abbreviations on Page 9.

**Table 2**  
**Analytical Results of Soil Borings**  
**Ford Motor Company - Twin Cities Assembly Plant**  
**966 South Mississippi River Boulevard**  
**St. Paul, Minnesota**

Isolated Impact Area				2	3	4	5	5	5	6
Location Code				Ford TCAP_SO_Supple1	Ford TCAP_SO_Initial	Ford TCAP_SO_Intial2	Ford TCAP_SO_Intial2	Ford TCAP_SO_Supple1	Ford TCAP_SO_Supple1	Ford TCAP_SO_Supple4
Location ID				ASB-0121S	ASB-045	ASB-134	ASB-139	ASB-0124E	ASB-0124W	ASB-0503
Sample ID			Soil Leaching Values	ASB-0121S_0-2(20150723)	ASB045_2-4(20070706)DL	ASB-134_2-4(20110826)	ASB-139_6-8(20110829)	ASB-0124E_2-4(20150724)	ASB-0124W_4-6(20150723)	ASB-0503_2-4 (20150413)
Sample Date		Tier I SRVs		7/23/2015	7/6/2007	8/26/2011	8/29/2011	7/24/2015	7/23/2015	4/13/2015
Depth Interval	Units			0-2	2-4	2-4	6-8	2-4	4-6	2-4
<b>VOCs</b>										
1,2,4-Trimethylbenzene	mg/kg	8	2.745	NA	NA	NA	0.15 J	NA	NA	< 0.35
1,3,5-Trimethylbenzene	mg/kg	3	2.733	NA	NA	NA	0.043 J	NA	NA	< 0.35
4-Methyl-2-Pentanone	mg/kg	1700	0.757	NA	NA	NA	< 1.1 J	NA	NA	< 1.4
Dichloromethane	mg/kg	97	0.017	NA	NA	NA	< 0.28 J	NA	NA	< 0.35
Ethylbenzene	mg/kg	200	1.048	NA	NA	NA	< 0.28 J	NA	NA	< 0.35
Naphthalene	mg/kg	10	4.468	NA	NA	NA	< 0.82 J	NA	NA	< 0.35
Toluene	mg/kg	107	2.459	NA	NA	NA	< 0.28 J	NA	NA	< 0.35
Total Xylenes	mg/kg	45	5.415	NA	NA	NA	0.016 J	NA	NA	ND
<b>SVOCs</b>										
Acenaphthene	mg/kg	1200	**	NA	< 1.4	< 2	NA	NA	NA	< 1.4
Benzo(a)pyrene	mg/kg	2	**	NA	0.37 J	0.14 J	NA	NA	NA	< 1.4
Fluoranthene	mg/kg	1080	**	NA	1 J	0.28 J	NA	NA	NA	0.024 J
Naphthalene	mg/kg	10	**	NA	0.037 J	< 2	NA	NA	NA	< 1.4
Pyrene	mg/kg	890	**	NA	1 J	0.26 J	NA	NA	NA	0.024 J
Benzo(a)pyrene (BaP) Equivalent	mg/kg	2	**	NA	0.4999	0.1873	NA	NA	NA	0.0016
<b>Total Metals</b>										
Arsenic	mg/kg	9	**	NA	NA	4.3	NA	NA	NA	NA
Chromium	mg/kg	87/44000	**	NA	NA	14	NA	NA	NA	NA
Iron	mg/kg	24,000*	**	NA	NA	NA	NA	NA	NA	NA
Lead	mg/kg	300	**	NA	NA	7.8	4.5	NA	NA	NA
Manganese	mg/kg	3600	**	NA	NA	NA	NA	NA	NA	NA
Thallium	mg/kg	3	**	NA	NA	NA	NA	NA	NA	NA
Vanadium	mg/kg	50*	**	NA	NA	NA	NA	NA	NA	NA
<b>TPH</b>										
Diesel Range Organics	mg/kg	100	NS	200	280	180 J	1100	350	120	190

