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*Transmitted Via FedEx*

October 12, 2000

Mr. Allan Brouillet  
Environmental Response Division  
Michigan Department of Environmental Quality  
Saginaw Bay District  
503 North Euclid Street  
Bay City, MI 48706

Re: Annual Progress Report – October 1999 to September 2000  
General Motors Corporation Saginaw Malleable Iron Plant Property and  
REALM, Inc. Green Point Landfill and Drum Remediation Area  
Saginaw, Michigan  
BBL Project #: 0276 276.08 #2.06

Dear Mr. Brouillet:

This progress report presents a summary of the work activities conducted during the period from October 1999 through September 2000 for the above-referenced site, and a summary of the work activities anticipated for the following 12 months. This report was prepared in accordance with the requirements specified in the Consent Judgment executed between the Michigan Department of Environmental Quality (MDEQ), the Michigan Attorney General's Office, the General Motors Corporation (GM), and Waste Management Inc. (WMI) that was entered by the State of Michigan Circuit Court on March 16, 1998. The MDEQ modified the submittal date for the annual report to October 15, in a letter dated October 22, 1999 (Brouillet, A., October 1999).

**Significant RI/FS Activities and Correspondence**

The following is a summary of the significant Remedial Investigation/Feasibility Study (RI/FS) activities and correspondence completed during the period from October 1, 1999 through September 30, 2000.

***Correspondence Regarding Draft RI Report***

- A letter dated December 13, 1999 was received from the MDEQ (Brouillet, B., December 1999), which responded to the Group's proposed additional investigation activities for the SMI/Green Point RI (BBL, September 1999).
- A letter was submitted to the MDEQ on January 26, 2000 (BBL, January 2000a) which responded to the MDEQ's December 13, 1999 comments.

- A Notice of Violation letter dated May 5, 2000 was received from the MDEQ (Brouillet, B., May 2000).
- A letter was submitted to the MDEQ on May 12, 2000 by Dykema Gossett (Tripp, May 2000), which responded to the legal aspects of the May 5, 2000 Notice of Violation letter received from the MDEQ.
- A letter was submitted to the MDEQ on June 7, 2000 (GM, June 2000), which responded to the MDEQ Notice of Violation letter dated May 5, 2000.
- A memo was transmitted to the MDEQ via facsimile on July 17, 2000 (BBL, July 2000b), which summarized the work activities and anticipated schedule for supplemental RI sampling activities. [Please note that the figures were transmitted in draft form with this memo subject to MDEQ approval. Following approval by MDEQ, the memo and figures were retransmitted to the MDEQ on July 31, 2000.]
- A letter dated July 25, 2000 was received from the MDEQ (Brouillet, A., July 2000), which indicated that the MDEQ understood that the Group had proposed November 17, 2000 as the due date for submittal of the amended draft RI Report to MDEQ. [Please note that the Group provided clarification (BBL, July 2000c) that the due date of the amended draft RI Report is November 27, 2000 (as listed in the July 17, 2000 memo).]
- A letter was transmitted to the MDEQ on July 31, 2000 (BBL, July 2000c), which provided a summary of the Group's understanding of the agreed-upon supplemental RI activities.
- A letter dated August 9, 2000 was received from the MDEQ (Brouillet, B., August 2000), which clarified the MDEQ's position regarding the previous site Notice of Violation, Saginaw River sampling activities, and the agreed to RI Report submittal date.

### ***Supplemental RI/FS Sampling Activities***

- A letter was submitted to the MDEQ on May 10, 2000 (BBL, May 2000), which outlined the plan for the May 2000 supplemental groundwater sampling event.
- Supplemental groundwater sampling activities were initiated the week of May 15, 2000 and concluded on May 25, 2000. Data summary tables, which included only the new sample results, were included as Attachment A, Tables A-1 through A-5 of the August 2000 monthly report (BBL, September 2000a) and are also included as Attachment A of this report. Results of ultra-low-flow sampling for PCBs along the Saginaw River in May 2000 are included as Attachment A, Table A-6 of this report.
- Supplemental RI field sampling activities were initiated the week of July 24, 2000. Two monitoring wells were installed, one along the Saginaw River (MW-183WT), and one adjacent to the Secondary Settling Pond (MW-184WT). Surface soil samples were collected from the 0 to 6 inch and 6 to 12 inch depth intervals at 12 locations along the Saginaw River. Subsurface soil samples were collected above the water table at three new soil boring locations (SB-374 through SB-376) and at MW-

183WT. Results from these sampling activities are currently being QA/QC reviewed; therefore, they are not attached to this report.

- Supplemental RI field sampling activities continued during the week of August 7, 2000. Sampling activities included collection of surface soil, surface water, and sediment samples from the REALM portion of the property. A representative from Stratus accompanied personnel from Exponent to mutually locate sampling locations in the field. Results of these sampling activities are currently being QA/QC reviewed; therefore, they are not attached to this report.
- Supplemental RI field sampling activities concluded during the week of August 14, 2000. Sampling activities included collection of groundwater samples from the two recently installed monitoring wells (MW-183WT and MW-184WT), and collection of soil samples from the sidewalls of the Secondary Settling Pond. Results of these sampling activities are currently being QA/QC reviewed; therefore, they are not attached to this report.

#### ***Supplemental Groundwater Investigation Activities North of the Drum Remediation Area***

- A letter report presenting the results of the May 1999 groundwater investigation north of the former DRA hillock area was submitted to the MDEQ on December 9, 1999 (BBL, December 1999). Additional investigation activities were proposed in this report.
- A letter dated June 6, 2000 was received from the MDEQ (MDEQ, June 2000a), which indicated agreement with the December 1999 proposal for additional investigation north of the former Drum Remediation Area Hillock.
- A test pit program was completed in the area north of the former Drum Remediation Area hillock on August 30, 2000, to look for potential source(s) of the volatile organic compounds detected in groundwater. A pipe was located entering the REALM property from the west and extending to an undetermined point east of the former Drum Remediation Area hillock. Additional activities are scheduled for October 2000 to further investigate the extent of this pipe.

#### ***Former Underground Storage Tank (UST) #7 Area***

- The fifth round of sampling was performed in July 1999. A letter report was submitted to the MDEQ on October 27, 1999 (BBL, October 1999b), which summarized the results of the sampling event.
- The sixth round of sampling was performed in October 1999. A letter report was submitted to the MDEQ on February 9, 2000 (BBL, February 2000), which summarized the results of the sampling event.
- The seventh round of sampling was performed in January 2000. A letter report was submitted to the MDEQ on March 9, 2000 (BBL, March 2000), which summarized the results of the sampling event.
- The eighth round of sampling was performed in May 2000. A letter report was submitted to the MDEQ on September 27, 2000 (BBL, September 2000b), which summarized the results of the sampling event.

- The ninth round of sampling was performed in August 2000. Results of this sampling event are currently not available; therefore, they have not been attached to this report.

#### ***Sewer Activities***

- A letter dated February 7, 2000 was received from the MDEQ (Kaelber-Matlock, February 2000), which provided comments on the Workplan for Additional Sewer System Monitoring (CRA, August 1999).
- Sewer cleaning activities in the Melting Area of the plant were completed during the July 4<sup>th</sup> plant shutdown.

#### ***Northern Engineered Water Conveyance System Ditches***

- A floodplain construction permit application was submitted to the MDEQ on February 24, 2000 for the filling/closure of the two northern engineered water conveyance system ditches, located on the east side of the SMI property.

#### ***Stormwater Pond Investigation Activities***

- An interim response work plan to address oil entering the stormwater pond was submitted to the MDEQ on February 28, 2000 (CRA, February 2000).
- A letter from the MDEQ, which responded to GM's interim response work plan to address oil entering the stormwater pond, was received in March 2000.
- Lining of the Stormwater Pond was initiated in July 2000 and was completed in August 2000.

#### ***Quench Pit Bailing Program***

- Monitoring wells installed in the Quench Pit area containing LNAPL are bailed on a daily basis during the work week by a GM disposal contractor.

#### ***LNAPL Recovery System***

The cumulative oil recovery and groundwater treatment statistics are as follows:

| Operation  | Approximate Volume of Oil Recovered (Gallons) <sup>1</sup> | Approximate Volume of Groundwater Treated (Gallons) |
|--|--|---|
| LNAPL System<br>Total through October 6, 2000                    | 1,774  | 1,380,130   |
| Total hand bailed in 1996 and 1997                               | 710  | None  |
| Repair of 42-inch line<br>(recovery from abandoned 30-inch line) | 5,000+   | Specific amount unknown                             |
| Repair (slip lining) of 42-inch storm sewer line                 | approximately<br>3,000+                                    | Specific amount unknown                             |
| <b>Totals:</b>   | 10,484+  | 1,380,130   |

**Note:** <sup>1</sup> This total may include some water that is drawn through the LNAPL recovery lines under certain conditions of rapid water table fluctuation.

### ***Green Point Landfill***

- The Green Point Landfill Certification Report was submitted to the MDEQ on January 26, 2000 (BBL, January 2000b).
- During the week of April 14, 2000, GM/REALM toured the landfill cap with BBL and Champagne & Marx to determine whether repairs and/or additional seeding efforts would be required this spring.
- The Green Point Landfill Environmental Monitoring Program Spring 2000 groundwater sampling event was completed in May 2000, in conjunction with the May 2000 supplemental groundwater sampling event.
- A letter dated July 19, 2000 was received from the MDEQ (Brouillet, B., July 2000), which acknowledged receipt of the Green Point Landfill Final Cover System Certification Report and approved the Green Point Landfill remedial activities as an Interim Response.
- QA/QC review of the Green Point Landfill Environmental Monitoring Program Spring 2000 groundwater analytical data was completed in August 2000. Data summary tables, which include the May 2000 data and data collected previously as part of the site RI, were included as Attachment B, Tables B-1 and B-2 of the August 2000 monthly report (BBL, September 2000a) and are also included as Attachment B of this report.
- During the week of August 14, 2000, the Green Point Landfill cap was inspected by BBL personnel.
- A letter report was submitted to the MDEQ on October 4, 2000 (BBL, October 2000), which summarized the results of the Green Point Landfill Environmental Monitoring Program May 2000 groundwater sampling event.

***Deliverables Submitted (Tables 10-1 and 10-2 of the MDEQ-Approved RI/FS Work Plan [October 1997])***

Schedule Tables 10-1 and 10-2 for the *RI/FS Work Plan* (BBL, October 1997; revised January 1998) have been updated to reflect actual submittal dates, and are included as attachments. [All deliverables have been submitted to MDEQ on or before the deliverable due dates specified in the MDEQ-approved October 1997 *RI/FS Work Plan* (schedule tables revised January 1998).]

- Monthly reports have been transmitted to the MDEQ as specified in the *RI/FS Work Plan* (see references).
- The annual report for March 1998 through September 1999 was submitted to the MDEQ on October 13, 1999 (BBL, October 1999a). MDEQ acknowledged receipt of the report on October 22, 1999 (Brouillet, A., October 1999).

***Meetings***

- A meeting was held with representatives of the MDEQ, the MAG, GM, and WMI, on June 14, 2000 at the SMI site. The purpose of the meeting was to discuss MDEQ's comments on the draft RI report and to reach agreement on the supplemental RI investigation activities to be completed. A site walk was conducted following the meeting to help determine sampling locations.

**Anticipated RI/FS Activities**


The following activities are anticipated to be completed during the period from October 2000 through September 2000:

- Continued operation of the LNAPL Recovery/Groundwater Treatment System.
- Continued manual bailing of LNAPL in the Quench Pit Area.
- Filling of the north-south engineered water conveyance system ditch.
- Additional test pit investigation (excavation and sampling) activities north of the former Drum Remediation Area (completed October 10, 2000).
- Quarterly sampling activities at the Former UST #7 Area (tentatively scheduled for October 2000, January 2001, and April 2001).
- Quarterly inspections of the Green Point Landfill cap (tentatively scheduled for November 2000, February 2001, May 2001, and August 2001).
- Green Point Landfill Environmental Monitoring Program Spring 2001 groundwater sampling event (tentatively scheduled for May 2001).
- Submittal of the final RI Report.

- Submittal of the Feasibility Study.

Sincerely,

BLASLAND, BOUCK & LEE, INC.

  
Lisa R. Coffey, P.G.  
Manager, Hydrogeology

KAG/plf  
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Attachments

cc: John Fordell Leone, Esq., Assistant Attorney General  
Mr. Robert Wolfe, MDEQ  
Ms. Susan Kaelber-Matlock, MDEQ  
Anthony Thrubis, Esq., GM Legal Staff  
David Tripp, Esq., Dykema Gossett  
Ms. Katie Moertl, Attorney at Law, Quarles & Brady  
Ms. Cheryl Hiatt/Mr. Edward Peterson, GM Remediation Team  
Mr. James Forney, Waste Management, Inc.  
Mr. Phil Mazor, Waste Management, Inc.  
Ms. Megan Shaffner/Mr. Joseph Toth, GM SMI  
Mr. Christopher J. Canonica, P.E., Blasland, Bouck, & Lee, Inc.  
Mr. Michael J. Gefell, P.G., Blasland, Bouck, & Lee, Inc.

## Annual Progress Report – References

### General Motors Corporation Saginaw Malleable Iron Plant Property and REALM, Inc. Green Point Landfill and Drum Remediation Area

- Blasland, Bouck, & Lee, Inc. (BBL), October 1997. General Motors Corporation Saginaw Malleable Iron Plant, Green Point Landfill and Drum Remediation Area, Saginaw, Michigan, *Remedial Investigation/Feasibility Study Work Plan*, October 1997; schedule tables revised January 1998.
- Blasland, Bouck, & Lee, Inc. (BBL), October 1999a. *Annual Progress Report – March 1998 to September 1999, General Motors Corporation Saginaw Malleable Iron Plant Property and REALM, Inc. Green Point Landfill and Drum Remediation Area, Saginaw, Michigan*. October 13, 1999.
- Blasland, Bouck, & Lee, Inc. (BBL), October 1999b. *Fifth Quarterly Groundwater Monitoring Report, Interim Response Action, Former UST #7 Area, General Motors Corporation Saginaw Malleable Iron Plant, Saginaw, Michigan*. October 27, 1999.
- Blasland, Bouck, & Lee, Inc. (BBL), December 1999. *Supplemental Investigation North of the Former Hillock Portion of the Drum Remediation Area*. December 9, 1999.
- Blasland, Bouck, & Lee, Inc. (BBL), January 2000a. Letter to MDEQ, Subject: *General Motors Corporation SMI Plant Property, and REALM Inc. Green Point Landfill and Drum Remediation Area; Response to MDEQ comments on Remedial Investigation Report*, January 24, 2000.
- Blasland, Bouck, & Lee, Inc. (BBL), January 2000b. *General Motors Saginaw Malleable Iron Green Point Landfill Final Cover System Construction Certification Report*. January 26, 2000.
- Blasland, Bouck, & Lee, Inc. (BBL), February 2000. *Sixth Quarterly Groundwater Monitoring Report, Interim Response Action, Former UST #7 Area, General Motors Corporation Saginaw Malleable Iron Plant, Saginaw, Michigan*. February 9, 2000.
- Blasland, Bouck, & Lee, Inc. (BBL), March 2000. *Seventh Quarterly Groundwater Monitoring Report, Interim Response Action, Former UST #7 Area, General Motors Corporation Saginaw Malleable Iron Plant, Saginaw, Michigan*. March 9, 2000.
- Blasland, Bouck, & Lee, Inc. (BBL), May 2000. Letter to MDEQ, Subject: *Supplemental Groundwater Sampling at the General Motors SMI Plant Property, and REALM Green Point Landfill, Environmental Monitoring Program Spring 2000 Groundwater Sampling for the Green Point Landfill, and Spring 2000 UST #7 Quarterly Groundwater Monitoring Program*, May 10, 2000.
- Blasland, Bouck, & Lee, Inc. (BBL), June 2000. *Monthly Report #66 (May 2000)*, June 9, 2000.
- Blasland, Bouck, & Lee, Inc. (BBL), July 2000a. *Monthly Report #67 (June 2000)*, July 11, 2000.
- Blasland, Bouck, & Lee, Inc. (BBL), July 2000b. Memo to the MDEQ, Subject: *GM SMI Plant Property and REALM Inc. Green Point Landfill and Drum Remediation Area*, July 17, 2000.

## Annual Progress Report – References

### General Motors Corporation Saginaw Malleable Iron Plant Property and REALM, Inc. Green Point Landfill and Drum Remediation Area

- Blasland, Bouck, & Lee, Inc. (BBL), July 2000c. Letter to the MDEQ, Subject: *GM SMI Plant Property, and REALM Inc. Green Point Landfill and Drum Remediation Area Remedial Investigation*, July 31, 2000.
- Blasland, Bouck, & Lee, Inc. (BBL), August 2000. *Monthly Report #68 (July 2000)*, August 14, 2000.
- Blasland, Bouck, & Lee, Inc. (BBL), September 2000a. *Monthly Report #69 (August 2000)*, September 14, 2000.
- Blasland, Bouck, & Lee, Inc. (BBL), September 2000b. *Eighth Quarterly Groundwater Monitoring Report, Interim Response Action, Former UST #7 Area, General Motors Corporation Saginaw Malleable Iron Plant, Saginaw, Michigan*. September 27, 2000.
- Blasland, Bouck, & Lee, Inc. (BBL), October 2000. *Environmental Monitoring Program Annual Report, Green Point Landfill, Saginaw, Michigan, October 2000*. October 4, 2000.
- Brouillet, Allan C. (MDEQ), October 1999. Letter to GM, Subject: *Annual Progress Report, General Motors Corporation Saginaw Malleable Iron Plant, Consent Judgment #98-22686-CE-2*, October 22, 1999.
- Brouillet, Allan C. (MDEQ), July 2000. Letter to GM, Subject: Compliance Date, Submittal of the Amended Draft Remedial Investigation Report, Consent Judgment #98-22686-CE-2, July 25, 2000.
- Brouillet, Brenda J. (MDEQ), December 1999. Letter to GM, Subject: *Saginaw Malleable Iron (SMI) Plant Property, September 24, 1999 Response to July 19, 1999 Remedial Investigation Report Comments, Consent Judgement #98-22686-CE-2*, December 13, 1999.
- Brouillet, Brenda J. (MDEQ), May 2000. Letter to GM, Subject: *Notice of Violation, Consent Judgment #98-22686-CE-2, General Motors (GM) Saginaw Malleable Iron (SMI), Final Remedial Investigation Report*, May 5, 2000.
- Brouillet, Brenda J. (MDEQ), June 2000a. Letter to GM, Subject: *General Motors Saginaw Malleable Iron Supplemental Investigation North of the Hillock Portion of the Drum Remediation Area, Consent Order #98-22686-CE-2*, June 6, 2000.
- Brouillet, Brenda J. (MDEQ), June 2000b. Letter to GM, Subject: *Notice of Violation issued May 5, 2000, Consent Judgment #98-22686-CE-2, General Motors Saginaw Malleable Iron, Final Remedial Investigation Report*, June 26, 2000.
- Brouillet, Brenda J. (MDEQ), July 2000. Letter to GM, Subject: *General Motors Saginaw Malleable Iron Greenpoint Landfill Final Cover System Construction Certification Report, Consent Order #98-22686-CE-2*, July 19, 2000.
- Brouillet, Brenda J. (MDEQ), August 2000. Letter to GM, Subject: *General Motors Saginaw Malleable Iron/Greenpoint Landfill, Final Remedial Investigation Report, Consent Judgment #98-22686-CE-2*, August 9, 2000.

