Worldwide Facilities Group
Remediation Team

June 3, 2009 Reference No. 017075-45

Transmitted electronically and overnight mail

Mr. Nate Nemani
Project Manager
U.S. EPA, Region 5
Waste, Pesticide and Toxins Division
77 West Jackson Boulevard DW-8J
Chicago, Illinois
U.S.A. 60604-3590

Dear Mr. Nemani:

Re: 2008 EI Results
General Motors Powertrain
Saginaw Metal Casting Operations - Saginaw, Michigan

The annual Environmental Indicators (EI) monitoring was completed during the week of November 3, 2008 with the exception of well MW-02432, which required replacement. MW-02432 was abandoned and reinstalled as MW-02432R on November 6, 2009 and was sampled as part of the EI monitoring in December 2008.

The 2008 EI monitoring program was revised in accordance with the GM letter to U.S. EPA dated October 1, 2008. The following presents a summary of the 2008 modifications:

1. Ammonia analysis was added at monitoring wells MW-03746, MW-04250R, MW-04757, MW-03945, MW-04051, and MW-04257; and
2. For 2008 only, MW-01119 (upgradient of MW-00821) and MW-00509 (upgradient of MW-00208) for PAHs and vinyl chloride analysis, respectively.

Figure 1 presents a databox of all EI locations and data up to and including the 2008 EI results. Table 1 presents the EI monitoring program and proposed modifications, for your review and discussion.

Total ammonia was reported above the chronic screening criteria (53 µg/L unionized ammonia or 2,120 µg/L total ammonia) in 5 monitoring wells ranging in concentration from 2,370 µg/L to 9,450 µg/L. All samples were reported below the acute screening criteria (420 µg/L unionized ammonia or 16,800 µg/L total ammonia). Sample results were consistent with previous results.

Mercury was reported above screening criteria (0.0013 µg/L) in 1 monitoring well at 0.0188 µg/L. Sample results were consistent with previous results.

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Total cyanide was reported above screening criteria (5.2 µg/L) in two monitoring wells at 10 µg/L. It is important to note that the Part 201 GSI criterion applies to amenable cyanide. As presented in the EI Report, the federal ambient water criteria for cyanide are 22 µg/L (criteria maximum concentration, or "CMC") and 5.2 µg/L (criteria continuous concentration, or "CCC") are based on free cyanide. By comparison, the cyanide concentration reported for the EI samples represent total cyanide, which includes all cyanides present, including low toxicity, inert species. The total cyanide concentration reported in EI groundwater samples are below CMC but above CCC; however, the detected concentrations are less than 10 times the CCC, and therefore, the discharge of groundwater containing cyanide at these concentrations are expected to be insignificant. Sample results were consistent with previous results.

Please note that the screening criteria utilized to analyze future EI data may be modified to reflect actual potential exposures (i.e. eliminate drinking water criteria). GM plans on placing a deed restriction on the property with respect to groundwater.

The results of the 2008 EI monitoring results are consistent with the data evaluated in the RCRA CA725 & CA750 Environmental Indicators Supporting Documentation dated September 17, 2003, therefore, the EIs continue to be satisfied.

Should you have any questions, please do not hesitate to call.

Yours truly,

General Motors Corporation

Cheryl R Hiatt

Cheryl R. Hiatt
Project Manager

cc: Mr. Peter Ramanauskas, U.S. EPA
Mr. George Bruchmann, MDEQ-WMD Lansing
Mr. Terry Walkington, MDEQ-WMD Bay City
Ms. Rhonda Klann, MDEQ-RRD Bay City
Dr. Lisa Williams, U.S. DOI Fish and Wildlife
Ms. Jean Caufield, GM
Mr. James Walle, GM
Mr. Moh Kumar/ Mr. Ray Ilkka, GM
Mr. Mike Tomka, CRA

MT/ev/9
Encl

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"I certify that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Signature: 

