CONESTOGA-ROVERS & ASSOCIATES

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February 13, 2014

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

Dear Mr. Nemani:

Re: 2013 CA 750 Environmental Indicator Annual Monitoring Results
EPA ID #MID 041 793 340
RACER Nodular Facility - Saginaw, Michigan

This letter summarizes the CA 750 Environmental Indicators (EI) monitoring activities related to the Nodular Facility that is owned and operated by Revitalizing Auto Communities Environmental Response Trust (RACER) in Saginaw, Michigan.

The annual CA 750 EI monitoring was completed on November 12th and 13th, 2013.

Revisions were made to the 2013 EI monitoring program in accordance with the 2012 CA 750 EI Annual Monitoring Results recommendations dated March 11, 2013, with the exception that monitoring at MW-04257 for ammonia will continue. In addition the 2013 EI monitoring program was also modified in accordance with the North Ditch Characterization Memorandum dated October 2, 2013. The modifications were approved by U.S. EPA during a Site meeting on November 6, 2013 and memorialized in an email dated November 29, 2013.

Figure 1 presents databoxes for all RACER EI locations, as well as monitoring wells in the source area of high pH and ammonia, showing all data up to and including the 2013 EI results. As indicated on Figure 1:

- Ammonia was reported above the lowest applicable screening criterion (the GSI criterion of 2,120 µg/L) in three EI monitoring wells ranging in concentration from 4,600 µg/L to 5,200 µg/L. Additional monitoring was conducted in the source area located in the southeast portion of the Former Nodular Plant with concentrations ranging from 4,900 µg/L to 35,000 µg/L.
- pH was reported above the lowest applicable screening criterion (the Non-Residential Drinking Water criterion of 8.5 S.U.) in one EI monitoring well (MW-04250R) at 9.7 S.U. Additional monitoring was conducted in the source area located in the southeast portion of the Former Nodular Plant with readings ranging from 7.45 S.U to 12.12 S.U.

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In summary, the results of the 2013 EI monitoring results are generally consistent or lower than the data evaluated in the RCRA CA725 & CA750 Environmental Indicators Supporting Documentation dated September 17, 2003.

Based on the results of the annual EI monitoring conducted in 2013, RACER is proposing to modify the EI monitoring program for 2014. Table 1 presents the EI monitoring program and proposed modifications for the 2014 EI sampling event for your review. As indicated on Table 1, RACER is proposing the following modifications to the 2014 EI monitoring program:

- Remove sampling for cyanide at MW-03945, MW-04051 , MW-04250R, MW-04257, and MW-04757 since the most recent four consecutive rounds reported concentrations below the screening criteria
- Add monitoring well MW-04040 to be analyzed for ammonia

In addition, U.S. EPA approved the following modifications to the EI monitoring program in the November 6, 2013 Site meeting, which was memorialized in an email dated November 29, 2013.

- Add monitoring well locations MW-04836, MW-05036, and MW-8 in the area where there was historically high concentrations of pH and ammonia
- Add monitoring well location MW-04835 to provide delineation to the south (for pH and ammonia)
- Discontinue monitoring of MW-04765 and MW-04864 since results from these locations would be influenced by the City of Saginaw Waste Water Treatment Plant.

Table 1 has been updated to reflect the approved modifications.