## Annual Progress Report – References

### General Motors Corporation Saginaw Malleable Iron Plant Property and REALM, Inc. Green Point Landfill and Drum Remediation Area

- Conestoga-Rovers & Associates (CRA), August 1999. *Workplan for Additional Sewer System Monitoring, General Motors Saginaw Malleable Iron Plant Property.* August 12, 1999.
- Conestoga-Rovers & Associates (CRA), February 2000. *Workplan for Lining of the Stormwater Pond, General Motors Saginaw Malleable Iron Plant Property.* February 28, 2000.
- General Motors Corporation (GM), November 1999. *Monthly Report #59 (October 1999),* November 9, 1999.
- General Motors Corporation (GM), December 1999a. *Monthly Report #60 (November 1999),* December 9, 1999.
- General Motors Corporation (GM), December 1999b. Letter to MDEQ, Subject: *Request for Extension to Respond to MDEQ December 13, 1999 Letter, Greenpoint Landfill/Saginaw Malleable Iron Plant, Saginaw, Michigan,* December 20, 1999.
- General Motors Corporation (GM), January 2000. *Monthly Report #61 (December 1999),* January 7, 2000.
- General Motors Corporation (GM), February 2000. *Monthly Report #62 (January 2000),* February 9, 2000.
- General Motors Corporation (GM), March 2000. *Monthly Report #63 (February 2000),* March 9, 2000.
- General Motors Corporation (GM), April 2000. *Monthly Report #64 (March 2000),* April 9, 2000.
- General Motors Corporation (GM), May 2000. *Monthly Report #65 (April 2000),* May 9, 2000.
- General Motors Corporation (GM), June 2000. Letter to MDEQ, Subject: *Response to MDEQ May 5, 2000 Notice of Violation, Saginaw Malleable Iron/Green Point Landfill, Saginaw, Michigan Consent Judgment 98-22686-CE-2,* June 7, 2000.
- Kaelber-Matlock, Susan (MDEQ), February 2000. Letter to GM, Subject: *Workplan for Additional Sewer System Monitoring for the Saginaw Malleable Iron Plant, Consent Judgment #98-22686-CE-2,* February 7, 2000.
- Tripp, David L. (Dykema Gossett), May 2000. Letter to MDEQ, Subject: *Consent Judgment #98-22686-CE-2, General Motors Corporation Saginaw Malleable Iron (“SMI”) Plant and Green Point Landfill,* May 12, 2000.

TABLE 10-1

SCHEDULE FOR GREEN POINT LANDFILL CLOSURE  
AND SUBMITTAL OF MAJOR DELIVERABLES TO THE MDEQ

GENERAL MOTORS CORPORATION  
SAGINAW MALLEABLE IRON PLANT PROPERTY  
AND  
REALM, INC.  
GREEN POINT LANDFILL AND DRUM REMEDIATION AREA  
SAGINAW, MICHIGAN

| Deliverable   | Submittal and Completion Schedule ***  |
|---|--|
| 1. Monthly Reports  | Within 15 days of end of month for which report has been prepared; starting from the end of first month following entry of Consent Judgment.                 |
| 2. Work Plan to Complete Supplemental Phase II Investigation at Former Tank #7                          | Work Plan was transmitted on February 9, 1996. [COMPLETED]   |
| 3. Draft RI Report  | Report was submitted to the MDEQ on January 21, 1999. [COMPLETED]  |
| 4. Final RI Report  | Within 120 days of receiving comments from MDEQ on Draft RI Report.  |
| 5. Draft FS Report  | Within 6 months of MDEQ approval of Final RI Report.   |
| 6. Final FS Report  | Within 90 days of receiving comments from MDEQ on Draft FS Report.   |
| 7. Green Point Landfill Combined Conceptual Engineering and 35% Design Report (including Subgrade Plan) | Report was submitted to the MDEQ on February 5, 1996. [COMPLETED]  |
| 8. Green Point Landfill 90% Design Report   | Report was submitted to the MDEQ on October 28, 1997. [COMPLETED]  |
| 9. Green Point Landfill Final Design Report   | Report was submitted to the MDEQ in January 1998. [COMPLETED]  |
| 10. Green Point Landfill Subgrade Construction  | Subgrade construction was completed in July 1997. [COMPLETED]  |
| 11. Green Point Landfill Cap Construction **  | Cap construction was completed January 26, 2000. [COMPLETED]   |
| 12. Green Point Landfill "As-Built" Drawings  | Green Point Landfill "As-Built" drawings were transmitted to the MDEQ on January 26, 2000 as part of the Final Cover System Certification Report [COMPLETED] |
| 13. Draft RAP   | Within 7 months of MDEQ approval of Final FS Report.   |
| 14. Final RAP   | Within 120 days of receiving comments from MDEQ on Draft RAP.  |

Notes:

- \*\* Landfill cap construction consists of all remedial activities required in the final design for the landfill.
- \*\*\* Transmittal dates refer to the dates that deliverables were sent out from preparers, and do not indicate the dates that deliverables were received by the MDEQ.

TABLE 10-2

SCHEDULE FOR SUBMITTAL OF OTHER DELIVERABLES TO THE MDEQ

GENERAL MOTORS CORPORATION  
 SAGINAW MALLEABLE IRON PLANT PROPERTY  
 AND  
 REALM, INC.  
 GREEN POINT LANDFILL AND DRUM REMEDIATION AREA  
 SAGINAW, MICHIGAN

| Deliverable <sup>1</sup> |   | RI/FS Work Plan Section     | Submittal Due Date <sup>3</sup>  |
|--------------------------|---|-----------------------------|--|
| 1.                       | Plan to determine representative background concentrations in groundwater of hazardous substances of interest.  | Section 1.3                 | Plan was transmitted to the MDEQ on April 17, 1996. [COMPLETED]                        |
| 2.                       | Sewer Map   | Section 7.6                 | The site sewer map was transmitted to the MDEQ on February 17, 1995. [COMPLETED]       |
| 3.                       | Buried Utility Maps <sup>2</sup> (including updated sewer map and invert elevations of key manholes).   | Section 7.4                 | The buried utility maps were transmitted to the MDEQ on September 4, 1998. [COMPLETED] |
| 4.                       | Analytical Monitoring Plan for SMI Sewer System. This plan will be based on the buried utility maps and analytical results of POTW monitoring program and other sewer samples.  | Section 7.6                 | Plan was transmitted to the MDEQ by CRA on February 3, 1997. [COMPLETED]               |
| 5.                       | Report presenting the results of the Perimeter Geophysical Survey.  | Section 7.1                 | Report was transmitted to the MDEQ on June 23, 1995. [COMPLETED]                       |
| 6.                       | Letter Report summarizing results of temporary monitoring well sampling around perimeter of SMI Plant building and site, and recommendations, if appropriate, for the installation of permanent monitoring wells.   | Section 7.2.1               | Letter report was transmitted to the MDEQ on August 30, 1995. [COMPLETED]              |
| 7.                       | Transmittal of summary tables of analytical data collected during six month POTW Sampling Program to the MDEQ.  | Section 7.6                 | Data summary tables were transmitted to the MDEQ on August 1, 1996. [COMPLETED]        |
| 8.                       | Transmittal of historical analytical data for POTW point of compliance (CFD-02) discharge.  | Section 7.6                 | Data summary report was transmitted to the MDEQ on December 29, 1996. [COMPLETED]      |
| 9.                       | Report summarizing analytical results of first round of groundwater sampling. The report will propose to the MDEQ a list of site-specific constituents for future groundwater sampling activities, and will present recommendations for additional well installation, if needed, to further investigate on-site sources, the site perimeter, or off-site areas. | Sections 7.2.4, and 7.2.4.3 | Report was transmitted to the MDEQ on January 22, 1996. [COMPLETED]                    |

TABLE 10-2

SCHEDULE FOR SUBMITTAL OF OTHER DELIVERABLES TO THE MDEQ

GENERAL MOTORS CORPORATION  
 SAGINAW MALLEABLE IRON PLANT PROPERTY  
 AND  
 REALM, INC.  
 GREEN POINT LANDFILL AND DRUM REMEDIATION AREA  
 SAGINAW, MICHIGAN

|     | Deliverable <sup>1</sup>   | RI/FS Work Plan Section | Submittal Due Date <sup>3</sup>  |
|-----|--|-------------------------|--|
| 10. | <b>Letter Report</b> presenting analytical results of surface soil sampling. Recommendations for additional surface soil sampling to assess potential worker exposure will also be made, if appropriate.   | Section 7.5.4           | Letter report was transmitted to the MDEQ on March 8, 1996. [COMPLETED]  |
| 11. | <b>Report</b> presenting the results of the geophysical borehole logging task and recommendations for additional borings, if needed, to understand discrepancies between the geophysical data and boring logs.   | Section 7.2.5           | Report was transmitted to the MDEQ on January 19, 1996. [COMPLETED]  |
| 12. | Transmittal of Quarterly Water Level Data.   | Section 7.2.8           | Transmitted to the MDEQ within the RI Report, January 21, 1999. [COMPLETED]  |
| 13. | <b>Letter Report</b> evaluating whether buried utilities (or bedding material) may be serving as preferential pathway(s) for groundwater migration.<br><br>Report must include maps of buried utilities with an indication of where utilities or bedding materials lie below the water table.<br><br>Recommendations, if appropriate, for additional borings/monitoring wells need to be included in report. | Section 7.4             | The buried utility evaluation map and summary letter were transmitted to the MDEQ on September 4, 1998. [COMPLETED]  |
| 14. | <b>Notification</b> of MDEQ and Preparation of a <b>Work Plan</b> <sup>1</sup> , if needed, to address any discovered point source discharge to the Saginaw River originating on GM Property.  | Section 7.4             | Notification of MDEQ within 7 days of discovery, Work Plan due 30 days from date of discovery. [COMPLETED]   |
| 15. | <b>Report</b> presenting results of Drum Remediation Area Test Pit Investigation.  | Section 5.1             | Report was transmitted to the MDEQ on August 31, 1995. [COMPLETED]   |
| 16. | <b>Soil Investigation Work Plan</b> <sup>1</sup> for Drum Remediation Area, if needed, following completion of Test Pit Investigation.   | Section 7.5.2           | A Sampling and Analysis Plan to allow consolidation of DRA hillock soils with the Green Point Landfill subgrade, dated August 20, 1996, was transmitted to the MDEQ. Excavation and relocation activities were completed during February 1997. [COMPLETED] |

TABLE 10-2

## SCHEDULE FOR SUBMITTAL OF OTHER DELIVERABLES TO THE MDEQ

**GENERAL MOTORS CORPORATION  
SAGINAW MALLEABLE IRON PLANT PROPERTY  
AND  
REALM, INC.  
GREEN POINT LANDFILL AND DRUM REMEDIATION AREA  
SAGINAW, MICHIGAN**

|     | <b>Deliverable<sup>1</sup></b>  | <b>RI/FS Work Plan Section</b> | <b>Submittal Due Date<sup>3</sup></b>   |
|-----|---|--------------------------------|---|
| 17. | <b>Report</b> on the Previous Metal Feedstock Area, based on results of soil sampling and downgradient monitoring well groundwater results, including a work plan, if needed, to install monitoring wells in this area. | Section 7.5.3                  | Letter report dated August 9, 1996 was transmitted to the MDEQ. <b>[COMPLETED]</b>  |
| 18. | <b>Plan</b> to further investigate groundwater quality north of the Drum Remediation Area.  | NA                             | The initial investigation plan was submitted to the MDEQ on January 5, 1998. A supplemental plan was submitted to the MDEQ on May 13, 1999. A letter report was transmitted to the MDEQ on December 9, 1999. Additional investigation activities are being conducted in October 2000. |
| 19. | <b>Letter report</b> presenting the results of supplemental surface soil sampling in the Railyard and the Unpaved Area, and recommendations for additional activities, as appropriate.                                  | NA                             | The letter report was transmitted to the MDEQ on April 14, 1998. <b>[COMPLETED]</b>   |
| 20. | <b>Plan</b> to collect additional soil, surface water, and sediment samples for ecological characterization.  | NA                             | The initial investigation plan was submitted to the MDEQ on July 17, 2000. Field activities were completed in August 2000. Results will be incorporated into the final RI Report.   |

**Notes:**

- <sup>1</sup> The requirement for certain plans are contingent upon factors specified in the RI/FS Work Plan.
- <sup>2</sup> Buried utilities include buried sewer (current and abandoned), electrical, water, natural gas, fire protection lines, and tunnels.
- <sup>3</sup> Transmittal dates refer to the dates that deliverables were sent out from preparers, and do not indicate the date that deliverables were received by the MDEQ.

TABLE A-1

VOLATILE ORGANIC COMPOUND ANALYTICAL DATA  
MAY 2000 SAMPLING EVENT

GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Criteria Area<br>Location ID<br>Date Sampled<br>Sample Type | Generic MDEQ<br>Criteria Values<br>(ug/L) |            |             | GSI           | IND           | IND           | IND           | IND           | IND           | IND           | IND           |
|---|---|------------|-------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|   | GSI                                       | RDW        | IDW         | MW-6CAUG      | B-3BAUG       | BBL-MW1       | BBL-MW2       | BBL-MW3       | BBL-MW4       | BBL-MW5       | MW-135WT      |
|   |   |            |             | 5/22/00<br>FS | 5/18/00<br>FS | 5/18/00<br>FS | 5/19/00<br>FS | 5/17/00<br>FS | 5/18/00<br>FS | 5/19/00<br>FS | 5/18/00<br>FS |
| 1,1,1-Trichloroethane                                       | 200                                       | 200 {A}    | 200 {A}     | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| 1,1,2,2-Tetrachloroethane                                   | 78 {X}                                    | 4.3        | 35          | 1.0 UJ        | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| 1,1,2-Trichloroethane                                       | 330 {X}                                   | 5 {A}      | 5 {A}       | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| 1,1-Dichloroethane  | ID  | 880 {I}    | 2,500       | 1.0 U         | 0.11 J        | 5.0 U         | 0.21 J        | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| 1,1-Dichloroethene  | 65 {I,X}                                  | 7 {A,I}    | 7 {A,I}     | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| 1,2,4-Trimethylbenzene                                      | ID {I}                                    | 63 {E}     | 63 {E,I}    | --            | --            | 55            | 1.0 U         | 0.39 J        | 1.0 U         | 5.0 U         | 1.0 U         |
| 1,2-Dichloroethane  | 360 {I,X}                                 | 5 {A,I}    | 5 {A,I}     | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| 1,2-Dichloroethene, Total                                   | ID  | 70 {A,I}   | 70 {A,I}    | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| 1,2-Dichloropropane   | 290 {I,X}                                 | 5 {A,I}    | 5 {A,I}     | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| 1,3,5-Trimethylbenzene                                      | ID {I}                                    | 72 {E}     | 72 {E,I}    | --            | --            | 18            | 1.0 U         | 0.15 J        | 1.0 U         | 5.0 U         | 1.0 U         |
| 2-Butanone  | 2,200 {I}                                 | 13,000 {I} | 38,000 {I}  | 10 U          | 10 U          | 19 J          | 10 UJ         | 10 U          | 10 U          | 50 U          | 10 U          |
| 2-Hexanone  | NA  | 1,000 {I}  | 2,900       | 10 U          | 10 U          | 50 U          | 10 UJ         | 10 U          | 10 U          | 50 U          | 10 U          |
| 4-Methyl-2-pentanone  | ID {I}                                    | 1,800 {I}  | 5,200 {I}   | 10 U          | 10 U          | 11 J          | 4.4 J         | 10 UJ         | 10 U          | 50 U          | 10 U          |
| Acetone   | 1,700 {I}                                 | 730 {I}    | 2,100 {I}   | 10 U          | 10 U          | 71 U          | 10 U          | 10 U          | 10 U          | 50 U          | 10 U          |
| Benzene   | 200 {I,X}                                 | 5 {A,I}    | 5 {A,I}     | 0.51 JB       | 1.0 U         | 8.1           | 26            | 18 B          | 1.6           | 89            | 0.30 J        |
| Bromodichloromethane  | ID  | 100 {A,W}  | 100 {A,W}   | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| Bromoform   | ID  | 100 {A,W}  | 100 {A,W}   | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| Bromomethane  | 35  | 10         | 29          | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| Carbon disulfide  | ID {I,R}                                  | 800 {I,R}  | 2,300 {I,R} | 0.26 J        | 1.0 U         | 5.0 U         | 1.3           | 1.0 U         | 0.91 J        | 5.0 U         | 0.82 J        |
| Carbon tetrachloride  | 45 {X}                                    | 5 {A}      | 5 {A}       | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| Chlorobenzene   | 47 {I}                                    | 100 {A,I}  | 100 {A,I}   | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 3.2           | 5.0 U         | 1.0 U         |
| Chlorodibromomethane  | ID  | 100 {A,W}  | 100 {A,W}   | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| Chloroethane  | ID  | 220 {I}    | 1,700       | 1.0 U         | 0.19 J        | 5.0 U         | 3.8           | 1.0 U         | 1.0 U         | 1.8 J         | 1.0 U         |
| Chloroform  | 170 {X}                                   | 100 {A,W}  | 100 {A,W}   | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| Chloromethane   | ID {I}                                    | 66 {I}     | 1,100 {I}   | 1.0 U         | 1.0 U         | 5.0 U         | 1.4 J         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| cis-1,2-Dichloroethene                                      | ID  | 70 {A,I}   | 70 {A}      | 0.50 U        | 0.50 U        | 2.5 U         | 0.50 U        | 0.61          | 0.50 U        | 2.5 U         | 0.50 U        |
| cis-1,3-Dichloropropene                                     | NA  | 4.7 {I,J}  | 63          | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| Ethylbenzene  | 18 {I}                                    | 74 {E,I}   | 74 {E,I}    | 2.2           | 1.0 U         | 10            | 9.2           | 0.23 J        | 1.0 U         | 1.5 J         | 1.0 U         |
| Methylene chloride  | 940 {X}                                   | 5 {A}      | 5 {A}       | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| Styrene   | 80  | 100 {A,I}  | 100 {A}     | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| Tetrachloroethene   | 45 {X}                                    | 5 {A}      | 5 {A}       | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| Toluene   | 140 {I}                                   | 790 {E,I}  | 790 {E,I}   | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| trans-1,2-Dichloroethene                                    | ID  | 100 {A}    | 100 {A}     | 0.50 U        | 0.50 U        | 2.5 U         | 0.50 U        | 0.50 U        | 0.50 U        | 2.5 U         | 0.50 U        |
| trans-1,3-Dichloropropene                                   | NA  | 4.7 {I,J}  | 63          | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| Trichloroethene   | 200 {X}                                   | 5 {A}      | 5 {A}       | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.3           | 1.0 U         | 5.0 U         | 1.0 U         |
| Vinyl chloride  | 15  | 2 {A}      | 2 {A}       | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U         | 1.0 U         |
| Xylenes, Total  | 35 {I}                                    | 280 {E,I}  | 280 {E,I}   | 13            | 1.0 U         | 15            | 2.3           | 1.1           | 1.0 U         | 6.2           | 1.0 U         |

See generic notes pages.

