



August 21, 2006

U.S.EPA Region 5
Waste Pesticides and Toxics Division, DE-9J
77 West Jackson Blvd.
Chicago, IL 60604-3590
Attn: Ms. Mirtha Capiro

RE: General Motors Corporation - Moraine, Ohio
Revised Supplemental Groundwater Investigation Work Plan

Dear Ms. Capiro:

On behalf of General Motors Corporation (GM), BOW Environmental Solutions, Inc. is submitting a Revised Supplemental Groundwater Investigation Work Plan for the Former Delphi Harrison Thermal Systems, General Motors Truck Group Moraine Assembly Plant, and the former General Motors Powertrain Group Moraine Engine Plant in Moraine, Ohio. The work scope presented in the approved Supplemental Groundwater Investigation Work Plan (BOW Environmental Solutions, Inc., July 1, 2005) was completed earlier this year after obtaining property access agreements. During the initial phase of the investigation, six off-site upper aquifer monitoring wells were installed in February and April 2006 to refine GM's understanding of the GM-16 area (wells GM-47 through GM-52 shown on Figure 1). GM also installed an upper aquifer monitoring well in February 2006 on the southeastern side of the Former Oil House Area (well GM-46 shown on Figure 1). The analytical results from sampling these wells are shown on Figure 1. Following review of the data from this investigation and the Site-Wide Groundwater Monitoring Program, GM determined additional investigation was warranted in the Holes Creek and GM-41 study areas (Figure 2). The activities completed in July 2006 as a part of this supplemental investigation and the proposed additional work are described below.

Holes Creek Study Area

As indicated by the data presented in GM's annual site-wide groundwater monitoring reports, an increasing trend in trichloroethene (TCE) and tetrachloroethene (PCE) concentrations has been observed in upper aquifer monitoring well GM-16 over the last several years. This well is located downgradient of the site, north of lower aquifer pumping well DN-13 and west of Landfill L1 (Figure 1). Based on this observed trend and the newly collected data from wells GM-47 through GM-52, GM completed borings downgradient near Holes Creek. On July 12 and 13, 2006 a boring was advanced to a depth of 85 ft below land surface (bls) at the location identified as Proposed Wells D/E north of Holes Creek (Figure 2). The regional clay till was not encountered in this boring. Groundwater samples (screening quality) were collected at 25-30 ft, 35-40 ft,

and 55-60 ft during advancement of this boring and were submitted for expedited laboratory analysis of the site-specific parameter list (benzene, 1,1-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, ethylbenzene, PCE, toluene, 1,1,1-trichloroethane, TCE, vinyl chloride, and xylenes). The following VOC was detected in the water samples above the laboratory reporting limit: 25-30 ft (PCE 8.6 µg/L); 35-40 ft (PCE 6.9 µg/L); and 55-60 ft (PCE 6.7 µg/L). Monitoring well pair GM-55/56 was installed at this location on July 27, 2006 and screened from 25-35 ft and 75-85 ft, respectively.

A boring was also advanced and the shallow portion of the upper aquifer profiled on July 13, 2006 at the location identified as Proposed Well F (Figure 2) south of Holes Creek and adjacent to GM-26. Groundwater samples (screening quality) were collected at 25-30 ft and 40-45 ft during advancement of this boring. The groundwater samples were submitted for expedited laboratory analysis of the site-specific parameter list. The following VOC was detected above the laboratory reporting limit: 25-30 ft (PCE 1.4 µg/L) and 40-45 ft (PCE 1.6 µg/L). GM-57 was installed on July 27, 2006 and screened from 25-35 ft.

Due to delay of property access agreements, work at Proposed Wells C, G, and H was not completed (east of the Great Miami River and near Holes Creek) during the July 2006 investigation activities. If access is granted, these borings/wells will be completed during the next field mobilization.

