

TRANSMITTAL LETTER



To:
Jeanne Schlaufman
Michigan Department of
Environment, Great Lakes &
Energy
27700 Donald Court
Warren, MI 48092

From:
Kris Hinskey

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Copies:

Date:
November 1, 2024

Subject:
ResAp-Interim Response
Activity Plan ZVI Injections
Quarterly Update Letter

Arcadis Project No.:
30206169

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SUBJECT

ResAP-Interim Response Activity Plan ZVI Injections
Quarterly Update Letter

TO

Ms. Jeanne Schlaufman, EGLE

DATE

November 1, 2024

OUR REF

30206169

COPIES TO

Mr. Todd Walton, Ford
Ms. Colleen Liddell, Ford
Mr. Chuck Pinter, Ford

NAME

Kris Hinskey – Arcadis of Michigan, LLC

On behalf of Ford Motor Company (Ford), this letter has been prepared by Arcadis of Michigan, LLC (Arcadis) for the Livonia Transmission Plant (LTP) site (the site), located on **Figure 1**. This letter complies with the following Response Activity Plan (ResAP) and EGLE approval letter:

- ResAP for Interim Response Activities – Property Boundary Zero Valent Iron, dated June 30, 2023
- *Notice of Conditional Approval of Response Activity Plan – Interim Response Activities for Zero Valent Iron Injections at the Ford – Livonia Transmission Plant*, dated July 20, 2023

The performance groundwater sampling outlined below was completed in accordance with the approved ResAP for Interim Response Activities (IRA).

Performance Groundwater Sampling

Quarterly zero valent iron (ZVI) performance groundwater sampling was completed on August 9, 2024, during the third quarter 2024 (3Q 2024) on-site and off-site groundwater sampling event. Groundwater samples were collected from monitoring wells MW-35, MW-43, MW-52, MW-211S, MW-212S, MW-213S, MW-234 and MW-235 (collectively referred to as the ZVI performance monitoring network; **Figure 2**)

Each monitoring well was sampled using a peristaltic pump and low-flow sampling techniques in accordance with the project Quality Assurance Project Plan. Groundwater samples were collected into laboratory-supplied bottles and were submitted on ice to Eurofins Laboratories (Eurofins) in Barberton, Ohio for laboratory analysis. All samples were analyzed for the seven constituents of concern (COCs) for the Site: 1,1-dichloroethene (DCE), cis-1,2-DCE, trans-1,2-DCE, tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride (VC) via United States Environmental Protection Agency (USEPA) Method 8260D and 1,4-dioxane via USEPA Method 8260D-Selected Ion Monitoring (SIM).

Groundwater analytical results and low-flow sampling parameters are provided in **Table 1**, with the data compared to Michigan Part 201 Non-Residential Generic Cleanup Criteria (EGLE 2023). Monitoring data collected from the ZVI performance monitoring well network during the third quarter 2023 groundwater sampling event were used for the baseline data included in **Table 1**. Low-flow groundwater sampling logs are included in **Attachment**

Ms. Jeanne Schlaufman
Michigan Department of Environment, Great Lakes, and Energy
November 1, 2024

1. Vinyl chloride was detected at concentrations exceeding Part 201 Non-residential Generic Cleanup Criteria at monitoring well MW-235, which is consistent with previous sampling events. All other site-specific compounds (1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, PCE, TCE, and 1,4-dioxane) either were not detected at concentrations above the reporting limits or were detected at concentrations below Part 201 Non-Residential Generic Cleanup Criteria for 3Q 2024.

During 3Q 2024, the vinyl chloride concentration at monitoring well MW-35 (0.82 J µg/L) was the lowest historically observed. All other monitoring well concentrations from the 3Q 2024 ZVI groundwater sampling event were below the performance objective of 2.0 µg/L, with the exception of MW-235 (6.1 µg/L). This concentration is below both the September 2023 baseline result of 11 µg/L and historic high of 12 µg/L identified in November 2023.