Name: Cheryl R. Hiatt

Title: Project Coordinator

Date: June 3, 2009

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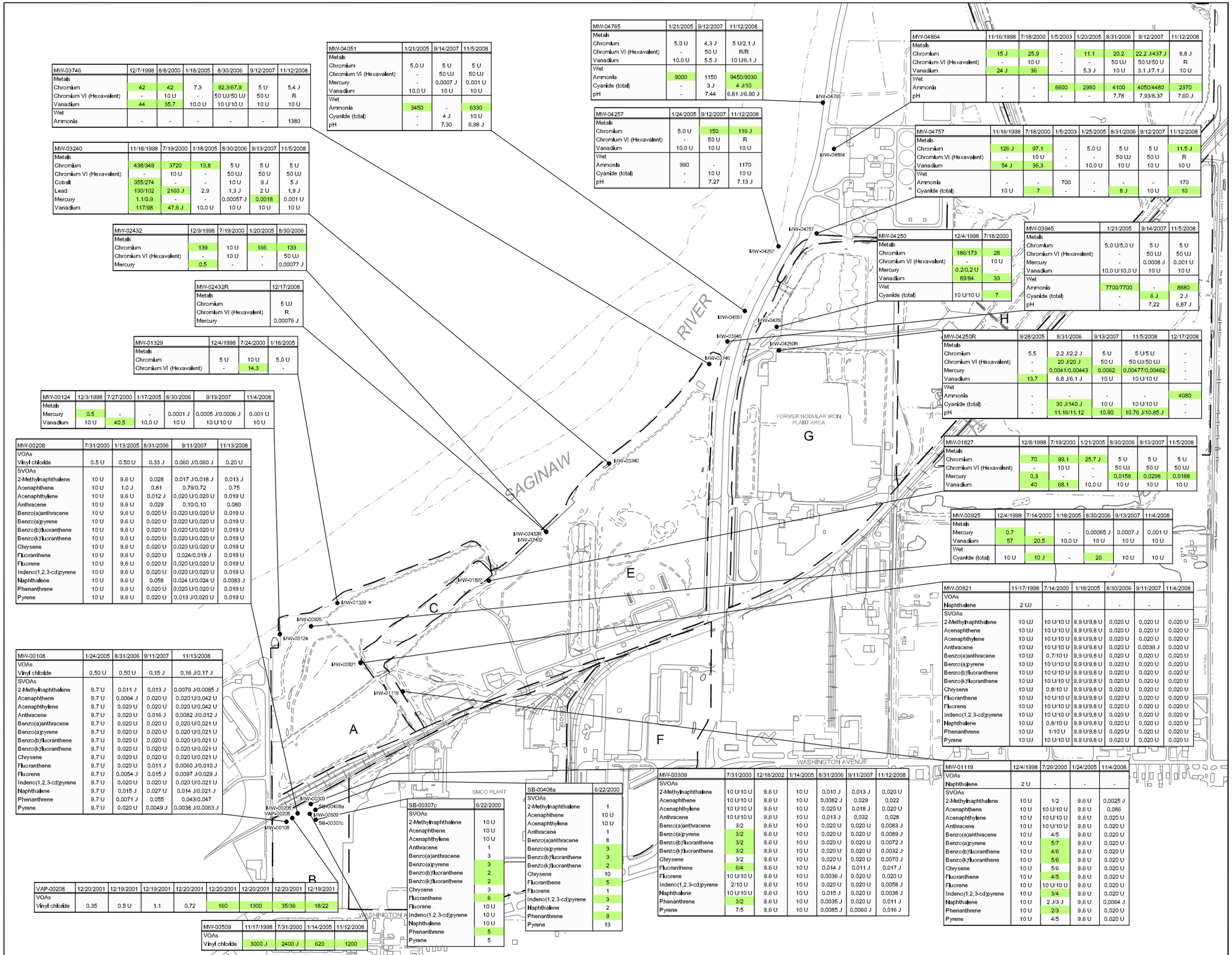

MW-03746	12/7/1998	8/8/2000	1/18/2005	8/30/2006	9/12/2007	11/12/2008
Metals						
Chromium	42	42	7.3	92.3/67.9	5 U	5.4 J
Chromium VI (Hexavalent)	-	10 U	-	50 UJ/50 UJ	50 U	R
Vanadium	44	35.7	10.0 U	10 U/10 U	10 U	10 U
Wet						
Ammonia	-	-	-	-	-	1380

MW-03240	11/18/1998	7/19/2000	1/18/2005	8/30/2006	9/13/2007	11/5/2008
Metals						
Chromium	438/349	3720	13.8	5 U	5 U	5 U
Chromium VI (Hexavalent)	-	10 U	-	50 UJ	50 U	50 UJ
Cobalt	355/274	-	-	10 U	9 J	5 J
Lead	130/102	2160 J	2.9	1.3 J	2 U	1.9 J
Mercury	1.1/0.9	-	-	0.00057 J	0.0018	0.001 U
Vanadium	117/98	47.6 J	10.0 U	10 U	10 U	10 U

MW-02432	12/9/1998	7/19/2000	1/20/2005	8/30/2006
Metals				
Chromium	139	10 U	166	133
Chromium VI (Hexavalent)	-	10 U	-	50 UJ
Mercury	0.5	-	-	0.00077 J

MW-02432R	12/17/2008
Metals	
Chromium	5 UJ
Chromium VI (Hexavalent)	R
Mercury	0.00076 J

MW-01329	12/4/1998	7/24/2000	1/18/2005
Metals			
Chromium	5 U	10 U	5.0 U
Chromium VI (Hexavalent)	-	14.3	-

MW-00124	12/3/1998	7/27/2000	1/17/2005	8/30/2006	9/13/2007	11/4/2008
Metals						
Mercury	0.5	-	-	0.0001 J	0.0005 J/0.0006 J	0.001 U
Vanadium	10 U	40.5	10.0 U	10 U	10 U/10 U	10 U