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

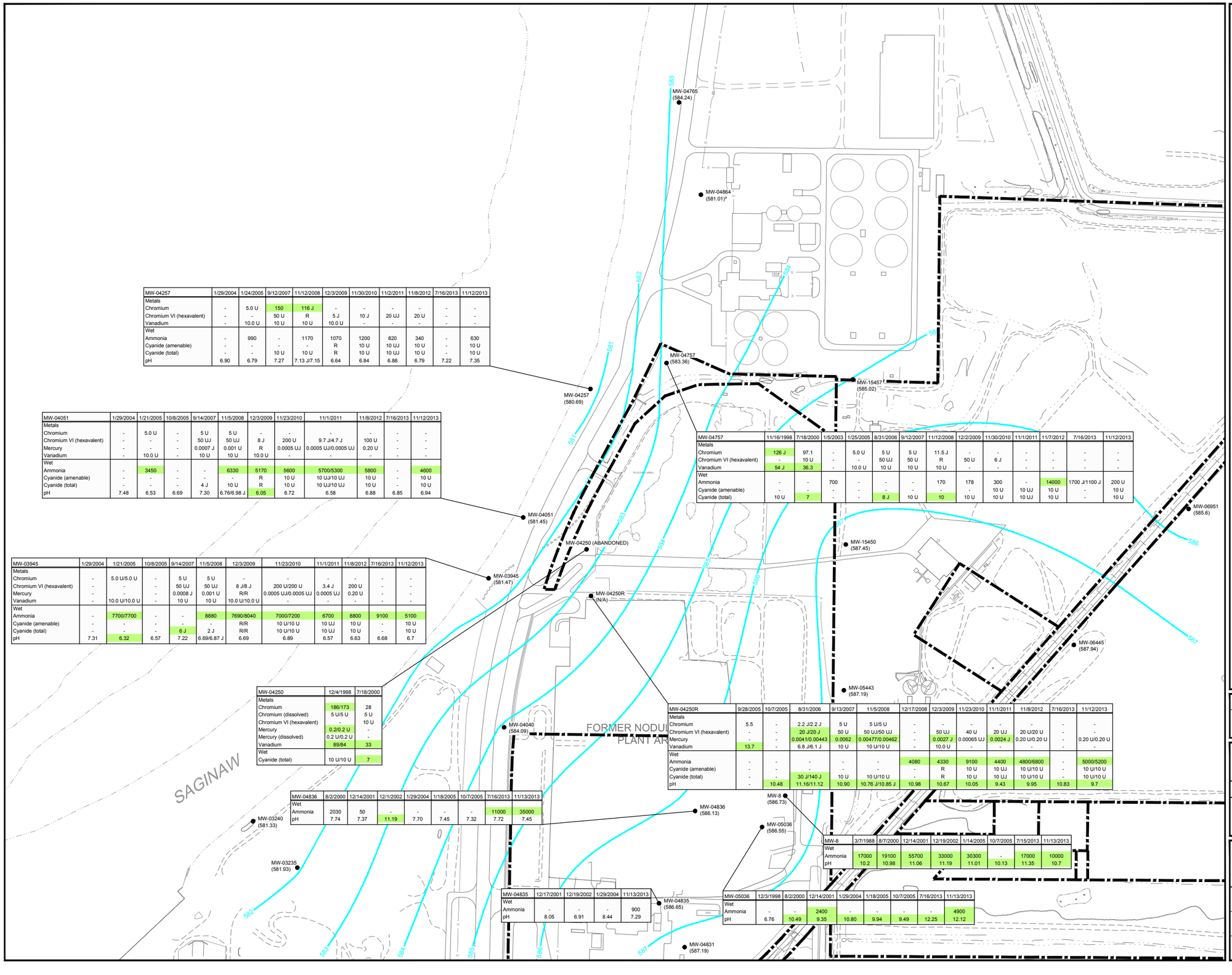
Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

Michael R. Tomka

JP/ac/18
Encl.

cc: Grant Trigger, RACER
Dave Favero, RACER



MW-04257	1/29/2004	1/24/2005	9/12/2007	11/12/2008	12/3/2009	11/30/2010	11/2/2011	11/8/2012	7/16/2013	11/12/2013
Metals										
Chromium	-	5.0 U	150	116 J	-	-	-	-	-	-
Chromium VI (hexavalent)	-	-	50 U	R	5 J	10 J	20 UJ	20 U	-	-
Vanadium	-	10.0 U	10 U	10 U	10.0 U	-	-	-	-	-
Wet										
Ammonia	-	990	-	1170	1070	1200	820	340	-	630
Cyanide (amenable)	-	-	-	-	R	10 U	10 UJ	10 U	-	10 U
Cyanide (total)	-	-	10 U	10 U	R	10 U	10 UJ	10 U	-	10 U
pH	6.90	6.79	7.27	7.13 J/7.15	6.64	6.84	6.88	6.79	7.22	7.35