Proposed Schedule

Future performance monitoring will be completed in accordance with the ResAP IRA. The fourth quarter 2024 performance monitoring event is scheduled to be completed in November 2024. The next quarterly update letter will summarize the results of the fourth quarter 2024 sampling event and will be submitted by January 31, 2025.

Enclosures:

Table 1 – ZVI Performance Monitoring Groundwater Analytical Data

Figure 1 – Site Location Map

Figure 2 – Site Layout

Attachment 1 – Groundwater Sampling Logs

Table

Location:	Unit	Michigan Non-Residential Drinking Water Criteria	MW-35					MW-43					MW-52						
			8/15/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024	8/15/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024	8/15/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024	8/15/2023	11/14/2023
Semi-volatile Organic Compounds (SVOCs)																			
1,4-Dioxane	µg/L	350	3.4	4.0	3.0	4.5 B	3.3	2.5	3.4	2.5	4.7 B	4.2	1.8 J	2.6	2.7	3.3 B	2.8	< 2.0	< 2.0
Volatile Organic Compounds (VOCs)																			
1,1-Dichloroethene	µg/L	7.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/L	5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/L	5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.52 J
Vinyl chloride	µg/L	2.0	1.6	1.5	2.2	0.90 J	0.82 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.5	1.5	0.90 J	1.2	1.4	< 1.0	< 1.0

Location:	Unit	Michigan Non-Residential Drinking Water Criteria	MW-211S			MW-212S			MW-213S			MW-234								
			3/7/2024	5/21/2024	8/9/2024	8/15/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024	8/15/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024	9/18/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024
Semi-volatile Organic Compounds (SVOCs)																				
1,4-Dioxane	µg/L	350	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 4.0	< 2.0	1.0 J B	< 2.0
Volatile Organic Compounds (VOCs)																				
1,1-Dichloroethene	µg/L	7.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	70	< 1.0	< 1.0	< 1.0	2.6	2.8	1.9	0.89 J	2.0	0.58 J	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/L	5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	100	< 1.0	< 1.0	< 1.0	< 1.0	0.53 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/L	5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/L	2.0	< 1.0	< 1.0	< 1.0	0.82 J	1.0	0.84 J	< 1.0	0.77J	0.48 J	1.1	0.73 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.46J

Table 1
 ZVI Performance Monitoring Groundwater Analytical Data
 Ford Livonia Transmission Plant
 36200 Plymouth Road
 Livonia, Michigan



Location:	Unit	Michigan Non-Residential Drinking Water Criteria	MW-235				
			9/18/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024
Semi-volatile Organic Compounds (SVOCs)							
1,4-Dioxane	µg/L	350	< 2.0	0.89 J	<2.0	1.1 J B	<2.0
Volatile Organic Compounds (VOCs)							
1,1-Dichloroethene	µg/L	7.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	70	1.6	2.0	2.3	2.5	2.3
Tetrachloroethene	µg/L	5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/L	5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl chloride	µg/L	2.0	11	12	8.7	4.5	6.1

See Notes on Last Page.

Location:		MW-35					MW-43					MW-52					MW-211S		
Date:	Unit	8/15/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024	8/15/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024	8/15/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024	8/15/2023	11/14/2023	3/7/2024
Low Flow Sampling Parameters																			
Dissolved Oxygen	mg/L	0.15	3.30	0.10	0.05	0.19	1.19	0.10	1.57	0.21	0.07	0.00	0.26	0.98	0.24	0.16	0.14	0.25	0.28
ORP	mV	-243.9	-168.3	93	85.2	-120.8	-152.7	-142.4	-106.9	-185.0	-205.2	-132.1	-120.7	-75.4	103.3	-199.2	31.3	64.8	185.7
pH	s.u.	7.73	7.61	7.72	7.65	7.71	7.62	7.74	7.69	7.65	7.71	7.22	7.27	7.27	7.18	7.21	7.40	7.34	7.38
Temperature	°C	16.7	14.0	12.9	15.6	18.9	17.0	16.1	11.2	17.6	18.5	16.5	16.1	11.2	20.0	18.2	19.4	16.2	9.6
Specific Conductivity	mS/cm	4.74	2.95	5.3	8.75	4.01	9.62	7.52	7.61	7.10	5.92	7.00	6.14	6.65	0.05	7.29	7.29	5.56	7.08
Turbidity	NTU	11.28	8.93	24.3	27.90	3.33	8.30	21.30	42.70	3.08	0.02	4.06	3.23	63.60	34.00	1.01	2.28	2.99	1.74

