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March 8, 2010 BN015317.0013

Robert W. Hare, P.E., CHMM
Director of Environmental
Motors Liquidation Company
500 Renaissance Drive, Suite 1400
Detroit, Michigan 48243

Subject: Phase I Environmental Site Assessment
Former South Settling Lagoon
MLC ID 1012
3801 Dryden Road
Moraine, Ohio 45439

Dear Mr. Hare:

Attached is the Phase I Environmental Site Assessment (ESA) report for the above-referenced property. The conclusions presented in this report are based on the results of a reconnaissance-level site visit conducted by ARCADIS Inc. (ARCADIS) personnel and a review of available and pertinent background information.

ARCADIS appreciates this opportunity to provide our environmental consulting services to you. If you have any questions concerning this project, please contact me at (781) 356-7300.

Sincerely,

Stephen P. McCarthy
Principal Scientist

Attachments

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Phase I Environmental Site Assessment
MLC ID 1012
Former South Settling Lagoon
3801 Dryden Road,
Moraine, Ohio 45439

March 8, 2010
ARCADIS Project No. BN015317.0013

Prepared for
Motors Liquidation Company
500 Renaissance Drive, Suite 1400
Detroit, Michigan 48243

Prepared by
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The environmental assessment described herein was conducted by the undersigned, of ARCADIS U.S. Inc (ARCADIS). ARCADIS' investigation consisted solely of the activities described in the Introduction of this report, in accordance with ARCADIS Proposal No. P10-05008-09-718, and is subject to the Terms and Conditions of the Standard Consulting Services Agreement signed prior to initiation of the assessment.

Report Prepared By:

for:

Todd J. Aebie
Staff Geologist

Report Reviewed By:

Douglas M. Lindsay, PG, LSP
Senior Geologist

EXECUTIVE SUMMARY

ARCADIS U.S. Inc (ARCADIS) performed a Phase I Environmental Site Assessment (ESA) of the former General Motors Corporation (GM) Moraine closed South Settling Lagoon (the Site) located at 3801 Dryden Road in Moraine, Ohio 45439. The Site consists of approximately 15 acres of land that includes three former sludge basins separated by earthen berms.

During the operation of the lagoon system, process wastewater and storm water flow entered through the south primary basin, flow then discharged to the south secondary basin after initial settling of solids, and flow was then discharged to a drainage ditch in the northwest corner of the Site and eventually discharged to the Great Miami River under an NPDES permitted outfall. The South Settling Lagoon received industrial wastewater from 1965 to 1979; received dilute acid and alkali rinses from small cleaning and non-cyanodic electroplating processes, water softening sludges, non-contact cooling water, storm water runoff, and fly ash dewatering filtrate from 1980 to 1985; and in 1985 process wastewaters were diverted to an off-Site pre-treatment facility. The South Settling Lagoon was taken out of service in 1989. RCRA closure activities were initiated in September 2000 and completed in June 2001. The sludge in the basins were solidified, backfilled with clean fill and covered with soil and vegetation. The Closure Certification Report was approved by Ohio EPA in a letter to GM dated June 27, 2002. The Lagoon Post-Closure Plan was approved by Ohio EPA in a letter to GM dated December 24, 2003. Post-closure care consists of periodic cap inspections; cap maintenance, as necessary; mowing; groundwater monitoring; and annual reporting.

The Former South Settling Lagoon historically received wastewaters and storm water from the Former GM Moraine operations which it is collectively known, encompassed three adjacent properties: the former Delphi Harrison Thermal Systems Moraine Plant (former Delphi Thermal Moraine) located at 3600 Dryden Road, the former General Motors Powertrain Group, Moraine Engine Plant (former Moraine Engine) located at 4100 Springboro Road, and the former General Motors Truck Group, Moraine Assembly Plant (former Moraine Assembly) located at 2601 West Stroop Road. These properties are located east of the Site. All of the properties were formerly owned by GM and had a long history of operations which covered the three adjacent properties. Throughout this Phase I Report, several of the former GM properties are mentioned in relation to the Former South Settling Lagoons, because of the historic and current nature of the operations.

Conclusion

ARCADIS performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-05 of the property located at 3801 Dryden Road, Montgomery County, Moraine, Ohio. Any exceptions to, or deletions from, this practice are described in Section 9 of this report. This assessment has revealed the following RECs associated with the Site:

- The groundwater beneath the Site has been impacted with volatile organic compounds (VOCs) from historic sources at the former GM Moraine Facilities and the Site. Several RCRA Facility Investigations (RFIs) have taken place to determine the extent of the impact to the groundwater. Groundwater monitoring wells were noted on-Site that are used for monitoring and conducting remediation efforts on groundwater contamination. Remediation of the groundwater is ongoing under Resource Conservation and Recovery Act (RCRA) Corrective Action.
- The Former South Settling Lagoon was identified as a solid waste management unit (SWMU) which was part of the Administrative Order to implement RCRA Corrective Action for the three former GM Moraine Facilities. RCRA closure of the South Settling Lagoon has commenced and post-closure care activities which began in 2004, will continue for a period of 30 years.

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1.0 INTRODUCTION

ARCADIS Inc. (ARCADIS) performed a Phase I Environmental Site Assessment (ESA) of the former General Motors Corporation (GM) Moraine closed South Settling Lagoon property, located at 3801 Dryden Road in Moraine, Ohio 45439 (the Site).

1.1 Purpose

Motors Liquidation Company (the Client) requested that ARCADIS conduct a Phase I ESA of the Site. The objective of the ESA was to identify recognized environmental conditions (RECs) in connection with the property, to the extent feasible pursuant to the processes prescribed in American Society for Testing and Materials (ASTM) E 1527-05 guidelines. The term "REC" as defined by the ASTM is the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, a past release, or the material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term includes hazardous substances or petroleum products even under conditions in compliance with laws. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.

This Phase I ESA includes information gathered from federal, state, and local agencies; personal interviews with people familiar with the Site and surrounding properties; and a site visit conducted by an ARCADIS representative.

1.2 Detailed Scope of Services

The Phase I ESA conducted by ARCADIS included, but was not limited to, the following services:

- a reconnaissance-level visit of the Site to look for evidence of the release(s) of hazardous materials and petroleum products and to assess the potential for on-site releases of hazardous materials and petroleum products,
- drive-by observations of adjacent properties and the site vicinity,
- interviews with people familiar with the Site, as available,
- review of regulatory and local agency files, as necessary,
- review of historical documents, as available, and
- preparation of a report presenting our findings, including a summary of conclusions and recommendations.

1.3 Significant Assumptions

The purpose of this Phase I ESA is to provide appropriate inquiry into the previous ownership and use of the Site consistent with good commercial and customary practice in an effort to minimize liability. ARCADIS also assumes that the information provided by the Client, the regulatory database provider, and regulatory agencies is true and reliable.

1.4 Limitations and Exceptions

The opinions and recommendations presented in this report are based upon the scope of services, information obtained through the performance of the services, and the schedule as agreed upon by ARCADIS and the original party for whom this report was originally prepared. This report is an instrument of professional service and was prepared in accordance with the generally accepted standards and level of skill and care under similar conditions and circumstances established by the environmental consulting industry. To the extent that ARCADIS relied upon any information prepared by other parties not under contract to ARCADIS, ARCADIS makes no representation as to the accuracy or completeness of such information. Only the party for whom this report was originally prepared, its lenders, insurers and professionals, and other specifically named parties, may make use of and rely upon the information in this report, in its entirety, for a period not to exceed 180 days in accordance with the ASTM's "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" ASTM Designation E 1527-00 dated May 10, 2000, ASTM's "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process" ASTM Designation E 1527-05 dated November 1, 2005, and/or the Code of Federal Regulations (CFR) 40 CFR Part 312 "Standards and Practices for All Appropriate Inquiries: Final Rule" dated November 1, 2005. After 180 days and prior to using the information contained herein, the report should be updated in accordance with ASTM Standards and Federal regulations.

The findings presented in this report apply solely to site conditions existing at the time when ARCADIS' assessment was performed. It must be recognized, however, that an ESA is intended for the purpose of evaluating the potential for contamination through limited research and investigative activities and in no way represents a conclusive or complete site characterization. Conditions in other parts of the project site may vary from those at the locations where data were collected. ARCADIS' ability to interpret investigation results is related to the availability of the data and the extent of the investigation activities. As such, 100% confidence in ESA conclusions cannot reasonably be achieved.

ARCADIS, therefore, does not provide any guarantees, certifications, or warranties (express or implied) that a property is free from environmental contamination. Furthermore, nothing contained in this document shall relieve any other party of its responsibility to abide by contract documents and all applicable laws, codes, regulations, or standards.

1.5 User Reliance

This report is for the exclusive use of Motors Liquidation Company. Use of this report by any other party shall be at such party's sole risk.

2.0 SITE DESCRIPTION

2.1 Location and Legal Description

The Site consists of the former GM Moraine closed South Settling Lagoon located west of Dryden Road; (near the intersection of Dryden Road and Hoylake Road) in Moraine, Ohio 45439 (the Site). The Site consists of approximately 18 acres. The Site is located at 3801 Dryden Road in the City of Moraine in Montgomery County in southwestern Ohio. The current Site is comprised of a grassy field, with small wooded parcels. The Site is primarily bounded by Dryden Road to the east, Interstate 75 to the west, residential housing to the south and a former distribution / warehousing building to the north.

Refer to Figure 1 for the location of the Site and boundaries.

2.2 Site and Vicinity General Characteristics

Land use surrounding the Site is a mix of entirely industrial and commercial with only a few small areas of residential use. Areas adjacent to the Site are zoned for general industry, light industry, general business, neighborhood business, and one- and two-family residential uses. South of the Site is residential, north is business, west is Interstate 75, and to the east is industrial. The closed South Settling Lagoon is part of the former GM Moraine operations which includes the following adjacent properties: the former Delphi Harrison Thermal Systems Moraine Plant (former Delphi Thermal Moraine) located at 3600 Dryden Road, the former General Motors Powertrain Group, Moraine Engine Plant (former Moraine Engine) located at 4100 Springboro Road, and the former General Motors Truck Group, Moraine Assembly Plant (former Moraine Assembly) located at 2601 West Stroop Road. These properties are located east of the Site. Throughout this Phase I Report, several of the former GM properties are mentioned in relation to the Former South Settling Lagoon, because of the historic and current nature of the operations.

2.3 Current Use of the Site

The Former South Settling Lagoon ceased receiving any process wastewaters in November 1985 and storm waters in October 1989. RCRA closure activities were initiated in September 2000 and completed in June 2001. The sludge in the basins were solidified, backfilled with clean fill and covered with soil and vegetation. Post-closure care consists of periodic cap inspections; cap maintenance, as necessary; mowing; groundwater monitoring; and annual reporting. The Site is not currently in use.

2.4 Descriptions of Structures, Roads, and Other Improvements on the Site

The Site is a currently a grassy field, with a few small stands of trees and brush. The site does have storm water structures located on it. The Site is surrounded by a chain link fence which limits access. Groundwater monitoring and remediation wells are present on the Site.

The Site has access to electricity provided by Dayton Power and Light (DP&L) and natural gas is provided by Vectren. The Site has access to telephone service.

2.4.1 Source of Potable Water

Montgomery County Water Services provides access to potable drinking water to the Site.

2.4.2 Sewage Disposal System

The Site is serviced by the Montgomery County Water Reclamation operates the sanitary sewer system for Montgomery County.

2.4.3 Heating/Cooling Systems

No structures are present on the Site requiring heating and cooling systems.

2.4.4 Solid Waste Disposal

No solid waste is generated at the Site.

2.5 Current Uses of Adjoining Properties

The use of the adjoining properties at the time of ARCADIS' investigation is summarized as follows:

- West: The Site is bounded by a railroad spur and interstate I-75.
- East: The Site is bounded primarily by Dryden Road, then the former Delphi Thermal Moraine property. The property is currently a vacant lot, and contains an inactive wastewater treatment plant, former building foundations, and industrial waste landfills.
- South: The Site is bounded by a railroad spur and a residential neighborhood.
- North: North of the Site is an empty building which appeared to be used as a warehouse /distribution facility.

3.0 USER-PROVIDED INFORMATION

The following items regarding the Site were requested by ARCADIS to the Client's representative. The questionnaire was completed by Mr. Ed Beckley, Former Senior Environmental Engineer for the Moraine Assembly Facility. Refer to Appendix A for copies of questionnaires which were filled out by Mr. Beckley.

3.1 Title Records

Title records were not provided to ARCADIS for review.

3.2 Environmental Liens or Activity and Use Limitations

Mr. Ed Beckley was asked the following questions as part of the assessment:

- Is he aware of any environmental cleanup liens against the property that are filed or recorded under federal, tribal, state, or local law? **Answer:** Unknown
- Is he aware of any activity or land use limitations, such as engineering controls, land use restrictions, or institutional controls, that are in place at the Site and/or have been filed or recorded in a registry under federal, tribal, state, or local law? **Answer:** Yes. South Lagoon, well injection system.

3.3 Specialized Knowledge

Mr. Ed Beckley was asked the following questions as part of the assessment:

- Does he have any specialized knowledge or experience related to the property or nearby properties? For example, are they involved in the same line of business as the current or former occupants of the property or an adjoining property so that they would have specialized knowledge of the chemicals and processes used by this type of business? **Answer:** Yes. Environmental Engineer for the GM Assembly facility assisting in disposal and proper use of regulated materials at the Site which may have an impact to the environment.
- Is he aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as User:
    - Does he know the past uses of the property? **Answer:** Yes. Settling lagoon for wastewater from the Delphi Thermal, Harrison Radiator, and GM Assembly Facility.
    - Does he know of specific chemicals that are present or once were present at the property? **Answer:** No
    - Does he know of spills or other chemical releases that have taken place at the property? **Answer:** Yes. See Site records.

- Does he know of any environmental cleanups that have taken place at the property? **Answer:** Yes. Records of decommissioning and previous environmental reports. Closure and groundwater reports.
- Does he know if any fill materials have been imported to the Site? **Answer:** Yes
- Does he know of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the property? **Answer:** Unknown
- Does he know of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on, or from the property? **Answer:** Unknown
- Does he know of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products? **Answer:** No

3.4 Commonly Known or Reasonably Ascertainable Information

Mr. Ed Beckley was asked the following question as part of the assessment:

Based on his knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property? **Answer:** Yes. See previous reports and ongoing groundwater remediation.

3.5 Valuation Reduction for Environmental Issues

An analysis of a hypothetical prospective purchase price of the Site has not been conducted by ARCADIS as part of this Phase I Environmental Site Assessment.

3.6 Owner, Property Manager, and Occupant Information

According to the Montgomery County Ohio Auditors Office Website, the Site is owned by General Motors Corporation, Frigidaire Division, located in Detroit, Michigan. General Motors Corporation has recently reorganized as a corporation and has transferred the Site as an asset to the Motors Liquidation Company (MLC). The Site has been occupied by either Frigidaire or General Motors Corporation.

3.7 Reason for Performing Phase I

The purpose of this Phase I ESA is to provide appropriate inquiry into the previous ownership and use of the Site consistent with good commercial and customary practice in an effort to minimize liability.

4.0 RECORDS REVIEW

The following sections provide information regarding the regulatory status and history of the Site and vicinity developed from information available from local, state and federal agencies, previous reports, and ASTM Standard Historical Sources. It also provides topographic, hydrologic, and soil conditions in the area of the Site.

4.1 Historical Use Information

The South Settling Lagoon consisted of three distinct below-grade basins bounded by earthen dikes. The South Settling Lagoon system was originally constructed by the Frigidaire Division of GM in 1965. Initially, the lagoon consisted of a single rectangular basin. The sludge-drying basin was added in 1967 and the primary basin was added in 1975. The three basins made up 7.9 acres. Between 1965 and 1979, the lagoon received industrial wastewater including zinc plating wastes, anodizing wastes, pickling wastes, oils, and porcelain sludges. Between 1980 and November 1985, the lagoon received process wastewater (consisting of dilute acid and alkali rinses from small cleaning and non-cyanodic electroplating processes, water softening sludges, and fly ash dewatering filtrate), non-contact cooling water, and storm water runoff. Beginning in November 1985, all process wastewaters were diverted to the off-site pretreatment facility. All storm water and non-contact cooling water was diverted into a concrete storm water retention basin located at the former Delphi Thermal Moraine property when the lagoon was taken out of service in October 1989.

The condensed history of the adjacent properties which produced the wastewaters for the South Settling Lagoon is as follows: Frigidaire (a former division of GM) produced appliances from the late 1920's until 1979. During World War II the operations at the existing facility changed to support the war effort. The facility reportedly made aircraft wings and parts, and even some munitions. GM announced the shutdown of all Frigidaire operations in January 1979. During 1980 and 1981, the majority of the former Frigidaire Plant 2 was converted to the former Moraine Engine Facility, and the former Frigidaire Plant 3 (constructed in the 1950's) and the northeast corner of former Frigidaire Plant 2 were converted to the Moraine Assembly facility. Since 1981, former Moraine Engine operations have included the machining, painting (this operation was discontinued in September 1995), and assembly of diesel truck engines. Operations at the former Moraine Engine facility ceased in the fall of 2000. The plant building has undergone decommissioning and demolition, and the majority of this site has been covered with a parking surface. GM operated a regional haulaway at the location of the former Moraine Engine plant, which is now referred to as the Vehicle Distribution Center until December 2008. Since 1981, former Moraine Assembly operations included the manufacture, assembly, and painting of small trucks and later sport utility vehicles. In June 2008, GM announced plans to shut down the Moraine Assembly plant. Closure of the plant occurred in December 2008. Former Delphi Thermal Moraine's major operations, which began in 1941, included the machining and assembly of automotive air conditioning compressors, accumulator dehydrators, and miscellaneous air conditioning valves. Delphi Corporation leased the property

from GM from January 1999 through October 2003. Operations at the former Delphi Thermal Moraine Building 14 ceased in September 2003 and the building was decommissioned. As of October 1, 2003, management of the property reverted to GM. Demolition of Building 14 was completed in 2005.

4.1.1 Previous Environmental Reports

The Client provided ARCADIS with previous environmental reports for the Site. ARCADIS reviewed portions of the environmental reports which have been developed for the Site and the surrounding properties. There have been numerous environmental reports generated by several consultants. A number of the environmental reports are located in the ARCADIS Columbus, Ohio office and were reviewed during the preparation of this Report. The titles of the reports referenced and reviewed are in Section 12--References.

4.1.2 Historic Map Review

ARCADIS contracted EDR to conduct a Sanborn Fire Insurance (Sanborn) Map search for the Site. According to EDR, there are no Sanborn maps available for the Site.

4.1.3 Aerial Photograph Review

ARCADIS reviewed historical aerial photographs provided by EDR for the years 1938, 1956, 1962, 1983, 1988, and 1994. In addition, aerial photographs were reviewed from background reports completed by ARCADIS. The years reviewed 1937, 1938, 1949, 1950, 1956, 1957, 1959, 1962, 1967, 1968, 1973, 1975, 1979, 1984, 1988, 1990, 1994, 2000, and 2003. The EDR aerial photographs will be listed first below followed by the ARCADIS provided aerial photographs.

The following summarizes features observed on the EDR aerial photographs. (The EDR provided aerial photographs can be found in Appendix B.)

1938: EDR Aerial Photograph

The Site is not shown. On surrounding parcels to the east: there is a building (administration building used by former Moraine Engine) located east of Springboro Pike on the Moraine Assembly Building Paint Shop south parking lot. The remainder of the former Moraine Assembly property is farmland, with some surrounding residences. The Frigidaire Plant 2 is located on the property west of Springboro Pike adjacent to the railroad tracks.

1956: EDR Aerial Photograph

The Site is not shown. Major changes have taken place on the surrounding parcels east of the Site. East of Springboro Pike, the former administration building is present and the surrounding area has been developed as employee parking. On the northern portion of the Moraine Assembly Facility Site, the Frigidaire Plant 3 building is present with additional employee parking. Additional residential development has occurred to the east and northeast of the Site. More roadways are present within and surrounding the Site. The Frigidaire 2 plant is located on the property west of Springboro Pike adjacent to the railroad tracks are still present where the oil house and additional building (compressor building) was constructed. An additional facility has been constructed immediately adjacent to the east of the tracks, (former Delphi Thermal Moraine).

1962: EDR Aerial Photograph

The Site is not shown. The remainder of the adjacent properties appears to be relatively unchanged from the previous 1956 Aerial Photograph. Additional residential development has occurred to the east and northeast of the Site. More roadways are present within and surrounding the Site.

1983: EDR Aerial Photograph

The Site is present west of Dryden Road. The Site is bounded by a residential neighborhood to the south and by a commercial building to the north. Both of the settling basins within the lagoon are visible. The 1983 Aerial Photograph is a little "washed out" and blurry. Additional expansion has occurred on the Moraine Assembly building (former Frigidaire Plant 3). The majority of the parking on the northern portion of the Site was converted into the larger facility. On the adjacent properties, the buildings which were previously constructed, Frigidaire Plant 2, power house, Delphi Thermal, etc., are still present. Additional development has occurred west of Springboro Pike, north of the original Frigidaire 2 plant which is now the former Moraine Engine Plant. In addition, the industrial wastewater treatment plant has been constructed on the former Delphi Thermal Moraine property to the north, which includes a U-shaped retention lagoon. Additional development has occurred in all directions from the Site. More commercial and industrial development has occurred on the property to the north, northwest, and northeast of the Site. Residential development has occurred east and south of the Site. Along with the development, numerous roadways and parking lots have been constructed. Also, additional rail lines have been constructed.

1988: EDR Aerial Photograph

It appears that the 1988 Aerial Photograph is very similar to the 1983 Aerial Photograph. Additional development has occurred in the area, and some additional structures or additions to existing off-site buildings have taken place.

1994: EDR Aerial Photograph

The site appears to be filled in, no water is present. On the adjacent properties; there is additional expansion which had taken place on the southern portion of the former Moraine Assembly property. The Assembly building paint shop is present. The former Moraine Engine west of Springboro Pike is present. Some additional expansion of the former Moraine Assembly building appears to have taken place. The former Delphi Thermal Moraine facility west of the Norfolk Southern Railway railroad tracks is present. A settling lagoon near the wastewater treatment plant appears to be mostly filled in. Surrounding properties appear to be similar to the 1988 Aerial Photograph.

1937: ARCADIS Aerial Photograph

The Site is not shown. The aerial is a drawing of the facility (Frigidaire Plant 2) located along the west side of Springboro Pike and the administrative building (used by Moraine Engine) on the former Moraine Assembly plant property (Paint Shop parking lot). The drawing does indicate several smoke stacks associated with the power house, a facility with associated smoke stacks, and the surrounding area appear to be undeveloped.

1938: ARCADIS Aerial Photograph

There are two separate aerials for 1938. The first aerial is the same aerial as provided by EDR. (See Year 1938: EDR Aerial Photograph for a description).

The Site is shown west of Dryden Road and is shown as farmland. A farmhouse and buildings are shown south of the Site. On the adjacent properties, more detail is visible as to the size and structure of the Frigidaire Plant 2, the old administration building east of Springboro Pike is not yet constructed. Several smoke stacks are present on the Frigidaire facility, along with a water tower and rail lines, power house and coal pile. Some residential development has occurred on the property to the south of Stroop Road.

1949: ARCADIS Aerial Photograph

The Site is shown west of Dryden Road and is shown as farmland. A residential neighborhood is shown south of the Site. Major changes have taken place on the adjacent properties to the east. East of Springboro Pike, the old administration building is present and the surrounding adjacent area has been developed as employee parking. The Frigidaire Plant 2 is located on the property west of Springboro Pike adjacent to the railroad tracks is still present. The power house with an adjacent coal pile is visible. The former Delphi Thermal Moraine facility has been constructed immediately adjacent to the west of the tracks. It appears that there is a large area of disturbed soils south of the power house. The disturbance may be the beginning of what is currently known as Landfill L1. More expansion has taken place west of Springboro Pike and south of the Frigidaire Plant 2. It appears that the former oil house building has been constructed. Additional residential development has occurred to the east and northeast of the Site. More roadways are present within and surrounding the Site. Some of the surrounding properties to the north and west are still agricultural.

1950: ARCADIS Aerial Photograph

The 1950 ARCADIS Aerial Photograph is very similar to the 1949 ARCADIS Aerial Photograph. The 1950 Aerial Photograph is somewhat blurry, making some features difficult to ascertain.

1956: ARCADIS Aerial Photograph

The ARCADIS 1956 Aerial Photograph is the same photograph as provided by EDR for 1956. (See Year 1956: EDR Aerial Photograph for a description).

1957: ARCADIS Aerial Photograph

The Site is not visible. The 1957 ARCADIS Aerial Photograph is very similar to the 1956 Aerial Photograph. The southern portion of the Site is cut off in the photograph. The remaining features appear to be consistent with the 1956 Aerial Photograph.

1959: ARCADIS Aerial Photograph

The Site appears to be overgrown with some trees. The 1959 ARCADIS Aerial Photograph has the northern portion of the Site cut off. It appears that additional expansion of parking has occurred east of Springboro Pike, near the old administration building, and additional residential development has occurred east of the Site. More expansion has occurred at the Frigidaire 2 facility west of Springboro Pike by the addition of facility related structures. Expansion of the landfill known as L1 has taken place south of the power house, on the former Delphi Thermal Site.

1962: ARCADIS Aerial Photograph

The Site is shown on the aerial and is mainly overgrown with trees and brush. North of the Site is still farmland. South is residential. The 1962 ARCADIS Aerial Photograph is the same photograph as provided by EDR for 1962. (See Year 1962: EDR Aerial Photograph for a description of the adjacent properties).

1967: ARCADIS Aerial Photograph

The 1967 ARCADIS aerial photograph is slightly blurred making some features hard to determine. The South Settling lagoon is present. The Site appears to be one large rectangular lagoon. Interstate I-75 is present west of the Site along with a residential neighborhood to the south and farmland to the north. On the adjacent property to the east, it appears that additional expansion of the parking areas has occurred east of Springboro Pike. It appears that additional structures may be present with the building west of Springboro Pike. Activity is ongoing at Landfill L1.

1968: ARCADIS Aerial Photograph

The Site is shown on the photograph. Similar surrounding properties are present as depicted on the 1967 aerial photograph. The 1968 ARCADIS Aerial Photograph shows more detail than some of the prior aerial photographs. On the adjacent property to the east, the current administration building at the current Moraine Assembly facility is present. Large parking lots are present on the east side of Springboro Pike. It appears that some additional excavation activities are taking place north of the former Delphi Thermal Moraine plant, what is now known as Landfill L2 and Landfill L3.

1973: ARCADIS Aerial Photograph

The Site has the two distinct settling basins present within the lagoon. North of the Site, a commercial building is present. South continues to be a residential neighborhood and west is Interstate I-75. On the adjacent property to the east, the 1973 ARCADIS Aerial Photograph shows the expansion of the building (Frigidaire Plant 3) on the east side of Springboro Pike, i.e.; the Moraine Assembly Facility. Due to the expansion of the building, some of the asphalt parking has been removed. A U-shaped settling lagoon appears to be present on the northern portion of the property, next to the current wastewater treatment plant. The photograph is slightly blurry thus making additional details difficult to distinguish.

1975: ARCADIS Aerial Photograph

The Site is visible in the aerial photograph. An additional settling basin is present south of the original rectangular basin. Trees are present on the Site. On the adjacent property to the east, the 1975 ARCADIS Aerial Photograph shows the expansion of the Moraine Assembly Facility building (Frigidaire Plant 3). The compressor building and former oil house west of Springboro Pike are present and visible. The surrounding area has undergone continued development in all directions from the Site. The settling lagoon near the proposed wastewater treatment plant has been constructed. Additional development of retail and commercial facilities has occurred on the surrounding properties.

1979: ARCADIS Aerial Photograph

The Site is not shown, but it does detail some of the areas on the adjacent property to the east. The 1979 ARCADIS Aerial Photograph is not very clear, and is limited in coverage. The aerial shows that no major construction or demolition has taken place since the 1975 Aerial Photograph within the coverage of the photograph area. Additional excavation activities are taking place in Landfills L2 and L3 on the former Delphi Thermal property.

1984: ARCADIS Aerial Photograph(s)

There are two separate aerials for 1984. The first is a color low level aerial, which is clear. The Site is present on the aerial photograph and appears to be in operation. The Site has the three basins along with trees and brush. On the adjacent property to the east, the majority of the former Delphi Thermal Moraine, former Moraine Engine, and Moraine Assembly Buildings. The Moraine Assembly building is present north of Stroop Road and east of Springboro Pike. The original power house is present on the adjacent Delphi Thermal property. Several ASTs are noted. The retention basins, coal pile, Landfills L1, L2, and L3 are visible. The wastewater treatment plant is constructed. The former Moraine Engine facility west of Springboro Pike is present, a water tower is visible. Development has continued to occur on the surrounding properties.

The second aerial photograph is not clear, and appears to be overexposed. It is difficult to determine smaller details. The Site is present on the aerial photograph and appears to be in operation. The Site has the three basins along with trees and brush. Both of the aerials appear to show similar details of the Site.

1988: ARCADIS Aerial Photograph

The Site is shown and does not appear to have changed much since the previous aerial photograph. The adjacent property to the east is visible in the 1988 ARCADIS Aerial which shows more expansion to the current Moraine Assembly building. The remainder of the Site appears unchanged. Additional development has occurred in the area, and some additional structures or additions to existing buildings have taken place.

1990: ARCADIS Aerial Photograph

There is little change in the 1990 ARCADIS Aerial Photograph to the 1988 Aerial Photograph.

1994: ARCADIS Aerial Photograph

The 1994 ARCADIS Aerial Photograph is the same photograph as provided by EDR for 1994. (See Year 1994: EDR Aerial Photograph for a description).

2000: ARCADIS Aerial Photograph

The aerial photograph shows the Site. The lagoons are no longer in operation and appear to be backfilled with soil like materials. The 2000 ARCADIS Aerial Photograph appears to be a poor quality photograph. On the adjacent property to the east, it appears that the power house located west of Springboro Pike, on the former Delphi Thermal property, has been razed. Also the Moraine Assembly Paint Building is present along with the conveyor tunnels over Stroop Road.

2003: ARCADIS Aerial Photograph

The 2003 ARCADIS Aerial Photograph shows the Former Moraine Engine building west of Springboro Pike as razed, except for the compressor building. The main Moraine Assembly building appears to be similar to current conditions as noted during the Site visit. The old administration building has been demolished and the building footprint has been converted into parking for the Paint Building.

4.1.4 City Directories

ARCADIS contracted EDR to conduct a City Directory search for the Site and surrounding area. EDR reviewed City Directories for the Site for the years 1922 through 2003 in approximately five-year intervals, as available. City directory information is summarized in the table below, with the Site address of intersection of Dryden Road and Hoylake Road, Moraine, Ohio.

Address	Listing	Years Listed
Dryden Road and Hoylake Road	None listed	2003, 1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953,1948, 1943, 1938, 1933, 1927, 1922

The EDR report also presents listings for other nearby addresses. The listings included residential properties in the area of the Site. No obvious environmentally significant listings were found in the immediate area of the Site.

The EDR City Directory Abstract is included in Appendix B.

4.1.5 Historical Topographic Maps

Topographic maps assist in the identification of subject property features. Historic topographic maps were obtained from EDR. Historic topographic maps were obtained from EDR for the years 1915, 1955, 1966, 1974, 1981, and 1991 and were reviewed by ARCADIS. The following paragraphs summarize the features observed on the topographic maps as they relate to the Moraine Facility:

1915: Waynesville Quadrangle Map

The 1915 map shows the Site as being undeveloped with the City of Dayton to the north. Surrounding properties are undeveloped.

1955: Dayton South Quadrangle Map

The Site is depicted as undeveloped. The adjacent properties to the east are developed with a large building. On the adjacent property to the east, large buildings, a water tower is present, parking, and several ancillary buildings present on the Site. The old administration building is present east of Springboro Pike on the Moraine Assembly Paint Building parking lot. Large industrial buildings are shown on the adjacent Site; former Frigidaire 2 and 3, former Delphi Thermal Moraine, power house, etc. A symbol indicating oil storage is noted north of the Frigidaire 2 building on the Former Moraine Engine property is present. The rail line is present along with rail spurs going east and west of the rail line. There are established roads and the surrounding properties to the south, northwest, and east are developed primarily as residential properties.

1966: Dayton South Quadrangle Map

The Site is present and a rectangular basin is present. The basin is surrounded by trees. Interstate I-75 has been built to the west of the Site. On the adjacent property to the east, little change is noted from the 1955 Historic Topographic map. Additional rail spurs into and out of the adjacent Sites are noted. Additional development has occurred on the surrounding properties along with additions to existing buildings onsite.

1974: Dayton South Quadrangle Map

The Site is present and a rectangular basin is present. The basin is surrounded by trees. The property to the north of the Site has a warehouse/commercial building present along with interstate I-75. On the adjacent property to the east, additions are noted to the Moraine Assembly building. The landfills northeast and southeast of the Site are visible along with water ponded in these Landfills L1, L2, and L3. Additional buildings have been added on the adjacent sites to the west.

1981: Dayton South Quadrangle Map

No major changes to the subject Site are noted, except for the distinct three basins which are present on the Site. Additional development has occurred on the surrounding properties.

1991: Dayton South Quadrangle Map

The Site is present and a rectangular basin is shown full of water. On the adjacent property to the east, the Moraine Assembly building has had a major addition to the northern portion of the plant. Additional rail spurs are noted on adjacent properties. The wastewater treatment plant has been constructed on the Former Delphi Thermal Moraine property. The settling lagoon west of the wastewater treatment plant is present. Additional development has occurred on the properties surrounding the Site.

The EDR Topographic Map report is included in Appendix B.

4.1.6 Building/Planning Departments

ARCADIS contacted the Montgomery County Building and Planning Departments to review available records on file for the Site. In addition, the EDR Building Permit Report did not list any permits or plans filed with the City of Dayton or Montgomery County for the Site.

4.1.7 Additional Record Sources

No additional record sources were reviewed in the course of this assessment.

4.1.8 Summary of Historical Information

Based on the historical sources reviewed, it appears the Site was undeveloped from circa 1915 until construction of the settling lagoon in the early 1960s. The Site has undergone expansion throughout the years. A secondary basin and sludge drying basins were added. Additional development occurred around and throughout the adjacent property including the addition of Delphi Thermal Moraine, the Moraine Engine Facility, and Moraine Assembly Facility. The Former South Settling Lagoon historically received wastewaters and storm water from the Former GM Moraine operations. RCRA closure activities were initiated in September 2000 and completed in June 2001. The sludge in the basins were solidified, backfilled with clean fill and covered with soil and vegetation.

4.2 Historical Use Information on Adjoining Properties

A review of select City Directories, Historic Aerial Photographs, and Historical Topographic Maps covering the period from 1915-2006 identified that the adjoining properties have been used for a mixture of residential, commercial, and industrial purposes. Various retail stores have occupied the adjoining properties during this time period. Properties to the north have been light industrial or commercial in nature. The adjacent properties to the east have been general industry, heavy industry, and office. Immediately adjacent to the south has been residential. Properties to the west include Interstate I-75 and the Great Miami River.

4.3 Physical Setting

4.3.1 Geology

4.3.1.1 Surface Features

The Site is located in the Great Miami River valley and is bounded by bedrock valley walls and various glacial features. The surrounding topography can be seen on the Dayton South Quadrangle and Miamisburg Quadrangle United States Geological Survey (USGS) topographic maps. The valley walls and overlying glacial features, approximately one mile east and west of the Site exhibit elevations ranging between 900 and 1,000 feet mean sea level (msl). Topographically, the Site lies in the valley flats. The Site has little relief with elevations ranging from 725 to 740 feet msl.

4.3.1.2 Subsurface Features

Geologic cross-sections for the Site and the former GM Moraine facilities can be found in the Corrective Measures Proposal (ARCADIS, 2008). The Site and surrounding areas lie over the Great Miami River buried valley aquifer, which consists of valley unconsolidated deposits of sand and gravel outwash deposits separated by discontinuous deposits of silt and clay-rich till. An upper and a lower aquifer have been identified in the unconsolidated sand and gravel. These two aquifers are distinguished by the relation to a relatively continuous clay-rich till referred to as the regional clay till. Where the regional clay till is absent, the upper and lower aquifers are in direct communication and identified by depth only.

The upper aquifer is approximately 30 to 70 ft thick and contains a locally continuous upper clay till layer that in some areas may be in direct contact with the regional clay till. The distribution and thickness of the clay-rich units in the upper aquifer throughout most of the Site is not significant, but the upper clay till is present to the south, west, and southwest of the Former Oil House Area (AOI 7) extending beneath the former Delphi Thermal Moraine and influences the lateral and downward movement of the groundwater flow in this area. Discontinuous presence of the upper clay till is observed near AOI 7. The presence of other relatively thin clay-rich units in the upper aquifer in other areas of the Site is very local and discontinuous and is not able to be correlated to the upper clay till.

The upper and lower aquifers are separated throughout most of the Site and surrounding areas by the regional clay till. Where present, the regional clay till varies in thickness from approximately 10 ft to over 50 ft. In general, the regional clay till thins to the south and southwest, and is discontinuous south of the Site, near Holes Creek. Through the additional data collected during the supplemental groundwater investigation, the regional clay till is confirmed to be continuous on-site although thinning of the till is noted in the vicinity of well GM-75. Based on the available data, there is continuous regional clay till on-site.

The lower aquifer underlies the regional clay till. The lower aquifer ranges in thickness from a few feet along the valley walls to greater than 200 ft in the central portion of the valley. The thickness of the lower aquifer beneath the Site is not well defined. Most borings/wells, which have been completed as part of the Site's subsurface investigations, have not extended more than 150 ft bls. An underlying till has been encountered at a few of these borings and is present in some production well logs. This underlying till has been encountered at depths ranging from approximately 120 ft to 145 ft bls.

Ordovician shales and limestones of the Richmond Group comprise the dominant bedrock units forming the valleys in the Dayton area. The Richmond Group is overlain by the Silurian Brassfield Formation in upland areas. Prior to the Illinoian and Wisconsin glacial stages, the bedrock valleys were as much as 190 to 225 ft deep. Beneath the site and surrounding areas, the bedrock units are not considered important sources of groundwater because they have significantly lower transmissivity values relative to the buried valley aquifer. The top of bedrock beneath the site is approximated to be 200 to 250 ft bls (ARCADIS, 2008).

4.3.2 Hydrology

4.3.2.1 Surface Water

Moraine and the surrounding region are in the Great Miami River drainage basin. This river generally flows north to south in the vicinity of the Site and is closest to the Site on the southern end. No major tributaries to the Great Miami River pass through the facilities. The Flood Insurance Rate Map for Moraine shows that the area affected by the 100-year flood does not include the property (ARCADIS, 2008).

Historically non-contact cooling water and currently storm water from the former GM Moraine facilities are discharged to the Great Miami River via storm water sewers through one of two storm water retention basin systems (SWRBs) at the former Delphi Thermal Moraine facility, under existing NPDES permits. The retention facilities were brought on line during October 1989 and were designed to provide spill containment and solids settling capabilities required to maintain compliance with NPDES permit requirements. The storm water sewers under much of the former Moraine Assembly and former Moraine Engine facilities consist of sewer lines historically used by the Frigidaire operations.

The North SWRB system consists of two parallel concrete basins, each having a normal operating capacity of approximately 130,000 gallons. This facility serves the former Moraine Assembly facility and the northern portions of the former Delphi Thermal Moraine and former Moraine Engine facilities, which have an associated surface-drainage area of approximately 161 acres. There is also a diversion line that goes directly to the ditch and bypasses the North SWRB. The South SWRB system includes two similar parallel concrete basins with normal operating capacities of approximately 90,000 gallons each. The south facility handles discharges from the former Moraine Engine facility and the southern portion of the former Delphi Thermal Moraine property, covering an area of approximately 104 acres of surface drainage.

Storm water runoff from areas north of the former Moraine Engine facility, the former Moraine Assembly facility, the northern portion of the former Delphi Thermal Moraine facility, and some residential and commercial areas in the City of Moraine (including residential areas east of the former Moraine Assembly facility and Springboro Pike) flow to former Delphi Thermal's north SWRB via a 66-inch storm line. Storm water runoff at the north wall of the former Moraine Engine facility flows eastward to the northeast corner of the facility, then southward along the east side of the facility, to former Delphi Thermal's south SWRB. Storm water from the former Moraine Engine facility and parking lots are discharged southward toward Blanchard Avenue. The sewers south of the former Moraine Assembly facility, starting at the Paint Shop (south of Stroop Road) join the box sewer at the east side of the former Moraine Engine facility. The City of Moraine joins the system at the southeast corner of the former Moraine Engine facility. These sewers contain flow from the City of Moraine, the former Moraine Engine facility, the former Moraine Assembly facility, and former Delphi Thermal Moraine facility join and are collected in the south SWRB.

The south cell of the SWRB system was designed to operate as one basin during normal non-storm flow conditions. The second adjacent basin is used for diversion of normal flow if a spilled material has been isolated in the first basin, as well as for additional retention capacity during storm conditions. The design criteria for sizing of the facilities was a minimum 30-minute retention based on a maximum flow of a 2-inch uniform rain over 24 hours plus normal non-contact cooling water flow. Any flow exceeding the maximum design capacity will bypass the basins by gravity overflow to the associated storm sewer outfall.