MW-04051	1/29/2004	1/21/2005	10/8/2005	9/14/2007	11/5/2008	12/3/2009	11/23/2010	11/1/2011	11/8/2012	7/16/2013	11/12/2013
Metals											
Chromium	-	5.0 U	-	5 U	5 U	8 J	200 U	9.7 J/4.7 J	100 U	-	-
Chromium VI (hexavalent)	-	-	-	50 UJ	50 UJ	8 J	200 U	9.7 J/4.7 J	100 U	-	-
Mercury	-	-	-	0.0007 J	0.001 U	R	0.0005 UJ	0.0005 UJ/0.0005 UJ	0.20 U	-	-
Vanadium	-	10.0 U	-	10 U	10 U	10.0 U	-	-	-	-	-
Wet											
Ammonia	-	3450	-	-	6330	5170	5600	5700/5300	5800	-	4600
Cyanide (amenable)	-	-	-	-	-	R	10 U	10 UJ/10 UJ	10 U	-	10 U
Cyanide (total)	-	-	-	4 J	10 U	R	10 U	10 UJ/10 UJ	10 U	-	10 U
pH	7.48	6.53	6.69	7.30	6.76/6.98 J	6.05	6.72	6.58	6.88	6.85	6.94

MW-03945	1/29/2004	1/21/2005	10/8/2005	9/14/2007	11/5/2008	12/3/2009	11/23/2010	11/1/2011	11/8/2012	7/16/2013	11/12/2013
Metals											
Chromium	-	5.0 U/5.0 U	-	5 U	5 U	-	-	-	-	-	-
Chromium VI (hexavalent)	-	-	-	50 UJ	50 UJ	8 J/8 J	200 U/200 U	3.4 J	200 U	-	-
Mercury	-	-	-	0.0008 J	0.001 U	R/R	0.0005 UJ/0.0005 UJ	0.0005 UJ	0.20 U	-	-
Vanadium	-	10.0 U/10.0 U	-	10 U	10 U	10.0 U/10.0 U	-	-	-	-	-
Wet											
Ammonia	-	7700/7700	-	-	8880	7690/8040	7000/7200	6700	8800	9100	5100
Cyanide (amenable)	-	-	-	-	-	R/R	10 U/10 U	10 UJ	10 U	-	10 U
Cyanide (total)	-	-	-	6 J	2 J	R/R	10 U/10 U	10 UJ	10 U	-	10 U
pH	7.31	6.32	6.57	7.22	6.69/6.87 J	6.69	6.89	6.57	6.63	6.68	6.7

MW-04250	12/4/1998	7/18/2000
Metals		
Chromium	186/173	28
Chromium (dissolved)	5 U/5 U	5 U
Chromium VI (hexavalent)	-	10 U
Mercury	0.2/0.2 U	-
Mercury (dissolved)	0.2 U/0.2 U	-
Vanadium	89/84	33
Wet		
Cyanide (total)	10 U/10 U	7

MW-04836	8/2/2000	12/14/2001	12/1/2002	1/29/2004	1/18/2005	10/7/2005	7/16/2013	11/13/2013
Wet								
Ammonia	2030	50	-	-	-	-	11000	35000
pH	7.74	7.37	11.19	7.70	7.45	7.32	7.72	7.45

MW-04835	12/17/2001	12/19/2002	1/29/2004	11/13/2013
Wet				
Ammonia	-	-	-	900
pH	8.05	6.91	8.44	7.29

MW-04757	11/16/1998	7/18/2000	1/5/2003	1/25/2005	8/31/2006	9/12/2007	11/12/2008	12/2/2009	11/30/2010	11/1/2011	11/7/2012	7/16/2013	11/12/2013
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	50 U	6 J	-	-	-	-
Vanadium	54 J	36.3	-	10.0 U	10 U	10 U	10 U	-	-	-	-	-	-
Wet													
Ammonia	-	-	700	-	-	-	170	178	300	-	14000	1700 J/1100 J	200 U
Cyanide (amenable)	-	-	-	-	-	-	-	-	10 U	10 UJ	10 U	-	10 U
Cyanide (total)	10 U	7	-	-	8 J	10 U	10	10 U	10 U	10 UJ	10 U	-	10 U