GM-41 Study Area

In order to refine the characterization of groundwater chemistry and flow direction in the upper aquifer in the vicinity of lower aquifer well GM-41, a boring was completed at the location of Proposed Well A near GM-41 on July 11, 2006. The purpose of this boring was to determine if TCE was present in the upper aquifer in the area of GM-41. The regional clay till was encountered in this boring at a depth of 35 feet bls. A groundwater sample was collected at 30-35 feet bls and the VOC 1,1,1-trichloroethane (7.4 µg/L) was detected. Because TCE was not detected and there was no evidence of significant vertical stratification of VOC concentrations, no upper aquifer well was installed at this location and the boring was abandoned.

The boring for Proposed Well B was drilled upgradient of the Upper Deck Tavern and the lower aquifer profiled on July 11 and 12, 2006. The regional clay till was encountered in this boring at a depth of 33 to 64 ft bls. Water samples were collected at 70-75 ft, 80-85 ft, 95-100 ft, 110-115 ft. The following VOCs were detected above laboratory reporting limits: 70-75 ft (PCE 150 µg/L, TCE 5.5 µg/L); 80-85 ft (PCE 3 µg/L, TCE 16 µg/L); 95-100 ft (1,1-DCA 1.1 µg/L, cis-1,2-DCE 6.2 µg/L, PCE 1 µg/L); 110-115 ft (cis-1,2-DCE 3.9 µg/L). GM-54 was installed at this location on July 25, 2006 and screened from 70-80 ft.

GM-41 Study Area Additional Investigation Work Plan

In order to further refine the characterization of groundwater chemistry and flow direction in the vicinity of GM-41, GM will evaluate four additional borings in the vicinity of GM-41 (Figure 2). The borings will be drilled using rotosonic methodology and continuously sampled for lithologic characterization. During drilling, vertical aquifer sampling will be conducted to provide an understanding of the VOC concentration profile. This data will be considered as screening quality and will be used to determine whether to install the well as discussed below.

- Drill to a depth of 100 ft bls at location of Proposed Well A and profile the lower aquifer to further refine the groundwater chemistry between the bottom of the regional clay till and the top of GM-41's well screen. The boring was drilled on July 26, 2006 and water samples were collected at 70-75 ft, 80-85 ft, and 95-100 ft. The following VOCs were detected above laboratory reporting limits: 70-75 ft (PCE 23 µg/L, TCE 11 µg/L); 80-85 ft (PCE 9.4 µg/L, TCE 55 µg/L); and 95-100 ft (cis-1,2-DCE 7.8 µg/L, TCE 190 µg/L). A lower aquifer well will not be installed because these screening results are less than concentrations observed in GM-41.
- Drill to the regional clay till (33 ft bls) at the location of Proposed Well B (GM-54) and profile the upper aquifer to further refine the groundwater chemistry at the GM property boundary in the vicinity of GM-41. The boring was drilled on July 25, 2006 and a water sample was collected at 25-30 ft. VOCs were not detected in this sample. An upper aquifer well was installed as a pair to Proposed Well B (GM-54) to evaluate groundwater flow in the GM-41 study area. This well (GM-53) is screened from 23-33 ft bls.
- Proposed Well I drilled to a depth of 115 ft bls, including vertical aquifer profiling for both the upper and lower aquifers (every 15 feet once the water table is reached). The groundwater samples will be submitted for expedited laboratory analysis of the site-specific parameter list. Well I will be located on the far eastern edge of the parking lot south of the Moraine Assembly Paint Building to further refine groundwater chemistry at the eastern property boundary near GM-41. Upon evaluation of the groundwater profiling data, a shallow and/or deep well may be installed.
- Proposed Well J drilled to a depth of 115 ft bls, including vertical aquifer profiling for both the upper and lower aquifers (every 15 feet once the water table is reached). The groundwater samples will be submitted for expedited laboratory analysis of the site-specific parameter list. Well J will be located between the Former Oil House Area and GM-41. Upon evaluation of the groundwater profiling data, a shallow and/or deep well may be installed.