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**Table 2**  
**Analytical Results of Soil Borings**  
**Ford Motor Company - Twin Cities Assembly Plant**  
**966 South Mississippi River Boulevard**  
**St. Paul, Minnesota**

Isolated Impact Area				7	7	7	8	8	8	8
Location Code				Ford TCAP Hand Auger	Ford TCAP_SO_Supple4	Ford TCAP_SO_Supple4	Ford TCAP_SO_Supple4	Ford TCAP_SO_Supple4	Ford TCAP_SO_Supple4	Ford TCAP_SO_Supple4
Location ID				HA-208	ASB-0521E	ASB-0521W	ASB-0511	ASB-0522N	ASB-0522N	ASB-0522W
Sample ID			Soil Leaching Values	HA-208_0-2(20120523)	ASB-0521E_0-2(20150727)	ASB-0521W_2-4(20150727)	ASB-0511_8-10(20141217)	ASB-0522N_8-10(20150727)	DUP-03(20150727)	ASB-0522W_8-10(20150727)
Sample Date		Tier I SRVs		5/23/2012	7/27/2015	7/27/2015	12/17/2014	7/27/2015	7/27/2015	7/27/2015
Depth Interval	Units			0-2	0-2	2-4	8-10	8-10	8-10	8-10
<b>VOCs</b>										
1,2,4-Trimethylbenzene	mg/kg	8	2.745	< 0.24	NA	NA	< 0.29	NA	NA	NA
1,3,5-Trimethylbenzene	mg/kg	3	2.733	< 0.24	NA	NA	< 0.29	NA	NA	NA
4-Methyl-2-Pentanone	mg/kg	1700	0.757	< 0.95	NA	NA	< 1.2	NA	NA	NA
Dichloromethane	mg/kg	97	0.017	< 0.24	NA	NA	< 0.29	NA	NA	NA
Ethylbenzene	mg/kg	200	1.048	< 0.24	NA	NA	< 0.29	NA	NA	NA
Naphthalene	mg/kg	10	4.468	< 0.24	NA	NA	< 0.29	NA	NA	NA
Toluene	mg/kg	107	2.459	< 0.24	NA	NA	< 0.29	NA	NA	NA
Total Xylenes	mg/kg	45	5.415	ND	NA	NA	ND	NA	NA	NA
<b>SVOCs</b>										
Acenaphthene	mg/kg	1200	**	< 0.37	NA	NA	< 1.6	NA	NA	NA
Benzo(a)pyrene	mg/kg	2	**	< 0.37	NA	NA	< 1.6	NA	NA	NA
Fluoranthene	mg/kg	1080	**	0.043 J	NA	NA	0.073 J	NA	NA	NA
Naphthalene	mg/kg	10	**	< 0.37	NA	NA	< 1.6	NA	NA	NA
Pyrene	mg/kg	890	**	0.036 J	NA	NA	0.049 J	NA	NA	NA
Benzo(a)pyrene (BaP) Equivalents	mg/kg	2	**	ND	NA	NA	ND	NA	NA	NA
<b>Total Metals</b>										
Arsenic	mg/kg	9	**	2.4	NA	NA	NA	NA	NA	NA
Chromium	mg/kg	87/44000	**	6.9	NA	NA	NA	NA	NA	NA
Iron	mg/kg	24,000*	**	8400	NA	NA	NA	NA	NA	NA
Lead	mg/kg	300	**	4.1	NA	NA	NA	NA	NA	NA
Manganese	mg/kg	3600	**	460	NA	NA	NA	NA	NA	NA
Thallium	mg/kg	3	**	< 1.1	NA	NA	NA	NA	NA	NA
Vanadium	mg/kg	50*	**	14	NA	NA	NA	NA	NA	NA
<b>TPH</b>										
Diesel Range Organics	mg/kg	100	NS	260	130	250	1100	890	2100	980

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Table 2  
Analytical Results of Soil Borings  
Ford Motor Company - Twin Cities Assembly Plant  
966 South Mississippi River Boulevard  
St. Paul, Minnesota