MW-00208	7/31/2000	1/13/2005	8/31/2006	9/11/2007	11/13/2008
VOAs					
Vinyl chloride	0.5 U	0.50 U	0.33 J	0.060 J/0.060 J	0.20 U
SVOAs					
2-Methylnaphthalene	10 U	9.6 U	0.028	0.017 J/0.018 J	0.013 J
Acenaphthene	10 U	1.0 J	0.81	0.79/0.72	0.75
Acenaphthylene	10 U	9.6 U	0.012 J	0.020 U/0.020 U	0.019 U
Anthracene	10 U	9.6 U	0.029	0.10/0.10	0.080
Benzo(a)anthracene	10 U	9.6 U	0.020 U	0.020 U/0.020 U	0.019 U
Benzo(a)pyrene	10 U	9.6 U	0.020 U	0.020 U/0.020 U	0.019 U
Benzo(b)fluoranthene	10 U	9.6 U	0.020 U	0.020 U/0.020 U	0.019 U
Benzo(k)fluoranthene	10 U	9.6 U	0.020 U	0.020 U/0.020 U	0.019 U
Chrysene	10 U	9.6 U	0.020 U	0.020 U/0.020 U	0.019 U
Fluoranthene	10 U	9.6 U	0.020 U	0.024/0.018 J	0.019 U
Fluorene	10 U	9.6 U	0.020 U	0.020 U/0.020 U	0.019 U
Indeno(1,2,3-cd)pyrene	10 U	9.6 U	0.020 U	0.020 U/0.020 U	0.019 U
Naphthalene	10 U	9.6 U	0.058	0.024 U/0.024 U	0.0083 J
Phenanthrene	10 U	9.6 U	0.020 U	0.020 U/0.020 U	0.019 U
Pyrene	10 U	9.6 U	0.020 U	0.013 J/0.020 U	0.019 U

MW-00108	1/24/2005	8/31/2006	9/11/2007	11/13/2008
VOAs				
Vinyl chloride	0.50 U	0.50 U	0.15 J	0.16 J/0.17 J
SVOAs				
2-Methylnaphthalene	9.7 U	0.011 J	0.013 J	0.0079 J/0.0085 J
Acenaphthene	9.7 U	0.0064 J	0.020 U	0.020 U/0.042 U
Acenaphthylene	9.7 U	0.020 U	0.020 U	0.020 U/0.042 U
Anthracene	9.7 U	0.020 U	0.016 J	0.0082 J/0.012 J
Benzo(a)anthracene	9.7 U	0.020 U	0.020 U	0.020 U/0.021 U
Benzo(a)pyrene	9.7 U	0.020 U	0.020 U	0.020 U/0.021 U
Benzo(b)fluoranthene	9.7 U	0.020 U	0.020 U	0.020 U/0.021 U
Benzo(k)fluoranthene	9.7 U	0.020 U	0.020 U	0.020 U/0.021 U
Chrysene	9.7 U	0.020 U	0.020 U	0.020 U/0.021 U
Fluoranthene	9.7 U	0.020 U	0.011 J	0.0060 J/0.010 J
Fluorene	9.7 U	0.0054 J	0.015 J	0.0097 J/0.029 J
Indeno(1,2,3-cd)pyrene	9.7 U	0.020 U	0.020 U	0.020 U/0.021 U
Naphthalene	9.7 U	0.015 J	0.027 U	0.014 J/0.021 J
Phenanthrene	9.7 U	0.0071 J	0.055	0.043/0.047
Pyrene	9.7 U	0.020 U	0.0049 J	0.0038 J/0.0063 J

VAP-00208	12/20/2001	12/19/2001	12/19/2001	12/20/2001	12/20/2001	12/20/2001	12/20/2001	12/19/2001
VOAs								
Vinyl chloride	0.35	0.5 U	1.1	0.72	160	1300	35/36	18/22

MW-00509	11/17/1998	7/31/2000	1/14/2005	11/12/2008
VOAs				
Vinyl chloride	3000 J	2400 J	620	1200

SB-00307c	6/22/2000
SVOAs	
2-Methylnaphthalene	10 U
Acenaphthene	10 U
Acenaphthylene	10 U
Anthracene	1
Benzo(a)anthracene	3
Benzo(a)pyrene	3
Benzo(b)fluoranthene	2
Benzo(k)fluoranthene	2
Chrysene	3
Fluoranthene	6
Fluorene	10 U
Indeno(1,2,3-cd)pyrene	10 U
Naphthalene	10 U
Phenanthrene	5
Pyrene	5