Location:		MW-212S							MW-213S					MW-234				
Date:	Unit	5/21/2024	8/9/2024	8/15/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024	8/15/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024	9/18/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024
Low Flow Sampling Parameters																		
Dissolved Oxygen	mg/L	1.24	0.11	1.48	0.16	0.54	1.23	0.09	0.18	0.36	0.21	0.64	0.14	0.06	0.06	2.22	1.13	0.01
ORP	mV	-43.7	-102.4	-2.2	-167.3	90.5	-29.4	-85.2	-20.7	-201.0	79.8	39.4	-98.5	-255.2	-323.3	-274.3	-277.3	-405.4
pH	s.u.	7.36	7.30	7.19	7.12	7.27	7.13	7.15	7.12	7.11	7.23	7.11	7.27	10.04	10.03	10.01	9.93	9.76
Temperature	°C	23.7	21.5	19.4	15.8	10.9	21.0	21.4	20.4	17.6	11.9	21.5	23.2	18.7	17.2	11.3	16.5	20.1
Specific Conductivity	mS/cm	8.78	4.4	7.48	8.32	7.06	6.93	7.69	7.76	7.05	8.06	8.89	6.82	8.09	8.12	10.52	7.08	6.95
Turbidity	NTU	9.20	5.17	0.02	1.67	2.19	28.60	0.02	0.40	3.86	1.65	27.10	2.71	5.21	2.30	0.55	0.02	0.02

Table 1
 ZVI Performance Monitoring Groundwater Analytical Data
 Ford Livonia Transmission Plant
 36200 Plymouth Road
 Livonia, Michigan



Location:		MW-235				
Date:	Unit	9/18/2023	11/14/2023	3/7/2024	5/21/2024	8/9/2024
Low Flow Sampling Parameters						
Dissolved Oxygen	mg/L	0.14	5.00	5.80	0.05	0.09
ORP	mV	-61.9	-119.6	-63.1	-89.1	-177.9
pH	s.u.	7.10	7.16	7.11	7.14	7.22
Temperature	°C	17.6	17.2	12	16.0	18.6
Specific Conductivity	mS/cm	7.86	7.32	12.11	8.90	8.10
Turbidity	NTU	1.22	62.10	103.00	0.02	1.74

See Notes on Last Page.

Notes:

Results are compared to EGLE Part 201 Generic Cleanup Criteria, October 2023.

Bold Result denotes exceedance of EGLE Non-Residential Drinking Water Criteria.

< Denotes not detected above reporting limit.

Abbreviations:

°C degrees Celsius

µg/L micrograms per liter

Bold Compound was found in the blank and sample

EGLE Michigan Department of Environment, Great Lakes, and Energy

J estimated result

mg/L milligrams per liter

MW monitoring well

mS/cm millisiemens per centimeter

mV millivolts

NTU nephelometric turbidity units

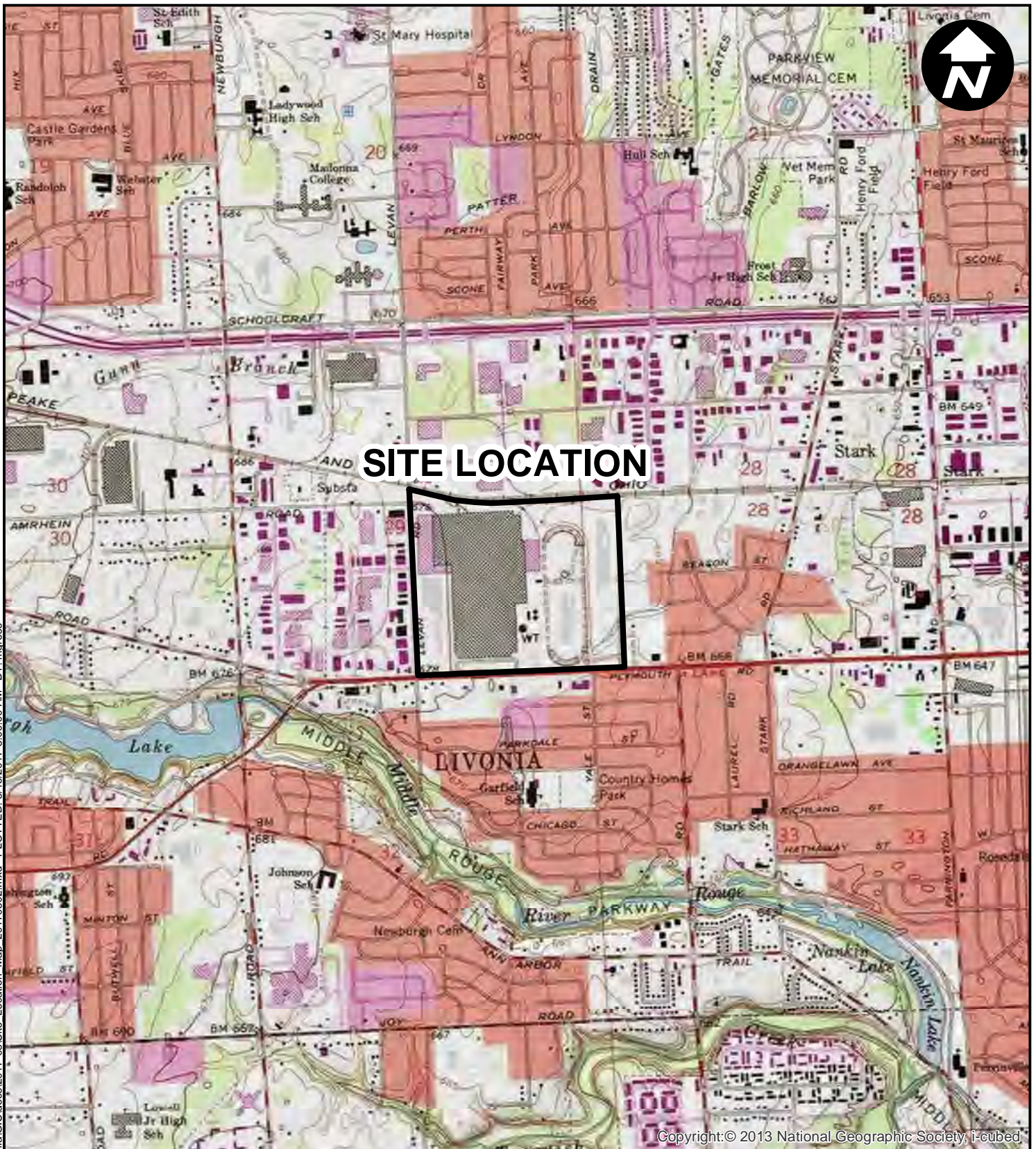
s.u. standard units

Analytical Methods:

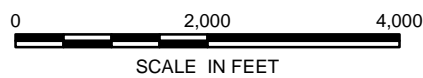
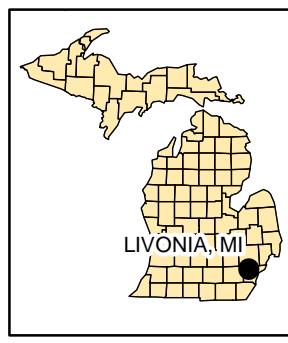
8260D for Volatile Organic Compounds (VOCs)

Figures

CITY: Novi DIV: ENV DB: MG PROJECT NUMBER: M1001322.0001 COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet Z: GISProjects\ENVI\Novi\Brighton_MLFordLivonia\GIS\docs\2017-08\Site_Location_Map_20170802.mxd PLOTTED: 8/16/2017 8:00:00 AM BY: mgatress