Isolated Impact Area				9	10	10	11	12	12	12
Location Code				Ford TCAP Hand Auger	Ford TCAP_SO_Initial4	Ford TCAP_SO_Supple3	Ford TCAP_SO_Supple3	Ford TCAP_SO_Initial3	Ford TCAP_SO_Supple3	Ford TCAP_SO_Supple3
Location ID				HA-111	ASB-213	ASB-0325E	ASB-0314	ASB-168	ASB-0410	ASB-0401NE
Sample ID			Soil Leaching Values	HA-111_1-2(20100806)DL	ASB-213_0-2 (20120524)	ASB-0325E_0-2(20150721)	ASB-0314_7-9 (20150414)	ASB-168_0-2(20110907)	ASB-0410_0-2 (20150413)	ASB-0401NE_0-2 (20140116)
Sample Date		Tier I SRVs		8/6/2010	5/24/2012	7/21/2015	4/14/2015	9/7/2011	4/13/2015	1/16/2014
Depth Interval	Units			1-2	0-2	0-2	7-9	0-2	0-2	0-2
<b>VOCs</b>										
1,2,4-Trimethylbenzene	mg/kg	8	2.745	NA	0.0074 J	NA	< 0.22	< 0.2	NA	NA
1,3,5-Trimethylbenzene	mg/kg	3	2.733	NA	< 0.27	NA	< 0.22	< 0.2	NA	NA
4-Methyl-2-Pentanone	mg/kg	1700	0.757	NA	< 1.1	NA	< 0.89	< 0.81	NA	NA
Dichloromethane	mg/kg	97	0.017	NA	< 0.27	NA	< 0.22	< 0.2	NA	NA
Ethylbenzene	mg/kg	200	1.048	NA	< 0.27	NA	< 0.22	< 0.2	NA	NA
Naphthalene	mg/kg	10	4.468	NA	0.068 J	NA	< 0.22	< 0.2	NA	NA
Toluene	mg/kg	107	2.459	NA	< 0.27	NA	< 0.22	< 0.2	NA	NA
Total Xylenes	mg/kg	45	5.415	NA	ND	NA	ND	ND	NA	NA
<b>SVOCs</b>										
Acenaphthene	mg/kg	1200	**	NA	0.08 J	NA	0.031 J	NA	0.5 J	0.89 J
Benzo(a)pyrene	mg/kg	2	**	NA	0.43	NA	0.15 J	NA	3.8	4.1 J
Fluoranthene	mg/kg	1080	**	NA	1.1	NA	0.42	NA	11	13
Naphthalene	mg/kg	10	**	NA	0.027 J	NA	< 0.37	NA	< 3.6	0.36 J
Pyrene	mg/kg	890	**	NA	0.93	NA	0.36 J	NA	8.2	11
Benzo(a)pyrene (BaP) Equivalent	mg/kg	2	**	NA	0.64902	NA	0.2201	NA	5.3788	6.0108
<b>Total Metals</b>										
Arsenic	mg/kg	9	**	NA	1.8	NA	28	NA	NA	NA
Chromium	mg/kg	87/44000	**	NA	8.1	NA	9.5	NA	NA	NA
Iron	mg/kg	24,000*	**	NA	NA	NA	11000	NA	NA	NA
Lead	mg/kg	300	**	NA	6.2	NA	7.0	NA	NA	NA
Manganese	mg/kg	3600	**	NA	NA	NA	450	NA	NA	NA
Thallium	mg/kg	3	**	NA	NA	NA	< 1.1	NA	NA	NA
Vanadium	mg/kg	50*	**	NA	NA	NA	13	NA	NA	NA
<b>TPH</b>										
Diesel Range Organics	mg/kg	100	NS	120	140	260	44	110	NA	NA

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Table 2  
Analytical Results of Soil Borings  
Ford Motor Company - Twin Cities Assembly Plant  
966 South Mississippi River Boulevard  
St. Paul, Minnesota

