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**Worldwide Facilities Group
Remediation Team**

MC 483-520-190
2000 Centerpoint Parkway
Pontiac, Michigan 48341

April 22, 2008

Mr. Daniel Patulski, DP-8J
United States Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3507

Dear Mr. Patulski:

RE: Revised Groundwater Monitoring Plan
13000 Eckles Road Site (U.S. EPA ID No. MID 005 356 621)
U.S. EPA Docket No: RCRA-05-2007-0008
Livonia, Michigan

Enclosed please find the Revised Groundwater Monitoring Plan (GMP). This report has been revised to include the scope included in the Proposed GMP Addendum dated February 29, 2008. The Proposed GMP Addendum was approved by U.S. EPA on March 4, 2008 and is included as Appendix B of the Revised GMP. This report describes the activities proposed to be conducted during future groundwater monitoring events as required by the Administrative Order on Consent effective May 21, 2007 for the 13000 Eckles Road Site in Livonia, Michigan.

Please feel free to contact me at (248) 753-5800 if you have any questions regarding this document, or if you require any further information.

Yours truly,

GENERAL MOTORS CORPORATION,

A handwritten signature in black ink, appearing to read "Kim D. Tucker-Billingslea".

Kim D. Tucker-Billingslea
Project Manager

CM/kta/12607/Rpt 53/Det.
Encl.

c.c.: Richard Conforti (MDEQ)
Jean Caufield (GM)
Chris Meincke (CRA)
Ian Richardson (CRA)

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REVISED GROUNDWATER MONITORING PLAN

13000 ECKLES ROAD
LIVONIA, MICHIGAN

U.S. EPA No. MID 005 355 622

Prepared for:

General Motors Corporation (GM)

Remediation and Liability Management Company, Inc. (REALM)

DISCLAIMER:

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APRIL 2008

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1.0 INTRODUCTION

This Revised Groundwater Monitoring Plan (GMP) describes the groundwater monitoring activities for the General Motors Corporation (GM) property located at 13000 Eckles Road, Livonia, Michigan (Site). The groundwater monitoring activities described herein will be conducted in support of the U.S. Environmental Protection Agency (U.S. EPA) Resource Conservation and Recovery Act (RCRA) Final Decision and Response to Comments – Selection of Remedial Alternative dated March 13, 2006 (Final Decision) for the Site. The current revisions have been summarized in Appendix B – Groundwater Monitoring Plan Addendum – February 29, 2008.

Groundwater monitoring activities at the Site were conducted prior to and during the RCRA Facility Investigation (RFI). Following the RFI, the monitoring activities were conducted as described in the October 28, 2004 RCRA Environmental Indicator CA750 Report – Determination of Migration of Contaminated Groundwater Under Control (CA750) and subsequent correspondence. The most recent groundwater monitoring activities included monitoring of groundwater downgradient of the following four areas of investigation:

- Area 1 – Former Plating Area;
- AOI 21 – Former Pickling Machines/Flat Polish Area;
- AOI 28 – Oil Storage Building Yard Area; and
- AOI 31 – Former Fire Training Area.

These activities also included monitoring for the presence and thickness of light nonaqueous-phase liquid (LNAPL) in certain monitoring wells at the following two areas of investigation:

- Area 1/AOI 33 – Former Plating Area/PIC Property Plume Boundary; and
- AOI 21 – Former Pickling Machines/Flat Polish Area.

The groundwater monitoring activities proposed in this GMP are based on the results of the extensive groundwater monitoring that was conducted before and during the RFI, and the subsequent groundwater monitoring that was conducted to support the CA750 determination. These activities are also consistent with the institutional controls that are being implemented to restrict groundwater use at the property as identified in the Corrective Measures Proposal (CMP) and Final Decision.

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In summary, the GMP will include monitoring at Area 1 (Former Plating Area), at AOI 21 (Former Pickling Machines/Flat Polish Area), and at AOI 31 (Former Fire Training Area) with the objective of continued verification that the existing areas of groundwater contamination due to nickel downgradient of Area 1, due to LNAPL at AOI 21, and due to trichloroethene (TCE) downgradient of AOI 31 remain stabilized.

1.1 ORGANIZATION

The remainder of the GMP is organized as follows

- Section 2.0 - presents background information about the Site investigation, results of the CA750 sampling, and areas to be monitored;
- Section 3.0 - presents the scope and procedures to be followed during sampling and analysis; and
- Section 4.0 - presents an outline of the reporting to be completed for each monitoring event.

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2.0 BACKGROUND

The Site is located at 13000 Eckles Road in Livonia, Michigan as shown on Figure 2.1. The Site occupies approximately 120 acres and all former buildings have been demolished with the exception of the groundwater treatment plant located at the southwest corner of the Site. The Site is currently owned by GM but ongoing negotiations are being conducted with perspective purchasers of the property. Figure 2.2 presents the current Site Plan and Figure 2.3 presents the locations of AOIs and Areas evaluated during the RFI at the Site.

The CA750 Report recommended groundwater monitoring at four areas of investigation. The four areas, as mentioned in Section 1.0, are Area 1, AOI 21, AOI 28, and AOI 31. Additionally, the CA750 Report recommended LNAPL monitoring at areas, Area 1/AOI 33 and AOI 21. The locations of these areas are shown on Figure 2.3. The following sections present a description of each area and a summary of the conclusions presented in the CMP for these areas. More detailed information about the sampling and characterization activities for each investigation area during the RFI can be found in the RFI Final Report.

2.1 AREA 1 - FORMER PLATING AREA

Area 1 is located at the southwest corner of the Site. Area 1 includes:

AOI 1 - WWTP

AOI 3 - Stormwater Clarifier

AOI 14 - Old Nickel Bright Tank

AOI 15 - Waste Sump Under Plating Line

AOI 18 - French Drain System

AOI 20 - Plating Line

Area 3 - Subsurface Conditions beneath the existing concrete slab

Additionally, AOI 22 - Press Pit Basements is located east of Area 1 and is encompassed by the Area 1 barrier wall.

Area 1 is surrounded by a soil-bentonite barrier wall that was installed during 2004 as described in the Supplemental Interim Measures Work Plan (CRA, August 2004). The barrier wall was installed to supplement a French drain collection trench that was installed in 1980/1981 to collect nickel and chromium-impacted groundwater. Portions of the soil-bentonite barrier wall were enhanced with a jet-grouted barrier wall in areas of

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active utilities or subsurface obstructions. The collected groundwater was historically treated in the on-site wastewater treatment plants and is currently treated in the on-site groundwater treatment plant prior to discharge to the Detroit Water and Sewerage Department (DWSD) sanitary sewer, Permit No. DWSD-SD-232.

During the RFI, nickel and chromium impacted groundwater were identified at Area 1. Chromium has not been detected at concentrations above generic screening criteria at off-site locations during any RFI or CA750 sampling events. The chromium-impacted groundwater identified at Area 1 appears to be contained by the French drain collection system and Area 1 barrier wall. Nickel-impacted groundwater was identified in some off-site monitoring wells south of Area 1. As described above, the Area 1 barrier wall was completed around Area 1 to control the off-site migration of nickel impacted groundwater. Groundwater quality in Area 1 has been monitored through MW-OS-3D, MW-OS-4S, MW-OS-4D, MW-OS-5D, MW-OS-6D, MW-OS-7D, MW-OS-8D, MW-OS-9S, MW-OS-9D, MW-OS-10D, HA-MW-12, HA-15 and HA-16. Additionally, during the installation of a monitoring well located north of Area 1, LNAPL was identified in MW-A1/33-2S. MW-A1-6S, MW-A1/33-6S and MW-A1/33-7S were installed around MW-A1/33-2S to delineate and monitor the LNAPL.

As proposed in the CA750 Report, groundwater samples were collected from off-site monitoring wells to monitor the concentrations of nickel and chromium in off-site groundwater. However, as described in a letter to the EPA dated April 13, 2005, monitoring wells MW-OS-9S, MW-OS-9D, and MW-OS-10D were abandoned in February 2005 as requested by the owner of the property where these wells were located. In addition, due to a labor dispute at the facility across the street from Area 1 where monitoring wells MW-OS-5D, MW-OS-6D, MW-OS-7D, and MW-OS-8D are located, GM could not access these monitoring wells from May 2005 to January 2006. During this period, groundwater samples were collected from on-site monitoring wells to evaluate the effectiveness of the Area 1 barrier wall.

Analytical results from the on-site and off-site groundwater samples have been presented in Quarterly Progress Reports and are summarized in Table 2.1. Nickel has been detected in groundwater samples collected from off-site monitoring wells south of Area 1; however, the concentrations are lower than the site-specific, risk-based criteria for the non-potable groundwater exposures that are reasonably expected for this area (i.e., construction worker ingestion of and dermal contact with groundwater), as discussed in the RFI Report. As discussed in the RFI Report and the Supplement to the RFI Report, groundwater in this area is not being used as a drinking water supply and all properties in this area are serviced by a municipal water supply. The relevant, site-specific, risk-

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based criteria for nickel and chromium in groundwater downgradient of Area 1 are presented in Table 2.2.

The Area 1 barrier wall appears to have intercepted the groundwater flow south of Area 1 and limited off-site migration of nickel-impacted groundwater. Chromium has not been detected in off-site groundwater samples at concentrations greater than generic screening criteria. There has been some variability in the concentrations of nickel in groundwater samples collected from immediately downgradient of Area 1 since the installation of the Area 1 barrier wall. Therefore, additional monitoring activities for Area 1 in this GMP as described below in Section 3.0 are proposed to continue to evaluate the effectiveness of the Area 1 barrier wall/French drain collection system and to monitor the existing area of nickel-impacted groundwater off-site. As noted above, groundwater at the Site and in the downgradient vicinity is not a current or reasonably expected future drinking water supply. A groundwater use restriction will be placed on the Site to limit the use of groundwater, as proposed in the CMP.

Additionally, as proposed in the CA750 Report, the LNAPL identified during the RFI was monitored throughout the duration of the CA750 sampling period. No recoverable thickness of LNAPL was present in MW-A1/33-2S, or the delineation monitoring wells surrounding it, MW-A1/33-3S, MW-A1/33-4S, MW-A1/33-5S, MW-A1/33-6S, MW-A1/33-7S, or MW-A1-6S. The LNAPL monitoring results are presented in Table 2.3.

Based on the information described above, no additional monitoring activities are proposed for LNAPL at Area 1.

2.2 AOI 21 - FORMER PICKLING MACHINES/FLAT POLISH AREA

The Former Pickling Machines/Flat Polish Area was located in the building addition in the southeast corner of the main plant. Flat polish oil used in the operations was typically stored in the department basement. The sulfuric acid used in pickling machines was also stored in an AST located outside the building. Each pickling machine was constructed with a spill containment pit beneath it. Four flat polish lines operated from 1964 to 1993. Prior to 1964, the flat polish department was located east of the bumper forming lines. Two pickling machines were located within the flat polish area.

During the RFI, low levels of VOCs were identified in groundwater samples collected from monitoring wells upgradient of AOI 21. Groundwater quality in AOI 21 has been monitored by MW-A1-10S and MW-A1-10D. Additionally, LNAPL was identified east of

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AOI 21 during the installation of a monitoring well, MW-A1-16S. The LNAPL was visually delineated with soil borings and permanent monitoring wells MW-A1-16S, MW-21-1S, MW-21-2S and MW-21-3S were installed to monitor the presence of LNAPL at AOI 21.

As proposed in the CA750 Report, groundwater samples were collected from two monitoring wells, one shallow and one deep, to monitor the presence of VOCs in groundwater at AOI 21. Vinyl chloride was detected at a concentration of 2.1 ug/L, in a groundwater sample collected from MW-A1-10D in December 2005, statistically equal to the drinking water standard of 2 ug/L. No other VOCs were detected at concentrations greater than drinking water criteria in the CA750 samples collected from AOI 21. Analytical results of the CA750 Sampling are presented in Table 2.1.

Additionally, as proposed in the CA750 Report, the LNAPL identified during the RFI was monitored throughout the duration of the CA750 sampling period. Small thicknesses of LNAPL were identified in MW-A1-16S and MW-21-1S, however, a recoverable thickness of LNAPL was not present in MW-A1-16S, nor the three delineation monitoring wells, MW-21-1S, MW-21-2S, and MW-21-3S. The LNAPL monitoring results are presented in Table 2.3.

Based on the information described above, additional monitoring activities for AOI 21 as described below in Section 3.0 are proposed in this GMP to continue to monitor the presence and extent of LNAPL.

2.3 AOI 28 - OIL STORAGE BUILDING YARD AREA

The Oil Storage Building Yard Area was located north of the main plant and west of the incinerator building. Various containers of production fluids and oil were stored in this area. During the RFI, low levels of VOCs were identified in groundwater samples collected from monitoring wells at AOI 28 and to the south and east of AOI 28.

As proposed in the CA750 Report, groundwater samples were collected from one monitoring well, MW-28-3S, to monitor the presence of VOCs in groundwater east of AOI 28. Concentrations of VOCs in groundwater samples collected during the CA750 sampling are consistent with those collected during the RFI. Analytical results of the CA750 sampling are presented in Table 2.1. There are no known uses of groundwater for drinking water sources at the Site or immediately downgradient of the Site. A groundwater use restriction will be placed on the Site to limit the use of groundwater.

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Based on the information described above, no additional monitoring activities are proposed for AOI 28.

2.4 AOI 31 - FORMER FIRE TRAINING AREA

The Fire Training Area was located at the southeast corner of the Site. Activities conducted in AOI 31 consisted of placing metal pans filled with flammable liquids on the ground surface, and igniting the liquid to train personnel in fire fighting techniques. Two metal storage buildings constructed on concrete slabs were also present in the vicinity of AOI 31. Only the concrete slabs remain.

During the RFI, PCB-impacted soil and TCE-impacted groundwater were identified at AOI 31. As described in the PCB Cleanup Report - AOI 31 - Fire Training Area (CRA, April 2005) (PCB Cleanup Report), approximately 715 tons of PCB-impacted soil was excavated and disposed off-site during 2005. TCE-impacted groundwater has been identified in off-site monitoring wells. As described in the RFI Report and Supplement to the RFI Report, TCE-impacted groundwater has migrated off-site beneath a portion of the residential neighborhood located southeast of the Site. Extensive investigations have been conducted in and downgradient of AOI 31 to delineate the TCE-impacted groundwater.

As described in the Amendment to Interim Measures Work Plan For AOI 31 Groundwater (CRA, January 2005), a pilot study was performed to evaluate the effectiveness of treating the TCE-impacted groundwater with potassium permanganate. Initial results were favorable and the injection of a potassium permanganate solution was proposed in 38 on-site injection wells to reduce the mass of TCE on-site and control the off-site migration of TCE-impacted groundwater. Two injections of 200 gallons of a 2% potassium permanganate solution and one injection of 800 gallons of a 3% potassium permanganate solution have been conducted at each of the 38 on-site injection wells. Results of the interim measure for AOI 31 groundwater will be presented in a separate report.

As proposed in the CA750 Report, groundwater samples were collected from eleven off-site monitoring wells, MW-211S, MW-211D, MW-212S, MW-212D, MW-214S, MW-214D, MW-216S, MW-216D, MW-303S, MW-304S, and MW-304D, to monitor the presence of VOCs in groundwater downgradient of AOI 31. As described in a letter to the EPA dated April 13, 2005, at the request of the property owner, MW-304S and MW-304D were

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abandoned in January 2005. For the purposes of the CA750 monitoring, MW-217S and MW-217D were selected to replace MW-304S and MW-304D. Concentrations of VOCs in groundwater samples collected during the CA750 monitoring are consistent with those collected during the RFI, and all concentrations are lower than the site-specific, risk-based criteria for non-potable groundwater exposures that are reasonably expected for this area (i.e., construction worker contact, vapor intrusion, and residential nonpotable uses such as swimming pools and gardening), as discussed in the RFI Report. In fact, TCE is the only VOC with concentrations higher than the drinking water criteria. Analytical results of the CA750 monitoring are presented in Table 2.1. There are no known uses of groundwater for drinking water at the Site or downgradient of AOI 31. The relevant, site-specific, risk-based criteria for the VOCs that have been detected in groundwater downgradient of AOI 31 during the CA750 monitoring are presented in Table 2.4. A groundwater use restriction will be placed on the Site to prohibit groundwater use, as proposed in the CMP.

There has been some variability in the concentrations of TCE in groundwater samples collected from immediately downgradient of AOI 31. Therefore, additional monitoring activities for AOI 31 as described below in Section 3.0 are proposed in this GMP to continue to monitor the extent of the TCE-impacted groundwater off-site and the concentration of TCE in groundwater at the Site boundary.

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3.0 GROUNDWATER MONITORING PLAN

3.1 GROUNDWATER MONITORING PLAN BASELINE

The most recent sampling conducted during the RFI or CA750 Sampling was used as a baseline to evaluate the results of the groundwater sampling proposed for Area 1 and AOI 31 in this GMP. The amended scope of the Groundwater Monitoring Plan has been presented in Appendix B.

3.2 ON-GOING MONITORING PROGRAM

The monitoring will include groundwater sampling at locations shown on Figure 3.1 associated with Area 1, and Figure 3.2 associated with AOI 31. On-site groundwater elevation monitoring locations are presented on Figure 3.3. Off-site groundwater elevation monitoring locations associated with AOI 31 are presented on Figure 3.2.

The following sections present details and the rationale of the monitoring program for each investigation area; including details on monitoring frequency, duration, and parameter list. Table 3.1 presents a summary of the monitoring wells, and the associated well completion information, included in the monitoring program for each area of investigation. Table 3.2 presents a summary of the monitoring wells, and the associated well completion information, included in the groundwater elevation monitoring program for each area of investigation. The groundwater sampling will be conducted in accordance with the field procedures identified in the RFI Work Plan (CRA, September 2002) with the exception of groundwater sampling. Instead the groundwater purging and sampling will be conducted in accordance with GM Procedure No. SOP-6.4 provided in Appendix A. The new procedure will be used because it identifies protocols for minimal drawdown sampling that will be utilized for sampling inorganic parameters. Laboratory analysis and data validation will be conducted in accordance with the Quality Assurance Project Plan (QAPP) (RFI Work Plan Appendix C).