Storm water from the East Haulaway and DMAX facility (northwest of former GM Moraine facilities) is discharged into an unnamed drainage ditch located east and south of DMAX, which was assessed during the RFI (ARCADIS, 2008). This ditch originates in west Kettering, flows north to south along the east side of DMAX, then east to west along the south side of DMAX. The ditch eventually discharges into the Great Miami River.

4.3.2.2 Groundwater

The Site is located within a glacial buried valley and the hyrdogeologic setting is comprised of an upper and lower aquifer separated by a discontinuous clay-rich aquitard. The lower aquifer in the vicinity of the Site has historically been used for public water supply. This Greater Moraine Water System was maintained by the Montgomery County Sanitary Engineering Department and consisted of four (Lamme Road, Dryden North, Dryden Road South, and Miami Shores) former well fields that supplied the cities of Moraine, Kettering and Centerville. These well fields were used until 1986, to which all systems were switched to the City of Dayton supply in conjunction with county storage facilities and pump stations. However, Miami Shores was used in the summers of 1987 and 1988 to supplement high demand (ARCADIS, 2008). Currently, the Lamme Road well field is abandoned, Dryden South is inactive and Dryden North is inactive except for DN-13 which is maintained by Montgomery County and formerly used by GM and currently by MLC as part of the Pump to Waste Program that began in 1990. Miami Shores is inactive, but is maintained by Montgomery County and is the primary backup to the City of Dayton. The closest active well field is approximately two miles to the south, consisting of three wells that supply the City of West Carrollton.

The lower aquifer in the region historically and currently is also used as an industrial water supply. Groundwater flow in the lower aquifer is generally from northeast to southwest. The former GM Moraine property currently has two inactive production wells (11B and 12A) that were used for industrial purposes up to 2009 and two idle production wells (31 and 39).

The upper aquifer in the vicinity of the Site has been used historically for shallow private well use, but is no longer used as a potable or industrial use. Groundwater flow in the upper aquifer is generally from northeast to southwest on-Site. Future development of the upper aquifer as an industrial or potable water source is not expected due to the low sustainability and storage compared to the lower aquifer. Furthermore, the development of public water systems using groundwater as a source is governed by Ohio statute (Chapter 6109 of the Ohio Revised Code), and Ohio EPA regulations and guidelines adopted there under (OAC Chapters 3745-82, OEPA, 1991). Likewise, the installation of private water wells is governed by Ohio Department of Health regulations (OAC Chapter 3701-28).

Historic records indicate that private water wells in the upper and lower aquifers have been installed in the vicinity of the Site. GM conducted several off-site well surveys of existing wells to determine use and purpose and this information can be found in the Corrective Measures Proposal (ARCADIS, 2008).

The hydrogeology at the Site is focused on the unconsolidated deposits shallower than 150 ft bls. The upper and lower aquifers are separated throughout most of the study area by the regional clay till that acts as a leaky confining unit or aquitard that transmits water at relatively low rates. Where the regional clay till is absent (south of the Site, near Holes Creek), the upper and lower aquifers are in direct communication.

Recharge to the study area is primarily from flow within the aquifers that includes direct infiltration of precipitation and recharge from perennial streams. The perennial Great Miami River flows generally from north to south through the study area and locally as a source and sink for groundwater. The perennial Holes Creek, located south of the Site, flows generally southeast to northwest and is a minor source of groundwater recharge. A recovery well used for remediation is present in the upper aquifer (TW-2) – Landfill L1. A pump to waste well to the Great Miami River (DN-13, south of property) is in continuous operation in the lower aquifer and has been operational since March 1990. Fire wells on the former GM Moraine property are kept active (FW-1A, 2, and 3).

4.4 Standard Environmental Record Sources – Federal and State

ARCADIS contracted with EDR to conduct a search of state and federal regulatory databases to identify recorded concerns for the Site and surrounding properties. The databases were searched to the approximate minimum search distances as specified in ASTM Standard Practice E 1527-05, "Phase I Environmental Site Assessment Process." The database search is provided as Appendix C.

Review of the EDR report revealed the following pertinent information which is summarized in the table below.

Database	Search Radius	Site	Adjacent	0 – 1/8 mile	1/8 – ¼ mile	¼ - ½ mile	½ - 1 mile
NPL	1 mile	No	0	0	0	0	0
Delisted NPL	1 mile	No	0	0	0	0	0
CERCLIS	0.50 mile	No	0	0	0	0	-
CERCLIS-NFRAP	0.50 mile	No	0	0	0	1	-
RCRA CORRACTS	1 mile	No	0	0	0	1	2
RCRA TSD	0.50 mile	No	0	0	0	1	-
RCRA Generators	Site & adjacent	No	0	-	0	-	-
ERNS Site	Site	No	-	-	-	-	-
US IC/EC Registries	Site	No	-	-	-	-	-
SHWS	1 mile	No	0	0	0	0	0
State & Tribal DERR	0.50 mile	No	0	0	0	1	2
State & Tribal LUST	0.50 mile	No	0	0	0	3	-
State & Tribal USTs	Site & adjacent	No	3	-	-	-	-
State ASTs	Site & adjacent	No	0	-	-	-	-
State IC/ EC Registry	Site	No	-	-	-	-	-
State Brownfields	0.50 mile	No	0	0	0	0	-
Indian VCP	0.50 mile	No	0	0	0	0	-
RCRA-NonGen	0.250 mile	No	0	0	0	0	
Spills	Site	No	-	-	-	-	-
Drycleaners	0.25 mile	No	0	0	0	-	-

4.4.1 Site

The Site was not identified on the databases searched by EDR. The address for the EDR Report was give as intersection of Dryden Road and Hoylake Road, Moraine, Ohio thus adjacent address may in fact be part of the Site, just with an additional address. The EDR Database report may be influenced by the historic operations at the Site, since it received waste water from the adjacent operations.

4.4.2 Federal Environmental Record Sources

EDR did identify facilities within the applicable radius for the Federal databases searched. A compilation of Federal database listings is provided in the EDR Radius Map Report provided in Appendix C.

CORRACTS, RCRA-LQG, TRIS, FINDS, MANIFEST

EDR identified the adjacent Moraine Assembly Facility CORRACTS, RCRA-LQG, TRIS, FINDS, MANIFEST facility. Violations have been noted throughout the regulated period of reporting. Compliance with the violations noted has been achieved or are not listed. Known groundwater contamination issues are stated and migration of the contaminated groundwater under control is noted.

A compilation of Federal database listings is provided in the EDR Radius Map Report provided in Appendix C.

4.4.3 State and Tribal Environmental Record Sources

EDR did identify adjacent facilities within the applicable radii for the State and Tribal databases searched. A compilation of the State and Tribal database listings is provided in the EDR Radius Map Report provided in Appendix C.

LUST

EDR identified several LUST facilities within 0.5-mile of the Site. The adjacent GM property has several confirmed LUST incidents, which are reported in different stages of compliance. Additional LUST Sites include:

Bruce Millers Mobile located at 4920 Springboro Pike, Moraine, Ohio is approximately 2,616 feet to the southeast and is hydraulically side-gradient of the Site. This site had a release from the regulated UST. The database listing is currently classified as “No Further Action” with an NFA date of September 16, 2004. Based on the regulatory status, the identification of a responsible party for the release and direction relative to the inferred groundwater flow, this facility does not appear to represent an environmental concern to the Site at this time.

A complete compilation of the State and Tribal database listings is provided in the EDR Radius Map Report provided in Appendix C.

4.4.4 Orphan Summary

ARCADIS reviewed the "Orphan Summary" section of the EDR Radius Map report, which is a list of sites that could not be properly located due to inadequate or incorrect information provided by the reporting agency. Several of the seventeen facilities listed in the Orphan Summary do not appear to be located within the Approximate Minimum Search Distance for the above-referenced Federal and State regulatory databases. Some of the General Motors/Delphi Moraine orphans sites may be linked to the former operations at the immediately adjacent former GM properties.

4.5 Additional Environmental Records Sources

4.5.1 Fire Department

ARCADIS contacted the City of Moraine Fire Department in regards to the Phase I ESA. On Tuesday December 21, 2009, the Fire Chief for the City of Moraine called in response to the request for information. The Fire Chief indicated that over his past 25 years there have been no significant responses to the Site from the City of Moraine Fire Department or any records on file pertaining to ASTs, USTs or the storage or release of other hazardous materials (OHM) at the Site.

4.5.2 Health Department

ARCADIS contacted the Montgomery County Health Department in regards to information regarding the Facility. At the time of this report submittal, there has been no response from the Health Department. If additional information becomes available from the Health Department, an addendum will be issued with the updated information.

4.6 Regulatory History

4.6.1 Summary of Regulatory History

This section provides a chronological RCRA regulatory history for the entire former GM Moraine Facilities as summarized in the Corrective Measures Proposal, dated August 2008 by ARCADIS. The Former South Settling Lagoon's regulatory history is a part of this history that is presented below.

The former Delphi Thermal Moraine contains North and South Settling Lagoons. The North Settling Lagoon received industrial wastewater from 1972 to 1979; received non-contact cooling water and storm water runoff from 1980 to 1984; and in 1984 process wastewaters were diverted to the on-site pre-treatment facility. The South Settling Lagoon received industrial wastewater from 1965 to 1979; received dilute acid and alkali rinses from small cleaning and non-cyanodic electroplating processes, water softening sludges, non-contact cooling water, storm water runoff, and fly ash dewatering filtrate from 1980 to 1985; and in 1985 process wastewaters were diverted to the on-site pre-treatment facility. Both lagoons were taken out of service in 1989. Wastewaters from the Assembly facility operations would have been processed through these lagoons.

GM filed a RCRA Part A-Application with Ohio EPA for interim status in November 1980. GM began detection monitoring at the North and South Settling Lagoons in February 1981. In 1984, assessment monitoring began for the North Settling Lagoon. The South Settling Lagoon remained in the detection monitoring program. By October 1988, GM expanded the groundwater monitoring assessment plan network for the North Settling Lagoon and expanded the groundwater detection network in the South Settling Lagoon in accordance with an agreed consent order with the State of Ohio. The assessment and detection monitoring programs continued until the lagoon closure activities were completed, as discussed below. Monitoring is now done as part of the RCRA corrective action site-wide groundwater monitoring program.

The former Delphi Thermal Moraine submitted closure plans for the North and South Settling Lagoons to U.S. EPA and Ohio EPA in November 1985 and November 1989. Closure discussions between GM and Ohio EPA were deferred by mutual agreement to coordinate ultimate closure requirements with the corrective action requirements from the U.S. EPA Region V (the North and South Settling Lagoons were evaluated as SWMUs in the RFI at Delphi Thermal Moraine). During the summer of 1999, GM met with the Ohio EPA to present and discuss a revised approach for closure of the lagoons. This approach was presented to Ohio EPA in the Lagoon Closure Plan, dated June 2000, and approved by Ohio EPA in a letter to GM dated August 24, 2000. Closure activities were initiated in September 2000 and completed in June 2001. GM submitted the Closure Certification Report to Ohio EPA on August 10, 2001 and was approved by Ohio EPA in a letter to GM dated June 27, 2002. The Lagoon Post-Closure Plan was submitted to the Ohio EPA on December 13, 2002 and was approved by Ohio EPA in a letter to GM dated December 24, 2003.

The former Delphi Thermal Moraine received an Administrative Order (Docket No. V-W-91R-2) from the U.S. EPA Region V, which became effective on January 30, 1991. The Administrative Order, issued under Section 3008(h) of RCRA, as amended, 42 U.S.C. 6928(h), required Delphi Thermal Moraine to implement a RCRA Corrective Action program at the Delphi Thermal Moraine facility. GM met these requirements of the Administrative Order through the completion of a two-phased RFI at the Delphi Thermal Moraine facility and by implementing capture zone interim measures. The initial Interim Measure was implemented per the Final Interim Measures Design Plans, which was approved by the U.S. EPA on July 31, 1995. This initial, on-going interim measures consist of controlling migration of VOCs in the upper and lower aquifers at the southern property boundary through groundwater extraction. The groundwater recovered by the upper aquifer recovery well TW-2 is treated using an air stripper tower and discharged through GM's NPDES permitted outfall to the Great Miami River. Groundwater is pumped from TW-2 at an average flow rate of approximately 145 gallons per minute (gpm). DN-13 is a lower aquifer well that Montgomery County has been using in a "Pump-to-Waste" Program since March 1990. The interim measure consists of continued pumping of DN-13 at an approximate rate of 1,000 gpm.

The results of the first phase of the RFI, completed in late 1992 and early 1993, at Delphi Thermal Moraine, was submitted to the U.S. EPA in July 1993. A second phase of the RFI was completed in 1994. The findings of both phases of the RFI for Delphi Thermal Moraine, including a BRA, were reported to the U.S. EPA in a 1996 draft RCRA Facility Investigation Final Report (final issue date was April 2000. The draft RFI report determined that there were no unacceptable risks associated with soil/waste present in SWMUs investigated, and therefore, it was concluded that a Corrective Measures Study (CMS) was not necessary for the SWMUs investigated in the RFI at Delphi Thermal Moraine. The U.S. EPA issued comments to GM on the 1996 draft RFI report dated June 11, 1996 and GM responded to these comments on September 11, 1996. The U.S. EPA provided a reply to the comment responses in correspondence to GM dated October 1, 1996. To address the U.S. EPA's issues identified in this correspondence, GM agreed to add the Moraine Engine and Moraine Assembly facilities into the Corrective Action program. In response to the findings of the Preliminary Assessment/Visual Site Inspection (PA/VSI) reports for the former Moraine Engine and Moraine Assembly Facilities, on-going RFI activities at the adjacent former Delphi Thermal Moraine, and the extensive discussions between U.S. EPA and GM, the U.S. EPA issued an Amendment to the Administrative Order (Docket No. VW-R-002-91), effective on April 24, 1997, which included the former Moraine Engine and Moraine Assembly Facilities in the Corrective Action program. This Amendment required GM to conduct a supplemental RFI at the two additional facilities.

A multi-phased investigation was completed during the Supplemental RFI, which focused on the Former Oil House Area (adjacent Moraine Engine Facility). The findings of the Supplemental RFI for the former Moraine Engine and Moraine Assembly Facilities, including a Supplemental BRA, were reported in a draft Supplemental RFI Report submitted to the U.S. EPA and Ohio EPA in June 1999 (these reports were finalized and approved by U.S. EPA in April 2000). The Supplemental RFI Report determined that constituent concentrations in soils at the AOIs at the former Moraine Engine and Moraine Assembly facilities do not pose an unacceptable risk. However, GM recommended and implemented additional interim measures to address VOCs in groundwater associated with the Former Oil House Area (AOI 7). A Primary Groundwater Source Area (AOI 7) Interim Measures Work Plan was submitted to the U.S. EPA and Ohio EPA in June 1999 and was approved by the U.S. EPA in July 1999. This Work Plan recommended a combination of in-situ technologies to address chlorinated VOCs in shallow groundwater. The recommended in-situ technologies were implemented between September 1999 and May 2000. The results of these interim measures were presented in the IM/CM Report submitted to the U.S. EPA and Ohio EPA in March 2001.

To provide a basis for evaluating the performance of these interim measures, the Work Plan proposed that a comprehensive site-wide (inclusive of Assembly Facility, Moraine Engine, and Delphi Thermal facilities) groundwater sampling event for VOCs be conducted to establish a baseline data set. This baseline sampling for VOCs was completed in September 1999. A second site-wide groundwater sampling event was completed between September and October 2000. During this second site-wide event, at the request of U.S. EPA, groundwater samples were analyzed for Appendix IX VOCs by Method 8260 and cis-1,2-dichloroethene (cis-1,2-DCE), semi-volatile organic compounds (SVOCs) and metals to verify that current groundwater conditions were consistent with previous site conditions. The results of the 2000 sampling event confirmed that VOCs were the only constituents of potential concern in groundwater at the Site.

Environmental Indicator (EI) forms were prepared for the three GM Moraine facilities. Form CA 750 Migration of Contaminated Groundwater Under Control was approved by U.S. EPA in March 2001 for the three facilities. The positive determination on this form indicates that the migration of contaminated groundwater has stabilized and that monitoring will be conducted to confirm that contaminated groundwater remains within the original area of contaminated groundwater. Form CA 725 Current Human Exposures Under Control was approved for the Moraine Engine and Moraine Assembly Facilities in December 2000 and for Delphi Thermal Moraine in September 2002. The positive determination on these forms indicates that there are no unacceptable human exposures to contamination that can be reasonably expected under current land- and groundwater-use conditions. GM continues to monitor conditions at and near the Site as part of the site-wide monitoring program to confirm that the conclusions of these Environmental Indicators remain valid.

In March 2000, GM submitted to the U.S. EPA a draft Site-Wide Groundwater Monitoring Plan to monitor the effectiveness of the interim measures and monitor groundwater quality upgradient and downgradient of the land-based units, including the closed North and South Settling Lagoons. GM received approval with comments on this plan from the U.S. EPA, dated June 16, 2000 and June 28, 2000. GM submitted responses to the U.S. EPA's comments on July 28, 2000. The U.S. EPA submitted an additional set of comments to GM on September 15, 2000 and GM submitted responses to the U.S. EPA's comments on November 17, 2000. GM received approval on the Site-Wide Groundwater Monitoring Plan (Appendix A to the Lagoon Post-Closure Plan) from Ohio EPA in a letter dated December 24, 2003. GM continues to implement this site-wide groundwater monitoring program and submits annual reports to the U.S. EPA and Ohio EPA by March 1st of each year.

4.6.2 Solid Waste Management Units (SWMUs) Previously Identified at the Site

The South Settling Lagoon is the only SWMU which was identified at Site.

4.6.2.2 Former GM Moraine Facility SWMUs and AOIs

SWMUs and AOIs identified at the former GM Moraine Facility were reviewed and evaluated in the DOCC and Supplemental DOCC reports, respectively, as summarized in the Corrective Measures Proposal (ARCADIS, 2008). These SWMUs and AOIs have been investigated during the RFI and remediation is ongoing or proposed, as necessary. The site-wide final remedy to address the historic SWMU and AOI releases is currently under negotiation with USEPA.

5.0 SITE RECONNAISSANCE

5.1 Methodology and Limiting Conditions

Mr. Todd Aebie of ARCADIS and Mr. Trey Fortner of ARCADIS visited the Site on December 1 and 3, 2009. Mr. Ed Beckley, Former GM Environmental Engineer for the former Moraine Assembly Facility, was also present. Mr. Ed Beckley provided detail and direction for the Phase I Site Inspection of the Site. The weather at the time of ARCADIS' investigation was cool and cloudy, on and off drizzle, with temperatures of approximately 35-45 degrees Fahrenheit. ARCADIS inspected readily accessible areas of the Site. Outside observations were conducted on foot or by vehicle. The Site was observed to the best of ARCADIS' ability and to the thoroughness that the site conditions and time constraints allowed.

5.2 Current Site Use

Currently all operations related to the treatment of wastewaters and storm water have ceased at the Site. The South Settling Lagoon has been closed and post-closure care is currently being conducted. Ongoing remedial activities are currently being undertaken for groundwater impact issues across the Site.

5.3 Site Observations

5.3.1 Underground Storage Tanks (USTs)

ARCADIS did not observe fill pipes, vent pipes or other evidence of USTs currently on the Site.

5.3.2 Aboveground Storage Tanks (ASTs)

ARCADIS did not observe any ASTs at the Site.

5.3.3 Hazardous Substance and Petroleum Use

ARCADIS did not observe hazardous substances or petroleum products present on the Site.

5.3.4 Unlabeled Drums/Containers

ARCADIS did not observe unlabeled drums or containers at the Site.

5.3.5 Stained Soil or Pavement

ARCADIS did not observe stained pavement at the Site. The Site did not have stained soil or gravels.

5.3.6 Stains or Corrosion

No stains or corrosion was observed on the Site; however, minor staining was noted in the driveway to the Site.

5.3.7 Stressed Vegetation

ARCADIS did observe evidence of stressed vegetation at the Site, but it was most likely due to weather conditions rather than environmental issues related to historic operations at the Site.

5.3.8 Polychlorinated Biphenyls (PCBs)

ARCADIS did not observe electrical or hydraulic equipment at the Site suspected to contain PCBs. During the closure investigation completed for the South Settling Lagoon, PCBs were detected in the sludge at levels above 50 ppm. In September 1988 Geraghty & Miller Engineers, Inc. completed sampling of the south lagoon sludge material. Analysis of the samples of the sludge material recorded concentrations of PCB 1254 ranging from 1.6 to 206 ppm, with a median concentration of 10.4 ppm. Two samples from the south lagoon (lower strata of the north side of secondary basin) recorded PCB 1254 concentrations above the 50 ppm threshold limit for regulation under the Toxic Substances Control Act (TSCA). Concentrations of PCB 1260 ranged from 1.5 to 4.6 ppm with a median concentration of 3 ppm.

Sludge contained in the south lagoon secondary basin, was solidified using the reagent cement kiln dust. Solidification of the sludge will significantly reduce the mobility of the PCBs contained in the south lagoon secondary basin. The finding of the baseline risk assessment revealed that PCB levels that are present in the sludge are protective of human health and the environment.

In addition, information developed by the contributing facilities established that PCB usage within the plant(s) was prior to the date of TSCA enactment (October 11, 1976) and therefore the sludge is considered to be a non-TSCA regulated substance.

5.3.9 Solid Waste/Dumping

ARCADIS did not observe evidence of dumping of solid waste at the Site.

5.3.10 Site Drainage

Surface water on the Site is directed towards a sewer catch basin within the edge of the former lagoon. The Site storm water is discharged offsite to a drainage ditch which then flows directly into the Great Miami River under an NPDES permitted outfall. ARCADIS did not observe evidence of staining around the outside catch basins which were observed.

5.3.11 Pits, Ponds, Lagoons and Pools of Liquid

ARCADIS not did observe any current pits, ponds, lagoons or pools of liquid on the Site, but the Site is a former lagoon. There is an additional former lagoon noted on the adjacent former Delphi Thermal (Harrison Radiator) Property referred to as the closed North Settling Lagoon. This additional northern lagoon is mentioned within this report because the GM Moraine facility discharged wastewater during historic operations of the facility to both former settling lagoon systems. Detailed descriptions of the lagoons are noted below:

Lagoons: The GM Moraine facility formerly had two settling lagoon systems, connected to the operations at the facility, including the former North Settling Lagoon and former South Settling Lagoon. A summary of the operations and closure of the lagoons is presented below:

The North Settling Lagoon area is approximately 4.6 acres in size and consisted of a primary and secondary basin separated by an earthen berm. The secondary basin is also partially divided by an earthen berm, which was used to increase residence time in the basin. During the active life of the lagoon, flow entered the system through the primary basin, was diverted to the secondary basin after initial settling of solids, discharged under a National Pollutant Discharge Elimination System (NPDES) permit to a ditch, which crosses the Site, and eventually discharged to the Great Miami River. The North Lagoon operated between 1972 and October 1989, when the lagoon was taken out of service. Between 1972 and 1979, the lagoon received industrial wastewater including metal plating wastes (zinc, nickel, and chrome), cutting fluids, pickling wastes, oils, porcelain sludge, and electro-deposition paint rinse waters. Between May 1980 and September 1984, the lagoon received only dilute process rinse wastewater, non-contact cooling water, and storm water runoff. Beginning in September 1984, all process wastewater was diverted to the on-Site pretreatment facility. All storm water and non-contact cooling water was diverted into a new concrete storm water retention facility when the lagoon was taken out of service in October 1989.

The South Settling Lagoon (the Site) is approximately 7.9 acres in size and consists of a primary basin, secondary basin, and sludge drying basin that had been individually excavated at different times. During the active life of the lagoon, flow entered the system through the primary basin, was diverted to the secondary basin after initial settling of solids, discharged under a NPDES permit to a ditch, and eventually discharged to the Great Miami River. The sludge drying basin was previously used for the dewatering of sludge removed from the primary and secondary basins. The South Lagoon originally consisted of a single basin occupying the footprint of the secondary basin, which was constructed in 1965. The sludge drying basin was added in 1967 and the primary basin was added in 1974. Between 1965 and 1979, the lagoon received industrial wastewater including zinc plating wastes, anodizing wastes, pickling wastes, oils, and porcelain sludge. Between 1980 and November 1985, the lagoon received process wastewater (consisting of dilute acid and alkali rinses from small parts cleaning and non-cyanodic electroplating processes and fly ash dewatering filtrate), water softening sludge, non-contact cooling water, and storm water runoff. Beginning in November 1985, all process wastewater was diverted to the on-Site pretreatment facility. All storm water and non-contact cooling water was diverted into a new concrete storm water retention facility when the lagoon was taken out of service in October 1989.

Both lagoons have now been closed under the Ohio EPA RCRA program. Closure activities included removal, demolition, and/or abandonment of certain subsurface structures; mixing all sludge with soil and Cement Kiln Dust (CKD); placing and compacting soil for backfill up to subgrade elevations; installing storm water drainage features; installing a compacted clay soil cover system with a vegetated topsoil layer over the former South Lagoon; and installing an asphalt paving system over the former North Lagoon.

5.3.12 Wastewater

ARCADIS did observe processes at the GM Moraine facilities that formerly generated process wastewaters that were historically discharged to the South Settling Lagoon. The Site processed the wastewater by treatment in the Lagoon prior to discharge until 1984 and 1985, when the wastewater treatment plant became operational. During the active life of the lagoon, flow entered the system through the primary basin, was diverted to the secondary basin after initial settling of solids, discharged under an NPDES permit to the Great Miami River.

5.3.13 Wells

ARCADIS did observe monitoring wells at the Site.

Five groundwater monitoring wells and 7seven remediation wells are located on the Site. A line of remediation wells is located along the south eastern boundary of the Site. A comprehensive site wide groundwater monitoring report was prepared and submitted by ARCADIS for the activities completed in 2008. A copy of the report can be found in Appendix F. Within the report, maps showing the locations of the monitoring wells, groundwater flow directions, and summary of the groundwater monitoring activities completed in 2008 are presented.

5.3.14 Septic Systems

ARCADIS did not observe evidence of septic systems or cesspools at the Site.

5.3.15 Odors

ARCADIS did not note readily noticeable strong, pungent, or noxious odors at the time of the site visit.

5.3.16 Other Observations

Other significant Site observations are noted within Section 5.4 of this Phase I Report.

5.4 FACILITY BUILDING / AREA OF INTEREST SUMMARY

A majority of the historic background information presented in the following section has been summarized from the Corrective Measures Proposal dated August 2008 by ARCADIS, and from the Lagoon Post-Closure Plan dated December 13, 2002 submitted by Conestoga-Rovers & Associates. A copy of the Corrective Measures Proposal, Site figures, and Lagoon Post-Closure Plan can be found in Appendix G.

5.4.1 Closed South Settling Lagoon

Please see Section 5.3.11 for details concerning the South Settling Lagoon operation and closure. During the Site inspection, the lagoon cap was observed by vehicle and by foot. The cap appeared to be in good condition. The cap had vegetation and trees along the boundaries on the western, northern, and eastern sides. The lagoon has several monitoring wells adjacent to it and no potentially hazardous materials were found to be present at the South Settling Lagoon during the Site Inspection.

6.0 INTERVIEWS

6.1 Interview with Owner/Key Site Manager

ARCADIS interviewed Mr. Ed Beckley, Former GM Senior Environmental Engineer for the Moraine Assembly Facility. Information provided by Mr. Beckley is presented throughout the report.

6.2 Site Occupants

No additional site occupants were present or occupied the Site during the Phase I inspection. Currently there is a hired security service providing security and key service for the Site. No other entities were present at the Site.

6.3 Interviews with Local Regulatory Agencies

Research conducted at local regulatory offices has been summarized in Sections 4.5. No additional interviews with local regulatory agencies were conducted.

6.4 Interviews with Others

No additional interviews were conducted as part of this assessment.

7.0 FINDINGS/OPINION

This section identifies known or suspect environmental concerns, historical environmental concerns, and *de minimis* conditions obtained during the Phase I ESA.

7.1 Known or Suspect Environmental Concerns

- The groundwater beneath the facility has been impacted with VOCs from historic sources at the former GM Moraine facilities. Several RCRA RFI investigations have taken place to determine the extent of the impact to the groundwater. Remediation of the groundwater is ongoing.

7.2 Historical Recognized Environmental Conditions

Historical RECs were identified in the course of this investigation.

- The groundwater beneath the Site has been impacted with VOCs from historic sources at the former GM Moraine Facilities and the Site. Several RFIs have taken place to determine the extent of the impact to the groundwater. Groundwater monitoring wells were observed on-Site that are used for monitoring and conducting remediation efforts on groundwater contamination. Remediation of the groundwater is ongoing under RCRA Corrective Action.
- The Former South Settling Lagoon was identified as a SWMU which was part of the Administrative Order to implement RCRA Corrective Action for the three former GM Moraine Facilities. RCRA closure of the South Settling Lagoon has taken place and post-closure care activities began in 2004 and will continue for a period of 30 years.

7.3 De Minimis Conditions

De minimis environmental conditions at the Site include the following:

- The Site has minor staining in the driveway leading into the Site.

8.0 CONCLUSIONS

ARCADIS performed a Phase I ESA in conformance with the scope and limitations of ASTM Practice E 1527-05 of the property located at 3801Dryden Road, Montgomery County, Moraine, Ohio. Any exceptions to, or deletions from, this practice are described in Section 9 of this report. This assessment has revealed evidence of RECs associated with the Site:

- The groundwater beneath the Site has been impacted with VOCs from historic sources at the former GM Moraine Facilities and the Site. Several RFIs have taken place to determine the extent of the impact to the groundwater. Groundwater monitoring wells were noted on-Site that are used for monitoring and conducting remediation efforts on groundwater contamination. Remediation of the groundwater is ongoing under RCRA Corrective Action.
- The Former South Settling Lagoon was identified as a SWMU which was part of the Administrative Order to implement RCRA Corrective Action for the three former GM Moraine Facilities. RCRA closure of the South Settling Lagoon has commenced and post-closure care activities which began in 2004, will continue for a period of 30 years.

9.0 DEVIATIONS/DATA GAPS

The inability to identify the date of first use of the Site for the industrial purposes represents a data gap. It is the opinion of ARCADIS that this data gap is not significant and does not affect our ability to render the foregoing conclusion. The extensive history of the Site allows for a detailed and thorough review of the reports which have been prepared for the Site, thus providing insight into the detailed environmental history at the Site.

10.0 ADDITIONAL SERVICES

No additional services were provided as part of the Phase I ESA.

11.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONAL

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 C.F.R. 312. We, have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject property. We have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 C.F.R. Part 312.

Douglas M. Lindsay, PG, LSP
Senior Geologist

for:

Todd J. Aebie
Staff Geologist

12.0 REFERENCES

City of Moraine

- City of Moraine Fire Department
- Building Department

Montgomery County

- Health Department
- Assessor's Website and Property Map
- Tax Parcel ID
- Ownership Data

State of Ohio

- Environmental Protection Agency Website
- Department of Commerce, State Fire Marshalls BUSTR Website

2. Reports, Plans and Other Documents Reviewed:

EDR:

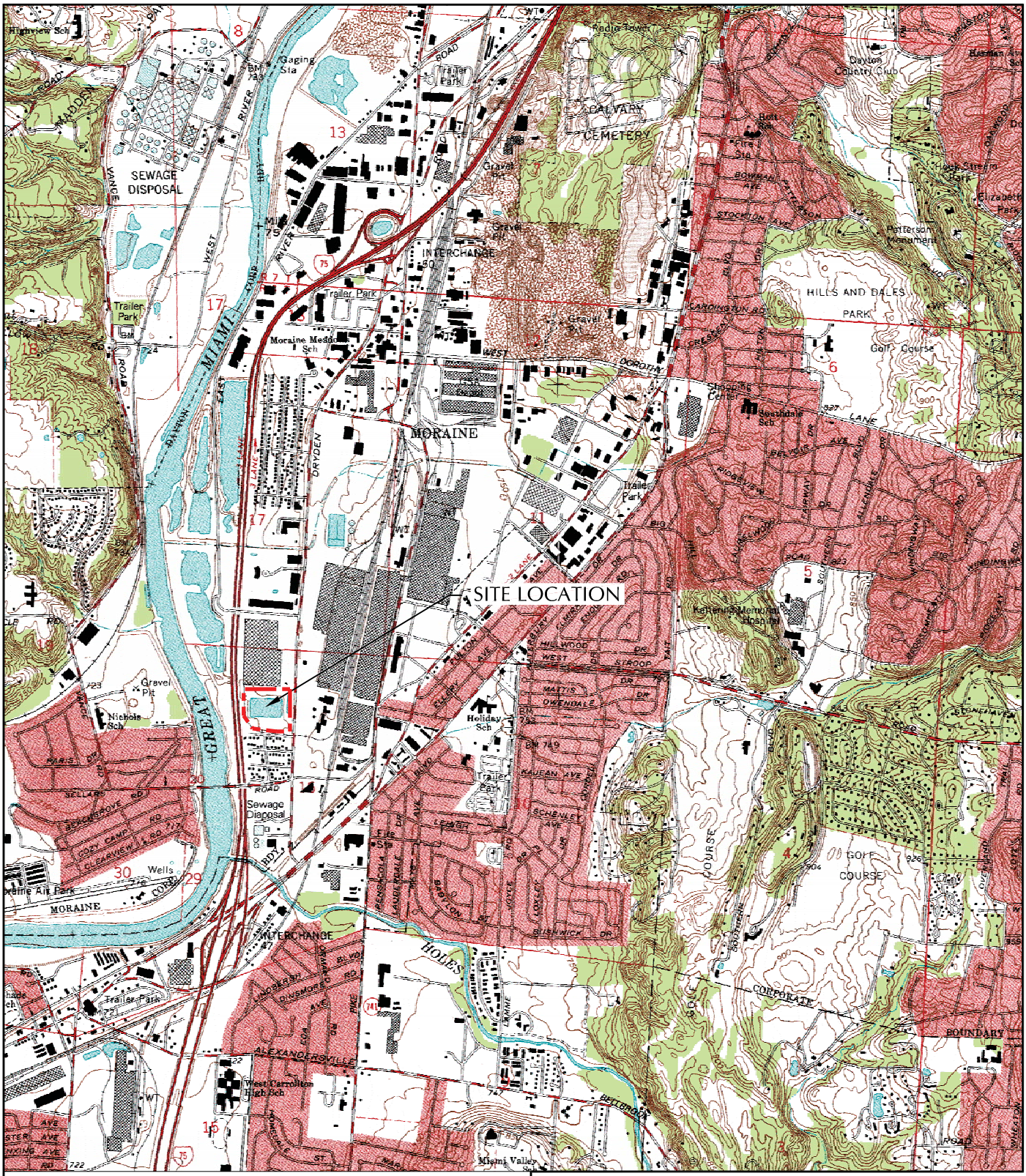
- *The EDR Aerial Photo Decade Package,* Inquiry Number 2648305.5, December 1, 2009, 2601 West Stroop Road, Dayton, Ohio 45439.
- *The EDR Radius Map Report with GeoCheck*, Inquiry Number 2678087.2s, January 14, 2010, Intersection of Dryden Road/Hoylake Road, Dayton, Ohio 45439.
- *The EDR Certified Sanborn Map Report*, Inquiry Number 2678087.3, January 14, 2010, Intersection of Dryden Road/Hoylake Road, Dayton, Ohio 45439.
- *The EDR Historical Topographic Map Report*, Inquiry Number 2648305.4, December 1, 2009, 2601 West Stroop Road, Dayton, Ohio 45439
- *The EDR City Directory Abstract,* Inquiry Number 2678087.4, January 15, 2010, Intersection of Dryden Road/Hoylake Road, Dayton, Ohio 45439..
- *The EDR Building Permit Report,* Inquiry Number 2648305.7, December 1, 2009, 2601 West Stroop Road, Dayton, Ohio 45439.

ARCADIS Columbus Ohio Office:

- Aerial Photographs; dated 1938 to 2000. Various sources and dates.
- NPDES Permit from the Ohio EPA for the Moraine Facility, dated June 2007.
- **Draft Site-Wide Groundwater Monitoring Report for 2008,** General Motors Corporation Facilities:
  Former Delphi Harrison Thermal Systems Moraine Plant
  Former General Motors Powertrain Group, Moraine Engine Plant
  Former General Motors Truck Group, Moraine Assembly Plant
  Moraine, Ohio, February 27, 2009
- **Draft Corrective Measures Proposal,** General Motors Corporation, Moraine, Ohio, August 25, 2008

- **Description of the Current Conditions, Task 1 of the RCRA Facility Investigation for Harrison Radiator Division-GMC,** Moraine, Ohio, prepared by Geraghty& Miller, Inc. January 1991.
- **Lagoon Closure Plan, General Motors Harrison Radiator Division Facility,** Moraine, Ohio, prepared by CRA, June 2000.
- **Lagoon Post-Closure Plan, General Motors Harrison Radiator Division Facility,** Moraine, Ohio, prepared by CRA, December 2002.
- **Supplemental RFI Volume 1, Moraine Assembly Plant,** Moraine, Ohio prepared by ARCADIS/Geraghty & Miller, April 2000.
- **Supplemental RFI Volume 2, Supplemental Baseline Risk Assessment, Moraine Assembly Plant,** Moraine, Ohio prepared by ARCADIS/Geraghty & Miller, April 2000
- **Draft Interim Measures/Corrective Measures Report,** General Motors Corporation, Moraine, Ohio prepared by ARCADIS, March 2001, Volume I.
- **Draft Interim Measures/Corrective Measures Report,** General Motors Corporation, Moraine, Ohio prepared by ARCADIS, March 2001, Volume II.
- **Boring and well logs, for the Former GM, Delphi, and Harrison Radiator Facility,** prepared by ARCADIS and others**,** various dates.

FIGURES



SOURCE: USGS QUAD DAYTON SOUTH, OHIO, REVISED 1991

0 0.5 MILES

Site Vicinity
Former South Settling Lagoon
MLC-1012

Moraine, Ohio

Figure 1

LFR an ARCADIS company

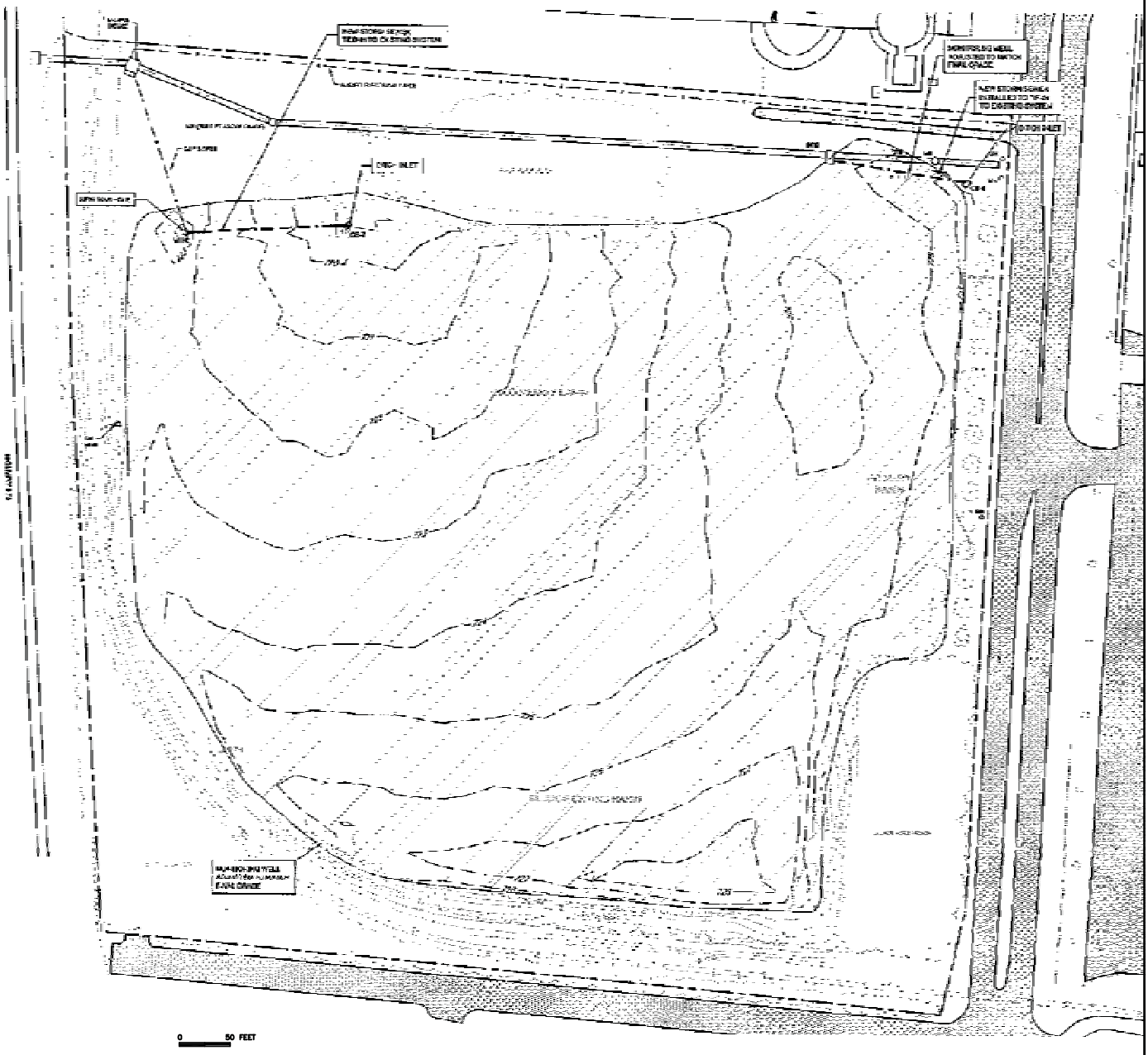
C:\Documents and Settings\MJHays\Desktop\gm moraine\OH294MLC09-00 - temp.dwg, 1/21/2010 10:08:13 AM, MJHays

Site Plan
Former South Settling Lagoon
MLC-1012

Moraine, Ohio

Figure 2

LFR an ARCADIS company



Detailed Site Plan
Former South Settling Lagoon
MLC-1012

Moraine, Ohio

Figure 3

LFR an ARCADIS company

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APPENDIX A

User Questionnaire

LFR ENVIRONMENTAL MANAGEMENT & CONSULTING ENGINEERING

Phase I Environmental Site Assessment Questionnaire

(User Provided Information Questionnaire)

Date: 12/3/2009
Site Name: South Lagoon- MLC 1012 Your Name: Ed Beckley
Site Location: GM Moraine Assembly (South Lagoon) Your Title: Sr. Environmental Engineer
Relationship to Site: ☐ Owner ☐ Occupant ☐ Purchaser ☒ Other

Length of Time Associated with Site: 19 yrs

Please review and complete this questionnaire which will assist LFR in completing our site assessment. If sufficient space in not provided, please compete your response on a separate sheet of paper and attach it to this questionnaire.