Isolated Impact Area				12	12	12	12	12	12	12
Location Code				Ford TCAP_SO_Initial	Ford TCAP_SO_Supple3	Ford TCAP_SO_Initial3	Ford TCAP_SO_Initial3	Ford TCAP_SO_Initial	Ford TCAP_SO_Supple3	Ford TCAP_SO_Supple3
Location ID				ASB-011	ASB-0404NE	ASB-170	ASB-170	ASB-012	ASB-0414E	ASB-0414N
Sample ID			Soil	ASB011_0-2(20070625)DL	ASB-0404NE_0-2 (20140116)	ASB-170_0-2(20110907)	ASB-170_4-6(20110907)	ASB012_0-2(20070625)DL	ASB-0414E_0-2(20150721)	ASB-0414N_0-2(20150721)
Sample Date		Tier I	Leaching	6/25/2007	1/16/2014	9/7/2011	9/7/2011	6/25/2007	7/21/2015	7/21/2015
Depth Interval	Units	SRVs	Values	0-2	0-2	0-2	4-6	0-2	0-2	0-2
<b>VOCs</b>										
1,2,4-Trimethylbenzene	mg/kg	8	2.745	< 0.25	NA	0.024 J	< 0.28	NA	NA	NA
1,3,5-Trimethylbenzene	mg/kg	3	2.733	< 0.25	NA	0.0079 J	< 0.28	NA	NA	NA
4-Methyl-2-Pentanone	mg/kg	1700	0.757	< 0.99	NA	< 1	< 1.1	NA	NA	NA
Dichloromethane	mg/kg	97	0.017	< 0.25	NA	< 0.25	< 0.28	NA	NA	NA
Ethylbenzene	mg/kg	200	1.048	< 0.25	NA	0.0096 J	< 0.28	NA	NA	NA
Naphthalene	mg/kg	10	4.468	< 0.25	NA	0.15 J	< 0.28	NA	NA	NA
Toluene	mg/kg	107	2.459	< 0.25	NA	0.027 J	< 0.28	NA	NA	NA
Total Xylenes	mg/kg	45	5.415	ND	NA	0.065 J	ND	NA	NA	NA
<b>SVOCs</b>										
Acenaphthene	mg/kg	1200	**	0.5 J	2.6 J	0.44 J	< 0.41	NA	NA	NA
Benzo(a)pyrene	mg/kg	2	**	2.4	7.9 J	2.6	0.021 J	NA	NA	NA
Fluoranthene	mg/kg	1080	**	8.6	25	5.9	0.066 J	NA	NA	NA
Naphthalene	mg/kg	10	**	< 2.3	1.3 J	0.11 J	< 0.41	NA	NA	NA
Pyrene	mg/kg	890	**	6.2	20	4.4	0.055 J	NA	NA	NA
Benzo(a)pyrene (BaP) Equivalent	mg/kg	2	**	3.4828	11.604	3.7808	0.02863	NA	NA	NA
<b>Total Metals</b>										
Arsenic	mg/kg	9	**	NA	22	4.8	5.8	NA	NA	NA
Chromium	mg/kg	87/44000	**	NA	19	9.2	17	NA	NA	NA
Iron	mg/kg	24,000*	**	NA	14000	12000	17000	NA	NA	NA
Lead	mg/kg	300	**	NA	220	53	4.5	NA	NA	NA
Manganese	mg/kg	3600	**	NA	440	510	470	NA	NA	NA
Thallium	mg/kg	3	**	NA	< 0.85	< 0.98	< 1.2	NA	NA	NA
Vanadium	mg/kg	50*	**	NA	15	17	15	NA	NA	NA
<b>TPH</b>										
Diesel Range Organics	mg/kg	100	NS	30	NA	NA	8.2 J	640	220	320