TABLE A-1

VOLATILE ORGANIC COMPOUND ANALYTICAL DATA  
MAY 2000 SAMPLING EVENT

GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Criteria Area<br>Location ID<br>Date Sampled<br>Sample Type | Generic MDEQ<br>Criteria Values<br>(ug/L) |            |             | IND      | IND      | IND     | IND     | IND     | IND     | IND     | IND     |
|---|---|------------|-------------|----------|----------|---------|---------|---------|---------|---------|---------|
|   | GSI                                       | RDW        | IDW         | MW-144WT | MW-144WT | TWW-1   | UST7-1  | UST7-2  | UST7-3R | UST7-4  | UST7-5  |
|   |   |            |             | 5/23/00  | 5/23/00  | 5/21/00 | 5/18/00 | 5/17/00 | 5/19/00 | 5/18/00 | 5/17/00 |
|   |   |            | FS          | DUP      | FS       | FS      | FS      | FS      | FS      | FS      | FS      |
| 1,1,1-Trichloroethane                                       | 200                                       | 200 {A}    | 200 {A}     | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| 1,1,2,2-Tetrachloroethane                                   | 78 {X}                                    | 4.3        | 35          | 1.0 U    | 1.0 U    | 250 UJ  | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| 1,1,2-Trichloroethane                                       | 330 {X}                                   | 5 {A}      | 5 {A}       | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| 1,1-Dichloroethane  | ID  | 880 {I}    | 2,500       | 0.33 J   | 0.35 J   | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| 1,1-Dichloroethene  | 65 {I,X}                                  | 7 {A,I}    | 7 {A,I}     | 1.0 U    | 1.0 U    | 51 J    | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| 1,2,4-Trimethylbenzene                                      | ID {I}                                    | 63 {E}     | 63 {E,I}    | --       | --       | --      | 5.0 U   | 1,500   | 1.0 U   | 0.14 J  | 190     |
| 1,2-Dichloroethane  | 360 {I,X}                                 | 5 {A,I}    | 5 {A,I}     | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| 1,2-Dichloroethene, Total                                   | ID  | 70 {A,I}   | 70 {A,I}    | 1.0 U    | 1.0 U    | 8,800   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| 1,2-Dichloropropane   | 290 {I,X}                                 | 5 {A,I}    | 5 {A,I}     | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| 1,3,5-Trimethylbenzene                                      | ID {I}                                    | 72 {E}     | 72 {E,I}    | --       | --       | --      | 5.0 U   | 750     | 1.0 U   | 1.0 U   | 5.0 U   |
| 2-Butanone  | 2,200 {I}                                 | 13,000 {I} | 38,000 {I}  | 10 U     | 10 U     | 2,500 U | 4.2 J   | 500 U   | 10 U    | 0.73 J  | 50 U    |
| 2-Hexanone  | NA  | 1,000 {I}  | 2,900       | 10 U     | 10 U     | 2,500 U | 50 U    | 500 U   | 10 U    | 10 U    | 50 U    |
| 4-Methyl-2-pentanone  | ID {I}                                    | 1,800 {I}  | 5,200 {I}   | 10 U     | 10 U     | 2,500 U | 50 U    | 500 U   | 10 U    | 10 U    | 50 U    |
| Acetone   | 1,700 {I}                                 | 730 {I}    | 2,100 {I}   | 10 U     | 10 U     | 2,500 U | 50 U    | 500 U   | 10 U    | 10 U    | 50 U    |
| Benzene   | 200 {I,X}                                 | 5 {A,I}    | 5 {A,I}     | 3.5 B    | 3.5 B    | 250 U   | 97      | 1,500   | 13      | 6.0     | 42      |
| Bromodichloromethane  | ID  | 100 {A,W}  | 100 {A,W}   | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Bromoform   | ID  | 100 {A,W}  | 100 {A,W}   | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Bromomethane  | 35  | 10         | 29          | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Carbon disulfide  | ID {I,R}                                  | 800 {I,R}  | 2,300 {I,R} | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 0.22 J  | 0.62 J  |
| Carbon tetrachloride  | 45 {X}                                    | 5 {A}      | 5 {A}       | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Chlorobenzene   | 47 {I}                                    | 100 {A,I}  | 100 {A,I}   | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Chlorodibromomethane  | ID  | 100 {A,W}  | 100 {A,W}   | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Chloroethane  | ID  | 220 {I}    | 1,700       | 8.0      | 8.5      | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Chloroform  | 170 {X}                                   | 100 {A,W}  | 100 {A,W}   | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Chloromethane   | ID {I}                                    | 66 {I}     | 1,100 {I}   | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| cis-1,2-Dichloroethene                                      | ID  | 70 {A,I}   | 70 {A}      | 0.50 U   | 0.50 U   | 8,800   | 2.5 U   | 25 U    | 0.50 U  | 0.50 U  | 2.5 U   |
| cis-1,3-Dichloropropene                                     | NA  | 4.7 {I,J}  | 63          | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Ethylbenzene  | 18 {I}                                    | 74 {E,I}   | 74 {E,I}    | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Methylene chloride  | 940 {X}                                   | 5 {A}      | 5 {A}       | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 0.18 J  | 71      |
| Styrene   | 80  | 100 {A,I}  | 100 {A}     | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Tetrachloroethene   | 45 {X}                                    | 5 {A}      | 5 {A}       | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 0.33 J  | 1.0 U   | 5.0 U   |
| Toluene   | 140 {I}                                   | 790 {E,I}  | 790 {E,I}   | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 25 J    | 1.0 U   | 1.0 U   | 13      |
| trans-1,2-Dichloroethene                                    | ID  | 100 {A}    | 100 {A}     | 0.50 U   | 0.50 U   | 40 J    | 2.5 U   | 25 U    | 0.50 U  | 0.50 U  | 2.5 U   |
| trans-1,3-Dichloropropene                                   | NA  | 4.7 {I,J}  | 63          | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Trichloroethene   | 200 {X}                                   | 5 {A}      | 5 {A}       | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Vinyl chloride  | 15  | 2 {A}      | 2 {A}       | 1.0 U    | 1.0 U    | 2,300   | 5.0 U   | 50 U    | 1.0 U   | 1.0 U   | 5.0 U   |
| Xylenes, Total  | 35 {I}                                    | 280 {E,I}  | 280 {E,I}   | 1.0 U    | 1.0 U    | 250 U   | 5.0 U   | 1,200   | 1.0 U   | 0.67 J  | 330     |

See generic notes pages.

TABLE A-1

VOLATILE ORGANIC COMPOUND ANALYTICAL DATA  
MAY 2000 SAMPLING EVENT

GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Criteria Area<br>Location ID<br>Date Sampled<br>Sample Type | Generic MDEQ<br>Criteria Values<br>(ug/L) |            |             | IND<br>UST7-5<br>5/17/00 | IND<br>X-1CR<br>5/24/00 | RES<br>MW-139WT<br>5/19/00 |
|---|---|------------|-------------|--------------------------|-------------------------|----------------------------|
|   | GSI                                       | RDW        | IDW         | DUP                      | FS                      | FS                         |
|   | 1,1,1-Trichloroethane                     | 200        | 200 {A}     | 200 {A}                  | 7.1 U                   | 1.0 U                      |
| 1,1,2,2-Tetrachloroethane                                   | 78 {X}                                    | 4.3        | 35          | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| 1,1,2-Trichloroethane                                       | 330 {X}                                   | 5 {A}      | 5 {A}       | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| 1,1-Dichloroethane  | ID  | 880 {I}    | 2,500       | 7.1 U                    | 0.22 J                  | 1.0 U                      |
| 1,1-Dichloroethene  | 65 {I,X}                                  | 7 {A,I}    | 7 {A,I}     | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| 1,2,4-Trimethylbenzene                                      | ID {I}                                    | 63 {E}     | 63 {E,I}    | 260                      | --                      | 1.0 U                      |
| 1,2-Dichloroethane  | 360 {I,X}                                 | 5 {A,I}    | 5 {A,I}     | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| 1,2-Dichloroethene, Total                                   | ID  | 70 {A,I}   | 70 {A,I}    | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| 1,2-Dichloropropane   | 290 {I,X}                                 | 5 {A,I}    | 5 {A,I}     | 0.61 J                   | 1.0 U                   | 1.0 U                      |
| 1,3,5-Trimethylbenzene                                      | ID {I}                                    | 72 {E}     | 72 {E,I}    | 7.1 U                    | --                      | 1.0 U                      |
| 2-Butanone  | 2,200 {I}                                 | 13,000 {I} | 38,000 {I}  | 71 U                     | 10 UJ                   | 10 UJ                      |
| 2-Hexanone  | NA  | 1,000 {I}  | 2,900       | 71 U                     | 10 U                    | 10 UJ                      |
| 4-Methyl-2-pentanone  | ID {I}                                    | 1,800 {I}  | 5,200 {I}   | 71 U                     | 10 U                    | 10 U                       |
| Acetone   | 1,700 {I}                                 | 730 {I}    | 2,100 {I}   | 71 U                     | 10 U                    | 10 U                       |
| Benzene   | 200 {I,X}                                 | 5 {A,I}    | 5 {A,I}     | 56                       | 2.7                     | 1.0 U                      |
| Bromodichloromethane  | ID  | 100 {A,W}  | 100 {A,W}   | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| Bromoform   | ID  | 100 {A,W}  | 100 {A,W}   | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| Bromomethane  | 35  | 10         | 29          | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| Carbon disulfide  | ID {I,R}                                  | 800 {I,R}  | 2,300 {I,R} | 7.1 U                    | 0.12 J                  | 1.0 U                      |
| Carbon tetrachloride  | 45 {X}                                    | 5 {A}      | 5 {A}       | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| Chlorobenzene   | 47 {I}                                    | 100 {A,I}  | 100 {A,I}   | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| Chlorodibromomethane  | ID  | 100 {A,W}  | 100 {A,W}   | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| Chloroethane  | ID  | 220 {I}    | 1,700       | 7.1 U                    | 5.9                     | 1.0 U                      |
| Chloroform  | 170 {X}                                   | 100 {A,W}  | 100 {A,W}   | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| Chloromethane   | ID {I}                                    | 66 {I}     | 1,100 {I}   | 7.1 U                    | 1.0 UJ                  | 1.0 UJ                     |
| cis-1,2-Dichloroethene                                      | ID  | 70 {A,I}   | 70 {A}      | 3.6 U                    | 0.15 J                  | 0.50 U                     |
| cis-1,3-Dichloropropene                                     | NA  | 4.7 {I,J}  | 63          | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| Ethylbenzene  | 18 {I}                                    | 74 {E,I}   | 74 {E,I}    | 83                       | 1.0 U                   | 1.0 U                      |
| Methylene chloride  | 940 {X}                                   | 5 {A}      | 5 {A}       | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| Styrene   | 80  | 100 {A,I}  | 100 {A}     | 2.5 J                    | 1.0 U                   | 1.0 U                      |
| Tetrachloroethene   | 45 {X}                                    | 5 {A}      | 5 {A}       | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| Toluene   | 140 {I}                                   | 790 {E,I}  | 790 {E,I}   | 13                       | 1.0 U                   | 1.0 U                      |
| trans-1,2-Dichloroethene                                    | ID  | 100 {A}    | 100 {A}     | 3.6 U                    | 0.50 U                  | 0.50 U                     |
| trans-1,3-Dichloropropene                                   | NA  | 4.7 {I,J}  | 63          | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| Trichloroethene   | 200 {X}                                   | 5 {A}      | 5 {A}       | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| Vinyl chloride  | 15  | 2 {A}      | 2 {A}       | 7.1 U                    | 1.0 U                   | 1.0 U                      |
| Xylenes, Total  | 35 {I}                                    | 280 {E,I}  | 280 {E,I}   | 360                      | 0.78 J                  | 1.0 U                      |

See generic notes pages.

TABLE A-2

SEMIVOLATILE ORGANIC COMPOUND ANALYTICAL DATA  
MAY 2000 SAMPLING EVENTGM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Criteria Area<br>Location ID<br>Date Sampled<br>Sample Type | Generic MDEQ<br>Criteria Values<br>(ug/L) |           |             | GSI           | GSI           | IND           | IND              | IND           | IND            | IND           | IND           | IND           |
|---|---|-----------|-------------|---------------|---------------|---------------|------------------|---------------|----------------|---------------|---------------|---------------|
|   | GSI                                       | RDW       | IDW         | MW-111S3      | MW-111WT      | B-2R          | B-4CAUG          | MW-115S1      | MW-115S1       | MW-117S2      | MW-140S2      | MW-140WT      |
|   |   |           |             | 5/19/00<br>FS | 5/19/00<br>FS | 5/23/00<br>FS | 5/23/00<br>FS    | 5/18/00<br>FS | 5/18/00<br>DUP | 5/20/00<br>FS | 5/17/00<br>FS | 5/17/00<br>FS |
| 1,2-Dichlorobenzene   | 16  | 600 {A}   | 600 {A}     | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U            | 1.0 U         | 1.0 U          | 1.0 U         | 1.0 U         | 1.0 U         |
| 1,2,4-Trichlorobenzene                                      |   |           |             | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 1,3-Dichlorobenzene   | 38  | 600       | 19          | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U            | 1.0 U         | 1.0 U          | 1.0 U         | 1.0 U         | 1.0 U         |
| 1,4-Dichlorobenzene   | 13  | 75 {A}    | 75 {A}      | 1.0 U         | 1.0 U         | 1.0 U         | 5.0 U            | 1.0 U         | 1.0 U          | 1.0 U         | 1.0 U         | 1.0 U         |
| 2,4,5-Trichlorophenol                                       | NA  | 730       | 2,100       | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 2,4,6-Trichlorophenol                                       | 4.4                                       | 77        | 470         | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 2,4-Dichlorophenol  | 19  | 73        | 210         | 10 U          | 10 U          | 10 U          | 50 U             | 10 U          | 10 U           | 10 U          | 10 U          | 10 U          |
| 2,4-Dimethylphenol  | 380                                       | 370       | 1,000       | 5.0 U         | 5.0 U         | 5.0 U         | 57               | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 2,4-Dinitrotoluene  | NA  | 5.0 {M}   | 32          | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 2,6-Dinitrotoluene  |   |           |             | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 2-Chloronaphthalene   | NA  | 1,800     | 5,200       | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 2-Chlorophenol  | 22  | 45        | 130         | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 2-Methylnaphthalene   | ID  | 260       | 750         | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 2-Methylphenol  | 71 {J}                                    | 370       | 1,000 {J}   | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 2-Nitroaniline  |   |           |             | 20 U          | 20 U          | 20 U          | 100 U            | 20 U          | 20 U           | 20 U          | 20 U          | 20 U          |
| 2-Nitrophenol   | ID  | 20        | 58          | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 3,3'-Dichlorobenzidine                                      | 0.30 {M,X}                                | 1.9       | 4.3         | 20 U          | 20 U          | 20 U          | 100 U            | 20 U          | 20 U           | 20 U          | 20 U          | 20 U          |
| 3-Nitroaniline  |   |           |             | 20 U          | 20 U          | 20 U          | 100 U            | 20 U          | 20 U           | 20 U          | 20 U          | 20 U          |
| 4,6-Dinitro-2-methylphenol                                  | NA  | 20 {M}    | 20 {M}      | 20 U          | 20 U          | 20 U          | 100 U            | 20 U          | 20 U           | 20 U          | 20 U          | 20 U          |
| 4-Bromophenyl phenyl ether                                  |   |           |             | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 4-Chloro-3-methylphenol                                     | NA  | 150       | 420         | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 4-Chloroaniline   |   |           |             | 10 U          | 10 U          | 10 U          | 50 U             | 10 U          | 10 U           | 10 U          | 10 U          | 10 U          |
| 4-Chlorophenyl phenyl ether                                 |   |           |             | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 4-Methylphenol  | 71 {J}                                    | 37        | 1,000 {J}   | 5.0 U         | 5.0 U         | 5.0 U         | 400 <sup>1</sup> | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| 4-Nitroaniline  |   |           |             | 20 U          | 20 U          | 20 U          | 100 U            | 20 U          | 20 U           | 20 U          | 20 U          | 20 U          |
| Acenaphthene  | 19  | 1,300     | 3,800       | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| Acenaphthylene  | ID  | 26        | 150         | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| Anthracene  | ID  | 43 {S}    | 43 {S}      | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| Benzo(a)anthracene  | NA {Q}                                    | 5.0 {M,Q} | 8.5 {Q}     | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| Benzo(a)pyrene  | ID {Q}                                    | 5.0 {M,Q} | 5.0 {A,M,Q} | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| Benzo(b)fluoranthene  | ID {Q}                                    | 5.0 {M,Q} | 2.0 {M,Q}   | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| Benzo(g,h,i)perylene  | NA  | 26        | 5.0 {M}     | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| Benzo(k)fluoranthene  | NA {Q}                                    | 12 {Q}    | 5.0 {M,Q}   | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| bis(2-Chloroethoxy)methane                                  |   |           |             | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| bis(2-Chloroethyl)ether                                     | NA {I}                                    | 5 {I,M}   | 8.3 {I}     | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| bis(2-Ethylhexyl)phthalate                                  | 32  | 6.0 {A}   | 6.0 {A}     | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |
| Butyl benzyl phthalate                                      | 14 {X}                                    | 1,200     | 2,700 {S}   | 5.0 U         | 5.0 U         | 5.0 U         | 25 U             | 5.0 U         | 5.0 U          | 5.0 U         | 5.0 U         | 5.0 U         |

See generic notes pages.

TABLE A-2

SEMIVOLATILE ORGANIC COMPOUND ANALYTICAL DATA  
MAY 2000 SAMPLING EVENTGM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Criteria Area<br>Location ID<br>Date Sampled<br>Sample Type | Generic MDEQ<br>Criteria Values<br>(ug/L) |           |           | GSI<br>MW-111S3<br>5/19/00 | GSI<br>MW-111WT<br>5/19/00 | IND<br>B-2R<br>5/23/00 | IND<br>B-4CAUG<br>5/23/00 | IND<br>MW-115S1<br>5/18/00 | IND<br>MW-115S1<br>5/18/00 | IND<br>MW-117S2<br>5/20/00 | IND<br>MW-140S2<br>5/17/00 | IND<br>MW-140WT<br>5/17/00 |
|---|---|-----------|-----------|----------------------------|----------------------------|------------------------|---------------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
|   | GSI                                       | RDW       | IDW       | FS                         | FS                         | FS                     | FS                        | FS                         | DUP                        | FS                         | FS                         | FS                         |
| Carbazole   | 10 {M}                                    | 43        | 350       | 10 U                       | 10 U                       | 10 U                   | 50 U                      | 10 U                       | 10 U                       | 10 U                       | 10 U                       | 10 U                       |
| Chrysene  | ID {Q}                                    | 120 {Q}   | 5.0 {M,Q} | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Di-n-butyl phthalate  | 9.7                                       | 880       | 2,500     | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Di-n-octyl phthalate  | ID  | 130       | 380       | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Dibenz(a,h)anthracene                                       | ID {Q}                                    | 5.0 {M,Q} | 5.0 {M,Q} | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Dibenzofuran  | 4.0                                       | ID        | ID        | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Diethyl phthalate   | NA  | 5,500     | 16,000    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Dimethyl phthalate  | NA  | 73,000    | 210,000   | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Fluoranthene  | 1.6                                       | 210 {S}   | 210 {S}   | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Fluorene  | 12  | 880       | 2,000 {S} | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Hexachlorobenzene   | ID  | 1.0 {A}   | 1.0 {A}   | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Hexachlorobutadiene   | 0.053                                     | 11        | 42        | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Hexachlorocyclopentadiene                                   | ID  | 50 {A}    | 50 {A}    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Hexachloroethane  | 6.7 {X}                                   | 61        | 21        | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Indeno(1,2,3-cd)pyrene                                      | ID {Q}                                    | 5.0 {M,Q} | 5.0 {M,Q} | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Isophorone  | 570 {X}                                   | 900       | 3,100     | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| N-Nitroso-di-n-propylamine                                  | NA  | 5.0 {M}   | 5.0 {M}   | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| N-Nitrosodiphenylamine                                      | NA  | 170       | 1,100     | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Naphthalene   | 13  | 260       | 1,500     | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Nitrobenzene  | 180 {I,X}                                 | 5.0 {I,M} | 9.6 {I}   | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Pentachlorophenol   | 2.8 {G,X}                                 | 1.0 {A}   | 1.0 {A}   | 1.0 U                      | 1.0 U                      | 1.0 U                  | 5.0 U                     | 1.0 U                      | 1.0 U                      | 1.0 U                      | 1.0 U                      | 1.0 U                      |
| Phenanthrene  | 5.0 {M}                                   | 26        | 150       | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Phenol  | 210                                       | 4400      | 13000     | 33                         | 5.0 U                      | 5.0 U                  | 140                       | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |
| Pyrene  | ID  | 140 {S}   | 140 {S}   | 5.0 U                      | 5.0 U                      | 5.0 U                  | 25 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      | 5.0 U                      |

See generic notes pages.