3.2.1 AREA 1

The seven monitoring wells included in the GMP associated with Area 1 are; HA-14, HA-16, OW-24, MW-OS-5D, MW-OS-6D, MW-OS-7D, and MW-OS-8D. Each of these wells was sampled as part of RFI and/or CA750 monitoring and either monitored the off-site migration of nickel-impacted groundwater or delineated the extents of the off-site nickel-impacted groundwater. HA-14 and OW-24 will be sampled to monitor groundwater

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conditions on Site and at the Site perimeter. HA-16 will be sampled to monitor the off-site concentrations of nickel in groundwater downgradient of the source area but south of the property boundary and evaluate the effectiveness of the Area 1 Barrier Wall. MW-OS-5D, MW-OS-6D, MW-OS-7D, and MW-OS-8D will be monitored to confirm the extents of the nickel-impacted groundwater are delineated.

The monitoring wells included in the on-going monitoring for Area 1 will be sampled and analyzed on an annual basis through 2010 to meet the objectives of the GMP for this area. The groundwater samples collected from HA-14, HA-16, OW-24, MW-OS-5D, MW-OS-6D, MW-OS-7D, and MW-OS-8D will be analyzed in accordance with the QAPP for nickel. In addition, the groundwater samples collected from HA-14 and OW-24 will be analyzed in accordance with the QAPP for total chromium and hexavalent chromium

In addition, as described in Section 3.2.3, groundwater elevation measurements will be collected from the seven monitoring wells identified above to monitor the groundwater flow direction downgradient of Area 1

3.2.2 AOI 31

The seven monitoring wells included in the GMP associated with AOI 31 are; MW-103S, MW-202S, MW-211S, MW-213S, MW-215S, MW-216S, and MW-217S. Each of these wells was sampled as part of RFI and/or CA750 sampling activities and either monitored the off-site migration of TCE-impacted groundwater or delineated the extents of the off-site TCE-impacted groundwater. MW-103S will be sampled to monitor groundwater conditions on Site and at the Site perimeter. MW-202S will be sampled to monitor the effects of the IM for AOI 31 Groundwater and the concentrations of TCE-impacted groundwater just downgradient of the property boundary. MW-213S and MW-215S will be sampled to monitor the off-site concentrations of TCE in groundwater downgradient of AOI 31. MW-211S, MW-216S, and MW-217S will be monitored to confirm the extents of the TCE-impacted groundwater are delineated.

The monitoring wells included in the on-going monitoring for AOI 31 will be sampled and analyzed on an annual basis through 2010 to meet the objectives of the GMP for this area. The groundwater samples collected from the AOI 31 monitoring wells will be analyzed in accordance with the QAPP for TCE and associated degradation products (cis-1,2-dichloroethene and vinyl chloride). The groundwater samples collected from the AOI 31 monitoring wells will also be analyzed for 1,1,1-trichloroethane (1,1,1-TCA), even though the concentrations continue to remain below all criteria, including the drinking

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water criterion. Based on RFI data, 1,1,1-TCA may be an early indicator of changes in groundwater conditions in the vicinity of the TCE-impacted groundwater plume.

In addition, as described in Section 3.2.3, groundwater elevation measurements will be collected from a total of fifteen monitoring wells in the vicinity of AOI 31, the monitoring wells identified above along with eight additional monitoring wells to monitor the groundwater flow direction downgradient of AOI 31. The additional monitoring wells identified for groundwater elevation monitoring are presented in Table 3.2.

3.2.3 SITE-WIDE GROUNDWATER ELEVATION AND LNAPL MONITORING

In addition to the groundwater sampling activities identified above, groundwater elevation data will be collected from a total of 40 monitoring wells. This includes 14 wells, presented on Table 3.1, that were previously identified for sampling and an additional 26 wells, presented on Table 3.2, that will be used strictly for groundwater elevation measurements. Eight of the additional groundwater elevation monitoring locations are associated with AOI 31. Seven of the additional groundwater elevation monitoring locations are associated with AOI 21. The remaining 11 groundwater elevation monitoring locations are distributed across the Site. Groundwater elevations will be measured to monitor the groundwater flow directions across the Site, and downgradient of Area 1 and AOI 31. LNAPL thicknesses will also be measured, if present, in the seven monitoring wells associated with AOI 21. Groundwater elevations will be monitored on an annual basis through 2010 to meet the objectives of the GMP. LNAPL thicknesses will be monitored at AOI 21 on a quarterly basis through 2010 to meet the objectives of the GMP.

3.3 SAMPLING AND ANALYSIS PROCEDURES

The on-going monitoring program will be evaluated following each sampling event with respect to the objective of this GMP (verification of plume stability) and to determine if changes to the program are warranted. Any proposed changes to the GMP will be communicated to the U.S. EPA for approval through the Annual Report or GM's Quarterly Progress Reports.

A schedule of proposed dates for each round of groundwater monitoring and subsequent reporting is provided on Figure 3.4.

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4.0 GROUNDWATER MONITORING PLAN REPORTING

Following each year of on-going sampling, the results of the GMP sampling will be compiled into an Annual Report, as required by the Administrative Order on Consent effective May 21, 2007. The reports will contain a discussion of field activities (groundwater sampling, interim measures, hydraulic monitoring) and a presentation of analytical results. Data from groundwater monitoring wells that define the existing areas of groundwater contamination downgradient of Area 1 and AOI 31 will be compared to drinking water criteria for the purposes of verifying stability of the plumes. The health significance of concentrations that exceed drinking water criteria in each plume will be compared to the site-specific, risk-based criteria that are relevant to the reasonably expected groundwater exposures for the area of the plume. These two sets of criteria (i.e., the drinking water criteria and the site-specific, risk-based criteria) for the constituents that will continue to be monitored are shown on Table 4.1. Derivation of the site-specific, risk-based criteria was presented in the RFI Report. Data evaluation and any recommendations for changes to the GMP will be included in the annual report as necessary.

As shown on Figure 3.4, groundwater monitoring and reporting are proposed to continue through 2010. Following submittal of the Annual Report summarizing the 2010 activities, GM will reevaluate the entire GMP and propose modifications (including termination of monitoring) as appropriate. However, changes to the GMP prior to the end of 2010 may also be proposed, if appropriate based on data collected under the GMP.

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figure 2.1



SITE LOCATION AND SURROUNDING LAND USE
13000 ECKLES ROAD SITE
Livonia, Michigan

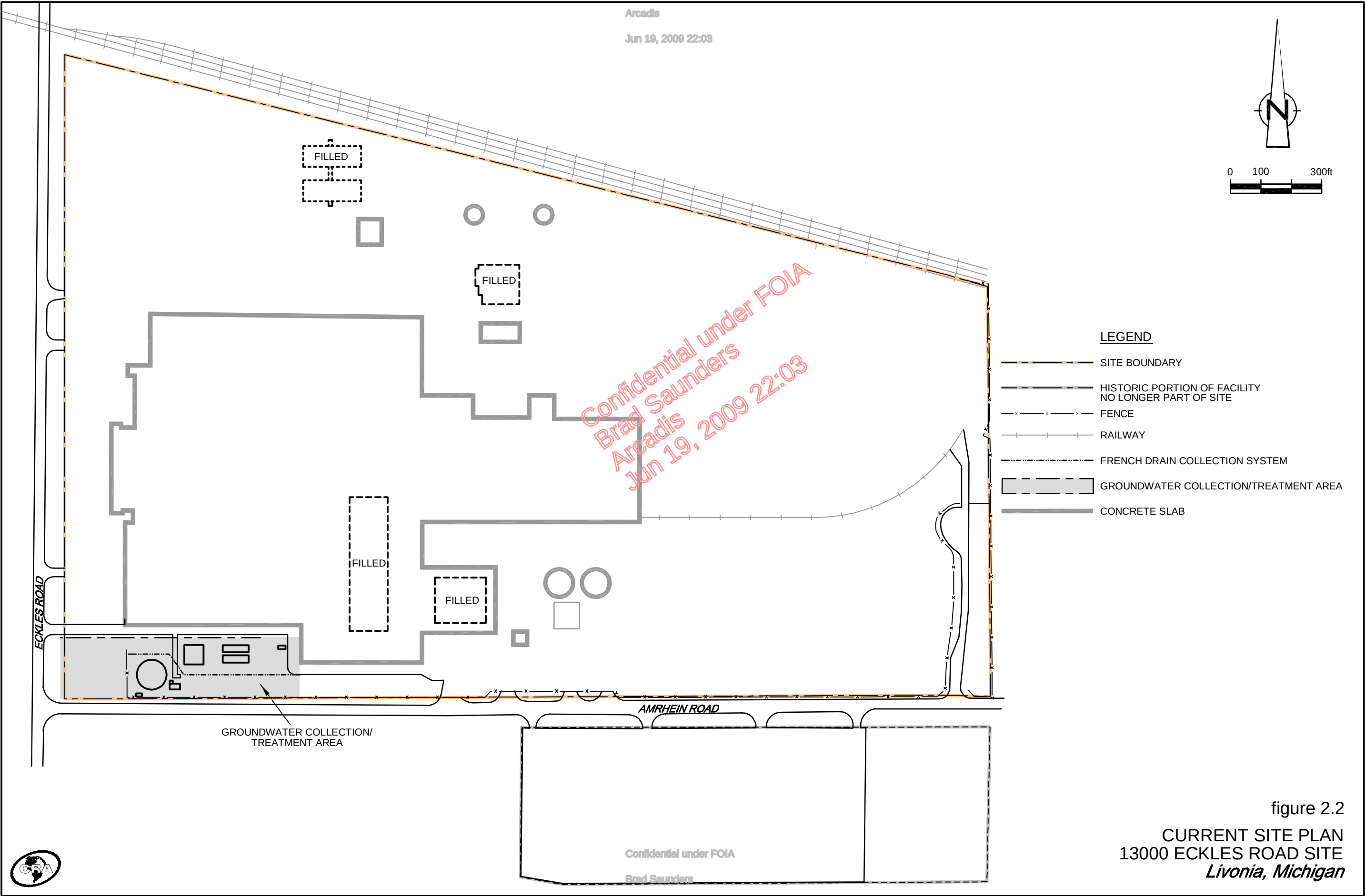
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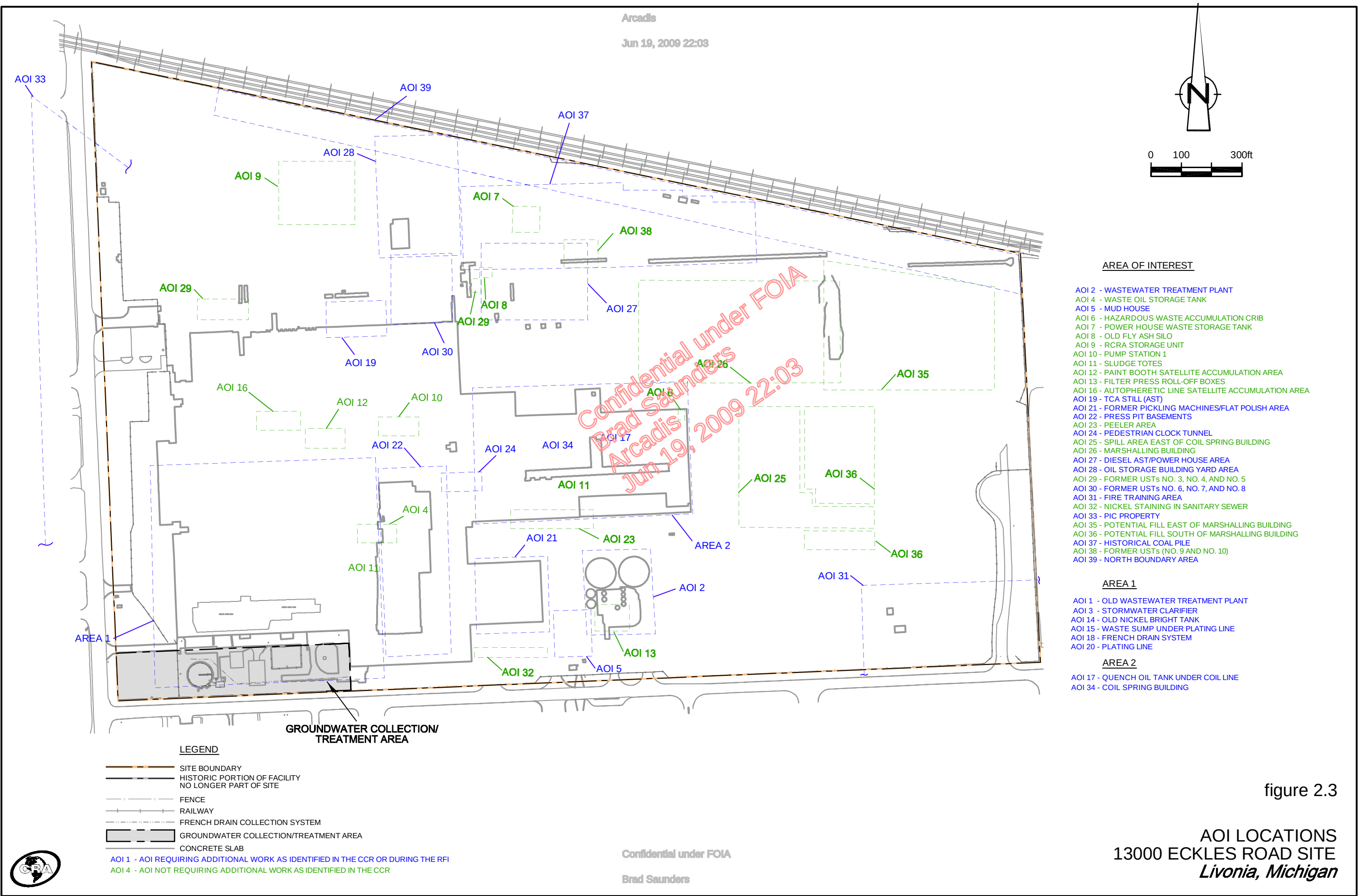


figure 2.3

AOI LOCATIONS
13000 ECKLES ROAD SITE
Livonia, Michigan



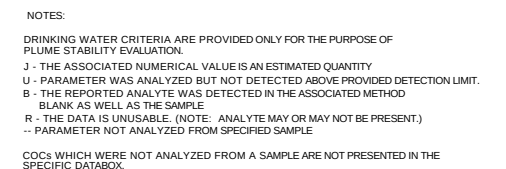


figure 2.4

CA750 SAMPLING RESULTS-AREA 1
GROUNDWATER MONITORING PLAN
13000 ECKLES ROAD SITE
Livonia, Michigan

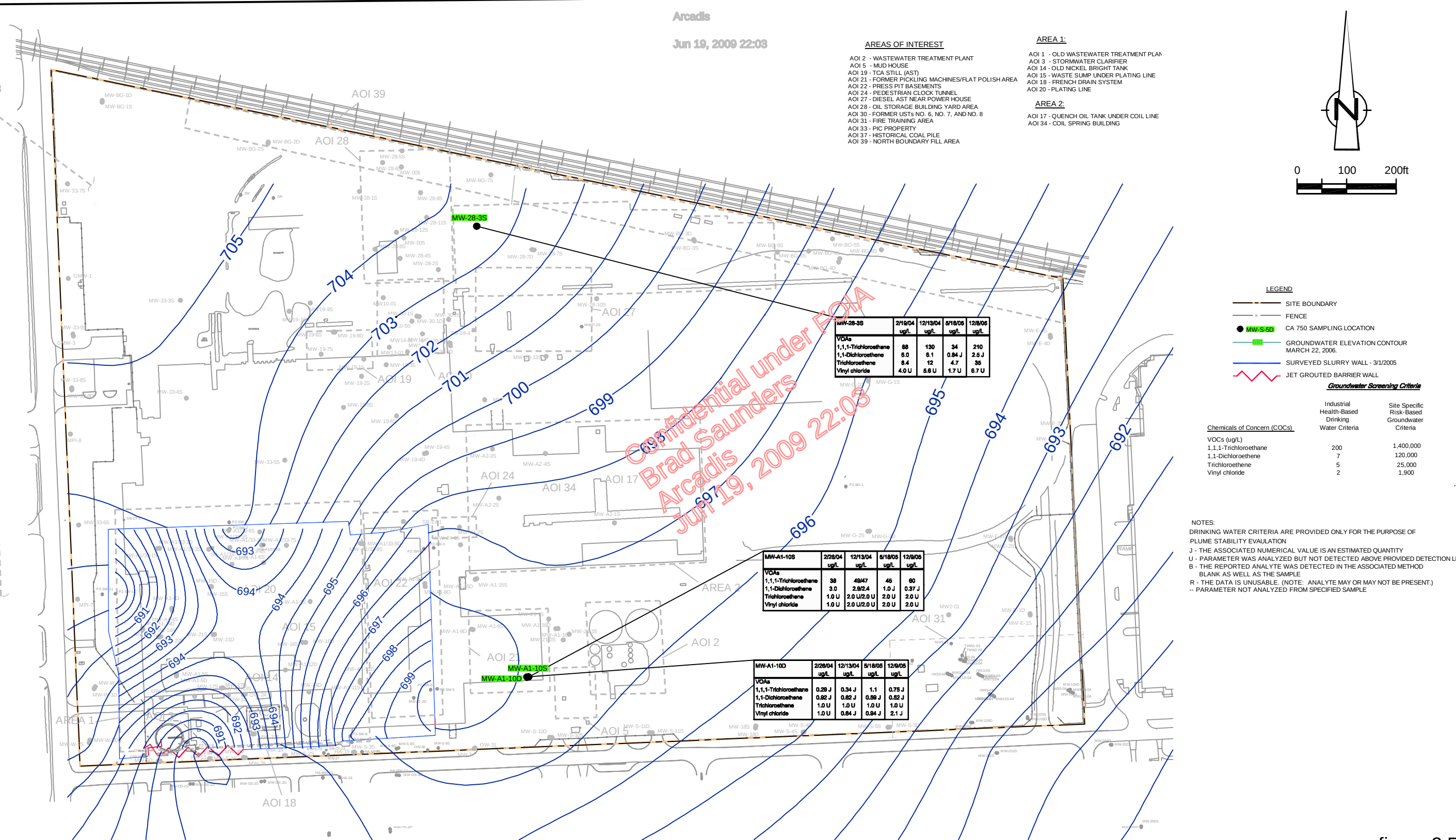


figure 2.5
CA750 SAMPLING RESULTS-AOI 21 AND AOI 28
GROUNDWATER MONITORING PLAN
13000 ECKLES ROAD SITE
Livonia, Michigan