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Table 2  
Analytical Results of Soil Borings  
Ford Motor Company - Twin Cities Assembly Plant  
966 South Mississippi River Boulevard  
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Isolated Impact Area				12	13	13	14	14	15	16
Location Code				Ford TCAP_SO_Supple3	Ford TCAP_SO_Initial4	Ford TCAP_SO_Supple2	Ford TCAP_SO_Initial4	Ford TCAP_SO_Initial2	Ford TCAP_SO_Supple5	Ford TCAP_SO_Supple5
Location ID				ASB-0415S	ASB-227	ASB-0306S	ASB-219	ASB-106	ASB-0906	ASB-0924
Sample ID			Soil	ASB-0415S_0-2(20150720)	ASB-227_0-2 (20120530)	ASB-0306S_0-2(20141203)	ASB-219_8-9 (20120529)	ASB-106_4-5.5(20100805)DL	ASB-0906_2-4(20141210)	ASB-0924_2-5(20141202)
Sample Date		Tier I	Leaching	7/20/2015	5/30/2012	12/3/2014	5/29/2012	8/5/2010	12/10/2014	12/2/2014
Depth Interval	Units	SRVs	Values	0-2	0-2	0-2	8-9	4-5.5	2-4	2-5
<b>VOCs</b>										
1,2,4-Trimethylbenzene	mg/kg	8	2.745	NA	0.027 J	NA	0.073 J	NA	0.018 J	< 0.3
1,3,5-Trimethylbenzene	mg/kg	3	2.733	NA	< 0.25	NA	< 3.3	NA	< 0.27	< 0.3
4-Methyl-2-Pentanone	mg/kg	1700	0.757	NA	< 1	NA	< 13	NA	< 1.1	< 1.2
Dichloromethane	mg/kg	97	0.017	NA	< 0.25	NA	< 3.3	NA	< 0.27	< 0.3
Ethylbenzene	mg/kg	200	1.048	NA	0.16 J	NA	< 3.3	NA	< 0.27	< 0.3
Naphthalene	mg/kg	10	4.468	NA	0.18 J	NA	17	NA	0.48	< 0.3
Toluene	mg/kg	107	2.459	NA	1.3	NA	< 3.3	NA	< 0.27	< 0.3
Total Xylenes	mg/kg	45	5.415	NA	1.01	NA	ND	NA	ND	ND
<b>SVOCs</b>										
Acenaphthene	mg/kg	1200	**	NA	0.87 J	NA	15 J	< 1.4	99 J	1.2 J
Benzo(a)pyrene	mg/kg	2	**	NA	0.46 J	NA	1.4 J	0.07 J	210	2.8
Fluoranthene	mg/kg	1080	**	NA	4.1 J	NA	33	0.062 J	730	9
Naphthalene	mg/kg	10	**	NA	0.24 J	NA	3.2 J	< 1.4	4.8 J	0.71 J
Pyrene	mg/kg	890	**	NA	2.9 J	NA	22	0.16 J	570	6.2
Benzo(a)pyrene (BaP) Equivalent	mg/kg	2	**	NA	0.716	NA	2.312	0.1046	299.76	4.1408
<b>Total Metals</b>										
Arsenic	mg/kg	9	**	NA	2.5	< 18	< 22	NA	NA	3.1
Chromium	mg/kg	87/44000	**	NA	100	520	930	NA	NA	13
Iron	mg/kg	24,000*	**	NA	NA	43000	NA	NA	NA	NA
Lead	mg/kg	300	**	NA	41	39	20	NA	NA	14
Manganese	mg/kg	3600	**	NA	NA	14000	NA	NA	NA	NA
Thallium	mg/kg	3	**	NA	NA	6.0 J	NA	NA	NA	NA
Vanadium	mg/kg	50*	**	NA	NA	110	NA	NA	NA	NA
<b>TPH</b>										
Diesel Range Organics	mg/kg	100	NS	190	500	NA	280	140	150	11