TABLE A-2

SEMIVOLATILE ORGANIC COMPOUND ANALYTICAL DATA  
MAY 2000 SAMPLING EVENTGM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Criteria Area<br>Location ID<br>Date Sampled<br>Sample Type | Generic MDEQ<br>Criteria Values<br>(ug/L) |           |             | IND<br>MW-2B<br>5/20/00 | IND<br>X-13AR<br>5/20/00 | IND<br>X-1CR2<br>5/24/00 | RES<br>MW-103S1<br>5/18/00 | RES<br>MW-139WT<br>5/19/00 | RES<br>MW-4<br>5/18/00 | RES<br>X-14CAUG<br>5/18/00 | RES<br>X-15BR<br>5/19/00 | RES<br>X-17R<br>5/18/00 |
|---|---|-----------|-------------|-------------------------|--------------------------|--------------------------|----------------------------|----------------------------|------------------------|----------------------------|--------------------------|-------------------------|
|   | GSI                                       | RDW       | IDW         | FS                      | FS                       | FS                       | FS                         | FS                         | FS                     | FS                         | FS                       | FS                      |
| 1,2-Dichlorobenzene   | 16  | 600 {A}   | 600 {A}     | 1.0 U                   | 1.0 U                    | 1.0 U                    | 1.0 U                      | 1.0 U                      | 1.0 U                  | 1.0 U                      | 1.0 U                    | 1.0 U                   |
| 1,2,4-Trichlorobenzene                                      |   |           |             | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 1,3-Dichlorobenzene   | 38  | 600       | 19          | 1.0 U                   | 1.0 U                    | 1.0 U                    | 1.0 U                      | 1.0 U                      | 1.0 U                  | 1.0 U                      | 1.0 U                    | 1.0 U                   |
| 1,4-Dichlorobenzene   | 13  | 75 {A}    | 75 {A}      | 1.0 U                   | 1.0 U                    | 1.0 U                    | 1.0 U                      | 1.0 U                      | 1.0 U                  | 1.0 U                      | 1.0 U                    | 1.0 U                   |
| 2,4,5-Trichlorophenol                                       | NA  | 730       | 2,100       | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 2,4,6-Trichlorophenol                                       | 4.4                                       | 77        | 470         | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 2,4-Dichlorophenol  | 19  | 73        | 210         | 10 U                    | 10 U                     | 10 U                     | 10 U                       | 10 U                       | 10 U                   | 10 U                       | 10 U                     | 10 U                    |
| 2,4-Dimethylphenol  | 380                                       | 370       | 1,000       | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 2,4-Dinitrotoluene  | NA  | 5.0 {M}   | 32          | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 2,6-Dinitrotoluene  |   |           |             | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 2-Chloronaphthalene   | NA  | 1,800     | 5,200       | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 2-Chlorophenol  | 22  | 45        | 130         | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 2-Methylnaphthalene   | ID  | 260       | 750         | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 2-Methylphenol  | 71 {J}                                    | 370       | 1,000 {J}   | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 2-Nitroaniline  |   |           |             | 20 U                    | 20 U                     | 20 U                     | 20 U                       | 20 U                       | 20 U                   | 20 U                       | 20 U                     | 20 U                    |
| 2-Nitrophenol   | ID  | 20        | 58          | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 3,3'-Dichlorobenzidine                                      | 0.30 {M,X}                                | 1.9       | 4.3         | 20 U                    | 20 U                     | 20 U                     | 20 U                       | 20 U                       | 20 U                   | 20 U                       | 20 U                     | 20 U                    |
| 3-Nitroaniline  |   |           |             | 20 U                    | 20 U                     | 20 U                     | 20 U                       | 20 U                       | 20 U                   | 20 U                       | 20 U                     | 20 U                    |
| 4,6-Dinitro-2-methylphenol                                  | NA  | 20 {M}    | 20 {M}      | 20 U                    | 20 U                     | 20 U                     | 20 U                       | 20 U                       | 20 U                   | 20 U                       | 20 U                     | 20 U                    |
| 4-Bromophenyl phenyl ether                                  |   |           |             | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 4-Chloro-3-methylphenol                                     | NA  | 150       | 420         | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 4-Chloroaniline   |   |           |             | 10 U                    | 10 U                     | 10 U                     | 10 U                       | 10 U                       | 10 U                   | 10 U                       | 10 U                     | 10 U                    |
| 4-Chlorophenyl phenyl ether                                 |   |           |             | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 4-Methylphenol  | 71 {J}                                    | 37        | 1,000 {J}   | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| 4-Nitroaniline  |   |           |             | 20 U                    | 20 U                     | 20 U                     | 20 U                       | 20 U                       | 20 U                   | 20 U                       | 20 U                     | 20 U                    |
| Acenaphthene  | 19  | 1,300     | 3,800       | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| Acenaphthylene  | ID  | 26        | 150         | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| Anthracene  | ID  | 43 {S}    | 43 {S}      | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| Benzo(a)anthracene  | NA {Q}                                    | 5.0 {M,Q} | 8.5 {Q}     | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| Benzo(a)pyrene  | ID {Q}                                    | 5.0 {M,Q} | 5.0 {A,M,Q} | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| Benzo(b)fluoranthene  | ID {Q}                                    | 5.0 {M,Q} | 2.0 {M,Q}   | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| Benzo(g,h,i)perylene  | NA  | 26        | 5.0 {M}     | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| Benzo(k)fluoranthene  | NA {Q}                                    | 12 {Q}    | 5.0 {M,Q}   | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| bis(2-Chloroethoxy)methane                                  |   |           |             | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| bis(2-Chloroethyl)ether                                     | NA {I}                                    | 5 {L,M}   | 8.3 {I}     | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| bis(2-Ethylhexyl)phthalate                                  | 32  | 6.0 {A}   | 6.0 {A}     | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 5.0 U                    | 5.0 U                   |
| Butyl benzyl phthalate                                      | 14 {X}                                    | 1,200     | 2,700 {S}   | 5.0 U                   | 5.0 U                    | 5.0 U                    | 5.0 U                      | 5.0 U                      | 5.0 U                  | 5.0 U                      | 14                       | 5.0 U                   |

See generic notes pages.

TABLE A-2

SEMIVOLATILE ORGANIC COMPOUND ANALYTICAL DATA  
MAY 2000 SAMPLING EVENTGM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Criteria Area<br>Location ID<br>Date Sampled<br>Sample Type | Generic MDEQ<br>Criteria Values<br>(ug/L) |           |           | IND           | IND           | IND           | RES           | RES           | RES           | RES           | RES           | RES           |
|---|---|-----------|-----------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|   | GSI                                       | RDW       | IDW       | MW-2B         | X-13AR        | X-1CR2        | MW-103S1      | MW-139WT      | MW-4          | X-14CAUG      | X-15BR        | X-17R         |
|   |   |           |           | 5/20/00<br>FS | 5/20/00<br>FS | 5/24/00<br>FS | 5/18/00<br>FS | 5/19/00<br>FS | 5/18/00<br>FS | 5/18/00<br>FS | 5/19/00<br>FS | 5/18/00<br>FS |
| Carbazole   | 10 {M}                                    | 43        | 350       | 10 U          | 10 U          | 10 U          | 10 U          | 10 U          | 10 U          | 10 U          | 10 U          | 10 U          |
| Chrysene  | ID {Q}                                    | 120 {Q}   | 5.0 {M,Q} | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Di-n-butyl phthalate  | 9.7                                       | 880       | 2,500     | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Di-n-octyl phthalate  | ID  | 130       | 380       | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Dibenz(a,h)anthracene                                       | ID {Q}                                    | 5.0 {M,Q} | 5.0 {M,Q} | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Dibenzofuran  | 4.0                                       | ID        | ID        | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Diethyl phthalate   | NA  | 5,500     | 16,000    | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Dimethyl phthalate  | NA  | 73,000    | 210,000   | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Fluoranthene  | 1.6                                       | 210 {S}   | 210 {S}   | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Fluorene  | 12  | 880       | 2,000 {S} | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Hexachlorobenzene   | ID  | 1.0 {A}   | 1.0 {A}   | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Hexachlorobutadiene   | 0.053                                     | 11        | 42        | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Hexachlorocyclopentadiene                                   | ID  | 50 {A}    | 50 {A}    | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Hexachloroethane  | 6.7 {X}                                   | 61        | 21        | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Indeno(1,2,3-cd)pyrene                                      | ID {Q}                                    | 5.0 {M,Q} | 5.0 {M,Q} | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Isophorone  | 570 {X}                                   | 900       | 3,100     | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| N-Nitroso-di-n-propylamine                                  | NA  | 5.0 {M}   | 5.0 {M}   | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| N-Nitrosodiphenylamine                                      | NA  | 170       | 1,100     | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Naphthalene   | 13  | 260       | 1,500     | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Nitrobenzene  | 180 {I,X}                                 | 5.0 {I,M} | 9.6 {I}   | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Pentachlorophenol   | 2.8 {G,X}                                 | 1.0 {A}   | 1.0 {A}   | 1.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 1.0 U         | 1.0 U         |
| Phenanthrene  | 5.0 {M}                                   | 26        | 150       | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Phenol  | 210                                       | 4400      | 13000     | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Pyrene  | ID  | 140 {S}   | 140 {S}   | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |

See generic notes pages.

TABLE A-3

POLYCHLORINATED BIPHENYL ANALYTICAL DATA  
MAY 2000 SAMPLING EVENT

GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Criteria Area<br>Location ID<br>Date Sampled<br>Sample Type | Generic MDEQ<br>Criteria Values<br>(ug/L) |              |              | GSI<br>B-7R<br>5/20/00<br>FS | GSI<br>MW-108S1<br>5/23/00<br>FS | GSI<br>MW-110WT<br>5/22/00<br>FS | GSI<br>MW-111S4<br>5/23/00<br>FS | GSI<br>MW-111WT<br>5/19/00<br>FS | GSI<br>MW-112WT<br>5/20/00<br>FS | GSI<br>MW-112WT<br>5/20/00<br>DUP | GSI<br>MW-114WT<br>5/22/00<br>FS |  |
|---|---|--------------|--------------|------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|----------------------------------|--|
|   | GSI                                       | RDW          | IDW          |                              |                                  |                                  |                                  |                                  |                                  |                                   |                                  |  |
| <b>Aroclors, Unfiltered</b>                                 |   |              |              |                              |                                  |                                  |                                  |                                  |                                  |                                   |                                  |  |
| Aroclor-1016  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                            | 0.20 U                           |  |
| Aroclor-1221  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                            | 0.20 U                           |  |
| Aroclor-1232  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.40 U                       | 0.40 U                           | 0.40 U                           | 0.40 U                           | 0.40 U                           | 0.40 U                           | 0.40 U                            | 0.40 U                           |  |
| Aroclor-1242  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                            | 0.20 U                           |  |
| Aroclor-1248  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                            | 0.20 U                           |  |
| Aroclor-1254  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                            | 0.20 U                           |  |
| Aroclor-1260  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                            | 0.20 U                           |  |
| Total Aroclors  |   |              |              | ND                           | ND                               | ND                               | ND                               | ND                               | ND                               | ND                                | ND                               |  |
| <b>Aroclors, Filtered</b>                                   |   |              |              |                              |                                  |                                  |                                  |                                  |                                  |                                   |                                  |  |
| Aroclor-1016  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                            | 0.20 U                           |  |
| Aroclor-1221  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                            | 0.20 U                           |  |
| Aroclor-1232  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.40 U                       | 0.40 U                           | 0.40 U                           | 0.40 U                           | 0.40 U                           | 0.40 U                           | 0.40 U                            | 0.40 U                           |  |
| Aroclor-1242  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                            | 0.20 U                           |  |
| Aroclor-1248  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                            | 0.20 U                           |  |
| Aroclor-1254  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                            | 0.20 U                           |  |
| Aroclor-1260  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                            | 0.20 U                           |  |
| Total Aroclors  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | ND                           | ND                               | ND                               | ND                               | ND                               | ND                               | ND                                | ND                               |  |

See generic notes pages.

TABLE A-3

POLYCHLORINATED BIPHENYL ANALYTICAL DATA  
MAY 2000 SAMPLING EVENT

GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Criteria Area<br>Location ID<br>Date Sampled<br>Sample Type | Generic MDEQ<br>Criteria Values<br>(ug/L) |              |              | IND<br>B-4AR<br>5/23/00<br>FS | IND<br>B-4BR<br>5/22/00<br>FS | IND<br>B-4CAUG<br>5/23/00<br>FS | IND<br>B-4DAUG<br>5/22/00<br>FS | IND<br>B-4DAUG<br>5/22/00<br>DUP | IND<br>MW-119WT<br>5/21/00<br>FS | IND<br>X-1A<br>5/23/00<br>FS | IND<br>X-1B<br>5/24/00<br>FS |
|---|---|--------------|--------------|-------------------------------|-------------------------------|---------------------------------|---------------------------------|----------------------------------|----------------------------------|------------------------------|------------------------------|
|   | GSI                                       | RDW          | IDW          |                               |                               |                                 |                                 |                                  |                                  |                              |                              |
| <b>Aroclors, Unfiltered</b>                                 |   |              |              |                               |                               |                                 |                                 |                                  |                                  |                              |                              |
| Aroclor-1016  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                        | 0.20 U                        | 0.20 U                          | 0.20 U                          | 0.20 U                           | 0.20 U                           | 0.20 U                       | 0.20 U                       |
| Aroclor-1221  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                        | 0.20 U                        | 0.20 U                          | 0.20 U                          | 0.20 U                           | 0.20 U                           | 0.20 U                       | 0.20 U                       |
| Aroclor-1232  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.40 U                        | 0.40 U                        | 0.40 U                          | 0.40 U                          | 0.40 U                           | 0.40 U                           | 0.40 U                       | 0.40 U                       |
| Aroclor-1242  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                        | 0.20 U                        | 0.20 U                          | 0.20 U                          | 0.20 U                           | 0.20 U                           | 0.20 U                       | 0.20 U                       |
| Aroclor-1248  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                        | 0.53                          | 0.20 U                          | 0.69                            | 0.70                             | 0.20 U                           | 0.13 J                       | 0.097 J                      |
| Aroclor-1254  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                        | 0.20 U                        | 0.20 U                          | 0.20 U                          | 0.20 U                           | 0.20 U                           | 0.20 U                       | 0.20 U                       |
| Aroclor-1260  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                        | 0.20 U                        | 0.20 U                          | 0.20 U                          | 0.20 U                           | 0.20 U                           | 0.20 U                       | 0.20 U                       |
| Total Aroclors  |   |              |              | ND                            | 0.53                          | ND                              | 0.69                            | 0.70                             | ND                               | 0.13                         | 0.097                        |
| <b>Aroclors, Filtered</b>                                   |   |              |              |                               |                               |                                 |                                 |                                  |                                  |                              |                              |
| Aroclor-1016  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                        | 0.20 U                        | 0.20 U                          | 0.20 U                          | 0.20 U                           | 0.20 U                           | 0.20 U                       | 0.20 U                       |
| Aroclor-1221  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                        | 0.20 U                        | 0.20 U                          | 0.20 U                          | 0.20 U                           | 0.20 U                           | 0.20 U                       | 0.20 U                       |
| Aroclor-1232  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.40 U                        | 0.40 U                        | 0.40 U                          | 0.40 U                          | 0.40 U                           | 0.40 U                           | 0.40 U                       | 0.40 U                       |
| Aroclor-1242  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                        | 0.20 U                        | 0.20 U                          | 0.20 U                          | 0.20 U                           | 0.20 U                           | 0.20 U                       | 0.20 U                       |
| Aroclor-1248  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                        | 0.23                          | 0.57                            | 0.20 U                          | 0.34                             | 0.20 U                           | 0.20 U                       | 0.20 U                       |
| Aroclor-1254  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                        | 0.20 U                        | 0.20 U                          | 0.20 U                          | 0.20 U                           | 0.20 U                           | 0.20 U                       | 0.20 U                       |
| Aroclor-1260  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | 0.20 U                        | 0.20 U                        | 0.20 U                          | 0.20 U                          | 0.20 U                           | 0.20 U                           | 0.20 U                       | 0.20 U                       |
| Total Aroclors  | 0.20 {J,M,T}                              | 0.50 {A,J,T} | 0.50 {A,J,T} | ND                            | 0.23                          | 0.57                            | ND                              | 0.34                             | ND                               | ND                           | ND                           |

See generic notes pages.