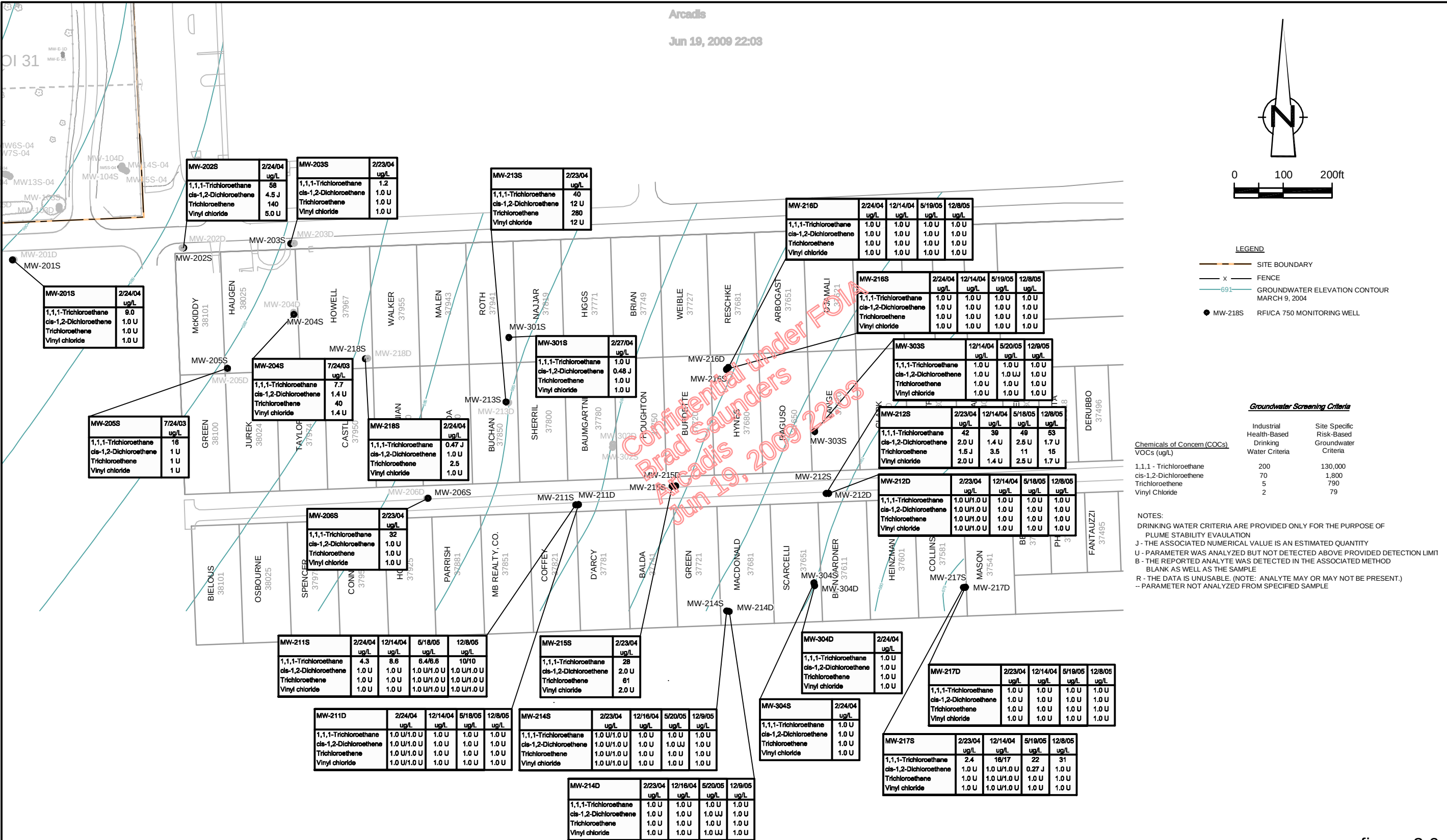


figure 2.6
CA750 SAMPLING RESULTS-AOI 31
GROUNDWATER MONITORING PLAN
13000 ECKLES ROAD SITE
Livonia, Michigan





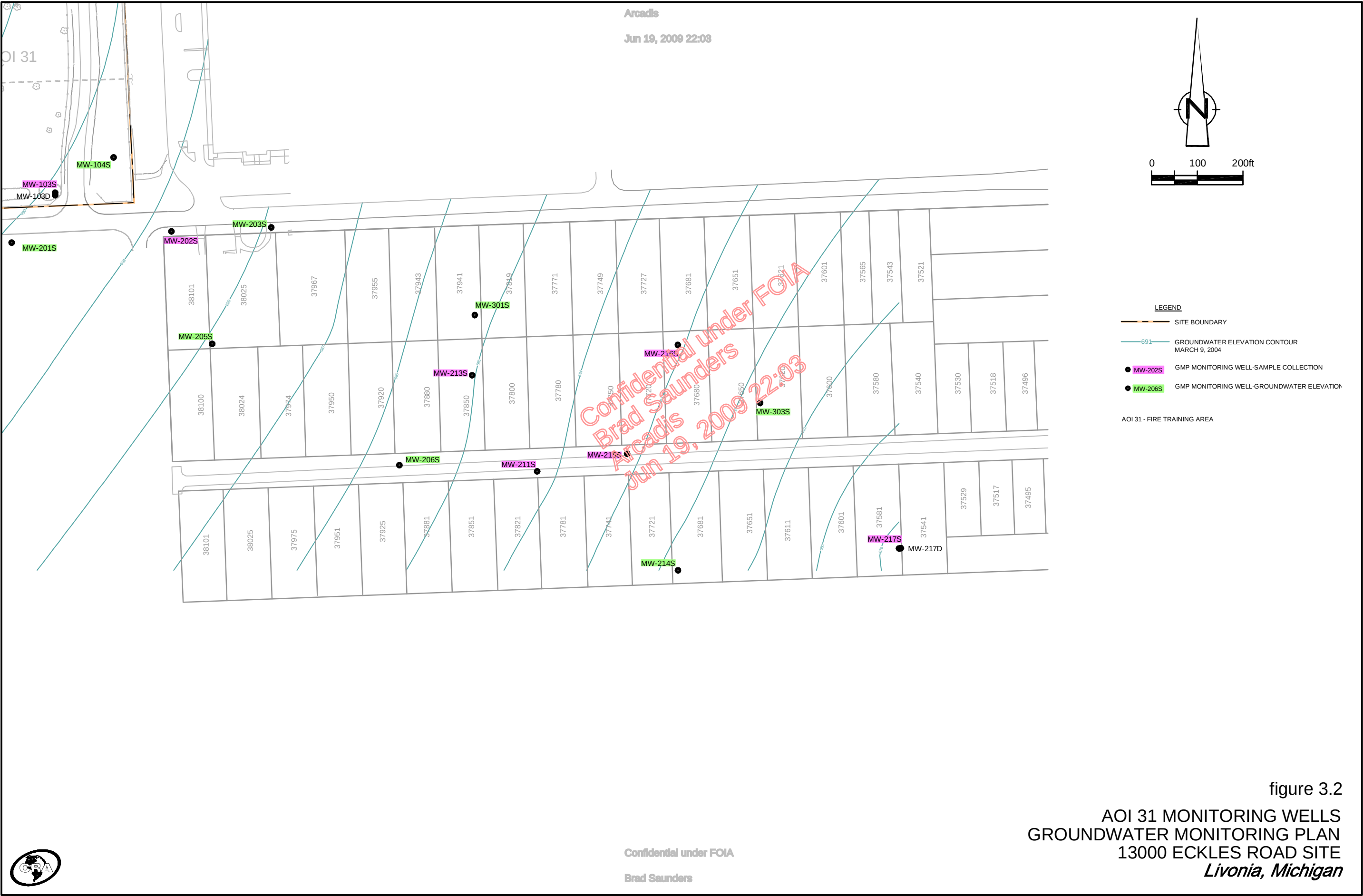


figure 3.2
AOI 31 MONITORING WELLS
GROUNDWATER MONITORING PLAN
13000 ECKLES ROAD SITE
Livonia, Michigan



AREAS OF INTEREST

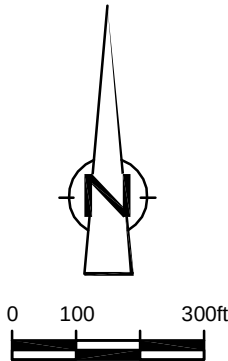
- AOI 2 - WASTEWATER TREATMENT PLANT
- AOI 5 - MUD HOUSE
- AOI 19 - TCA STILL (AST)
- AOI 21 - FORMER PICKLING MACHINES/FLAT POLISH AREA
- AOI 22 - PRESS PIT BASEMENTS
- AOI 24 - PEDESTRIAN CLOCK TUNNEL
- AOI 27 - DIESEL AST NEAR POWER HOUSE
- AOI 28 - OIL STORAGE BUILDING YARD AREA
- AOI 30 - FORMER USTs NO. 6, NO. 7, AND NO. 8
- AOI 31 - FIRE TRAINING AREA
- AOI 33 - PIC PROPERTY
- AOI 37 - HISTORICAL COAL PILE
- AOI 39 - NORTH BOUNDARY FILL AREA

AREA 1:

- AOI 1 - OLD WASTEWATER TREATMENT PLANT
- AOI 3 - STORMWATER CLARIFIER
- AOI 14 - OLD NICKEL BRIGHT TANK
- AOI 15 - WASTE SUMP UNDER PLATING LINE
- AOI 18 - FRENCH DRAIN SYSTEM
- AOI 20 - PLATING LINE

AREA 2:

- AOI 17 - QUENCH OIL TANK UNDER COIL LINE
- AOI 34 - COIL SPRING BUILDING



LEGEND

- SITE BOUNDARY
- FENCE
- GMP MONITORING WELL-GROUNDWATER ELEVATION
- GROUNDWATER ELEVATION CONTOUR MARCH 22, 2006
- SURVEYED SLURRY WALL - 3/1/2005
- JET GROUTED BARRIER WALL

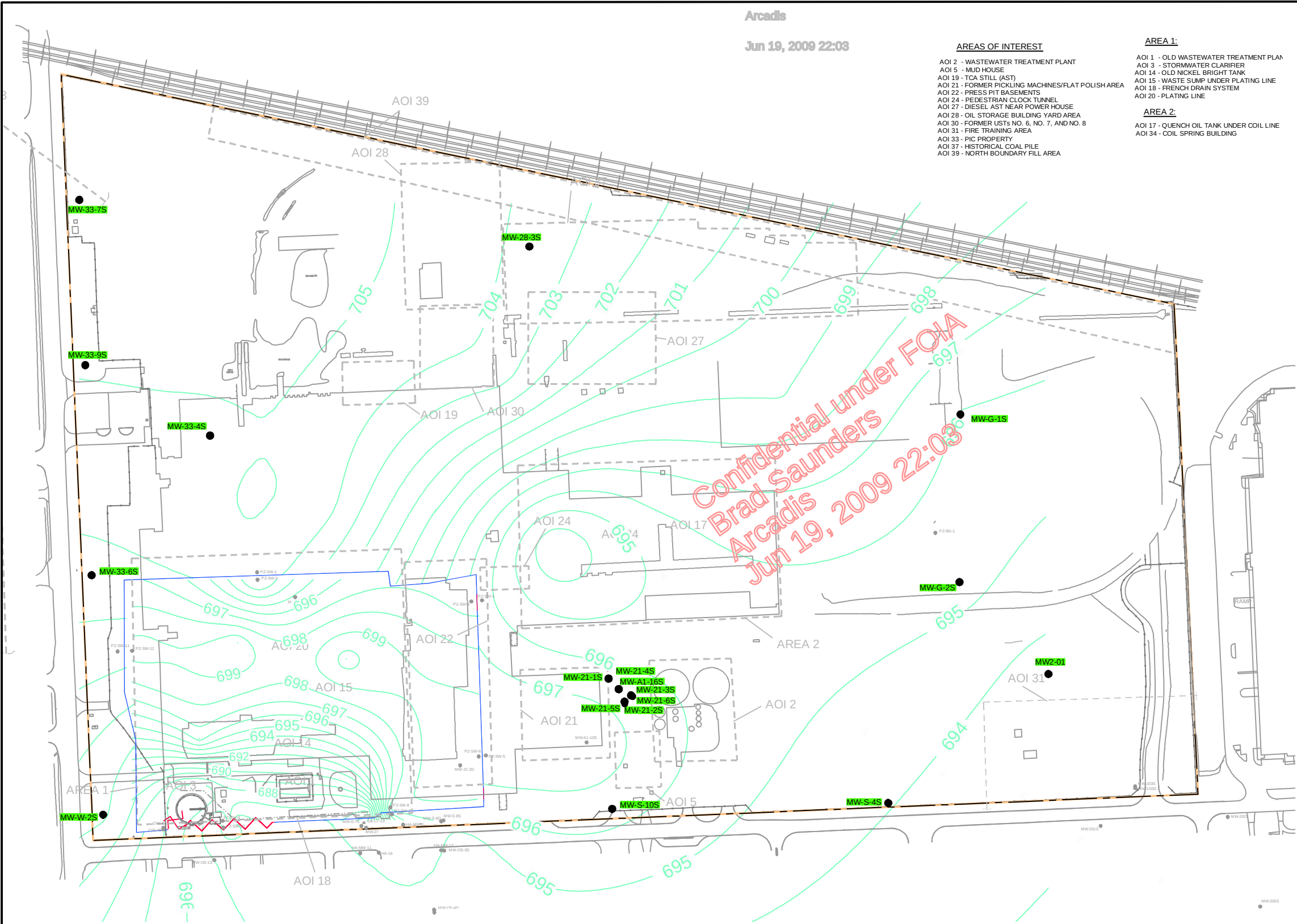


figure 3.3

MONITORING WELLS - SITE-WIDE WATER LEVELS
GROUNDWATER MONITORING PLAN
13000 ECKLES ROAD SITE
Livonia, Michigan



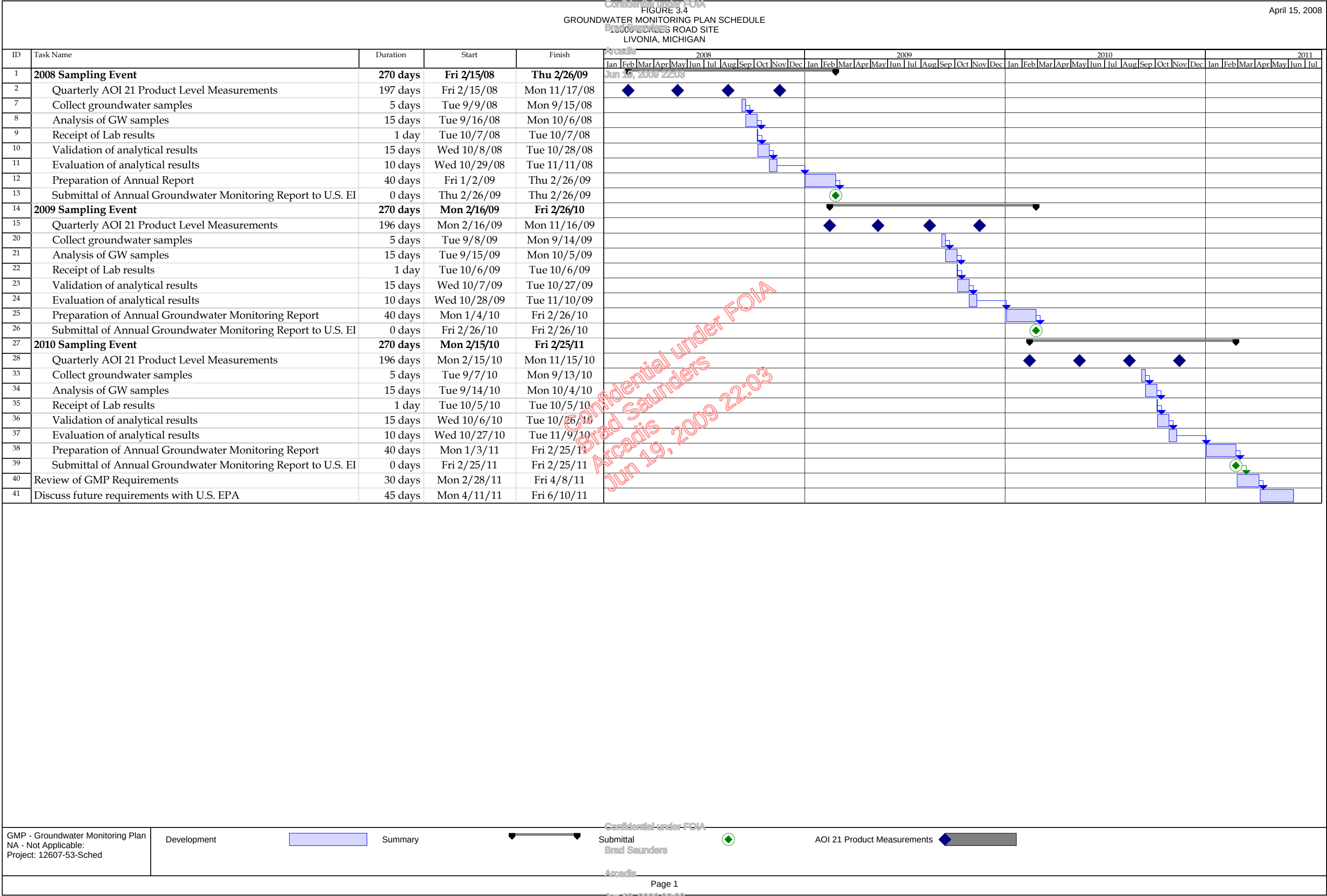


TABLE 2.1

Table 2.1
Page 1 of 12

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
CA750 SAMPLING EVENTS
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