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Table 2  
Analytical Results of Soil Borings  
Ford Motor Company - Twin Cities Assembly Plant  
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Isolated Impact Area				17	18 (SDRAP Addendum #9)	18 (SDRAP Addendum #9)	19	19	19
Location Code				Ford TCAP CRA Borings	Ford TCAP_SO_Supple4	Ford TCAP_SO_Supple4	Ford TCAP_SO_Supple4	Ford TCAP_SO_Supple4	Ford TCAP_SO_Supple4
Location ID				D128	ASB-0507	ASB-0516	ASB-0619	ASB-0615	ASB-0615
Sample ID			Soil	S-150421-RA-D128	ASB-0507_3-5(20141217)	ASB-0516_6-8(20141217)	ASB-0619_7-9 (20150413)	3	ASB-0615_10-12 (20150414)
Sample Date		Tier I	Leaching	4/21/2015	12/17/2014	12/17/2014	4/13/2015	4/14/2015	4/14/2015
Depth Interval	Units	SRVs	Values	1.5-5	3-5	6-8	7-9	6-8	10-12
<b>VOCs</b>									
1,2,4-Trimethylbenzene	mg/kg	8	2.745	NA	< 0.23	21	4.4 J	4.6 J	0.29 J
1,3,5-Trimethylbenzene	mg/kg	3	2.733	NA	< 0.23	10	2.1 J	2.2 J	0.13 J
4-Methyl-2-Pentanone	mg/kg	1700	0.757	NA	< 0.92	< 5	4.2 J	4.9 J	< 12
Dichloromethane	mg/kg	97	0.017	NA	< 0.23	< 1.3	< 5.2	< 14	< 3.1
Ethylbenzene	mg/kg	200	1.048	NA	< 0.23	4.2	38	53	14
Naphthalene	mg/kg	10	4.468	NA	< 0.23	0.42 J	< 5.2	< 14	< 3.1
Toluene	mg/kg	107	2.459	NA	< 0.23	11	5.9	6.9 J	0.28 J
Total Xylenes	mg/kg	45	5.415	NA	ND	37.2	234	303	69.1
<b>SVOCs</b>									
Acenaphthene	mg/kg	1200	**	NA	< 0.36	< 0.39	< 0.4	< 0.8	< 0.4
Benzo(a)pyrene	mg/kg	2	**	NA	0.046 J	0.013 J	< 0.4	< 0.8	< 0.4
Fluoranthene	mg/kg	1080	**	NA	0.08 J	0.026 J	0.011 J	< 0.8	< 0.4
Naphthalene	mg/kg	10	**	NA	0.014 J	0.028 J	0.87	1.9	0.31 J
Pyrene	mg/kg	890	**	NA	0.11 J	0.024 J	0.0087 J	< 0.8	< 0.4
Benzo(a)pyrene (BaP) Equivalents	mg/kg	2	**	NA	0.06616	0.01708	0.0014	ND	ND
<b>Total Metals</b>									
Arsenic	mg/kg	9	**	3.8	NA	4.7	NA	NA	NA
Chromium	mg/kg	87/44000	**	9.1	NA	8.8	NA	NA	NA
Iron	mg/kg	24,000*	**	8800	NA	NA	NA	NA	NA
Lead	mg/kg	300	**	880	NA	4.5	NA	NA	NA
Manganese	mg/kg	3600	**	430	NA	NA	NA	NA	NA
Thallium	mg/kg	3	**	< 1.2	NA	NA	NA	NA	NA
Vanadium	mg/kg	50*	**	15	NA	NA	NA	NA	NA
<b>TPH</b>									
Diesel Range Organics	mg/kg	100	NS	NA	340	NA	NA	NA	NA