The newly installed wells will be developed and surveyed following procedures defined in the Supplemental RFI Work Plan (ARCADIS 1997). All of the new wells will be sampled following procedures defined in the Site-Wide Groundwater Monitoring Plan

(ARCADIS 2002) when well installation is complete. The groundwater samples will be submitted for laboratory analysis of the site-specific VOC parameter list.

Data Report

The data generated from these supplemental investigation activities will be used to evaluate groundwater chemistry and flow direction in the vicinity of Holes Creek and GM-41 to better assess the current corrective measures, including the site-wide groundwater monitoring program. GM will incorporate these data into a letter report that will be submitted to U.S. EPA. The data evaluation will include the boring logs, a groundwater contour map, tabulated analytical results, analytical results posted in databoxes on figures, and an assessment of how these supplemental data affects the current corrective measures, if at all.

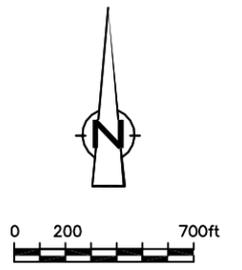
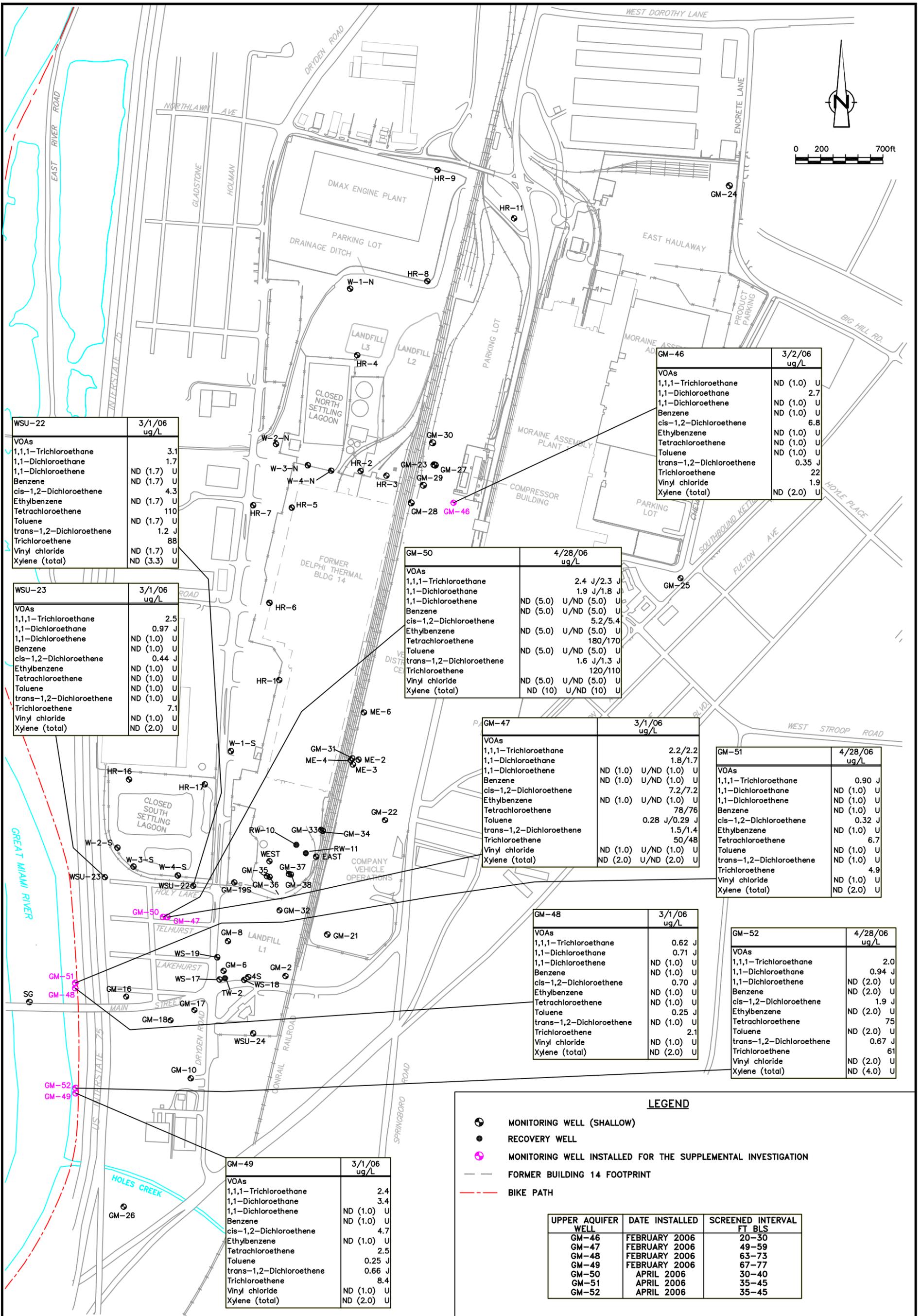
GM will proceed with the field work portion of this proposed work plan when permits and access agreements are finalized. The drilling is scheduled to begin on August 21, 2006. Please call 937-455-2636, if you have any questions.