Area of Interest:	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31
Sample Location:	MW-211D	MW-211D	MW-211D	MW-211S	MW-211S	MW-211S	MW-211S	MW-211S	MW-212D
Sample ID:	GW-121404-JY-015	GW-051805-BF-055	GW-120805-DCR-135	GW-121404-JY-014	GW-051805-BF-053	GW-051805-BF-054	GW-120805-DCR-133	GW-120805-DCR-134	GW-121404-MM-018
Sample Date:	12/14/2004	5/18/2005	12/8/2005	12/14/2004	5/18/2005	5/18/2005	12/8/2005	12/8/2005	12/14/2004
Sampling Event:	CA 750 GW Monitoring - Dec 04	CA 750 Sampling Event - May 05	CA 750 Sample Event - Dec 2005	CA 750 GW Monitoring - Dec 04	CA 750 Sampling Event - May 05	CA 750 Sampling Event - May 05	CA 750 Sample Event - Dec 2005	CA 750 Sample Event - Dec 2005	CA 750 GW Monitoring - Dec 04
Off-Site:	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site Duplicate	Off-Site	Off-Site Duplicate	Off-Site
Volatile Organic Compounds	Units								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	1.0 U	8.6	6.6	6.4	10	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	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	ug/L	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	ug/L	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	ug/L	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	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U	2.0 U	2.0 U	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	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-Dichlorobenzene	ug/L	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	ug/L	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	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	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	ug/L	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 (Methyl Ethyl Ketone)	ug/L	25 U	10 U	10 U	25 U	10 U	10 U	10 U	25 U
2-Hexanone	ug/L	50 U	10 U	10 U	50 U	10 U	10 U	10 U	50 U
4-Methyl-2-Pentanone (MIBK)	ug/L	50 U	10 U	10 U	50 U	10 U	10 U	10 U	50 U
Acetone	ug/L	25 U	10 U	10 U	25 U	10 U	10 U	10 U	25 U
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	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	ug/L	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 (Methyl Bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Carbon tetrachloride	ug/L	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	ug/L	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	ug/L	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 (Trichloromethane)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane (Methyl Chloride)	ug/L	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-1,2-Dichloroethene	ug/L	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	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	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	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Tert Butyl Ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	1.0 U	5.0 U
Styrene	ug/L	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	ug/L	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 U
Toluene	ug/L	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-1,2-Dichloroethene	ug/L	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	ug/L	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	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	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	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (total)	ug/L	3.0 U	2.0 U	2.0 U	3.0 U	2.0 U	2.0 U	2.0 U	3.0 U
Metals									
Chromium III (Trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium Total	ug/L	--	--	--	--	--	--	--	--
Chromium VI (Hexavalent)	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--

TABLE 2.1

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
CA750 SAMPLING EVENTS
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

Area of Interest:	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31
Sample Location:	MW-212D	MW-212D	MW-212S	MW-212S	MW-212S	MW-214D	MW-214D	MW-214D	MW-214S
Sample ID:	GW-051805-BF-057	GW-120805-EV-132	GW-121404-MM-019	GW-051805-BF-056	GW-120805-EV-131	GW-121604-JY-025	GW-052005-BF-063	GW-120905-DCR-143	GW-121604-JY-026
Sample Date:	5/18/2005	12/8/2005	12/14/2004	5/18/2005	12/8/2005	12/16/2004	5/20/2005	12/9/2005	12/16/2004
Sampling Event:	CA 750 Sampling Event - May 05	CA 750 Sample Event - Dec 2005	CA 750 GW Monitoring - Dec 04	CA 750 Sampling Event - May 05	CA 750 Sample Event - Dec 2005	CA 750 GW Monitoring - Dec 04	CA 750 Sampling Event - May 05	CA 750 Sample Event - Dec 2005	CA 750 GW Monitoring - Dec 04
Off-Site:	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site
Volatile Organic Compounds	Units								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	39	49	53	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 UJ	1.0 UJ	1.0 UJ
1,1,2-Trichloroethane	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 UJ	1.0 U
1,1-Dichloroethane	ug/L	1.0 U	1.0 U	0.96 J	0.65 J	0.45 J	1.0 U	1.0 UJ	1.0 U
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.2 J	1.5 J	0.83 J	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	1.0 U	7.2 UJ	2.5 U	1.7 U	5.0 U	1.0 U	5.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	2.0 U	2.0 U	1.4 U	5.0 U	3.3 UJ	1.0 U	2.0 U	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 UJ	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 UJ	1.0 U
1,3-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 U	1.0 U
2-Butanone (Methyl Ethyl Ketone)	ug/L	10 U	10 U	36 U	25 U	17 U	25 UJ	10 UJ	10 U
2-Hexanone	ug/L	10 U	10 U	72 U	25 U	17 U	50 UJ	10 UJ	10 U
4-Methyl-2-Pentanone (MIBK)	ug/L	10 U	10 U	72 U	25 U	17 U	50 UJ	10 UJ	10 U
Acetone	ug/L	10 U	10 U	36 UJ	25 U	17 U	25 UJ	R	10 U
Benzene	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 UJ	1.0 U	1.0 UJ	1.0 U
Bromoform	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 UJ	1.0 U	1.0 U	1.0 U
Bromomethane (Methyl Bromide)	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 UJ	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	1.0 U	1.0 U	7.2 U	2.5 U	1.7 U	5.0 U	1.0 U	5.0 U
Carbon tetrachloride	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 U	1.0 U
Chloroethane	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 U	1.0 U
Chloroform (Trichloromethane)	ug/L	1.0 U	1.0 U	0.33 J	2.5 U	0.35 J	1.0 U	1.0 UJ	1.0 U
Chloromethane (Methyl Chloride)	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 UJ	1.0 U
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 UJ	1.0 U	1.0 UJ	1.0 U
Cyclohexane	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 UJ	1.0 U	1.0 UJ	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 UJ	1.4 U	2.5 U	1.7 U	1.0 UJ	1.0 UJ	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 UJ	1.0 U
Isopropylbenzene	ug/L	1.0 U	1.0 U	7.2 U	2.5 U	1.7 U	5.0 U	1.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	14 U	25 U	17 U	10 UJ	10 UJ	10 UJ
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 U	1.0 U
Methyl Tert Butyl Ether	ug/L	5.0 U	5.0 U	7.2 U	12 U	8.4 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	7.2 U	2.5 U	1.7 U	5.0 U	1.0 UJ	1.0 U
Styrene	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 UJ	1.0 U
Tetrachloroethene	ug/L	1.0 U	1.0 UJ	1.4 U	2.5 U	1.7 UJ	1.0 U	1.0 UJ	1.0 U
Toluene	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 U	1.0 U
trans-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 UJ	1.0 U
trans-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 UJ	1.0 U	1.0 UJ	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	3.5	11	15	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 UJ	1.0 UJ	1.0 U	1.0 UJ
Trifluorotrichloroethane (Freon 113)	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	ug/L	1.0 U	1.0 U	1.4 U	2.5 U	1.7 U	1.0 U	1.0 UJ	1.0 U
Xylene (total)	ug/L	2.0 U	2.0 U	4.3 U	5.0 U	3.3 U	3.0 U	2.0 UJ	3.0 U
Metals									
Chromium III (Trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium Total	ug/L	--	--	--	--	--	--	--	--
Chromium VI (Hexavalent)	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
CA750 SAMPLING EVENTS
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

Area of Interest:	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31
Sample Location:	MW-214S	MW-214S	MW-216D	MW-216D	MW-216D	MW-216S	MW-216S	MW-216S	MW-217D
Sample ID:	GW-052005-BF-064	GW-120905-DCR-142	GW-121404-JY-017	GW-051905-BF-061	GW-120805-EV-139	GW-121404-JY-016	GW-051905-BF-060	GW-120805-EV-138	GW-121404-MM-023
Sample Date:	5/20/2005	12/9/2005	12/14/2004	5/19/2005	12/8/2005	12/14/2004	5/19/2005	12/8/2005	12/14/2004
Sampling Event:	CA 750 Sampling Event - May 05	CA 750 Sample Event - Dec 2005	CA 750 GW Monitoring - Dec 04	CA 750 Sampling Event - May 05	CA 750 Sample Event - Dec 2005	CA 750 GW Monitoring - Dec 04	CA 750 Sampling Event - May 05	CA 750 Sample Event - Dec 2005	CA 750 GW Monitoring - Dec 04
Off-Site:	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site
Volatile Organic Compounds	Units								
1,1,1-Trichloroethane	ug/L	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	ug/L	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	ug/L	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	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethene	ug/L	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	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 UJ
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	2.0 U	2.0 U	1.0 U	2.0 U	2.0 UJ	1.0 U	2.0 U	1.0 U
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	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-Dichlorobenzene	ug/L	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	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	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	ug/L	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 (Methyl Ethyl Ketone)	ug/L	10 U	10 U	25 U	10 U	10 U	25 U	10 U	25 U
2-Hexanone	ug/L	10 U	10 U	50 U	10 U	10 U	50 U	10 U	50 U
4-Methyl-2-Pentanone (MIBK)	ug/L	10 UJ	10 U	50 U	10 U	10 U	50 U	10 U	50 U
Acetone	ug/L	R	10 U	25 U	10 U	10 U	25 U	10 U	25 UJ
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromoform	ug/L	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 (Methyl Bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U
Carbon tetrachloride	ug/L	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	ug/L	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	ug/L	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 (Trichloromethane)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.36 J	1.0 U
Chloromethane (Methyl Chloride)	ug/L	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-1,2-Dichloroethene	ug/L	1.0 UJ	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	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Cyclohexane	ug/L	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	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Tert Butyl Ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U	5.0 U
Styrene	ug/L	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	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ	1.0 U
Toluene	ug/L	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-1,2-Dichloroethene	ug/L	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	ug/L	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	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	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (total)	ug/L	2.0 UJ	2.0 U	3.0 U	2.0 U	2.0 U	3.0 U	2.0 U	3.0 U
Metals									
Chromium III (Trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium Total	ug/L	--	--	--	--	--	--	--	--
Chromium VI (Hexavalent)	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--

TABLE 2.1

Table 2.1
Page 4 of 12

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
CA750 SAMPLING EVENTS
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

Area of Interest:	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31	AOI 31
Sample Location:	MW-217D	MW-217D	MW-217S	MW-217S	MW-217S	MW-217S	MW-217S	MW-303S	MW-303S
Sample ID:	GW-051905-BF-059	GW-120805-DCR-137	GW-121404-MM-021	GW-121404-MM-022	GW-051905-BF-058	GW-121404-DCR-136	GW-051905-DCR-136	GW-121404-MM-020	GW-052005-BF-065
Sample Date:	5/19/2005	12/8/2005	12/14/2004	12/14/2004	5/19/2005	12/8/2005	12/14/2004	12/14/2004	5/20/2005
Sampling Event:	CA 750 Sampling Event - May 05	CA 750 Sample Event - Dec 2005	CA 750 GW Monitoring - Dec 04	CA 750 GW Monitoring - Dec 04	CA 750 Sampling Event - May 05	CA 750 Sample Event - Dec 2005	CA 750 GW Monitoring - Dec 04	CA 750 GW Monitoring - Dec 04	CA 750 Sampling Event - May 05
Off-Site:	Off-Site	Off-Site	Off-Site	Off-Site Duplicate	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site
Volatile Organic Compounds	Units								
1,1,1-Trichloroethane	ug/L	1.0 U	1.0 U	16	17	22	31	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	ug/L	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	ug/L	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	ug/L	1.0 U	1.0 U	0.28 J	0.26 J	0.97 J	0.31 J	1.0 U	1.0 UJ
1,1-Dichloroethene	ug/L	1.0 U	1.0 U	1.3	1.4	3.7	1.6	1.0 U	1.0 U
1,2,4-Trichlorobenzene	ug/L	1.0 U	1.0 U	5.0 U	5.0 UJ	1.0 U	1.0 U	5.0 U	1.0 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	2.0 U	2.0 U	1.0 U	1.0 U	2.0 U	2.0 U	1.0 U	2.0 U
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	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-Dichlorobenzene	ug/L	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	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
1,2-Dichloropropane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	ug/L	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	ug/L	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 (Methyl Ethyl Ketone)	ug/L	10 U	10 U	25 UJ	25 U	10 U	10 U	25 UJ	10 U
2-Hexanone	ug/L	10 U	10 U	50 UJ	50 U	10 U	10 U	50 UJ	10 U
4-Methyl-2-Pentanone (MIBK)	ug/L	10 U	10 U	50 U	50 U	10 U	10 U	50 U	10 UJ
Acetone	ug/L	10 U	10 U	25 UJ	25 UJ	10 U	10 U	25 UJ	R
Benzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Bromoform	ug/L	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 (Methyl Bromide)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon disulfide	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Carbon tetrachloride	ug/L	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	ug/L	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	ug/L	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 (Trichloromethane)	ug/L	1.0 U	1.0 U	0.56 J	0.51 J	1.0 U	0.54 J	0.69 J	1.0 UJ
Chloromethane (Methyl Chloride)	ug/L	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-1,2-Dichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	0.27 J	1.0 U	1.0 U	1.0 UJ
cis-1,3-Dichloropropene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Cyclohexane	ug/L	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	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Dichlorodifluoromethane (CFC-12)	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 UJ
Ethylbenzene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Isopropylbenzene	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Methyl acetate	ug/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Methyl cyclohexane	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Tert Butyl Ether	ug/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U	1.0 U	5.0 U	1.0 U
Styrene	ug/L	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	ug/L	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U
Toluene	ug/L	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-1,2-Dichloroethene	ug/L	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	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ
Trichloroethene	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane (CFC-11)	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	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	ug/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Xylene (total)	ug/L	2.0 U	2.0 U	3.0 U	3.0 U	2.0 U	2.0 U	3.0 U	2.0 UJ
Metals									
Chromium III (Trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium Total	ug/L	--	--	--	--	--	--	--	--
Chromium VI (Hexavalent)	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	--	--	--	--	--

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
CA750 SAMPLING EVENTS
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

Area of Interest:		AOI 28/AOI 37	AOI 28/AOI 37	AOI 37	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01
Sample Location:		MW-28-3S	MW-28-3S	MW-28-3S	HA-14	HA-14	HA-14	HA-14	HA-14	HA-14
Sample ID:		GW-121304-MM-010	GW-051805-BF-052	GW-120805-DCR-140	GW-081205-DCR-059	GW-081205-DCR-060	GW-092505-DCR-100	GW-102205-DCR-122	GW-112705-DCR-126	GW-112705-DCR-127
Sample Date:		12/13/2004	5/18/2005	12/8/2005	8/12/2005	8/12/2005	9/25/2005	10/22/2005	11/27/2005	11/27/2005
Sampling Event:		CA 750 GW Monitoring - Dec 04	CA 750 Sampling Event - May 05	CA 750 Sample Event - Dec 2005	CA 750 GW Monitoring Aug 2005	CA 750 GW Monitoring Aug 2005	CA 750 GW Monitoring Sep 2005	CA 750 GW Monitoring - Oct 05	CA 750 Monitoring - Nov 05	CA 750 Monitoring - Nov 05
Off-Site:		On-Site	On-Site	On-Site	On-Site	Duplicate	On-Site	On-Site	On-Site	Duplicate
Volatile Organic Compounds		Units								
1,1,1-Trichloroethane	ug/L	130	34	210	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	11	4.4	19	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	6.1	0.84 J	2.5 J	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	28 U	1.7 U	6.7 U	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	5.6 U	3.3 U	13 UJ	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	5.6 U	1.7 U	1.6 J	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
2-Butanone (Methyl Ethyl Ketone)	ug/L	140 UJ	17 U	67 U	--	--	--	--	--	--
2-Hexanone	ug/L	280 U	17 U	67 U	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	ug/L	280 U	17 U	67 U	--	--	--	--	--	--
Acetone	ug/L	140 UJ	17 U	67 U	--	--	--	--	--	--
Benzene	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
Bromodichloromethane	ug/L	5.6 U	1.7 U	6.7 UJ	--	--	--	--	--	--
Bromoform	ug/L	5.6 U	1.7 U	6.7 UJ	--	--	--	--	--	--
Bromomethane (Methyl Bromide)	ug/L	5.6 U	1.7 U	6.7 UJ	--	--	--	--	--	--
Carbon disulfide	ug/L	28 U	1.7 U	6.7 U	--	--	--	--	--	--
Carbon tetrachloride	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
Chlorobenzene	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
Chloroethane	ug/L	1.6 J	1.8	86	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
Chloromethane (Methyl Chloride)	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	20	6.5	39	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	5.6 U	1.7 U	6.7 UJ	--	--	--	--	--	--
Cyclohexane	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
Dibromochloromethane	ug/L	5.6 U	1.7 U	6.7 UJ	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	5.6 UJ	1.7 U	6.7 U	--	--	--	--	--	--
Ethylbenzene	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
Isopropylbenzene	ug/L	28 U	1.7 U	6.7 U	--	--	--	--	--	--
Methyl acetate	ug/L	56 U	17 U	67 U	--	--	--	--	--	--
Methyl cyclohexane	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
Methyl Tert Butyl Ether	ug/L	28 U	8.4 U	33 U	--	--	--	--	--	--
Methylene chloride	ug/L	28 U	1.7 U	6.7 U	--	--	--	--	--	--
Styrene	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
Tetrachloroethene	ug/L	5.6 U	1.7 U	6.7 UJ	--	--	--	--	--	--
Toluene	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	1.9 J	0.70 J	4.1 J	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	5.6 U	1.7 U	6.7 UJ	--	--	--	--	--	--
Trichloroethene	ug/L	12	4.7	35	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	5.6 U	1.7 U	6.7 UJ	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
Vinyl chloride	ug/L	5.6 U	1.7 U	6.7 U	--	--	--	--	--	--
Xylene (total)	ug/L	17 U	3.3 U	13 U	--	--	--	--	--	--
Metals										
Chromium III (Trivalent)	ug/L	--	--	--	--	--	--	--	--	--
Chromium Total	ug/L	--	--	--	--	--	--	--	--	--
Chromium VI (Hexavalent)	ug/L	--	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	130000	134000	146000 J	127000	104000	107000

TABLE 2.1

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
CA750 SAMPLING EVENTS
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

Area of Interest:	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01
Sample Location:	HA-14	HA-15	HA-15	HA-15	HA-15	HA-15	HA-15	HA-15	HA-16
Sample ID:	GW-010405-MM-160	GW-030905-MM-036	GW-041405-DCR-049	GW-081205-DCR-061	GW-092505-DCR-102	GW-102205-DCR-124	GW-112705-DCR-129	GW-010405-MM-159	GW-030905-MM-034
Sample Date:	1/4/2006	3/9/2005	4/14/2005	8/12/2005	9/25/2005	10/22/2005	11/27/2005	1/4/2006	3/9/2005
Sampling Event:	CA 750 GW Monitoring - Jan 06	CA 750 Supplemental Smp Apr 05	CA 750 GW Monitoring-April 05	CA 750 GW Monitoring Aug 2005	CA 750 GW Monitoring Sep 2005	CA 750 GW Monitoring - Oct 05	CA 750 Monitoring - Nov 05	CA 750 GW Monitoring - Jan 06	CA 750 Supplemental Smp Apr 05
Off-Site:	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	Off-Site
Volatile Organic Compounds	Units								
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl Ethyl Ketone)	ug/L	--	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	ug/L	--	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--	--	--
Bromomethane (Methyl Bromide)	ug/L	--	--	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--	--	--
Chloromethane (Methyl Chloride)	ug/L	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/L	--	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--	--
Methyl Tert Butyl Ether	ug/L	--	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--
Trichloroethene	ug/L	--	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--	--	--
Xylene (total)	ug/L	--	--	--	--	--	--	--	--
Metals									
Chromium III (Trivalent)	ug/L	--	--	--	--	--	--	--	--
Chromium Total	ug/L	--	--	--	--	--	--	--	--
Chromium VI (Hexavalent)	ug/L	--	--	--	--	--	--	--	--
Nickel	ug/L	126000	95900	46900	69500	68100 J	22900	58300	133000