1. Are you aware of any environmental cleanup liens against the Site that are filed or recorded under federal, tribal, state or local law?

   ☐ Yes ☐ No ☒ Unknown ☐ N/A

   If Yes, please explain: _____

2. Are you aware of any activity or land use limitations, such as engineering controls (for contaminant control), land use restrictions or institutional controls, that are in place at the Site and/or have been filed or recorded in a registry under federal, tribal, state or local law?

   ☒ Yes ☐ No ☐ Unknown ☐ N/A

   If Yes, please explain: South Lagoon, well injection system _____

781.356.7300 m
781.356.2211 f
194 Forbes Road
Braintree, Massachusetts 02184-2668
Offices Nationwide
www.lfr.com

LFR

3. Do you have any specialized knowledge or experience related to the Site or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the Site or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

☒ Yes ☐ No ☐ Unknown ☐ N/A

If Yes, please explain: Environmental Engineer for the GM Assembly facility assisting in disposal and proper use of regulated materials at the Site which may have an impact to the environment_____

4. Are you aware of commonly known or reasonably ascertainable information about the Site that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example, as user,

a) Do you know the past uses of the Site?

☒ Yes ☐ No ☐ Unknown ☐ N/A

If Yes, please explain: Settling lagoon for wastewaters from the Delphi thermal, Harrison Radiator and Assembly facility_____

_____

b) Do you know of specific chemicals that are present or once were present at the Site?

☐ Yes ☒ No ☐ Unknown ☐ N/A

If Yes, please explain:._____

_____

c) Do you know of spills or other chemical releases that have taken place at the Site?

☒ Yes ☐ No ☐ Unknown ☐ N/A

If Yes, please explain: See site records._____

_____

d) Do you know of any environmental cleanups that have taken place at the Site?

☒ Yes ☐ No ☐ Unknown ☐ N/A

If Yes, please explain:_____

Records of decommissioning, previous environmental reports. Closure and groundwater reports

5. Do you know of any pending, threatened, or past litigation relevant to hazardous substances or petroleum products in, on, or from the Site?

☐ Yes ☐ No ☒ Unknown ☐ N/A

If Yes, please explain: _____

6. Do you know of any pending, threatened, or past administrative proceedings relevant to hazardous substances or petroleum products in, on or from the Site?

☐ Yes ☐ No ☒ Unknown ☐ N/A

If Yes, please explain: _____

7. Do you know of any notices from any governmental entity regarding any possible violation of environmental laws or possible liability relating to hazardous substances or petroleum products at the Site?

☐ Yes ☒ No ☐ Unknown ☐ N/A

If Yes, please explain: _____

8. Based on your knowledge and experience related to the Site are there any obvious indicators that point to the presence or likely presence of contamination at the Site?

☒ Yes ☐ No ☐ Unknown ☐ N/A

If Yes, please explain: See previous reports and ongoing groundwater remediation

9. Does the Site's purchase price reasonably reflect the fair market value of the property?

☐ Yes ☐ No ☒ Unknown ☐ N/A

If No, do you know the reason for lower purchase price? Is it possible that the lower purchase price is because of contamination known or believed to be present at the Site?

☐ Yes ☐ No ☐ Unknown ☐ N/A

If Yes, please explain: _____

_____

APPENDIX B

Historical Research Documentation

Aerial Photographs

MLC 1202 GM Moraine Assembly Plant
2601 Stroop Road
Dayton, OH 45439

Inquiry Number: 2648305.5
December 01, 2009

The EDR Aerial Photo Decade Package

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDRs professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

When delivered electronically by EDR, the aerial photo images included with this report are for ONE TIME USE ONLY. Further reproduction of these aerial photo images is prohibited without permission from EDR. For more information contact your EDR Account Executive.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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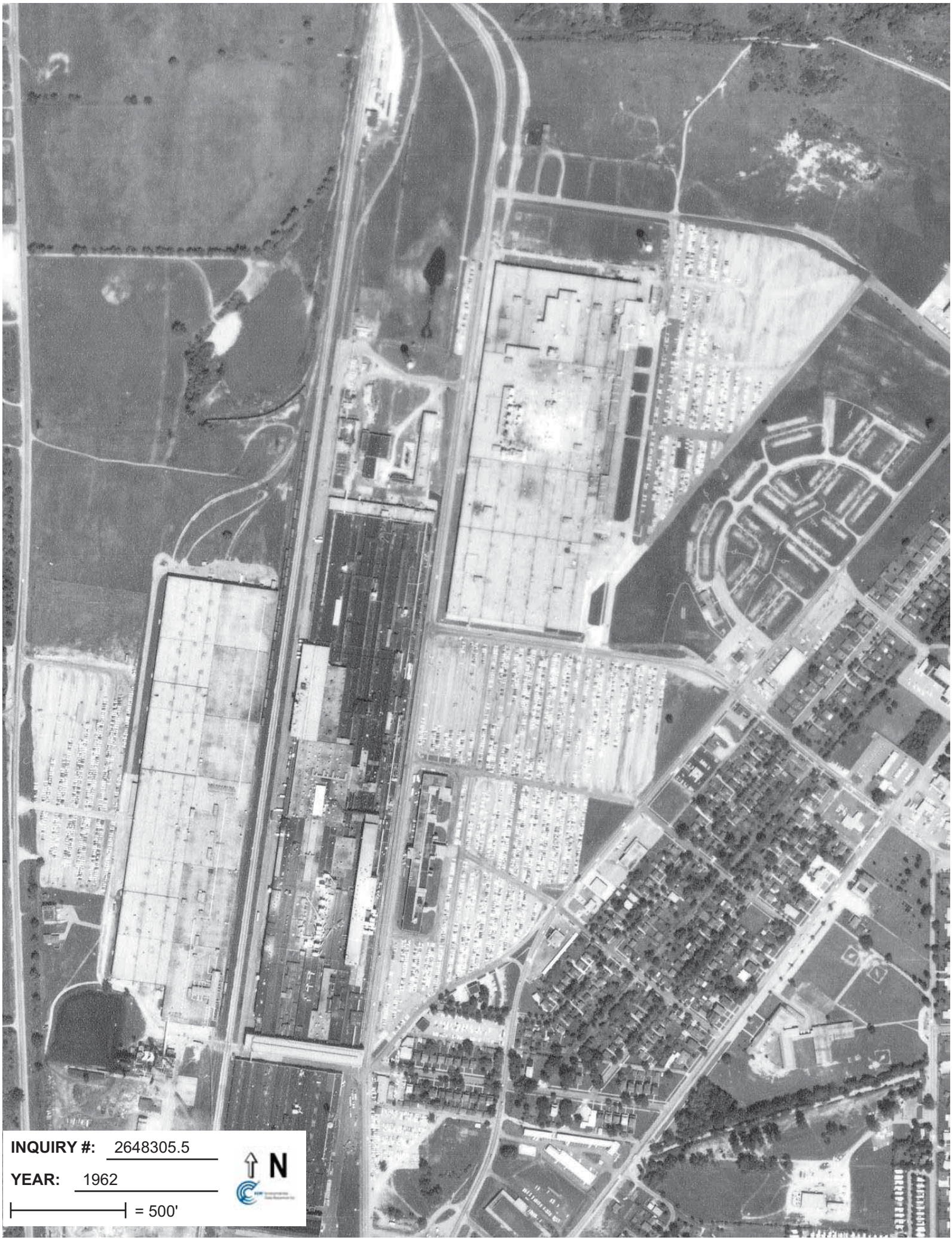
INQUIRY #: 2648305.5
YEAR: 1938
= 750'
N

INQUIRY #: 2648305.5
YEAR: 1956
= 500'
N


INQUIRY #: 2648305.5
YEAR: 1962
= 500'
N

INQUIRY #: 2648305.5
YEAR: 1983
= 750'
N

INQUIRY #: 2648305.5
YEAR: 1988
= 750'
N

INQUIRY #: 2648305.5
YEAR: 1994
= 750'
N

Sanborn Maps

Former South Lagoon
Dryden Road/Hoylake Road
Dayton, OH 45439

Inquiry Number: 2678087.3
January 14, 2010

Certified Sanborn® Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

1/14/10

Site Name:
Former South Lagoon
Dryden Road/Hoylake Road
Dayton, OH 45439

Client Name:
LFR Inc.
4665 Cornell Road
Cincinnati, OH 45241

EDR Inquiry # 2678087.3

Contact: Todd Aebie

EDR® Environmental Data Resources Inc

The complete Sanborn Library collection has been searched by EDR, and fire insurance maps covering the target property location provided by LFR Inc. were identified for the years listed below. The certified Sanborn Library search results in this report can be authenticated by visiting www.edrnet.com/sanborn and entering the certification number. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by Sanborn Library LLC, the copyright holder for the collection.

Certified Sanborn Results:

Site Name: Former South Lagoon
Address: Dryden Road/Hoylake Road
City, State, Zip: Dayton, OH 45439
Cross Street:
P.O. # NA
Project: MLC-1012
Certification # AA60-4976-9D71

Sanborn® Library search results
Certification # AA60-4976-9D71

UNMAPPED PROPERTY

This report certifies that the complete holdings of the Sanborn Library, LLC collection have been searched based on client supplied target property information, and fire insurance maps covering the target property were not found.

The Sanborn Library includes more than 1.2 million Sanborn fire insurance maps, which track historical property usage in approximately 12,000 American cities and towns. Collections searched:

- ✓ Library of Congress
- ✓ University Publications of America
- ✓ EDR Private Collection

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LFR Inc. (the client) is permitted to make up to THREE photocopies of this Sanborn Map transmittal and each fire insurance map accompanying this report solely for the limited use of its customer. No one other than the client is authorized to make copies. Upon request made directly to an EDR Account Executive, the client may be permitted to make a limited number of additional photocopies. This permission is conditioned upon compliance by the client, its customer and their agents with EDR's copyright policy; a copy of which is available upon request.

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City Directory Abstract

Former South Lagoon
Dryden Road/Hoylake Road
Dayton, OH 45439

Inquiry Number: 2678087.4
January 15, 2010

The EDR-City Directory Abstract

Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

TABLE OF CONTENTS

SECTION

Executive Summary

Findings

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2009 Enhancements to EDR City Directory Abstract

New for 2009, the EDR City Directory Abstract has been enhanced with additional information and features. These enhancements will make your city directory research process more efficient, flexible, and insightful than ever before. The enhancements will improve the options for selecting adjoining properties, and will speed up your review of the report.

City Directory Report. Three important enhancements have been made to the EDR City Directory Abstract:

1. *Executive Summary.* The report begins with an Executive Summary that lists the sources consulted in the preparation of the report. Where available, a parcel map is also provided within the report, showing the locations of properties researched.

2. *Page Images.* Where available, the actual page source images will be included in the Appendix, so that you can review them for information that may provide additional insight. EDR has copyright permission to include these images.

3. *Findings Listed by Location.* Another useful enhancement is that findings are now grouped by address. This will significantly reduce the time you need to review your abstracts. Findings are provided under each property address, listed in reverse chronological order and referencing the source for each entry.

Options for Selecting Adjoining Properties. Ensuring that the right adjoining property addresses are searched is one of the biggest challenges that environmental professionals face when conducting city directory historical research. EDR's new enhancements make it easier for you to meet this challenge. Now, when you place an order for the EDR City Directory Abstract, you have the following choices for determining which addresses should be researched.

1. *You Select Addresses and EDR Selects Addresses.* Use the "Add Another Address" feature to specify the addresses you want researched. Your selections will be supplemented by addresses selected by EDR researchers using our established research methods. Where available, a digital map will be shown, indicating property lines overlaid on a color aerial photo and their corresponding addresses. Simply use the address list below the map to check off which properties shown on the map you want to include. You may also select other addresses using the "Add Another Address" feature at the bottom of the list.

2. *EDR Selects Addresses.* Choose this method if you want EDR's researchers to select the addresses to be researched for you, using our established research methods.

3. *You Select Addresses.* Use this method for research based solely on the addresses you select or enter into the system.

4. *Hold City Directory Research Option.* If you choose to select your own adjoining addresses, you may pause production of your EDR City Directory Abstract report until you have had a chance to look at your other EDR reports and sources. Sources for property addresses include: your Certified Sanborn Map Report may show you the location of property addresses; the new EDR Property Tax Map Report may show the location of property addresses; and your field research can supplement these sources with additional address information. To use this capability, simply click "Hold City Directory research" box under "Other Options" at the bottom of the page. Once you have determined what addresses you want researched, go to your EDR Order Status page, select the EDR City Directory Abstract, and enter the addresses and submit for production.

Questions? Contact your EDR representative at 800-352-0050. For more information about all of EDR's 2009 report and service enhancements, visit www.edrnet.com/2009enhancements

EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1922 through 2003. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2003	HANIES AND COMPANY	-	X	X	-
1996	R. L. Polk & Co.	-	-	-	-
1992	R. L. Polk & Co.	-	-	-	-
1988	R. L. Polk & Co.	-	-	-	-
1983	R. L. Polk & Co.	-	-	-	-
1978	The Williams Directory Co.,	-	-	-	-
1973	The Williams Directory Co.,	-	-	-	-
1968	The Williams Directory Co.,	-	-	-	-
1962	The Williams Directory Co.,	-	-	-	-
1961	THE WILLIAMS DIRECTORY CO.	-	-	-	-
1958	The Williams Directory Co.,	-	-	-	-
1956	The Williams Directory Co.,	-	-	-	-
1953	The Williams Directory Co.,	-	-	-	-
1948	The Williams Directory Co.,	-	-	-	-
1943	The Williams Directory Co.,	-	-	-	-
1938	The Williams Directory Co.,	-	-	-	-
1933	The Williams Directory Co.,	-	-	-	-
1927	The Williams Directory Co.,	-	-	-	-
1922	The Williams Directory Co.,	-	-	-	-

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

Dryden Road/Hoylake Road
Dayton, OH 45439

FINDINGS DETAIL

Target Property research detail.

No Addresses Found

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

HOYLAKE CT

2908 HOYLAKE CT

Year	Uses	Source
2003	CUPP Johnny	HANIES AND COMPANY
	CUPP Johnny	HANIES AND COMPANY

2912 HOYLAKE CT

Year	Uses	Source
2003	SANBORNChris	HANIES AND COMPANY
	SANBORNChris	HANIES AND COMPANY

2916 HOYLAKE CT

Year	Uses	Source
2003	MOLLINSMichell	HANIES AND COMPANY
	SALYERS Samuel S	HANIES AND COMPANY
	MULLINSMelissa	HANIES AND COMPANY
	MOLLINSMichell	HANIES AND COMPANY
	SALYERS Samuel S	HANIES AND COMPANY
	MULLINSMelissa	HANIES AND COMPANY

2924 HOYLAKE CT

Year	Uses	Source
2003	SALYERS Samuel	HANIES AND COMPANY
	SALYERS Samuel	HANIES AND COMPANY

2928 HOYLAKE CT

Year	Uses	Source
2003	0 BOGGSKO	HANIES AND COMPANY
	0 BOGGSKO	HANIES AND COMPANY

3000 HOYLAKE CT

Year	Uses	Source
2003	OBRANTHarlny	HANIES AND COMPANY
	BU NS Sara	HANIES AND COMPANY
	OBRANTHarlny	HANIES AND COMPANY

FINDINGS

Year	Uses	Source
2003	BU NS Sara	HANIES AND COMPANY

3008 HOYLAKE CT

Year	Uses	Source
2003	BRANTDonald	HANIES AND COMPANY
	BRANTDonald	HANIES AND COMPANY

3012 HOYLAKE CT

Year	Uses	Source
2003	BRANTHariey	HANIES AND COMPANY
	WHITE Eugene	HANIES AND COMPANY
	BRANTHariey	HANIES AND COMPANY
	WHITE Eugene	HANIES AND COMPANY

3016 HOYLAKE CT

Year	Uses	Source
2003	BRANTHariey	HANIES AND COMPANY
	BRANTHariey	HANIES AND COMPANY

3018 HOYLAKE CT

Year	Uses	Source
2003	PRUNIERLeo	HANIES AND COMPANY
	FPRUNIER David E	HANIES AND COMPANY
	PRUNIERNellie	HANIES AND COMPANY
	PRUNIERLeo	HANIES AND COMPANY
	FPRUNIER David E	HANIES AND COMPANY
	PRUNIERNellie	HANIES AND COMPANY

3020 HOYLAKE CT

Year	Uses	Source
2003	ALLEN RAobert	HANIES AND COMPANY
	ALLEN RAobert	HANIES AND COMPANY

FINDINGS

TARGET PROPERTY: ADDRESS NOT LISTED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not listed in the research source.

Address Researched	Address Not Listed in Research Source
Dryden Road/Hoylake Road	2003, 1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922

ADJOINING PROPERTY: ADDRESSES NOT LISTED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not listed in research source.

Address Researched	Address Not Listed in Research Source
2908 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
2908 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
2912 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
2912 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
2916 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
2916 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
2924 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
2924 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
2928 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
2928 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
3000 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
3000 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
3008 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
3008 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
3012 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
3012 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922

FINDINGS

Address Researched	Address Not Listed in Research Source
3016 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
3016 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
3018 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
3018 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
3020 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922
3020 HOYLAKE CT	1996, 1992, 1988, 1983, 1978, 1973, 1968, 1962, 1961, 1958, 1956, 1953, 1948, 1943, 1938, 1933, 1927, 1922

Topographic Maps

MLC 1202 GM Moraine Assembly Plant
2601 Stroop Road
Dayton, OH 45439

Inquiry Number: 2648305.4
December 01, 2009

The EDR Historical Topographic Map Report

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
800.352.0050
www.edrnet.com

EDR Historical Topographic Map Report

Environmental Data Resources, Inc.s (EDR) Historical Topographic Map Report is designed to assist professionals in evaluating potential liability on a target property resulting from past activities. EDRs Historical Topographic Map Report includes a search of a collection of public and private color historical topographic maps, dating back to the early 1900s.

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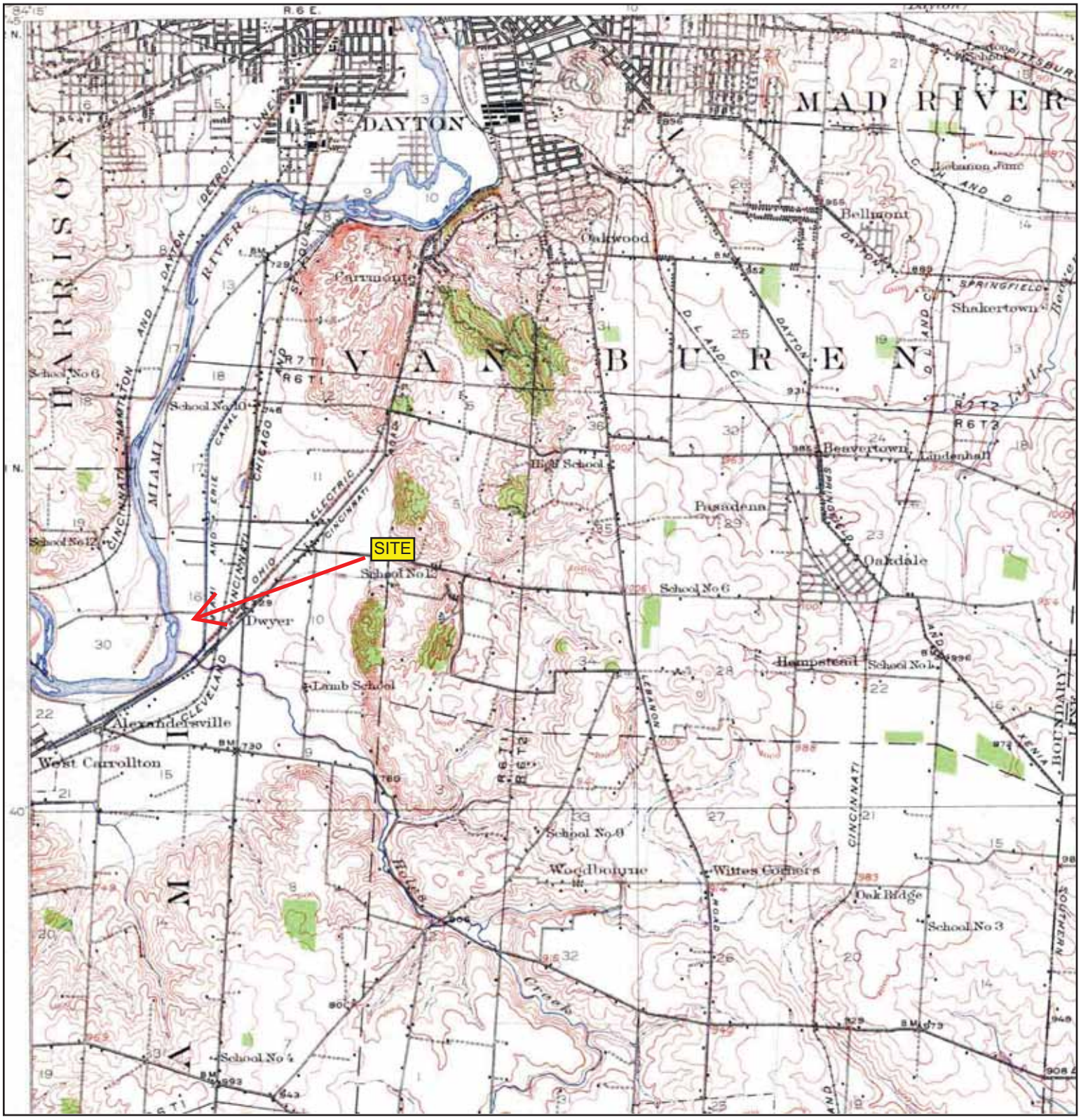
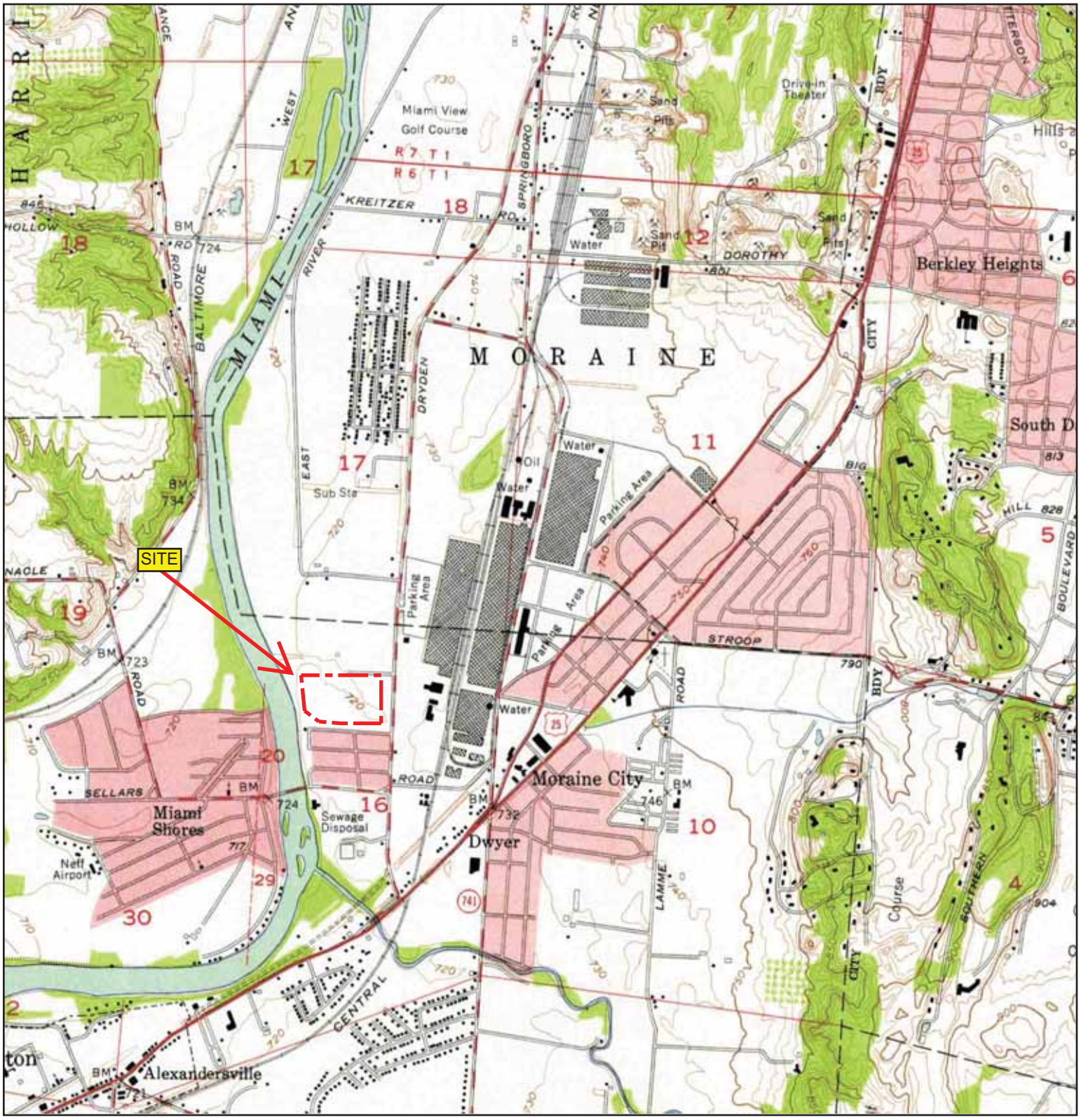
Historical Topographic Map



N	TARGET QUAD NAME: WAYNESVILLE MAP YEAR: 1915 SERIES: 15 SCALE: 1:62500	SITE NAME: MLC 1202 GM Moraine Assembly ADDRESS: 2601 Stroop Road Dayton, OH 45439 LAT/LONG: 39.6975 / 84.2182	CLIENT: LFR Inc. CONTACT: Todd Aebie INQUIRY#: 2648305.4 RESEARCH DATE: 12/01/2009

Historical Topographic Map



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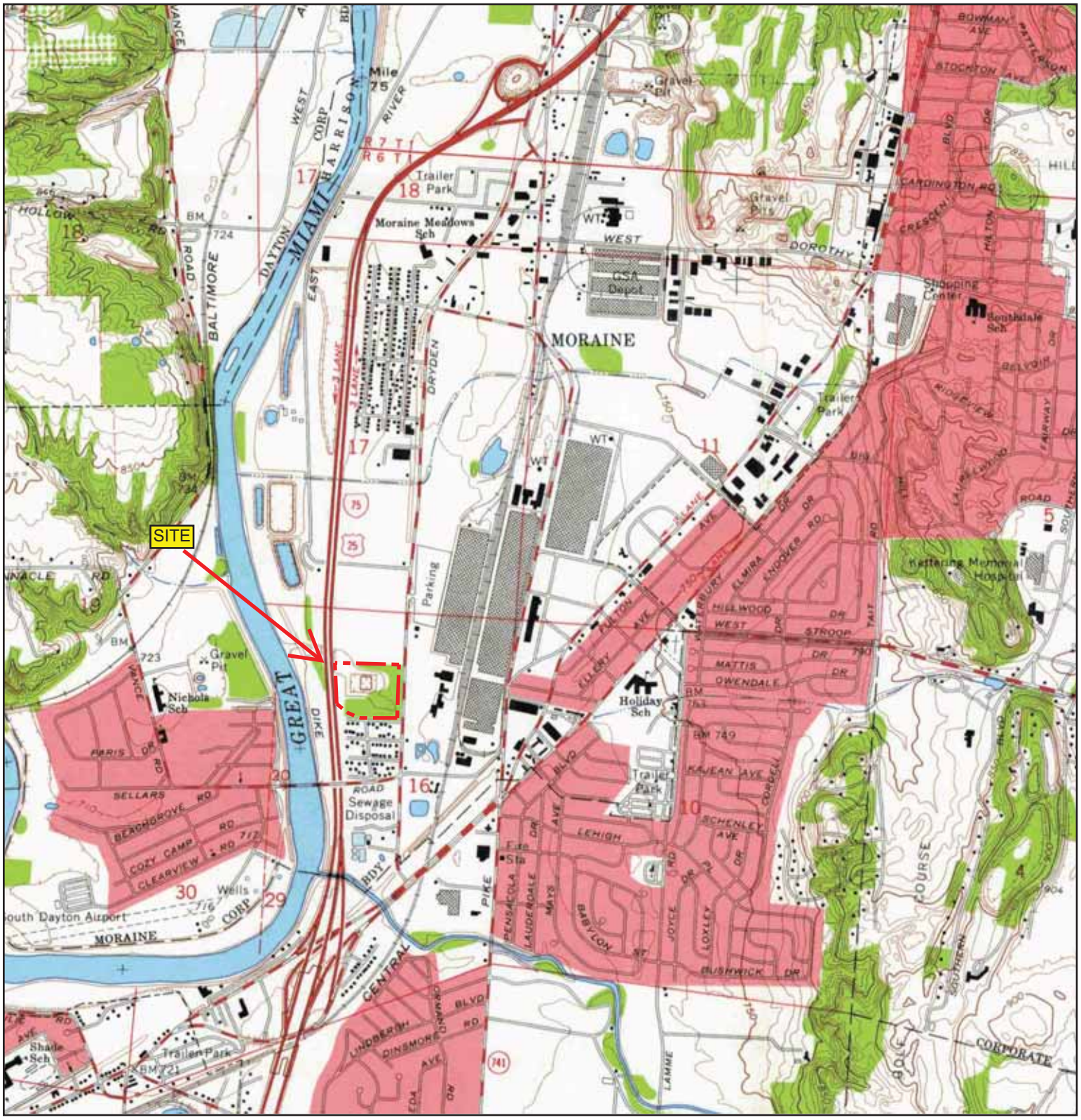
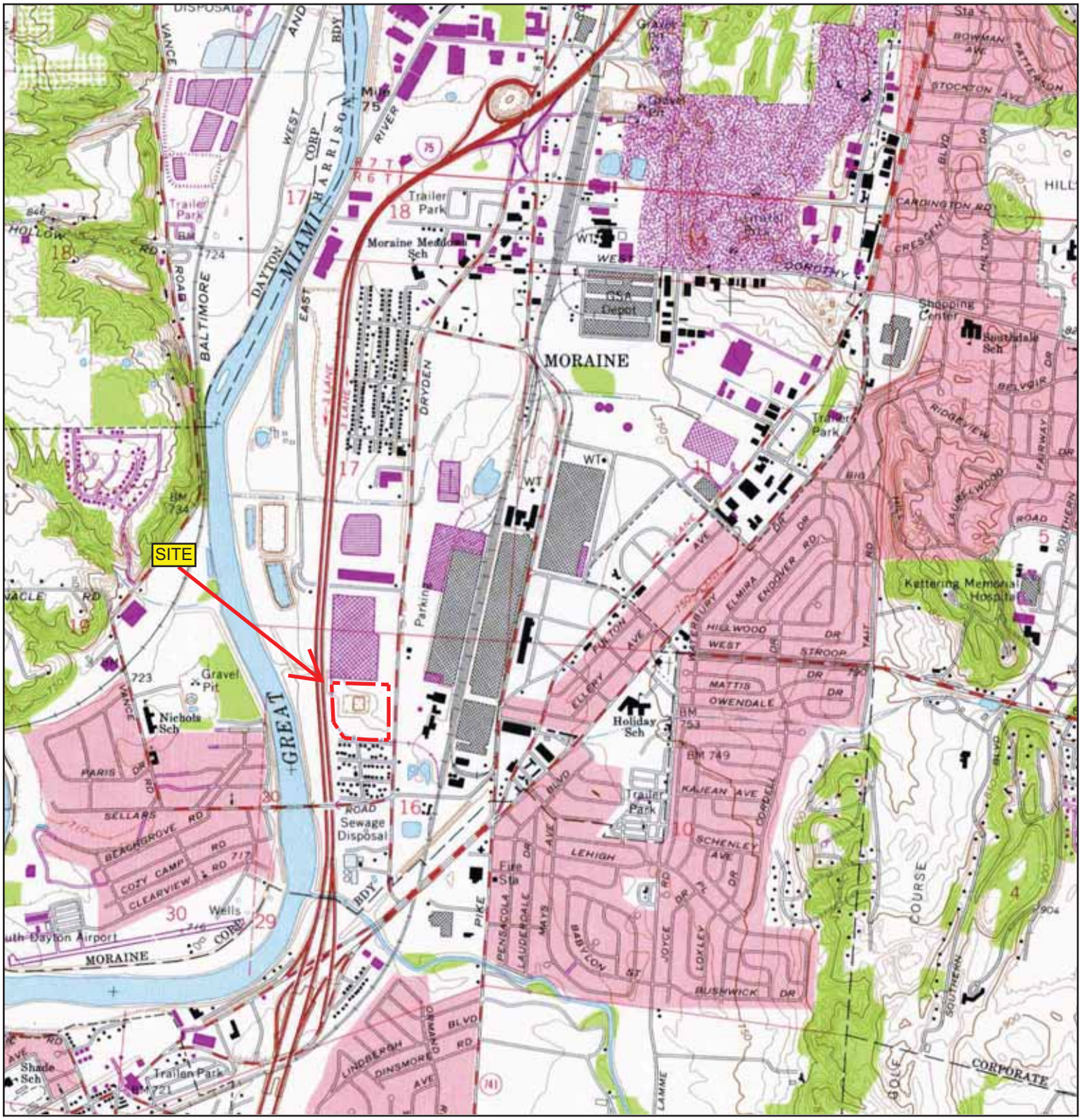
	TARGET QUAD NAME: DAYTON SOUTH MAP YEAR: 1955 SERIES: 7.5 SCALE: 1:24000	SITE NAME: MLC 1202 GM Moraine Assembly ADDRESS: 2601 Stroop Road Dayton, OH 45439 LAT/LONG: 39.6975 / 84.2182	CLIENT: LFR Inc. CONTACT: Todd Aebie INQUIRY#: 2648305.4 RESEARCH DATE: 12/01/2009

Historical Topographic Map



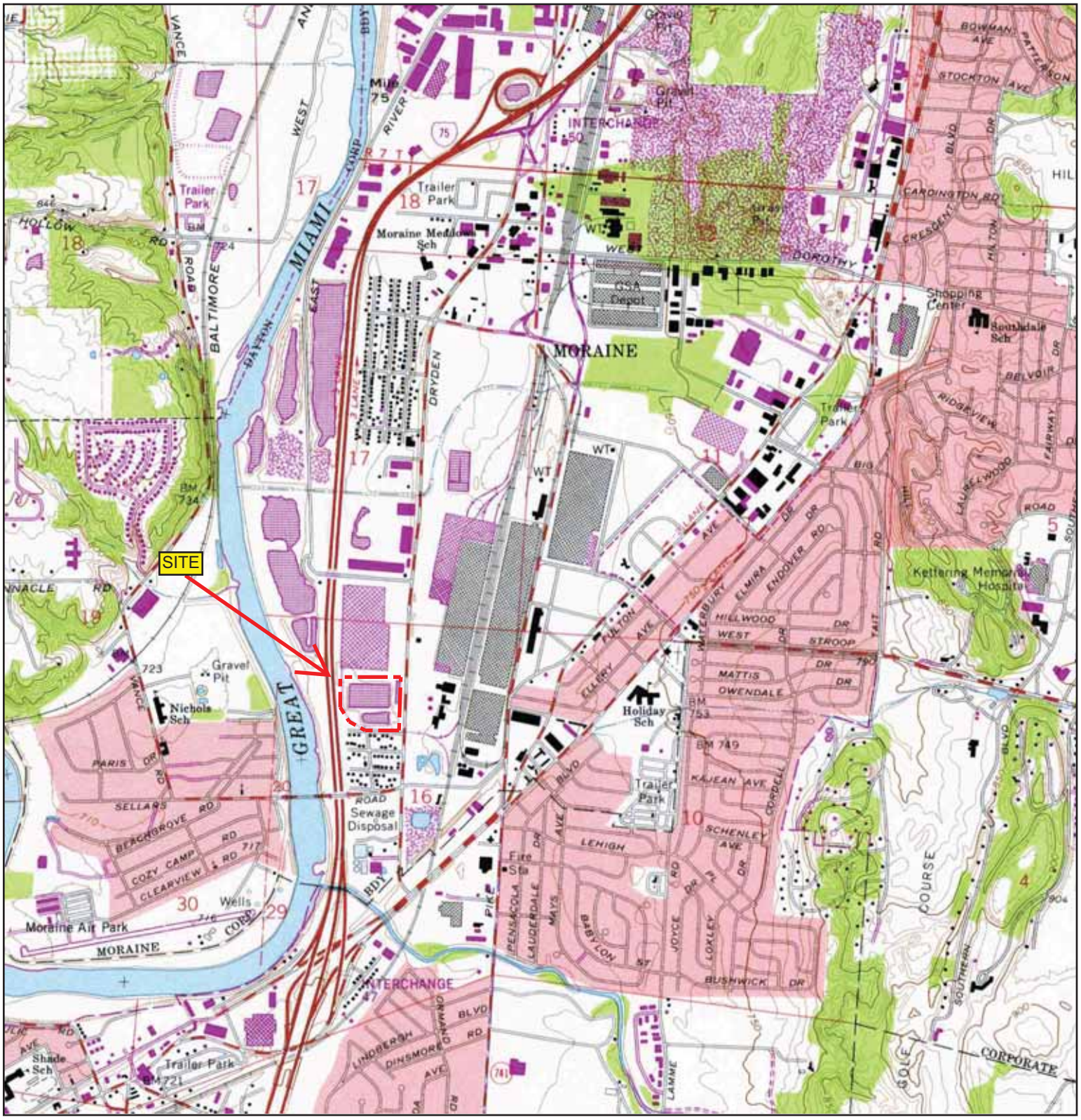
N			
	TARGET QUAD NAME: DAYTON SOUTH MAP YEAR: 1966 SERIES: 7.5 SCALE: 1:24000	SITE NAME: MLC 1202 GM Moraine Assembly ADDRESS: 2601 Stroop Road Dayton, OH 45439 LAT/LONG: 39.6975 / 84.2182	CLIENT: LFR Inc. CONTACT: Todd Aebie INQUIRY#: 2648305.4 RESEARCH DATE: 12/01/2009