Sincerely,



Pamela L. Barnett, PG
Project Manager
BOW Environmental Solutions, Inc. on behalf of GM

cc: H. O'Connell, Ohio EPA
J. Caufield, GM Remediation



WSU-22	3/1/06	ug/L
VOAs		
1,1,1-Trichloroethane	3.1	
1,1-Dichloroethane	1.7	
1,1-Dichloroethane	ND (1.7)	U
Benzene	ND (1.7)	U
cis-1,2-Dichloroethane	4.3	
Ethylbenzene	ND (1.7)	U
Tetrachloroethene	110	
Toluene	ND (1.7)	U
trans-1,2-Dichloroethene	1.2	J
Trichloroethene	88	
Vinyl chloride	ND (1.7)	U
Xylene (total)	ND (3.3)	U

WSU-23	3/1/06	ug/L
VOAs		
1,1,1-Trichloroethane	2.5	
1,1-Dichloroethane	0.97	J
1,1-Dichloroethane	ND (1.0)	U
Benzene	ND (1.0)	U
cis-1,2-Dichloroethane	0.44	J
Ethylbenzene	ND (1.0)	U
Tetrachloroethene	ND (1.0)	U
Toluene	ND (1.0)	U
trans-1,2-Dichloroethene	ND (1.0)	U
Trichloroethene	7.1	
Vinyl chloride	ND (1.0)	U
Xylene (total)	ND (2.0)	U

GM-50	4/28/06	ug/L
VOAs		
1,1,1-Trichloroethane	2.4	J/2.3 J
1,1-Dichloroethane	1.9	J/1.8 J
1,1-Dichloroethane	ND (5.0)	U/ND (5.0) U
Benzene	ND (5.0)	U/ND (5.0) U
cis-1,2-Dichloroethane	5.2/5.4	
Ethylbenzene	ND (5.0)	U/ND (5.0) U
Tetrachloroethene	180/170	
Toluene	ND (5.0)	U/ND (5.0) U
trans-1,2-Dichloroethene	1.6	J/1.3 J
Trichloroethene	120/110	
Vinyl chloride	ND (5.0)	U/ND (5.0) U
Xylene (total)	ND (10)	U/ND (10) U

GM-47	3/1/06	ug/L
VOAs		
1,1,1-Trichloroethane	2.2/2.2	
1,1-Dichloroethane	1.8/1.7	
1,1-Dichloroethane	ND (1.0)	U/ND (1.0) U
Benzene	ND (1.0)	U/ND (1.0) U
cis-1,2-Dichloroethane	7.2/7.2	
Ethylbenzene	ND (1.0)	U/ND (1.0) U
Tetrachloroethene	78/76	
Toluene	0.28	J/0.29 J
trans-1,2-Dichloroethene	1.5/1.4	
Trichloroethene	50/48	
Vinyl chloride	ND (1.0)	U/ND (1.0) U
Xylene (total)	ND (2.0)	U/ND (2.0) U