TABLE A-4

INORGANIC CONSTITUENT ANALYTICAL DATA  
MAY 2000 SAMPLING EVENT

GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Criteria Area<br>Location ID<br>Date Sampled<br>Sample Type<br>Not Filtered/Filtered | Generic MDEQ<br>GSI<br>Criteria Values<br>(ug/L) | GSI<br>B-7CAUG<br>5/20/00<br>FS<br>N | GSI<br>B-7CAUG<br>5/20/00<br>FS<br>F | GSI<br>B-7CAUG<br>5/20/00<br>DUP<br>N | GSI<br>B-7CAUG<br>5/20/00<br>DUP<br>F | GSI<br>MW-108S4<br>5/21/00<br>FS<br>N | GSI<br>MW-108S4<br>5/21/00<br>FS<br>F | GSI<br>MW-108WT<br>5/21/00<br>FS<br>N | GSI<br>MW-108WT<br>5/21/00<br>FS<br>F | GSI<br>MW-109WT<br>5/21/00<br>FS<br>N | GSI<br>MW-109WT<br>5/21/00<br>FS<br>F |
|--|--|--------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Aluminum   | NA {B}   | --                                   | --                                   | --                                    | --                                    | 100 U                                 | 100 U                                 | 144                                   | 100 U                                 | 100 U                                 | 100 U                                 |
| Antimony   | ID   | --                                   | --                                   | --                                    | --                                    | 5.0 U                                 | 5.0 U                                 | 5.0 U                                 | 1.7 B                                 | 5.0 U                                 | 2.2 B                                 |
| Arsenic  | 150 {B,X}  | --                                   | --                                   | --                                    | --                                    | 3.4 B                                 | 10 U                                  | 10 U                                  | 10 U                                  | 10 U                                  | 10 U                                  |
| Barium   | 1,200 {G,X}                                      | --                                   | --                                   | --                                    | --                                    | 670                                   | 731                                   | 45.6 B                                | 44.8 B                                | 24.9 B                                | 24.3 B                                |
| Beryllium  | 26 {G}   | --                                   | --                                   | --                                    | --                                    | 4.0 U                                 | 4.0 U                                 | 4.0 U                                 | 4.0 U                                 | 4.0 U                                 | 4.0 U                                 |
| Cadmium  | 4.5 {B,G,X}                                      | --                                   | --                                   | --                                    | --                                    | 1.0 U                                 | 1.0 U                                 | 1.0 U                                 | 1.0 U                                 | 1.0 U                                 | 1.0 U                                 |
| Calcium  |  | --                                   | --                                   | --                                    | --                                    | 402,000                               | 449,000                               | 67,900                                | 67,500                                | 66,800                                | 65,200                                |
| Chromium   | 160 {B,G,H,X}                                    | --                                   | --                                   | --                                    | --                                    | 5.0 U                                 | 4.4 B                                 | 5.0 U                                 | 5.0 U                                 | 5.0 U                                 | 1.2 B                                 |
| Cobalt   | 100  | --                                   | --                                   | --                                    | --                                    | 10 U                                  | 10 U                                  | 10 U                                  | 10 U                                  | 10 U                                  | 10 U                                  |
| Copper   | 26 {G}*  | --                                   | --                                   | --                                    | --                                    | 25 U                                  | 25 U                                  | 25 U                                  | 25 U                                  | 25 U                                  | 25 U                                  |
| Iron   | NA {B}   | --                                   | --                                   | --                                    | --                                    | 104 U                                 | 100 U                                 | 3,810                                 | 3,580                                 | 100 U                                 | 100 U                                 |
| Lead   | 28 {G,X}   | --                                   | --                                   | --                                    | --                                    | 3.0 U                                 | 3.0 U                                 | 3.0 U                                 | 3.0 U                                 | 3.0 U                                 | 3.0 U                                 |
| Magnesium  | NA {B}   | --                                   | --                                   | --                                    | --                                    | 500 J                                 | 100 U                                 | 13,900                                | 13,900                                | 12,600                                | 12,300                                |
| Manganese  | 2,100 {B,G,X}*                                   | --                                   | --                                   | --                                    | --                                    | 15 U                                  | 15 U                                  | 1,230                                 | 1,220                                 | 15 U                                  | 15 U                                  |
| Mercury  | 0.0013 {Z}                                       | --                                   | --                                   | --                                    | --                                    | 0.20 U                                | 0.20 U                                | 0.20 U                                | 0.20 U                                | 0.20 U                                | 0.20 U                                |
| Nickel   | 120 {B,G}  | --                                   | --                                   | --                                    | --                                    | 40 U                                  | 40 U                                  | 40 U                                  | 40 U                                  | 40 U                                  | 40 U                                  |
| Potassium  |  | --                                   | --                                   | --                                    | --                                    | 156,000                               | 171,000 J                             | 8,810 J                               | 8,750 J                               | 10,100 J                              | 9,950 J                               |
| Selenium   | 5.0 {B}  | --                                   | --                                   | --                                    | --                                    | 5.0 U                                 | 5.0 U                                 | 5.0 U                                 | 5.0 U                                 | 5.0 U                                 | 5.0 U                                 |
| Silver   | 0.20 {B,M}                                       | --                                   | --                                   | --                                    | --                                    | 5.0 U                                 | 5.0 U                                 | 5.0 U                                 | 5.0 U                                 | 5.0 U                                 | 5.0 U                                 |
| Sodium   | NA   | --                                   | --                                   | --                                    | --                                    | 408,000                               | 431,000                               | 102,000                               | 101,000                               | 78,000                                | 76,700                                |
| Thallium   | 3.7 {B,X}  | --                                   | --                                   | --                                    | --                                    | 3.8 B                                 | 10 U                                  | 10 U                                  | 5.3 B                                 | 10 U                                  | 10 U                                  |
| Vanadium   | 12   | --                                   | --                                   | --                                    | --                                    | 20 U                                  | 20 U                                  | 20 U                                  | 20 U                                  | 20 U                                  | 20 U                                  |
| Zinc   | 20,000 {B,G}*                                    | --                                   | --                                   | --                                    | --                                    | 20 U                                  | 20 U                                  | 20 U                                  | 20 U                                  | 20 U                                  | 20 U                                  |
| Cyanide, Total   | 20 {M,R}   | 5.0 U                                | 5.0 U                                | 5.0 U                                 | 5.0 U                                 | --                                    | --                                    | --                                    | --                                    | --                                    | --                                    |

See generic notes pages.

TABLE A-4

INORGANIC CONSTITUENT ANALYTICAL DATA  
MAY 2000 SAMPLING EVENT

GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Criteria Area<br>Location ID<br>Date Sampled<br>Sample Type<br>Not Filtered/Filtered | Generic MDEQ<br>GSI<br>Criteria Values<br>(ug/L) | GSI                            | GSI                            | GSI                            | GSI                            | GSI                            | GSI                            | GSI                            | GSI                            | GSI                         |
|--|--|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-----------------------------|
|  |  | MW-111WT<br>5/19/00<br>FS<br>N | MW-111WT<br>5/19/00<br>FS<br>F | MW-112WT<br>5/20/00<br>FS<br>N | MW-112WT<br>5/20/00<br>FS<br>F | MW-114WT<br>5/22/00<br>FS<br>N | MW-114WT<br>5/22/00<br>FS<br>F | MW-149WT<br>5/21/00<br>FS<br>N | MW-149WT<br>5/21/00<br>FS<br>F | MW-6B<br>5/20/00<br>FS<br>N |
| Aluminum   | NA {B}   | 100 U                          | 100 U                          | 100 U                          | 100 U                          | 100 U                          | 100 U                          | 98.4 B                         | 100 U                          | 100 U                       |
| Antimony   | ID   | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                       |
| Arsenic  | 150 {B,X}  | 11.4                           | 9.8 B                          | 10 U                           | 4.0 B                          | 10 U                           | 10 U                           | 10.7                           | 6.0 B                          | 10 U                        |
| Barium   | 1,200 {G,X}                                      | 356                            | 376                            | 55.5 B                         | 57.7 B                         | 107                            | 92. B                          | 118                            | 112                            | 108                         |
| Beryllium  | 26 {G}   | 4.0 U                          | 4.0 U                          | 4.0 U                          | 4.0 U                          | 4.0 U                          | 4.0 U                          | 4.0 U                          | 4.0 U                          | 4.0 U                       |
| Cadmium  | 4.5 {B,G,X}                                      | 1.0 U                          | 1.0 U                          | 1.0 U                          | 1.0 U                          | 1.0 U                          | 1.0 U                          | 1.0 U                          | 1.0 U                          | 1.0 U                       |
| Calcium  |  | 321,000                        | 379,000                        | 128,000                        | 135,000                        | 595,000                        | 609,000                        | 117,000                        | 118,000                        | 72,300                      |
| Chromium   | 160 {B,G,H,X}                                    | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                       |
| Cobalt   | 100  | 10 U                           | 10 U                           | 10 U                           | 10 U                           | 10 U                           | 10 U                           | 10 U                           | 10 U                           | 10 U                        |
| Copper   | 26 {G}*<br>NA {B}                                | 25 U<br>18,300                 | 25 U<br>14,400                 | 25 U<br>7,000                  | 25 U<br>6,580                  | 25 U<br>65.9 B                 | 25 U<br>100 U                  | 25 U<br>5,320                  | 25 U<br>4,420                  | 25 U<br>2,300               |
| Iron   | 28 {G,X}   | 3.0 U                          | 3.0 U                          | 3.0 U                          | 3.0 U                          | 3.0 U                          | 3.0 U                          | 3.0 U                          | 3.0 U                          | 3.0 U                       |
| Lead   | NA {B}   | 47,800                         | 54,300                         | 27,500                         | 29,300                         | 67,300                         | 65,700                         | 21,600                         | 21,600                         | 21,300                      |
| Magnesium  | 2,100 {B,G,X}*<br>NA {B}                         | 2,560<br>47,800                | 2,340<br>54,300                | 2,060<br>27,500                | 2,080<br>29,300                | 503<br>67,300                  | 518<br>65,700                  | 868<br>21,600                  | 915<br>21,600                  | 378<br>21,300               |
| Mercury  | 0.0013 {Z}                                       | 0.20 U                         | 0.20 U                         | 0.20 U                         | 0.20 U                         | 0.20 U                         | 0.20 U                         | 0.20 U                         | 0.20 U                         | 0.20 U                      |
| Nickel   | 120 {B,G}  | 40 U                           | 40 U                           | 40 U                           | 40 U                           | 40 U                           | 40 U                           | 40 U                           | 40 U                           | 40 U                        |
| Potassium  |  | 15,500                         | 18,500                         | 9,880 J                        | 10,300 J                       | 16,100                         | 17,000                         | 24,600 J                       | 24,000 J                       | 2,000 BJ                    |
| Selenium   | 5.0 {B}  | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                       |
| Silver   | 0.20 {B,M}                                       | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                          | 5.0 U                       |
| Sodium   | NA   | 171,000                        | 196,000                        | 281,000                        | 298,000                        | 218,000                        | 218,000                        | 79,800                         | 80,700                         | 185,000                     |
| Thallium   | 3.7 {B,X}  | 7.9 B                          | 7.6 B                          | 4.0 B                          | 5.9 B                          | 5.3 B                          | 10 U                           | 6.7 B                          | 6.4 B                          | 6.1 B                       |
| Vanadium   | 12   | 20 U                           | 20 U                           | 20 U                           | 20 U                           | 20 U                           | 20 U                           | 20 U                           | 20 U                           | 20 U                        |
| Zinc   | 20,000 {B,G}*<br>NA                              | 20 U<br>171,000                | 20 U<br>196,000                | 20 U<br>281,000                | 20 U<br>298,000                | 20 U<br>218,000                | 20 U<br>218,000                | 20 U<br>79,800                 | 20 U<br>80,700                 | 20 U<br>185,000             |
| Cyanide, Total   | 20 {M,R}   | --                             | --                             | --                             | --                             | --                             | --                             | --                             | --                             | --                          |

See generic notes pages.

TABLE A-4

INORGANIC CONSTITUENT ANALYTICAL DATA  
MAY 2000 SAMPLING EVENT

GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Criteria Area<br>Location ID<br>Date Sampled<br>Sample Type<br>Not Filtered/Filtered | Generic MDEQ<br>GSI<br>Criteria Values<br>(ug/L) | GSI                         | GSI                         | GSI                         | IND*                        | IND*                        | IND*                        | IND*                        | IND*                         | IND*                         |
|--|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|
|  |  | MW-6B<br>5/20/00<br>FS<br>F | X-4AR<br>5/21/00<br>FS<br>N | X-4AR<br>5/21/00<br>FS<br>F | TWW-1<br>5/21/00<br>FS<br>N | TWW-1<br>5/21/00<br>FS<br>F | TWW-2<br>5/21/00<br>FS<br>N | TWW-2<br>5/21/00<br>FS<br>F | TWW-2<br>5/21/00<br>DUP<br>F | TWW-2<br>5/21/00<br>DUP<br>N |
| Aluminum   | NA {B}   | 100 U                       | 134                         | 100 U                       | 100 U                       | 100 U                       | 100 U                       | 100 U                       | 100 U                        | 100 U                        |
| Antimony   | ID   | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 2.1 B                       | 5.0 U                       | 5.0 U                       | 5.0 U                        | 5.0 U                        |
| Arsenic  | 150 {B,X}  | 10 U                        | 10 U                        | 10 U                        | 10 U                        | 10 U                        | 10 U                        | 10 U                        | 10 U                         | 10 U                         |
| Barium   | 1,200 {G,X}                                      | 106                         | 73.3 B                      | 73.9 B                      | 146                         | 145                         | 230                         | 226                         | 222                          | 241                          |
| Beryllium  | 26 {G}   | 4.0 U                       | 4.0 U                       | 4.0 U                       | 4.0 U                       | 4.0 U                       | 4.0 U                       | 4.0 U                       | 4.0 U                        | 4.0 U                        |
| Cadmium  | 4.5 {B,G,X}                                      | 1.0 U                       | 1.0 U                       | 1.0 U                       | 1.0 U                       | 1.0 U                       | 1.0 U                       | 1.0 U                       | 1.0 U                        | 1.0 U                        |
| Calcium  |  | 71,100                      | 159,000                     | 162,000                     | 249,000                     | 251,000                     | 465,000                     | 465,000                     | 465,000                      | 487,000                      |
| Chromium   | 160 {B,G,H,X}                                    | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                        | 5.0 U                        |
| Cobalt   | 100  | 10 U                        | 10 U                        | 10 U                        | 10 U                        | 10 U                        | 10 U                        | 10 U                        | 10 U                         | 10 U                         |
| Copper   | 26 {G}*  | 25 U                        | 25 U                        | 25 U                        | 25 U                        | 25 U                        | 25 U                        | 25 U                        | 25 U                         | 25 U                         |
| Iron   | NA {B}   | 2,240                       | 193 U                       | 100 U                       | 100 U                       | 127 U                       | 6,720                       | 6,290                       | 5,970                        | 6,990                        |
| Lead   | 28 {G,X}   | 3.0 U                       | 3.0 U                       | 3.0 U                       | 3.0 U                       | 3.0 U                       | 3.0 U                       | 3.0 U                       | 3.0 U                        | 3.0 U                        |
| Magnesium  | NA {B}   | 20,800                      | 29,000                      | 29,500                      | 84,400                      | 85,100                      | 141,000                     | 140,000                     | 140,000                      | 148,000                      |
| Manganese  | 2,100 {B,G,X}*                                   | 370                         | 15 U                        | 15 U                        | 1,580                       | 1,610                       | 688                         | 689                         | 677                          | 703                          |
| Mercury  | 0.0013 {Z}                                       | 0.20 U                      | 0.20 U                      | 0.20 U                      | 0.20 U                      | 0.20 U                      | 0.20 U                      | 0.20 U                      | 0.20 U                       | 0.20 U                       |
| Nickel   | 120 {B,G}  | 40 U                        | 40 U                        | 40 U                        | 40 U                        | 40 U                        | 40 U                        | 40 U                        | 40 U                         | 40 U                         |
| Potassium  |  | 2,020 BJ                    | 1,800 BJ                    | 1,740 BJ                    | 2,020 BJ                    | 2,210 BJ                    | 2,950 BJ                    | 3,100 BJ                    | 3,030 BJ                     | 2,960 BJ                     |
| Selenium   | 5.0 {B}  | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                        | 5.0 U                        |
| Silver   | 0.20 {B,M}                                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                       | 5.0 U                        | 5.0 U                        |
| Sodium   | NA   | 181,000                     | 20,700                      | 20,900                      | 839,000                     | 845,000                     | 240,000                     | 242,000                     | 230,000                      | 237,000                      |
| Thallium   | 3.7 {B,X}  | 10 U                        | 7.3 B                       | 4.6 B                       | 7.6 B                       | 6.3 B                       | 9.4 B                       | 8.4 B                       | 9.0 B                        | 7.6 B                        |
| Vanadium   | 12   | 20 U                        | 20 U                        | 20 U                        | 20 U                        | 20 U                        | 20 U                        | 20 U                        | 20 U                         | 20 U                         |
| Zinc   | 20,000 {B,G}*                                    | 20 U                        | 20 U                        | 20 U                        | 20 U                        | 20 U                        | 20 U                        | 20 U                        | 20 U                         | 20 U                         |
| Cyanide, Total   | 20 {M,R}   | --                          | --                          | --                          | --                          | --                          | --                          | --                          | --                           | --                           |

See generic notes pages.

TABLE A-5

NATURAL ATTENUATION INDICATOR PARAMETER ANALYTICAL DATA  
MAY 2000

GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Location ID                 | B-3BAUG | B-4AR   | B-4BR   | B-4CAUG | B-4DAUG | B-7R    | MW-101WT | MW-108S1 | MW-111WT | MW-111S4 |
|-----------------------------|---------|---------|---------|---------|---------|---------|----------|----------|----------|----------|
| Sample Date                 | 5/18/00 | 5/23/00 | 5/22/00 | 5/23/00 | 5/22/00 | 5/20/00 | 5/18/00  | 5/23/00  | 5/19/00  | 5/23/00  |
| Sample Type                 | FS      | FS      | FS      | FS      | FS      | FS      | FS       | FS       | FS       | FS       |
| <b>General</b>              |         |         |         |         |         |         |          |          |          |          |
| Ferrous Iron (mg/L)         | <1.0    | 1.9     | 2.0     | <1.0    | 2.9     | <1.0    | 14       | 7.1      | 20       | <1.0     |
| Nitrate/Nitrite (mg/L)      | <0.05   | <0.05   | <0.05   | <0.05   | <0.05   | 0.12    | <0.05    | <0.05    | 0.70     | <0.05    |
| Sulfate (mg/L)              | 140     | <5.0    | <5.0    | <5.0    | 100     | 54      | <5.0     | 100      | 180      | 95       |
| Sulfide (mg/L)              | <2.0    | 2.4     | <2.0    | <2.0    | <2.0    | <2.0    | <2.0     | 2        | <2.0     | <5.0     |
| Total Organic Carbon (mg/L) | 2.3     | 42      | 110     | 100     | 5.3     | 7.5     | 45       | 4.5      | 12       | 7.3      |
| Iron (mg/L)                 | 1.3     | 2.0     | 2.6     | 0.44    | 2.9     | 0.41    | 14       | 6.8      | 20       | <0.05    |
| Iron-dissolved (mg/L)       | 0.30    | 1.6     | 0.23    | 0.10    | 2.9     | 0.37    | 13       | 6.5      | 20       | <0.05    |
| Manganese (mg/L)            | 0.05    | 0.16    | 0.11    | 0.010   | 0.18    | 0.55    | 0.60     | 1.1      | 2.5      | <0.01    |
| Manganese-dissolved (mg/L)  | <0.01   | 0.16    | 0.019   | <0.01   | 0.18    | 0.54    | 0.57     | 1.1      | 2.5      | <0.01    |
| <b>Dissolved Gases</b>      |         |         |         |         |         |         |          |          |          |          |
| Carbon Dioxide (mg/L)       | 145.8   | 3.42    | 1.98    | <0.60   | 29.87   | 19.52   | 45.88    | 14.36    | 99.29    | <0.60    |
| Oxygen (mg/L)               | 0.39    | 0.49    | 0.53    | 0.44    | 1.07    | 0.66    | 2.10     | 1.23     | 0.78     | 2.62     |
| Nitrogen (mg/L)             | 5.86    | 10.39   | 11.69   | 12.21   | 21.76   | 17.2    | 23.9     | 21.97    | 18.7     | 20.58    |
| Carbon Monoxide (mg/L)      | <0.40   | <0.40   | <0.40   | <0.40   | <0.40   | <0.40   | <0.40    | <0.40    | <0.40    | <0.40    |
| Methane (mg/L)              | 18.9    | 10.58   | 15.15   | 17.1    | *       | <0.07   | <0.07    | *        | 0.10     | *        |
| Methane (ug/L)              | --      | *       | *       | *       | 105.91  | --      | --       | 37.34    | --       | 83.47    |
| Ethane (ng/L)               | --      | 13,086  | 7,149   | 2,239   | 1,033   | --      | --       | 676      | --       | 905      |
| Ethylene (ng/L)             | --      | 230     | 43      | 601     | 431     | --      | --       | 479      | --       | 865      |

See generic notes pages.