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FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

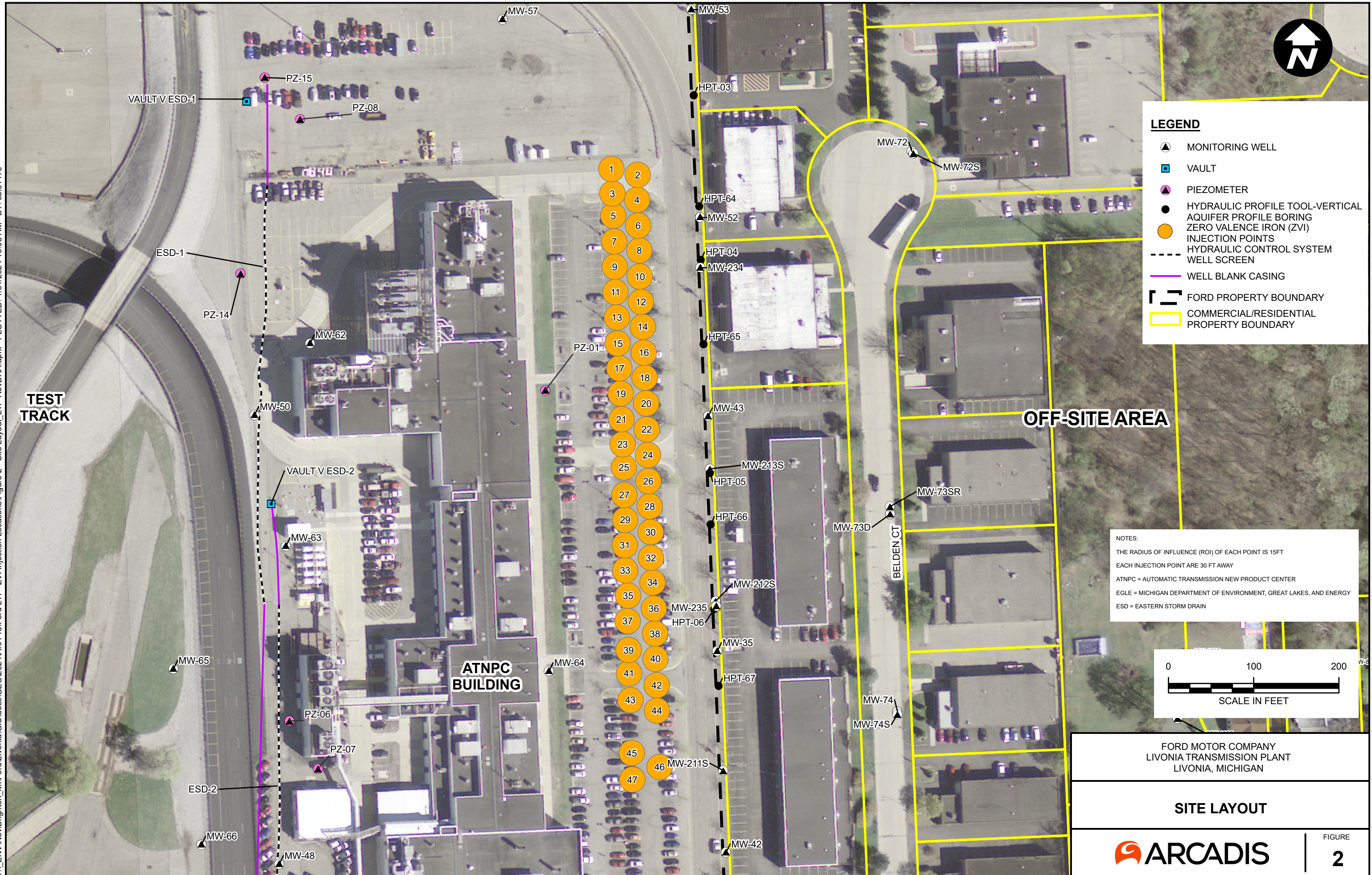
SITE LOCATION MAP

SOURCE:
USGS 7.5 MINUTE TOPOGRAPHIC MAP
NORTHVILLE AND WAYNE QUADRANGLES



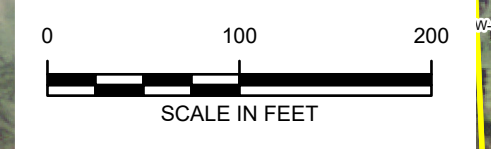
FIGURE
1

CITY: Novi; DIV: ENV; DB: MG; PIC: R. ELLIS; PM: K. HINSKEY; PROJECT NUMBER: 30080642; COORDINATE SYSTEM: NAD 1983 StatePlane Michigan South FIPS 2113 Feet; T.: ENV\Novi\Brighton_M\IFord\Livonia\GIS\docs\GEC2024\Arc Pro\Ford LTP- ZVI Injection Locations\Figure 2 - Site Layout_LTP_RevDRA.aprx; PLOTTED: 1/31/2024 10:05 AM; BY: sbj01179



- LEGEND**
- ▲ MONITORING WELL
 - VAULT
 - ▲ PIEZOMETER
 - HYDRAULIC PROFILE TOOL-VERTICAL
 - AQUIFER PROFILE BORING
 - ZERO VALENCE IRON (ZVI)
 - INJECTION POINTS
 - - - HYDRAULIC CONTROL SYSTEM
 - WELL SCREEN
 - WELL BLANK CASING
 - ▭ FORD PROPERTY BOUNDARY
 - ▭ COMMERCIAL/RESIDENTIAL PROPERTY BOUNDARY

NOTES:
 THE RADIUS OF INFLUENCE (ROI) OF EACH POINT IS 15FT
 EACH INJECTION POINT ARE 30 FT AWAY
 ATNPC = AUTOMATIC TRANSMISSION NEW PRODUCT CENTER
 EGLE = MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
 ESD = EASTERN STORM DRAIN



FORD MOTOR COMPANY
LIVONIA TRANSMISSION PLANT
LIVONIA, MICHIGAN

SITE LAYOUT

ARCADIS | FIGURE 2

Attachment %

Groundwater Sampling Logs



SHALLOW LOW-FLOW GROUNDWATER SAMPLING FORM

Page 1 of 1

Project No.	30206169.401.01	Well ID	Ford LTP	MW-212S	Date	08-09-2024	
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	6.5-11.5	Casing Diameter (in.)	2	Well Material	PVC