TABLE 2.1

Table 2.1
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ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
CA750 SAMPLING EVENTS
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

Area of Interest:	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01
Sample Location:	HA-16	HA-16	HA-16	HA-MW-12	HA-MW-12	MW-27	MW-27	MW-27	MW-27
Sample ID:	GW-041405-DCR-042	GW-041405-DCR-043	GW-010405-EV-155	GW-041304-MM-011	GW-010405-EV-154	GW-121304-DCR-058	GW-092505-DCR-101	GW-102205-DCR-123	GW-112705-DCR-128
Sample Date:	4/14/2005	4/14/2005	1/4/2006	12/13/2004	1/4/2006	8/12/2005	9/25/2005	10/22/2005	11/27/2005
Sampling Event:	CA 750 GW Monitoring-April 05	CA 750 GW Monitoring-April 05	CA 750 GW Monitoring - Jan 06	CA 750 GW Monitoring - Dec 04	CA 750 GW Monitoring - Jan 06	CA 750 GW Monitoring Aug 2005	CA 750 GW Monitoring Sep 2005	CA 750 GW Monitoring - Oct 05	CA 750 Monitoring - Nov 05
Off-Site:	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	On-Site	On-Site	On-Site	On-Site
		Duplicate							
Volatile Organic Compounds		Units							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl Ethyl Ketone)	ug/L	--	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	ug/L	--	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--	--	--
Bromomethane (Methyl Bromide)	ug/L	--	--	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--	--	--
Chloromethane (Methyl Chloride)	ug/L	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/L	--	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--	--
Methyl Tert Butyl Ether	ug/L	--	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--
Trichloroethene	ug/L	--	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--	--	--
Xylene (total)	ug/L	--	--	--	--	--	--	--	--
Metals									
Chromium III (Trivalent)	ug/L	--	--	--	20 U	20	--	--	--
Chromium Total	ug/L	--	--	--	5 U	5	--	--	--
Chromium VI (Hexavalent)	ug/L	--	--	--	20 U	20 UJ	--	--	--
Nickel	ug/L	1240000	1160000	1180000	11 U	25 U	29600	21600 J	14900

TABLE 2.1

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
CA750 SAMPLING EVENTS
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

Area of Interest:		Area 01	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01
Sample Location:		MW-27	MW-27	MW-OS-2D	MW-OS-3D	MW-OS-3D	MW-OS-3D	MW-OS-4D	MW-OS-4D
Sample ID:		GW-010405-MM-161	GW-010405-MM-162	GW-030905-DCR-035	GW-121304-MM-012	GW-041405-DCR-044	GW-010405-EV-153	GW-121304-JY-002	GW-121304-JY-003
Sample Date:		1/4/2006	1/4/2006	3/9/2005	12/13/2004	4/14/2005	1/4/2006	12/13/2004	12/13/2004
Sampling Event:		CA 750 GW Monitoring - Jan 06	CA 750 GW Monitoring - Jan 06	CA 750 Supplemental Smp Apr 05	CA 750 GW Monitoring - Dec 04	CA 750 GW Monitoring-April 05	CA 750 GW Monitoring - Jan 06	CA 750 GW Monitoring - Dec 04	CA 750 GW Monitoring - Dec 04
Off-Site:		On-Site	On-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site
			Duplicate					Duplicate	
Volatile Organic Compounds		Units							
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--
2-Butanone (Methyl Ethyl Ketone)	ug/L	--	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	ug/L	--	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--	--	--
Bromomethane (Methyl Bromide)	ug/L	--	--	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--	--	--
Chloromethane (Methyl Chloride)	ug/L	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/L	--	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--	--
Methyl Tert Butyl Ether	ug/L	--	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--
Trichloroethene	ug/L	--	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--	--	--
Xylene (total)	ug/L	--	--	--	--	--	--	--	--
Metals									
Chromium III (Trivalent)	ug/L	--	--	--	20 U	--	20	20 U	20 U
Chromium Total	ug/L	--	--	--	5 U	--	5	5 U	5 U
Chromium VI (Hexavalent)	ug/L	--	--	--	20 U	--	20 UJ	20 U	20 U
Nickel	ug/L	108000 J	62700 J	5.5 J	48600 J	31000	31600	29000 J	30100 J
									3500

TABLE 2.1

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
CA750 SAMPLING EVENTS
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

Area of Interest:		Area 01	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01
Sample Location:		MW-OS-4D	MW-OS-4D	MW-OS-4S	MW-OS-4S	MW-OS-4S	MW-OS-5D	MW-OS-5D	MW-OS-5D	MW-OS-6D
Sample ID:		GW-041405-DCR-048	GW-010405-MM-152	GW-121304-JY-001	GW-010405-MM-150	GW-010405-MM-151	GW-030905-MM-032	GW-041405-DCR-047	GW-010405-MM-149	GW-030905-DCR-029
Sample Date:		4/14/2005	1/4/2006	12/13/2004	1/4/2006	1/4/2006	3/9/2005	4/14/2005	1/4/2006	3/9/2005
Sampling Event:		CA 750 GW Monitoring-April 05	CA 750 GW Monitoring - Jan 06	CA 750 GW Monitoring - Dec 04	CA 750 GW Monitoring - Jan 06	CA 750 GW Monitoring - Jan 06	CA 750 Supplemental Smp Apr 05	CA 750 GW Monitoring-April 05	CA 750 GW Monitoring - Jan 06	CA 750 Supplemental Smp Apr 05
Off-Site:		Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site	Off-Site
						Duplicate				
Volatile Organic Compounds		Units								
1,1,1-Trichloroethane	ug/L	--	--	--	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	--	--	--	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	--	--	--	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	--	--	--	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	--	--	--	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	--	--	--	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	--	--	--	--	--	--	--	--	--
2-Butanone (Methyl Ethyl Ketone)	ug/L	--	--	--	--	--	--	--	--	--
2-Hexanone	ug/L	--	--	--	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	ug/L	--	--	--	--	--	--	--	--	--
Acetone	ug/L	--	--	--	--	--	--	--	--	--
Benzene	ug/L	--	--	--	--	--	--	--	--	--
Bromodichloromethane	ug/L	--	--	--	--	--	--	--	--	--
Bromoform	ug/L	--	--	--	--	--	--	--	--	--
Bromomethane (Methyl Bromide)	ug/L	--	--	--	--	--	--	--	--	--
Carbon disulfide	ug/L	--	--	--	--	--	--	--	--	--
Carbon tetrachloride	ug/L	--	--	--	--	--	--	--	--	--
Chlorobenzene	ug/L	--	--	--	--	--	--	--	--	--
Chloroethane	ug/L	--	--	--	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	--	--	--	--	--	--	--	--	--
Chloromethane (Methyl Chloride)	ug/L	--	--	--	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--	--
Cyclohexane	ug/L	--	--	--	--	--	--	--	--	--
Dibromochloromethane	ug/L	--	--	--	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	--	--	--	--	--
Ethylbenzene	ug/L	--	--	--	--	--	--	--	--	--
Isopropylbenzene	ug/L	--	--	--	--	--	--	--	--	--
Methyl acetate	ug/L	--	--	--	--	--	--	--	--	--
Methyl cyclohexane	ug/L	--	--	--	--	--	--	--	--	--
Methyl Tert Butyl Ether	ug/L	--	--	--	--	--	--	--	--	--
Methylene chloride	ug/L	--	--	--	--	--	--	--	--	--
Styrene	ug/L	--	--	--	--	--	--	--	--	--
Tetrachloroethene	ug/L	--	--	--	--	--	--	--	--	--
Toluene	ug/L	--	--	--	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	--	--	--	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	--	--	--	--	--	--	--	--	--
Trichloroethene	ug/L	--	--	--	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	--	--	--	--	--
Vinyl chloride	ug/L	--	--	--	--	--	--	--	--	--
Xylene (total)	ug/L	--	--	--	--	--	--	--	--	--
Metals										
Chromium III (Trivalent)	ug/L	--	20	20 U	20	20	--	--	20	--
Chromium Total	ug/L	--	5	5 U	5	5	--	--	5	--
Chromium VI (Hexavalent)	ug/L	--	20 UJ	20 U	10 J	20 UJ	--	--	20 UJ	--
Nickel	ug/L	1500	169000	92 J	170	250	5.7 J	6.9 J	25 U	24 J

TABLE 2.1

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
CA750 SAMPLING EVENTS
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

Area of Interest:	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01
Sample Location:	MW-OS-6D	MW-OS-6D	MW-OS-7D	MW-OS-7D	MW-OS-7D	MW-OS-7D	MW-OS-8D	MW-OS-8D
Sample ID:	GW-041405-DCR-045	GW-010405-EV-156	GW-030905-DCR-040	GW-030905-DCR-041	GW-041405-DCR-046	GW-010405-EV-157	GW-030905-MM-030	GW-030905-MM-031
Sample Date:	4/14/2005	1/4/2006	3/9/2005	3/9/2005	4/14/2005	1/4/2006	3/9/2005	3/9/2005
Sampling Event:	CA 750 GW Monitoring-April 05	CA 750 GW Monitoring - Jan 06	CA 750 Supplemental Smp Apr 05	CA 750 Supplemental Smp Apr 05	CA 750 GW Monitoring-April 05	CA 750 GW Monitoring - Jan 06	CA 750 Supplemental Smp Apr 05	CA 750 Supplemental Smp Apr 05
Off-Site:	Off-Site	Off-Site	Off-Site	Off-Site Duplicate	Off-Site	Off-Site	Off-Site	Off-Site Duplicate

Volatile Organic Compounds	Units
1,1,1-Trichloroethane	ug/L
1,1,2,2-Tetrachloroethane	ug/L
1,1,2-Trichloroethane	ug/L
1,1-Dichloroethane	ug/L
1,1-Dichloroethene	ug/L
1,2,4-Trichlorobenzene	ug/L
1,2-Dibromo-3-chloropropane (DBCP)	ug/L
1,2-Dibromoethane (Ethylene Dibromide)	ug/L
1,2-Dichlorobenzene	ug/L
1,2-Dichloroethane	ug/L
1,2-Dichloropropane	ug/L
1,3-Dichlorobenzene	ug/L
1,4-Dichlorobenzene	ug/L
2-Butanone (Methyl Ethyl Ketone)	ug/L
2-Hexanone	ug/L
4-Methyl-2-Pentanone (MIBK)	ug/L
Acetone	ug/L
Benzene	ug/L
Bromodichloromethane	ug/L
Bromoform	ug/L
Bromomethane (Methyl Bromide)	ug/L
Carbon disulfide	ug/L
Carbon tetrachloride	ug/L
Chlorobenzene	ug/L
Chloroethane	ug/L
Chloroform (Trichloromethane)	ug/L
Chloromethane (Methyl Chloride)	ug/L
cis-1,2-Dichloroethene	ug/L
cis-1,3-Dichloropropene	ug/L
Cyclohexane	ug/L
Dibromochloromethane	ug/L
Dichlorodifluoromethane (CFC-12)	ug/L
Ethylbenzene	ug/L
Isopropylbenzene	ug/L
Methyl acetate	ug/L
Methyl cyclohexane	ug/L
Methyl Tert Butyl Ether	ug/L
Methylene chloride	ug/L
Styrene	ug/L
Tetrachloroethene	ug/L
Toluene	ug/L
trans-1,2-Dichloroethene	ug/L
trans-1,3-Dichloropropene	ug/L
Trichloroethene	ug/L
Trichlorofluoromethane (CFC-11)	ug/L
Trifluorotrichloroethane (Freon 113)	ug/L
Vinyl chloride	ug/L
Xylene (total)	ug/L

Metals									
Chromium III (Trivalent)	ug/L	--	20	--	--	--	20	--	--
Chromium Total	ug/L	--	5	--	--	--	5	--	--
Chromium VI (Hexavalent)	ug/L	--	20 UJ	--	--	--	20 UJ	--	--
Nickel	ug/L	33	61	8.1 J	8.6 L	12 J	33	3.2 J	3.5 J

TABLE 2.1

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
CA750 SAMPLING EVENTS
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

Area of Interest:	Area 01	Area 01	Area 01	Area 01	Area 01	Area 01/Area 03/AOI 21	Area 01/Area 03/AOI 21	Area 01/Area 03/AOI 21	Area 01/Area 03/AOI 21
Sample Location:	MW-OS-9D	MW-OS-9S	MW-OS-10D	OW-30	OW-31	MW-A1-10D	MW-A1-10D	MW-A1-10S	MW-A1-10S
Sample ID:	GW-121304-JY-005	GW-121304-JY-004	GW-121304-JY-006	GW-030905-DCR-037	GW-030905-MM-039	GW-121304-MM-009	GW-051805-BF-051	GW-121304-MM-007	GW-121304-MM-008
Sample Date:	12/13/2004	12/13/2004	12/13/2004	3/9/2005	3/9/2005	12/13/2004	5/18/2005	12/13/2004	12/13/2004
Sampling Event:	CA 750 GW Monitoring - Dec 04	CA 750 GW Monitoring - Dec 04	CA 750 GW Monitoring - Dec 04	CA 750 Supplemental Smp Apr 05	CA 750 Supplemental Smp Apr 05	CA 750 GW Monitoring - Dec 04	CA 750 Sampling Event - May 05	CA 750 GW Monitoring - Dec 04	CA 750 GW Monitoring - Dec 04
Off-Site:	Off-Site	Off-Site	Off-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site Duplicate
Volatile Organic Compounds	Units								
1,1,1-Trichloroethane	ug/L	--	--	--	--	0.34 J	1.1	47	49
1,1,2,2-Tetrachloroethane	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
1,1,2-Trichloroethane	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
1,1-Dichloroethane	ug/L	--	--	--	--	1.6	1.8	11	11
1,1-Dichloroethene	ug/L	--	--	--	--	0.62 J	0.59 J	2.9	2.4
1,2,4-Trichlorobenzene	ug/L	--	--	--	--	5.0 UJ	1.0 U	10 U	10 U
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	--	--	--	--	1.0 UJ	2.0 U	2.0 U	2.0 U
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
1,2-Dichlorobenzene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
1,2-Dichloroethane	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
1,2-Dichloropropane	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
1,3-Dichlorobenzene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
1,4-Dichlorobenzene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
2-Butanone (Methyl Ethyl Ketone)	ug/L	--	--	--	--	25 UJ	10 U	50 UJ	50 UJ
2-Hexanone	ug/L	--	--	--	--	50 UJ	10 U	100 U	100 U
4-Methyl-2-Pentanone (MIBK)	ug/L	--	--	--	--	50 U	10 U	100 U	100 U
Acetone	ug/L	--	--	--	--	25 UJ	10 U	50 UJ	50 UJ
Benzene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Bromodichloromethane	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Bromoform	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Bromomethane (Methyl Bromide)	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Carbon disulfide	ug/L	--	--	--	--	5.0 U	1.0 U	10 U	10 U
Carbon tetrachloride	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Chlorobenzene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Chloroethane	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Chloroform (Trichloromethane)	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Chloromethane (Methyl Chloride)	ug/L	--	--	--	--	1.0 UJ	1.0 U	2.0 U	2.0 U
cis-1,2-Dichloroethene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
cis-1,3-Dichloropropene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Cyclohexane	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Dibromochloromethane	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Dichlorodifluoromethane (CFC-12)	ug/L	--	--	--	--	1.0 UJ	1.0 U	2.0 UJ	2.0 UJ
Ethylbenzene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Isopropylbenzene	ug/L	--	--	--	--	5.0 U	1.0 U	10 U	10 U
Methyl acetate	ug/L	--	--	--	--	10 U	10 U	20 U	20 U
Methyl cyclohexane	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Methyl Tert Butyl Ether	ug/L	--	--	--	--	5.0 U	5.0 U	10 U	10 U
Methylene chloride	ug/L	--	--	--	--	5.0 U	1.0 U	10 U	10 U
Styrene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Tetrachloroethene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Toluene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
trans-1,2-Dichloroethene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
trans-1,3-Dichloropropene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Trichloroethene	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Trichlorofluoromethane (CFC-11)	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Trifluorotrichloroethane (Freon 113)	ug/L	--	--	--	--	1.0 U	1.0 U	2.0 U	2.0 U
Vinyl chloride	ug/L	--	--	--	--	0.64 J	0.94 J	2.0 U	2.0 U
Xylene (total)	ug/L	--	--	--	--	3.0 U	2.0 U	6.0 U	6.0 U
Metals									
Chromium III (Trivalent)	ug/L	20 U	20 U	20 U	--	--	--	--	--
Chromium Total	ug/L	5 U	5 U	5 U	--	--	--	--	--
Chromium VI (Hexavalent)	ug/L	20 U	20 U	20 U	--	--	--	--	--
Nickel	ug/L	25 U	10 J	25 U	18100	34	--	--	--