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Table 2  
 Analytical Results of Soil Borings  
 Ford Motor Company - Twin Cities Assembly Plant  
 966 South Mississippi River Boulevard  
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Isolated Impact Area				19	19
Location Code				Ford TCAP_SO_Supple4	Ford TCAP_SO_Supple4
Location ID				ASB-0620	ASB-0622
Sample ID			Soil	ASB-0620_8.5-9.5 (20150413)	ASB-0622_7-8(20150422)
Sample Date		Tier I	Leaching	4/13/2015	4/22/2015
Depth Interval	Units	SRVs	Values	8.5-9.5	7-8
<b>VOCs</b>					
1,2,4-Trimethylbenzene	mg/kg	8	2.745	4.3 J	3 J
1,3,5-Trimethylbenzene	mg/kg	3	2.733	2 J	1.5 J
4-Methyl-2-Pentanone	mg/kg	1700	0.757	3.9 J	5.2 J
Dichloromethane	mg/kg	97	0.017	< 11	< 5
Ethylbenzene	mg/kg	200	1.048	54	34
Naphthalene	mg/kg	10	4.468	< 11	5.1
Toluene	mg/kg	107	2.459	9.4 J	3.7 J
Total Xylenes	mg/kg	45	5.415	272	179
<b>SVOCs</b>					
Acenaphthene	mg/kg	1200	**	0.0037 J	< 0.39
Benzo(a)pyrene	mg/kg	2	**	0.0057 J	< 0.39
Fluoranthene	mg/kg	1080	**	0.025 J	0.0063 J
Naphthalene	mg/kg	10	**	3	2
Pyrene	mg/kg	890	**	0.019 J	0.0071 J
Benzo(a)pyrene (BaP) Equivalentents	mg/kg	2	**	0.007347	ND
<b>Total Metals</b>					
Arsenic	mg/kg	9	**	NA	NA
Chromium	mg/kg	87/44000	**	NA	NA
Iron	mg/kg	24,000*	**	NA	NA
Lead	mg/kg	300	**	NA	NA
Manganese	mg/kg	3600	**	NA	NA
Thallium	mg/kg	3	**	NA	NA
Vanadium	mg/kg	50*	**	NA	NA
<b>TPH</b>					
Diesel Range Organics	mg/kg	100	NS	NA	NA

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**Table 2**  
**Analytical Results of Soil Borings**  
**Ford Motor Company - Twin Cities Assembly Plant**  
**966 Mississippi River Boulevard**  
**St. Paul, Minnesota**

Location Code			
Location Sort Order			
Location ID			
Sample ID			
Sample Date		Tier I	Soil
Parent Sample		Residential	Leaching
Depth Interval	Units	SRVs	Values

**General Notes:**

= Above Tier 1 Residential SRVs

*Italics = Above Soil Leaching Values*

< = not detected

**Acronyms and Abbreviations:**

J = estimated value (outside of detection limits)