TABLE A-5

NATURAL ATTENUATION INDICATOR PARAMETER ANALYTICAL DATA  
MAY 2000

GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Location ID<br>Sample Date<br>Sample Type | MW-112WT<br>5/20/00<br>FS | MW-118WT<br>5/17/00<br>FS | MW-118S1<br>5/17/00<br>FS | MW-118S2<br>5/17/00<br>FS | MW-128WT<br>5/19/00<br>FS | MW-128S1<br>5/19/00<br>FS | MW-129WT<br>5/23/00<br>FS | MW-138WT<br>5/19/00<br>FS | MW-139WT<br>5/19/00<br>FS | MW-152WT<br>5/21/00<br>FS |
|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| <b>General</b>                            |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |
| Ferrous Iron (mg/L)                       | 6.9                       | 240                       | 6.1                       | 2.0                       | 20                        | 20                        | 1.6                       | <1.0                      | <1.0                      | 2.4                       |
| Nitrate/Nitrite (mg/L)                    | 0.81                      | <0.05                     | <0.05                     | <0.05                     | <0.05                     | 0.08                      | <0.05                     | <0.05                     | 0.06                      | <0.05                     |
| Sulfate (mg/L)                            | 91                        | <5.0                      | <5.0                      | 36                        | 95                        | 17                        | 57                        | 170                       | 150                       | 7.3                       |
| Sulfide (mg/L)                            | <2.0                      | <2.0                      | <2.0                      | <2.0                      | <2.0                      | <2.0                      | <2.0                      | <2.0                      | <2.0                      | <2.0                      |
| Total Organic Carbon (mg/L)               | 7.9                       | 81                        | 10                        | 11                        | 68                        | 120                       | 37                        | <2.0                      | <2.0                      | 27                        |
| Iron (mg/L)                               | 7.0                       | 250                       | 5.7                       | 2.3                       | 21                        | 22                        | 9.6                       | 0.33                      | 0.26                      | 2.9                       |
| Iron-dissolved (mg/L)                     | 6.2                       | 250                       | 5.7                       | 2.3                       | 19                        | 22                        | 2.1                       | 0.14                      | 0.1                       | 2.1                       |
| Manganese (mg/L)                          | 1.9                       | 7.9                       | 0.37                      | 0.07                      | 2.0                       | 0.33                      | 0.65                      | 0.02                      | 0.04                      | 1.1                       |
| Manganese-dissolved (mg/L)                | 1.9                       | 7.9                       | 0.36                      | 0.07                      | 2.0                       | 0.31                      | 0.60                      | 0.01                      | 0.03                      | 1.0                       |
| <b>Dissolved Gases</b>                    |                           |                           |                           |                           |                           |                           |                           |                           |                           |                           |
| Carbon Dioxide (mg/L)                     | 22.46                     | 353.7                     | 78.44                     | 31.06                     | 37.79                     | 331.6                     | 178.4                     | 23.24                     | 17.18                     | 24.93                     |
| Oxygen (mg/L)                             | 1.47                      | 0.21                      | 0.58                      | 2.42                      | 0.47                      | 0.30                      | 0.72                      | 7.40                      | 9.03                      | 0.63                      |
| Nitrogen (mg/L)                           | 19.8                      | 2.37                      | 9.48                      | 14.1                      | 13.2                      | 5.64                      | 15.4                      | 17.8                      | 16.7                      | 13.85                     |
| Carbon Monoxide (mg/L)                    | <0.40                     | <0.40                     | <0.40                     | <0.40                     | <0.40                     | <0.40                     | <0.40                     | <0.40                     | <0.40                     | <0.40                     |
| Methane (mg/L)                            | <0.07                     | 16.0                      | 8.99                      | <0.07                     | 0.39                      | 9.46                      | *                         | <0.07                     | <0.07                     | 7.59                      |
| Methane (ug/L)                            | --                        | --                        | --                        | --                        | --                        | --                        | 24.04                     | --                        | --                        | *                         |
| Ethane (ng/L)                             | --                        | --                        | --                        | --                        | --                        | --                        | 473                       | --                        | --                        | 7,791                     |
| Ethylene (ng/L)                           | --                        | --                        | --                        | --                        | --                        | --                        | 77                        | --                        | --                        | 45                        |

See generic notes pages.

TABLE A-5

NATURAL ATTENUATION INDICATOR PARAMETER ANALYTICAL DATA  
MAY 2000

GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MI

| Location ID<br>Sample Date<br>Sample Type | MW-171WT<br>5/24/00<br>FS | TWW-1<br>5/21/00<br>FS | UST7-2<br>5/17/00<br>FS | UST7-5<br>5/17/00<br>FS | UST7-5<br>5/17/00<br>DUP | X-1A<br>5/23/00<br>FS | X-1B<br>5/24/00<br>FS | X-1CR<br>5/24/00<br>FS | X-1CR2<br>5/24/00<br>FS |
|---|---------------------------|------------------------|-------------------------|-------------------------|--------------------------|-----------------------|-----------------------|------------------------|-------------------------|
| <b>General</b>                            |                           |                        |                         |                         |                          |                       |                       |                        |                         |
| Ferrous Iron (mg/L)                       | 6.6                       | <1.0                   | 35                      | 22                      | 49                       | 18                    | 6.1                   | 34                     | 5.6                     |
| Nitrate/Nitrite (mg/L)                    | <0.05                     | <0.05                  | 0.20                    | <0.05                   | <0.05                    | <0.05                 | <0.05                 | <0.05                  | 0.21                    |
| Sulfate (mg/L)                            | <5.0                      | 340                    | 8.5                     | 71                      | 81                       | 470                   | 10                    | 540                    | 240                     |
| Sulfide (mg/L)                            | <2.0                      | <2.0                   | <2.0                    | <2.0                    | <2.0                     | <2.0                  | <2.0                  | <2.0                   | <2.0                    |
| Total Organic Carbon (mg/L)               | 35                        | 13                     | 25                      | 26                      | 28                       | 64                    | 120                   | 39                     | 20                      |
| Iron (mg/L)                               | 7.2                       | 0.25                   | 44                      | 29                      | 10                       | 18                    | 21                    | 31                     | 32                      |
| Iron-dissolved (mg/L)                     | 7.2                       | 0.25                   | 43                      | 8.1                     | 8.9                      | 18                    | 20                    | 31                     | 0.06                    |
| Manganese (mg/L)                          | 0.92                      | 1.6                    | 0.38                    | 1.1                     | 0.8                      | 0.84                  | 0.79                  | 1.8                    | 0.83                    |
| Manganese-dissolved (mg/L)                | 0.90                      | 1.5                    | 0.35                    | 0.69                    | 0.76                     | 0.84                  | 0.78                  | 1.8                    | 0.15                    |
| <b>Dissolved Gases</b>                    |                           |                        |                         |                         |                          |                       |                       |                        |                         |
| Carbon Dioxide (mg/L)                     | 74.78                     | 146.93                 | 180.1                   | 12.57                   | 13.84                    | 147.78                | 298.8                 | 142.9                  | 5.62                    |
| Oxygen (mg/L)                             | 0.92                      | 1.24                   | 0.22                    | 0.71                    | 0.67                     | 0.27                  | 0.35                  | 0.34                   | 1.62                    |
| Nitrogen (mg/L)                           | 17.3                      | 17.93                  | 4.20                    | 14.64                   | 15.63                    | 4.48                  | 5.04                  | 4.02                   | 16.8                    |
| Carbon Monoxide (mg/L)                    | <0.40                     | <0.40                  | <0.40                   | <0.40                   | <0.40                    | <0.40                 | <0.40                 | <0.40                  | <0.40                   |
| Methane (mg/L)                            | 3.58                      | 0.58                   | 9.74                    | 2.37                    | 2.55                     | 17.67                 | 7.60                  | 16.2                   | *                       |
| Methane (ug/L)                            | *                         | *                      | --                      | --                      | --                       | *                     | *                     | *                      | 3.569                   |
| Ethane (ng/L)                             | 19,907                    | 44,103                 | --                      | --                      | --                       | 117,414               | 50,554                | 33,585                 | 23                      |
| Ethylene (ng/L)                           | 70                        | 17,324                 | --                      | --                      | --                       | 1,989                 | 70                    | 169                    | 13                      |

See generic notes pages.

TABLE A-6

POLYCHLORINATED BIPHENYL ANALYTICAL DATA  
MAY 2000 ULTRA-LOW FLOW SAMPLING EVENT

GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MICHIGAN

| Criteria Area<br>Location ID<br>Date Sampled<br>Sample Type | Generic MDEQ<br>GSI Criteria<br>Values<br>(ug/L) | GSI<br>B-7R<br>5/20/00<br>FS | GSI<br>MW-110WT<br>5/22/00<br>FS | GSI<br>MW-111WT<br>5/19/00<br>FS | GSI<br>MW-112WT<br>5/19/00<br>FS | GSI<br>MW-114WT<br>5/22/00<br>FS |
|---|--|------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| <b>Aroclors, Unfiltered</b>                                 |  |                              |                                  |                                  |                                  |                                  |
| Aroclor-1016  | 0.20 {J,M,T}                                     | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           |
| Aroclor-1221  | 0.20 {J,M,T}                                     | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           |
| Aroclor-1232  | 0.20 {J,M,T}                                     | 0.40 U                       | 0.40 U                           | 0.40 U                           | 0.40 U                           | 0.40 U                           |
| Aroclor-1242  | 0.20 {J,M,T}                                     | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           |
| Aroclor-1248  | 0.20 {J,M,T}                                     | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           |
| Aroclor-1254  | 0.20 {J,M,T}                                     | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           |
| Aroclor-1260  | 0.20 {J,M,T}                                     | 0.20 U                       | 0.20 U                           | 0.20 U                           | 0.20 U                           | 0.20 U                           |
| Total Aroclors  | 0.20 {J,M,T}                                     | ND                           | ND                               | ND                               | ND                               | ND                               |

See generic notes pages.

## GENERIC NOTES

### MAY 2000 SAMPLING EVENT

#### GM SMI AND REALM, INC. GPL AND DRA SAGINAW, MICHIGAN

##### General Notes:

All concentrations in micrograms per liter ( $\mu\text{g/L}$ ); equivalent to parts per billion (ppb), unless otherwise noted.

-- = Sample was not analyzed for the listed constituent.

Natural attenuation indicator parameter data were not BBL QA/QC reviewed.

GM = General Motors Corporation

SMI = Saginaw Malleable Iron Plant Property

REALM, INC. = Remediation and Liability Management Company, Inc.

GPL = Green Point Landfill

DRA = Drum Remediation Area

Generic MDEQ Criteria Values:

GSI = Groundwater/Surface Water Interaction criteria, updated June 2000.

RDW = Residential Drinking Water criteria, updated June 2000.

IDW = Industrial Drinking Water criteria, updated June 2000.

Criteria Area:

GSI = Saginaw River Perimeter Wells

IND = Site Interior and Delphi Plant 2 Perimeter Wells

RES = Non-River Perimeter Wells

Note: IND\* indicates that although the well is located in the interior of the site, it is compared to GSI criteria because it may discharge to an interior surface water feature or marshy area.

Location ID:

B, BBL-MW, MW, UST7, X = Permanent monitoring wells.

TWW = Temporary monitoring wells.

WT = Water table monitoring wells.

S1 = Well screened at top of sand unit; increasing numbers indicate increased depth within the sand unit (e.g., S2, S3, S4).

R = Replacement well.

AUG = Augmentation well.

Sample Type:

FS = Primary field sample, collected by BBL.

DUP = Duplicate field sample, collected by BBL.

Not Filtered/Filtered:

N = Not filtered.

F = Filtered.

##### Data Qualifiers:

<sup>1</sup> = Cannot be distinguished from 2-methylphenol.

B = (Organic) The compound has been found in the sample as well as its associated blank, its presence in the sample may be suspect.  
(Inorganic) The analyte has been positively identified. The concentration is between the instrument detection limit and the required reporting limit.

J = The compound/constituent was positively identified; however, the associated numerical value is an estimated concentration only.

U = The compound/constituent was analyzed for but not detected. The associated value is the compound/constituent quantitation limit.

UJ = The compound/constituent was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

\* = Methane result taken from alternate detector.

ND = Not detected.

< = The compound/constituent was not detected at or above the associated value.

##### MDEQ Criteria Qualifiers:

ID = *Inadequate data* to develop criterion.

IP = Development of generic GSI value *in process*. This notation is used for those hazardous substances on the Rule 57 Water Quality Values table where the NLS (no literature search) notation is indicated for one or more of the endpoints required for development of a generic GSI. Additional work needed to address these endpoints may either be underway, or not yet initiated by the Surface Water Quality Division.

NA = Criterion or value is *not available* or, as is the case for Csat, *not applicable*.

{A} = Criterion is the State of Michigan Drinking Water Standard established pursuant to Section 5 of the Safe Drinking Water Act, Act No. 399 of the Public Acts of 1976.

{B} = Background, as defined in Rule 299.5701(c), may be substituted if higher than the calculated cleanup criteria. Background levels may not exceed criteria for all inorganic compounds.

**GENERIC NOTES**

**MAY 2000 SAMPLING EVENT**

**GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MICHIGAN**

**MDEO Criteria Qualifiers (Cont'd.):**

{E} = Criterion is the aesthetic drinking water value, as required by Sec. 20120(1)(5). A Notice of Aesthetic Impact may be employed as an institutional control mechanism where groundwater concentrations exceed the aesthetic DWC, but do not exceed the applicable health-based DWC. Health-based DWC are provided in the table below.

| Hazardous Substance            | CAS #    | Residential Health-Based DWC | Industrial-Commercial Health-Based DWC |
|--------------------------------|----------|------------------------------|--|
| Aluminum                       | 7429905  | 300                          | 4,100                                  |
| Chloride                       | 16887006 | ID                           | ID                                     |
| Copper                         | 7440508  | 1,400                        | 4,000                                  |
| Diethyl ether                  | 60297    | 3,700                        | 10,000                                 |
| Ethylbenzene                   | 100414   | 700                          | 700                                    |
| Iron                           | 7439896  | 2,000                        | 5,600                                  |
| Manganese                      | 7439965  | 860                          | 2,500                                  |
| Methyl-tert-butyl ether (MTBE) | 1634044  | 240                          | 690                                    |
| Sulfate                        | 14808798 | ID                           | ID                                     |
| Toluene                        | 108883   | 1,000                        | 1,000                                  |
| 1,2,4-Trimethylbenzene         | 95636    | 1,000                        | 2,900                                  |
| 1,3,5-Trimethylbenzene         | 108678   | 1,000                        | 2,900                                  |
| Xylenes                        | 1330207  | 10,000                       | 10,000                                 |

{F} = Criterion is based on adverse impacts to plant life (i.e., phytotoxicity).

{G} = GSI criterion is pH or water hardness dependent. The Final Chronic Value (FCV) for the protection of aquatic life must be calculated based on the pH or hardness of the receiving surface water. Where water hardness exceeds 400 mg CaCO<sub>3</sub>/L, use 400 mg CaCO<sub>3</sub>/L for the FCV calculation. The FCV formula provides values in units of ug/L (ppb). The generic GSI criterion is the lesser of the calculated FCV, the wildlife value (WV) and the surface water human non-drinking water value (HNDV). The soil GSI protection criteria for these hazardous substances are the greater of the 20 X GSI and the GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote.

| Hazardous Substance            | FCV Formula ug/L             | FCV Conversion Factor (CF) | WV ug/L | HNDV ug/L |
|--------------------------------|------------------------------|----------------------------|---------|-----------|
| Barium <sup>x</sup>            | EXP(1.0629*(LnH)+1.1869)     | NA                         | NA      | 1.6E+5    |
| Beryllium                      | EXP(2.5279*(LnH)-10.7689)    | NA                         | NA      | 1,200     |
| Cadmium <sup>x</sup>           | (EXP(0.7852*(LnH)-2.715))*CF | 1.101672-((LnH)*0.04184)   | NA      | 130       |
| Chromium (III) <sup>x</sup>    | (EXP(0.819*(LnH)+0.6848))*CF | 0.86                       | NA      | 9,400     |
| Copper                         | (EXP(0.8545*(LnH)-1.702))*CF | 0.96                       | NA      | 64,000    |
| Lead <sup>x</sup>              | (EXP(1.273*(LnH)-3.296))*CF  | 1.46203-((LnH)*0.14571)    | NA      | 190       |
| Manganese                      | EXP(0.8784*(LnH)+2.226)      | NA                         | NA      | 59,000    |
| Nickel                         | (EXP(0.846*(LnH)+0.0584))*CF | 0.997                      | NA      | 2.1E+5    |
| Pentachlorophenol <sup>x</sup> | EXP(1.005*(pH)-5.134)        | NA                         | NA      | 2.8       |
| Zinc                           | (EXP(0.8473*(LnH)+0.884))*CF | 0.986                      | NA      | 22,000    |

Where,

EXP(x) = The base of the natural logarithm raised to power x (e<sup>x</sup>).

LnH = The natural logarithm of water hardness in mg CaCO<sub>3</sub>/L.

SS = Total suspended solids in mg/L.

\* = The multiplication symbol.

<sup>x</sup> = The GSI criterion developed here may not be protective for surface water that is used as a drinking water source. Refer to footnote {X} for further guidance.

{H} = Valence-specific chromium data (Cr III and Cr VI) must be compared to the corresponding valence-specific cleanup criteria. If both Cr III and Cr VI are present in groundwater, the total concentration of both cannot exceed the DWC of 100 ug/l. If analytical data are provided for "total" chromium only, then values for Cr VI must be applied as the cleanup criteria. Cr III cleanup criterion for protection of drinking water can only be used at sites where groundwater is prevented from being used as a public water supply, currently and in the future.

{I} = Hazardous substance may exhibit the characteristic of ignitability as defined in 40 CFR 261.21.

{J} = Hazardous substance may be present in several isomer forms. Isomer-specific concentrations must be added together for comparison to criteria.