Historical Topographic Map



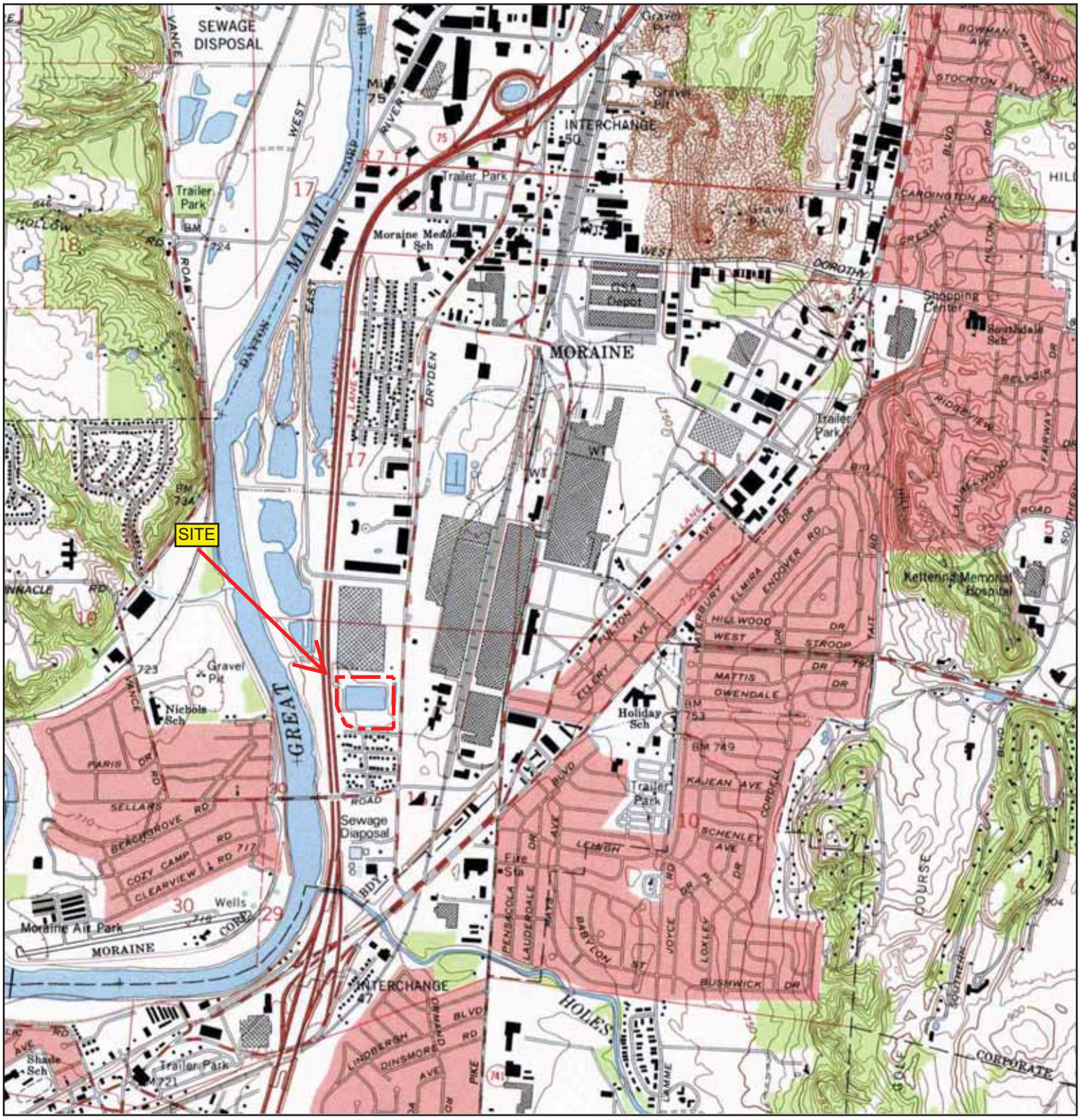
N			
	TARGET QUAD NAME: DAYTON SOUTH MAP YEAR: 1974 PHOTOREVISED FROM:1966 SERIES: 7.5 SCALE: 1:24000	SITE NAME: MLC 1202 GM Moraine Assembly ADDRESS: 2601 Stroop Road Dayton, OH 45439 LAT/LONG: 39.6975 / 84.2182	CLIENT: LFR Inc. CONTACT: Todd Aebie INQUIRY#: 2648305.4 RESEARCH DATE: 12/01/2009

Historical Topographic Map



N			
	TARGET QUAD NAME: DAYTON SOUTH MAP YEAR: 1981 PHOTOREVISED FROM:1966 SERIES: 7.5 SCALE: 1:24000	SITE NAME: MLC 1202 GM Moraine Assembly ADDRESS: 2601 Stroop Road Dayton, OH 45439 LAT/LONG: 39.6975 / 84.2182	CLIENT: LFR Inc. CONTACT: Todd Aebie INQUIRY#: 2648305.4 RESEARCH DATE: 12/01/2009

Historical Topographic Map



N	TARGET QUAD NAME: DAYTON SOUTH MAP YEAR: 1991 REVISED FROM:1966 SERIES: 7.5 SCALE: 1:24000	SITE NAME: MLC 1202 GM Moraine Assembly ADDRESS: 2601 Stroop Road Dayton, OH 45439 LAT/LONG: 39.6975 / 84.2182	CLIENT: LFR Inc. CONTACT: Todd Aebie INQUIRY#: 2648305.4 RESEARCH DATE: 12/01/2009

APPENDIX C

EDR Radius Map Report

Former South Lagoon
Dryden Road/Hoylake Road
Dayton, OH 45439

Inquiry Number: 2678087.2s
January 14, 2010

The EDR Radius Map™ Report with GeoCheck®

EDR® Environmental Data Resources Inc

440 Wheelers Farms Road
Milford, CT 06461
Toll Free: 800.352.0050
www.edrnet.com

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with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-05) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

DRYDEN ROAD/HOYLAKE ROAD
DAYTON, OH 45439

COORDINATES

Latitude (North):	39.691700 - 39° 41' 30.1''
Longitude (West):	84.227800 - 84° 13' 40.1''
Universal Tranverse Mercator:	Zone 16
UTM X (Meters):	737718.4
UTM Y (Meters):	4397005.0
Elevation:	730 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	39084-F2 DAYTON SOUTH, OH
Most Recent Revision:	1991

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	2005, 2006
Source:	USDA

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List

EXECUTIVE SUMMARY

Proposed NPL ---- Proposed National Priority List Sites
NPL LIENS ---- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---- National Priority List Deletions

Federal CERCLIS list

CERCLIS ---- Comprehensive Environmental Response, Compensation, and Liability Information System
FEDERAL FACILITY ---- Federal Facility Site Information listing

Federal RCRA generators list

RCRA-LQG ---- RCRA - Large Quantity Generators
RCRA-SQG ---- RCRA - Small Quantity Generators
RCRA-CESQG ---- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

US ENG CONTROLS ---- Engineering Controls Sites List
US INST CONTROL ---- Sites with Institutional Controls

Federal ERNS list

ERNS ---- Emergency Response Notification System

State- and tribal - equivalent CERCLIS

SHWS ---- This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---- Licensed Solid Waste Facilities

State and tribal leaking storage tank lists

UNREG LTANKS ---- Ohio Leaking UST File
INDIAN LUST ---- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

UST ---- Underground Storage Tank File
INDIAN UST ---- Underground Storage Tanks on Indian Land
FEMA UST ---- Underground Storage Tank Listing

State and tribal institutional control / engineering control registries

ENG CONTROLS ---- Sites with Engineering Controls
INST CONTROL ---- Sites with Institutional Engineering Controls
HIST ENG CONTROLS ---- Operation & Maintenance Agreements Database
HIST INST CONTROLS ---- Institutional Controls Database

State and tribal voluntary cleanup sites

VCP ---- Voluntary Action Program Sites

INDIAN VCP ---- Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS ---- Ohio Brownfield Inventory

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

ODI ---- Open Dump Inventory
DEBRIS REGION 9 ---- Torres Martinez Reservation Illegal Dump Site Locations
HIST LF ---- Old Solid Waste Landfill
INDIAN ODI ---- Report on the Status of Open Dumps on Indian Lands

Local Lists of Hazardous waste / Contaminated Sites

US CDL ---- Clandestine Drug Labs
CDL ---- Clandestine Drug Lab Locations
US HIST CDL ---- National Clandestine Laboratory Register

Local Lists of Registered Storage Tanks

ARCHIVE UST ---- Archived Underground Storage Tank Sites

Local Land Records

LIENS 2 ---- CERCLA Lien Information
LUCIS ---- Land Use Control Information System

Records of Emergency Release Reports

HMIRS ---- Hazardous Materials Information Reporting System
SPILLS ---- Emergency Response Database

Other Ascertainable Records

RCRA-NonGen ---- RCRA - Non Generators
DOT OPS ---- Incident and Accident Data
DOD ---- Department of Defense Sites
FUDS ---- Formerly Used Defense Sites
CONSENT ---- Superfund (CERCLA) Consent Decrees
ROD ---- Records Of Decision
UMTRA ---- Uranium Mill Tailings Sites
MINES ---- Mines Master Index File
TRIS ---- Toxic Chemical Release Inventory System
TSCA ---- Toxic Substances Control Act
FTTS ---- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
HIST FTTS ---- FIFRA/TSCA Tracking System Administrative Case Listing

SSTS Section 7 Tracking Systems
ICIS Integrated Compliance Information System
PADS PCB Activity Database System
MLTS Material Licensing Tracking System
RADINFO Radiation Information Database
FINDS Facility Index System/Facility Registry System
RAATS RCRA Administrative Action Tracking System
TOWNGAS DERR Towngas Database
UIC Underground Injection Wells Listing
DRYCLEANERS Drycleaner Facility Listing
NPDES NPDES General Permit List
AIRS Title V Permits Listing
USD Urban Setting Designation Sites
HIST USD Urban Setting Designations Database
INDIAN RESERV Indian Reservations
SCRD DRYCLEANERS State Coalition for Remediation of Drycleaners Listing
COAL ASH Coal Ash Disposal Site Listing
PCB TRANSFORMER PCB Transformer Registration Database
CRO Cessation of Regulated Operations Facility Listing
COAL ASH EPA Coal Combustion Residues Surface Impoundments List
COAL ASH DOE Sleam-Electric Plan Operation Data

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants EDR Proprietary Manufactured Gas Plants
EDR Historical Auto Stations EDR Proprietary Historic Gas Stations
EDR Historical Cleaners EDR Proprietary Historic Dry Cleaners

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS NFRAP site List

CERC-NFRAP: Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed

and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

A review of the CERC-NFRAP list, as provided by EDR, and dated 06/23/2009 has revealed that there is 1 CERC-NFRAP site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
GMC MANUFACTURING MORAINE UTIL	*3600 DRYDEN ROAD*	*NNE 1/4 - 1/2 (0.359 mi.)*	*A2*	*7*

Federal RCRA CORRACTS facilities list

CORRACTS: CORRACTS is a list of handlers with RCRA Corrective Action Activity. This report shows which nationally-defined corrective action core events have occurred for every handler that has had corrective action activity.

A review of the CORRACTS list, as provided by EDR, and dated 09/15/2009 has revealed that there are 3 CORRACTS sites within approximately 1 mile of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
GMC MANUFACTURING MORAINE UTIL	*3600 DRYDEN ROAD*	*NNE 1/4 - 1/2 (0.359 mi.)*	*A2*	*7*
GENERAL MOTORS CORP POWERTRAIN	*4100 SPRINGBORO ROAD*	*ENE 1/2 - 1 (0.545 mi.)*	*B6*	*51*
GENERAL MOTORS MORAINE ASSEMBL	*2601 WEST STROOP ROAD*	*NE 1/2 - 1 (0.650 mi.)*	*7*	*79*

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

A review of the RCRA-TSDF list, as provided by EDR, and dated 12/11/2009 has revealed that there is 1 RCRA-TSDF site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
GMC MANUFACTURING MORAINE UTIL	*3600 DRYDEN ROAD*	*NNE 1/4 - 1/2 (0.359 mi.)*	*A2*	*7*

State- and tribal - equivalent CERCLIS

DERR: The DERR database is an index of sites for which Ohio EPA maintains files. It includes sites with known or suspected contamination, but a site's inclusion in the database does not mean that it is now or has ever been contaminated.

A review of the DERR list, as provided by EDR, and dated 11/24/2009 has revealed that there are 3

DERR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PERSONAL TOUCH ENVIRONMENTAL	***2710 VANCE RD***	***WNW 1/2 - 1 (0.714 mi.)***	***8***	***111***

Lower Elevation	Address	Direction / Distance	Map ID	Page
GMC HARRISON RADIATOR DIV S PL	***3600 DRYDEN RD***	***NNE 1/4 - 1/2 (0.359 mi.)***	***A3***	***48***
Activity: SA				
GMC POWER TRAIN DIV ENGINE PLT	4100 SPRINGBORO PIKE	ENE 1/2 - 1 (0.545 mi.)	B5	51

State and tribal leaking storage tank lists

LUST: The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking underground storage tank incidents. The data come from the Department of Commerce Division of State Fire Marshal's List of Reported Petroleum Underground Storage Tank Release Incidents.

A review of the LUST list, as provided by EDR, and dated 11/23/2009 has revealed that there are 3 LUST sites within approximately 0.5 miles of the target property.

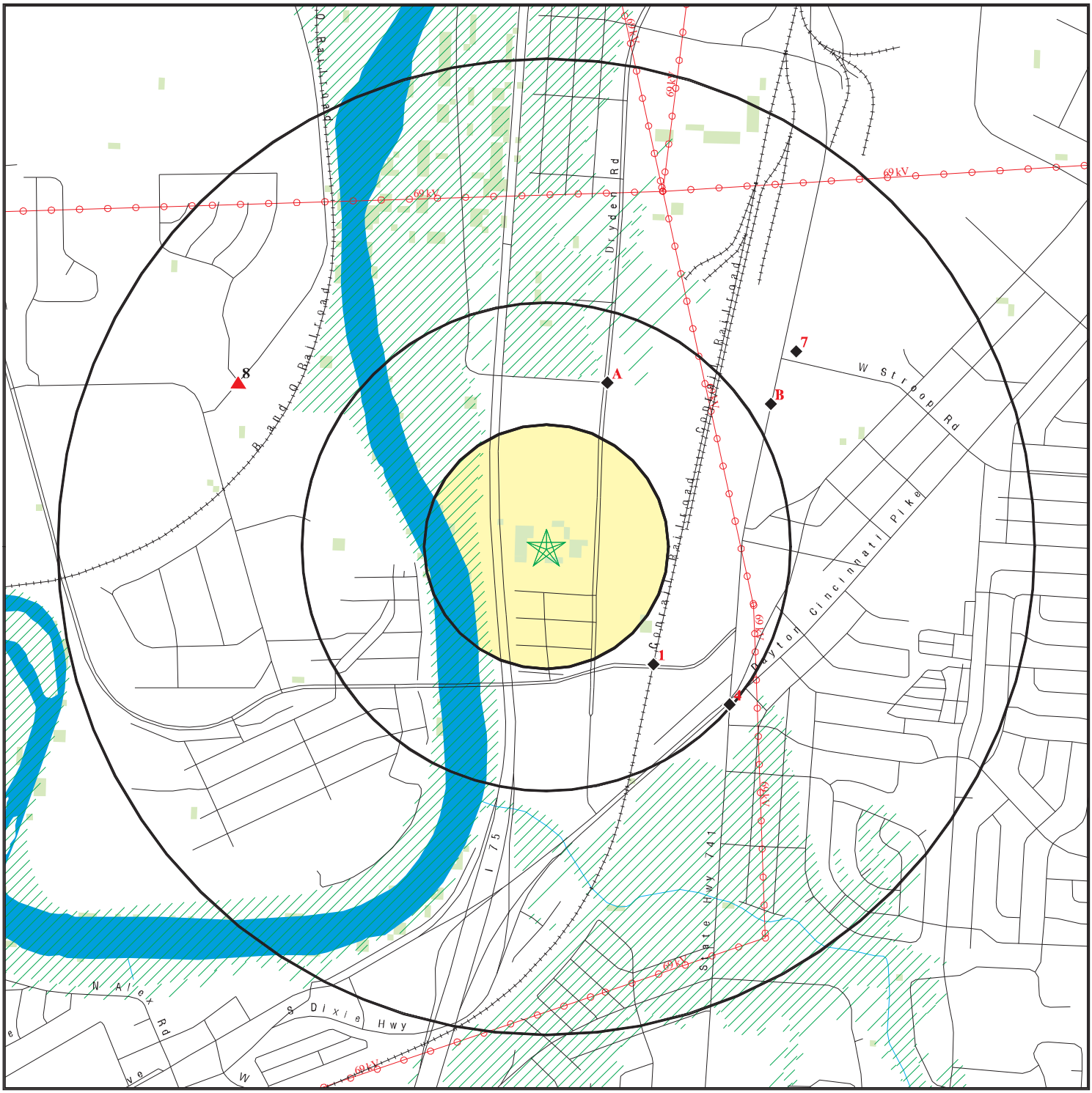
Lower Elevation	Address	Direction / Distance	Map ID	Page
WEILER WELDING	2865 SELLARS RD	SE 1/4 - 1/2 (0.326 mi.)	1	7
FR Status: Inactive FR Status: NFA: No Further Action				
Facility Status: Inactive FR Status: NFA: No Further Action				
GMC HARRISON RADIATOR DIV S PL	***3600 DRYDEN RD***	***NNE 1/4 - 1/2 (0.359 mi.)***	***A3***	***48***
FR Status: Active FR Status: CON: a release is confirmed				
FR Status: Active FR Status: CAP: Corrective Actions in Progress				
**Additional key fields are available in the Map Findings section*				
Facility Status: Active FR Status: CON: a release is confirmed				
Facility Status: Active FR Status: CAP: Corrective Actions in Progress				
**Additional key fields are available in the Map Findings section*				
BRUCE MILLER'S MOBIL	4920 SPRINGBORO PIKE	SE 1/4 - 1/2 (0.495 mi.)	4	51
FR Status: Inactive FR Status: NFA: No Further Action				
Facility Status: Inactive FR Status: NFA: No Further Action				

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped:

Site Name	Database(s)
MONTGOMERY COUNTY SOUTH FACILITY	ARCHIVE UST
SWARTZ MULCH	SWF/LF
HEMPLE RD	FINDS, SWF/LF
BROADWAY SAND & GRAVEL	SWF/LF
DRYDEN ROAD COMMERCIAL LDFL	HIST LF
SOUTH DAYTON LDFL. AKA MORAINE REC	HIST LF
HILLTOP SAND AND GRAVEL	LUST
FORMER GAS STA	UST
BROWNIES TRANSPORATATION	UST
MIAMI VALLEY HOSPTAL SOUTH CAMPU	UST
1945 SOUTH TOWN BLVD	ERNS
FORMER DARROCH FARM PROPERTY	FINDS
MONTGOMERY COUNTY SOUTH INCINERATO	SPILLS
SOUTH DAYTON INCINERATOR	SPILLS
MONTGOMERY COUNTY SOUTH INCINERATO	SPILLS
HARRISON RADIATOR	UNREG LTANKS
OAK CREEK SOUTH PARK	NPDES

OVERVIEW MAP - 2678087.2s



0 1/4 1/2 1 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Former South Lagoon ADDRESS: Dryden Road/Hoylake Road Dayton OH 45439 LAT/LONG: 39.6917 / 84.2278	CLIENT: LFR Inc. CONTACT: Todd Aebie INQUIRY #: 2678087.2s DATE: January 14, 2010 6:24 pm

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DETAIL MAP - 2678087.2s

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Oil & Gas pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Former South Lagoon ADDRESS: Dryden Road/Hoylake Road Dayton OH 45439 LAT/LONG: 39.6917 / 84.2278	CLIENT: LFR Inc. CONTACT: Todd Aebie INQUIRY #: 2678087.2s DATE: January 14, 2010 6:24 pm

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MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL		1.000	0	0	0	0	NR	0
Proposed NPL		1.000	0	0	0	0	NR	0
NPL LIENS		TP	NR	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL		1.000	0	0	0	0	NR	0
Federal CERCLIS list								
CERCLIS		0.500	0	0	0	NR	NR	0
FEDERAL FACILITY		1.000	0	0	0	0	NR	0
Federal CERCLIS NFRAP site List								
CERC-NFRAP		0.500	0	0	1	NR	NR	1
Federal RCRA CORRACTS facilities list								
CORRACTS		1.000	0	0	1	2	NR	3
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF		0.500	0	0	1	NR	NR	1
Federal RCRA generators list								
RCRA-LQG		0.250	0	0	NR	NR	NR	0
RCRA-SQG		0.250	0	0	NR	NR	NR	0
RCRA-CESQG		0.250	0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
US ENG CONTROLS		0.500	0	0	0	NR	NR	0
US INST CONTROL		0.500	0	0	0	NR	NR	0
Federal ERNS list								
ERNS		TP	NR	NR	NR	NR	NR	0
State- and tribal - equivalent CERCLIS								
SHWS		N/A	N/A	N/A	N/A	N/A	N/A	N/A
DERR		1.000	0	0	1	2	NR	3
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF		0.500	0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST		0.500	0	0	3	NR	NR	3
UNREG LTANKS		0.500	0	0	0	NR	NR	0
INDIAN LUST		0.500	0	0	0	NR	NR	0
State and tribal registered storage tank lists								
UST		0.250	0	0	NR	NR	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN UST		0.250	0	0	NR	NR	NR	0
FEMA UST		0.250	0	0	NR	NR	NR	0
State and tribal institutional control / engineering control registries								
ENG CONTROLS		0.500	0	0	0	NR	NR	0
INST CONTROL		0.500	0	0	0	NR	NR	0
HIST ENG CONTROLS		0.500	0	0	0	NR	NR	0
HIST INST CONTROLS		0.500	0	0	0	NR	NR	0
State and tribal voluntary cleanup sites								
VCP		0.500	0	0	0	NR	NR	0
INDIAN VCP		0.500	0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS		0.500	0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS		0.500	0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
ODI		0.500	0	0	0	NR	NR	0
DEBRIS REGION 9		0.500	0	0	0	NR	NR	0
HIST LF		0.500	0	0	0	NR	NR	0
INDIAN ODI		0.500	0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US CDL		TP	NR	NR	NR	NR	NR	0
CDL		TP	NR	NR	NR	NR	NR	0
US HIST CDL		TP	NR	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
ARCHIVE UST		0.250	0	0	NR	NR	NR	0
Local Land Records								
LIENS 2		TP	NR	NR	NR	NR	NR	0
LUCIS		0.500	0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS		TP	NR	NR	NR	NR	NR	0
SPILLS		TP	NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA-NonGen		0.250	0	0	NR	NR	NR	0
DOT OPS		TP	NR	NR	NR	NR	NR	0
DOD		1.000	0	0	0	0	NR	0

MAP FINDINGS SUMMARY

Database	Target Property	Search Distance (Miles)	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
FUDS		1.000	0	0	0	0	NR	0
CONSENT		1.000	0	0	0	0	NR	0
ROD		1.000	0	0	0	0	NR	0
UMTRA		0.500	0	0	0	NR	NR	0
MINES		0.250	0	0	NR	NR	NR	0
TRIS		TP	NR	NR	NR	NR	NR	0
TSCA		TP	NR	NR	NR	NR	NR	0
FTTS		TP	NR	NR	NR	NR	NR	0
HIST FTTS		TP	NR	NR	NR	NR	NR	0
SSTS		TP	NR	NR	NR	NR	NR	0
ICIS		TP	NR	NR	NR	NR	NR	0
PADS		TP	NR	NR	NR	NR	NR	0
MLTS		TP	NR	NR	NR	NR	NR	0
RADINFO		TP	NR	NR	NR	NR	NR	0
FINDS		TP	NR	NR	NR	NR	NR	0
RAATS		TP	NR	NR	NR	NR	NR	0
TOWNGAS		1.000	0	0	0	0	NR	0
UIC		TP	NR	NR	NR	NR	NR	0
DRYCLEANERS		0.250	0	0	NR	NR	NR	0
NPDES		TP	NR	NR	NR	NR	NR	0
AIRS		TP	NR	NR	NR	NR	NR	0
USD		0.500	0	0	0	NR	NR	0
HIST USD		0.500	0	0	0	NR	NR	0
INDIAN RESERV		1.000	0	0	0	0	NR	0
SCRD DRYCLEANERS		0.500	0	0	0	NR	NR	0
COAL ASH		0.500	0	0	0	NR	NR	0
PCB TRANSFORMER		TP	NR	NR	NR	NR	NR	0
CRO		TP	NR	NR	NR	NR	NR	0
COAL ASH EPA		0.500	0	0	0	NR	NR	0
COAL ASH DOE		TP	NR	NR	NR	NR	NR	0

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants	1.000	0	0	0	0	NR	0
EDR Historical Auto Stations	0.250	0	0	NR	NR	NR	0
EDR Historical Cleaners	0.250	0	0	NR	NR	NR	0

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

N/A = This State does not maintain a SHWS list. See the Federal CERCLIS list.

1
SE
1/4-1/2
0.326 mi.
1720 ft.

WEILER WELDING
2865 SELLARS RD
MORAINE, OH 45439

LUST **S104269198**
N/A

Relative:
Lower

Actual:
729 ft.

LUST:
Release Number: 57010127-N00001
Release Date: Not reported
Facility Status: Inactive
LTF Status: 6 Closure of regulated UST
FR Status: NFA: No Further Action
Priority: 3
Review Date: 6/20/2000 0:00

A2
NNE
1/4-1/2
0.359 mi.
1895 ft.

GMC MANUFACTURING MORAINE UTILITIES GROUP
3600 DRYDEN ROAD
MORAINE, OH 45439

Site 1 of 2 in cluster A

RCRA-TSDF **1000116804**
CERC-NFRAP **OHD000817577**
CORRACTS
RCRA-CESQG
PADS
FINDS
RAATS
MANIFEST
SPILLS

Relative:
Lower

Actual:
728 ft.

RCRA-TSDF:
Date form received by agency: 06/18/2009
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: GENERAL MOTORS -FORMER DELPHI HARRISON THERMAL SYS
Facility address: 3600 DRYDEN RD
MORAINE, OH 45439
EPA ID: OHD000817577
Mailing address: 2601 W STROOP RD
MORAINE, OH 45439
Contact: PAMELA L BARNETT
Contact address: 2601 W STROOP RD
MORAINE, OH 45439
Contact country: US
Contact telephone: (937) 478-8221
Contact email: PAM.BARNETT@GM.COM
EPA Region: 05
Land type: Private
Classification: TSDF
Description: Handler is engaged in the treatment, storage or disposal of hazardous waste
TSD commencement date: Not reported
Classification: Conditionally Exempt Small Quantity Generator
Description: Handler: generates 100 kg or less of hazardous waste per calendar month, and accumulates 1000 kg or less of hazardous waste at any time; or generates 1 kg or less of acutely hazardous waste per calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

hazardous waste
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: GENERAL MOTORS WORLDWIDE FACILITIES GRP
Owner/operator address: MAILCODE: 483-520-190 2000 CENTER POINT PKWY
PONTIAC, MI 48431
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/01/1901
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: Unknown
Mixed waste (haz. and radioactive): Unknown
Recycler of hazardous waste: Unknown
Transporter of hazardous waste: Unknown
Treater, storer or disposer of HW: Unknown
Underground injection activity: Unknown
On-site burner exemption: Unknown
Furnace exemption: Unknown
Used oil fuel burner: Unknown
Used oil processor: Unknown
User oil refiner: Unknown
Used oil fuel marketer to burner: Unknown
Used oil Specification marketer: Unknown
Used oil transfer facility: Unknown
Used oil transporter: Unknown
Off-site waste receiver: Commercial status unknown

Universal Waste Summary:
Waste type: Batteries
Accumulated waste on-site: No
Generated waste on-site: Not reported

Waste type: Lamps
Accumulated waste on-site: No
Generated waste on-site: Not reported

Waste type: Pesticides
Accumulated waste on-site: No
Generated waste on-site: Not reported

Waste type: Thermostats
Accumulated waste on-site: No
Generated waste on-site: Not reported

Historical Generators:
Date form received by agency: 04/26/2006
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: FORMER DELPHI HARRISON THERMAL SYS
Classification: Conditionally Exempt Small Quantity Generator

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Date form received by agency: 06/07/2005
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: FORMER DELPHI HARRISON THERMAL SYS
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 02/23/2005
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: FORMER DELPHI HARRISON THERMAL SYS
Classification: Conditionally Exempt Small Quantity Generator

Date form received by agency: 03/02/2004
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: DELPHI HARRISON THERMAL SYSTEMS
Classification: Large Quantity Generator

Date form received by agency: 02/22/2003
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: DELPHI HARRISON THERMAL SYSTEMS
Classification: Large Quantity Generator

Date form received by agency: 10/24/2002
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: DELPHI HARRISON THERMAL SYS MORAINE
Classification: Large Quantity Generator

Date form received by agency: 06/27/2002
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: DELPHI HARRISON THERMAL SYSTEMS
Classification: Large Quantity Generator

Date form received by agency: 02/28/2000
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: DELPHI HARRISON THERMAL SYSTEMS MORAINE
Classification: Large Quantity Generator

Date form received by agency: 01/25/1999
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: DELPHI HARRISON THERMAL SYSTEMS
Classification: Large Quantity Generator

Date form received by agency: 02/24/1998
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: DELPHI HARRISON THERMAL SYSTEMS MORAINE
Classification: Large Quantity Generator

Date form received by agency: 02/28/1996
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: DELPHI HARRISON THERMAL SYSTEMS MORAINE
Classification: Large Quantity Generator

Date form received by agency: 02/24/1994
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: GMC HARRISON DIV MORAINE PLANT
Classification: Large Quantity Generator

Date form received by agency: 02/25/1992
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Site name: GMC HARRISON DIV. MORAINE PLANT
Classification: Large Quantity Generator

Date form received by agency: 02/26/1990
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: GMC HARRISON RADIATOR MORAINE PLANT
Classification: Large Quantity Generator

Date form received by agency: 11/18/1980
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: DELPHI HARRISON THERMAL SYSTEMS
Classification: Not a generator, verified

Date form received by agency: 01/01/1979
Facility name: GENERAL MOTORS -FORMER DELPHI HARRISON T
Site name: DELPHI HARRISON THERMAL SYSTEMS
Classification: Large Quantity Generator

Hazardous Waste Summary:
Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Corrective Action Summary:
Event date: 12/29/1986
Event: RFA Completed, Assessment was an RFA.

Event date: 12/29/1986
Event: RFA Determination Of Need For An RFI, RFI is Necessary;

Event date: 01/31/1991
Event: RFI Imposition, Focused data collection required for stabilization evaluation.

Event date: 03/01/1991
Event: RFI Workplan Received

Event date: 04/30/1991
Event: RFI Workplan Received

Event date: 08/23/1991
Event: CA Prioritization, Facility or area was assigned a high corrective action priority.

Event date: 09/16/1991
Event: RFI Workplan Notice Of Deficiency Issued

Event date: 09/19/1991
Event: CA066

Event date: 09/26/1991

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Event: CA066

Event date: 11/02/1991
Event: RFI Workplan Received

Event date: 02/10/1992
Event: RFI Workplan Notice Of Deficiency Issued

Event date: 06/08/1992
Event: CA156

Event date: 06/08/1992
Event: RFI Workplan Approved

Event date: 06/08/1992
Event: CA147

Event date: 07/15/1992
Event: RFI Supplemental Implementation Begun

Event date: 08/04/1992
Event: Stabilization Measures Evaluation,This facility is not amenable to stabilization activity because of a lack of technical data. An evaluation has been completed, but further data is necessary to determine stabilization measures, feasibility or appropriateness. This status should be changed when data becomes available.

Event date: 08/06/1992
Event: FI Progress Reports Received

Event date: 07/15/1993
Event: RFI Report Received

Event date: 11/30/1994
Event: Stabilization Construction Completed

Event date: 11/30/1994
Event: Stabilization Measures Implemented

Event date: 10/15/1995
Event: Stabilization Measures Implemented, Groundwater extraction and treatment (e.g., to achieve groundwater containment, to achieve MCL).

Event date: 10/15/1995
Event: Stabilization Construction Completed

Event date: 02/29/1996
Event: RFI Report Received

Event date: 10/07/1997
Event: RFI Workplan Modification Requested By Agency

Event date: 06/10/1999
Event: RFI Supplemental Information Received

Event date: 06/24/1999
Event: CA606

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Event date: 06/30/1999
Event: CA077

Event date: 07/19/1999
Event: CA608

Event date: 03/23/2001
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 07/27/2001
Event: CA005EE

Event date: 09/05/2002
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: Not reported
Event: RFI Approved

Event date: Not reported
Event: Stabilization Construction Completed

Facility Has Received Notices of Violations:
Regulation violated: SR - 3745-66-43
Area of violation: TSD - Financial Requirements
Date violation determined: 04/25/2005
Date achieved compliance: 11/10/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/12/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-47
Area of violation: TSD - Financial Requirements
Date violation determined: 04/25/2005
Date achieved compliance: 11/10/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Enforcement action date: 04/27/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-45
Area of violation: TSD - Financial Requirements
Date violation determined: 04/25/2005
Date achieved compliance: 11/10/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 04/27/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-45
Area of violation: TSD - Financial Requirements
Date violation determined: 04/25/2005
Date achieved compliance: 11/10/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/12/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-43
Area of violation: TSD - Financial Requirements
Date violation determined: 04/25/2005
Date achieved compliance: 11/10/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 04/27/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-47
Area of violation: TSD - Financial Requirements
Date violation determined: 04/25/2005
Date achieved compliance: 11/10/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/12/2005

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-55-11
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 06/21/2004
Date achieved compliance: 11/05/2004
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/15/2004
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-55-11,55-18,56-28
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 06/21/2004
Date achieved compliance: 11/05/2004
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/15/2004
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-42
Area of violation: TSD - Financial Requirements
Date violation determined: 06/11/2004
Date achieved compliance: 11/10/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 04/27/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-44
Area of violation: TSD - Financial Requirements
Date violation determined: 06/11/2004
Date achieved compliance: 11/10/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/12/2005
Enf. disposition status: Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-44
Area of violation: TSD - Financial Requirements
Date violation determined: 06/11/2004
Date achieved compliance: 11/10/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/29/2004
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-42
Area of violation: TSD - Financial Requirements
Date violation determined: 06/11/2004
Date achieved compliance: 11/10/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/29/2004
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-42
Area of violation: TSD - Financial Requirements
Date violation determined: 06/11/2004
Date achieved compliance: 11/10/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/12/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-44
Area of violation: TSD - Financial Requirements
Date violation determined: 06/11/2004
Date achieved compliance: 11/10/2005
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 04/27/2005
Enf. disposition status: Not reported
Enf. disp. status date: Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-43(B)(7) & 66-45(B)(7)
Area of violation: TSD - Financial Requirements
Date violation determined: 10/14/2003
Date achieved compliance: 06/22/2004
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/14/2003
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-43(B)(7) & 66-45(B)(7)
Area of violation: TSD - Financial Requirements
Date violation determined: 10/14/2003
Date achieved compliance: 06/22/2004
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/02/2003
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-42 & 66-44
Area of violation: TSD - Financial Requirements
Date violation determined: 06/11/2003
Date achieved compliance: 10/14/2003
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 06/18/2003
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-47
Area of violation: TSD - Financial Requirements
Date violation determined: 06/11/2003
Date achieved compliance: 10/14/2003
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 06/18/2003
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-43 & 66-45
Area of violation: TSD - Financial Requirements
Date violation determined: 06/11/2003
Date achieved compliance: 10/14/2003
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 06/18/2003
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-42(B)(E)
Area of violation: TSD - Financial Requirements
Date violation determined: 02/05/1996
Date achieved compliance: 05/07/1996
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/05/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-43
Area of violation: TSD - Financial Requirements
Date violation determined: 02/05/1996
Date achieved compliance: 05/07/1996
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/05/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-93(D)(3)(a)
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 08/30/1995
Date achieved compliance: 10/20/1997
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/04/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-92(A)(7)(c)
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 08/30/1995
Date achieved compliance: 10/20/1997
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/04/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-92(A)(7)(b)
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 08/30/1995
Date achieved compliance: 10/20/1997
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/04/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-94(B)(2)
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 08/30/1995
Date achieved compliance: 10/20/1997
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/04/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-92(C)(1)
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 08/30/1995
Date achieved compliance: 10/20/1997
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/04/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-92(A)(6)
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 08/30/1995
Date achieved compliance: 10/20/1997
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/04/1995
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-43 & 66-45
Area of violation: TSD - Financial Requirements
Date violation determined: 10/20/1993
Date achieved compliance: 11/29/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/27/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-42 & 66-44
Area of violation: TSD - Financial Requirements
Date violation determined: 05/12/1993
Date achieved compliance: 11/29/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/13/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-43 & 66-45
Area of violation: TSD - Financial Requirements
Date violation determined: 05/12/1993
Date achieved compliance: 11/29/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/13/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Regulation violated: Not reported
Area of violation: LDR - General
Date violation determined: 07/19/1990
Date achieved compliance: 10/20/1997
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 40 CFR 268
Area of violation: LDR - General
Date violation determined: 07/19/1990
Date achieved compliance: 10/20/1997
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 01/09/1990
Date achieved compliance: 10/20/1997
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-91,66-93,66-95
Area of violation: TSD - Tank System Standards
Date violation determined: 07/08/1989
Date achieved compliance: 08/05/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/01/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-54-76

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Area of violation: Generators - General
Date violation determined: 07/08/1989
Date achieved compliance: 08/05/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/01/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 03/31/1987
Date achieved compliance: 10/20/1997
Violation lead agency: State
Enforcement action: INITIAL CIVIL JUDICIAL ACTION FOR COMPLIANCE AND/OR MONETARY PENALTY
Enforcement action date: 09/25/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 03/31/1987
Date achieved compliance: 10/20/1997
Violation lead agency: State
Enforcement action: FINAL CIVIL JUDICIAL ACTION FOR IMMINENT AND SUBSTANTIAL ENDANGERMENT
Enforcement action date: 10/28/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD IS-Ground-Water Monitoring
Date violation determined: 03/31/1987
Date achieved compliance: 10/20/1997
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/06/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD IS-Ground-Water Monitoring

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Date violation determined: 03/31/1987
Date achieved compliance: 10/20/1997
Violation lead agency: State
Enforcement action: REFERRAL TO ATTORNEY GENERAL
Enforcement action date: 06/30/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 06/18/2009
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/29/2009
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/06/2008
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/27/2008
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/19/2007
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/05/2007
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/23/2007
Evaluation: CORRECTIVE ACTION COMPLIANCE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/28/2006
Evaluation: FINANCIAL RECORD REVIEW

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/26/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/07/2005
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/25/2005
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 11/10/2005
Evaluation lead agency: State

Evaluation date: 10/25/2004
Evaluation: FOLLOW-UP INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/21/2004
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 11/05/2004
Evaluation lead agency: State

Evaluation date: 06/11/2004
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 11/10/2005
Evaluation lead agency: State

Evaluation date: 12/02/2003
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 06/22/2004
Evaluation lead agency: State

Evaluation date: 10/14/2003
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 06/22/2004
Evaluation lead agency: State

Evaluation date: 06/13/2003
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Evaluation date: 06/11/2003
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 10/14/2003
Evaluation lead agency: State

Evaluation date: 06/03/2002
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/16/2002
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/25/2001
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/15/2001
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/08/2000
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/30/2000
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/28/1999
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/23/1999
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/29/1998
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/08/1997
Evaluation: GROUNDWATER MONITORING EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 04/15/1997
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/16/1997
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/05/1996
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 05/07/1996
Evaluation lead agency: State

Evaluation date: 01/18/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/30/1995
Evaluation: GROUNDWATER MONITORING EVALUATION
Area of violation: TSD IS-Ground-Water Monitoring
Date achieved compliance: 10/20/1997
Evaluation lead agency: State

Evaluation date: 03/22/1995
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/20/1994
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 03/22/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Evaluation date: 10/20/1993
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 11/29/1993
Evaluation lead agency: State

Evaluation date: 05/12/1993
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 11/29/1993
Evaluation lead agency: State

Evaluation date: 07/31/1992
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/01/1991
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/17/1991
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/17/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/19/1990
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: LDR - General
Date achieved compliance: 10/20/1997
Evaluation lead agency: State

Evaluation date: 07/19/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/26/1990
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/09/1990
Evaluation: GROUNDWATER MONITORING EVALUATION
Area of violation: TSD IS-Ground-Water Monitoring

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Date achieved compliance: 10/20/1997
Evaluation lead agency: State

Evaluation date: 08/21/1989
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/08/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: EPA-Initiated Oversight/Observation/Training Actions

Evaluation date: 07/08/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Tank System Standards
Date achieved compliance: 08/05/1990
Evaluation lead agency: State

Evaluation date: 07/08/1989
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 07/08/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 08/05/1990
Evaluation lead agency: State

Evaluation date: 09/15/1988
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/29/1988
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/29/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/05/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Evaluation date: 03/31/1987
Evaluation: GROUNDWATER MONITORING EVALUATION
Area of violation: TSD IS-Ground-Water Monitoring
Date achieved compliance: 10/20/1997
Evaluation lead agency: State

Evaluation date: 07/31/1986
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/09/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/25/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 05/05/1982
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

CERC-NFRAP:
Site ID: 0504083
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP

CERCLIS-NFRAP Site Contact Name(s):
Contact Title: RESPONSIBLE PARTY INVESTIGATOR
Contact Name: JANET PFUNDHELLER
Contact Tel: (312) 353-5821

CERCLIS-NFRAP Site Alias Name(s):
Alias Name: GMC DELCO AIR CONDITIONING S PLT
Alias Address: Not reported
OH

Alias Name: GMC HARRISON RADIATOR DIV S PLT
Alias Address: Not reported
MONTGOMERY, OH

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: Not reported
Date Completed: 08/01/1980
Priority Level: Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Action: PRELIMINARY ASSESSMENT
Date Started: Not reported
Date Completed: 03/01/1983
Priority Level: Low priority for further assessment

Action: SITE INSPECTION
Date Started: Not reported
Date Completed: 11/01/1991
Priority Level: NFRAP: No further Remedial Action planned

Action: ARCHIVE SITE
Date Started: Not reported
Date Completed: 03/21/1994
Priority Level: Not reported

Action: SH
Date Started: Not reported
Date Completed: 03/21/1994
Priority Level: Not reported

CORRACTS:

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 1/31/1991
Action: CA100DC - RFI Imposition, Focused data collection required for stabilization evaluation
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 2/10/1992
Action: CA140 - RFI Workplan Notice Of Deficiency Issued
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 2/29/1996
Action: CA190 - RFI Report Received
NAICS Code(s): Not reported
Original schedule date: 02/01/1995
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 3/1/1991
Action: CA110 - RFI Workplan Received
NAICS Code(s): Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 3/23/2001
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 4/30/1991
Action: CA110 - RFI Workplan Received
NAICS Code(s): Not reported
Original schedule date: 04/30/1991
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 6/8/1992
Action: CA150 - RFI Workplan Approved
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 6/10/1999
Action: CA160 - RFI Supplemental Information Received
NAICS Code(s): Not reported
Original schedule date: 06/10/1999
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 7/15/1992
Action: CA180 - RFI Supplemental Implementation Begun
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 7/15/1993
Action: CA190 - RFI Report Received
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 8/4/1992
Action: CA225IN - Stabilization Measures Evaluation, This facility is not, amenable to stabilization activity because of, a lack of technical data. An evaluation has been completed, but further data is necessary to determine stabilization measures, feasibility or appropriateness. This status should be changed when data becomes available
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 8/6/1992
Action: CA195 - FI Progress Reports Received
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 8/23/1991
Action: CA075HI - CA Prioritization, Facility or area was assigned a high corrective action priority
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 9/5/2002
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): Not reported
Original schedule date: 12/31/2001
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 9/16/1991
Action: CA140 - RFI Workplan Notice Of Deficiency Issued
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 10/7/1997
Action: CA120 - RFI Workplan Modification Requested By Agency
NAICS Code(s): Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Original schedule date: 09/22/1997
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 10/15/1995
Action: CA600GW - Stabilization Measures Implemented, Groundwater extraction and treatment
NAICS Code(s): Not reported
Original schedule date: 10/15/1995
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 10/15/1995
Action: CA650 - Stabilization Construction Completed
NAICS Code(s): Not reported
Original schedule date: 10/15/1995
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 11/2/1991
Action: CA110 - RFI Workplan Received
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 11/30/1994
Action: CA600 - Stabilization Measures Implemented
NAICS Code(s): Not reported
Original schedule date: 11/30/1994
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 11/30/1994
Action: CA650 - Stabilization Construction Completed
NAICS Code(s): Not reported
Original schedule date: 11/30/1994
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 12/29/1986
Action: CA050RF - RFA Completed, Assessment was an RFA
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 12/29/1986
Action: CA070YE - RFA Determination Of Need For An RFI, RFI is Necessary
NAICS Code(s): Not reported
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: Not reported
Action: CA650 - Stabilization Construction Completed
NAICS Code(s): Not reported
Original schedule date: 12/31/2001
Schedule end date: 12/31/2001

EPA ID: OHD000817577
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: Not reported
Action: CA200 - RFI Approved
NAICS Code(s): Not reported
Original schedule date: 05/30/2000
Schedule end date: 05/30/2000

FINDS:

Registry ID: 110000394895

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

US EPA TRIS (Toxics Release Inventory System) contains information from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

The OH-CORE (Ohio - Core) database contains information commonly shared among the Ohio EPA environmental programs. The information is facility-based, general in nature, and used to support specific programmatic systems while simultaneously maintaining an inventory of common facility-related data. Specific programmatic details are maintained in programmatic databases.

ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

PCS (Permit Compliance System) is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

NY MANIFEST:

EPA ID:	OHD000817577
Country:	USA
Mailing Name:	GENERAL MOTORS CORPORATION HARRISON DIV
Mailing Contact:	BOB GERLING
Mailing Address:	3600 DRYDEN ROAD
Mailing Address 2:	Not reported
Mailing City:	MORAINE
Mailing State:	OH
Mailing Zip:	45439
Mailing Zip4:	Not reported
Mailing Country:	USA
Mailing Phone:	513-455-4408

Document ID:	NYB9074178
Manifest Status:	Not reported
Trans1 State ID:	MOD095038998
Trans2 State ID:	Not reported
Generator Ship Date:	05/10/1999

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Trans1 Recv Date:	05/10/1999
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	05/14/1999
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD049836679
Trans2 EPA ID:	Not reported
TSDF ID:	ORHQ89547
Waste Code:	D009 - MERCURY 0.2 MG/L TCLP
Quantity:	00266
Units:	P - Pounds
Number of Containers:	001
Container Type:	DM - Metal drums, barrels
Handling Method:	R Material recovery of more than 75 percent of the total material.
Specific Gravity:	01.00
Year:	99
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB7405713
Manifest Status:	Completed after the designated time period for a TSDF to get a copy to the DEC
Trans1 State ID:	4362AZOK
Trans2 State ID:	Not reported
Generator Ship Date:	951117
Trans1 Recv Date:	951117
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	951128
Part A Recv Date:	Not reported
Part B Recv Date:	951213
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	ARD981908551
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	00034
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	DM - Metal drums, barrels
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	95
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249578
Manifest Status:	Completed copy
Trans1 State ID:	10259PNY
Trans2 State ID:	Not reported
Generator Ship Date:	910321
Trans1 Recv Date:	910321
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	910325
Part A Recv Date:	910401
Part B Recv Date:	910403
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	16520
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249731
Manifest Status:	Completed copy
Trans1 State ID:	10256PNY
Trans2 State ID:	Not reported
Generator Ship Date:	910328
Trans1 Recv Date:	910328
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	910329
Part A Recv Date:	910408
Part B Recv Date:	910408
Generator EPA ID:	OHD000817577

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	14170
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249587
Manifest Status:	Completed copy
Trans1 State ID:	10260PNY
Trans2 State ID:	Not reported
Generator Ship Date:	910321
Trans1 Recv Date:	910321
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	910322
Part A Recv Date:	910401
Part B Recv Date:	910401
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	15967
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Alt Fac Sign Date: Not reported
Mgmt Method Type Code: Not reported

Document ID: NYB1249623
Manifest Status: Completed copy
Trans1 State ID: 10259PNY
Trans2 State ID: Not reported
Generator Ship Date: 910319
Trans1 Recv Date: 910319
Trans2 Recv Date: Not reported
TSD Site Recv Date: 910320
Part A Recv Date: 910401
Part B Recv Date: 910401
Generator EPA ID: OHD000817577
Trans1 EPA ID: NYD980769947
Trans2 EPA ID: Not reported
TSDF ID: NYD049836679
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 17509
Units: K - Kilograms (2.2 pounds)
Number of Containers: 001
Container Type: DT - Dump trucks
Handling Method: L Landfill.
Specific Gravity: 100
Year: 91
Manifest Tracking Num: Not reported
Import Ind: Not reported
Export Ind: Not reported
Discr Quantity Ind: Not reported
Discr Type Ind: Not reported
Discr Residue Ind: Not reported
Discr Partial Reject Ind: Not reported
Discr Full Reject Ind: Not reported
Manifest Ref Num: Not reported
Alt Fac RCRA Id: Not reported
Alt Fac Sign Date: Not reported
Mgmt Method Type Code: Not reported

Document ID: NYB1249668
Manifest Status: Completed copy
Trans1 State ID: 10261PNY
Trans2 State ID: Not reported
Generator Ship Date: 910326
Trans1 Recv Date: 910326
Trans2 Recv Date: Not reported
TSD Site Recv Date: 910327
Part A Recv Date: 910403
Part B Recv Date: 910404
Generator EPA ID: OHD000817577
Trans1 EPA ID: NYD980769947
Trans2 EPA ID: Not reported
TSDF ID: NYD049836679
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 16130
Units: K - Kilograms (2.2 pounds)

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249551
Manifest Status:	Completed copy
Trans1 State ID:	10255PNY
Trans2 State ID:	11205PNY
Generator Ship Date:	910321
Trans1 Recv Date:	910321
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	910326
Part A Recv Date:	910401
Part B Recv Date:	910404
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	18788
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	CM - Metal boxes, cases, roll-offs
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249632
Manifest Status:	Completed copy

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Trans1 State ID:	10261PNY
Trans2 State ID:	Not reported
Generator Ship Date:	910319
Trans1 Recv Date:	910319
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	910320
Part A Recv Date:	910401
Part B Recv Date:	910401
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	18960
Units:	P - Pounds
Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249641
Manifest Status:	Completed copy
Trans1 State ID:	10256PNY
Trans2 State ID:	Not reported
Generator Ship Date:	910319
Trans1 Recv Date:	910319
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	910320
Part A Recv Date:	910401
Part B Recv Date:	910401
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	19042
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249542
Manifest Status:	Completed copy
Trans1 State ID:	10261PNY
Trans2 State ID:	Not reported
Generator Ship Date:	910321
Trans1 Recv Date:	910321
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	910322
Part A Recv Date:	910401
Part B Recv Date:	910401
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	16075
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249605
Manifest Status:	Completed copy
Trans1 State ID:	10255PNY
Trans2 State ID:	Not reported
Generator Ship Date:	910319
Trans1 Recv Date:	910319
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	910320

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Part A Recv Date:	910401
Part B Recv Date:	910401
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	18461
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249596
Manifest Status:	Completed copy
Trans1 State ID:	10260PNY
Trans2 State ID:	Not reported
Generator Ship Date:	910326
Trans1 Recv Date:	910326
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	910327
Part A Recv Date:	910403
Part B Recv Date:	910404
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	15549
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB7405722
Manifest Status:	Completed after the designated time period for a TSDF to get a copy to the DEC
Trans1 State ID:	4362AZOK
Trans2 State ID:	Not reported
Generator Ship Date:	951117
Trans1 Recv Date:	951117
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	951128
Part A Recv Date:	Not reported
Part B Recv Date:	951213
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	ARD981908551
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	D009 - MERCURY 0.2 MG/L TCLP
Quantity:	00386
Units:	P - Pounds
Number of Containers:	001
Container Type:	DM - Metal drums, barrels
Handling Method:	R Material recovery of more than 75 percent of the total material.
Specific Gravity:	100
Waste Code:	Not reported
Quantity:	00007
Units:	P - Pounds
Number of Containers:	001
Container Type:	DM - Metal drums, barrels
Handling Method:	R Material recovery of more than 75 percent of the total material.
Specific Gravity:	100
Year:	95
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249677
Manifest Status:	Completed copy
Trans1 State ID:	10256PNY
Trans2 State ID:	Not reported
Generator Ship Date:	910326
Trans1 Recv Date:	910326
Trans2 Recv Date:	Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

TSD Site Recv Date:	910327
Part A Recv Date:	910403
Part B Recv Date:	910404
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	17981
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249614
Manifest Status:	Completed copy
Trans1 State ID:	10260PNY
Trans2 State ID:	Not reported
Generator Ship Date:	910319
Trans1 Recv Date:	910319
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	910320
Part A Recv Date:	910401
Part B Recv Date:	910401
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	16611
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249560
Manifest Status:	Completed copy
Trans1 State ID:	10256PNY
Trans2 State ID:	Not reported
Generator Ship Date:	910321
Trans1 Recv Date:	910321
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	910322
Part A Recv Date:	910401
Part B Recv Date:	910401
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	19577
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249695
Manifest Status:	Completed copy
Trans1 State ID:	10259PNY
Trans2 State ID:	Not reported
Generator Ship Date:	910326
Trans1 Recv Date:	910326
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	910327
Part A Recv Date:	910403
Part B Recv Date:	910404
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	15105
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYB1249686
Manifest Status:	Completed copy
Trans1 State ID:	10257PNY
Trans2 State ID:	Not reported
Generator Ship Date:	910326
Trans1 Recv Date:	910326
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	910327
Part A Recv Date:	910403
Part B Recv Date:	910404
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	NYD980769947
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	18761
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	DT - Dump trucks
Handling Method:	L Landfill.
Specific Gravity:	100
Year:	91
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Document ID:	NYB7736535
Manifest Status:	Completed copy
Trans1 State ID:	5025BGOK
Trans2 State ID:	Not reported
Generator Ship Date:	960710
Trans1 Recv Date:	960710
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	960712
Part A Recv Date:	Not reported
Part B Recv Date:	960729
Generator EPA ID:	OHD000817577
Trans1 EPA ID:	ARD981908551
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	D009 - MERCURY 0.2 MG/L TCLP
Quantity:	00007
Units:	P - Pounds
Number of Containers:	001
Container Type:	DM - Metal drums, barrels
Handling Method:	R Material recovery of more than 75 percent of the total material.
Specific Gravity:	100
Year:	96
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Click this hyperlink while viewing on your computer to access
2 additional NY_MANIFEST: record(s) in the EDR Site Report.

SPILLS:

Spill No.:	0801-57-0113
Spill Year:	2008
Sequential Number:	Not reported
Date Spill Reported:	1/10/2008 09:38:26
Spill Month:	1
Spill Number:	113
Reporter Name:	HOLLEY HANES
Confidential:	No
District Code:	SW
County Code:	57
Employee Number:	Not reported
Lat/Long:	Not reported
Product Spilled Name:	WASTE WATER
Product Spilled Name:	WASTE WATER
Product Spilled Name:	WASTE WATER

Spill No.:	0806-57-2628
Spill Year:	2008

GMC MANUFACTURING MORAINE UTILITIES GROUP (Continued) **1000116804**

Sequential Number:	Not reported
Date Spill Reported:	6/16/2008 00:00:00
Spill Month:	6
Spill Number:	2628
Reporter Name:	HOLLEY HANES
Confidential:	No
District Code:	SW
County Code:	57
Employee Number:	Not reported
Lat/Long:	Not reported
Product Spilled Name:	WASTE WATER
Product Spilled Name:	WASTE WATER

A3 **GMC HARRISON RADIATOR DIV S PLT** **DERR S103686374**
NNE **3600 DRYDEN RD** **UIC N/A**
1/4-1/2 **MORAINE, OH 45439** **LUST**
0.359 mi. **SPILLS**
1895 ft. **Site 2 of 2 in cluster A**

Relative:
Lower

Actual:
728 ft.

DERR:

DERR ID:	557000338
District:	SWDO
Alias:	Not reported
Lat/Long:	39.698836298499998 -84.219672703800001
EPA ID:	OHD000817577
Program:	**Site Addessment**
Contact Phone:	(937) 285-6357

UIC:

Facility Id Number:	7320J
Facility Status:	Not reported
Latitude:	0
Longitude:	0
Number Of UIC Wells:	Not reported
Type Of UIC Well:	Aquifer Remediation
Type Description:	Not reported
Status:	Not reported
UIC Number:	Not reported
Buisness Active:	True
Well Id:	Not reported
Well construction:	Not reported

UIC:

Facility Id Number:	7320J
Facility Status:	Not reported
Latitude:	0
Longitude:	0
Number Of UIC Wells:	Not reported
Type Of UIC Well:	Aquifer Remediation
Type Description:	Not reported
Status:	Not reported
UIC Number:	Not reported
Buisness Active:	True
Well Id:	Not reported
Well construction:	Not reported

GMC HARRISON RADIATOR DIV S PLT (Continued) **S103686374**

LUST:
Release Number: 57000002-N00005
Release Date: 11/10/1992
Facility Status: Active
LTF Status: 1 SUS/CON from regulated UST
FR Status: CON: a release is confirmed
Priority: 2
Review Date: 7/12/2006 0:00

Release Number: 57000002-N00007
Release Date: 11/10/1992
Facility Status: Active
LTF Status: 1 SUS/CON from regulated UST
FR Status: CAP: Corrective Actions in Progress
Priority: 1
Review Date: 7/14/2006 0:00

Release Number: 57000002-N00006
Release Date: 11/10/1992
Facility Status: Active
LTF Status: 1 SUS/CON from regulated UST
FR Status: CAP: Corrective Actions in Progress
Priority: 1
Review Date: 7/14/2006 0:00

Release Number: 57000002-N00002
Release Date: 12/14/1990
Facility Status: Active
LTF Status: 1 SUS/CON from regulated UST
FR Status: CON: a release is confirmed
Priority: 2
Review Date: 11/20/2009 0:00

Release Number: 57000002-N00004
Release Date: 3/31/1992
Facility Status: Active
LTF Status: 1 SUS/CON from regulated UST
FR Status: CON: a release is confirmed
Priority: 2
Review Date: 11/20/2009 0:00

Release Number: 57000002-N00008
Release Date: 11/10/1992
Facility Status: Active
LTF Status: 1 SUS/CON from regulated UST
FR Status: NFA: No Further Action
Priority: 2
Review Date: 6/3/2005 0:00

SPILLS:
Spill No.: 8802-57-0321
Spill Year: 1988
Sequential Number: Not reported
Date Spill Reported: 02/02/88
Spill Month: 2
Spill Number: 0321

GMC HARRISON RADIATOR DIV S PLT (Continued) **S103686374**

Reporter Name: COMPANY
Confidential: No
District Code: SW
County Code: 57
Employee Number: Not reported
Lat/Long: Not reported
Product Spilled Name: CUTTING OIL

Spill No.: 8802-57-0346
Spill Year: 1988
Sequential Number: Not reported
Date Spill Reported: 02/04/88
Spill Month: 2
Spill Number: 0346
Reporter Name: COMPANY
Confidential: No
District Code: SW
County Code: 57
Employee Number: Not reported
Lat/Long: 394237 / 841406
Product Spilled Name: CALGON H130 MICROBIOCIDE
Product Spilled Name: DIDECYL DIMETHYL AMMONIUM CHLORIDE
Product Spilled Name: 2-PROPANOL

Spill No.: 9107-57-3169
Spill Year: 1991
Sequential Number: Not reported
Date Spill Reported: 07/31/91
Spill Month: 7
Spill Number: 3169
Reporter Name: COMPANY
Confidential: No
District Code: SW
County Code: 57
Employee Number: Not reported
Lat/Long: Not reported
Product Spilled Name: SEE SPILL #9107-57-3167
Product Spilled Name: MATERIAL RED

Spill No.: 9101-57-0046
Spill Year: 1991
Sequential Number: Not reported
Date Spill Reported: 01/04/91
Spill Month: 1
Spill Number: 0046
Reporter Name: COMPANY
Confidential: No
District Code: SW
County Code: 57
Employee Number: Not reported
Lat/Long: Not reported
Product Spilled Name: PCB

Spill No.: 9207-57-3073
Spill Year: 1992
Sequential Number: Not reported
Date Spill Reported: 07/16/92

GMC HARRISON RADIATOR DIV S PLT (Continued) **S103686374**

Spill Month: 7
Spill Number: 3073
Reporter Name: COMPANY
Confidential: No
District Code: SW
County Code: 57
Employee Number: Not reported
Lat/Long: Not reported
Product Spilled Name: WASTE WATER

Click this hyperlink while viewing on your computer to access
13 additional OH SPILL: record(s) in the EDR Site Report.

4
SE
1/4-1/2
0.495 mi.
2616 ft.

BRUCE MILLER'S MOBIL **LUST** **S104258346**
4920 SPRINGBORO PIKE **N/A**
MORAINE, OH 45439

Relative:
Lower

Actual:
729 ft.

LUST:
Release Number: 57000261-N00001
Release Date: 10/2/1995
Facility Status: Inactive
LTF Status: 1 SUS/CON from regulated UST
FR Status: NFA: No Further Action
Priority: 2
Review Date: 9/16/2004 0:00

B5
ENE
1/2-1
0.545 mi.
2878 ft.

GMC POWER TRAIN DIV ENGINE PLT **DERR** **S104517809**
4100 SPRINGBORO PIKE **N/A**
MORAINE, OH 45401

Site 1 of 2 in cluster B

Relative:
Lower

Actual:
729 ft.

DERR:
DERR ID: 557001770
District: SWDO
Alias: Not reported
Lat/Long: 39.695853999999997 -84.219099999999997
EPA ID: OHD980569388
Program: Not reported
Contact Phone: (937) 285-6357

B6
ENE
1/2-1
0.545 mi.
2878 ft.

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE **CERC-NFRAP** **1000124585**
4100 SPRINGBORO ROAD **CORRACTS** **OHD980569388**
MORAINE, OH 45439 **RCRA-LQG**
PADS
Site 2 of 2 in cluster B **FINDS**
LUST
MANIFEST

Relative:
Lower

Actual:
729 ft.

CERC-NFRAP:
Site ID: 0507228
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Non NPL Status: Deferred to RCRA

CERCLIS-NFRAP Site Contact Name(s):
Contact Title: RESPONSIBLE PARTY INVESTIGATOR
Contact Name: JANET PFUNDHELLER
Contact Tel: (312) 353-5821

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: Not reported
Date Completed: 04/09/1991
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: Not reported
Date Completed: 04/23/1993
Priority Level: Deferred to RCRA (Subtitle C)

Action: ARCHIVE SITE
Date Started: Not reported
Date Completed: 12/27/1995
Priority Level: Not reported

CORRACTS:

EPA ID: OHD980569388
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 2/25/2004
Action: CA075HI - CA Prioritization, Facility or area was assigned a high corrective action priority
NAICS Code(s): 33639
Other Motor Vehicle Parts Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD980569388
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 3/20/1997
Action: CA100 - RFI Imposition
NAICS Code(s): 33639
Other Motor Vehicle Parts Manufacturing
Original schedule date: 03/20/1997
Schedule end date: Not reported

EPA ID: OHD980569388
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 3/23/2001
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): 33639
Other Motor Vehicle Parts Manufacturing
Original schedule date: Not reported

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Schedule end date: Not reported

EPA ID: OHD980569388
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 3/31/1992
Action: CA075LO - CA Prioritization, Facility or area was assigned a low corrective action priority
NAICS Code(s): 33639
Other Motor Vehicle Parts Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD980569388
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 9/26/2000
Action: CA200 - RFI Approved
NAICS Code(s): 33639
Other Motor Vehicle Parts Manufacturing
Original schedule date: 05/30/2000
Schedule end date: Not reported

EPA ID: OHD980569388
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 9/30/1994
Action: CA075ME - CA Prioritization, Facility or area was assigned a medium corrective action priority
NAICS Code(s): 33639
Other Motor Vehicle Parts Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD980569388
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 12/29/2000
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): 33639
Other Motor Vehicle Parts Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD980569388
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: Not reported
Action: CA650 - Stabilization Construction Completed
NAICS Code(s): 33639
Other Motor Vehicle Parts Manufacturing
Original schedule date: 12/31/2001
Schedule end date: 12/31/2001

RCRA-LQG:
Date form received by agency: 06/25/2002

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Facility name:	GMC MORAINE ENGINE PLANT GMPTG
Facility address:	4100 SPRINGBORO PIKE MORAINE, OH 45439
EPA ID:	OHD980569388
Mailing address:	2601 W STROOP RD MORAINE, OH 454391929
Contact:	HOLLEY J HANES
Contact address:	Not reported Not reported
Contact country:	Not reported
Contact telephone:	(937) 455-2930
Contact email:	HOLLEY.HANES@GM.COM
EPA Region:	05
Land type:	Facility is not located on Indian land. Additional information is not known.
Classification:	Large Quantity Generator
Description:	Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	GMC CHEVROLET MORAINE ENGINE
Owner/operator address:	4100 SPRINGBORO DAYTON, OH 45401
Owner/operator country:	Not reported
Owner/operator telephone:	(313) 297-2355
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	GM POWERTRAIN GROUP
Owner/operator address:	4100 SPRINGBORO PIKE MORAINE, OH 45439
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	01/01/1981
Owner/Op end date:	Not reported

Owner/operator name:	GENERAL MOTORS CORPORATION
Owner/operator address:	300 RENAISSANCE CENTER DETROIT, MI 48243
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	04/17/1928

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Owner/Op end date: Not reported

Owner/operator name: GMC CHEVROLET MORAINE ENGINE
Owner/operator address: 4100 SPRINGBORO
CITY NOT REPORTED, OH 99998
Owner/operator country: Not reported
Owner/operator telephone: (313) 297-2355
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Universal Waste Summary:
Waste type: Batteries
Accumulated waste on-site: No
Generated waste on-site: No

Waste type: Lamps
Accumulated waste on-site: No
Generated waste on-site: No

Waste type: Pesticides
Accumulated waste on-site: No
Generated waste on-site: No

Waste type: Thermostats
Accumulated waste on-site: No
Generated waste on-site: No

Historical Generators:
Date form received by agency: 02/28/2000
Facility name: GMC MORAINE ENGINE PLANT GMPTG
Site name: MORAINE ENGINE PLANT GMPT - GMC
Classification: Large Quantity Generator

Date form received by agency: 02/27/1998
Facility name: GMC MORAINE ENGINE PLANT GMPTG
Site name: MORAINE ENGINE PLANT GMPT - GMC

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Classification: Large Quantity Generator

Date form received by agency: 02/28/1996
Facility name: GMC MORAINE ENGINE PLANT GMPTG
Site name: MORAINE ENGINE PLANT GMPT - GMC
Classification: Large Quantity Generator

Date form received by agency: 06/22/1994
Facility name: GMC MORAINE ENGINE PLANT GMPTG
Site name: MORAINE ENGINE PLANT POWERTRAIN GMC
Classification: Large Quantity Generator

Date form received by agency: 06/22/1994
Facility name: GMC MORAINE ENGINE PLANT GMPTG
Site name: MORAINE ENGINE PLANT POWERTRAIN GMC
Classification: Large Quantity Generator

Date form received by agency: 02/22/1994
Facility name: GMC MORAINE ENGINE PLANT GMPTG
Site name: MORAINE ENGINE PLANT GMPT GMC
Classification: Large Quantity Generator

Date form received by agency: 02/21/1992
Facility name: GMC MORAINE ENGINE PLANT GMPTG
Site name: MORAINE ENGINE PLANT GMPT-GMC
Classification: Large Quantity Generator

Date form received by agency: 02/23/1990
Facility name: GMC MORAINE ENGINE PLANT GMPTG
Site name: MORAINE ENGINE PLANT CPC-GMC
Classification: Large Quantity Generator

Date form received by agency: 11/18/1980
Facility name: GMC MORAINE ENGINE PLANT GMPTG
Site name: MORAINE ENGINE PLANT POWERTRAIN GMC
Classification: Not a generator, verified

Hazardous Waste Summary:
Waste code: F001
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE, AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: NONE
Waste name: None

Waste code: D000
Waste name: Not Defined

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.

Waste code: D002
Waste name: A WASTE WHICH HAS A PH OF LESS THAN 2 OR GREATER THAN 12.5 IS CONSIDERED TO BE A CORROSIVE HAZARDOUS WASTE. SODIUM HYDROXIDE, A CAUSTIC SOLUTION WITH A HIGH PH, IS OFTEN USED BY INDUSTRIES TO CLEAN OR DEGREASE PARTS. HYDROCHLORIC ACID, A SOLUTION WITH A LOW PH, IS USED BY MANY INDUSTRIES TO CLEAN METAL PARTS PRIOR TO PAINTING. WHEN THESE CAUSTIC OR ACID SOLUTIONS BECOME CONTAMINATED AND MUST BE DISPOSED, THE WASTE WOULD BE A CORROSIVE HAZARDOUS WASTE.

Waste code: F001
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLOROETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE, AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F002
Waste name: THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2-TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE LISTED IN F001, F004, OR F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste code: F010
Waste name: QUENCHING BATH RESIDUES FROM OIL BATHS FROM METAL HEAT TREATING OPERATIONS WHERE CYANIDES ARE USED IN THE PROCESS.

Corrective Action Summary:
Event date: 03/31/1992
Event: CA Prioritization, Facility or area was assigned a low corrective action priority.

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Event date: 09/30/1994
Event: CA Prioritization, Facility or area was assigned a medium corrective action priority.

Event date: 03/20/1997
Event: RFI Imposition

Event date: 09/26/2000
Event: RFI Approved

Event date: 12/29/2000
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 03/23/2001
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 07/27/2001
Event: CA005EE

Event date: 02/25/2004
Event: CA Prioritization, Facility or area was assigned a high corrective action priority.

Event date: Not reported
Event: Stabilization Construction Completed

Facility Has Received Notices of Violations:
Regulation violated: SR - 3745-66-43
Area of violation: TSD - Financial Requirements
Date violation determined: 02/05/1996
Date achieved compliance: 05/07/1996
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/05/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-42(B)(E)

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Area of violation: TSD - Financial Requirements
Date violation determined: 02/05/1996
Date achieved compliance: 05/07/1996
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/05/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-52-34(C)(2)
Area of violation: Generators - Pre-transport
Date violation determined: 06/30/1994
Date achieved compliance: 08/23/1994
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/06/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-59-07(A)(1)
Area of violation: LDR - General
Date violation determined: 06/30/1994
Date achieved compliance: 08/23/1994
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 07/06/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-42
Area of violation: TSD - Financial Requirements
Date violation determined: 10/20/1993
Date achieved compliance: 11/29/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/27/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-43
Area of violation: TSD - Financial Requirements

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Date violation determined: 10/20/1993
Date achieved compliance: 11/29/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/27/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-42
Area of violation: TSD - Financial Requirements
Date violation determined: 05/12/1993
Date achieved compliance: 11/29/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/13/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-43
Area of violation: TSD - Financial Requirements
Date violation determined: 05/12/1993
Date achieved compliance: 11/29/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/13/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-52-34(C)(1)
Area of violation: TSD - Container Use and Management
Date violation determined: 11/19/1991
Date achieved compliance: 03/09/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/10/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-13(B)(1)
Area of violation: TSD - General Facility Standards
Date violation determined: 11/19/1991

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Date achieved compliance: 03/09/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/10/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-56(A)(2)
Area of violation: TSD - Contingency Plan and Emergency Procedures
Date violation determined: 11/19/1991
Date achieved compliance: 03/09/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/10/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-13(A)(3)(a)
Area of violation: TSD - General Facility Standards
Date violation determined: 11/19/1991
Date achieved compliance: 03/09/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/10/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-54
Area of violation: TSD - Contingency Plan and Emergency Procedures
Date violation determined: 11/19/1991
Date achieved compliance: 03/09/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/10/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-52(C)
Area of violation: TSD - Contingency Plan and Emergency Procedures
Date violation determined: 11/19/1991
Date achieved compliance: 03/09/1992

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/10/1991
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-59-07(A)(1)(c)
Area of violation: LDR - General
Date violation determined: 12/31/1990
Date achieved compliance: 02/26/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/31/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-73
Area of violation: TSD - Manifest/Records/Reporting
Date violation determined: 10/31/1989
Date achieved compliance: 01/12/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/22/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-13
Area of violation: TSD - General Facility Standards
Date violation determined: 10/31/1989
Date achieved compliance: 01/12/1990
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/22/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD - Financial Requirements
Date violation determined: 08/21/1989
Date achieved compliance: 02/07/1990
Violation lead agency: State

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Enforcement action: WRITTEN INFORMAL
Enforcement action date: 08/21/1989
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-17
Area of violation: TSD - General Facility Standards
Date violation determined: 11/10/1988
Date achieved compliance: 01/06/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/18/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: PC - P.C.
Area of violation: Generators - General
Date violation determined: 11/10/1988
Date achieved compliance: 01/06/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/18/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-52-20
Area of violation: Generators - Manifest
Date violation determined: 11/20/1987
Date achieved compliance: 12/14/1987
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/27/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-54-34
Area of violation: TSD - Preparedness and Prevention
Date violation determined: 11/20/1987
Date achieved compliance: 12/14/1987
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Enforcement action date: 11/27/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: LDR - General
Date violation determined: 11/20/1987
Date achieved compliance: 01/18/1989
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-15(B)(4)
Area of violation: Generators - Pre-transport
Date violation determined: 12/17/1986
Date achieved compliance: 01/26/1987
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/22/1986
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-73(B)(1)
Area of violation: TSD - Manifest/Records/Reporting
Date violation determined: 12/17/1986
Date achieved compliance: 01/26/1987
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/22/1986
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-52-40
Area of violation: Generators - Records/Reporting
Date violation determined: 12/17/1986
Date achieved compliance: 01/26/1987
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/22/1986

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-16
Area of violation: TSD - General Facility Standards
Date violation determined: 12/10/1985
Date achieved compliance: 12/17/1986
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/23/1985
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-35
Area of violation: TSD - Preparedness and Prevention
Date violation determined: 12/18/1984
Date achieved compliance: 05/31/1985
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/21/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-16(D)
Area of violation: TSD - General Facility Standards
Date violation determined: 12/18/1984
Date achieved compliance: 05/31/1985
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/21/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-12(A)(4)
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 04/25/1984
Date achieved compliance: 12/18/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/22/1984
Enf. disposition status: Not reported

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-12(A)(2)
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 04/25/1984
Date achieved compliance: 12/18/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/22/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-52
Area of violation: TSD - Contingency Plan and Emergency Procedures
Date violation determined: 04/25/1984
Date achieved compliance: 12/18/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/22/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-16
Area of violation: TSD - General Facility Standards
Date violation determined: 04/25/1984
Date achieved compliance: 12/18/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/22/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-13
Area of violation: TSD - General Facility Standards
Date violation determined: 04/25/1984
Date achieved compliance: 12/18/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/22/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-42
Area of violation: TSD - Financial Requirements
Date violation determined: 04/25/1984
Date achieved compliance: 12/18/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/22/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-12(A)(3)
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 04/25/1984
Date achieved compliance: 12/18/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/22/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-52-33
Area of violation: Generators - Pre-transport
Date violation determined: 04/25/1984
Date achieved compliance: 12/18/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/22/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-73
Area of violation: TSD - Container Use and Management
Date violation determined: 02/19/1982
Date achieved compliance: 05/05/1982
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/08/1982
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 02/05/1996
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 05/07/1996
Evaluation lead agency: State

Evaluation date: 12/20/1994
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/30/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 08/23/1994
Evaluation lead agency: State

Evaluation date: 06/30/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 08/23/1994
Evaluation lead agency: State

Evaluation date: 10/20/1993
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 11/29/1993
Evaluation lead agency: State

Evaluation date: 05/12/1993
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 11/29/1993
Evaluation lead agency: State

Evaluation date: 11/19/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Contingency Plan and Emergency Procedures
Date achieved compliance: 03/09/1992
Evaluation lead agency: State

Evaluation date: 11/19/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General Facility Standards
Date achieved compliance: 03/09/1992
Evaluation lead agency: State

Evaluation date: 11/19/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: 03/09/1992

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Evaluation lead agency: State

Evaluation date: 08/01/1991
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/31/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 02/26/1991
Evaluation lead agency: State

Evaluation date: 11/02/1990
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/02/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/02/1990
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/26/1990
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/17/1989
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 10/31/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Manifest/Records/Reporting
Date achieved compliance: 01/12/1990
Evaluation lead agency: State

Evaluation date: 10/31/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General Facility Standards
Date achieved compliance: 01/12/1990
Evaluation lead agency: State

Evaluation date: 10/31/1989

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/21/1989
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 02/07/1990
Evaluation lead agency: State

Evaluation date: 01/06/1989
Evaluation: COMPLIANCE SCHEDULE EVALUATION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/10/1988
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/10/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 01/06/1989
Evaluation lead agency: State

Evaluation date: 11/10/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General Facility Standards
Date achieved compliance: 01/06/1989
Evaluation lead agency: State

Evaluation date: 09/15/1988
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/20/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Manifest
Date achieved compliance: 12/14/1987
Evaluation lead agency: State

Evaluation date: 11/20/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Preparedness and Prevention
Date achieved compliance: 12/14/1987
Evaluation lead agency: State

Evaluation date: 11/20/1987
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: LDR - General
Date achieved compliance: 01/18/1989

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Evaluation lead agency: State

Evaluation date: 12/17/1986
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 01/26/1987
Evaluation lead agency: State

Evaluation date: 12/17/1986
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Records/Reporting
Date achieved compliance: 01/26/1987
Evaluation lead agency: State

Evaluation date: 12/17/1986
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Manifest/Records/Reporting
Date achieved compliance: 01/26/1987
Evaluation lead agency: State

Evaluation date: 12/10/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General Facility Standards
Date achieved compliance: 12/17/1986
Evaluation lead agency: State

Evaluation date: 12/18/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General Facility Standards
Date achieved compliance: 05/31/1985
Evaluation lead agency: State

Evaluation date: 12/18/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Preparedness and Prevention
Date achieved compliance: 05/31/1985
Evaluation lead agency: State

Evaluation date: 04/25/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Financial Requirements
Date achieved compliance: 12/18/1984
Evaluation lead agency: State

Evaluation date: 04/25/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Contingency Plan and Emergency Procedures
Date achieved compliance: 12/18/1984
Evaluation lead agency: State

Evaluation date: 04/25/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 12/18/1984
Evaluation lead agency: State

Evaluation date: 04/25/1984

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General Facility Standards
Date achieved compliance: 12/18/1984
Evaluation lead agency: State

Evaluation date: 04/25/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 12/18/1984
Evaluation lead agency: State

Evaluation date: 04/22/1983
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/19/1982
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Container Use and Management
Date achieved compliance: 05/05/1982
Evaluation lead agency: State

FINDS:

Registry ID: 110000394546

Environmental Interest/Information System
The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

LUST:
Release Number: 57000005-N00002
Release Date: Not reported
Facility Status: Inactive
LTF Status: 6 Closure of regulated UST
FR Status: NFA: No Further Action
Priority: 3
Review Date: 6/20/2000 0:00

Release Number: 57000005-N00001
Release Date: Not reported
Facility Status: Inactive
LTF Status: 6 Closure of regulated UST
FR Status: NFA: No Further Action
Priority: 3
Review Date: 6/20/2000 0:00

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

NY MANIFEST:

EPA ID:	OHD980569388
Country:	USA
Mailing Name:	GENERAL MOTORS CORP MORAINE ENGINE PLANT
Mailing Contact:	VINCENT FESTA
Mailing Address:	4100 SPRINGBORO RD
Mailing Address 2:	Not reported
Mailing City:	MORAINE
Mailing State:	OH
Mailing Zip:	45439
Mailing Zip4:	Not reported
Mailing Country:	USA
Mailing Phone:	937-455-2229

Document ID:	NYG2991618
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	08/22/2001
Trans1 Recv Date:	08/22/2001
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/23/2001
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD980569388
Trans1 EPA ID:	NYD049836679
Trans2 EPA ID:	Not reported
TSDF ID:	PUR4241OH
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	12628
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	CM - Metal boxes, cases, roll-offs
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	01
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2991627
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	08/22/2001
Trans1 Recv Date:	08/22/2001

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/23/2001
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD980569388
Trans1 EPA ID:	NYD049836679
Trans2 EPA ID:	Not reported
TSDF ID:	PUN6692OH
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	10841
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	CM - Metal boxes, cases, roll-offs
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	01
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2991636
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	08/24/2001
Trans1 Recv Date:	08/24/2001
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/27/2001
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD980569388
Trans1 EPA ID:	NYD049836679
Trans2 EPA ID:	Not reported
TSDF ID:	PUR4241OH
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	12755
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	CM - Metal boxes, cases, roll-offs
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	01
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2991645
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	08/24/2001
Trans1 Recv Date:	08/24/2001
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/30/2001
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD980569388
Trans1 EPA ID:	NYD049836679
Trans2 EPA ID:	Not reported
TSDF ID:	PUH8824OH
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	12773
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	CM - Metal boxes, cases, roll-offs
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	01
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2991654
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	08/24/2001
Trans1 Recv Date:	08/24/2001
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/27/2001
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD980569388
Trans1 EPA ID:	NYD049836679

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Trans2 EPA ID:	Not reported
TSDF ID:	PUH8821OH
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	13517
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	CM - Metal boxes, cases, roll-offs
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	01
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2991672
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	08/20/2001
Trans1 Recv Date:	08/20/2001
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/21/2001
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD980569388
Trans1 EPA ID:	NYD049836679
Trans2 EPA ID:	Not reported
TSDF ID:	PAH6692OH
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	15640
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	CM - Metal boxes, cases, roll-offs
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	01
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Mgmt Method Type Code: Not reported

Document ID: NYG2991681
Manifest Status: Not reported
Trans1 State ID: OHD068913409
Trans2 State ID: Not reported
Generator Ship Date: 08/21/2001
Trans1 Recv Date: 08/21/2001
Trans2 Recv Date: Not reported
TSD Site Recv Date: 08/22/2001
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: OHD980569388
Trans1 EPA ID: NYD049836679
Trans2 EPA ID: Not reported
TSDF ID: PUH8821OH
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 11703
Units: K - Kilograms (2.2 pounds)
Number of Containers: 001
Container Type: CM - Metal boxes, cases, roll-offs
Handling Method: L Landfill.
Specific Gravity: 01.00
Year: 01
Manifest Tracking Num: Not reported
Import Ind: Not reported
Export Ind: Not reported
Discr Quantity Ind: Not reported
Discr Type Ind: Not reported
Discr Residue Ind: Not reported
Discr Partial Reject Ind: Not reported
Discr Full Reject Ind: Not reported
Manifest Ref Num: Not reported
Alt Fac RCRA Id: Not reported
Alt Fac Sign Date: Not reported
Mgmt Method Type Code: Not reported

Document ID: NYG2991699
Manifest Status: Not reported
Trans1 State ID: OHD068913409
Trans2 State ID: Not reported
Generator Ship Date: 08/21/2001
Trans1 Recv Date: 08/21/2001
Trans2 Recv Date: Not reported
TSD Site Recv Date: 08/22/2001
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: OHD980569388
Trans1 EPA ID: NYD049836679
Trans2 EPA ID: Not reported
TSDF ID: PUH8821OH
Waste Code: B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity: 11957
Units: K - Kilograms (2.2 pounds)
Number of Containers: 001

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Container Type:	CM - Metal boxes, cases, roll-offs
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	01
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2990007
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	08/20/2001
Trans1 Recv Date:	08/20/2001
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/21/2001
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD980569388
Trans1 EPA ID:	NYD049836679
Trans2 EPA ID:	Not reported
TSDF ID:	PUR4263OH
Waste Code:	B007 - OTHER MISCELLANEOUS PCB WASTES
Quantity:	12138
Units:	K - Kilograms (2.2 pounds)
Number of Containers:	001
Container Type:	CM - Metal boxes, cases, roll-offs
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	01
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG0404928
Manifest Status:	Not reported
Trans1 State ID:	MOD095038998

GENERAL MOTORS CORP POWERTRAIN MORAINE ENGINE (Continued) **1000124585**

Trans2 State ID:	Not reported
Generator Ship Date:	08/25/1998
Trans1 Recv Date:	08/25/1998
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	08/27/1998
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD980569388
Trans1 EPA ID:	NYD049836679
Trans2 EPA ID:	Not reported
TSDF ID:	DT11716CA
Waste Code:	D009 - MERCURY 0.2 MG/L TCLP
Quantity:	00054
Units:	P - Pounds
Number of Containers:	001
Container Type:	DM - Metal drums, barrels
Handling Method:	R Material recovery of more than 75 percent of the total material.
Specific Gravity:	01.00
Year:	98
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

7
NE
1/2-1
0.650 mi.
3431 ft.

GENERAL MOTORS MORAINE ASSEMBLY **CORRACTS** **1000213107**
2601 WEST STROOP ROAD **RCRA-LQG** **45439GNRLM26**
MORAINE, OH 45439 **TRIS**
FINDS
MANIFEST

Relative:
Lower

Actual:
729 ft.