Static Water Level (ft-bmp)	7.63	Total Depth (ft-bmp)	11.15	Water Column (ft.)	3.52	Gallons in Well	0.57
		Pump Intake (ft-bmp)	9.13	Purge Method	Low-Flow	Sample Method	Grab
Sample Time:	Label	Well Volumes Purged	2.16	Replicate/Code No.	--	Sampled by	Jeremy Myers
	Purge Start	Volume Purged	1.23 gallons				
	Purge End						

Time	Minutes Elapsed between Readings	Flow Rate (mL/min) [100-300 mL/min]	Depth to Water (ft) [± 0.3]	Total Gallons Purged	pH [± 0.1]	Cond. (mS/cm) [± 3%]	Turbidity (NTU) [± 10%*]	DO (mg/L) [± 10%]	Temp. (°C) [± 3%]	Redox (mV) [± 10mV]	Appearance	
											Color	Odor
10:46	0	140	7.65	0.00	7.05	8.49	15.20	1.35	22.2	-53.6	Clear	No Odor
10:51	5	140	7.65	0.18	7.06	8.44	9.59	0.52	22.1	-58.9	Clear, Small Brown Particulates	No Odor
10:56	5	110	7.65	0.36	7.09	8.24	7.63	0.24	21.6	-71.4	Clear, Small Brown Particulates	No Odor
11:01	5	140	7.65	0.51	7.10	8.11	3.27	0.19	21.6	-75.8	Clear, Small White Particulates	No Odor
11:06	5	140	7.65	0.69	7.11	8.01	0.02	0.15	21.5	-78.9	Clear	No Odor
11:11	5	140	7.65	0.87	7.12	7.87	0.02	0.10	21.5	-81.2	Clear	No Odor
11:16	5	140	7.65	1.05	7.14	7.70	0.02	0.09	21.4	-83.1	Clear	No Odor
11:21	5	140	7.65	1.23	7.15	7.69	0.02	0.09	21.4	-85.2	Clear	No Odor
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* Turbidity < 50 NTU and ±10% or within 1 NTU of a previous reading when <10 NTU			
Constituents Sampled	Container	Number	Preservative
1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, PCE, TCE, VC	40 mL Glass	3	HCL
1,4-dioxane	40 mL Glass	3	HCL