GM-51	4/28/06	ug/L
VOAs		
1,1,1-Trichloroethane	0.90	J
1,1-Dichloroethane	ND (1.0)	U
1,1-Dichloroethane	ND (1.0)	U
Benzene	ND (1.0)	U
cis-1,2-Dichloroethane	0.32	J
Ethylbenzene	ND (1.0)	U
Tetrachloroethene	6.7	
Toluene	ND (1.0)	U
trans-1,2-Dichloroethene	ND (1.0)	U
Trichloroethene	4.9	
Vinyl chloride	ND (1.0)	U
Xylene (total)	ND (2.0)	U

GM-48	3/1/06	ug/L
VOAs		
1,1,1-Trichloroethane	0.62	J
1,1-Dichloroethane	0.71	J
1,1-Dichloroethane	ND (1.0)	U
Benzene	ND (1.0)	U
cis-1,2-Dichloroethane	0.70	J
Ethylbenzene	ND (1.0)	U
Tetrachloroethene	ND (1.0)	U
Toluene	0.25	J
trans-1,2-Dichloroethene	ND (1.0)	U
Trichloroethene	2.1	
Vinyl chloride	ND (1.0)	U
Xylene (total)	ND (2.0)	U

GM-52	4/28/06	ug/L
VOAs		
1,1,1-Trichloroethane	2.0	
1,1-Dichloroethane	0.94	J
1,1-Dichloroethane	ND (2.0)	U
Benzene	ND (2.0)	U
cis-1,2-Dichloroethane	1.9	J
Ethylbenzene	ND (2.0)	U
Tetrachloroethene	75	
Toluene	ND (2.0)	U
trans-1,2-Dichloroethene	0.67	J
Trichloroethene	61	
Vinyl chloride	ND (2.0)	U
Xylene (total)	ND (4.0)	U