CORRACTS:

EPA ID:	OHD041063074
EPA Region:	05
Area Name:	ENTIRE FACILITY
Actual Date:	2/25/2004
Action:	CA075HI - CA Prioritization, Facility or area was assigned a high corrective action priority
NAICS Code(s):	336112 Light Truck and Utility Vehicle Manufacturing
Original schedule date:	Not reported
Schedule end date:	Not reported

EPA ID:	OHD041063074
EPA Region:	05
Area Name:	ENTIRE FACILITY
Actual Date:	3/2/2001
Action:	CA150 - RFI Workplan Approved
NAICS Code(s):	336112

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Light Truck and Utility Vehicle Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD041063074
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 3/20/1997
Action: CA100 - RFI Imposition
NAICS Code(s): 336112
Light Truck and Utility Vehicle Manufacturing
Original schedule date: 03/20/1997
Schedule end date: Not reported

EPA ID: OHD041063074
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 3/23/2001
Action: CA750YE - Migration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified
NAICS Code(s): 336112
Light Truck and Utility Vehicle Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD041063074
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 8/30/1991
Action: CA050 - RFA Completed
NAICS Code(s): 336112
Light Truck and Utility Vehicle Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD041063074
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 8/30/1991
Action: CA070YE - RFA Determination Of Need For An RFI, RFI is Necessary
NAICS Code(s): 336112
Light Truck and Utility Vehicle Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD041063074
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 9/26/2000
Action: CA200 - RFI Approved
NAICS Code(s): 336112
Light Truck and Utility Vehicle Manufacturing
Original schedule date: 05/30/2000
Schedule end date: Not reported

EPA ID: OHD041063074
EPA Region: 05

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Area Name: ENTIRE FACILITY
Actual Date: 9/30/1994
Action: CA075ME - CA Prioritization, Facility or area was assigned a medium corrective action priority
NAICS Code(s): 336112
Light Truck and Utility Vehicle Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD041063074
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 12/29/2000
Action: CA725YE - Current Human Exposures Under Control, Yes, Current Human Exposures Under Control has been verified
NAICS Code(s): 336112
Light Truck and Utility Vehicle Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD041063074
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: 12/31/1991
Action: CA075LO - CA Prioritization, Facility or area was assigned a low corrective action priority
NAICS Code(s): 336112
Light Truck and Utility Vehicle Manufacturing
Original schedule date: Not reported
Schedule end date: Not reported

EPA ID: OHD041063074
EPA Region: 05
Area Name: ENTIRE FACILITY
Actual Date: Not reported
Action: CA650 - Stabilization Construction Completed
NAICS Code(s): 336112
Light Truck and Utility Vehicle Manufacturing
Original schedule date: 12/31/2001
Schedule end date: 12/31/2001

RCRA-LQG:
Date form received by agency: 02/26/2008
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Facility address: 2601 W STROOP RD
MORAINE, OH 454391929
EPA ID: OHD041063074
Contact: HOLLEY J HANES
Contact address: Not reported
Not reported
Contact country: Not reported
Contact telephone: (937) 455-2930
Contact email: holley.hanes@gm.com
EPA Region: 05
Land type: Private
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:

Owner/operator name:	GENERAL MOTORS
Owner/operator address:	2601 W STROOP RD MORAINE, OH 45439
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	GENERAL MOTORS-MORAINE ASSEMBLY
Owner/operator address:	2601 W. STROOP RD. MORAINE, OH 45439
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	11/18/1980
Owner/Op end date:	Not reported

Owner/operator name:	GENERAL MOTORS-MORAINE ASSEMBLY
Owner/operator address:	2601 W. STROOP RD. MORAINE, OH 45439
Owner/operator country:	US
Owner/operator telephone:	Not reported
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	11/19/1980
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No
Off-site waste receiver: Commercial status unknown

Universal Waste Summary:
Waste type: Batteries
Accumulated waste on-site: Yes
Generated waste on-site: No

Waste type: Lamps
Accumulated waste on-site: Yes
Generated waste on-site: No

Waste type: Pesticides
Accumulated waste on-site: No
Generated waste on-site: No

Waste type: Thermostats
Accumulated waste on-site: Yes
Generated waste on-site: No

Waste type: Batteries
Accumulated waste on-site: No
Generated waste on-site: No

Waste type: Lamps
Accumulated waste on-site: No
Generated waste on-site: No

Waste type: Pesticides
Accumulated waste on-site: No
Generated waste on-site: No

Waste type: Thermostats
Accumulated waste on-site: No
Generated waste on-site: No

Historical Generators:
Date form received by agency: 02/26/2007
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Classification: Large Quantity Generator

Date form received by agency: 11/17/2006
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Site name: GENERAL MOTORS - MORAINE ASSEMBLY
Classification: Large Quantity Generator

Date form received by agency: 02/28/2006
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Site name: GENERAL MOTORS - MORAINE ASSEMBLY
Classification: Large Quantity Generator

Date form received by agency: 02/25/2005
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Classification: Large Quantity Generator

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Date form received by agency: 02/26/2004
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Classification: Large Quantity Generator

Date form received by agency: 02/28/2003
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Site name: GENERAL MOTORS - MORAINE ASSEMBLY
Classification: Large Quantity Generator

Date form received by agency: 06/28/2002
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Site name: GENERAL MOTORS - MORAINE ASSEMBLY
Classification: Large Quantity Generator

Date form received by agency: 02/29/2000
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Site name: GM TRUCK GROUP MORAINE ASSEMBLY
Classification: Large Quantity Generator

Date form received by agency: 02/25/1998
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Site name: GM TRUCK GROUP MORAINE ASSEMBLY
Classification: Large Quantity Generator

Date form received by agency: 02/26/1996
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Site name: GM TRUCK GROUP MORAINE ASSEMBLY
Classification: Large Quantity Generator

Date form received by agency: 04/08/1994
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Site name: GM NORTH AMERICAN TRUCK PLATFORMS MORAIN
Classification: Large Quantity Generator

Date form received by agency: 02/25/1994
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Site name: GM NATP MORAINE ASSEMBLY
Classification: Large Quantity Generator

Date form received by agency: 03/01/1993
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Site name: GM NORTH AMERICAN TRUCK PLATFORMS MORAIN
Classification: Large Quantity Generator

Date form received by agency: 02/28/1992
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Site name: GM TRUCK & BUS MORAINE ASSEMBLY PLANT
Classification: Large Quantity Generator

Date form received by agency: 02/12/1990
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Site name: GM TRUCK & BUS MORAINE ASSEMBLY PLANT
Classification: Large Quantity Generator

Date form received by agency: 11/18/1980
Facility name: GENERAL MOTORS MORAINE ASSEMBLY
Site name: GM NORTH AMERICAN TRUCK PLATFORMS MORAIN

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Classification: Not a generator, verified

Biennial Reports:

Last Biennial Reporting Year: 2007

Annual Waste Handled:

Waste code: D001
Waste name: IGNITABLE HAZARDOUS WASTES ARE THOSE WASTES WHICH HAVE A FLASHPOINT OF LESS THAN 140 DEGREES FAHRENHEIT AS DETERMINED BY A PENSKY-MARTENS CLOSED CUP FLASH POINT TESTER. ANOTHER METHOD OF DETERMINING THE FLASH POINT OF A WASTE IS TO REVIEW THE MATERIAL SAFETY DATA SHEET, WHICH CAN BE OBTAINED FROM THE MANUFACTURER OR DISTRIBUTOR OF THE MATERIAL. LACQUER THINNER IS AN EXAMPLE OF A COMMONLY USED SOLVENT WHICH WOULD BE CONSIDERED AS IGNITABLE HAZARDOUS WASTE.
Amount (Lbs): 680253

Waste code: D006
Waste name: CADMIUM
Amount (Lbs): 521

Waste code: D008
Waste name: LEAD
Amount (Lbs): 521

Waste code: D018
Waste name: BENZENE
Amount (Lbs): 1775

Waste code: D027
Waste name: 1,4-DICHLOROBENZENE
Amount (Lbs): 521

Waste code: D035
Waste name: METHYL ETHYL KETONE
Amount (Lbs): 2610

Waste code: D039
Waste name: TETRACHLOROETHYLENE
Amount (Lbs): 521

Waste code: D040
Waste name: TRICHLOROETHYLENE
Amount (Lbs): 521

Waste code: F003
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: XYLENE, ACETONE, ETHYL ACETATE, ETHYL BENZENE, ETHYL ETHER, METHYL ISOBUTYL KETONE, N-BUTYL ALCOHOL, CYCLOHEXANONE, AND METHANOL; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONLY THE ABOVE SPENT NON-HALOGENATED SOLVENTS; AND ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS, AND, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THOSE SOLVENTS LISTED IN F001, F002, F004, AND F005, AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 1100

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Waste code: F005
Waste name: THE FOLLOWING SPENT NON-HALOGENATED SOLVENTS: TOLUENE, METHYL ETHYL KETONE, CARBON DISULFIDE, ISOBUTANOL, PYRIDINE, BENZENE, 2-ETHOXYETHANOL, AND 2-NITROPROPANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE NON-HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F002, OR F004; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.
Amount (Lbs): 3340

Corrective Action Summary:

Event date: 08/30/1991
Event: RFA Completed

Event date: 08/30/1991
Event: RFA Determination Of Need For An RFI, RFI is Necessary;

Event date: 12/31/1991
Event: CA Prioritization, Facility or area was assigned a low corrective action priority.

Event date: 09/30/1994
Event: CA Prioritization, Facility or area was assigned a medium corrective action priority.

Event date: 03/20/1997
Event: RFI Imposition

Event date: 09/26/2000
Event: RFI Approved

Event date: 12/29/2000
Event: Current Human Exposures under Control, Yes, Current Human Exposures Under Control has been verified. Based on a review of information contained in the EI determination, current human exposures are expected to be under control at the facility under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.

Event date: 03/02/2001
Event: RFI Workplan Approved

Event date: 03/23/2001
Event: Igration of Contaminated Groundwater under Control, Yes, Migration of Contaminated Groundwater Under Control has been verified. Based on a review of information contained in the EI determination, it has been determined that migration of contaminated groundwater is under control at the facility. Specifically, this determination indicates that the migration of contaminated groundwater is under control, and that monitoring will be conducted to confirm that contaminated groundwater remains within the existing area of contaminated groundwater. This determination will be re-evaluated when the Agency becomes aware of significant changes at the facility.

Event date: 07/25/2001

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Event: CA005EE

Event date: 02/25/2004
Event: CA Prioritization, Facility or area was assigned a high corrective action priority.

Event date: Not reported
Event: Stabilization Construction Completed

Facility Has Received Notices of Violations:
Regulation violated: Not reported
Area of violation: TSD IS-Air Emission Standards - Equipment Leaks
Date violation determined: 04/17/2001
Date achieved compliance: 05/26/2009
Violation lead agency: EPA
Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 10/17/2003
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 04/17/2001
Date achieved compliance: 05/26/2009
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 05/26/2009
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: TSD IS-Air Emission Standards - Equipment Leaks
Date violation determined: 04/17/2001
Date achieved compliance: 05/26/2009
Violation lead agency: EPA
Enforcement action: FINAL 3008(A) COMPLIANCE ORDER
Enforcement action date: 05/26/2009
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: Generators - General
Date violation determined: 04/17/2001
Date achieved compliance: 05/26/2009
Violation lead agency: EPA

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Enforcement action: INITIAL 3008(A) COMPLIANCE
Enforcement action date: 10/17/2003
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-43
Area of violation: TSD - Financial Requirements
Date violation determined: 02/05/1996
Date achieved compliance: 05/07/1996
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/05/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-42(B)(E)
Area of violation: TSD - Financial Requirements
Date violation determined: 02/05/1996
Date achieved compliance: 05/07/1996
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/05/1996
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-74(A)(B)
Area of violation: Generators - Pre-transport
Date violation determined: 01/31/1994
Date achieved compliance: 03/15/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/08/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-52-34(A)(2)
Area of violation: Generators - Pre-transport
Date violation determined: 01/31/1994
Date achieved compliance: 03/15/1995
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Enforcement action date: 02/08/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-43
Area of violation: TSD - Financial Requirements
Date violation determined: 10/20/1993
Date achieved compliance: 11/29/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 10/27/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-43
Area of violation: TSD - Financial Requirements
Date violation determined: 05/12/1993
Date achieved compliance: 11/29/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/13/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-42
Area of violation: TSD - Financial Requirements
Date violation determined: 05/12/1993
Date achieved compliance: 11/29/1993
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 05/13/1993
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-52-34(A)(2)(3)
Area of violation: Generators - Pre-transport
Date violation determined: 11/25/1991
Date achieved compliance: 01/17/1992
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/13/1991

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: Not reported
Area of violation: LDR - General
Date violation determined: 12/04/1990
Date achieved compliance: 01/24/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/10/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: - 40 CFR 268
Area of violation: LDR - General
Date violation determined: 12/04/1990
Date achieved compliance: 01/24/1991
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/10/1990
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-52-20
Area of violation: Generators - Manifest
Date violation determined: 12/23/1988
Date achieved compliance: 02/22/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/28/1988
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-94
Area of violation: TSD - Tank System Standards
Date violation determined: 12/23/1988
Date achieved compliance: 02/22/1989
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/28/1988
Enf. disposition status: Not reported

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-52-23
Area of violation: TSD - Manifest/Records/Reporting
Date violation determined: 12/03/1987
Date achieved compliance: 12/15/1987
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/08/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-52-40 & 52-42
Area of violation: Generators - Records/Reporting
Date violation determined: 12/03/1987
Date achieved compliance: 12/15/1987
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 12/08/1987
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-51-31
Area of violation: Generators - General
Date violation determined: 12/11/1986
Date achieved compliance: 02/06/1987
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/22/1986
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-73(B)(1)
Area of violation: TSD - Manifest/Records/Reporting
Date violation determined: 12/11/1986
Date achieved compliance: 02/06/1987
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/22/1986
Enf. disposition status: Not reported
Enf. disp. status date: Not reported

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-52-23(A)(2)
Area of violation: Generators - Manifest
Date violation determined: 11/12/1985
Date achieved compliance: 12/11/1986
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 11/20/1985
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-16
Area of violation: TSD - General Facility Standards
Date violation determined: 03/01/1984
Date achieved compliance: 12/13/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/08/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-12(A)(1)
Area of violation: TSD - Closure/Post-Closure
Date violation determined: 03/01/1984
Date achieved compliance: 12/13/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/08/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-65-51
Area of violation: TSD - Contingency Plan and Emergency Procedures
Date violation determined: 03/01/1984
Date achieved compliance: 12/13/1984
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/08/1984
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: SR - 3745-66-95
Area of violation: TSD - Tank System Standards
Date violation determined: 02/19/1982
Date achieved compliance: 05/05/1982
Violation lead agency: State
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 03/08/1982
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: State
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 05/26/2009
Evaluation: NOT A SIGNIFICANT NON-COMPLIER
Area of violation: TSD IS-Air Emission Standards - Equipment Leaks
Date achieved compliance: 05/26/2009
Evaluation lead agency: EPA

Evaluation date: 05/26/2009
Evaluation: NOT A SIGNIFICANT NON-COMPLIER
Area of violation: Generators - General
Date achieved compliance: 05/26/2009
Evaluation lead agency: EPA

Evaluation date: 11/17/2006
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/02/2001
Evaluation: SIGNIFICANT NON-COMPLIER
Area of violation: TSD IS-Air Emission Standards - Equipment Leaks
Date achieved compliance: 05/26/2009
Evaluation lead agency: EPA

Evaluation date: 11/02/2001
Evaluation: SIGNIFICANT NON-COMPLIER
Area of violation: Generators - General
Date achieved compliance: 05/26/2009
Evaluation lead agency: EPA

Evaluation date: 04/17/2001
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 05/26/2009
Evaluation lead agency: EPA

Evaluation date: 04/17/2001
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Area of violation: TSD IS-Air Emission Standards - Equipment Leaks
Date achieved compliance: 05/26/2009
Evaluation lead agency: EPA

Evaluation date: 03/23/2001
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/29/2000
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/27/1996
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/05/1996
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 05/07/1996
Evaluation lead agency: State

Evaluation date: 03/09/1995
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/20/1994
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 01/31/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 03/15/1995
Evaluation lead agency: State

Evaluation date: 10/20/1993
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 11/29/1993
Evaluation lead agency: State

Evaluation date: 05/12/1993
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: TSD - Financial Requirements
Date achieved compliance: 11/29/1993
Evaluation lead agency: State

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Evaluation date: 11/25/1991
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Pre-transport
Date achieved compliance: 01/17/1992
Evaluation lead agency: State

Evaluation date: 08/01/1991
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/04/1990
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: LDR - General
Date achieved compliance: 01/24/1991
Evaluation lead agency: State

Evaluation date: 12/04/1990
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 06/26/1990
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/30/1989
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 11/30/1989
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 08/21/1989
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/23/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Manifest
Date achieved compliance: 02/22/1989
Evaluation lead agency: State

Evaluation date: 12/23/1988
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Tank System Standards

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Date achieved compliance: 02/22/1989
Evaluation lead agency: State

Evaluation date: 12/23/1988
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 09/15/1988
Evaluation: FINANCIAL RECORD REVIEW
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/03/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Records/Reporting
Date achieved compliance: 12/15/1987
Evaluation lead agency: State

Evaluation date: 12/03/1987
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Manifest/Records/Reporting
Date achieved compliance: 12/15/1987
Evaluation lead agency: State

Evaluation date: 12/03/1987
Evaluation: FOCUSED COMPLIANCE INSPECTION
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 12/11/1986
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Manifest/Records/Reporting
Date achieved compliance: 02/06/1987
Evaluation lead agency: State

Evaluation date: 12/11/1986
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 02/06/1987
Evaluation lead agency: State

Evaluation date: 11/12/1985
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - Manifest
Date achieved compliance: 12/11/1986
Evaluation lead agency: State

Evaluation date: 12/13/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Evaluation date: 03/01/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - General Facility Standards
Date achieved compliance: 12/13/1984
Evaluation lead agency: State

Evaluation date: 03/01/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Closure/Post-Closure
Date achieved compliance: 12/13/1984
Evaluation lead agency: State

Evaluation date: 03/01/1984
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Contingency Plan and Emergency Procedures
Date achieved compliance: 12/13/1984
Evaluation lead agency: State

Evaluation date: 02/16/1983
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Not reported
Date achieved compliance: Not reported
Evaluation lead agency: State

Evaluation date: 02/19/1982
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: TSD - Tank System Standards
Date achieved compliance: 05/05/1982
Evaluation lead agency: State

FINDS:

Registry ID: 110000394886

Environmental Interest/Information System

AFS (Aerometric Information Retrieval System (AIRS) Facility Subsystem) replaces the former Compliance Data System (CDS), the National Emission Data System (NEDS), and the Storage and Retrieval of Aerometric Data (SAROAD). AIRS is the national repository for information concerning airborne pollution in the United States. AFS is used to track emissions and compliance data from industrial plants. AFS data are utilized by states to prepare State Implementation Plans to comply with regulatory programs and by EPA as an input for the estimation of total national emissions. AFS is undergoing a major redesign to support facility operating permits required under Title V of the Clean Air Act.

NCDB (National Compliance Data Base) supports implementation of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Toxic Substances Control Act (TSCA). The system tracks inspections in regions and states with cooperative agreements, enforcement actions, and settlements.

The NEI (National Emissions Inventory) database contains information on stationary and mobile sources that emit criteria air pollutants and their precursors, as well as hazardous air pollutants (HAPs).

US EPA TRIS (Toxics Release Inventory System) contains information

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

from facilities on the amounts of over 300 listed toxic chemicals that these facilities release directly to air, water, land, or that are transported off-site.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

The OH-CORE (Ohio - Core) database contains information commonly shared among the Ohio EPA environmental programs. The information is facility-based, general in nature, and used to support specific programmatic systems while simultaneously maintaining an inventory of common facility-related data. Specific programmatic details are maintained in programmatic databases.

US EPA RACT/BACT/LAER Clearinghouse (RBLC) database contains case-specific information on the "Best Available" air pollution technologies that have been required to reduce the emission of air pollutants from stationary sources (e.g., power plants, steel mills, chemical plants, etc.). RACT, or Reasonably Available Control Technology, is required on existing sources in areas that are not meeting national ambient air quality standards. BACT, or Best Available Control Technology, is required on major new or modified sources in clean areas. LAER, or Lowest Achievable Emission Rate, is required on major new or modified sources in non-attainment areas.

NY MANIFEST:

EPA ID:	OHD041063074
Country:	USA
Mailing Name:	GENERAL MOTORS MORAIN ASSEMBLY-TRUCK
Mailing Contact:	E R BECKER
Mailing Address:	2601 W STROOP RD
Mailing Address 2:	Not reported
Mailing City:	DAYTON
Mailing State:	OH
Mailing Zip:	45439
Mailing Zip4:	Not reported
Mailing Country:	USA
Mailing Phone:	937-455-2813

Document ID:	NYG2989161
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	06/18/2003
Trans1 Recv Date:	06/18/2003
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	06/19/2003
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	NYD049836679

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Trans2 EPA ID:	Not reported
TSDF ID:	0629746ME
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	05500
Units:	P - Pounds
Number of Containers:	011
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	00225
Units:	P - Pounds
Number of Containers:	001
Container Type:	DM - Metal drums, barrels
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	03
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989179
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	09/11/2003
Trans1 Recv Date:	09/11/2003
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	09/16/2003
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	NYD049836679
Trans2 EPA ID:	Not reported
TSDF ID:	ME0629746
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	04950
Units:	P - Pounds
Number of Containers:	011
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	03
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989188
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	12/02/2003
Trans1 Recv Date:	12/02/2003
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	12/03/2003
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	NYD049836679
Trans2 EPA ID:	Not reported
TSDF ID:	ME0629746
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	04500
Units:	P - Pounds
Number of Containers:	010
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	03
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989467
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	03/26/2003
Trans1 Recv Date:	03/26/2003
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	03/27/2003
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Trans1 EPA ID:	NYD049836679
Trans2 EPA ID:	Not reported
TSDF ID:	0629746ME
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	05500
Units:	P - Pounds
Number of Containers:	011
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	03
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989476
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	01/09/2003
Trans1 Recv Date:	01/09/2003
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	01/10/2003
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	NYD049836679
Trans2 EPA ID:	Not reported
TSDF ID:	0629746ME
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	05000
Units:	P - Pounds
Number of Containers:	011
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	03
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989197
Manifest Status:	Not reported
Trans1 State ID:	0629753ME
Trans2 State ID:	Not reported
Generator Ship Date:	03/16/2004
Trans1 Recv Date:	03/16/2004
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	03/18/2004
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	OHD068913409
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	03000
Units:	P - Pounds
Number of Containers:	006
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	16000
Units:	P - Pounds
Number of Containers:	064
Container Type:	DM - Metal drums, barrels
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	04
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989206
Manifest Status:	Not reported
Trans1 State ID:	0629753ME
Trans2 State ID:	Not reported
Generator Ship Date:	02/02/2004
Trans1 Recv Date:	02/02/2004
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	02/03/2004
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Generator EPA ID:	OHD041063074
Trans1 EPA ID:	OHD068913409
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	03150
Units:	P - Pounds
Number of Containers:	007
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	04
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989215
Manifest Status:	Not reported
Trans1 State ID:	0629753ME
Trans2 State ID:	Not reported
Generator Ship Date:	04/20/2004
Trans1 Recv Date:	04/20/2004
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	04/22/2004
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	OHD068913409
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	02200
Units:	P - Pounds
Number of Containers:	005
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	04
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Alt Fac RCRA Id: Not reported
Alt Fac Sign Date: Not reported
Mgmt Method Type Code: Not reported

Document ID: NYG2989224
Manifest Status: Not reported
Trans1 State ID: 0629753ME
Trans2 State ID: Not reported
Generator Ship Date: 06/15/2004
Trans1 Recv Date: 06/15/2004
Trans2 Recv Date: Not reported
TSD Site Recv Date: 06/17/2004
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: OHD041063074
Trans1 EPA ID: OHD068913409
Trans2 EPA ID: Not reported
TSDF ID: NYD049836
Waste Code: D008 - LEAD 5.0 MG/L TCLP
Quantity: 05000
Units: P - Pounds
Number of Containers: 005
Container Type: CF - Fiber or plastic boxes, cartons
Handling Method: L Landfill.
Specific Gravity: 01.00
Year: 04
Manifest Tracking Num: Not reported
Import Ind: Not reported
Export Ind: Not reported
Discr Quantity Ind: Not reported
Discr Type Ind: Not reported
Discr Residue Ind: Not reported
Discr Partial Reject Ind: Not reported
Discr Full Reject Ind: Not reported
Manifest Ref Num: Not reported
Alt Fac RCRA Id: Not reported
Alt Fac Sign Date: Not reported
Mgmt Method Type Code: Not reported

Document ID: NYG2989242
Manifest Status: Not reported
Trans1 State ID: 0629753ME
Trans2 State ID: Not reported
Generator Ship Date: 08/06/2004
Trans1 Recv Date: 08/06/2004
Trans2 Recv Date: Not reported
TSD Site Recv Date: 08/10/2004
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: OHD041063074
Trans1 EPA ID: OHD068913409
Trans2 EPA ID: Not reported
TSDF ID: NYD049836
Waste Code: D008 - LEAD 5.0 MG/L TCLP
Quantity: 02100

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Units:	P - Pounds
Number of Containers:	005
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	04
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989305
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	06/29/2005
Trans1 Recv Date:	06/29/2005
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	07/05/2005
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	T117060TM
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	04000
Units:	P - Pounds
Number of Containers:	008
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	Not reported
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989314

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	09/23/2005
Trans1 Recv Date:	09/23/2005
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	09/27/2005
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	T117060
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	04000
Units:	P - Pounds
Number of Containers:	008
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	Not reported
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989278
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	01/05/2005
Trans1 Recv Date:	01/05/2005
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	01/06/2005
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	T117060TM
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	05000
Units:	P - Pounds
Number of Containers:	010
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	Not reported

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989287
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	03/04/2005
Trans1 Recv Date:	03/04/2005
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	03/07/2005
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	T117060TN
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	03150
Units:	P - Pounds
Number of Containers:	007
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	Not reported
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989296
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	05/03/2005
Trans1 Recv Date:	05/03/2005
Trans2 Recv Date:	Not reported

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

TSD Site Recv Date:	05/05/2005
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	T117060TN
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	02500
Units:	P - Pounds
Number of Containers:	005
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	Not reported
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989251
Manifest Status:	Not reported
Trans1 State ID:	0629753ME
Trans2 State ID:	Not reported
Generator Ship Date:	10/04/2004
Trans1 Recv Date:	10/04/2004
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	10/06/2004
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	OHD068913409
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	03150
Units:	P - Pounds
Number of Containers:	007
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	04
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Discr Partial Reject Ind: Not reported
Discr Full Reject Ind: Not reported
Manifest Ref Num: Not reported
Alt Fac RCRA Id: Not reported
Alt Fac Sign Date: Not reported
Mgmt Method Type Code: Not reported

Document ID: NYG2989269
Manifest Status: Not reported
Trans1 State ID: 0629753ME
Trans2 State ID: Not reported
Generator Ship Date: 10/07/2004
Trans1 Recv Date: 10/07/2004
Trans2 Recv Date: Not reported
TSD Site Recv Date: 10/12/2004
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: OHD041063074
Trans1 EPA ID: OHD068913409
Trans2 EPA ID: Not reported
TSDF ID: NYD049836
Waste Code: D008 - LEAD 5.0 MG/L TCLP
Quantity: 00950
Units: P - Pounds
Number of Containers: 002
Container Type: CF - Fiber or plastic boxes, cartons
Handling Method: L Landfill.
Specific Gravity: 01.00
Year: 04
Manifest Tracking Num: Not reported
Import Ind: Not reported
Export Ind: Not reported
Discr Quantity Ind: Not reported
Discr Type Ind: Not reported
Discr Residue Ind: Not reported
Discr Partial Reject Ind: Not reported
Discr Full Reject Ind: Not reported
Manifest Ref Num: Not reported
Alt Fac RCRA Id: Not reported
Alt Fac Sign Date: Not reported
Mgmt Method Type Code: Not reported

Document ID: NYG2989278
Manifest Status: Not reported
Trans1 State ID: OHD068913409
Trans2 State ID: Not reported
Generator Ship Date: 01/05/2005
Trans1 Recv Date: 01/05/2005
Trans2 Recv Date: Not reported
TSD Site Recv Date: 01/06/2005
Part A Recv Date: Not reported
Part B Recv Date: Not reported
Generator EPA ID: OHD041063074
Trans1 EPA ID: T117060TM
Trans2 EPA ID: Not reported

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

TSDF ID:	NYD049836679
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	05000
Units:	P - Pounds
Number of Containers:	010
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	2005
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Document ID:	NYG2989287
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	03/04/2005
Trans1 Recv Date:	03/04/2005
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	03/07/2005
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	T117060TN
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	03150
Units:	P - Pounds
Number of Containers:	007
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	2005
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

GENERAL MOTORS MORAINE ASSEMBLY (Continued) **1000213107**

Document ID:	NYG2989296
Manifest Status:	Not reported
Trans1 State ID:	OHD068913409
Trans2 State ID:	Not reported
Generator Ship Date:	05/03/2005
Trans1 Recv Date:	05/03/2005
Trans2 Recv Date:	Not reported
TSD Site Recv Date:	05/05/2005
Part A Recv Date:	Not reported
Part B Recv Date:	Not reported
Generator EPA ID:	OHD041063074
Trans1 EPA ID:	T117060TN
Trans2 EPA ID:	Not reported
TSDF ID:	NYD049836679
Waste Code:	D008 - LEAD 5.0 MG/L TCLP
Quantity:	02500
Units:	P - Pounds
Number of Containers:	005
Container Type:	CF - Fiber or plastic boxes, cartons
Handling Method:	L Landfill.
Specific Gravity:	01.00
Year:	2005
Manifest Tracking Num:	Not reported
Import Ind:	Not reported
Export Ind:	Not reported
Discr Quantity Ind:	Not reported
Discr Type Ind:	Not reported
Discr Residue Ind:	Not reported
Discr Partial Reject Ind:	Not reported
Discr Full Reject Ind:	Not reported
Manifest Ref Num:	Not reported
Alt Fac RCRA Id:	Not reported
Alt Fac Sign Date:	Not reported
Mgmt Method Type Code:	Not reported

Click this hyperlink while viewing on your computer to access
11 additional NY_MANIFEST: record(s) in the EDR Site Report.

8
WNW
1/2-1
0.714 mi.
3773 ft.

PERSONAL TOUCH ENVIRONMENTAL
2710 VANCE RD
DAYTON, OH 45418

RCRA-NonGen **1004767956**
FINDS **OHR000102251**
DERR
SPILLS

Relative:
Higher

Actual:
734 ft.

RCRA-NonGen:

Date form received by agency:	03/01/2001
Facility name:	PERSONAL TOUCH ENVIRONMENTAL
Facility address:	2710 VANCE RD DAYTON, OH 45418
EPA ID:	OHR000102251
Mailing address:	PO BOX 750395 DAYTON, OH 45475
Contact:	GEORGE FLORY
Contact address:	PO BOX 750395 DAYTON, OH 45475
Contact country:	US
Contact telephone:	(937) 262-5639
Contact email:	Not reported

PERSONAL TOUCH ENVIRONMENTAL (Continued) **1004767956**

EPA Region: 05
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: RON WACKER
Owner/operator address: 7181 TARRYTOWN RD
CENTERVILLE, OH 45458
Owner/operator country: Not reported
Owner/operator telephone: (937) 431-2121
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 01/01/0001
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): Unknown
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: Yes
Used oil transporter: Yes
Off-site waste receiver: Verified to be non-commercial

Violation Status: No violations found

FINDS:

Registry ID: 110004739702

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

CERCLIS (Comprehensive Environmental Response, Compensation, and Liability Information System) is the Superfund database that is used to support management in all phases of the Superfund program. The system contains information on all aspects of hazardous waste sites, including an inventory of sites, planned and actual site activities, and financial information.

DERR:

PERSONAL TOUCH ENVIRONMENTAL (Continued) **1004767956**

DERR ID: 557002256
District: SWDO
Alias: Not reported
Lat/Long: 39.707138890000003 -84.237083330000004
EPA ID: Not reported
Program: Not reported
Contact Phone: (937) 285-6357

SPILLS:

Spill No.: 0204-57-1404
Spill Year: 2002
Sequential Number: Not reported
Date Spill Reported: 04/16/02
Spill Month: 4
Spill Number: 1404
Reporter Name: MARY FLORY
Confidential: No
District Code: SW
County Code: 57
Employee Number: 1768
Lat/Long: Not reported
Product Spilled Name: OIL USED

Spill No.: 0312-57-4729
Spill Year: 2003
Sequential Number: Not reported
Date Spill Reported: 12/23/03
Spill Month: 12
Spill Number: 4729
Reporter Name: GEORGE FLORY
Confidential: No
District Code: SW
County Code: 57
Employee Number: 1765
Lat/Long: 3942257 / 8414135
Product Spilled Name: COOLANTS & OIL MIXTURE

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
DAYTON	U004090839	FORMER GAS STA	&		UST
DAYTON	U004086210	BROWNIES TRANSPORATATION	4794 DIXIE HWY	45439	UST
DAYTON	S105245619	SWARTZ MULCH	2440 E LYTLE 5 POINT RD		SWF/LF
DAYTON	U004135991	MIAMI VALLEY HOSPTAL SOUTH CAMPU	2400 MIAMI VALLEY DR		UST
DAYTON	1012111474	FORMER DARROCH FARM PROPERTY	PINNACLE & VANCE RD	45418	FINDS
DAYTON	S106331803	MONTGOMERY COUNTY SOUTH INCINERATO	2550 SAND RIDGE RD		SPILLS
DAYTON	S107454410	MONTGOMERY COUNTY SOUTH FACILITY	SPRINGBORO RD	45439	ARCHIVE UST
DAYTON	S109834563	OAK CREEK SOUTH PARK	790 STHY 725		NPDES
DAYTON	2008865674	1945 SOUTH TOWN BLVD	1945 S TOWN BLVD	45439	ERNS
MORAINE	S106278947	SOUTH DAYTON INCINERATOR	N & A	45439	SPILLS
MORAINE	S105907613	HARRISON RADIATOR	3600 DRYDEN RD	45439	UNREG LTANKS
MORAINE	S105859840	DRYDEN ROAD COMMERCIAL LDFL	DRYDEN RD	45439	HIST LF
MORAINE	1005873311		HEMPLE RD	45439	FINDS, SWF/LF
MORAINE	S109049004	BROADWAY SAND & GRAVEL	SANDRIDGE DR & I 75 RAMP	45439	SWF/LF
MORAINE	S106331809	MONTGOMERY COUNTY SOUTH INCINERATO	2550 SANDY RIDGE RD	45439	SPILLS
MORAINE	S105859864	SOUTH DAYTON LDFL. AKA MORAINE REC	1975 SPRINGBORO PIKE	45439	HIST LF
WEST CARROLLTON	S106199895	HILLTOP SAND AND GRAVEL	555 UPPER RIVER RD	45449	LUST

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 11/01/2009
Date Data Arrived at EDR: 11/13/2009
Date Made Active in Reports: 01/11/2010
Number of Days to Update: 59

Source: EPA
Telephone: N/A
Last EDR Contact: 01/14/2010
Next Scheduled EDR Contact: 04/26/2010
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 3
Telephone 215-814-5418

EPA Region 4
Telephone 404-562-8033

EPA Region 5
Telephone 312-886-6686

EPA Region 6
Telephone: 214-655-6659

EPA Region 7
Telephone: 913-551-7247

EPA Region 8
Telephone: 303-312-6774

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 11/01/2009
Date Data Arrived at EDR: 11/13/2009
Date Made Active in Reports: 01/11/2010
Number of Days to Update: 59

Source: EPA
Telephone: N/A
Last EDR Contact: 01/14/2010
Next Scheduled EDR Contact: 04/26/2010
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/17/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

DELISTED NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 11/01/2009
Date Data Arrived at EDR: 11/13/2009
Date Made Active in Reports: 01/11/2010
Number of Days to Update: 59

Source: EPA
Telephone: N/A
Last EDR Contact: 01/14/2010
Next Scheduled EDR Contact: 04/26/2010
Data Release Frequency: Quarterly

Federal CERCLIS list

CERCLIS: Comprehensive Environmental Response, Compensation, and Liability Information System

CERCLIS contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites which are either proposed to or on the National Priorities List (NPL) and sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 06/30/2009
Date Data Arrived at EDR: 08/11/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 41

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 12/28/2009
Next Scheduled EDR Contact: 04/12/2010
Data Release Frequency: Quarterly

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of NPL and Base Realighnment & Closure sites found in the CERCLIS database where FERRO is involved in cleanup projects.

Date of Government Version: 10/03/2008
Date Data Arrived at EDR: 07/10/2009
Date Made Active in Reports: 09/29/2009
Number of Days to Update: 81

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/16/2009
Next Scheduled EDR Contact: 01/25/2010
Data Release Frequency: Varies

Federal CERCLIS NFRAP site List

CERCLIS-NFRAP: CERCLIS No Further Remedial Action Planned

Archived sites are sites that have been removed and archived from the inventory of CERCLIS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list this site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. This decision does not necessarily mean that there is no hazard associated with a given site; it only means that, based upon available information, the location is not judged to be a potential NPL site.

Date of Government Version: 06/23/2009
Date Data Arrived at EDR: 09/02/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 19

Source: EPA
Telephone: 703-412-9810
Last EDR Contact: 11/24/2009
Next Scheduled EDR Contact: 03/15/2010
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/15/2009
Date Data Arrived at EDR: 09/22/2009
Date Made Active in Reports: 11/09/2009
Number of Days to Update: 48

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 11/16/2009
Next Scheduled EDR Contact: 03/01/2010
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Transporters, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/11/2009
Date Data Arrived at EDR: 12/17/2009
Date Made Active in Reports: 01/11/2010
Number of Days to Update: 25

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 12/17/2009
Next Scheduled EDR Contact: 01/18/2010
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2009
Date Data Arrived at EDR: 12/17/2009
Date Made Active in Reports: 01/11/2010
Number of Days to Update: 25

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 12/17/2009
Next Scheduled EDR Contact: 01/18/2010
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/11/2009
Date Data Arrived at EDR: 12/17/2009
Date Made Active in Reports: 01/11/2010
Number of Days to Update: 25

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 12/17/2009
Next Scheduled EDR Contact: 01/18/2010
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/11/2009
Date Data Arrived at EDR: 12/17/2009
Date Made Active in Reports: 01/11/2010
Number of Days to Update: 25

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 12/17/2009
Next Scheduled EDR Contact: 01/18/2010
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 10/01/2009
Date Data Arrived at EDR: 10/09/2009
Date Made Active in Reports: 11/09/2009
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/10/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 10/01/2009
Date Data Arrived at EDR: 10/09/2009
Date Made Active in Reports: 11/09/2009
Number of Days to Update: 31

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 12/10/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 08/31/2009
Date Data Arrived at EDR: 09/17/2009
Date Made Active in Reports: 11/09/2009
Number of Days to Update: 53

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 10/06/2009
Next Scheduled EDR Contact: 01/18/2010
Data Release Frequency: Annually

State- and tribal - equivalent CERCLIS

SHWS: This state does not maintain a SHWS list. See the Federal CERCLIS list and Federal NPL list.

State Hazardous Waste Sites. State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of Superfund) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: Ohio EPA
Telephone: 614-644-2924
Last EDR Contact: 11/16/2009
Next Scheduled EDR Contact: 03/01/2010
Data Release Frequency: N/A

DERR: Division of Emergency & Remedial Response's Database

The DERR listings contains sites from all of Ohio that are in the Division of Emergency and Remedial Response (DERR) database, which is an index of sites for which our district offices maintain files. The database is NOT a record of contaminated sites or sites suspected of contamination. Not all sites in the database are contaminated, and a site's absence from the database does not imply that it is uncontaminated.

Date of Government Version: 11/24/2009
Date Data Arrived at EDR: 11/25/2009
Date Made Active in Reports: 12/21/2009
Number of Days to Update: 26

Source: Ohio EPA, Div. of Emergency and Remedial Response
Telephone: 614-644-3538
Last EDR Contact: 11/23/2009
Next Scheduled EDR Contact: 03/08/2010
Data Release Frequency: Semi-Annually

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: Licensed Solid Waste Facilities

Solid Waste Facilities/Landfill Sites. SWF/LF type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps that failed to meet RCRA Subtitle D Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 10/19/2009
Date Data Arrived at EDR: 10/21/2009
Date Made Active in Reports: 11/10/2009
Number of Days to Update: 20

Source: Ohio Environmental Protection Agency
Telephone: 614-644-2621
Last EDR Contact: 10/19/2009
Next Scheduled EDR Contact: 02/01/2010
Data Release Frequency: Annually

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank File

Leaking Underground Storage Tank Incident Reports. LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state.