MW-04250R	9/28/2005	10/7/2005	8/31/2006	9/13/2007	11/5/2008	12/17/2008	12/3/2009	11/23/2010	11/1/2011	11/8/2012	7/16/2013	11/12/2013
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	-	50 UJ	40 U	20 UJ	20 U/20 U	-	-
Mercury	-	-	0.0041/0.00443	0.0062	0.00477/0.00462	-	0.0027 J	0.00065 UJ	0.0024 J	0.20 U/0.20 U	-	0.20 U/0.20 U
Vanadium	13.7	-	6.8 J/6.1 J	10 U	10 U/10 U	-	10.0 U	-	-	-	-	-
Wet												
Ammonia	-	-	-	-	-	4080	4330	9100	4400	4800/6800	-	5000/5200
Cyanide (amenable)	-	-	-	-	-	-	R	10 U	10 UJ	10 U/10 U	-	10 U/10 U
Cyanide (total)	-	-	30 J/140 J	10 U	10 U/10 U	-	R	10 U	10 UJ	10 U/10 U	-	10 U/10 U
pH	-	10.48	11.16/11.12	10.90	10.76 J/10.85 J	10.98	10.67	10.05	9.43	9.95	10.83	9.7

MW-8	3/7/1988	8/7/2000	12/14/2001	12/19/2002	1/14/2005	10/7/2005	7/15/2013	11/13/2013
Wet								
Ammonia	17000	19100	55700	33000	30300	-	17000	10000
pH	10.2	10.98	11.06	11.19	11.01	10.13	11.35	10.7

MW-05036	12/3/1998	8/2/2000	12/14/2001	1/29/2004	1/18/2005	10/7/2005	7/16/2013	11/13/2013
Wet								
Ammonia	-	-	2400	-	-	-	-	4900
pH	6.76	10.49	9.35	10.80	9.94	9.49	12.25	12.12

0 100 200 ft

LEGEND

- APPROXIMATE PROPERTY BOUNDARY
- MW-04765 — MONITORING WELL LOCATION
- (582.12) — GROUNDWATER ELEVATION - NOVEMBER 2013
- 586 — UPPER WATER BEARING ZONE GROUNDWATER CONTOUR - FT. AMSL (NAVD 88) - NOVEMBER 2013

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

SAMPLE LOCATION
SAMPLE DATE
RESULT (ug/L) EXCEPT pH WHICH IS IN s.u.
PARAMETER

EXCEEDS CRITERIA

MICHIGAN PART 201 CRITERIA

fraction	Parameter	Lowest Criteria (ug/L or SU for pH)	
METAL	Chromium (total)	100	A
METAL	Chromium (VI)	11	D
METAL	Mercury	0.0013	D
METAL	Vanadium	12	D
WET	Ammonia	2120	D
WET	Cyanide (total)	5.2	D
WET	Cyanide (amenable)	5.2	D
WET	pH	6.5 - 8.5	A

Chromium (total) use Chromium III (Trivalent) criteria.
A: Non-Residential Drinking Water Criteria
B: Groundwater Contact Criteria
C: Non-Residential Groundwater Vol to Indoor Air Criteria
D: GSI Criteria

NOTES:

1. 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 53 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 12.5 DEGREES CELSIUS AND 8 S.I. 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 2.5 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 [53 ug/L / 0.025].

   THEREFORE, FOR A PH OF 8 AND A TEMPERATURE OF 12.5 DEGREES CELCIUS, APPROXIMATELY 2.5 PERCENT OF THE TOTAL AMMONIA WILL BE PRESENT IN THE UNIONIZED FORM OR A MAXIMUM OF 216.5 ug/L[8,660ug/L X 0.025] FOR THE NOVEMBER 2008 EVENT.