mg/kg = milligram/kilogram

NA = not analyzed

NS = no standard

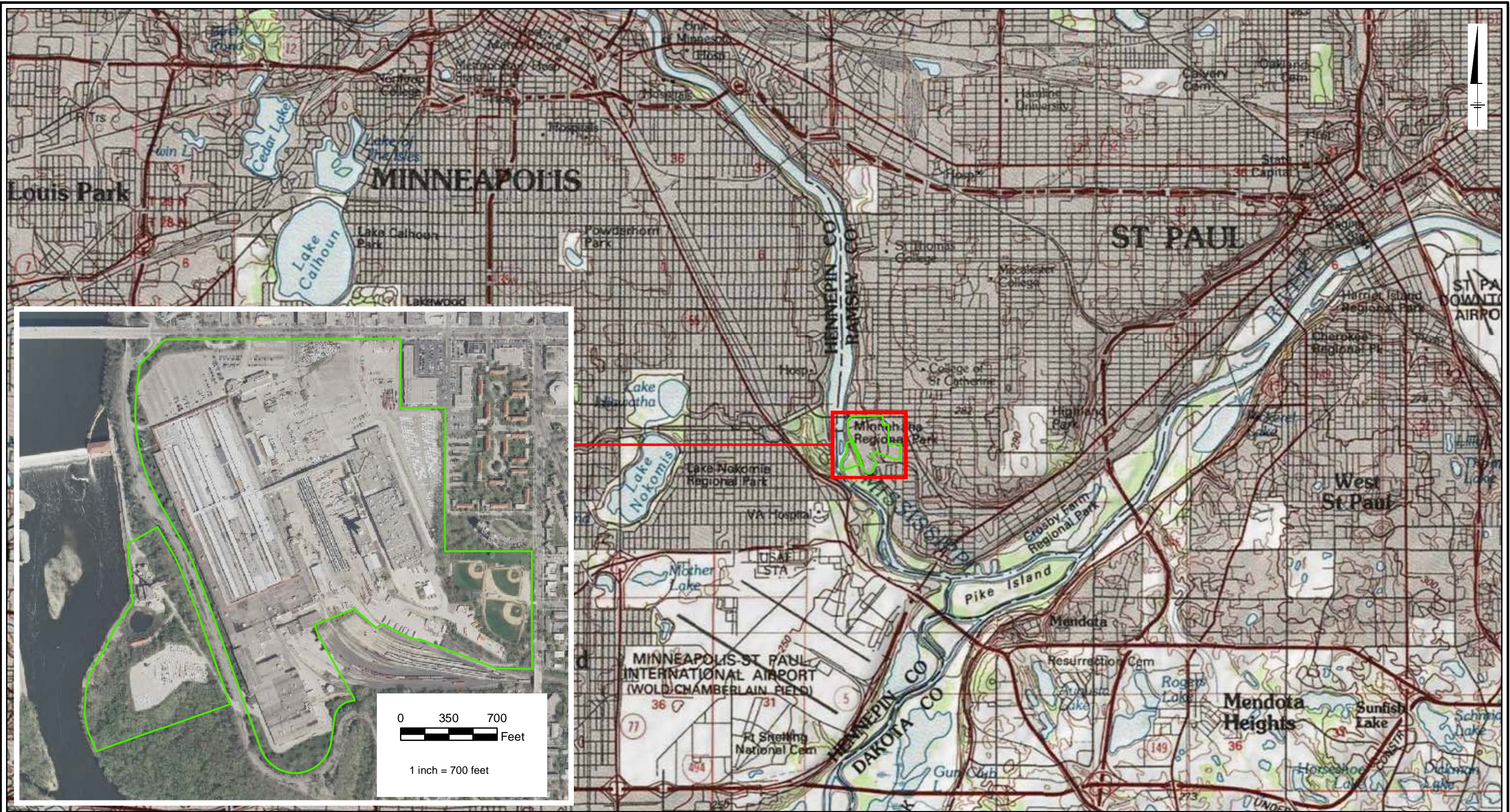
\* = Values are MPCA-approved

residential screening values based on  
typical background concentrations

\*\* = SLVs not applicable for metals and  
PAHs at this site

# FIGURES





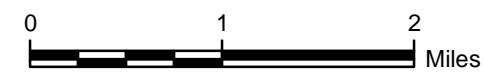
**LEGEND:**

— Ford Property Boundary

**NOTES:**

Imagery Source: MnGeo WMS service, 2010 color 7-county  
<http://geoint.lmic.state.mn.us/cgi-bin/wms/> Accessed 4/26/2016

Topographic Map Source:  
 © 2007 National Geographic Society



1 inch = 1 mile



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

**Site Location / Property Layout**






FIGURE  
**1**

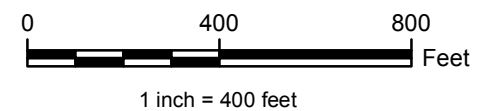


CITY: Minneapolis, MN DB: MGrass PW: Bryan Zinda  
 Project: MN000593  
 Path: Z:\GIS\PROJECTS\ENW\Ford Ranger\ArcMap\2016\2016-03\IRAP\_Figure\_20160331.mxd

**LEGEND:**

-  Isolated Impact Areas
-  Former Buildings
-  Ford Property Boundary

- Isolated Impact Area
- |       |   |        |
|-------|---|--------|
| VOCs  |  | Metals |
| SVOCs |  | DRO    |



**NOTES:**

Imagery Source: MnGeo WMS service, 2010 color 7-county  
<http://geoint.lmic.state.mn.us/cgi-bin/wms/> Accessed 6/7/2016



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

**Isolated Impact Areas**



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