**GENERIC NOTES**

**MAY 2000 SAMPLING EVENT**

**GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MICHIGAN**

**MDEQ Criteria Qualifiers (Cont'd.):**

- {L} = Reserved
- {M} = Calculated criterion is below the analytical Target Detection Limit (TDL), therefore, the criterion defaults to the TDL.
- {N} = The concentrations of all potential sources of nitrate-nitrogen (e.g., ammonia-N, nitrite-N, nitrate-N) in groundwater used as a source of drinking water must not, when added together, exceed the nitrate DWC of 10,000 ug/L. Where leaching to groundwater is a relevant pathway, soil concentrations of all potential sources of nitrate-nitrogen must not, when added together, exceed the nitrate DWPC of 2.0E+5 ug/Kg.
- {O} = All polychlorinated and polybrominated dibenzodioxins and dibenzofurans are considered as one hazardous substance. The concentration of all isomers present at a facility, expressed as an equivalent concentration of 2,3,7,8-tetrachlorodibenzo-p-dioxin based upon their relative potency, must be added together and compared to the criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin. The generic criteria revisions have not been incorporated into the criteria for 2,3,7,8-tetrachlorodibenzo-p-dioxin; therefore, the criteria listed is the same as shown in the May 28, 1999 criteria tables.
- {Q} = Criteria for carcinogenic polycyclic aromatic hydrocarbons (PAHs) were developed using "relative potential potencies" (RPPs) to benzo(a)pyrene.
- {R} = Hazardous substance may exhibit the characteristic of reactivity as defined in 40 CFR 261.23.
- {S} = Criterion defaults to the chemical-specific water solubility limit.
- {T} = Refer to the Toxic Substances Control Act (TSCA), 40 CFR 761, Subparts D and G, as amended, to determine the applicability of TSCA cleanup standards. Alternatives to compliance with the standards listed below are possible under Subpart D. New releases may be subject to the standards identified in Subpart G. Use Part 201 soil direct contact criteria in the table below where TSCA standards are not applicable.

| Land Use Category          | TSCA, Subpart D                       | Part 201   |
|----------------------------|---------------------------------------|------------|
| Residential & Commercial I | 1,000 ppb, or<br>10,000 ppb if capped | 4,000 ppb  |
| Industrial & Commercial II | 1,000 ppb, or<br>10,000 ppb if capped | 20,000 ppb |
| Commercial III             | 1,000 ppb, or<br>10,000 ppb if capped | 62,000 ppb |
| Commercial IV              | 1,000 ppb, or<br>10,000 ppb if capped | 32,000 ppb |

- {U} = Hazardous substance may exhibit the characteristic of corrosivity as defined in 40 CFR 261.22.
- {V} = Criterion is the aesthetic drinking water value (secondary maximum contaminant level), as required by Sec. 20120(a)(5). Higher concentrations (up to 200 ug/L) may be acceptable on a case-by-case basis.
- {W} = Concentrations of trihalomethanes in groundwater must be added together to determine compliance with the State of Michigan Drinking Water Standard of 100 ug/L. Concentrations of trihalomethanes in soil must be added together to determine compliance with the DWPC of 2,000 ug/kg.
- {X} = The GSI criterion shown is not protective for surface water that is used as a drinking water source. For groundwater discharges to the Great Lakes and their connecting waters or discharges in close proximity to water supply intake(s) in inland surface waters, the generic GSI criterion is the Surface Water Human Drinking Water Value (HDV) listed in the table below except for those HDV indicted with an asterisk. For HDV with an asterisk, the generic GSI criterion is the lesser of the HDV, the WV and the calculated FCV (see formulas in footnote (G)). Soil protection criteria based on the HDV are listed below except for those values with an asterisk. Soil GSI protection criteria for compounds with an asterisk are the greater of the 20 X GSI and GSI soil-water partition values using the GSI criteria developed with the procedure described in this footnote.

| Hazardous Substance    | Chemical Abstract Service Number | Surface Water Human Drinking Water Values (HDV) (ug/L) | Soil GSI Protection Criteria for HDV (ug/Kg) |
|------------------------|----------------------------------|--|--|
| Acrylonitrile          | 107131                           | 0.87   | 17   |
| Alachlor               | 15972608                         | 3.5  | 70   |
| Arsenic                | 7440382                          | 50   | 16,000                                       |
| Atrazine               | 1912249                          | 4.3  | 86   |
| Barium                 | 7440393                          | 1,900*   | *  |
| Benzene                | 71432                            | 12   | 240  |
| Butyl benzyl phthalate | 85687                            | 6.9  | 1,300  |
| Cadmium                | 7440439                          | 2.5*   | *  |
| Carbon tetrachloride   | 56235                            | 5.6  | 110  |
| Chloride               | 16887006                         | 50,000   | 1.0E+6                                       |
| Chloroform             | 67663                            | 77   | 1,500  |
| Chromium (III)         | 16065831                         | 120*   | *  |

**GENERIC NOTES**

**MAY 2000 SAMPLING EVENT**

**GM SMI AND REALM, INC. GPL AND DRA  
SAGINAW, MICHIGAN**

| <b>Hazardous Substance</b>     | <b>Chemical Abstract Service Number</b> | <b>Surface Water Human Drinking Water Values (HDV) (ug/L)</b> | <b>Soil GSI Protection Criteria for HDV (ug/Kg)</b> |
|--------------------------------|---|---|---|
| Cyanazine                      | 21725462                                | 10 {M}  | 200   |
| 3,3'-Dichlorobenzidine         | 91941                                   | 0.3 {M}   | 500   |
| 1,2-Dichloroethane             | 107062                                  | 6   | 120   |
| 1,1-Dichloroethylene           | 75354                                   | 24  | 480   |
| 1,2-Dichloropropane            | 78875                                   | 9.1   | 180   |
| N,N-Dimethylacetamide          | 127195                                  | 700   | 14,000  |
| 1,4-Dioxane                    | 123911                                  | 34  | 680   |
| Ethylene glycol                | 107211                                  | 56,000  | 1.1E+6  |
| Hexachloroethane               | 67721                                   | 5.3   | 1,500   |
| Isophorone                     | 78591                                   | 310   | 6,200   |
| Lead                           | 7439921                                 | 14*   | *   |
| Methyl-tert-butyl ether (MTBE) | 1634044                                 | 120   | 2,400   |
| Methylene chloride             | 75092                                   | 47  | 940   |
| Molybdenum                     | 7439987                                 | 120   | 2,400   |
| Nitrobenzene                   | 98953                                   | 4.7   | 94  |
| Pentachlorophenol              | 87865                                   | 1.8*  | *   |
| 1,2,4,5-Tetrachlorobenzene     | 95943                                   | 2.8   | 3,300   |
| 1,1,2,2-Tetrachloroethane      | 79345                                   | 3.2   | 64  |
| Tetrachloroethylene            | 127184                                  | 11  | 220   |
| Tetrahydrofuran                | 109999                                  | 350   | 7,000   |
| Thallium                       | 7440280                                 | 1.2   | 910   |
| 1,1,2-Trichloroethane          | 79005                                   | 12  | 240   |
| Trichloroethylene              | 79016                                   | 29  | 580   |

{Z} = The current TDL for mercury is 0.2 ppb; however, a TDL of 5.0E-4 using USEPA Method 1631, will be required after September 30, 2000.

{ }\* = Site-specific background value has been used as the constituent criteria value.

TABLE B-1

## VOLATILE ORGANIC COMPOUNDS, GROUNDWATER ANALYTICAL DATA

REALM, INC. GREEN POINT LANDFILL  
SAGINAW, MI

| Location ID<br>Sample Date<br>Sample Type | MW-117WT |         | MW-117SI |         | MW-118WT |         | MW-118SI |         |         | MW-128WT |         |
|---|----------|---------|----------|---------|----------|---------|----------|---------|---------|----------|---------|
|   | 6/20/95  | 5/19/00 | 6/20/95  | 5/19/00 | 6/20/95  | 5/17/00 | 6/20/95  | 5/17/00 | 5/17/00 | 7/26/95  | 5/19/00 |
|   | FS       | FS      | FS       | FS      | FS       | FS      | FS       | FS      | DUP     | FS       | FS      |
| Acetone                                   | 50 U     | 10 U    | 50 U     | 10 U    | 50 U     | 10 U    | 50 U     | 10 U    | 10 U    | 7.3 J    | 10 U    |
| Benzene                                   | 1.0 U    | 0.13 J  | 1.0 U    | 0.60 J  | 1.0 U    | 0.54 J  | 1.0 U    | 0.47 J  | 0.46 J  | 1.0 U    | 1.0 U   |
| Bromodichloromethane                      | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| Bromoform                                 | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| Bromomethane                              | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| 2-Butanone                                | 50 U     | 10 U    | 50 U     | 10 U    | 50 U     | 10 U    | 50 U     | 10 U    | 10 U    | 50 U     | 10 U    |
| Carbon disulfide                          | 50 U     | 1.0 U   | 0.50 J   | 1.0 U   | 50 U     | 1.0 U   | 1.3      | 1.0 U   | 1.0 U   | 50 U     | 1.0 U   |
| Carbon Tetrachloride                      | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| Chlorobenzene                             | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| Chloroethane                              | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| Chloroform                                | 1.0 U    | 1.0 U   | 1.5      | 1.0 U   | 1.0 U    | 1.0 U   | 1.1      | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| Chloromethane                             | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| Dibromochloromethane                      | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| 1,1-Dichloroethane                        | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| 1,2-Dichloroethane                        | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| 1,1-Dichloroethene                        | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| 1,2-Dichloroethene (total)                | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| 1,2-Dichloropropane                       | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| cis-1,3-Dichloropropene                   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| trans-1,3-Dichloropropene                 | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| Ethylbenzene                              | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 0.10 J  | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| 2-Hexanone                                | R        | 10 U    | R        | 10 U    | R        | 10 U    | R        | 10 U    | 10 U    | R        | 10 U    |
| 4-Methyl-2-pentanone                      | 50 U     | 10 U    | 50 U     | 10 U    | 50 U     | 28      | 50 U     | 10 U    | 10 U    | 50 U     | 10 U    |
| Methylene Chloride                        | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| Styrene                                   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| Tetrachloroethene                         | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| 1,1,2,2-Tetrachloroethane                 | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| Toluene                                   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 0.90 J   | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| 1,1,1-Trichloroethane                     | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| 1,1,2-Trichloroethane                     | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| Trichloroethene                           | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U    | 1.0 U   | 1.0 U   | 1.0 U    | 1.0 U   |
| Vinyl Chloride                            | 1.0 U    | 1.0 U   | 1.0 U    | 0.14 J  | 1.0 U    | 1.0 U   | 1.0 U    | 0.33 J  | 0.33 J  | 1.0 U    | 1.0 U   |
| Xylenes (total)                           | 3.0 U    | 1.0 U   | 3.0 U    | 1.0 U   | 3.0 U    | 0.47 J  | 3.0 U    | 1.0 U   | 1.0 U   | 3.0 U    | 1.0 U   |

See Notes, Page 3.

TABLE B-1

## VOLATILE ORGANIC COMPOUNDS, GROUNDWATER ANALYTICAL DATA

REALM, INC. GREEN POINT LANDFILL  
SAGINAW, MI

| Location ID<br>Sample Date<br>Sample Type | MW-128S1 |         | X-1A    |         |         | X-1B    |         | X-2A    |         | X-10A   |         |
|---|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|   | 7/26/95  | 5/19/00 | 7/29/95 | 6/10/96 | 5/23/00 | 7/29/95 | 5/24/00 | 7/15/95 | 5/19/00 | 6/13/96 | 5/24/00 |
|   | FS       | FS      | FS      | FS      | FS      | FS      | FS      | FS      | FS      | FS      | FS      |
| Acetone                                   | 6.7 J    | 10 U    | 180 U   | 210 U   | 20 U    | 5.5 J   | 16 U    | 50 UJ   | 10 U    | 100 U   | 10 U    |
| Benzene                                   | 1.0 U    | 0.28 J  | 9.5     | 8.7 J   | 8.0     | 1.9     | 1.2     | 1.0 U   | 0.36 J  | 5.0 U   | 1.0 U   |
| Bromodichloromethane                      | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Bromoform                                 | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Bromomethane                              | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 0.34 J  | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 2-Butanone                                | 50 U     | 10 U    | 180 U   | 100 U   | 20 UJ   | 50 U    | 10 UJ   | 50 UJ   | 10 U    | 50 U    | 10 UJ   |
| Carbon disulfide                          | 50 U     | 1.0 U   | 180 U   | 100 U   | 2.0 U   | 50 U    | 0.14 J  | 50 U    | 1.0 U   | 50 U    | 1.0 U   |
| Carbon Tetrachloride                      | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Chlorobenzene                             | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 0.33 J  | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Chloroethane                              | 1.0 U    | 1.0 U   | 66      | 65      | 32      | 13      | 11      | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Chloroform                                | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Chloromethane                             | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 UJ  | 1.0 U   | 0.46 J  | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 UJ  |
| Dibromochloromethane                      | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,1-Dichloroethane                        | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 0.35 J  | 1.0 U   | 0.13 J  | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,2-Dichloroethane                        | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,1-Dichloroethene                        | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,2-Dichloroethene (total)                | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,2-Dichloropropane                       | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| cis-1,3-Dichloropropene                   | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| trans-1,3-Dichloropropene                 | 1.0 UJ   | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Ethylbenzene                              | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 2-Hexanone                                | R        | 10 U    | 180 U   | 100 U   | 20 U    | 50 U    | 10 U    | 50 U    | 10 U    | 50 U    | 10 U    |
| 4-Methyl-2-pentanone                      | 50 U     | 10 U    | 180 U   | 100 U   | 20 U    | 50 U    | 10 U    | 50 U    | 10 U    | 50 U    | 10 U    |
| Methylene Chloride                        | 1.0 U    | 1.0 U   | 3.6 U   | 5.0 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 5.0 U   | 1.0 U   |
| Styrene                                   | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Tetrachloroethene                         | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,1,2,2-Tetrachloroethane                 | 1.0 UJ   | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Toluene                                   | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,1,1-Trichloroethane                     | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,1,2-Trichloroethane                     | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Trichloroethene                           | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Vinyl Chloride                            | 1.0 U    | 1.0 U   | 3.6 U   | 2.1 U   | 2.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Xylenes (total)                           | 3.0 U    | 1.0 U   | 11 U    | 6.2 U   | 2.5     | 3.0 U   | 1.0 U   | 3.0 U   | 1.0 U   | 3.0 U   | 1.0 U   |

See Notes, Page 3.

TABLE B-1

## VOLATILE ORGANIC COMPOUNDS, GROUNDWATER ANALYTICAL DATA

REALM, INC. GREEN POINT LANDFILL  
SAGINAW, MI

| Location ID                | X-16A   |         | X-16B   |         |
|----------------------------|---------|---------|---------|---------|
|                            | 7/27/95 | 5/24/00 | 7/28/95 | 5/19/00 |
|                            | FS      | FS      | FS      | FS      |
| Acetone                    | 50 U    | 10 U    | 50 UJ   | 10 U    |
| Benzene                    | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Bromodichloromethane       | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Bromoform                  | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Bromomethane               | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 2-Butanone                 | 50 U    | 10 UJ   | 50 UJ   | 10 U    |
| Carbon disulfide           | 50 U    | 1.0 U   | 50 U    | 1.0 U   |
| Carbon Tetrachloride       | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Chlorobenzene              | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Chloroethane               | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Chloroform                 | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Chloromethane              | 1.0 U   | 0.18 J  | 1.0 U   | 1.0 U   |
| Dibromochloromethane       | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,1-Dichloroethane         | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,2-Dichloroethane         | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,1-Dichloroethene         | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,2-Dichloroethene (total) | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,2-Dichloropropane        | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| cis-1,3-Dichloropropene    | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| trans-1,3-Dichloropropene  | 1.0 UJ  | 1.0 U   | 1.0 U   | 1.0 U   |
| Ethylbenzene               | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 2-Hexanone                 | R       | 10 U    | 50 U    | 10 U    |
| 4-Methyl-2-pentanone       | 50 U    | 10 U    | 50 U    | 10 U    |
| Methylene Chloride         | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Styrene                    | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Tetrachloroethene          | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,1,2,2-Tetrachloroethane  | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Toluene                    | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,1,1-Trichloroethane      | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| 1,1,2-Trichloroethane      | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Trichloroethene            | 1.0 U   | 1.0 U   | 1.0 U   | 1.0 U   |
| Vinyl Chloride             | 1.0 U   | 5.8     | 1.0 U   | 1.0 U   |
| Xylenes (total)            | 3.0 U   | 1.0 U   | 3.0 U   | 1.0 U   |

See Notes, Page 3.

**TABLE B-1**

**VOLATILE ORGANIC COMPOUNDS, GROUNDWATER ANALYTICAL DATA**

**REALM, INC. GREEN POINT LANDFILL  
SAGINAW, MI**

**General Notes:**

All concentrations in micrograms per liter ( $\mu\text{g/L}$ ); equivalent to parts per billion (ppb), unless otherwise noted.

**Location ID:**

MW, X = Permanent monitoring wells.

WT = Water table monitoring wells.

S1 = Well screened at top of sand unit; increasing numbers indicate increased depth within the sand unit (e.g., S2, S3, S4).

**Sample Type:**

FS = Primary field sample, collected by BBL.

DUP = Duplicate field sample, collected by BBL.

**Data Qualifiers:**

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

R = The sample results were rejected.

U = The constituent was analyzed for but not detected. The associated value is the constituent quantitation limit.

TABLE B-2

## TAL INORGANIC CONSTITUENT INDICATOR PARAMETERS, GROUNDWATER ANALYTICAL DATA

REALM, INC. GREEN POINT LANDFILL  
SAGINAW, MI

| Location ID<br>Sample Date<br>Sample Type | MW-117WT      |               |               |               | MW-117S1      |               |               |               | MW-118WT      |               |               |               |
|---|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
|   | 6/20/95<br>FS | 7/14/95<br>FS | 6/11/96<br>FS | 5/19/00<br>FS | 6/20/95<br>FS | 7/14/95<br>FS | 6/11/96<br>FS | 5/19/00<br>FS | 6/20/95<br>FS | 7/14/95<br>FS | 6/11/96<br>FS | 5/17/00<br>FS |
| <b>TAL Inorganics (ug/L)</b>              |               |               |               |               |               |               |               |               |               |               |               |               |
| Aluminum                                  | 350           | --            | 100 U         | 100 U         | 117           | --            | 120           | 100 U         | 563           | --            | 100 U         | 100 U         |
| Antimony                                  | 5.0 U         | --            | 5.0 U         | 5.0 U         | 5.0 U         | --            | 5.0 U         | 5.0 U         | 5.0 U         | --            | 5.0 U         | 5.0 U         |
| Arsenic                                   | 1.3           | --            | --            | 10 U          | 1.2           | --            | --            | 10 U          | 1.0           | --            | --            | 10 U          |
| Barium                                    | 2,210         | --            | 2,520         | 3,580         | 1,410         | --            | 1,670         | 1,720         | 1,970         | --            | 2,420         | 7,970         |
| Beryllium                                 | 5.0 U         | --            | --            | 4.0 U         | 5.0 U         | --            | --            | 4.0 U         | 5.0 U         | --            | --            | 4.0 U         |
| Cadmium                                   | 0.20 U        | --            | --            | 1.0 U         | 0.20 U        | --            | --            | 1.0 U         | 0.20 U        | --            | --            | 1.5           |
| Calcium                                   | 1,340,000 J   | --            | --            | 1,200,000     | 133,000 J     | --            | --            | 163,000       | 1,950,000 J   | --            | --            | 4,890,000     |
| Chromium                                  | 50 U          | --            | --            | 5.0 U         | 50 U          | --            | --            | 5.0 U         | 50 U          | --            | --            | 5.0 U         |
| Cobalt                                    | 50 U          | --            | --            | 40 U          | 50 U          | --            | --            | 40 U          | 50 U          | --            | --            | 40 U          |
| Copper                                    | 25 U          | --            | --            | 25 U          | 25 U          | --            | --            | 25 U          | 25 U          | --            | --            | 25 U          |
| Iron                                      | 100,000       | --            | 124,000       | 149,000       | 5,780         | --            | 8,260         | 8,730         | 71,500        | --            | 93,100        | 261,000       |
| Lead                                      | 3.0 UJ        | --            | 3.0 U         | 3.0 U         | 3.0 UJ        | --            | 3.0 U         | 3.0 U         | 3.0 UJ        | --            | 3.0 U         | 3.0 U         |
| Magnesium                                 | 485,000       | --            | 545,000       | 593,000       | 42,500        | --            | 50,400        | 52,100        | 372,000       | --            | 457,000       | 1,330,000     |
| Manganese                                 | 5,130         | --            | 5,190         | 5,510         | 347           | --            | 330           | 341           | 5,460         | --            | 5,390         | 8,930         |
| Mercury                                   | 0.20 UJ       | --            | --            | 0.20 U        | 0.20 UJ       | --            | --            | 0.20 U        | 0.20 UJ       | --            | --            | 0.20 U        |
| Nickel                                    | 50 U          | --            | 50 U          | 23.3 B        | 50 U          | --            | 50 U          | 40 U          | 50 U          | --            | 50 U          | 17.7 B        |
| Potassium                                 | 6,960         | --            | --            | 41,300        | 5,000 U       | --            | --            | 2,330 B       | 5,000 U       | --            | --            | 16,800        |
| Selenium                                  | 5.0 UJ        | --            | --            | 5.0 U         | 5.0 UJ        | --            | --            | 5.0 U         | 5.0 UJ        | --            | --            | 5.0 U         |
| Silver                                    | 0.50 U        | --            | --            | 5.0 U         | 0.50 U        | --            | --            | 5.0 U         | 0.50 U        | --            | --            | 5.0 U         |
| Sodium                                    | 463,000       | --            | 499,000       | 590,000       | 101,000       | --            | 108,000       | 120,000       | 175,000       | --            | 229,000       | 647,000       |
| Thallium                                  | 4.0 UJ        | --            | --            | 17.9          | 2.0 UJ        | --            | --            | 5.0 B         | 2.0 UJ        | --            | --            | 26.8          |
| Vanadium                                  | 20 U          | --            | --            | 50 U          | 20 U          | --            | --            | 50 U          | 20 U          | --            | --            | 50 U          |
| Zinc                                      | R             | --            | 20 U          | 20 U          | R             | --            | 20 U          | 20 U          | R             | --            | 22.3 U        | 17.8 B        |
| Cyanide, Total                            | 5.0 U         | --            | --            | 5.0 U         | 5.0 U         | --            | --            | 5.0 U         | 5.0 U         | --            | --            | 5.0 U         |
| <b>Landfill Indicator Parameters</b>      |               |               |               |               |               |               |               |               |               |               |               |               |
| pH (Standard Units)                       | --            | --            | --            | 6.4           | --            | --            | --            | 7.0           | --            | --            | --            | 6.2           |
| Total Dissolved Solids (mg/L)             | --            | 11,000        | --            | 11,000        | --            | 990           | --            | 840           | --            | 1,400         | --            | 37,000        |
| Chloride (mg/L)                           | --            | 4,600         | --            | 4,930 J       | --            | 230           | --            | 284 J         | --            | 3,700         | --            | 16,100        |
| Sulfate (mg/L)                            | --            | --            | --            | 25 UG         | --            | --            | --            | 2.0 UG        | --            | --            | 5.0 U         | 100 UG        |
| Nitrate (as N) (mg/L)                     | --            | --            | --            | 12.5 UG       | --            | --            | --            | 1.0 UG        | --            | --            | 0.08 U        | 50 UG         |
| Nitrite (as N) (mg/L)                     | --            | --            | --            | 12.5 UG       | --            | --            | --            | 1.0 UG        | --            | --            | 0.07 U        | 50 UG         |
| Nitrogen, Ammonia (mg/L)                  | --            | 30 J          | --            | 46            | --            | 1 UJ          | --            | 5.1           | --            | 10 J          | --            | 26            |