Comments: none

Well Casing Volumes	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
Gallons/Foot	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Well Location:	Onsite, E	Well Locked at Arrival:	n/a
Condition of Well:	Good	Well Locked at Departure:	n/a
Well Completion:	Flush mount	Lock Functioning:	n/a



SHALLOW LOW-FLOW GROUNDWATER SAMPLING FORM

Page 1 of 1

Project No.	30206169.401.01	Well ID	Ford LTP	MW-234	Date	08-09-2024	
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	12.0-17.0	Weather	73.9 degrees F and . The wind is blowing NW at 13.9 mph.	Well Material	PVC
Static Water Level (ft-bmp)	7.16	Total Depth (ft-bmp)	15.79	Casing Diameter (in.)	2	Gallons in Well	1.40
		Pump Intake (ft-bmp)	14.50	Water Column (ft.)	8.63	Sample Method	Grab
		Well Volumes Purged	1.41	Purge Method	Low-Flow		
Sample Time:	Label	Volume Purged	1.97 gallons	Replicate/Code No.	--	Sampled by	Garrett Link
	Purge Start						
	Purge End						

Time	Minutes Elapsed between Readings	Flow Rate (mL/min) [100-300 mL/min]	Depth to Water (ft) [± 0.3]	Total Gallons Purged	pH [± 0.1]	Cond. (mS/cm) [± 3%]	Turbidity (NTU) [± 10%*]	DO (mg/L) [± 10%]	Temp. (°C) [± 3%]	Redox (mV) [± 10mV]	Appearance	
											Color	Odor
11:44	0	140	7.21	0.00	7.58	8.60	0.02	0.59	20.8	-191.0	Clear	No Odor
11:49	5	140	7.21	0.18	7.59	8.65	4.13	0.29	20.7	-190.4	Clear	No Odor
11:54	5	130	7.21	0.36	7.79	8.57	0.02	0.18	21.0	-197.3	Clear	No Odor
11:59	5	140	7.21	0.53	9.10	7.97	0.02	0.02	21.4	-294.2	Orange	Slight Odor
12:04	5	140	7.21	0.71	9.54	7.40	0.02	0.01	21.0	-343.6	Orange	Slight Odor
12:09	5	140	7.21	0.89	9.64	7.12	0.02	0.01	21.2	-361.9	Orange	Slight Odor
12:14	5	140	7.21	1.07	9.63	7.09	0.02	0.01	21.8	-373.5	Orange	Slight Odor
12:19	5	140	7.21	1.25	9.77	6.96	0.02	0.01	20.5	-379.8	Orange	Slight Odor
12:24	5	140	7.21	1.43	9.80	6.92	0.02	0.01	20.4	-390.4	Yellow	Slight Odor
12:29	5	140	7.21	1.61	9.79	6.97	0.82	0.01	20.0	-395.6	Yellow	Slight Odor
12:34	5	140	7.21	1.79	9.80	6.94	0.02	0.01	20.0	-400.7	Yellow	No Odor
12:39	5	140	7.21	1.97	9.76	6.95	0.02	0.01	20.1	-405.4	Yellow	Slight Odor
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* Turbidity < 50 NTU and ±10% or within 1 NTU of a previous reading when <10 NTU