Date of Government Version: 11/23/2009
Date Data Arrived at EDR: 11/24/2009
Date Made Active in Reports: 12/21/2009
Number of Days to Update: 27

Source: Department of Commerce
Telephone: 614-752-7924
Last EDR Contact: 11/24/2009
Next Scheduled EDR Contact: 03/08/2010
Data Release Frequency: Quarterly

UNREG LTANKS: Ohio Leaking UST File

A suspected or confirmed release of petroleum from a non-regulated UST.

Date of Government Version: 08/25/1999
Date Data Arrived at EDR: 08/19/2003
Date Made Active in Reports: 08/26/2003
Number of Days to Update: 7

Source: Department of Commerce
Telephone: 614-752-7938
Last EDR Contact: 08/01/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 11/24/2009
Date Data Arrived at EDR: 11/25/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 21

Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/30/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Quarterly

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 12/07/2009
Date Data Arrived at EDR: 12/09/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 7

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/30/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Semi-Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 11/10/2009
Date Data Arrived at EDR: 11/12/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 34

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/30/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Quarterly

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/30/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 11/12/2009
Date Data Arrived at EDR: 11/12/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 34
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/30/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 03/24/2009
Date Data Arrived at EDR: 05/20/2009
Date Made Active in Reports: 06/17/2009
Number of Days to Update: 28
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 11/04/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 12/01/2009
Date Data Arrived at EDR: 12/01/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 15
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/30/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Quarterly

State and tribal registered storage tank lists

UST: Underground Storage Tank Tank File
Registered Underground Storage Tanks. UST's are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Available information varies by state program.

Date of Government Version: 09/17/2009
Date Data Arrived at EDR: 09/18/2009
Date Made Active in Reports: 10/01/2009
Number of Days to Update: 13
Source: Department of Commerce
Telephone: 614-752-7938
Last EDR Contact: 01/05/2010
Next Scheduled EDR Contact: 03/08/2010
Data Release Frequency: Quarterly

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 11/12/2009
Date Data Arrived at EDR: 11/12/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 34
Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/30/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Semi-Annually

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 02/19/2009
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 25

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/30/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Varies

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 11/10/2009
Date Data Arrived at EDR: 11/12/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 34

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/30/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Quarterly

INDIAN UST R7: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 04/01/2008
Date Data Arrived at EDR: 12/30/2008
Date Made Active in Reports: 03/16/2009
Number of Days to Update: 76

Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 11/04/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 12/01/2009
Date Data Arrived at EDR: 12/01/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 15

Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/30/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 11/12/2009
Date Data Arrived at EDR: 11/20/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 26

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/30/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Quarterly

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 12/07/2009
Date Data Arrived at EDR: 12/09/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 7

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/30/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Semi-Annually

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 11/05/2009
Date Data Arrived at EDR: 11/05/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 41

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/22/2009
Next Scheduled EDR Contact: 11/16/2009
Data Release Frequency: Varies

FEMA UST: Underground Storage Tank Listing

A listing of all FEMA owned underground storage tanks.

Date of Government Version: 10/01/2009
Date Data Arrived at EDR: 10/29/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 48

Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 10/19/2009
Next Scheduled EDR Contact: 02/01/2010
Data Release Frequency: Varies

State and tribal institutional control / engineering control registries

ENG CONTROLS: Sites with Engineering Controls

A database that tracks properties with engineering controls.

Date of Government Version: 11/16/2009
Date Data Arrived at EDR: 11/16/2009
Date Made Active in Reports: 12/21/2009
Number of Days to Update: 35

Source: Ohio EPA
Telephone: 614-644-2306
Last EDR Contact: 11/16/2009
Next Scheduled EDR Contact: 03/01/2010
Data Release Frequency: Semi-Annually

INST CONTROL: Sites with Institutional Engineering Controls

A database that tracks properties with institutional controls.

Date of Government Version: 11/16/2009
Date Data Arrived at EDR: 11/16/2009
Date Made Active in Reports: 12/21/2009
Number of Days to Update: 35

Source: Ohio Environmental Protection Agency
Telephone: 614-644-2306
Last EDR Contact: 11/16/2009
Next Scheduled EDR Contact: 03/01/2010
Data Release Frequency: Semi-Annually

HIST INST CONTROLS: Institutional Controls Database

"Institutional control" is a restriction that is recorded in the same manner as a deed which limits access to or use of the property such that exposure to hazardous substances or petroleum are effectively and reliably eliminated or mitigated. Examples of institutional controls include land and water use restrictions. This database is no longer updated or maintained by the state agency.

Date of Government Version: 05/10/2005
Date Data Arrived at EDR: 04/06/2006
Date Made Active in Reports: 05/04/2006
Number of Days to Update: 28

Source: Ohio EPA
Telephone: 614-644-2306
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

HIST ENG CONTROLS: Operation & Maintenance Agreements Database

Volunteers that complete a voluntary action that relies on the ongoing operation and maintenance (O&M) of an engineered control to make the site protective (e.g" cap systems and ground water treatment systems) must enter into a legally binding agreement with the Ohio EPA before the director issues a covenant not to sue. This O&M Agreement must describe how the remedy is constructed and how itwill be monitored, maintained and repaired. It also lays out inspection opportunities for the agency. Companies must document that they have the financial capability to operate any remedy relied on, before the agency will agree to enter into the O&M Agreement. The statute requires that the agency be notified of any change in ownership. This database is no longer updated or maintained by the state agency.

Date of Government Version: 05/10/2005
Date Data Arrived at EDR: 04/04/2006
Date Made Active in Reports: 05/04/2006
Number of Days to Update: 30

Source: Ohio EPA
Telephone: 614-644-2306
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

State and tribal voluntary cleanup sites

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Action Program Sites
Site involved in the Voluntary Action Program.

Date of Government Version: 11/16/2009
Date Data Arrived at EDR: 11/16/2009
Date Made Active in Reports: 12/21/2009
Number of Days to Update: 35

Source: Ohio EPA, Voluntary Action Program
Telephone: 614-728-1298
Last EDR Contact: 11/16/2009
Next Scheduled EDR Contact: 03/01/2010
Data Release Frequency: Semi-Annually

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 04/02/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 01/05/2010
Next Scheduled EDR Contact: 04/19/2010
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Ohio Brownfield Inventory
A statewide brownfields inventory. A brownfield is an abandoned, idled or under-used industrial or commercial property where expansion or redevelopment is complicated by known or potential releases of hazardous substances and/or petroleum.

Date of Government Version: 10/06/2009
Date Data Arrived at EDR: 10/06/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 17

Source: Ohio EPA
Telephone: 614-644-3748
Last EDR Contact: 12/21/2009
Next Scheduled EDR Contact: 04/05/2010
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites

Included in the listing are brownfields properties addresses by Cooperative Agreement Recipients and brownfields properties addressed by Targeted Brownfields Assessments. Targeted Brownfields Assessments-EPA's Targeted Brownfields Assessments (TBA) program is designed to help states, tribes, and municipalities--especially those without EPA Brownfields Assessment Demonstration Pilots--minimize the uncertainties of contamination often associated with brownfields. Under the TBA program, EPA provides funding and/or technical assistance for environmental assessments at brownfields sites throughout the country. Targeted Brownfields Assessments supplement and work with other efforts under EPA's Brownfields Initiative to promote cleanup and redevelopment of brownfields. Cooperative Agreement Recipients-States, political subdivisions, territories, and Indian tribes become Brownfields Cleanup Revolving Loan Fund (BCRLF) cooperative agreement recipients when they enter into BCRLF cooperative agreements with the U.S. EPA. EPA selects BCRLF cooperative agreement recipients based on a proposal and application process. BCRLF cooperative agreement recipients must use EPA funds provided through BCRLF cooperative agreement for specified brownfields-related cleanup activities.

Date of Government Version: 10/01/2009
Date Data Arrived at EDR: 11/04/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 42

Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 01/07/2010
Next Scheduled EDR Contact: 04/12/2010
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

ODI: Open Dump Inventory

An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations

A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-972-3336
Last EDR Contact: 01/07/2010
Next Scheduled EDR Contact: 03/22/2010
Data Release Frequency: Varies

HIST LF: Old Solid Waste Landfill

A list of about 1200 old abandoned dumps or landfills. This database was developed from Ohio EPA staff notebooks and other information dating from the mid-1970s

Date of Government Version: 01/01/1980
Date Data Arrived at EDR: 07/01/2003
Date Made Active in Reports: 07/17/2003
Number of Days to Update: 16

Source: Ohio EPA
Telephone: 614-644-3749
Last EDR Contact: 06/26/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands

Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 11/09/2009
Next Scheduled EDR Contact: 02/22/2010
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 03/01/2009
Date Data Arrived at EDR: 06/22/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 91

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 12/14/2009
Next Scheduled EDR Contact: 03/22/2010
Data Release Frequency: Quarterly

CDL: Clandestine Drug Lab Locations

A list of clandestine drug lab sites with environmental impact. This list is extracted from the SPILLS database based on the "product" type.

Date of Government Version: 09/09/2009
Date Data Arrived at EDR: 09/10/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 11

Source: Ohio EPA
Telephone: 614-644-2080
Last EDR Contact: 11/16/2009
Next Scheduled EDR Contact: 03/01/2010
Data Release Frequency: Varies

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/01/2007
Date Data Arrived at EDR: 11/19/2008
Date Made Active in Reports: 03/30/2009
Number of Days to Update: 131

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

Local Lists of Registered Storage Tanks

ARCHIVE UST: Archived Underground Storage Tank Sites

Underground storage tank records that have been removed from the Underground Storage Tank database.

Date of Government Version: 09/17/2009
Date Data Arrived at EDR: 09/18/2009
Date Made Active in Reports: 10/06/2009
Number of Days to Update: 18

Source: Department of Commerce, Division of State Fire Marshal
Telephone: 614-752-7938
Last EDR Contact: 01/05/2010
Next Scheduled EDR Contact: 03/08/2010
Data Release Frequency: Quarterly

Local Land Records

LIENS 2: CERCLA Lien Information

A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 11/03/2009
Date Data Arrived at EDR: 11/05/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 41

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 11/02/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Varies

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/09/2005
Date Data Arrived at EDR: 12/11/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 31

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 11/20/2009
Next Scheduled EDR Contact: 03/08/2010
Data Release Frequency: Varies

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 10/05/2009
Date Data Arrived at EDR: 10/05/2009
Date Made Active in Reports: 11/09/2009
Number of Days to Update: 35

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 01/06/2010
Next Scheduled EDR Contact: 04/12/2010
Data Release Frequency: Annually

SPILLS: Emergency Response Database

Incidents reported to the Emergency Response Unit. The focus of the ER program is to minimize the impact on the environment from accidental releases, spills, and unauthorized discharges from any fixed or mobile sources. Incidents involving petroleum products, hazardous materials, hazardous waste, abandoned drums, or other materials which may pose as a pollution threat to the state?s water, land, or air should be reported immediately. Not all incidents included in the database are actual SPILLS, they can simply be reported incidents.

Date of Government Version: 11/16/2009
Date Data Arrived at EDR: 11/18/2009
Date Made Active in Reports: 12/21/2009
Number of Days to Update: 33

Source: Ohio EPA
Telephone: 614-644-2084
Last EDR Contact: 11/16/2009
Next Scheduled EDR Contact: 03/01/2010
Data Release Frequency: Varies

Other Ascertainable Records

RCRA-NonGen: RCRA - Non Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/11/2009
Date Data Arrived at EDR: 12/17/2009
Date Made Active in Reports: 01/11/2010
Number of Days to Update: 25

Source: Environmental Protection Agency
Telephone: 312-886-6186
Last EDR Contact: 12/17/2009
Next Scheduled EDR Contact: 01/18/2010
Data Release Frequency: Varies

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 10/13/2009
Date Data Arrived at EDR: 11/10/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 36

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 11/10/2009
Next Scheduled EDR Contact: 02/22/2010
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 703-692-8801
Last EDR Contact: 10/23/2009
Next Scheduled EDR Contact: 02/01/2010
Data Release Frequency: Semi-Annually

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 09/30/2009
Date Made Active in Reports: 12/01/2009
Number of Days to Update: 62

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 12/18/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 08/03/2009
Date Data Arrived at EDR: 10/27/2009
Date Made Active in Reports: 11/09/2009
Number of Days to Update: 13

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 01/05/2010
Next Scheduled EDR Contact: 04/19/2010
Data Release Frequency: Varies

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 09/01/2009
Date Data Arrived at EDR: 09/22/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 30

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 12/15/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Annually

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 01/05/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 05/08/2009
Number of Days to Update: 1

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 12/23/2009
Next Scheduled EDR Contact: 03/15/2010
Data Release Frequency: Varies

MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 08/07/2009
Date Data Arrived at EDR: 09/18/2009
Date Made Active in Reports: 11/09/2009
Number of Days to Update: 52

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 12/08/2009
Next Scheduled EDR Contact: 03/22/2010
Data Release Frequency: Semi-Annually

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 04/09/2009
Date Made Active in Reports: 06/17/2009
Number of Days to Update: 69

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 01/13/2010
Next Scheduled EDR Contact: 03/15/2010
Data Release Frequency: Annually

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2002
Date Data Arrived at EDR: 04/14/2006
Date Made Active in Reports: 05/30/2006
Number of Days to Update: 46

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 12/29/2009
Next Scheduled EDR Contact: 04/12/2010
Data Release Frequency: Every 4 Years

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 12/14/2009
Next Scheduled EDR Contact: 03/15/2010
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)

A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 12/14/2009
Next Scheduled EDR Contact: 03/15/2010
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing

A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing

A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 05/19/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 125

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 11/02/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System

The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 08/21/2009
Date Data Arrived at EDR: 08/27/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 56

Source: Environmental Protection Agency
Telephone: 202-564-5088
Last EDR Contact: 12/23/2009
Next Scheduled EDR Contact: 04/12/2010
Data Release Frequency: Quarterly

PADS: PCB Activity Database System

PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 09/01/2009
Date Data Arrived at EDR: 10/21/2009
Date Made Active in Reports: 12/01/2009
Number of Days to Update: 41

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/21/2009
Next Scheduled EDR Contact: 02/01/2010
Data Release Frequency: Annually

MLTS: Material Licensing Tracking System

MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 09/25/2009
Date Data Arrived at EDR: 10/23/2009
Date Made Active in Reports: 12/16/2009
Number of Days to Update: 54

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 12/14/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Quarterly

RADINFO: Radiation Information Database

The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 10/15/2009
Date Data Arrived at EDR: 10/16/2009
Date Made Active in Reports: 12/01/2009
Number of Days to Update: 46

Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 01/13/2010
Next Scheduled EDR Contact: 04/26/2010
Data Release Frequency: Quarterly

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 10/19/2009
Date Data Arrived at EDR: 10/22/2009
Date Made Active in Reports: 12/01/2009
Number of Days to Update: 40

Source: EPA
Telephone: (312) 353-2000
Last EDR Contact: 12/10/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Quarterly

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 02/19/2009
Date Made Active in Reports: 05/22/2009
Number of Days to Update: 92

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 11/20/2009
Next Scheduled EDR Contact: 03/05/2010
Data Release Frequency: Biennially

TOWNGAS: DERR Towngas Database

The database includes 82 very old sites (circa 1895) which produced gas from coal for street lighting. Most visual evidence of these sites has disappeared, however the potential for buried coal tar remains. The database is no longer in active use.

Date of Government Version: 07/28/1992
Date Data Arrived at EDR: 02/21/2003
Date Made Active in Reports: 03/05/2003
Number of Days to Update: 12

Source: Ohio EPA
Telephone: 614-644-3749
Last EDR Contact: 02/12/2003
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UIC: Underground Injection Wells Listing

A listing of underground injection well locations.

Date of Government Version: 12/08/2009
Date Data Arrived at EDR: 12/09/2009
Date Made Active in Reports: 12/21/2009
Number of Days to Update: 12

Source: Ohio EPA
Telephone: 614-644-2752
Last EDR Contact: 11/30/2009
Next Scheduled EDR Contact: 03/01/2010
Data Release Frequency: Varies

DRYCLEANERS: Drycleaner Facility Listing

A listing of drycleaner facility locations.

Date of Government Version: 10/07/2009
Date Data Arrived at EDR: 10/09/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 14

Source: Ohio EPA
Telephone: 614-644-3469
Last EDR Contact: 01/05/2010
Next Scheduled EDR Contact: 04/19/2010
Data Release Frequency: Varies

NPDES: NPDES General Permit List

General information regarding NPDES (National Pollutant Discharge Elimination System) permits.

Date of Government Version: 11/02/2009
Date Data Arrived at EDR: 11/18/2009
Date Made Active in Reports: 12/21/2009
Number of Days to Update: 33

Source: Ohio EPA
Telephone: 614-644-2031
Last EDR Contact: 11/18/2009
Next Scheduled EDR Contact: 03/01/2010
Data Release Frequency: Semi-Annually

AIRS: Title V Permits Listing

A listing of Title V Permits issued by the Division of Air Pollution Control. It is a federal operating permit program adopted and implemented by the state. The basic program elements typically specify that major sources will submit an operating application to the specified state environmental regulatory agency according to a schedule.

Date of Government Version: 09/30/2009
Date Data Arrived at EDR: 10/01/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 22

Source: Ohio EPA
Telephone: 614-644-2270
Last EDR Contact: 12/29/2009
Next Scheduled EDR Contact: 04/12/2010
Data Release Frequency: Varies

USD: Urban Setting Designation Sites

A USD may be requested for properties participating in the VAP when there is no current or future use of the ground water by local residents for drinking, showering, bathing or cooking. In these areas, an approved USD would lower the cost of cleanup and promote economic redevelopment while still protecting public health and safety. If these USDs were to be approved, the ground water cleanup or response requirements for the areas could be lessened. The Ohio EPA director may approve a USD request based on a demonstration that the USD requirements are met and an evaluation of existing and future uses of ground water in the area. The Ohio EPA director's decision on approval or denial of the request is needed before cleanup requirements for the site can be determined.

Date of Government Version: 11/16/2009
Date Data Arrived at EDR: 11/16/2009
Date Made Active in Reports: 12/21/2009
Number of Days to Update: 35

Source: Ohio EPA
Telephone: 614-644-3749
Last EDR Contact: 11/16/2009
Next Scheduled EDR Contact: 03/01/2010
Data Release Frequency: Varies

HIST USD: Urban Setting Designations Database

A USD may be requested for properties participating in the VAP when there is no current or future use of the ground water by local residents for drinking, showering, bathing or cooking. In these areas, an approved USD would lower the cost of cleanup and promote economic redevelopment while still protecting public health and safety. If these USDs were to be approved, the ground water cleanup or response requirements for the areas could be lessened. The Ohio EPA director may approve a USD request based on a demonstration that the USD requirements are met and an evaluation of existing and future uses of ground water in the area. The Ohio EPA director's decision on approval or denial of the request is needed before cleanup requirements for the site can be determined. This database is no longer updated or maintained by the state agency.

Date of Government Version: 05/10/2005
Date Data Arrived at EDR: 04/25/2006
Date Made Active in Reports: 05/11/2006
Number of Days to Update: 16

Source: Ohio EPA
Telephone: 614-644-3749
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 12/08/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 34

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/23/2009
Next Scheduled EDR Contact: 02/01/2010
Data Release Frequency: Semi-Annually

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 09/09/2009
Date Data Arrived at EDR: 09/09/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 43

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 11/09/2009
Next Scheduled EDR Contact: 02/08/2010
Data Release Frequency: Varies

COAL ASH DOE: Sleam-Electric Plan Operation Data

A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76

Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 10/23/2009
Next Scheduled EDR Contact: 02/01/2010
Data Release Frequency: Varies

COAL ASH: Coal Ash Disposal Site Listing

A listing of coal ash disposal site locations.

Date of Government Version: 01/23/2009
Date Data Arrived at EDR: 06/26/2009
Date Made Active in Reports: 07/06/2009
Number of Days to Update: 10

Source: Ohio EPA
Telephone: 614-644-2134
Last EDR Contact: 10/19/2009
Next Scheduled EDR Contact: 02/01/2010
Data Release Frequency: Varies

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/23/2009
Next Scheduled EDR Contact: 02/01/2010
Data Release Frequency: N/A

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 09/21/2009
Date Data Arrived at EDR: 09/25/2009
Date Made Active in Reports: 11/09/2009
Number of Days to Update: 45

Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 12/15/2009
Next Scheduled EDR Contact: 03/29/2010
Data Release Frequency: Varies

CRO: Cessation of Regulated Operations Facility Listing

"Cessation of Regulated Operations" means the discontinuation or termination of regulated operations or the finalizing of any transaction or proceeding through which those operations are discontinued. "Regulated Operations" means the production, use, storage or handling of regulated substances.

Date of Government Version: 07/27/2009
Date Data Arrived at EDR: 09/03/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 18

Source: Ohio EPA
Telephone: 614-644-3065
Last EDR Contact: 11/25/2009
Next Scheduled EDR Contact: 03/01/2010
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 01/01/2008
Date Data Arrived at EDR: 02/18/2009
Date Made Active in Reports: 05/29/2009
Number of Days to Update: 100

Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 11/13/2009
Next Scheduled EDR Contact: 02/15/2010
Data Release Frequency: Varies

EDR PROPRIETARY RECORDS

EDR Proprietary Records

Manufactured Gas Plants: EDR Proprietary Manufactured Gas Plants
The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Historical Auto Stations: EDR Proprietary Historic Gas Stations
EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Historical Cleaners: EDR Proprietary Historic Dry Cleaners
EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data

Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 12/31/2007
Date Data Arrived at EDR: 08/26/2009
Date Made Active in Reports: 09/11/2009
Number of Days to Update: 16

Source: Department of Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 11/24/2009
Next Scheduled EDR Contact: 03/08/2010
Data Release Frequency: Annually

NJ MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 05/05/2009
Date Made Active in Reports: 05/22/2009
Number of Days to Update: 17

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/20/2009
Next Scheduled EDR Contact: 02/01/2010
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 10/27/2009
Date Data Arrived at EDR: 11/10/2009
Date Made Active in Reports: 12/09/2009
Number of Days to Update: 29

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 11/10/2009
Next Scheduled EDR Contact: 02/22/2010
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 12/01/2009
Date Made Active in Reports: 12/14/2009
Number of Days to Update: 13

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 11/23/2009
Next Scheduled EDR Contact: 03/08/2010
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 06/01/2009
Date Data Arrived at EDR: 06/12/2009
Date Made Active in Reports: 06/29/2009
Number of Days to Update: 17

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 11/30/2009
Next Scheduled EDR Contact: 03/15/2010
Data Release Frequency: Annually

VT MANIFEST: Hazardous Waste Manifest Data

Hazardous waste manifest information.

Date of Government Version: 03/31/2009
Date Data Arrived at EDR: 04/09/2009
Date Made Active in Reports: 05/20/2009
Number of Days to Update: 41

Source: Department of Environmental Conservation
Telephone: 802-241-3443
Last EDR Contact: 10/23/2009
Next Scheduled EDR Contact: 02/08/2010
Data Release Frequency: Annually

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2008
Date Data Arrived at EDR: 07/17/2009
Date Made Active in Reports: 08/10/2009
Number of Days to Update: 24

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 12/21/2009
Next Scheduled EDR Contact: 04/05/2010
Data Release Frequency: Annually

Oil/Gas Pipelines: This data was obtained by EDR from the USGS in 1994. It is referred to by USGS as GeoData Digital Line Graphs from 1:100,000-Scale Maps. It was extracted from the transportation category including some oil, but primarily gas pipelines.

Electric Power Transmission Line Data
Source: PennWell Corporation
Telephone: (800) 823-6277
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Child Day Care Facilities
Source: Department of Job & Family Services
Telephone: 614-466-6282

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2009 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Natural Resources
Telephone: 614-265-1044

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

FORMER SOUTH LAGOON
DRYDEN ROAD/HOYLAKE ROAD
DAYTON, OH 45439

TARGET PROPERTY COORDINATES

Latitude (North):	39.69170 - 39˚ 41' 30.1''
Longitude (West):	84.2278 - 84˚ 13' 40.1''
Universal Tranverse Mercator:	Zone 16
UTM X (Meters):	737718.4
UTM Y (Meters):	4397005.0
Elevation:	730 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	39084-F2 DAYTON SOUTH, OH
Most Recent Revision:	1991

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

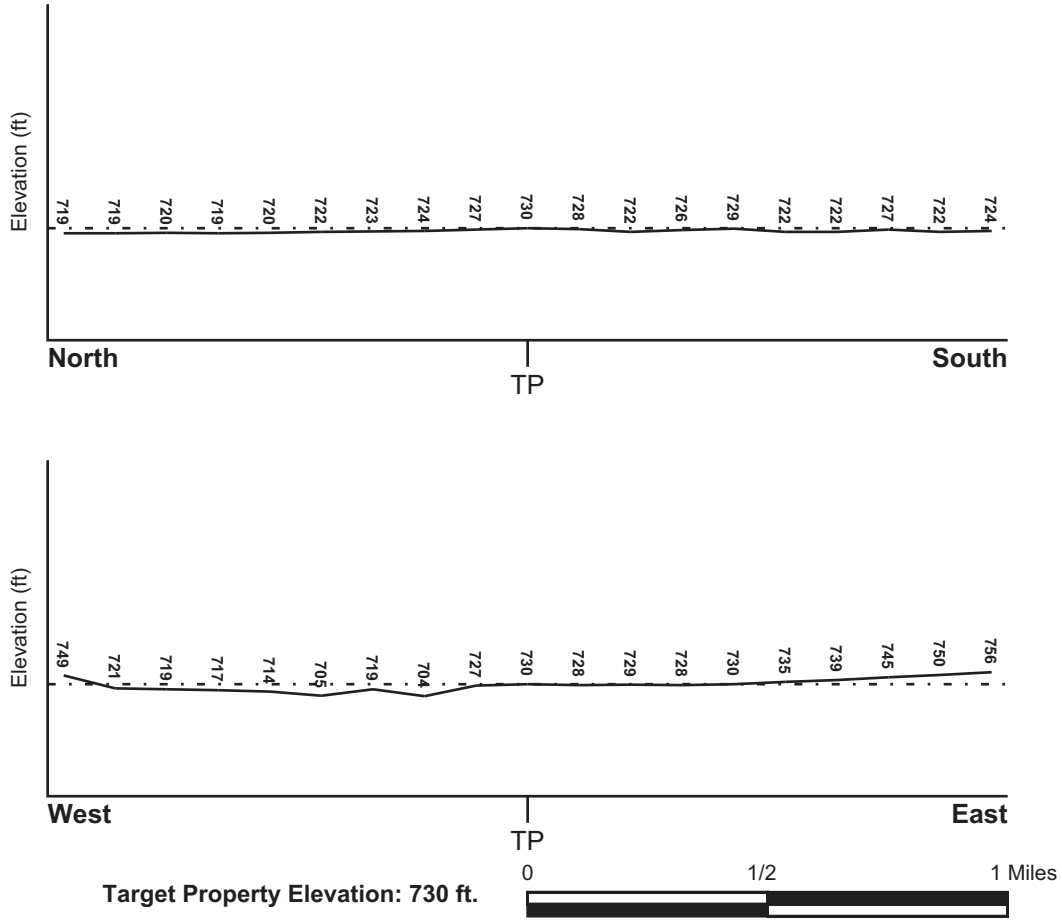
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General West

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Target Property County	FEMA Flood Electronic Data
MONTGOMERY, OH	YES - refer to the Overview Map and Detail Map

Flood Plain Panel at Target Property: 3904140005B

Additional Panels in search area:
3904090020C
3904120005B
3904120015B
3907750035C
3907750055B
3904190005C

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
DAYTON SOUTH	Not Available

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
14	1/4 - 1/2 Mile East	SSW
H35	1/4 - 1/2 Mile SE	SW

For additional site information, refer to Physical Setting Source Map Findings.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

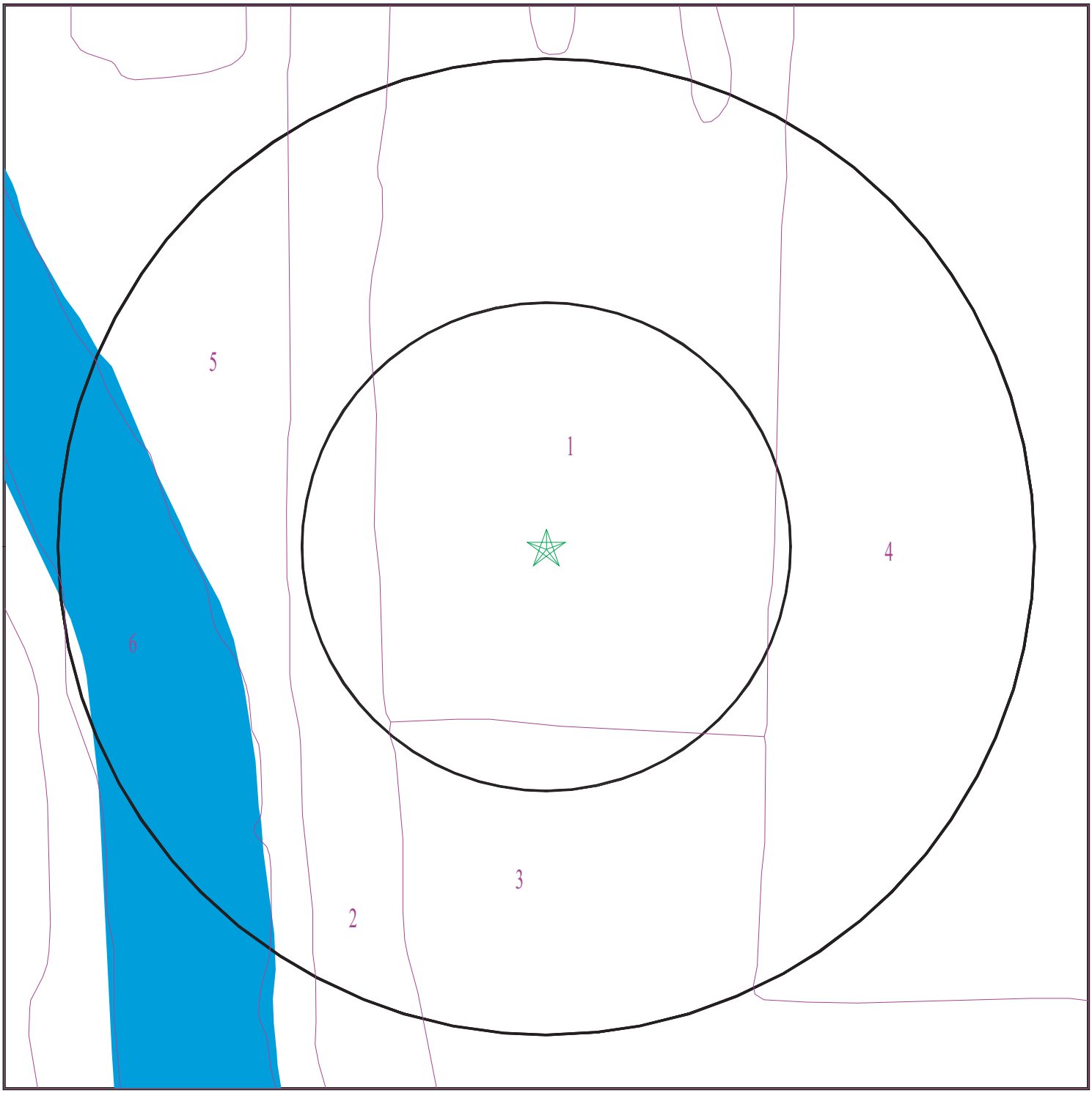
Era:	Paleozoic
System:	Ordovician
Series:	Upper Ordovician (Cincinnatian)
Code:	O3 *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratified Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

SSURGO SOIL MAP - 2678087.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	Former South Lagoon	CLIENT:	LFR Inc.
ADDRESS:	Dryden Road/Hoylake Road Dayton OH 45439	CONTACT:	Todd Aebie
LAT/LONG:	39.6917 / 84.2278	INQUIRY #:	2678087.2s
		DATE:	January 14, 2010 6:24 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: Lorenzo

Soil Surface Texture:
Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 2

Soil Component Name: Udorthents

Soil Surface Texture:
Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 3

Soil Component Name: Ockley

Soil Surface Texture:
Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 4

Soil Component Name: Urban land

Soil Surface Texture:
Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 5

Soil Component Name: Borrow pits

Soil Surface Texture:
Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:

Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 6

Soil Component Name: Water

Soil Surface Texture:
Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class:
Hydric Status: Unknown

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 7

Soil Component Name: Lorenzo

Soil Surface Texture:
Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

Soil Map ID: 8

Soil Component Name: Sandy or gravelly substratum as shallow as 36 inches

Soil Surface Texture:

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Partially hydric

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

No Layer Information available.

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
D16	USGS2316399	1/4 - 1/2 Mile North
34	USGS2316401	1/4 - 1/2 Mile NW
I41	USGS2316388	1/2 - 1 Mile South
I48	USGS2316386	1/2 - 1 Mile South
N61	USGS2316384	1/2 - 1 Mile SSW
84	USGS2316396	1/2 - 1 Mile East
T92	USGS2316381	1/2 - 1 Mile SSW
AC217	USGS2316382	1/2 - 1 Mile SW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
AB218	USGS2316398	1/2 - 1 Mile East
AE247	USGS2316389	1/2 - 1 Mile SE
252	USGS2316380	1/2 - 1 Mile SSE

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
X209	OH5701315	1/2 - 1 Mile SE

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	OHD400000017432	0 - 1/8 Mile SSW
A2	OHD400000017429	0 - 1/8 Mile South
3	OHD400000017469	1/8 - 1/4 Mile ESE
4	OHD400000017611	1/8 - 1/4 Mile NE
5	OHD400000017352	1/8 - 1/4 Mile SSE
6	OHD400000017664	1/4 - 1/2 Mile NE
B7	OHD400000017428	1/4 - 1/2 Mile WSW
8	OHD400000017163	1/4 - 1/2 Mile SSE
9	OHD400000017144	1/4 - 1/2 Mile South
10	OHD400000017757	1/4 - 1/2 Mile NNE
11	OHD400000017157	1/4 - 1/2 Mile SSW
C12	OHD400000017726	1/4 - 1/2 Mile NE
C13	OHD400000017727	1/4 - 1/2 Mile NE
B15	OHD400000017398	1/4 - 1/2 Mile WSW
17	OHD400000017761	1/4 - 1/2 Mile NNW
D18	OHD400000017780	1/4 - 1/2 Mile North
D19	OHD400000017781	1/4 - 1/2 Mile North
C20	OHD400000017734	1/4 - 1/2 Mile NE
21	OHD400000017510	1/4 - 1/2 Mile West
22	OHD400000017325	1/4 - 1/2 Mile SW
23	OHD400000017417	1/4 - 1/2 Mile WSW
E24	OHD400000017566	1/4 - 1/2 Mile East
E25	OHD400000017571	1/4 - 1/2 Mile East
E26	OHWT30000000437	1/4 - 1/2 Mile East
27	OHD400000017840	1/4 - 1/2 Mile NNE
28	OHD400000017112	1/4 - 1/2 Mile SW
29	OHD400000017803	1/4 - 1/2 Mile NNE
E30	OHPW40000000953	1/4 - 1/2 Mile East
F31	OHD400000017716	1/4 - 1/2 Mile ENE
F32	OHD400000017706	1/4 - 1/2 Mile ENE
G33	OHD400000017362	1/4 - 1/2 Mile WSW
G36	OHD400000017316	1/4 - 1/2 Mile WSW
37	OHD400000016949	1/2 - 1 Mile South
H38	OHD400000017139	1/2 - 1 Mile SE

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
39	OHD400000016966	1/2 - 1 Mile SSE
40	OHD400000017053	1/2 - 1 Mile SW
J42	OHWT30000000426	1/2 - 1 Mile SSW
K43	OHD400000017078	1/2 - 1 Mile SW
L44	OHD400000017364	1/2 - 1 Mile ESE
L45	OHD400000017365	1/2 - 1 Mile ESE
46	OHD400000017424	1/2 - 1 Mile ESE
J47	OHPW40000000942	1/2 - 1 Mile SSW
49	OHD400000017501	1/2 - 1 Mile East
J50	OHD400000016896	1/2 - 1 Mile SSW
J51	OHD400000016897	1/2 - 1 Mile SSW
K52	OHD400000017069	1/2 - 1 Mile SW
53	OHD400000016982	1/2 - 1 Mile SW
J54	OHD400000016906	1/2 - 1 Mile SSW
M55	OHD400000017783	1/2 - 1 Mile ENE
56	OHD400000018007	1/2 - 1 Mile NNE
57	OHPW40000000941	1/2 - 1 Mile SSW
M58	OHD400000017834	1/2 - 1 Mile NE
59	OHD400000017119	1/2 - 1 Mile WSW
60	OHD400000017467	1/2 - 1 Mile West
N62	OHPW40000000938	1/2 - 1 Mile SSW
O63	OHD400000017062	1/2 - 1 Mile SW
P64	OHD400000017656	1/2 - 1 Mile ENE
P65	OHD400000017657	1/2 - 1 Mile ENE
O66	OHD400000017016	1/2 - 1 Mile SW
67	OHD400000016930	1/2 - 1 Mile SW
Q68	OHD400000017971	1/2 - 1 Mile NE
R69	OHPW40000000939	1/2 - 1 Mile SSW
Q70	OHD400000017980	1/2 - 1 Mile NE
S71	OHD400000016729	1/2 - 1 Mile South
T72	OHD400000016750	1/2 - 1 Mile SSW
Q73	OHD400000018026	1/2 - 1 Mile NE
U74	OHD400000016971	1/2 - 1 Mile SW
V75	OHD400000018178	1/2 - 1 Mile North
V76	OHD400000018194	1/2 - 1 Mile North
77	OHPW40000000933	1/2 - 1 Mile SSW
W78	OHD400000018140	1/2 - 1 Mile NNE
W79	OHD400000018141	1/2 - 1 Mile NNE
X80	OHD400000016931	1/2 - 1 Mile SE
U81	OHD400000016924	1/2 - 1 Mile SW
S82	OHD400000016695	1/2 - 1 Mile South
T83	OHD400000016720	1/2 - 1 Mile SSW
S85	OHD400000016690	1/2 - 1 Mile South
Y86	OHD400000017792	1/2 - 1 Mile ENE
Y87	OHD400000017791	1/2 - 1 Mile ENE
Y88	OHD400000017790	1/2 - 1 Mile ENE
Y89	OHD400000017795	1/2 - 1 Mile ENE
Y90	OHD400000017794	1/2 - 1 Mile ENE
Y91	OHD400000017793	1/2 - 1 Mile ENE
V93	OHD400000018218	1/2 - 1 Mile North
R94	OHPW40000000935	1/2 - 1 Mile SSW
95	OHD400000018206	1/2 - 1 Mile NNW

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
Z96	OHD400000017279	1/2 - 1 Mile WSW
Z97	OHD400000017280	1/2 - 1 Mile WSW
Z98	OHD400000017277	1/2 - 1 Mile WSW
Z99	OHD400000017278	1/2 - 1 Mile WSW
Z100	OHD400000017283	1/2 - 1 Mile WSW
Z101	OHD400000017284	1/2 - 1 Mile WSW
Z102	OHD400000017281	1/2 - 1 Mile WSW
Z103	OHD400000017282	1/2 - 1 Mile WSW
Z104	OHD400000017276	1/2 - 1 Mile WSW
Z105	OHD400000017270	1/2 - 1 Mile WSW
Z106	OHD400000017271	1/2 - 1 Mile WSW
Z107	OHD400000017268	1/2 - 1 Mile WSW
Z108	OHD400000017269	1/2 - 1 Mile WSW
Z109	OHD400000017274	1/2 - 1 Mile WSW
Z110	OHD400000017275	1/2 - 1 Mile WSW
Z111	OHD400000017272	1/2 - 1 Mile WSW
Z112	OHD400000017273	1/2 - 1 Mile WSW
Z113	OHD400000017285	1/2 - 1 Mile WSW
Z114	OHD400000017297	1/2 - 1 Mile WSW
Z115	OHD400000017298	1/2 - 1 Mile WSW
Z116	OHD400000017295	1/2 - 1 Mile WSW
Z117	OHD400000017296	1/2 - 1 Mile WSW
Z118	OHD400000017301	1/2 - 1 Mile WSW
Z119	OHD400000017302	1/2 - 1 Mile WSW
Z120	OHD400000017299	1/2 - 1 Mile WSW
Z121	OHD400000017300	1/2 - 1 Mile WSW
Z122	OHD400000017294	1/2 - 1 Mile WSW
Z123	OHD400000017288	1/2 - 1 Mile WSW
Z124	OHD400000017289	1/2 - 1 Mile WSW
Z125	OHD400000017286	1/2 - 1 Mile WSW
Z126	OHD400000017287	1/2 - 1 Mile WSW
Z127	OHD400000017292	1/2 - 1 Mile WSW
Z128	OHD400000017293	1/2 - 1 Mile WSW
Z129	OHD400000017290	1/2 - 1 Mile WSW
Z130	OHD400000017291	1/2 - 1 Mile WSW
Z131	OHD400000017216	1/2 - 1 Mile WSW
Z132	OHD400000017215	1/2 - 1 Mile WSW
Z133	OHD400000017218	1/2 - 1 Mile WSW
Z134	OHD400000017217	1/2 - 1 Mile WSW
Z135	OHD400000017214	1/2 - 1 Mile WSW
Z136	OHD400000017211	1/2 - 1 Mile WSW
Z137	OHD400000017210	1/2 - 1 Mile WSW
Z138	OHD400000017213	1/2 - 1 Mile WSW
Z139	OHD400000017212	1/2 - 1 Mile WSW
Z140	OHD400000017219	1/2 - 1 Mile WSW
Z141	OHD400000017226	1/2 - 1 Mile WSW
Z142	OHD400000017225	1/2 - 1 Mile WSW
Z143	OHD400000017228	1/2 - 1 Mile WSW
Z144	OHD400000017227	1/2 - 1 Mile WSW
Z145	OHD400000017224	1/2 - 1 Mile WSW
Z146	OHD400000017221	1/2 - 1 Mile WSW
Z147	OHD400000017220	1/2 - 1 Mile WSW