SB-00408a	6/22/2000
SVOAs	
2-Methylnaphthalene	1
Acenaphthene	10 U
Acenaphthylene	10 U
Anthracene	1
Benzo(a)anthracene	8
Benzo(a)pyrene	3
Benzo(b)fluoranthene	3
Benzo(k)fluoranthene	2
Chrysene	10
Fluoranthene	5
Fluorene	1
Indeno(1,2,3-cd)pyrene	3
Naphthalene	2
Phenanthrene	9
Pyrene	13

MW-00309	7/31/2000	12/18/2002	1/14/2005	8/31/2006	9/11/2007	11/12/2008
SVOAs						
2-Methylnaphthalene	10 U/10 U	9.6 U	10 U	0.010 J	0.013 J	0.020 U
Acenaphthene	10 U/10 U	9.6 U	10 U	0.0082 J	0.029	0.022
Acenaphthylene	10 U/10 U	9.6 U	10 U	0.020 U	0.018 J	0.020 U
Anthracene	10 U/10 U	9.6 U	10 U	0.013 J	0.032	0.028
Benzo(a)anthracene	3/2	9.6 U	10 U	0.020 U	0.020 U	0.0083 J
Benzo(a)pyrene	3/2	9.6 U	10 U	0.020 U	0.020 U	0.0089 J
Benzo(b)fluoranthene	3/2	9.6 U	10 U	0.020 U	0.020 U	0.0072 J
Benzo(k)fluoranthene	3/2	9.6 U	10 U	0.020 U	0.020 U	0.0032 J
Chrysene	3/2	9.6 U	10 U	0.020 U	0.020 U	0.0070 J
Fluoranthene	6/4	9.6 U	10 U	0.014 J	0.011 J	0.017 J
Fluorene	10 U/10 U	9.6 U	10 U	0.0036 J	0.020 U	0.020 U
Indeno(1,2,3-cd)pyrene	2/10 U	9.6 U	10 U	0.020 U	0.020 U	0.0058 J
Naphthalene	10 U/10 U	9.6 U	10 U	0.015 J	0.020 U	0.0038 J
Phenanthrene	3/2	9.6 U	10 U	0.0035 J	0.020 U	0.011 J
Pyrene	7/5	9.6 U	10 U	0.0085 J	0.0060 J	0.016 J

MW-04765	1/21/2005	9/12/2007	11/12/2008
Metals			
Chromium	5.0 U	4.3 J	5 UJ/2.1 J
Chromium VI (Hexavalent)	-	50 U	R/R
Vanadium	10.0 U	5.5 J	10 UJ/6.1 J
Wet			
Ammonia	9000	1150	9450/9030
Cyanide (total)	-	3 J	4 J/10
pH	-	7.44	6.81 J/6.90 J

MW-04257	1/24/2005	9/12/2007	11/12/2008
Metals			
Chromium	5.0 U	150	116 J
Chromium VI (Hexavalent)	-	50 U	R
Vanadium	10.0 U	10 U	10 U
Wet			
Ammonia	990	-	1170
Cyanide (total)	-	10 U	10 U
pH	-	7.27	7.13 J

MW-04864	11/16/1998	7/18/2000	1/5/2003	1/20/2005	8/31/2006	9/12/2007	11/12/2008
Metals							
Chromium	15 J	25.9	-	11.1	20.2	22.2 J/437 J	8.8 J
Chromium VI (Hexavalent)	-	10 U	-	-	50 UJ	50 U/50 U	R
Vanadium	24 J	36	-	5.3 J	10 U	3.1 J/7.1 J	10 U
Wet							
Ammonia	-	-	6600	2960	4100	4050/4480	2370
pH	-	-	-	-	7.78	7.93/8.37	7.60 J

MW-04757	11/16/1998	7/18/2000	1/5/2003	1/25/2005	8/31/2006	9/12/2007	11/12/2008
Metals							
Chromium	126 J	97.1	-	5.0 U	5 U	5 U	11.5 J
Chromium VI (Hexavalent)	-	10 U	-	-	50 UJ	50 U	R
Vanadium	54 J	36.3	-	10.0 U	10 U	10 U	10 U
Wet							
Ammonia	-	-	700	-	-	-	170
Cyanide (total)	10 U	7	-	-	8 J	10 U	10

MW-04250	12/4/1998	7/18/2000
Metals		
Chromium	186/173	28
Chromium VI (Hexavalent)	-	10 U
Mercury	0.2/0.2 U	-
Vanadium	89/84	33
Wet		
Cyanide (total)	10 U/10 U	7

MW-03945	1/21/2005	9/14/2007	11/5/2008
Metals			
Chromium	5.0 U/5.0 U	5 U	5 U
Chromium VI (Hexavalent)	-	50 UJ	50 UJ
Mercury	-	0.0008 J	0.001 U
Vanadium	10.0 U/10.0 U	10 U	10 U
Wet			
Ammonia	7700/7700	-	8880
Cyanide (total)	-	6 J	2 J
pH	-	7.22	6.87 J