TABLE 2.1

ANALYTICAL RESULTS OF GROUNDWATER SAMPLES
CA750 SAMPLING EVENTS
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

Area of Interest:		Area 01/Area 03/AOI 21	Area 03/AOI 21	Area 03/AOI 21	Area 01/Area 03/AOI 22	Area 01	Area 01	Area 01	Area 01	Area 01
Sample Location:		MW-A1-10S	MW-A1-10D	MW-A1-10S	MW-22-2D	MW-S-8D	MW-S-8D	MW-S-8D	MW-S-8D	MW-S-8D
Sample ID:		GW-051805-BF-050	GW-120905-DCR-145	GW-120905-DCR-144	GW-030905-MM-038	GW-081205-DCR-062	GW-092505-DCR-103	GW-102205-DCR-125	GW-112705-DCR-130	GW-010405-MM-158
Sample Date:		5/18/2005	12/9/2005	12/9/2005	3/9/2005	8/12/2005	9/25/2005	10/22/2005	11/27/2005	1/4/2006
Sampling Event:		CA 750 Sampling Event - May 05	CA 750 Sample Event - Dec 2005	CA 750 Sample Event - Dec 2005	CA 750 Supplemental Smp Apr 05	CA 750 GW Monitoring Aug 2005	CA 750 GW Monitoring Sep 2005	CA 750 GW Monitoring - Oct 05	CA 750 Monitoring - Nov 05	CA 750 GW Monitoring - Jan 06
Off-Site:		On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site	On-Site
Volatile Organic Compounds	Units									
1,1,1-Trichloroethane	ug/L	45	0.75 J	60	--	--	--	--	--	--
1,1,2,2-Tetrachloroethane	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
1,1,2-Trichloroethane	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
1,1-Dichloroethane	ug/L	16	1.6	18	--	--	--	--	--	--
1,1-Dichloroethene	ug/L	1.0 J	0.52 J	0.37 J	--	--	--	--	--	--
1,2,4-Trichlorobenzene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
1,2-Dibromo-3-chloropropane (DBCP)	ug/L	4.0 U	2.0 U	4.0 U	--	--	--	--	--	--
1,2-Dibromoethane (Ethylene Dibromide)	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
1,2-Dichlorobenzene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
1,2-Dichloroethane	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
1,2-Dichloropropane	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
1,3-Dichlorobenzene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
1,4-Dichlorobenzene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
2-Butanone (Methyl Ethyl Ketone)	ug/L	20 U	10 U	20 U	--	--	--	--	--	--
2-Hexanone	ug/L	20 U	10 U	20 U	--	--	--	--	--	--
4-Methyl-2-Pentanone (MIBK)	ug/L	20 U	10 U	20 U	--	--	--	--	--	--
Acetone	ug/L	20 U	10 U	20 UJ	--	--	--	--	--	--
Benzene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Bromodichloromethane	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Bromoform	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Bromomethane (Methyl Bromide)	ug/L	2.0 U	1.0 U	2.0 UJ	--	--	--	--	--	--
Carbon disulfide	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Carbon tetrachloride	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Chlorobenzene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Chloroethane	ug/L	2.0 U	0.33 J	2.0 U	--	--	--	--	--	--
Chloroform (Trichloromethane)	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Chloromethane (Methyl Chloride)	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
cis-1,2-Dichloroethene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
cis-1,3-Dichloropropene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Cyclohexane	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Dibromochloromethane	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Dichlorodifluoromethane (CFC-12)	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Ethylbenzene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Isopropylbenzene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Methyl acetate	ug/L	20 U	10 U	20 UJ	--	--	--	--	--	--
Methyl cyclohexane	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Methyl Tert Butyl Ether	ug/L	10 U	5.0 U	10 UJ	--	--	--	--	--	--
Methylene chloride	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Styrene	ug/L	2.0 U	1.0 U	2.0 UJ	--	--	--	--	--	--
Tetrachloroethene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Toluene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
trans-1,2-Dichloroethene	ug/L	2.0 U	1.0 U	2.0 UJ	--	--	--	--	--	--
trans-1,3-Dichloropropene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Trichloroethene	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Trichlorofluoromethane (CFC-11)	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Trifluorotrichloroethane (Freon 113)	ug/L	2.0 U	1.0 U	2.0 U	--	--	--	--	--	--
Vinyl chloride	ug/L	2.0 U	2.1 J	2.0 U	--	--	--	--	--	--
Xylene (total)	ug/L	4.0 U	2.0 U	4.0 U	--	--	--	--	--	--
Metals										
Chromium III (Trivalent)	ug/L	--	--	--	--	--	--	--	--	--
Chromium Total	ug/L	--	--	--	--	--	--	--	--	--
Chromium VI (Hexavalent)	ug/L	--	--	--	--	--	--	--	--	--
Nickel	ug/L	--	--	--	144000	20100	1400 J	79800	19000	66000

Table 2.2 - Site-Specific Risk-Based Groundwater Criteria for Area 1 GMC - 13000 Eckles Road, Livonia, Michigan			
Chem Group	Chemical	CASRN	Criteria (mg/L)
INORG	Nickel	7440-02-0	2.4E+03
INORG	Chromium (total)	7440-47-3	2.8E+01
Note:			
The groundwater monitoring criteria are the risk-based construction worker groundwater contact criteria.			

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TABLE 2.3

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LNAPL THICKNESS MONITORING
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

<i>Area of Interest:</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>
<i>Location:</i>	<i>MW-A1/33-1S</i>	<i>MW-A1/33-1S</i>	<i>MW-A1/33-1D</i>	<i>MW-A1/33-1D</i>	<i>MW-A1/33-2S</i>	<i>MW-A1/33-2S</i>	<i>MW-A1/33-2S</i>	<i>MW-A1/33-2S</i>	<i>MW-A1/33-2D</i>	<i>MW-A1/33-2D</i>
<i>Date:</i>	<i>1/22/2004</i>	<i>3/9/2004</i>	<i>1/22/2004</i>	<i>3/9/2004</i>	<i>1/22/2004</i>	<i>3/9/2004</i>	<i>12/13/2004</i>	<i>12/9/2005</i>	<i>1/22/2004</i>	<i>3/9/2006</i>

LNAPL Monitoring	Units									
Depth to Product	feet	-	-	-	-	8.75	8.36	8.86	-	-
Depth to Water	feet	8.45	7.97	8.78	8.29	8.90	8.58	9.05	10.45	8.91
LNAPL Thickness	feet	-	-	-	-	0.15	0.22	0.19	-	-

Notes:

- LNAPL not identified in Monitoring Well

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TABLE 2.3

Page 2 of 5

LNAPL THICKNESS MONITORING
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

<i>Area of Interest:</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>
<i>Location:</i>	<i>MW-A1/33-3S</i>	<i>MW-A1/33-3S</i>	<i>MW-A1/33-4S</i>	<i>MW-A1/33-4S</i>	<i>MW-A1/33-5S</i>	<i>MW-A1/33-5S</i>	<i>MW-A1/33-6S</i>	<i>MW-A1/33-6S</i>	<i>MW-A1/33-6S</i>	<i>MW-A1/33-6S</i>
<i>Date:</i>	<i>1/22/2004</i>	<i>3/9/2004</i>	<i>1/22/2004</i>	<i>3/9/2004</i>	<i>1/22/2004</i>	<i>3/9/2004</i>	<i>1/22/2004</i>	<i>3/9/2006</i>	<i>12/13/2004</i>	<i>12/9/2005</i>

LNAPL Monitoring	Units									
Depth to Product	feet	9.35	8.94	-	-	-	-	-	-	-
Depth to Water	feet	9.37	9.03	9.39	9.01	9.15	8.86	9.20	8.78	9.53
LNAPL Thickness	feet	0.02	0.09	-	-	-	-	-	-	-

Notes:

- LNAPL not identified in Monitoring Well

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LNAPL THICKNESS MONITORING
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

<i>Area of Interest:</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1/AOI 33</i>	<i>Area 1</i>	<i>Area 1</i>	<i>Area 1</i>	<i>Area 1</i>	<i>Area 1</i>
<i>Location:</i>	<i>MW-A1/33-7S</i>	<i>MW-A1/33-7S</i>	<i>MW-A1/33-7S</i>	<i>MW-A1/33-7S</i>	<i>MW-A1/33-8S</i>	<i>MW-A1/33-8D</i>	<i>MW-A1-6S</i>	<i>MW-A1-6S</i>	<i>MW-A1-6S</i>	<i>MW-A1-6S</i>	<i>MW-A1-7S</i>
<i>Date:</i>	<i>1/22/2004</i>	<i>3/9/2004</i>	<i>12/13/2004</i>	<i>12/9/2005</i>	<i>12/13/2004</i>	<i>12/13/2004</i>	<i>1/22/2004</i>	<i>3/9/2004</i>	<i>12/13/2004</i>	<i>12/9/2005</i>	<i>3/9/2004</i>

LNAPL Monitoring	Units										
Depth to Product	feet	-	-	-	-	8.46	-	-	-	-	-
Depth to Water	feet	9.62	9.33	9.52	11.06	8.54	8.98	9.68	9.41	9.54	11.11
LNAPL Thickness	feet	-	-	-	-	0.08	-	-	-	-	-

Notes:

- LNAPL not identified in Monitoring Well

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TABLE 2.3

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LNAPL THICKNESS MONITORING
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

<i>Area of Interest:</i>		<i>Area 1</i>	<i>Area 1</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>
<i>Location:</i>		<i>MW-A1-7S</i>	<i>MW-15S</i>	<i>MW-21-1S</i>	<i>MW-21-1S</i>	<i>MW-21-1S</i>	<i>MW-21-2S</i>	<i>MW-21-2S</i>	<i>MW-21-2S</i>	<i>MW-21-2S</i>	<i>MW-21-3S</i>	<i>MW-21-3S</i>	<i>MW-21-3S</i>
<i>Date:</i>		<i>1/22/2004</i>	<i>1/22/2004</i>	<i>1/22/2004</i>	<i>3/9/2004</i>	<i>12/13/2004</i>	<i>12/9/2005</i>	<i>1/22/2004</i>	<i>3/9/2004</i>	<i>12/13/2004</i>	<i>12/9/2005</i>	<i>1/22/2004</i>	<i>3/9/2004</i>
LNAPL Monitoring	Units												
Depth to Product	feet	-	-	-	-	-	10.49	-	-	-	-	-	-
Depth to Water	feet	9.59	10.89	10.03	9.91	8.84	10.59	9.67	9.64	7.74	10.14	9.81	9.76
LNAPL Thickness	feet	-	-	-	-	-	0.1	-	-	-	-	-	-

Notes:

- LNAPL not identified in Monitoring Well

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TABLE 2.3

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LNAPL THICKNESS MONITORING
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

<i>Area of Interest:</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>	<i>AOI 21</i>
<i>Location:</i>	<i>MW-21-3S</i>	<i>MW-21-3S</i>	<i>MW-A1-16D</i>	<i>MW-A1-16D</i>	<i>MW-A1-16S</i>	<i>MW-A1-16S</i>	<i>MW-A1-16S</i>	<i>MW-A1-16S</i>
<i>Date:</i>	<i>12/13/2004</i>	<i>12/9/2005</i>	<i>1/22/2004</i>	<i>3/9/2006</i>	<i>1/22/2004</i>	<i>3/9/2004</i>	<i>12/13/2004</i>	<i>12/9/2005</i>

LNAPL Monitoring	Units							
Depth to Product	feet	-	-	-	-	8.81	8.76	9.33
Depth to Water	feet	8.63	10.27	8.89	8.75	9.21	8.97	9.45
LNAPL Thickness	feet	-	-	-	-	0.4	0.21	0.12

Notes:

- LNAPL not identified in Monitoring Well

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**Table 2.4 - Site-Specific Risk-Based Groundwater Criteria for AOI 31
GMC - 13000 Eckles Road, Livonia, Michigan**

Chem Group	Chemical	CASRN	Criteria (mg/L)
VOC	Chloroform	67-66-3	5.7E-02
VOC	1,1-Dichloroethane	75-34-3	2.5E+01
VOC	1,1-Dichloroethene	75-35-4	9.9E+00
VOC	cis-1,2-Dichloroethene	156-59-2	1.8E+00
VOC	1,1,1-Trichloroethane	71-55-6	1.3E+02
VOC	Trichloroethene	79-01-6	7.9E-01
Note:			
The groundwater monitoring criteria are based on the minimum of the construction worker groundwater contact criteria, residential vapor intrusion (foundation) criteria, residential vapor intrusion (sump) criteria, residential nonpotable groundwater criteria, and residential home produce groundwater criteria.			

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**GROUNDWATER SAMPLING LOCATIONS
GROUNDWATER MONITORING PLAN
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN**

<i>Well ID.</i>	<i>Top of Riser Elevation (ft AMSL)</i>	<i>Top of Screen Depth (ft BGS)</i>	<i>Bottom of Screen Depth (ft BGS)</i>	<i>Sample Analysis Parameters ⁽¹⁾</i>
Area 1 - Former Plating Area				
HA-14	706.0	19.0	29.0	Total Chromium, Hexavalent Chromium, Nickel
HA-16	704.5	19.6	29.6	Nickel
MW-OS-5D	705.0	17.0	27.0	Nickel
MW-OS-6D	703.5	18.0	28.0	Nickel
MW-OS-7D	705.4	18.0	28.0	Nickel
MW-OS-8D	703.0	17.0	27.0	Nickel
OW-24	705.9	15.0	25.0	Total Chromium, Hexavalent Chromium, Nickel
AOI 31 - Former Fire Training Area				
MW-103S	701.7	8.0	18.0	Select VOCs
MW-202S	699.3	5.1	15.1	Select VOCs
MW-211S	694.3	6.0	16.0	Select VOCs
MW-213S	695.5	5.0	15.0	Select VOCs
MW-215S	691.4	3.0	13.0	Select VOCs
MW-216S	689.1	3.0	13.0	Select VOCs
MW-217S	683.6	3.0	13.0	Select VOCs

Notes:

ft AMSL - feet above mean sea level.

ft BGS - feet below ground surface.

(1) Analytical parameters:

Select VOCs - TCE, cis-1,2-DCE, vinyl chloride, 1,1,1-TCA

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GROUNDWATER ELEVATION MONITORING LOCATIONS
GROUNDWATER MONITORING PLAN
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

<i>Well ID.</i>	<i>Top of Riser Elevation (ft AMSL)</i>	<i>Top of Screen Depth (ft BGS)</i>	<i>Bottom of Screen Elevation (ft BGS)</i>
AOI 21 - Former Pickling Machines/Flat Polish Area			
MW-A1-16S	705.2	5	15
MW-21-1S	706.5	4	14
MW-21-2S	705.9	5	15
MW-21-3S	705.8	5	15
MW-21-4S	704.1	2.75	12.75
MW-21-5S	702.5	3	13
MW-21-6S	702.7	3	13
AOI 31 - Former Fire Training Area			
MW-104S	702.1	8.0	18.0
MW-201S	702.1	6.8	16.8
MW-203S	697.7	5.1	15.1
MW-205S	697.4	4.8	14.8
MW-206S	695.6	4.8	14.8
MW-214S	687.8	3.0	13
MW-301S	696.9	10.0	20.0
MW-303S	687.4	5.0	15.0
Site-wide Monitoring Wells			
MW-33-4S	708.2	5.0	16.0
MW-33-6S	710.2	6.0	16.0
MW-33-7S	714.0	6.5	16.5
MW-33-9S	711.8	4.0	14.0
MW-28-3S	708.5	5.0	15.0
MW-S-10S	706.3	7.5	17.5
MW-S-4S	703.4	7.0	17.0
MW-W-2S	708.2	6.5	16.5
MW-G-1S	703.3	6.5	16.5
MW-G-2S	708.7	11.5	21.5
MW2-01	705.2	10.0	15.0

Notes:

ft AMSL - feet above mean sea level.

Depth to LNAPL and Depth to Groundwater levels will be measured in AOI 21 MWs

Groundwater elevations will also be monitored in all MWs identified on Table 3.1

On-site monitoring wells may be relocated based on redevelopment activities

Table 4.1 - Groundwater Criteria for Verifying Plume Stability and Evaluating Health Significance GMC - 13000 Eckles Road, Livonia, Michigan					
Area	Chem Group	Chemical	CASRN	Plume Stability Criteria (mg/L)	Risk-Based Criteria (mg/L)
Area 01	INORG	Chromium (total)	7440-47-3	1.0E-01	2.8E+01
Area 01	INORG	Chromium VI	18540-29-9	1.0E-01	2.8E+01
Area 01	INORG	Nickel	7440-02-0	1.0E-01	2.4E+03
AOI 31	VOC	cis-1,2-Dichloroethene	156-59-2	7.0E-02	1.8E+00
AOI 31	VOC	1,1,1-Trichloroethane	71-55-6	2.0E-01	1.3E+02
AOI 31	VOC	Trichloroethene	79-01-6	5.0E-03	7.9E-01
AOI 31	VOC	Vinyl Chloride	75-01-4	2.0E-03	7.9E-02
Notes:					
1. The criteria for verifying plume stability are drinking water criteria.					
2. The risk-based criterion for evaluating health significance for Area 1 is based on construction worker contact with groundwater.					
3. The risk-based criteria for evaluating health significance for AOI 31 are based on the most potential significant exposure among construction worker contact, residential vapor intrusion, residential nonpotable groundwater uses.					

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APPENDIX A

GM PROCEDURE NO. SOP-63
GROUNDWATER SAMPLE COLLECTION
FOR LABORATORY ANALYSIS

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REMEDATION SECTION	FIELD METHOD GUIDELINE NO.: FMG 6.4
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE: NOVEMBER 20, 2001
GENERAL MOTORS CORPORATION	
REVISION NO.: 4	REVISION DATE: APRIL 14, 2003

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LIST OF FORMS (Following Text)

FMG 6.4-01	WELL PURGING FIELD INFORMATION
FMG 6.4-02	SAMPLE COLLECTION DATA SHEET
FMG 6.4-03	MONITORING WELL RECORD FOR LOW-FLOW PURGING

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REMEDATION SECTION	FIELD METHOD GUIDELINE NO.: FMG 6.4
WORLDWIDE FACILITIES GROUP	EFFECTIVE DATE: NOVEMBER 20, 2001
GENERAL MOTORS CORPORATION	
REVISION NO.: 4	REVISION DATE: APRIL 14, 2003

GROUNDWATER SAMPLING

INTRODUCTION

This procedure is for the collection of groundwater samples for laboratory analysis.

The objective of most groundwater quality monitoring programs is to obtain samples that are representative of existing groundwater conditions, or samples that retain the physical and chemical properties of the groundwater within an aquifer.

One of the most important aspects of groundwater sampling is acquiring samples that are free of suspended silt, sediment, or other fine grained particulates. Fine grain materials may often have a variety of chemical components sorbed to the particle or have the ability to sorb chemicals from the aqueous phase to the particle which will bias the subsequent analytical results.

Constituents known to have an affinity for fine grained particulates are: polychlorinated biphenyls (PCBs), semivolatile organic compounds (SVOCs), and inorganics. Monitoring programs where these constituents are suspected or known to be prevalent must employ sampling methods that minimize particulate presence.

The sampling method of "preference" for GM sites where particulate sorption is an issue is the "low stress/low flow" technique described within this FMG. Experience has shown that the "low stress/low flow" technique typically achieves representative groundwater samples with minimal particulate interference. In addition to the "low stress/low flow" technique, a "typical sample method" has been presented for the collection of constituents less sensitive to particulates presence (i.e., VOCs), or "direct-push sample methods" generally employed as a "pre-screening tool" to evaluate VOC presence. Direct-push sample procedures will result in groundwater samples with particulates present.

Lastly, in "extreme" cases "ultra-low flow" techniques have been employed at select sites where "low stress/low flow" methods were used, yet particulate-sensitive constituents continue to bias the analytical results. Ultra-low flow techniques are conducted at purging rates below 100 mL per minute, and should only be utilized after careful review and a procedural variance has been approved.

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FMG MODIFICATIONS MUST BE ACCOMPANIED BY A REVISION REQUEST FORM APPROVED BY THE PROJECT MANAGER

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PROCEDURES REFERENCED

- FMG 1.4 - Data Recording - Field Books/Digital Recording.
- FMG 5.1 - Water Level Measurements.
- FMG 8.0 - Field Instruments - Use/Calibration
- FMG 9.0 - Equipment Decontamination.