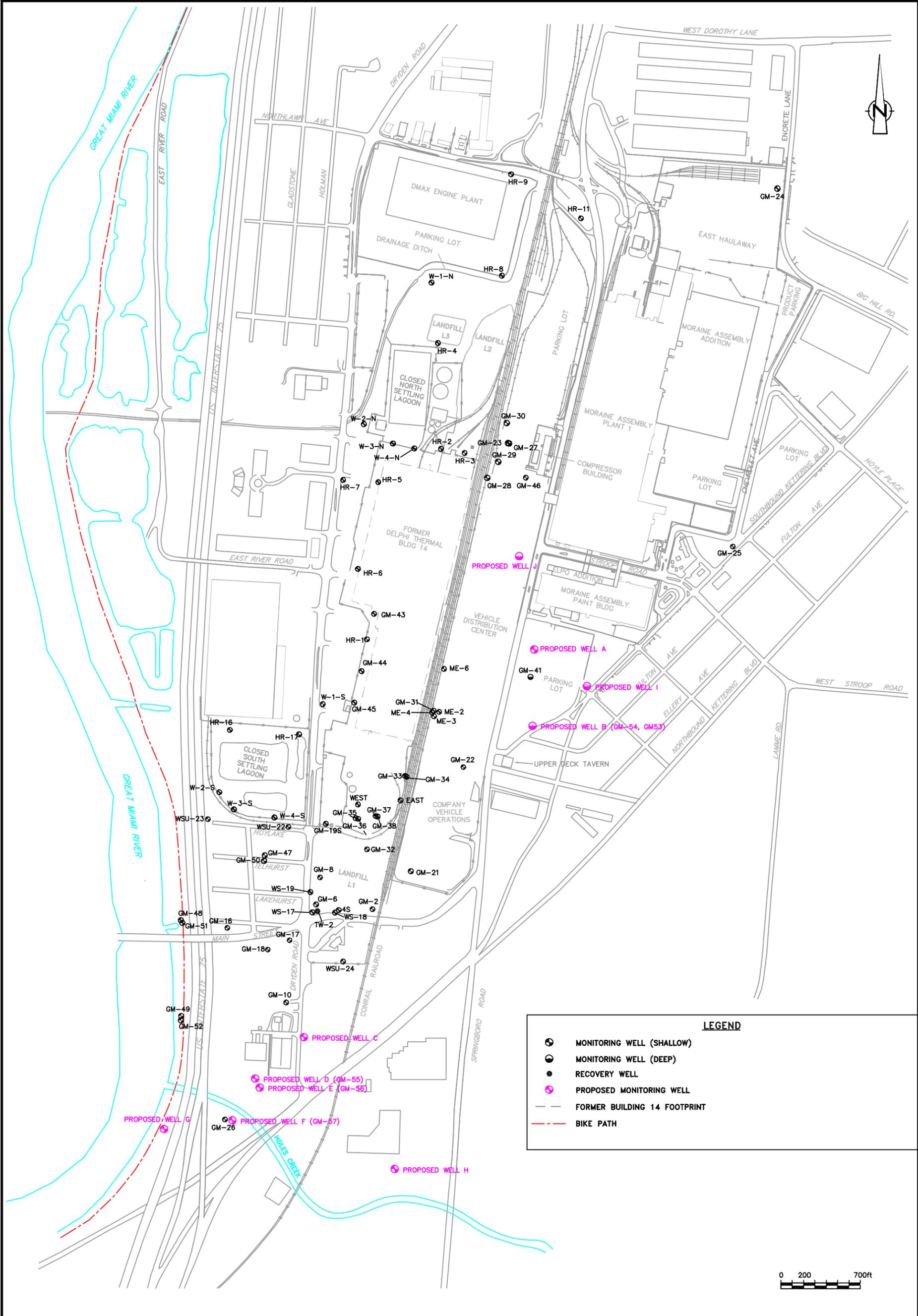
GM-49	3/1/06	ug/L
VOAs		
1,1,1-Trichloroethane	2.4	
1,1-Dichloroethane	3.4	
1,1-Dichloroethane	ND (1.0)	U
Benzene	ND (1.0)	U
cis-1,2-Dichloroethane	4.7	
Ethylbenzene	ND (1.0)	U
Tetrachloroethene	2.5	
Toluene	0.25	J
trans-1,2-Dichloroethene	0.66	J
Trichloroethene	8.4	
Vinyl chloride	ND (1.0)	U
Xylene (total)	ND (2.0)	U

LEGEND

- MONITORING WELL (SHALLOW)
- RECOVERY WELL
- MONITORING WELL INSTALLED FOR THE SUPPLEMENTAL INVESTIGATION
- FORMER BUILDING 14 FOOTPRINT
- BIKE PATH

UPPER AQUIFER WELL	DATE INSTALLED	SCREENED INTERVAL FT BLS
GM-46	FEBRUARY 2006	20-30
GM-47	FEBRUARY 2006	49-59
GM-48	FEBRUARY 2006	63-73
GM-49	FEBRUARY 2006	67-77
GM-50	APRIL 2006	30-40
GM-51	APRIL 2006	35-45
GM-52	APRIL 2006	35-45

User Name : bsmith Date\Time : Wed, 09 Aug 2006 - 3:33pm Path\Name : G:\DRAWINGS\HARRISON\CRA-DWG\2006\2006BASE w PROPOSED WELLS.dwg Layout Tab: Model



284 Cramer Creek Court
 Dublin, OH 43017
 Tel: 614/764-2310 Fax: 614/764-1270

SUPPLEMENTAL INVESTIGATION
 PROPOSED MONITORING WELL LOCATIONS
 GENERAL MOTORS CORPORATION
 MORAIN, OHIO

DATE 7/5/2006	PROJECT MANAGER N. GILLOTTI	DRAWING NAME 06BASE PROP WELLS
DRAWN R. SMITH	LEAD DESIGN PROF. J. REID	CHECKED S. CLOUSE
PROJECT NUMBER OH000294.0008.0003		DRAWING NUMBER 2