MW-04250R	9/28/2005	8/31/2006	9/13/2007	11/5/2008	12/17/2008
Metals					
Chromium	5.5	2.2 J/2.2 J	5 U	5 U/5 U	-
Chromium VI (Hexavalent)	-	20 J/20 J	50 U	50 UJ/50 UJ	-
Mercury	-	0.0041/0.00443	0.0062	0.00477/0.00462	-
Vanadium	13.7	6.8 J/6.1 J	10 U	10 U/10 U	-
Wet					
Ammonia	-	-	-	-	4080
Cyanide (total)	-	30 J/140 J	10 U	10 U/10 U	-
pH	-	11.16/11.12	10.90	10.76 J/10.85 J	-

MW-01827	12/8/1998	7/19/2000	1/21/2005	8/30/2006	9/13/2007	11/5/2008
Metals						
Chromium	70	99.1	25.7 J	5 U	5 U	5 U
Chromium VI (Hexavalent)	-	10 U	-	50 UJ	50 U	50 UJ
Mercury	0.3	-	-	0.0158	0.0298	0.0188
Vanadium	40	68.1	10.0 U	10 U	10 U	10 U

MW-00925	12/4/1998	7/14/2000	1/18/2005	8/30/2006	9/13/2007	11/4/2008
Metals						
Mercury	0.7	-	-	0.00065 J	0.0007 J	0.001 U
Vanadium	57	20.5	10.0 U	10 U	10 U	10 U
Wet						
Cyanide (total)	10 U	10 J	-	20	10 U	10 U

MW-00821	11/17/1998	7/14/2000	1/18/2005	8/30/2006	9/11/2007	11/4/2008
VOAs						
Naphthalene	2 UJ	-	-	-	-	-
SVOAs						
2-Methylnaphthalene	10 U	10 U/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U
Acenaphthene	10 U	10 U/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U
Acenaphthylene	10 U	10 U/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U
Anthracene	10 U	10 U/10 U	9.9 U/9.8 U	0.020 U	0.0039 J	0.020 U
Benzo(a)anthracene	10 U	0.7/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U
Benzo(a)pyrene	10 U	10 U/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U
Benzo(b)fluoranthene	10 U	10 U/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U
Benzo(k)fluoranthene	10 U	10 U/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U
Chrysene	10 U	0.8/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U
Fluoranthene	10 U	10 U/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U
Fluorene	10 U	10 U/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U
Indeno(1,2,3-cd)pyrene	10 U	10 U/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U
Naphthalene	10 U	0.8/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U
Phenanthrene	10 U	1/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U
Pyrene	10 U	10 U/10 U	9.9 U/9.8 U	0.020 U	0.020 U	0.020 U

MW-01119	12/4/1998	7/26/2000	1/24/2005	11/4/2008
VOAs				
Naphthalene	2 U	-	-	-
SVOAs				
2-Methylnaphthalene	10 U	1/2	9.6 U	0.0025 J
Acenaphthene	10 U	10 U/10 U	9.6 U	0.086
Acenaphthylene	10 U	10 U/10 U	9.6 U	0.020 U
Anthracene	10 U	10 U/10 U	9.6 U	0.020 U
Benzo(a)anthracene	10 U	4/5	9.6 U	0.020 U
Benzo(a)pyrene	10 U	5/7	9.6 U	0.020 U
Benzo(b)fluoranthene	10 U	4/6	9.6 U	0.020 U
Benzo(k)fluoranthene	10 U	5/6	9.6 U	0.020 U
Chrysene	10 U	5/6	9.6 U	0.020 U
Fluoranthene	10 U	4/5	9.6 U	0.020 U
Fluorene	10 U	10 U/10 U	9.6 U	0.020 U
Indeno(1,2,3-cd)pyrene	10 U	3/4	9.6 U	0.020 U
Naphthalene	10 U	2 J/3 J	9.6 U	0.0064 J
Phenanthrene	10 U	2/3	9.6 U	0.020 U
Pyrene	10 U	4/5	9.6 U	0.020 U

0 200 400ft

LEGEND

A — — INVESTIGATIVE UNIT BOUNDARY AND IDENTIFIER

MW-04765 ● INVESTIGATIVE UNIT BOUNDARY AND IDENTIFIER

* UNABLE TO LOCATE

SAMPLE LOCATION

SAMPLE DATE

RESULT (ug/L) EXCEPT pH WHICH IS IN s.u.