PROCEDURAL GUIDELINES

The following describes three techniques for groundwater sampling: "Low Stress/Low Flow Methods", "Typical Sample Methods", and "Direct-Push Methods".

"Low Stress/Low Flow Methods" will be employed when it is critical to collect groundwater samples truly representative of the groundwater present, and to minimize the impact of sediment/colloid presence. Analysis typically sensitive to turbidity/sediment issues are PCBs, SVOCs, and inorganic constituents.

The "Typical Sample Methods" will be employed where the collection of parameters less sensitive to turbidity/sediment issues are being collected (VOCs and general chemistry).

The "Direct-Push Methods" are typically employed for pre-screening areas for chemical presence to aid in determining well placement, or the need for further study.

*Note: If non-aqueous phase liquids (NAPL) (light or dense) are detected in a monitoring well, groundwater sample collection will not be conducted and the Project Manager must be contacted to determine a course of action.
If deemed necessary to sample groundwater from below a LNAPL layer, a suggested sampling procedure has been presented at the end of this Procedural Guidelines section.*

Preparatory Requirements

- Verify well identification and location using borehole log details and location layout figures. Note the condition of the well and inform the Project Manager of any required repair work.
- Prior to opening the well cap, measure the breathing space above the well casing with a PID to establish baseline levels. Repeat this measurement once the well cap is opened. If either of these measurements exceeds the air quality criteria in the Health and Safety Plan, field personnel should adjust their PPE accordingly.
- Prior to commencing the groundwater purging/sampling tasks, water level and total well depth measurements must be obtained to determine the volume of water in the well. Refer to

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[FMG 5.1 - Water Level Measurements](#) for details. In some settings it may be necessary to allow time for the water level to equilibrate. This condition exists if a water tight seal exists at the well cap and the water level has fluctuated above the top of screen; creating a vacuum or pressurized area within the well casing. Three water level checks will verify static water level conditions or changing conditions.

- Calculate the water volume in the well. Typically overburden well volumes consider only the quantity of water standing in the well screen and riser; bedrock well volumes are calculated on the quantity of water within the open corehole and within the overburden casing.
- Estimate the natural groundwater flow rate into well to determine the approximate pumping rate for purging/sampling activities.

Well Purging and Stabilization Monitoring (Low Stress/Low Flow Method)

- The GM method of preference for groundwater sampling will be the low stress/low flow method described below.
- Bladder pumps/submersible variable rate pumps (i.e., Grundfos™ Rediflo or equivalent) or peristaltic pumps are typically employed.
- Slowly lower the pump, safety cable, tubing and electrical lines into the well to the depth specified by the project requirements. The pump or tubing should be placed in the well as early as possible before sampling is initiated (this is to minimize well disturbance). In some programs it may be necessary to install the pumping equipment/tubing approximately 24 hours prior to purging. Peristaltic tubing placement should include a tubing "clamp" at the well head, to minimize vibration transfer into the water column. The pump or tubing intake must be at the mid-point of the well screen to prevent disturbance and resuspension of any sediment in the screen base. Bedrock well sampling may require pump/tubing placement in specific fracture zone areas or other areas which will be identified within the project Work Plan.
- Before starting the pump, measure the water level again with the pump in the well leaving the water level measuring device in the well when completed.
- Purge the well at 100 to a maximum of 500 milliliters per minute (mL/min). During purging, the water level should be monitored approximately every 5 minutes, or as appropriate. A steady flow rate should be maintained that results in drawdown of 0.3 feet or less. The rate of pumping should not exceed the natural flow rate conditions of the well being sampled. Care should be taken to maintain pump suction and to avoid entrainment of air in the tubing. Record adjustments made to the pumping rates and water levels immediately after each adjustment.
- Calibrate field instrument and document calibration activity. Calibration shall be performed in accordance with manufacturer's recommendations and [FMG 8.0 - Field Instruments - Use/Calibration](#).

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- During the purging of the well, monitor and record the field indicator parameters (pH, temperature, conductivity, oxidation-reduction (redox) reaction potential (ORP), dissolved oxygen (DO), and turbidity) approximately every 5 minutes. Stabilization is considered to be achieved when the final groundwater flow rate is achieved, and three consecutive readings for each parameters are within the following limits:
 - pH ± 0.1 pH units of the average value of the three readings;
 - temperature ± 3 percent of the average value of the three readings;
 - conductivity ± 0.005 milliSiemen per centimeter (mS/cm) of the average value of the three readings for conductivity < 1 mS/cm and ± 0.01 mS/cm of the average value of the three readings for conductivity > 1 mS/cm;
 - ORP ± 10 millivolts (mV) of the average value of the three readings;
 - DO ± 10 percent of the average value of the three readings; and
 - turbidity ± 10 percent of the average value of the three readings, or a final value of less than 5 nephelometric turbidity units (NTU).
- Should stabilization not be achieved for all field parameters, purging is continued until a maximum of 20 well screen volumes have been purged from the well. Since low-flow purging (LFP) likely will not draw groundwater from a significant distance above or below the pump intake, the screen volume is based upon a 5-foot (1.4 m) screen length. After purging 20 well screen volumes, purging is continued if the purge water remains visually turbid and appears to be clearing, or if stabilization parameters are varying slightly outside of the stabilization criteria listed above and appear to be approaching stabilization.
- If low-turbidity samples are critical to the project goals, purging will be extended until turbidity has been reduced to 5 NTU or less.
- The pump must not be removed from the well between purging and sampling.

Well Purging and Stabilization Monitoring (Typical Method)

- Typically peristaltic pumps or bladder pumps or submersible pumps are preferred. In most cases bailer use is not desirable due to the "surging" action of bailer entry and removal. Exception is noted for VOC sampling where bailers are often used.
- The pump intake/tubing is typically placed at the mid-point of the screen within overburden wells. Bedrock well sampling may require pump/tubing placement in specific fracture zone areas or other areas which will be identified within the project Work Plan.
- Purge the well until three consecutive well volume measurements of temperature and specific conductivity are approximately plus or minus 10 percent and if the pH values are within 1 pH unit of the last three value averages, and the groundwater turbidity values are less than the project Work Plan requirements. If stabilization has not occurred within the first five well volumes removed, continue purging and monitoring until eight well volumes have been pumped. Purging rates should not exceed the natural flow rate of groundwater into the well.

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Elevated purging rates may result in excessive drawdown of the water column, introducing sediment/particulate presence.

- Groundwater turbidity may be evaluated by a visual examination for sediment/silt presence or use of a nephelometer. Work Plan-specific goals may exist for turbidity values which may require extending the purging, or require an alternate pumping system.
- Purging and stabilization activities using a bailer are generally performed at the top of the water column, within the riser piping/above the well screen. This will minimize sediment disturbance/suspension in the screen area, and move water from the formation into the well screen/riser area in an effort to remove stagnant groundwater within the well. Bottom-loading bailers are generally employed. The lowering and removal actions are performed slowly to minimize well disturbance. Once stabilization has been attained, the sample aliquots are collected directly from the bailer.
- In the event the well goes dry (poor yielding formations), the purging activities will be performed on 3 consecutive days, noting the field stabilization parameters on each day. After the third day of purging is complete, the sample collection will be performed once sufficient groundwater recharge has occurred.

Direct-Push Sampling Technique

Generally, the direct-push sampling methods are employed for "pre-screening" groundwater quality (typically VOCs) in selected areas. This method is generally used to evaluate the need for permanent monitoring wells, or determine the need for further study. The sampling technique is a direct-push protected-screen sampling technique as described in ASTM D6001 (Standard Guide for Direct Push Water Sampling for Geoenvironmental Investigations). The direct-push sampling technique is summarized as follows:

- Advance borehole to the target depth below the groundwater table.
- Remove the drill rod, assemble the direct-push sample tool and attach it to the drill rod.
- Lower the sample device to the bottom of the borehole using the drill rod.
- Advance the sample device approximately 3 feet into the bottom of the borehole by hydraulically pushing the drill rod.
- Withdraw the drill rods approximately 1 to 2 feet to retract the screen sleeve and to expose the sampler screen to the formation.
- Alternatively a number of direct-push tools exist that do not require an advance borehole, and can be driven directly to the target depth and retracted for sample collection.
- Allow at least 15 minutes from exposing the sampler screen to sample collection to allow silt in the sampler to settle. In tight formations, a longer wait time may be required to allow sufficient groundwater to enter the screen. In some clays the sample device may not collect sufficient water volume to obtain a sample.

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- Lower a small bailer into the sampler, discard initial bail (to acclimate bailer), and collect a water sample. A few bailer volumes may be required to obtain a sufficient volume of water sample. Alternatively, a "Waterra" check ball affixed to tubing maybe employed to collect a groundwater sample, or a peristaltic pump.
- Remove and clean the sampler device after completion of sample collection. Decontaminate sampler for next sample event.

This sampling technique is prone to sediment presence due to the lack of a screen sandpack and the limited purging performed before sample collection. A project variance will be required if non-VOC constituents are being considered for analysis.

Sampling Techniques

- If an alternate pump is utilized (i.e., typical method), the first pump discharge volumes (or bailer volumes) should be discarded to allow the equipment a period of acclimation to the groundwater.
- Samples are typically collected directly from the pump with the groundwater being discharged directly into the appropriate sample container. Avoid handling the interior of the bottle or bottle cap and don new gloves for each well sampled to avoid contamination of the sample.
- Order of sample collection:
 - VOCs;
 - SVOCs and PCBs;
 - Total organic carbon (TOC);
 - Total organic halogens (TOX);
 - Extractable organics;
 - Total metals;
 - Dissolved metals;
 - Phenols;
 - Cyanide;
 - Sulfate and chloride;
 - Nitrate and ammonia; and
 - Radionuclides.
- For low stress/low flow sampling, samples should be collected at a flow rate between 100 and 250 mL/min and such that drawdown of the water level within the well does not exceed the maximum allowable drawdown of 0.3 feet.
- The pumping rate used to collect a sample for VOCs should not exceed 100 mL/min. Samples should be transferred directly to the final container 40 mL glass vials completely full and topped with a teflon cap. Once capped the vial must be inverted and tapped to check

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for headspace/air presence (bubbles). If air is present the sample vial will be discarded, and re-collected until free of air.

- Field filtration will be performed if dictated by the project Work Plan. Sediment presence can interfere or bias sample results; false positive findings have been observed when turbid samples for hexavalent chromium (and other analytes) are analyzed. Field filtration can eliminate this concern; generally applicable to only inorganic/PCB analysis. In-line disposable filter cartridges are generally the easiest and quickest method for field filtration.
- Sample labels/sample identification. All samples must be labeled with:
 - A unique sample number;
 - Date and time;
 - Parameters to be analyzed;
 - Project Reference ID; and
 - Sampler's initials.
- Labels should be secured to the bottle(s) and should be written in indelible inks.

Groundwater Sampling Techniques Below LNAPL Layers

Sampling and analysis of groundwater below a LNAPL layer is typically discouraged, and not performed at REALM/ENCORE sites. The rationale for avoiding groundwater analysis below a LNAPL layer is as follows:

- The potential for sample "contamination" with a trace amount of NAPL is very possible; analytical data will be biased "high" based upon this concern.
- Analytical data generated from this scenario does not represent "dissolved" constituent presence in groundwater. Dissolved constituents are "best" determined in downgradient locations.

In some instances it may be required to perform groundwater sampling and analysis below a LNAPL layer, possibly at the request of a regulatory group. If absolutely necessary, this type of sampling may be accomplished in accordance with the following:

- Determine the LNAPL depth and thickness using an interface probe or clear bottom loading bailer.
- Determine the sampling depth, selecting a sample point as far away as possible from the LNAPL interface.
- Using a "capped" outer tube or piping (i.e., 1-inch diameter polyethylene), insert the outer tube to the selected sample interval. The cap should be a slip-on cap affixed to the outer tube using a short "leash" (i.e., stainless steel wire or equivalent). This allows cap recovery once the sampling is complete.

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- Insert the sample line (3/8-inch diameter tubing) into the outer tube and "push out" the end cap for sample line entry into the sampling interval.
- Perform purging and sampling using a peristaltic pump.
- Monitor the groundwater level and/or the NAPL level to ensure the LNAPL layer is not drawn to sampling depth. If LNAPL drawdown occurs evaluate the need to proceed further, and consider terminating sampling activity.
- This sample should not be referred to on any analysis as a groundwater sample. It should always be referred to as a groundwater/NAPL mixture (GW/NAPL designation).

EQUIPMENT/MATERIALS

- pH meter, conductivity meter, nephelometer, ORP meter, DO meter, temperature gauge.
- Field filtration units (if required).
- Purging/sampling equipment:
 - Peristaltic pump (not suitable for VOCs¹/SVOCs, or drawing water from depths greater than 25 feet²);
 - Suction pumps (not suitable for LFR, VOCs/SVOCs, or depths greater than 25 feet);
 - Submersible pumps (suitable for VOCs/SVOCs only at low flow rates);
 - Air lift pumps (not suitable for VOCs/SVOCs);
 - Bladder pumps (suitable for LFR and VOCs/SVOCs);
 - Inertia pumps (gaining acceptability for VOCs/SVOCs, generally not suited for GM programs); and
 - Bailers.
- Water level probe.
- Sampling materials (containers, log book/forms, coolers, chain-of-custody).
- Project Work Plan.
- Health and Safety Plan.

Note¹: Peristaltic pump use for VOC collection is acceptable on select EPA/RCRA sites; this technique has gained acceptance in select areas. Where it is permissible to collect VOCs using a peristaltic pump, collection must be performed at a low flow rate (Michigan allows VOC sampling with the peristaltic pump).

Acceptability of the collection of VOCs using the peristaltic pump should be evaluated before the sampling program commences, commonly performed during the project Work Plan development and approval process.

Note²: Exception is noted in locations that the suction line can be placed at the desired sample depth (i.e., 100 feet), and the natural recharge maintains a water level within 25 feet of the ground surface.

Field Notes

Field notes must document field activities and measurements collected during the sampling activities. [FMG 1.4 - Data Recording - Field Books/Digital Recording](#) describes the data/recording procedure for field activities. The log book/field file should document the following for each well sampled:

- Identification of well.
- PID readings before and after well opening (if required).
- Well depth.
- Static water level depth and measurement technique.
- Sounded well depth.
- Presence of immiscible layers and detection/collection method.
- Well yield – high or low.
- Purge volume, pumping rate, and final disposition.
- Time well purged.
- Measured field parameters and meter calibration records.
- Purge/sampling device used.
- Well sampling sequence.
- Sample appearance.
- Sample odors.
- Sample volume.
- Types of sample containers and sample identification.
- Preservative(s) used.
- Parameters requested for analysis.
- Field analysis data and method(s).
- Sample distribution and transporter.
- Analytical laboratory.
- Chain-of-custody number for shipment to laboratory.
- Field observations on sampling event.
- Name(s) of sampling personnel.

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- Climatic conditions including air temperature.
- Problems encountered and any deviations made from the established sampling protocol.

A standard log form for documentation and reporting groundwater purging and sampling events are presented on Form [FMG 6.4-01 - Well Purging Field Information](#), Form [FMG 6.4-02 - Sample Collection Data Sheet](#), and Form [FMG 6.4-03 - Monitoring Well Record for Low-Flow Purging](#).

Groundwater/Decontamination Fluid Disposal

The project Work Plan will identify the required disposal procedures for groundwater and decontamination fluids. Groundwater disposal methods will vary on a case-by-case basis but may range from:

- Off-site treatment at private treatment/disposal facilities or public owned treatment facilities.
- On-site treatment at Facility-operated facilities.
- Direct discharge to the surrounding ground surface, allowing groundwater infiltration to the underlying subsurface regime.
- Direct discharge to impervious pavement surfaces, allowing evaporation to occur.

Decontamination fluids should be segregated and collected separately from wash waters/groundwater containers. Often small volumes of solvents used during the day can be allowed to evaporate if left in an open pail. In the event evaporation is not possible or practical, off-site disposal arrangements must be made.

REFERENCES

ASTM D5474 - Guide for Selection of Data Elements for Groundwater Investigations.
ASTM D4696 - Guide for Pore-Liquid Sampling from the Vadose Zone.
ASTM D5979 - Guide for Conceptualization and Characterization of Groundwater Systems.
ASTM D5903 - Guide for Planning and Preparing for a Groundwater Sampling Event.
ASTM D4448 - Standard Guide for Sampling Groundwater Wells.
ASTM D6001 - Standard Guide for Direct Push Water Sampling for Geo-Environmental Investigations.
USEPA Low-Flow (Minimal Drawdown) Ground-Water Sampling Procedures (EPA/540/S-95/504).
USEPA RCRA Groundwater Monitoring: Draft Technical Guidance (EPA/530-R-93-001).

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SAMPLE COLLECTION DATA SHEET - GROUNDWATER SAMPLING PROGRAM

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PROJECT NAME _____

PROJECT NO. _____

SAMPLING CREW MEMBERS _____

SUPERVISOR _____

DATE OF SAMPLE COLLECTION _____

[Note: For 2" dia. well, 1 ft. = 0.14 gal (imp) or 0.16 gal (us)]

Sample I.D. Number	Well No.	Measuring Point Elev. (ft. AMSL)	Bottom Depth (ft. btoc)	Water Depth (ft. btoc)	Water Elevation (ft. AMSL)	Well Volume (gallons)	Bailer Volume No. Bails	Volume Purged (gallons)	Field pH	Field Temp.	Field Cond.	Time	Sample Description & Analysis

Additional Comments: _____

Copies to: _____

MONITORING WELL RECORD FOR LOW-FLOW PURGING

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Project Data:

Project Name: _____
Ref. No.: _____

Date: _____
Personnel: _____

Monitoring Well Data:

Well No.: _____
 Measurement Point: _____
 Constructed Well Depth (ft): _____
 Measured Well Depth (ft): _____
 Depth of Sediment (ft): _____

Screen Length (ft): _____

Depth to Pump Intake (ft)⁽¹⁾: _____

Well Diameter, D (in): _____

Well Screen Volume, V_s (mL)⁽²⁾: _____

Initial Depth to Water (ft): _____

[illegible]

Notes:

- (1) The pump intake will be placed at the well screen mid-point or at a minimum of 2 ft above any sediment accumulated at the well bottom.
- (2) The well screen volume will be based on a 5-foot screen length, $V_s = \pi \cdot (D/2)^2 \cdot (5 \cdot 12) \cdot (2.54)^3$
- (3) The drawdown from the initial water level should not exceed 0.3 ft.
- (4) Purging will continue until stabilization is achieved or until 20 well screen volumes have been purged (unless purge water remains visually turbid and appears to be clearing, or unless stabilization parameters are varying slightly outside of the stabilization criteria and appear to be stabilizing), No. of Well Screen Volumes Purged = V_p/V_s .