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TABLE B-2

## TAL INORGANIC CONSTITUENT INDICATOR PARAMETERS, GROUNDWATER ANALYTICAL DATA

REALM, INC. GREEN POINT LANDFILL  
SAGINAW, MI

| Location ID<br>Sample Date<br>Sample Type | MW-118S1      |               |               |               |                | MW-128WT      |               |               | MW-128S1      |               |               |
|---|---------------|---------------|---------------|---------------|----------------|---------------|---------------|---------------|---------------|---------------|---------------|
|   | 6/20/95<br>FS | 7/14/95<br>FS | 6/11/96<br>FS | 5/17/00<br>FS | 5/17/00<br>DUP | 7/26/95<br>FS | 3/12/97<br>FS | 5/19/00<br>FS | 7/26/95<br>FS | 3/12/97<br>FS | 5/19/00<br>FS |
| <b>TAL Inorganics (ug/L)</b>              |               |               |               |               |                |               |               |               |               |               |               |
| Aluminum                                  | 219           | --            | 100 U         | 100 U         | 100 U          | 448           | --            | 100 U         | 502           | --            | 100 U         |
| Antimony                                  | 5.0 U         | --            | 5.0 U         | 5.0 U         | 5.0 U          | 5.0 U         | --            | 5.0 U         | 5.0 U         | --            | 5.0 U         |
| Arsenic                                   | 1.8           | --            | --            | 10 U          | 10 U           | 3.7           | --            | 5.1 B         | 17.3          | --            | 18.1          |
| Barium                                    | 482           | --            | 532           | 593           | 612            | 628           | --            | 142           | 936           | --            | 820           |
| Beryllium                                 | 5.0 U         | --            | --            | 4.0 U         | 4.0 U          | 5.0 U         | --            | 4.0 U         | 5.0 U         | --            | 4.0 U         |
| Cadmium                                   | 0.20 U        | --            | --            | 1.0 U         | 1.0 U          | 0.20 UJ       | --            | 1.0 U         | 0.20 UJ       | --            | 1.0 U         |
| Calcium                                   | 120,000 J     | --            | --            | 156,000       | 156,000        | 360,000       | --            | 217,000       | 442,000       | --            | 398,000       |
| Chromium                                  | 50 U          | --            | --            | 5.0 U         | 5.0 U          | 50 U          | --            | 1.7 B         | 50 U          | --            | 4.2 B         |
| Cobalt                                    | 50 U          | --            | --            | 40 U          | 40 U           | 50 U          | --            | 1.7 B         | 50 U          | --            | 4.3 B         |
| Copper                                    | 25 U          | --            | --            | 25 U          | 25 U           | 25 U          | --            | 25 U          | 25 U          | --            | 25 U          |
| Iron                                      | 2,500         | --            | 5,390         | 6,090         | 6,150          | 24,500        | --            | 20,100        | 31,900        | --            | 22,000        |
| Lead                                      | 3.0 UJ        | --            | 3.0 U         | 3.0 U         | 3.0 U          | 3.0 U         | --            | 3.0 U         | 3.0 U         | --            | 3.0 U         |
| Magnesium                                 | 38,100        | --            | 47,000        | 49,300        | 49,800         | 115,000       | --            | 54,600        | 170,000       | --            | 145,000       |
| Manganese                                 | 347           | --            | 383           | 420           | 415            | 918           | --            | 2,170         | 437           | --            | 339           |
| Mercury                                   | 0.20 UJ       | --            | --            | 0.20 U        | 0.20 U         | 0.20 U        | --            | 0.20 U        | 0.20 U        | --            | 0.20 U        |
| Nickel                                    | 50 U          | --            | 50 U          | 40 U          | 40 U           | 50 U          | --            | 14.5 B        | 50 U          | --            | 25.6 B        |
| Potassium                                 | 5,000 U       | --            | --            | 2,170 B       | 2,180 B        | 5,420         | --            | 33,900        | 5,000 U       | --            | 7,750         |
| Selenium                                  | 5.0 UJ        | --            | --            | 5.0 U         | 5.0 U          | 5.0 U         | --            | 5.0 U         | 5.0 U         | --            | 5.0 U         |
| Silver                                    | 0.50 U        | --            | --            | 5.0 U         | 5.0 U          | 0.50 U        | --            | 5.0 U         | 0.50 U        | --            | 5.0 U         |
| Sodium                                    | 97,300        | --            | 112,000       | 121,000       | 122,000        | 720,000       | --            | 331,000       | 582,000       | --            | 515,000       |
| Thallium                                  | 2.0 UJ        | --            | --            | 8.1 B         | 5.4 B          | 8.0 UJ*       | --            | 6.9 B         | 8.0 UJ*       | --            | 6.2 B         |
| Vanadium                                  | 20 U          | --            | --            | 50 U          | 50 U           | 20 U          | --            | 50 U          | 20 U          | --            | 50 U          |
| Zinc                                      | R             | --            | 35.8 U        | 20 U          | 20 U           | 31            | --            | 20 U          | 24            | --            | 20 U          |
| Cyanide, Total                            | 5.0 U         | --            | --            | 5.0 U         | 5.0 U          | 8.3           | --            | 5.0 U         | 8.8           | --            | 5.0 U         |
| <b>Landfill Indicator Parameters</b>      |               |               |               |               |                |               |               |               |               |               |               |
| pH (Standard Units)                       | --            | --            | --            | 7.0           | 7.0            | --            | --            | 7.2           | --            | --            | 6.7           |
| Total Dissolved Solids (mg/L)             | --            | 8,000         | --            | 930           | 940            | --            | --            | 1,800         | --            | --            | 3,000         |
| Chloride (mg/L)                           | --            | 260           | --            | 284           | 281            | --            | --            | 775 J         | --            | --            | 1,320 J       |
| Sulfate (mg/L)                            | --            | --            | 5.0 U         | 4.0 UG        | 4.0 UG         | --            | 5.0 U         | 101           | --            | 5.0 U         | 3.8 BG        |
| Nitrate (as N) (mg/L)                     | --            | --            | 0.08 U        | 2.0 UG        | 2.0 UG         | --            | 0.14          | 2.5 UG        | --            | 0.08 U        | 5.0 UG        |
| Nitrite (as N) (mg/L)                     | --            | --            | 0.07 U        | 2.0 UG        | 2.0 UG         | --            | 0.07 U        | 2.5 UG        | --            | 0.07 U        | 5.0 UG        |
| Nitrogen, Ammonia (mg/L)                  | --            | 4.8 J         | --            | 5.9           | 6.2            | --            | --            | 13            | --            | --            | 3.3           |

See Notes, Page 5.

TABLE B-2

## TAL INORGANIC CONSTITUENT INDICATOR PARAMETERS, GROUNDWATER ANALYTICAL DATA

REALM, INC. GREEN POINT LANDFILL  
SAGINAW, MI

| Location ID<br>Sample Date<br>Sample Type | X-1A          |               |              |               | X-1B          |               |              |               | X-2A          |               | X-10A         |               |
|---|---------------|---------------|--------------|---------------|---------------|---------------|--------------|---------------|---------------|---------------|---------------|---------------|
|   | 7/29/95<br>FS | 6/10/96<br>FS | 3/8/97<br>FS | 5/23/00<br>FS | 7/29/95<br>FS | 6/10/96<br>FS | 3/9/97<br>FS | 5/24/00<br>FS | 7/15/95<br>FS | 5/19/00<br>FS | 6/13/96<br>FS | 5/24/00<br>FS |
| <b>TAL Inorganics (ug/L)</b>              |               |               |              |               |               |               |              |               |               |               |               |               |
| Aluminum                                  | 100 U         | 100 U         | --           | 100 U         | 100 U         | 118 U         | --           | 100 U         | 111           | 100 U         | 100 U         | 100 U         |
| Antimony                                  | 5.0 U         | 5.0 U         | --           | 5.0 U         | 5.0 U         | 5.0 U         | --           | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Arsenic                                   | 3.6           | --            | --           | 3.5 B         | 3.1           | --            | --           | 10 U          | 1.0 U         | 3.4 B         | 5.0 U         | 10 U          |
| Barium                                    | 535           | 515           | --           | 475           | 887           | 870           | --           | 770           | 365           | 410           | 200 U         | 44.4 B        |
| Beryllium                                 | 5.0 U         | --            | --           | 4.0 U         | 5.0 U         | --            | --           | 4.0 U         | 5.0 U         | 4.0 U         | 5.0 U         | 4.0 U         |
| Cadmium                                   | 0.20 UJ       | --            | --           | 1.0 U         | 0.38 J        | --            | --           | 1.0 U         | 0.20 U        | 1.0 U         | 0.50 U        | 1.0 U         |
| Calcium                                   | 175,000       | --            | --           | 168,000       | 371,000       | --            | --           | 380,000       | 76,400        | 98,200        | 117,000       | 209,000       |
| Chromium                                  | 50 U          | --            | --           | 3.2 B         | 50 U          | --            | --           | 3.8 B         | 50 U          | 5.0 U         | 50 U          | 5.0 U         |
| Cobalt                                    | 50 U          | --            | --           | 40 U          | 50 U          | --            | --           | 6.1 B         | 50 U          | 40 U          | 50 U          | 40 U          |
| Copper                                    | 25 U          | --            | --           | 25 U          | 25 U          | --            | --           | 25 U          | 25 U          | 25 U          | 25 U          | 25 U          |
| Iron                                      | 7,120         | 30,000 J      | --           | 18,500 J      | 22,900        | 21,200 J      | --           | 22,100 J      | 254 J         | 429           | 100 UJ        | 100 UJ        |
| Lead                                      | 3.0 U         | 3.0 U         | --           | 3.0 U         | 3.0 U         | 3.0 U         | --           | 3.0 U         | 3.0 U         | 3.0 U         | 3.0 U         | 3.0 U         |
| Magnesium                                 | 110,000       | 102,000       | --           | 111,000       | 124,000       | 121,000       | --           | 118,000       | 23,300        | 40,400        | 22,400        | 48,700        |
| Manganese                                 | 666           | 1,210 J       | --           | 835           | 1,030         | 838 J         | --           | 795           | 517           | 569           | 22.5          | 152           |
| Mercury                                   | 0.20 UJ       | --            | --           | 0.20 U        | 0.20 UJ       | --            | --           | 0.20 U        | 0.20 U        | 0.20 U        | 0.20 U        | 0.20 U        |
| Nickel                                    | 50 U          | 50 U          | --           | 17.2 B        | 50 U          | 50 U          | --           | 29.6 B        | 50 U          | 13.4 B        | 50 U          | 40 U          |
| Potassium                                 | 235,000       | --            | --           | 163,000       | 53,700        | --            | --           | 40,500        | 19,900        | 33,500        | 9,450         | 8,910         |
| Selenium                                  | 5.0 U         | --            | --           | 5.0 U         | 5.0 U         | --            | --           | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| Silver                                    | 0.50 U        | --            | --           | 5.0 U         | 0.50 U        | --            | --           | 5.0 U         | 0.50 U        | 5.0 U         | 0.50 UJ       | 5.0 U         |
| Sodium                                    | 580,000       | 389,000       | --           | 339,000       | 758,000       | 831,000       | --           | 858,000       | 275,000       | 378,000       | 24,000        | 33,700        |
| Thallium                                  | 8.0 UJ*       | --            | --           | 10 U          | 4.0 UJ*       | --            | --           | 6.6 B         | 2.0 UJ        | 5.3 B         | 2.0 UJ        | 7.1 B         |
| Vanadium                                  | 20 U          | --            | --           | 50 U          | 20 U          | --            | --           | 2.4 B         | 20 U          | 50 U          | 20 U          | 50 U          |
| Zinc                                      | 20 U          | 20 U          | --           | 20 U          | 143           | 42.5 U        | --           | 20 U          | R             | 54.6          | 86.8 U        | 105           |
| Cyanide, Total                            | 5.0 U         | --            | --           | 4.5 B         | 9.1           | --            | --           | 5.5           | 5.0 U         | 5.0 U         | 5.0 U         | 5.0 U         |
| <b>Landfill Indicator Parameters</b>      |               |               |              |               |               |               |              |               |               |               |               |               |
| pH (Standard Units)                       | --            | --            | --           | 7.0           | --            | --            | --           | 6.6           | --            | 7.6           | --            | 7.0           |
| Total Dissolved Solids (mg/L)             | --            | --            | --           | 2,300         | --            | --            | --           | 2,600         | --            | 1,800         | --            | 910           |
| Chloride (mg/L)                           | --            | --            | --           | 505           | --            | --            | --           | 1,440         | --            | 884 J         | --            | 58.7          |
| Sulfate (mg/L)                            | --            | 5.0 U         | 5.0 U        | 528           | --            | 5.0 U         | 5.0 U        | 51.2          | --            | 24            | --            | 430           |
| Nitrate (as N) (mg/L)                     | --            | 0.08 U        | 0.08 U       | 2.5 U         | --            | 0.08 U        | 0.08 U       | 10 U          | --            | 2.5 UG        | --            | 0.50 U        |
| Nitrite (as N) (mg/L)                     | --            | 0.07 U        | 0.07 U       | 2.5 U         | --            | 0.07 U        | 0.07 U       | 10 U          | --            | 2.5 UG        | --            | 0.50 U        |
| Nitrogen, Ammonia (mg/L)                  | --            | --            | --           | 160           | --            | --            | --           | 24            | --            | 5.6           | --            | 0.20 U        |

See Notes, Page 5.

TABLE B-2

## TAL INORGANIC CONSTITUENT INDICATOR PARAMETERS, GROUNDWATER ANALYTICAL DATA

REALM, INC. GREEN POINT LANDFILL  
SAGINAW, MI

| Location ID                          | X-16A       |             | X-16B       |             |
|--------------------------------------|-------------|-------------|-------------|-------------|
|                                      | 7/27/95     | 5/24/00     | 7/28/95     | 5/19/00     |
|                                      | Sample Date | Sample Date | Sample Date | Sample Date |
| Sample Type                          | FS          | FS          | FS          | FS          |
| <b>TAL Inorganics (ug/L)</b>         |             |             |             |             |
| Aluminum                             | 1,110       | 100 U       | --          | 122         |
| Antimony                             | 5.0 U       | 5.0 U       | --          | 5.0 U       |
| Arsenic                              | 1.0 U       | 10 U        | --          | 10 U        |
| Barium                               | 200 U       | 216         | --          | 35.7 B      |
| Beryllium                            | 5.0 U       | 4.0 U       | --          | 4.0 U       |
| Cadmium                              | 0.35 J      | 1.0 U       | --          | 0.59 B      |
| Calcium                              | 362,000     | 397,000     | --          | 84,700      |
| Chromium                             | 50 U        | 1.5 B       | --          | 5.0 U       |
| Cobalt                               | 50 U        | 40 U        | --          | 40 U        |
| Copper                               | 25 U        | 25 U        | --          | 25 U        |
| Iron                                 | 4,370       | 6,850 J     | --          | 100 U       |
| Lead                                 | 3.0 U       | 3.0 U       | --          | 3.0 U       |
| Magnesium                            | 126,000     | 136,000     | --          | 60,100      |
| Manganese                            | 807         | 966         | --          | 84.5        |
| Mercury                              | 0.20 U      | 0.20 U      | --          | 0.20 U      |
| Nickel                               | 50 U        | 9.5 B       | --          | 23.8 B      |
| Potassium                            | 5,000 U     | 1,920 B     | --          | 2,620 B     |
| Selenium                             | 5.0 U       | 5.0 U       | --          | 5.0 U       |
| Silver                               | 0.50 U      | 5.0 U       | --          | 5.0 U       |
| Sodium                               | 86,200      | 124,000     | --          | 91,000      |
| Thallium                             | 2.0 UJ      | 7.6 B       | --          | 3.9 B       |
| Vanadium                             | 20 U        | 50 U        | --          | 50 U        |
| Zinc                                 | 50          | 20 U        | --          | 14.5 B      |
| Cyanide, Total                       | 5.0 U       | 5.0 U       | 5.0 U       | 5.0 U       |
| <b>Landfill Indicator Parameters</b> |             |             |             |             |
| pH (Standard Units)                  | --          | 6.7         | --          | 7.9         |
| Total Dissolved Solids (mg/L)        | --          | 1,900       | --          | 670         |
| Chloride (mg/L)                      | --          | 420         | --          | 90.6 J      |
| Sulfate (mg/L)                       | --          | 601         | --          | 229         |
| Nitrate (as N) (mg/L)                | --          | 5.0 U       | --          | 0.16 BG     |
| Nitrite (as N) (mg/L)                | --          | 5.0 U       | --          | 1.0 UG      |
| Nitrogen, Ammonia (mg/L)             | --          | 0.40        | --          | 0.20 U      |

See Notes, Page 5.

**TABLE B-2**

**TAL INORGANIC CONSTITUENT INDICATOR PARAMETERS, GROUNDWATER ANALYTICAL DATA**

**REALM, INC. GREEN POINT LANDFILL  
SAGINAW, MI**

**General Notes:**

All concentrations in micrograms per liter ( $\mu\text{g/L}$ ); equivalent to parts per billion (ppb), unless otherwise noted.

-- = Sample was not analyzed for the listed constituent.

**Location ID:**

MW, X = Permanent monitoring wells.

WT = Water table monitoring wells.

S1 = Well screened at top of sand unit; increasing numbers indicate increased depth within the sand unit (e.g., S2, S3, S4).

**Sample Type:**

FS = Primary field sample, collected by BBL.

DUP = Duplicate field sample, collected by BBL.

**Data Qualifiers:**

B = (Inorganic) The analyte has been positively identified. The concentration is between the instrument detection limit and the required reporting limit.

G = The reporting limit is elevated due to matrix interference.

J = The compound was positively identified; however, the associated numerical value is an estimated concentration only.

R = The sample results were rejected.

U = The constituent was analyzed for but not detected. The associated value is the constituent quantitation limit.

UJ = The constituent was not detected above the reported sample quantitation limit. However, the reported limit is approximate and may or may not represent the actual limit of quantitation.

\* = Duplicate analysis not within control limits.