PARAMETER

EXCEEDS CRITERIA

MW-04765	1/21/2005	9/12/2007
Metals		
Chromium Total	5.0 U	4.3 J
Chromium VI (Hexavalent)	-	50 U
Vanadium	10.0 U	5.5 J
Wet		
Ammonia	9000	1150
Cyanide (total)	-	3 J
pH	-	7.44

MICHIGAN PART 201 CRITERIA

fraction	Parameter	Lowest Criteria (ug/L or SU for pH)	
VOC	Vinyl chloride	2	A
SVOC	2-Methylnaphthalene	750	A
SVOC	Acenaphthene	19	D
SVOC	Acenaphthylene	180	A
SVOC	Anthracene	49	A
SVOC	Benzo(a)anthracene	8.5	A
SVOC	Benzo(a)pyrene	1	B
SVOC	Benzo(b)fluoranthene	1.3	A
SVOC	Benzo(k)fluoranthene	1	A
SVOC	Chrysene	100	A
SVOC	Fluoranthene	1.6	D
SVOC	Fluorene	12	D
SVOC	Indeno(a)pyrene	2	A
SVOC	Naphthalene	13	D
SVOC	Phenanthrene	2.4	D
SVOC	Pyrene	140	A
METAL	Chromium (total)	100	A
METAL	Chromium (VI)	11	D
METAL	Cobalt	100	D
METAL	Lead	4	A
METAL	Mercury	0.0013	D
METAL	Vanadium	12	D
WET	Ammonia	2120	D
WET	Cyanide (total)	5.2	D
WET	pH	6.5 - 8.5	A

Chromium (total) use Chromium III (Trivalent) criteria.
A: Industrial Commercial II, III and IV Drinking Water Criteria
B: Groundwater Contact Criteria
C: Industrial Commercial II, III and IV Groundwater Volatilization to Indoor Air Criteria
D: GSI Criteria

NOTES:

1. CHROMIUM (TOTAL) USES CHROMIUM (VI) CRITERIA.
2. NOTE THAT THE UNIONIZED FRACTION OF AMMONIA IS A FUNCTION OF THE WATER BODY CLASSIFICATION (WARM WATER OR COLD WATER), PH AND TEMPERATURE OF THE RECEIVING WATER AND IS ESTIMATED AS A PERCENT OF THE TOTAL AMMONIA. THE SAGINAW RIVER HAS BEEN CLASSIFIED AS WARM WATER. THE GENERIC GSI CRITERION (CHRONIC) FOR UNIONIZED AMMONIA IS 33 ug/L FOR WARM WATER SURFACE WATER (SEE FOOTNOTE CC OF THE PART 201 CLEANUP CRITERIA PART 213 RISK-BASED SCREENING LEVELS RRD OPERATIONAL MEMORANDUM NO. 1 DATED DECEMBER 10, 2004). THE GENERIC ACUTE TOXICITY CRITERION FOR UNIONIZED AMMONIA IS 420 ug/L (PROVIDED TO CRA BY MDEQ ON MARCH 2, 2007 REGARDING A NEARBY FACILITY).

   BASED ON DATA AVAILABLE FOR THE SAGINAW RIVER FROM USGS, THE AVERAGE (1967-2005) TEMPERATURE AND PH FOR THE SAGINAW RIVER DURING THE FALL MONTHS (SEPT-NOV) ARE 12.2 DEGREES CELSIUS AND 8.0 S.U. UNITS, RESPECTIVELY (USGS GAUGE 04157000 SOURCE: HTTP://NWIS.WATERDATA.USGS.GOV/MI/NWIS/QW). THEREFORE, FOR A PH OF 8 AND A TEMPERATURE OF 12.5 DEGREES CELSIUS, APPROXIMATELY 2.9 PERCENT OF THE TOTAL AMMONIA WILL BE PRESENT IN THE UNIONIZED FORM RESULTING IN A TOTAL AMMONIA GENERIC GSI CRITERION (CHRONIC) OF 2,120 ug/L (33 ug/L / 0.025).

   THEREFORE, FOR A PH OF 8 AND A TEMPERATURE OF 12.5 DEGREES CELSIUS, APPROXIMATELY 2.9 PERCENT OF THE TOTAL AMMONIA WILL BE PRESENT IN THE UNIONIZED FORM OR A MAXIMUM OF 238 ug/L (9,450 ug/L X 0.025) FOR THE NOVEMBER 2008 EVENT.

SCALE VERIFICATION

THIS BAR MEASURES 1" ON ORIGINAL. ADJUST SCALE ACCORDINGLY.

GENERAL MOTORS CORPORATION
SAGINAW METAL CASTING OPERATIONS

SAGINAW, MICHIGAN

SUMMARY OF EI LOCATIONS AND RESULTS (1998 - 2008)

CONESTOGA-ROVERS & ASSOCIATES

Source References:

Project Manager:	Reviewed By:	Date:	
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TABLE 1