Constituents Sampled	Container	Number	Preservative
1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, PCE, TCE, VC	40 mL Glass	3	HCL
1,4-dioxane	40 mL Glass	3	HCL

Comments: none

Well Casing Volumes	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
Gallons/Foot	1.25" = 0.06	2" = 0.16	3" = 0.37	4" = 0.65	

Well Information	Onsite, NE	Well Locked at Arrival:	n/a
Well Location:	Good	Well Locked at Departure:	n/a
Condition of Well:	Flush mount	Lock Functioning:	n/a
Well Completion:			



SHALLOW LOW-FLOW GROUNDWATER SAMPLING FORM

Page 1 of 1

Project No.	30206169.401.01	Well ID	Ford LTP	MW-235	Date	08-09-2024		
Measuring Pt. Description	Top of Casing	Screen Setting (ft-bmp)	14.0-19.0	Weather	69.1 degrees F and Mostly Clear. The wind is blowing N/NW at 8.1 mph.			
Static Water Level (ft-bmp)	7.55	Total Depth (ft-bmp)	17.78	Casing Diameter (in.)	2	Well Material	PVC	
		Pump Intake (ft-bmp)	15.30	Water Column (ft.)	10.23	Gallons in Well	1.66	
		Well Volumes Purged	1.33	Purge Method	Low-Flow	Sample Method	Grab	
Sample Time:	Label	10:10	Volume Purged	2.20 gallons	Replicate/Code No.	--	Sampled by	Garrett Link
	Purge Start	09:13						
	Purge End	10:16						

Garrett Link

Time	Minutes Elapsed between Readings	Flow Rate (mL/min) [100-300 mL/min]	Depth to Water (ft) [± 0.3]	Total Gallons Purged	pH [± 0.1]	Cond. (mS/cm) [± 3%]	Turbidity (NTU) [± 10%*]	DO (mg/L) [± 10%]	Temp. (°C) [± 3%]	Redox (mV) [± 10mV]	Appearance	
											Color	Odor
09:14	0	155	7.58	0.00	7.20	8.05	15.10	0.77	19.0	-150.1	Small White Particulates	No Odor
09:19	5	155	7.57	0.20	7.20	8.02	10.30	0.25	18.8	-159.1	Small White Particulates	No Odor
09:24	5	155	7.57	0.40	7.21	8.00	7.22	0.19	18.8	-163.8	Small White Particulates	No Odor
09:29	5	155	7.57	0.60	7.21	7.97	18.40	0.29	18.8	-165.6	Small White Particulates	No Odor
09:34	5	155	7.57	0.80	7.21	7.98	17.00	0.19	18.7	-167.6	Small Orange Particulates	No Odor
09:39	5	155	7.57	1.00	7.21	8.02	17.50	0.21	18.7	-170.0	Small White Particulates	No Odor
09:44	5	155	7.57	1.20	7.21	8.03	10.50	0.20	18.7	-171.1	Small White Particulates	No Odor
09:49	5	155	7.57	1.40	7.21	8.06	6.99	0.17	18.7	-172.1	Small White Particulates	No Odor
09:54	5	155	7.57	1.60	7.21	8.08	5.00	0.12	18.6	-173.6	Clear	No Odor
09:59	5	155	7.57	1.80	7.21	8.10	1.73	0.09	18.6	-175.4	Clear	No Odor
10:04	5	155	7.57	2.00	7.21	8.11	2.21	0.09	18.5	-176.9	Clear	No Odor
10:09	5	155	7.57	2.20	7.22	8.10	1.74	0.09	18.6	-177.9	Clear	No Odor
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Comments: none

Well Casing Volumes	1" = 0.04	1.5" = 0.09	2.5" = 0.26	3.5" = 0.50	6" = 1.47
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Well Information	Onsite, NE	Well Locked at Arrival:	n/a
Well Location:	Good	Well Locked at Departure:	n/a
Condition of Well:	Flush mount	Lock Functioning:	n/a
Well Completion:			