2. NOTE THAT THE GSI CRITERIA DEVELOPED FOR TOTAL CHROMIUM WAS DEVELOPED FROM THE FINAL CHRONIC VALUE CALCULATION FOR TRIVALENT CHROMIUM, AS SPECIFIED IN THE MDEQ GUIDANCE. TOTAL CHROMIUM RESULTS WERE COMPARED TO TRIVALENT CHROMIUM CRITERIA SINCE EXTENSIVE SITE DATA SUPPORTS THAT THE MAJORITY OF THE TOTAL CHROMIUM IS TRIVALENT CHROMIUM. HEXAVALENT CHROMIUM IS STILL SAMPLED AT NUMEROUS LOCATIONS AND IS COMPARED TO HEXAVALENT CHROMIUM CRITERIA.

3. MW-04864 GROUNDWATER ELEVATION NOT USED IN DETERMINATION OF GROUNDWATER CONTOURS.

SCALE VERIFICATION

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

RACER
NODULAR IRON INDUSTRIAL LAND

SAGINAW, MICHIGAN

SUMMARY OF EI LOCATIONS AND RESULTS (1998 - 2013)

CONESTOGA-ROVERS & ASSOCIATES

Source Reference:

Project Manager:	Reviewed By:	Date:	
M.T.	R.C.	JANUARY 2014	
Scale: 1"=400'	Project N°: 58502-T01	Report N°: NEMA018	Drawing N°: figure 1

58502-T01(NEMA018)GN-WA001 FEB 13/2014

TABLE 1

EI MONITORING PROGRAM AND PROPOSED MODIFICATIONS
NODULAR FACILITY, SAGINAW, MICHIGAN

IU	*Location*	*Parameter*	*Monitoring Purpose*	*Propose to Eliminate from EI Monitoring*	*Comments*
G	MW-04250/MW-04250R	cyanide (total and amenable)	GSI	Yes	Cyanide did not exceed criteria for four consecutive rounds, therefore cyanide will be removed from future EI monitoring.
G	MW-04250/MW-04250R	mercury	GSI	No	
G	MW-04250/MW-04250R	pH	GSI	No	
G	MW-04250/MW-04250R	ammonia	GSI	No	
G	MW-04757	cyanide (total and amenable)	GSI	Yes	Cyanide did not exceed criteria for four consecutive rounds, therefore cyanide will be removed from future EI monitoring.
G	MW-04757	ammonia	GSI	No	
Wells added in 2007 per EPA's email request dated August 8, 2007.					
G	MW-03945	cyanide (total and amenable)	GSI	Yes	Cyanide did not exceed criteria for four consecutive rounds, therefore cyanide will be removed from future EI monitoring.
G	MW-03945	pH	GSI	No	
G	MW-03945	ammonia	GSI	No	
G	MW-04051	cyanide (total and amenable)	GSI	Yes	Cyanide did not exceed criteria for four consecutive rounds, therefore cyanide will be removed from future EI monitoring.
G	MW-04051	pH	GSI	No	
G	MW-04051	ammonia	GSI	No	
G	MW-04257	cyanide (total and amenable)	GSI	Yes	Cyanide did not exceed criteria for four consecutive rounds, therefore cyanide will be removed from future EI monitoring.
G	MW-04257	pH	GSI	No	
G	MW-04257	ammonia	GSI	No	
Wells added in 2013 per RACER's recommendation dated October 23, 2013					
G	MW-04836	pH	GSI	No	
G	MW-04836	ammonia	GSI	No	
G	MW-04835	pH	GSI	No	
G	MW-04835	ammonia	GSI	No	
G	MW-05036	pH	GSI	No	
G	MW-05036	ammonia	GSI	No	
G	MW-8	pH	GSI	No	
G	MW-8	ammonia	GSI	No	
Well to be added to the the 2014 monitoring program					
G	MW-04040	ammonia	GSI	No	

Notes:

- Table updated to remove select parameters based on 4 consecutive rounds below criteria.
- 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.