EI MONITORING PROGRAM AND PROPOSED MODIFICATIONS
SMCO, SAGINAW, MICHIGAN

HU	*Location*	*Parameter*	*Monitoring Purpose*	*Propose to Eliminate from EI Monitoring*	*Comments*
A	MW-00124	mercury	GSI	No	
A	MW-00124	vanadium	GSI	Yes	Vanadium did not exceed criteria for four consecutive rounds, therefore vanadium is proposed to be removed from future EI monitoring.
A	MW-00821	SVOCs (PAHs)	Downgradient of MW-01119	Yes	Data for MW-01119 is shown on Figure 1 and the 2008 results did not exceed criteria. In addition, results from MW-00821 have not exceeded criteria for six consecutive rounds, therefore MW-00821 and MW-01119 are proposed to be removed from future EI monitoring.
A	MW-00925	cyanide	GSI	No	
A	MW-00925	vanadium	GSI	Yes	Vanadium did not exceed criteria for four consecutive rounds, therefore vanadium is proposed to be removed from future EI monitoring.
A	MW-00925	mercury	GSI	No	
A	MW-01329	chromium, total	GSI	NA	Unable to locate. Well will be located or replaced.
A	MW-01329	chromium, hexavalent	GSI	NA	
B	MW-00309	SVOCs (PAHs)	Downgradient of SB-00408a	Yes	Data for SB-00408a is shown on Figure 1. Because MW-00309 is in close proximity to and downgradient of SB-00408a, it is reasonable that groundwater from SB-00408a has migrated to MW-00309. From 2002 to the present no impacts have been observed at MW-00309. Results from MW-00309 have not exceeded criteria for four consecutive rounds, therefore MW-00309 is proposed to be removed from future EI monitoring.
B	MW-00208	VOCs (vinyl chloride)	Downgradient of MW-00509	No	
B	MW-00208	SVOCs (PAHs)	Downgradient of SB-00408a & SB-00307c	Yes	Data for SB-00408a and SB-00307c is shown on Figure 1. Because MW-00208 is in close proximity to downgradient of SB-00408a and SB-00307c, it is reasonable that groundwater from SB-00408a and SB-00307c has migrated to MW-00208. From 2000 to present no impacts have been observed at MW-00208. Results from MW-00208 have not exceeded criteria for more than four consecutive rounds, therefore MW-00208 is proposed to be removed from future EI monitoring.
B	MW-00108	VOCs (vinyl chloride)	Downgradient of VAP-00208	Yes	Data for VAP-00208 is shown on Figure 1. Because MW-00108 is in close proximity to and downgradient of VAP-00208, it is reasonable that groundwater from VAP-00208 has migrated to MW-00108. From 2005 to present no impacts have been observed at MW-00108. Vinyl chloride results from MW-00108 have not exceeded criteria for four consecutive rounds, therefore vinyl chloride at MW-00108 is proposed to be removed from future EI monitoring.
B	MW-00108	SVOCs (PAHs)	Downgradient of SB-00307c	Yes	Data for SB-00307c is shown on Figure 1. Because MW-00108 is in close proximity to and downgradient of SB-00307c, it is reasonable that groundwater from SB-00307c has migrated to MW-00108. From 2005 to present no impacts have been observed at MW-00108. SVOC results from MW-00108 have not exceeded criteria for four consecutive rounds, therefore SVOCs at MW-00108 are proposed to be removed from future EI monitoring.
E	MW-01827	chromium, total	GSI	Yes	No GSI criteria for total chromium. Hexavalent chromium is monitored at this location, therefore total chromium at MW-01827 is proposed to be removed from future EI monitoring.
E	MW-01827	chromium, hexavalent	GSI	Yes	Hexavalent chromium did not exceed criteria for four consecutive rounds, therefore hexavalent chromium is proposed to be removed from future EI monitoring.
E	MW-01827	vanadium	GSI	Yes	Vanadium did not exceed criteria for four consecutive rounds, therefore vanadium is proposed to be removed from future EI monitoring.
E	MW-01827	mercury	GSI	No	