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APPENDIX B

GROUNDWATER MONITORING PLAN ADDENDUM - FEBRUARY 29, 2008

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**Worldwide Facilities Group
Remediation Team**

MC 483-520-190
2000 Centerpoint Parkway
Pontiac, Michigan 48341

February 29, 2008

Mr. Daniel Patulski, DP-8J
United States Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Chicago, Illinois 60604-3507

Dear Mr. Patulski:

RE: Proposed Groundwater Monitoring Plan Addendum
13000 Eckles Road Site (U.S. EPA ID No. MII 005 356 621)
Livonia, Michigan

This letter has been prepared to present proposed changes to the Groundwater Monitoring Plan (GMP) dated December 1, 2006 for the General Motors Corporation (GM) 13000 Eckles Road Site (Site) located in Livonia, Michigan. As identified in the Annual Report, the scope of the GMP is proposed to remain the same with the following exceptions:

Area 1

In addition to the monitoring wells already included in the GMP for Area 1, GM proposes to collect groundwater samples annually from OW-24 and HA-14 for the analysis of total chromium, hexavalent chromium, and nickel to monitor groundwater conditions on Site and at the Site perimeter. Criteria to evaluate the analytical results of total chromium, hexavalent chromium and nickel are presented in Table 1. Groundwater sampling locations associated with Area 1 are presented on Figure 1.

AOI 31

In addition to the monitoring wells already included in the GMP for AOI 31, GM proposes to collect a groundwater sample annually from MW-103S for the analysis of 1,1,1-trichloroethane, cis-1,2-dichloroethylene, trichloroethylene, and vinyl chloride to monitor groundwater conditions on Site and at the Site perimeter at AOI 31. Groundwater sampling locations associated with AOI 31 are presented on Figure 2.

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Reference No. 12607

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AOI 21

GM proposes to measure the presence and/or thickness of LNAPL quarterly for the next year in the three newly installed monitoring wells at AOI 21, MW-21-4S, MW-21-5S, and MW-21-6S, in addition to the monitoring wells previously identified in the GMP. Additionally, if recoverable amounts of LNAPL are identified in AOI 21 monitoring wells during the quarterly monitoring events, GM will remove LNAPL to the extent practical. After LNAPL removal, GM will assess the need for further, periodic LNAPL removal. On-site groundwater elevation monitoring locations are presented on Figure 3.

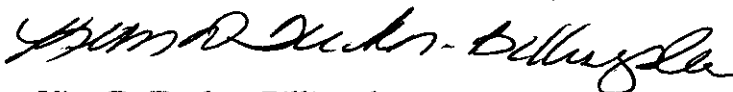
Table 2 presents a summary of the monitoring wells, and the associated well completion information, included in the groundwater sampling program for each area of investigation. Table 3 presents a summary of the monitoring wells, and the associated well completion information, included in the groundwater elevation monitoring program for each area of investigation.

Upon U.S. EPA approval, this addendum will be incorporated into the GMP as Appendix B.

Please feel free to contact me at (248) 753-5800 if you have any questions.

Yours truly,

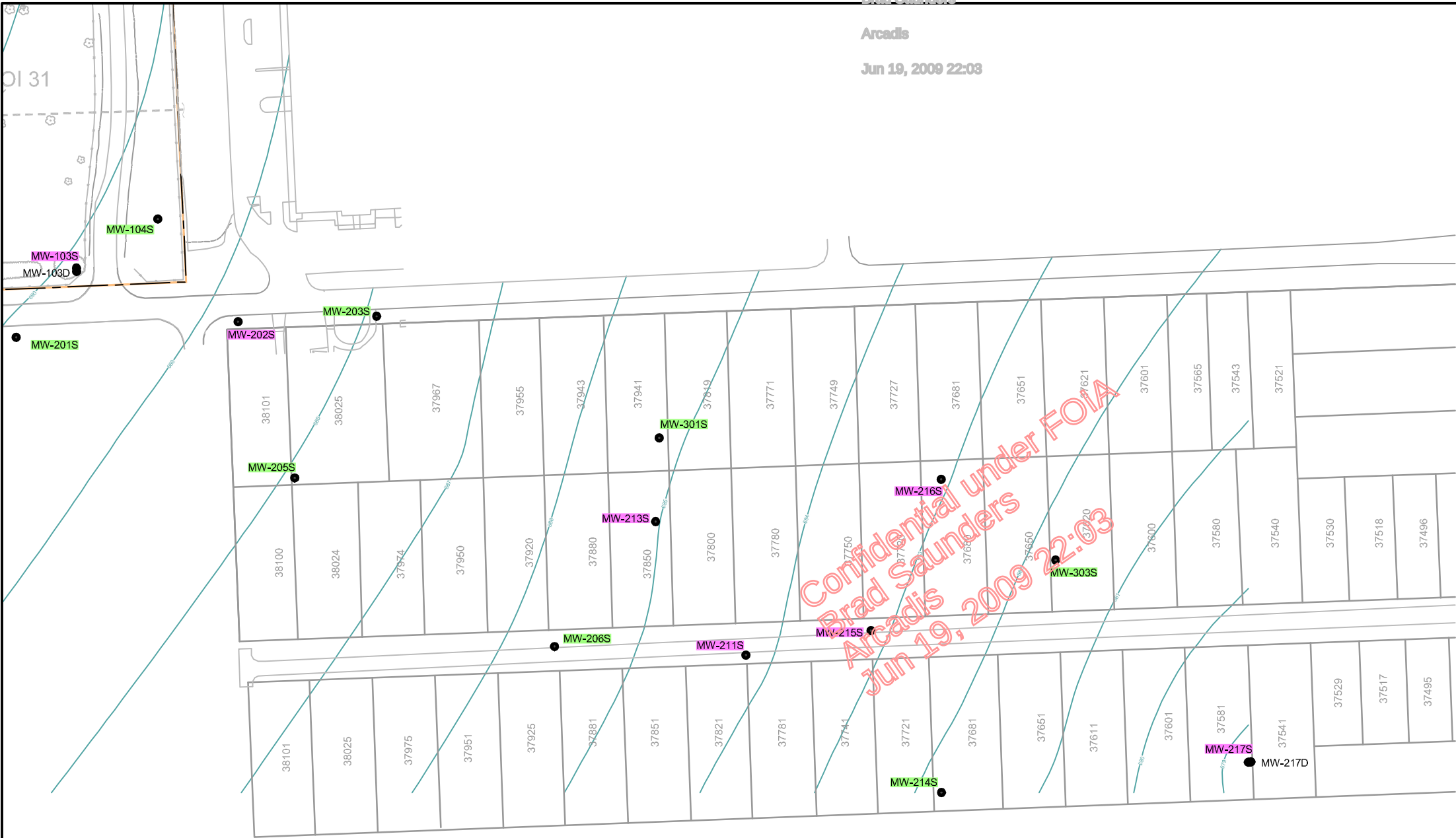
GENERAL MOTORS CORPORATION,



Kim D. Tucker-Billingslea
Project Manager

KTA/12607/35/Det.
Encl.

c.c.: Richard Conforti (MDEQ)
Jean Caufield (GM)
Chris Meincke (CRA)
Ian Richardson (CRA)



LEGEND

- SITE BOUNDARY
- GROUNDWATER ELEVATION CONTOUR
MARCH 9, 2004
- MW-202S GMP MONITORING WELL-SAMPLE COLLECTION
- MW-206S GMP MONITORING WELL-GROUNDWATER ELEVATION

AOI 31 - FIRE TRAINING AREA

figure 2
AOI 31 MONITORING WELLS
GROUNDWATER MONITORING PLAN
13000 ECKLES ROAD SITE
Livonia, Michigan



AREAS OF INTEREST

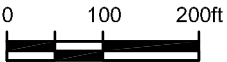
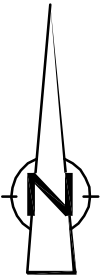
AOI 2 - WASTEWATER TREATMENT PLANT
AOI 5 - MUD HOUSE
AOI 19 - TCA STILL (AST)
AOI 21 - FORMER PICKLING MACHINES/FLAT POLISH AREA
AOI 22 - PRESS PIT BASEMENTS
AOI 24 - PEDESTRIAN CLOCK TUNNEL
AOI 27 - DIESEL AST NEAR POWER HOUSE
AOI 28 - OIL STORAGE BUILDING YARD AREA
AOI 30 - FORMER LISTS NO. 6, NO. 7, AND NO. 8
AOI 31 - FIRE TRAINING AREA
AOI 33 - PIC PROPERTY
AOI 37 - HISTORICAL COAL PILE
AOI 39 - NORTH BOUNDARY FILL AREA

AREA 1:

AOI 1 - OLD WASTEWATER TREATMENT PLANT
AOI 3 - STORMWATER CLARIFIER
AOI 14 - OLD NICKEL BRIGHT TANK
AOI 15 - WASTE SUMP UNDER PLATING LINE
AOI 18 - FRENCH DRAIN SYSTEM
AOI 20 - PLATING LINE

AREA 2:

AOI 17 - QUENCH OIL TANK UNDER COIL LINE
AOI 34 - COIL SPRING BUILDING



LEGEND

- SITE BOUNDARY
- FENCE
- GMP MONITORING WELL-GROUNDWATER ELEVATION
- GROUNDWATER ELEVATION CONTOUR MARCH 22, 2006
- SURVEYED SLURRY WALL - 3/1/2005
- JET GROUTED BARRIER WALL

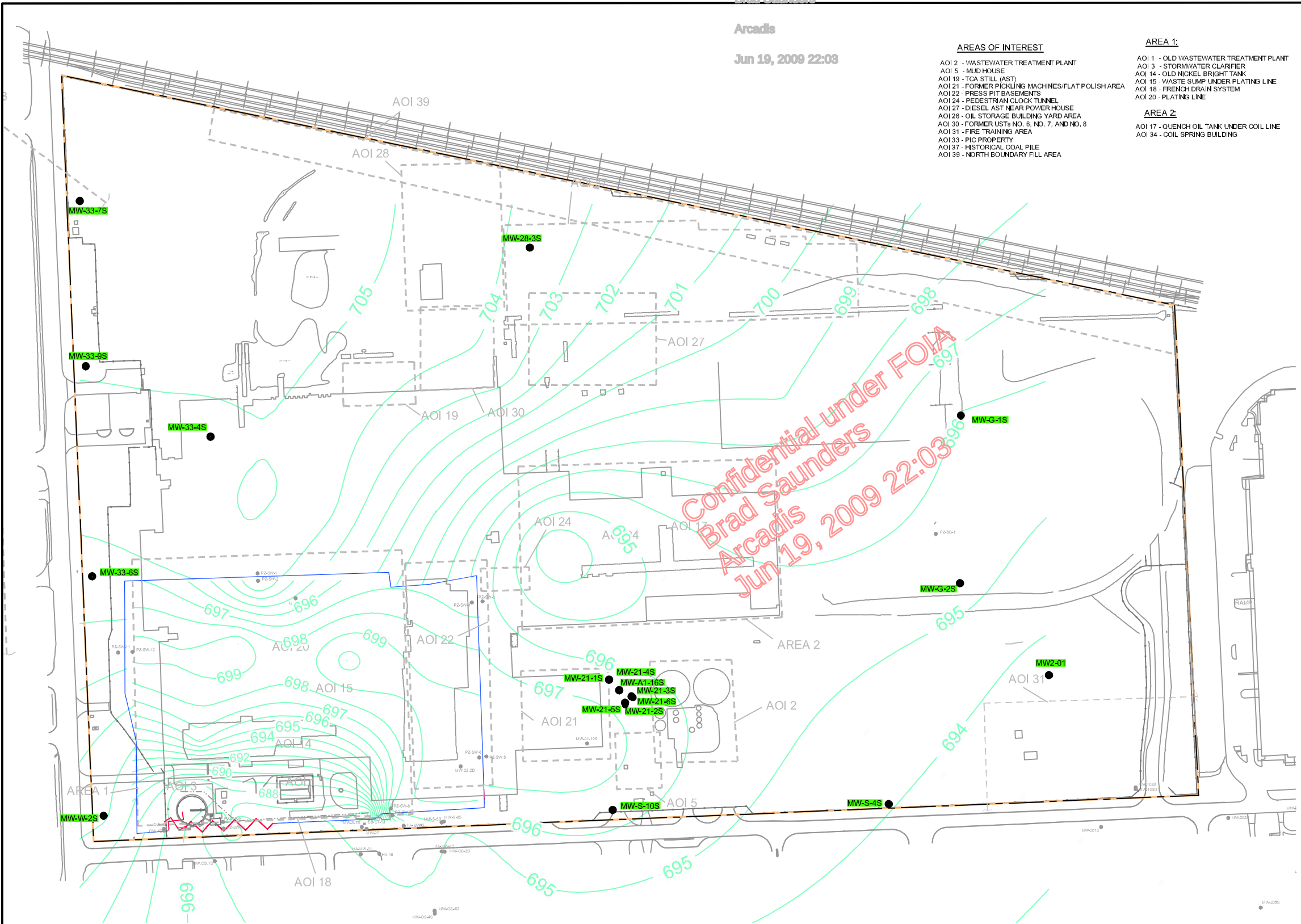


figure 3

MONITORING WELLS - SITE-WIDE WATER LEVELS
GROUNDWATER MONITORING PLAN
13000 ECKLES ROAD SITE
Livonia, Michigan



Table 1 - Groundwater Criteria for Verifying Plume Stability and Evaluating Health Significance GMC - 13000 Eckles Road, Livonia, Michigan					
Area	Chem Group	Chemical	CASRN	Plume Stability Criteria (mg/L)	Risk-Based Criteria (mg/L)
Area 01	INORG	Chromium (total)	7440-47-3	1.0E-01	2.8E+01
Area 01	INORG	Chromium VI	18540-29-9	1.0E-01	2.8E+01
Area 01	INORG	Nickel	7440-02-0	1.0E-01	2.4E+03
AOI 31	VOC	cis-1,2-Dichloroethene	156-59-2	7.0E-02	1.8E+00
AOI 31	VOC	1,1,1-Trichloroethane	71-55-6	2.0E-01	1.3E+02
AOI 31	VOC	Trichloroethene	79-01-6	5.0E-03	7.9E-01
AOI 31	VOC	Vinyl Chloride	75-01-4	2.0E-03	7.9E-02
Notes:					
1. The criteria for verifying plume stability are drinking water criteria.					
2. The risk-based criterion for evaluating health significance for Area 1 is based on construction worker contact with groundwater.					
3. The risk-based criteria for evaluating health significance for AOI 31 are based on the most potential significant exposure among construction worker contact, residential vapor intrusion, residential nonpotable groundwater uses.					

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**GROUNDWATER SAMPLING LOCATIONS
GROUNDWATER MONITORING PLAN
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN**

<i>Well ID.</i>	<i>Top of Riser Elevation (ft AMSL)</i>	<i>Top of Screen Depth (ft BGS)</i>	<i>Bottom of Screen Depth (ft BGS)</i>	<i>Sample Analysis Parameters ⁽¹⁾</i>
Area 1 - Former Plating Area				
HA-14	706.0	19.0	29.0	Total Chromium, Hexavalent Chromium, Nickel
HA-16	704.5	19.6	29.6	Nickel
MW-OS-5D	705.0	17.0	27.0	Nickel
MW-OS-6D	703.5	18.0	28.0	Nickel
MW-OS-7D	705.4	18.0	28.0	Nickel
MW-OS-8D	703.0	17.0	27.0	Nickel
OW-24	705.9	15.0	25.0	Total Chromium, Hexavalent Chromium, Nickel
AOI 31 - Former Fire Training Area				
MW-103S	701.7	8.0	18.0	Select VOCs
MW-202S	699.3	5.1	15.1	Select VOCs
MW-211S	694.3	6.0	16.0	Select VOCs
MW-213S	695.5	5.0	15.0	Select VOCs
MW-215S	691.4	3.0	13.0	Select VOCs
MW-216S	689.1	3.0	13.0	Select VOCs
MW-217S	683.6	3.0	13.0	Select VOCs

Notes:

ft AMSL - feet above mean sea level.

ft BGS - feet below ground surface.

(1) Analytical parameters:

Select VOCs - TCE, cis-1,2-DCE, vinyl chloride, 1,1,1-TCA

- Additional GMP MWs - Proposed in Annual Report dated February 28, 2008

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GROUNDWATER ELEVATION MONITORING LOCATIONS
GROUNDWATER MONITORING PLAN
13000 ECKLES ROAD SITE
LIVONIA, MICHIGAN

<i>Well ID.</i>	<i>Top of Riser Elevation (ft AMSL)</i>	<i>Top of Screen Depth (ft BGS)</i>	<i>Bottom of Screen Elevation (ft BGS)</i>
AOI 21 - Former Pickling Machines/Flat Polish Area			
MW-A1-16S	705.2	5	15
MW-21-1S	706.5	4	14
MW-21-2S	705.9	5	15
MW-21-3S	705.8	5	15
MW-21-4S	704.1	2.75	12.75
MW-21-5S	702.5	3	13
MW-21-6S	702.7	3	13
AOI 31 - Former Fire Training Area			
MW-104S	702.1	8.0	18.0
MW-201S	702.1	6.8	16.8
MW-203S	697.7	5.1	15.1
MW-205S	697.4	4.8	14.8
MW-206S	695.6	4.8	14.8
MW-214S	687.8	3.0	13
MW-301S	696.9	10.0	20.0
MW-303S	687.4	5.0	15.0
Site-wide Monitoring Wells			
MW-33-4S	708.2	5.0	16.0
MW-33-6S	710.2	6.0	16.0
MW-33-7S	714.0	6.5	16.5
MW-33-9S	711.8	4.0	14.0
MW-28-3S	708.5	5.0	15.0
MW-S-10S	706.3	7.5	17.5
MW-S-4S	703.4	7.0	17.0
MW-W-2S	708.2	6.5	16.5
MW-G-1S	703.3	6.5	16.5
MW-G-2S	708.7	11.5	21.5
MW2-01	705.2	10.0	15.0

Notes:

ft AMSL - feet above mean sea level.

Depth to LNAPL and Depth to Groundwater levels will be measured in AOI 21 MWs

Groundwater elevations will also be monitored in all MWs identified on Table 2

On-site monitoring wells may be relocated based on redevelopment activities

- Additional GMP MWs - Proposed in Annual Report dated February 28, 2008