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IU	*Location*	*Parameter*	*Monitoring Purpose*	*Propose to Eliminate from EI Monitoring*	*Comments*
E	MW-02432/MW-02432R	chromium, total	GSI	Yes	No GSI criteria for total chromium. Hexavalent chromium is monitored at this location, therefore total chromium at MW-02432R will be removed from future EI monitoring.
E	MW-02432/MW-02432R	chromium, hexavalent	GSI	No	
E	MW-02432/MW-02432R	mercury	GSI	No	
E	MW-03240	chromium, total	GSI	Yes	No GSI criteria for total chromium. Hexavalent chromium is monitored at this location, therefore total chromium at MW-03240 is proposed to be removed from future EI monitoring.
E	MW-03240	chromium, hexavalent	GSI	Yes	Hexavalent chromium did not exceed criteria for four consecutive rounds, therefore hexavalent chromium is proposed to be removed from future EI monitoring.
E	MW-03240	cobalt	GSI	No	
E	MW-03240	vanadium	GSI	Yes	Vanadium did not exceed criteria for four consecutive rounds, therefore vanadium is proposed to be removed from future EI monitoring.
E	MW-03240	lead	GSI	Yes	Lead did not exceed criteria for four consecutive rounds, therefore lead is proposed to be removed from future EI monitoring.
E	MW-03240	mercury	GSI	No	
E	MW-03746	chromium, total	GSI	Yes	No GSI criteria for total chromium. Hexavalent chromium is monitored at this location, therefore total chromium at MW-03746 is proposed to be removed from future EI monitoring.
E	MW-03746	chromium, hexavalent	GSI	No	
E	MW-03746	vanadium	GSI	Yes	Vanadium did not exceed criteria for four consecutive rounds, therefore vanadium is proposed to be removed from future EI monitoring.
E	MW-03746	ammonia	GSI	No	
G	MW-04250/MW-04250R	chromium, total	GSI	Yes	No GSI criteria for total chromium. Hexavalent chromium is monitored at this location, therefore total chromium at MW-04250R is proposed to be removed from future EI monitoring.
G	MW-04250/MW-04250R	chromium, hexavalent	GSI	No	
G	MW-04250/MW-04250R	cyanide	GSI	No	
G	MW-04250/MW-04250R	mercury	GSI	No	
G	MW-04250/MW-04250R	vanadium	GSI	No	
G	MW-04250/MW-04250R	pH	GSI	No	
G	MW-04250/MW-04250R	ammonia	GSI	No	
G	MW-04757	chromium, total	GSI	Yes	No GSI criteria for total chromium. Hexavalent chromium is monitored at this location, therefore total chromium at MW-04757 is proposed to be removed from future EI monitoring.
G	MW-04757	chromium, hexavalent	GSI	No	
G	MW-04757	cyanide	GSI	No	
G	MW-04757	vanadium	GSI	Yes	Vanadium did not exceed criteria for four consecutive rounds, therefore vanadium is proposed to be removed from future EI monitoring.
G	MW-04757	ammonia	GSI	No	
G	MW-04864	chromium, total	GSI	Yes	No GSI criteria for total chromium. Hexavalent chromium is monitored at this location, therefore total chromium at MW-04864 is proposed to be removed from future EI monitoring.
G	MW-04864	chromium, hexavalent	GSI	No	
G	MW-04864	pH	GSI	No	
G	MW-04864	vanadium	GSI	Yes	Vanadium did not exceed criteria for four consecutive rounds, therefore vanadium is proposed to be removed from future EI monitoring.
G	MW-04864	ammonia	GSI	No	
Wells added in 2007 per EPA's email request dated August 8, 2007.					
G	MW-03945	chromium, total	GSI	Yes	No GSI criteria for total chromium. Hexavalent chromium is monitored at this location, therefore total chromium at MW-03945 is proposed to be removed from future EI monitoring.
G	MW-03945	chromium, hexavalent	GSI	No	
G	MW-03945	cyanide	GSI	No	
G	MW-03945	mercury	GSI	No	
G	MW-03945	vanadium	GSI	No	
G	MW-03945	pH	GSI	No	
G	MW-03945	ammonia	GSI	No	

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IU	*Location*	*Parameter*	*Monitoring Purpose*	*Propose to Eliminate from EI Monitoring*	*Comments*
G	MW-04051	chromium, total	GSI	Yes	No GSI criteria for total chromium. Hexavalent chromium is monitored at this location, therefore total chromium at MW-04051 is proposed to be removed from future EI monitoring.
G	MW-04051	chromium, hexavalent	GSI	No	
G	MW-04051	cyanide	GSI	No	
G	MW-04051	mercury	GSI	No	
G	MW-04051	vanadium	GSI	No	
G	MW-04051	pH	GSI	No	
G	MW-04051	ammonia	GSI	No	
G	MW-04257	chromium, total	GSI	Yes	No GSI criteria for total chromium. Hexavalent chromium is monitored at this location, therefore total chromium at MW-04257 is proposed to be removed from future EI monitoring.
G	MW-04257	chromium, hexavalent	GSI	No	
G	MW-04257	cyanide	GSI	No	
G	MW-04257	vanadium	GSI	No	
G	MW-04257	pH	GSI	No	
G	MW-04257	ammonia	GSI	No	
G	MW-04765	chromium, total	GSI	Yes	No GSI criteria for total chromium. Hexavalent chromium is monitored at this location, therefore total chromium at MW-04765 is proposed to be removed from future EI monitoring.
G	MW-04765	chromium, hexavalent	GSI	No	
G	MW-04765	cyanide	GSI	No	
G	MW-04765	vanadium	GSI	No	
G	MW-04765	pH	GSI	No	
G	MW-04765	ammonia	GSI	No	

Notes:

- Table updated to include additional EI monitoring locations and parameters included as of 2008.
- Wells evaluated using most recent groundwater data compared to appropriate EI criteria.
- Since 2005 all samples for metals analyses have been collected using low flow sampling techniques and were unfiltered.
- GSI = Selected to monitor stability based on exceedances of groundwater surface water interface criteria in most recent samples.
- NA - Not applicable.