STATE DATABASE WELL INFORMATION

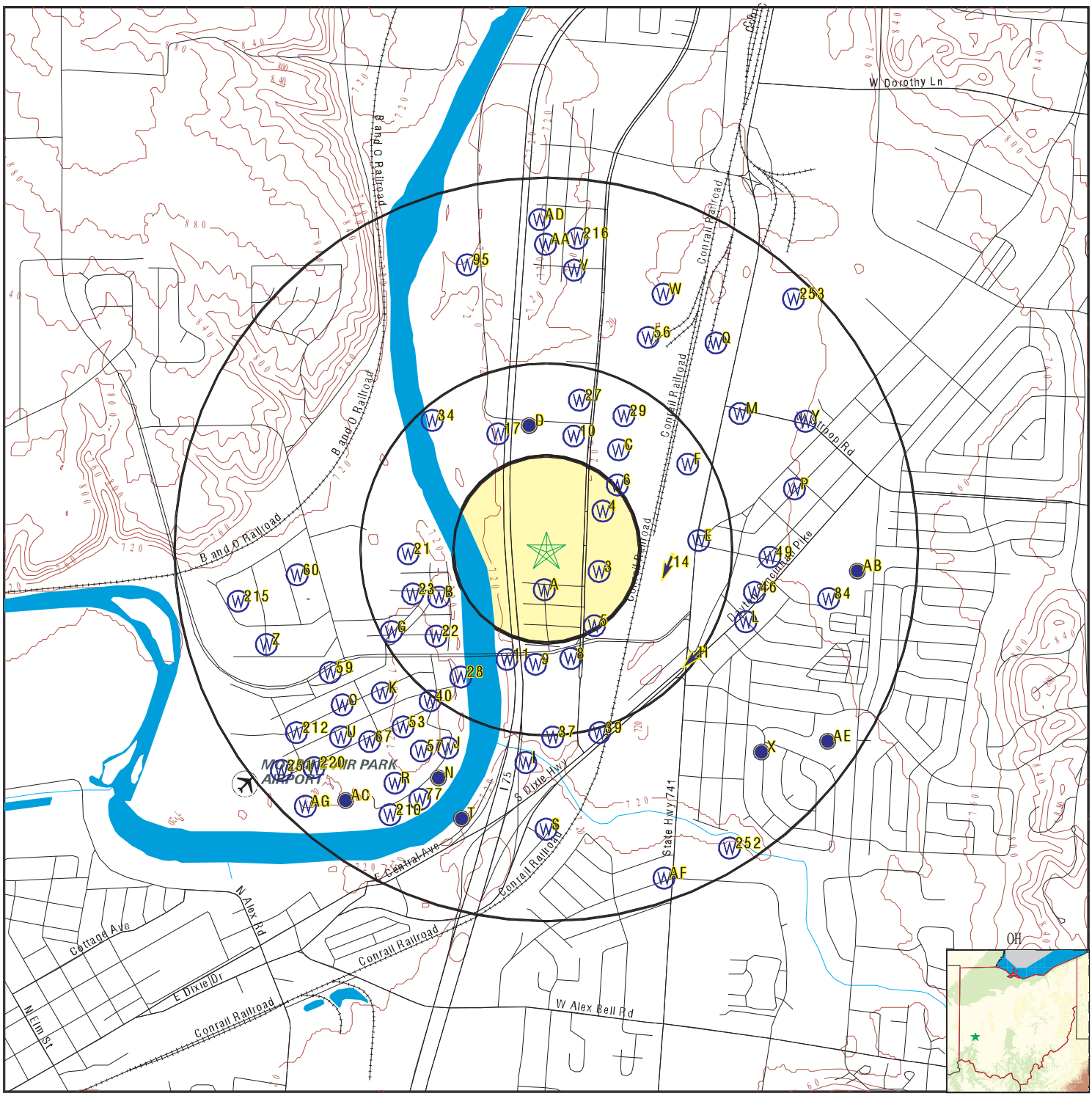
MAP ID	WELL ID	LOCATION FROM TP
Z148	OHD400000017223	1/2 - 1 Mile WSW
Z149	OHD400000017222	1/2 - 1 Mile WSW
Z150	OHD400000017197	1/2 - 1 Mile WSW
Z151	OHD400000017196	1/2 - 1 Mile WSW
Z152	OHD400000017199	1/2 - 1 Mile WSW
Z153	OHD400000017198	1/2 - 1 Mile WSW
Z154	OHD400000017195	1/2 - 1 Mile WSW
Z155	OHD400000017192	1/2 - 1 Mile WSW
Z156	OHD400000017191	1/2 - 1 Mile WSW
Z157	OHD400000017194	1/2 - 1 Mile WSW
Z158	OHD400000017193	1/2 - 1 Mile WSW
Z159	OHD400000017200	1/2 - 1 Mile WSW
Z160	OHD400000017207	1/2 - 1 Mile WSW
Z161	OHD400000017206	1/2 - 1 Mile WSW
Z162	OHD400000017209	1/2 - 1 Mile WSW
Z163	OHD400000017208	1/2 - 1 Mile WSW
Z164	OHD400000017205	1/2 - 1 Mile WSW
Z165	OHD400000017202	1/2 - 1 Mile WSW
Z166	OHD400000017201	1/2 - 1 Mile WSW
Z167	OHD400000017204	1/2 - 1 Mile WSW
Z168	OHD400000017203	1/2 - 1 Mile WSW
Z169	OHD400000017229	1/2 - 1 Mile WSW
Z170	OHD400000017255	1/2 - 1 Mile WSW
Z171	OHD400000017254	1/2 - 1 Mile WSW
Z172	OHD400000017257	1/2 - 1 Mile WSW
Z173	OHD400000017256	1/2 - 1 Mile WSW
Z174	OHD400000017253	1/2 - 1 Mile WSW
Z175	OHD400000017250	1/2 - 1 Mile WSW
Z176	OHD400000017249	1/2 - 1 Mile WSW
Z177	OHD400000017252	1/2 - 1 Mile WSW
Z178	OHD400000017251	1/2 - 1 Mile WSW
Z179	OHD400000017258	1/2 - 1 Mile WSW
Z180	OHD400000017265	1/2 - 1 Mile WSW
Z181	OHD400000017264	1/2 - 1 Mile WSW
Z182	OHD400000017267	1/2 - 1 Mile WSW
Z183	OHD400000017266	1/2 - 1 Mile WSW
Z184	OHD400000017263	1/2 - 1 Mile WSW
Z185	OHD400000017260	1/2 - 1 Mile WSW
Z186	OHD400000017259	1/2 - 1 Mile WSW
Z187	OHD400000017262	1/2 - 1 Mile WSW
Z188	OHD400000017261	1/2 - 1 Mile WSW
Z189	OHD400000017236	1/2 - 1 Mile WSW
Z190	OHD400000017235	1/2 - 1 Mile WSW
Z191	OHD400000017238	1/2 - 1 Mile WSW
Z192	OHD400000017237	1/2 - 1 Mile WSW
Z193	OHD400000017234	1/2 - 1 Mile WSW
Z194	OHD400000017231	1/2 - 1 Mile WSW
Z195	OHD400000017230	1/2 - 1 Mile WSW
Z196	OHD400000017233	1/2 - 1 Mile WSW
Z197	OHD400000017232	1/2 - 1 Mile WSW
Z198	OHD400000017239	1/2 - 1 Mile WSW
Z199	OHD400000017246	1/2 - 1 Mile WSW

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
Z200	OHD400000017245	1/2 - 1 Mile WSW
Z201	OHD400000017248	1/2 - 1 Mile WSW
Z202	OHD400000017247	1/2 - 1 Mile WSW
Z203	OHD400000017244	1/2 - 1 Mile WSW
Z204	OHD400000017241	1/2 - 1 Mile WSW
Z205	OHD400000017240	1/2 - 1 Mile WSW
Z206	OHD400000017243	1/2 - 1 Mile WSW
Z207	OHD400000017242	1/2 - 1 Mile WSW
AA208	OHD400000018243	1/2 - 1 Mile North
210	OHPW40000000930	1/2 - 1 Mile SSW
AA211	OHD400000018257	1/2 - 1 Mile North
212	OHD400000016965	1/2 - 1 Mile SW
AB213	OHD400000017470	1/2 - 1 Mile East
AB214	OHD400000017471	1/2 - 1 Mile East
215	OHD400000017405	1/2 - 1 Mile West
216	OHD400000018263	1/2 - 1 Mile North
AC219	OHD400000016769	1/2 - 1 Mile SW
220	OHD400000016854	1/2 - 1 Mile SW
AD221	OHD400000018309	1/2 - 1 Mile North
AD222	OHD400000018308	1/2 - 1 Mile North
AD223	OHD400000018307	1/2 - 1 Mile North
AD224	OHD400000018312	1/2 - 1 Mile North
AD225	OHD400000018311	1/2 - 1 Mile North
AD226	OHD400000018310	1/2 - 1 Mile North
AD227	OHD400000018303	1/2 - 1 Mile North
AD228	OHD400000018302	1/2 - 1 Mile North
AD229	OHD400000018301	1/2 - 1 Mile North
AD230	OHD400000018306	1/2 - 1 Mile North
AD231	OHD400000018305	1/2 - 1 Mile North
AD232	OHD400000018304	1/2 - 1 Mile North
AD233	OHD400000018313	1/2 - 1 Mile North
AD234	OHD400000018322	1/2 - 1 Mile North
AD235	OHD400000018321	1/2 - 1 Mile North
AD236	OHD400000018320	1/2 - 1 Mile North
AD237	OHD400000018325	1/2 - 1 Mile North
AD238	OHD400000018324	1/2 - 1 Mile North
AD239	OHD400000018323	1/2 - 1 Mile North
AD240	OHD400000018316	1/2 - 1 Mile North
AD241	OHD400000018315	1/2 - 1 Mile North
AD242	OHD400000018314	1/2 - 1 Mile North
AD243	OHD400000018319	1/2 - 1 Mile North
AD244	OHD400000018318	1/2 - 1 Mile North
AD245	OHD400000018317	1/2 - 1 Mile North
AC246	OHPW40000000932	1/2 - 1 Mile SW
AE248	OHD400000016933	1/2 - 1 Mile SE
AF249	OHD400000016611	1/2 - 1 Mile SSE
AG250	OHD400000016763	1/2 - 1 Mile SW
251	OHD400000016846	1/2 - 1 Mile SW
253	OHD400000018126	1/2 - 1 Mile NE
AF254	OHD400000016578	1/2 - 1 Mile SSE
AG255	OHPW40000000931	1/2 - 1 Mile SW

PHYSICAL SETTING SOURCE MAP - 2678087.2s



- County Boundary
- Major Roads
- Contour Lines
- Airports
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location

SITE NAME: Former South Lagoon ADDRESS: Dryden Road/Hoylake Road Dayton OH 45439 LAT/LONG: 39.6917 / 84.2278	CLIENT: LFR Inc. CONTACT: Todd Aebie INQUIRY #: 2678087.2s DATE: January 14, 2010 6:24 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
A1		
SSW	**OH WELLS**	**OHD400000017432**
0 - 1/8 Mile		
Lower		

Oid :	717182		
Well log n:	109470		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	GEORGE	Orig own 1:	MURPHY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	53		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	16		
St dir cod:	Not Reported		
St no:	3012		
St name:	HOYLAKE	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513593.66		
Horiz y:	620190.45		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	726.69		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.690104		
Longitude:	-84.228453		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	30		
S water me:	Not Reported	S water 1:	01/29/2007
Cas ht:	0		
Screen len:	0		
Total dept:	47		
Date of co:	10/31/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	697		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017432		

A2
South
0 - 1/8 Mile
Lower

OH WELLS **OHD400000017429**

Oid :	296272		
Well log n:	109480		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	OMER	Orig own 1:	MYNHIER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL AND SAND
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	54		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	16		
St dir cod:	Not Reported		
St no:	2928		
St name:	HOYLAKE	St type co:	CT
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513872.12		
Horiz y:	620158.49		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	727.82		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.690031		
Longitude:	-84.227461		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	29		
S water me:	Not Reported	S water 1:	01/29/2007

Cas ht:	0		
Screen len:	0		
Total dept:	50		
Date of co:	01/03/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	699		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017429		

3
ESE
1/8 - 1/4 Mile
Higher

OH WELLS **OHD400000017469**

Oid :	296281		
Well log n:	472232		
Well type :	WATER WELL		
End user i:	1076		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	DELCO AIR CONDITIONI
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	65		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514514.91		
Horiz y:	620419.66		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	730		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.690781		
Longitude:	-84.225195		
Source of :	Digitized	Flowing we:	N
Test rate:	1700		
Draw down:	13.5		
Draw down :	8		
S water le:	72		
S water me:	Not Reported	S water 1:	08/10/2000
Cas ht:	0		
Screen len:	0		
Total dept:	189		
Date of co:	08/15/1977	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	658		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017469		

4
NE
1/8 - 1/4 Mile
Lower

OH WELLS **OHD400000017611**

Oid :	296280		
Well log n:	420708		
Well type :	WATER WELL		
End user i:	1076		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	FRIGIDAIRE DIV #41
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	BEDROCK
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	64		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514586.74		
Horiz y:	621275.54		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	729.14		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.693135		
Longitude:	-84.224998		
Source of :	Digitized	Flowing we:	N
Test rate:	2461		
Draw down:	21		
Draw down :	10		
S water le:	67		
S water me:	Not Reported	S water 1:	10/22/2003
Cas ht:	0		
Screen len:	0		
Total dept:	194		
Date of co:	08/31/1971	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	662		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017611		

5
SSE
1/8 - 1/4 Mile
Lower

OH WELLS **OHD400000017352**

Oid :	296282		
Well log n:	593778		
Well type :	WATER WELL		
End user i:	1076		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	HARRISON RADIATOR DL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	66		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	16		
St dir cod:	Not Reported		
St no:	2		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514435.59		
Horiz y:	619650.22		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.688665		
Longitude:	-84.225425		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/22/2003
Cas ht:	0		
Screen len:	0		
Total dept:	150		
Date of co:	10/26/1982	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017352		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017664**

6
NE
1/4 - 1/2 Mile
Higher

Oid :	683669		
Well log n:	980531		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1765
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	AUGER	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	CLAY AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	4100		
St name:	SPRINGBORO	St type co:	PI
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	45439		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514798.67		
Horiz y:	621641.42		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.69415		
Longitude:	-84.22427		
Source of :	GPS	Flowing we:	Not Reported
Test rate:	2		
Draw down:	0		
Draw down :	2		
S water le:	22.1		
S water me:	Not Reported	S water 1:	08/16/2004
Cas ht:	0		
Screen len:	10		
Total dept:	61		
Date of co:	08/04/2004	Located in:	Not Reported
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		

Screened i:	51		
Screened 1:	61		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017664		

B7
WSW
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017428**

Oid :	770617		
Well log n:	351803		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	W	Orig own 1:	GILLIAM
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	33		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	0		
St name:	VENETIAN	St type co:	WAY
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1512285.39		
Horiz y:	620187.41		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	720		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.690027		
Longitude:	-84.233101		
Source of :	Digitized	Flowing we:	N
Test rate:	30		
Draw down:	8		
Draw down :	0		
S water le:	38		
S water me:	Not Reported	S water 1:	01/29/2007

Cas ht:	0		
Screen len:	0		
Total dept:	68		
Date of co:	07/27/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	682		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017428		

8
SSE **OH WELLS** **OHD400000017163**
1/4 - 1/2 Mile
Lower

Oid :	772151		
Well log n:	593779		
Well type :	WATER WELL		
End user i:	1076		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	HARRISON RADIATOR DI
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	56		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	16		
St dir cod:	Not Reported		
St no:	0		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514090.58		
Horiz y:	619189.99		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687384		
Longitude:	-84.226619		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/26/2000
Cas ht:	0		
Screen len:	0		
Total dept:	150		
Date of co:	10/26/1982	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017163		

9
South
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017144**

Oid :	296273		
Well log n:	593780		
Well type :	WATER WELL		
End user i:	1076		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	HARRISON RADIATOR DI
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	55		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	16		
St dir cod:	Not Reported		
St no:	0		
St name:	SELLARS	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513588.93		
Horiz y:	619118.73		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687162		
Longitude:	-84.228397		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	04/11/2005
Cas ht:	0		
Screen len:	0		
Total dept:	150		
Date of co:	10/26/1982	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017144		

10
NNE
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017757**

Oid :	296275		
Well log n:	374378		
Well type :	WATER WELL		
End user i:	1209		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	SIX INDUSTRIES
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	59		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	E		
St no:	0		
St name:	EAST RIVER	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514192.43		
Horiz y:	622348.12		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	720		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.696058		
Longitude:	-84.226472		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	9		
Draw down :	0		
S water le:	34		
S water me:	Not Reported	S water 1:	04/08/2005
Cas ht:	0		
Screen len:	0		
Total dept:	80		
Date of co:	07/11/1969	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	686		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017757		

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017157**

11
SSW
1/4 - 1/2 Mile
Lower

Oid :	296453		
Well log n:	420704		
Well type :	WATER WELL		
End user i:	1076		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	MONTGOMERY CO SANITA
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SHALE
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	80		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	0		
St name:	SELLARS	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513185.9		
Horiz y:	619195.82		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	720.37		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687352		
Longitude:	-84.229834		
Source of :	Digitized	Flowing we:	N
Test rate:	1600		
Draw down:	14.5		
Draw down :	4		
S water le:	60		
S water me:	Not Reported	S water 1:	04/11/2005
Cas ht:	0		
Screen len:	0		
Total dept:	191		
Date of co:	03/28/1973	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	660		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017157		

C12
NE
1/4 - 1/2 Mile
Higher

OH WELLS **OHD400000017726**

Oid :	296278		
Well log n:	420709		
Well type :	WATER WELL		
End user i:	1076		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	FRIGIDAIRE DIV #42
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	63		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514762.95		
Horiz y:	622123.43		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	723.54		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.695471		
Longitude:	-84.22443		
Source of :	Digitized	Flowing we:	N
Test rate:	2219		
Draw down:	14		
Draw down :	5.5		
S water le:	69		
S water me:	Not Reported	S water 1:	01/24/2006

Cas ht:	0		
Screen len:	0		
Total dept:	185		
Date of co:	09/01/1971	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	655		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017726		

C13
NE
1/4 - 1/2 Mile
Higher

OH WELLS **OHD400000017727**

Oid :	296279		
Well log n:	420710		
Well type :	WATER WELL		
End user i:	1076		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	FRIGIDAIRE DIV #42
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	BEDROCK
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	63		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514762.95		
Horiz y:	622123.43		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.695471		
Longitude:	-84.22443		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	01/24/2006
Cas ht:	0		
Screen len:	0		
Total dept:	193		
Date of co:	09/01/1971	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017727		

14
East
1/4 - 1/2 Mile
Lower

Site ID:	579907-01	**AQUIFLOW**	**12862**
Groundwater Flow:	SSW		
Shallow Water Depth:	Not Reported		
Deep Water Depth:	Not Reported		
Average Water Depth:	20		
Date:	7/91		

B15
WSW
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017398**

Oid :	742736		
Well log n:	260867		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	DARVIN	Orig own 1:	SHANK
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	34		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	4516		
St name:	VENETIAN	St type co:	WAY
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1512183.18		
Horiz y:	620009.27		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	720		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.689532		
Longitude:	-84.233452		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	4		
Draw down :	1		
S water le:	20		
S water me:	Not Reported	S water 1:	04/19/2005
Cas ht:	0		
Screen len:	0		
Total dept:	46		
Date of co:	04/04/1961	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	700		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017398		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

D16
North
1/4 - 1/2 Mile
Lower | **FED USGS** | **USGS2316399**

Agency cd:	USGS	Site no:	394147084134400
Site name:	MT-301		
Latitude:	394147	EDR Site id:	USGS2316399
Longitude:	0841344	Dec lat:	39.69644793
Dec lon:	-84.22882951	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	39
State:	39	County:	113
Country:	US	Land net:	Not Reported
Location map:	DAYTON SOUTH	Map scale:	24000
Altitude:	730.26		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	005		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Great Miami. Indiana, Ohio. Area = 1390 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	19690711
Date inventoried:	19690711	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	OUTWASH		
Well depth:	80	Hole depth:	80
Source of depth data:	logs		
Project number:	443911200		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1993-08-17
Water quality data end date:	1993-08-17	Water quality data count:	1
Ground water data begin date:	1969-07-11	Ground water data end date:	1969-07-11
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1969-07-11	34	

Note: The site had been pumped recently.

17
NNW
1/4 - 1/2 Mile
Lower | **OH WELLS** | **OHD400000017761**

Oid :	296283		
Well log n:	478810		
Well type :	WATER WELL		
End user i:	1209		
Cnty code:	113	Twp code:	1873
Orig owner:	MONTGOMERY	Orig own 1:	CO
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	67		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	17		
St dir cod:	E		
St no:	0		
St name:	EAST RIVER	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513116.85		
Horiz y:	622399.74		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	720		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.696143		
Longitude:	-84.230297		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	10		
Draw down :	8		
S water le:	43		
S water me:	Not Reported	S water 1:	10/30/2002
Cas ht:	0		
Screen len:	0		
Total dept:	87		
Date of co:	08/10/1975	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	677		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017761		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
D18		
North	**OH WELLS**	**OHD400000017780**
1/4 - 1/2 Mile		
Lower		

Oid :	788098		
Well log n:	2015259		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	45439		
Well loc d:	DRYDEN RD AND RIVER RD		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.69651		
Longitude:	-84.22863		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	04/20/2003
Cas ht:	0		
Screen len:	10		
Total dept:	54		
Date of co:	02/20/2008	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	GM-83S		
Well seal :	0		
Screen slo:	.01		

Screened i:	54		
Screened 1:	44		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	GLOBAL POSITION SYSTEM		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017780		

D19
North
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017781**

Oid :	788099		
Well log n:	2015260		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	45439		
Well loc d:	DRYDEN RD AND RIVER RD		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.69651		
Longitude:	-84.22863		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	04/20/2003

Cas ht:	0		
Screen len:	10		
Total dept:	120		
Date of co:	02/20/2008	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	TEMPORARY 9.25" BOREHOLE DRILLED TO 56 FT. DEPTH GM-83D		
Well seal :	0		
Screen slo:	.01		
Screened i:	120		
Screened 1:	110		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	GLOBAL POSITION SYSTEM		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017781		

C20
NE
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017734**

Oid :	683152		
Well log n:	980530		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1765
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	AUGER	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	CLAY AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	4100		
St name:	SPRINGBORO	St type co:	PI
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	45439		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514949.57		
Horiz y:	622174.07		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.69562		
Longitude:	-84.22377		
Source of :	GPS	Flowing we:	Not Reported
Test rate:	2		
Draw down:	0		
Draw down :	2.5		
S water le:	22.2		
S water me:	Not Reported	S water 1:	08/16/2004
Cas ht:	0		
Screen len:	10		
Total dept:	50		
Date of co:	08/09/2004	Located in:	Not Reported
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		
Screened i:	30		
Screened 1:	40		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017734		

21
West
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017510**

Oid :	295635		
Well log n:	136271		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	BRADLY	Orig own 1:	RICE
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	31		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3313		
St name:	SHORELANDS	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1511809.92		
Horiz y:	620720.64		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	714.01		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.691465		
Longitude:	-84.234826		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	35		
S water me:	Not Reported	S water 1:	11/06/2006
Cas ht:	0		
Screen len:	0		
Total dept:	88		
Date of co:	08/27/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	679		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017510		

22
SW
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017325**

Oid :	295763		
Well log n:	351804		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	W	Orig own 1:	DICKINS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	37		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	3208		
St name:	OUTDOOR	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1512184.64		
Horiz y:	619545.19		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	720		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.688259		
Longitude:	-84.233415		
Source of :	Digitized	Flowing we:	N
Test rate:	30		
Draw down:	6		
Draw down :	0		
S water le:	38		
S water me:	Not Reported	S water 1:	09/07/2008
Cas ht:	0		
Screen len:	0		
Total dept:	71		
Date of co:	07/30/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	682		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017325		

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017417**

23
WSW
1/4 - 1/2 Mile
Lower

Oid :	295636		
Well log n:	322688		
Well type :	WATER WELL		
End user i:	2114		
Cnty code:	113	Twp code:	1873
Orig owner:	WILLARD	Orig own 1:	GILLIAM
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	32		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	3302		
St name:	COTTAGE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1511864.13		
Horiz y:	620149.54		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	720		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.689901		
Longitude:	-84.234595		
Source of :	Digitized	Flowing we:	N
Test rate:	15		
Draw down:	1		
Draw down :	0		
S water le:	27		
S water me:	Not Reported	S water 1:	08/05/2003
Cas ht:	0		
Screen len:	0		
Total dept:	39		
Date of co:	10/19/1964	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	693		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017417		

E24
East
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017566**

Oid :	785986		
Well log n:	2013834		
Well type :	WATER WELL		
End user i:	1407		
Cnty code:	113	Twp code:	2925
Orig owner:	Not Reported	Orig own 1:	PRIORITY TOWING
Drill type:	AUGER	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2828		
St name:	SPRINGBORO	St type co:	PI
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.692336		
Longitude:	-84.220344		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	40		
S water me:	Not Reported	S water 1:	10/30/2007

Cas ht:	0		
Screen len:	300		
Total dept:	40		
Date of co:	10/30/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		
Screened i:	40		
Screened 1:	30		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017566		

E25
East
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017571**

Oid :	785985		
Well log n:	2013833		
Well type :	WATER WELL		
End user i:	1407		
Cnty code:	113	Twp code:	2925
Orig owner:	Not Reported	Orig own 1:	PRIORITY TOWING
Drill type:	AUGER	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2828		
St name:	SPRINGBORO	St type co:	PI
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.692464		
Longitude:	-84.220344		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	40		
S water me:	Not Reported	S water 1:	10/29/2007
Cas ht:	0		
Screen len:	10		
Total dept:	40		
Date of co:	10/29/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		
Screened i:	40		
Screened 1:	30		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017571		

E26
East
1/4 - 1/2 Mile
Higher

OH WELLS **OHWT30000000437**

County:	MONTGOMERY	Pwsid:	OH5749512
Wtp num:	5933	Wtp name:	UPPER DECK TAVERN
Tp avail:	PERMANENT	Wtr type:	ground water
Wtpdsn cap:	1		
Notreat in:	Not Reported	Wtr body n:	Not Reported
Wtp status:	Active	Sys status:	Active
Sys name:	UPPER DECK TAVERN PWS	Sys type:	Transient Non-Community water systems
Src type:	ground water	First name:	DEBBIE
Last name:	MILLER	Title:	Not Reported
Address1:	2651 BLANCHARD ST		
Address2:	Not Reported		
City:	MORAINE	State:	OH
Zip:	45439	Phone:	937-298-3929
Emg phone:	Not Reported		
Latitude:	39.691369		
Longitude:	-84.220208		
Accuracy:	500		
Ll colmeth:	INTERPOLATION - MAP		
Hdatum:	NAD 27		
Verify met:	VERIFIED, UNKNOWN METHOD		
Site id:	OHWT30000000437		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
27 **NNE** **1/4 - 1/2 Mile** **Lower**	**OH WELLS**	**OHD400000017840**

Oid :	295479		
Well log n:	525223		
Well type :	WATER WELL		
End user i:	1209		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	MID-STATE DEVELOPMEN
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	12		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	17		
St dir cod:	Not Reported		
St no:	3265		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514281.93		
Horiz y:	622854.98		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	728.57		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.697454		
Longitude:	-84.226189		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	10		
Draw down :	4		
S water le:	46		
S water me:	Not Reported	S water 1:	06/26/2008
Cas ht:	0		
Screen len:	0		
Total dept:	85		
Date of co:	05/24/1979	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	683		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017840		

28
SW
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017112**

Oid :	753578		
Well log n:	2013403		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	MIAMI SHORES	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	Not Reported		
Well loc d:	GM-79		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.686667		
Longitude:	-84.232167		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	09/15/2005

Cas ht:	0		
Screen len:	10		
Total dept:	55		
Date of co:	10/17/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		
Screened i:	55		
Screened 1:	45		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017112		

29
NNE
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017803**

Oid :	286450		
Well log n:	9957675		
Well type :	WATER WELL		
End user i:	2166		
Cnty code:	113	Twp code:	2925
Orig owner:	Not Reported	Orig own 1:	FRIGIDAIRE DIV.
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1945	Loc area:	Not Reported
Loc no:	147		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	Not Reported	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514911.09		
Horiz y:	622620.27		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.696843		
Longitude:	-84.223937		
Source of :	Digitized	Flowing we:	N
Test rate:	1200		
Draw down:	14		
Draw down :	12		
S water le:	23		
S water me:	Not Reported	S water 1:	04/20/2003
Cas ht:	0		
Screen len:	0		
Total dept:	122		
Date of co:	07/19/1946	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	BY PLANT A TUNNEL		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017803		

E30
East
1/4 - 1/2 Mile
Higher

OH WELLS **OHPW40000000953**

County:	MONTGOMERY	Pwsid:	OH5749512
Well num:	16066	Well name:	UPPER DECK TAVERN WELL 0001
Dnr wl log:	Not Reported	Wl avail:	PERMANENT
Act date:	12/01/2004	Wl status:	Active
Sys status:	Active	Sys name:	UPPER DECK TAVERN PWS
Sys type:	Transient Non-Community water systems		
Src type:	ground water		
Latitude:	39.691888		
Longitude:	-84.219637		
Accuracy:	25		
Ll colmeth:	INTERPOLATION - PHOTO		
Hdatum:	NAD 83		
Verify met:	VERIFIED RELATIVE TO MAP FEATURES (1:24,000)		
Site id:	OHPW40000000953		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database: **OH WELLS** | EDR ID Number: **OHD400000017716**

F31
ENE
1/4 - 1/2 Mile
Lower

Oid :	788097		
Well log n:	2015258		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	SPRINGBORO	St type co:	PI
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	45439		
Well loc d:	GM-82		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.69511		
Longitude:	-84.22089		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	09/11/2003
Cas ht:	0		
Screen len:	10		
Total dept:	120		
Date of co:	02/21/2008	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		

Screened i:	95		
Screened 1:	85		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	GLOBAL POSITION SYSTEM		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017716		

F32
ENE
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017706**

Oid :	776784		
Well log n:	9957650		
Well type :	WATER WELL		
End user i:	2166		
Cnty code:	113	Twp code:	2925
Orig owner:	Not Reported	Orig own 1:	FRIGIDAIRE DIV.GM CO
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	CLAY and HARDPAN
Loc map ye:	1945	Loc area:	Not Reported
Loc no:	96		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	Not Reported	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1515854.48		
Horiz y:	621862.69		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.694813		
Longitude:	-84.220534		
Source of :	Digitized	Flowing we:	N
Test rate:	1200		
Draw down:	10.3		
Draw down :	0		
S water le:	25		
S water me:	Not Reported	S water 1:	10/31/2008

Cas ht:	0		
Screen len:	0		
Total dept:	119		
Date of co:	01/01/1935	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017706		

G33
WSW
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017362**

Oid :	585251		
Well log n:	275785		
Well type :	WATER WELL		
End user i:	2017		
Cnty code:	113	Twp code:	1873
Orig owner:	CARL	Orig own 1:	HUSSANG
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	35		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	4605		
St name:	VENETIAN	St type co:	WAY
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1511568.95		
Horiz y:	619754.46		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.68		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.688801		
Longitude:	-84.235617		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	20		
S water me:	Not Reported	S water 1:	10/01/2003
Cas ht:	0		
Screen len:	0		
Total dept:	47		
Date of co:	03/20/1964	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	700		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017362		

34
NW
1/4 - 1/2 Mile
Lower

FED USGS **USGS2316401**

Agency cd:	USGS	Site no:	394148084140100
Site name:	MT-647		
Latitude:	394148	EDR Site id:	USGS2316401
Longitude:	0841401	Dec lat:	39.6967257
Dec lon:	-84.23355189	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	39
State:	39	County:	113
Country:	US	Land net:	Not Reported
Location map:	DAYTON SOUTH	Map scale:	24000
Altitude:	712.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Great Miami. Indiana, Ohio. Area = 1390 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	19730101
Date inventoried:	Not Reported	Mean greenwich time offset:	EST

Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	OUTWASH		
Well depth:	78.0	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	443900300		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1976-04-09
Water quality data end date:	1976-04-09	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

H35
SE
1/4 - 1/2 Mile
Lower

AQUIFLOW **14377**

Site ID:	5751248-00
Groundwater Flow:	SW
Shallow Water Depth:	26.28
Deep Water Depth:	28.44
Average Water Depth:	Not Reported
Date:	12/95

G36
WSW
1/4 - 1/2 Mile
Lower

OH WELLS **OHD400000017316**

Oid :	295637		
Well log n:	338068		
Well type :	WATER WELL		
End user i:	707		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	TED LEWIS CONST. INC
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	36		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	0		
St name:	VENETIAN	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1511534.61		
Horiz y:	619488.43		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	717.16		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.688069		
Longitude:	-84.23572		
Source of :	Digitized	Flowing we:	N
Test rate:	40		
Draw down:	2		
Draw down :	4		
S water le:	29		
S water me:	Not Reported	S water 1:	09/07/2008
Cas ht:	0		
Screen len:	0		
Total dept:	110		
Date of co:	03/10/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	688		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017316		

37
South
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016949**

Oid :	296447		
Well log n:	101813		
Well type :	WATER WELL		
End user i:	1801		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	MONTGOMERY COUNTY SA
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	MUD
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	73		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	16		
St dir cod:	Not Reported		
St no:	0		
St name:	SELLARS	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513813.82		
Horiz y:	618081.86		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	717.33		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.684328		
Longitude:	-84.227527		
Source of :	Digitized	Flowing we:	N
Test rate:	1900		
Draw down:	23		
Draw down :	1		
S water le:	28		
S water me:	Not Reported	S water 1:	01/04/2007
Cas ht:	0		
Screen len:	0		
Total dept:	150		
Date of co:	03/24/1958	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	689		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016949		

H38
SE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000017139**

Oid :	293542		
Well log n:	177677		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1765
Orig owner:	Not Reported	Orig own 1:	COUNTRY KITCHEN
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	15		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	10		
St dir cod:	S		
St no:	4830		
St name:	DIXIE	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1515830.64		
Horiz y:	619035.98		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	730		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687052		
Longitude:	-84.220427		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	35		
S water me:	Not Reported	S water 1:	04/11/2005
Cas ht:	0		
Screen len:	0		
Total dept:	108		
Date of co:	07/20/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	695		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017139		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000016966**

39
SSE
1/2 - 1 Mile
Lower

Oid :	753576		
Well log n:	2013401		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	Not Reported		
Well loc d:	GM-78		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.6845		
Longitude:	-84.225167		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	08/16/2007
Cas ht:	0		
Screen len:	10		
Total dept:	50		
Date of co:	10/18/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		

Screened i:	50		
Screened 1:	40		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016966		

40
SW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017053**

Oid :	295775		
Well log n:	334149		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	H	Orig own 1:	KEYER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	51		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3311		
St name:	CLEARVIEW	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1512081.28		
Horiz y:	618627.12		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	718.37		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.685733		
Longitude:	-84.233719		
Source of :	Digitized	Flowing we:	N
Test rate:	30		
Draw down:	8		
Draw down :	0		
S water le:	39		
S water me:	Not Reported	S water 1:	11/06/1997

Cas ht:	0		
Screen len:	0		
Total dept:	69		
Date of co:	07/14/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	679		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017053		

I41
South
1/2 - 1 Mile
Lower

FED USGS **USGS2316388**

Agency cd:	USGS	Site no:	394101084134400
Site name:	MT-304		
Latitude:	394101	EDR Site id:	USGS2316388
Longitude:	0841344	Dec lat:	39.68367018
Dec lon:	-84.22882931	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	39
State:	39	County:	113
Country:	US	Land net:	Not Reported
Location map:	DAYTON SOUTH	Map scale:	24000
Altitude:	716.10		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	005		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Great Miami. Indiana, Ohio. Area = 1390 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	19540501
Date inventoried:	19880622	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	189	Hole depth:	189
Source of depth data:	logs		
Project number:	443911200		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00

Peak flow data count: 0
Water quality data begin date: 0000-00-00
Water quality data end date: 0000-00-00
Water quality data count: 0
Ground water data begin date: 1954-05-01
Ground water data end date: 1954-05-01
Ground water data count: 1

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1954-05-01	18	

Note: The site had been pumped recently.

J42
SSW
1/2 - 1 Mile
Lower

OH WELLS **OHWT30000000426**

County:	MONTGOMERY	Pwsid:	OH5701315
Wtp num:	5819	Wtp name:	MONTGOMERY CO WATER SYSTEM NO 1 STU 1
Tp avail:	PERMANENT	Wtr type:	surface water
Wtpdsn cap:	19000000		
Notreat in:	Not Reported	Wtr body n:	Not Reported
Wtp status:	Active	Sys status:	Active
Sys name:	MONTGOMERY COUNTY WATER SERVICES 1 PWS	Sys type:	Community
Src type:	purchased surface water	First name:	RICK K
Last name:	DAY	Title:	Not Reported
Address1:	1850 SPAULDING RD		
Address2:	Not Reported		
City:	KETTERING	State:	OH
Zip:	45432-3732	Phone:	937-781-2662
Emg phone:	937-781-2679		
Latitude:	39.684517		
Longitude:	-84.232822		
Accuracy:	5		
Ll colmeth:	GPS CODE MEASUREMENTS (PSEUDO RANGE) DIFFERENTIALLY CORRECTED		
Hdatum:	NAD 27		
Verify met:	VERIFIED RELATIVE TO MAP FEATURES (1:24,000)		
Site id:	OHWT30000000426		

K43
SW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017078**

Oid :	295768		
Well log n:	351802		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	N	Orig own 1:	WELLY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	43		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3412		
St name:	TRAIL-ON	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1511527.66		
Horiz y:	618790.84		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	715.08		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.686153		
Longitude:	-84.235697		
Source of :	Digitized	Flowing we:	N
Test rate:	30		
Draw down:	8		
Draw down :	0		
S water le:	38		
S water me:	Not Reported	S water 1:	11/20/2002
Cas ht:	0		
Screen len:	0		
Total dept:	71		
Date of co:	07/23/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	677		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017078		

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017364**

L44
ESE
1/2 - 1 Mile
Higher

Oid :	296448		
Well log n:	177675		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	FILM ASSOCIATES
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	74		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	10		
St dir cod:	S		
St no:	4600		
St name:	DIXIE	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1516584.99		
Horiz y:	619665.06		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	733.33		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.688819		
Longitude:	-84.217789		
Source of :	Digitized	Flowing we:	N
Test rate:	50		
Draw down:	2		
Draw down :	2		
S water le:	16		
S water me:	Not Reported	S water 1:	10/01/2003
Cas ht:	0		
Screen len:	0		
Total dept:	110		
Date of co:	07/20/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	717		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017364		

L45
ESE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000017365**

Oid :	775531		
Well log n:	114304		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	RED HORSE TOURIST CO
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	74		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	Not Reported	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1516584.99		
Horiz y:	619665.06		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.688819		
Longitude:	-84.217789		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	10/01/2003

Cas ht:	0		
Screen len:	0		
Total dept:	100		
Date of co:	08/21/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017365		

46
ESE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000017424**

Oid :	296449		
Well log n:	351614		
Well type :	WATER WELL		
End user i:	2573		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	TAFT BROADCASSTING W
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	75		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	10		
St dir cod:	S		
St no:	4595		
St name:	DIXIE	St type co:	HGWY
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1516715.62		
Horiz y:	620081.7		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	739.68		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.689969		
Longitude:	-84.217353		
Source of :	Digitized	Flowing we:	N
Test rate:	230		
Draw down:	11.5		
Draw down :	8		
S water le:	60		
S water me:	Not Reported	S water 1:	12/21/2004
Cas ht:	0		
Screen len:	0		
Total dept:	153		
Date of co:	10/16/1962	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	680		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017424		

J47
SSW
1/2 - 1 Mile
Lower

OH WELLS **OHPW40000000942**

County:	MONTGOMERY	Pwsid:	OH5701315
Well num:	15814	Well name:	MONTGOMERY CO:WATER SYST WELL 0015
Dnr wl log:	Not Reported	Wl avail:	EMERGENCY
Act date:	10/15/1999	Wl status:	Active
Sys status:	Active	Sys name:	MONTGOMERY COUNTY WATER SERVICES 1 PWS
Sys type:	Community		
Src type:	purchased surface water		
Latitude:	39.684		
Longitude:	-84.232414		
Accuracy:	5		
Ll colmeth:	GPS CODE MEASUREMENTS (PSEUDO RANGE) DIFFERENTIALLY CORRECTED		
Hdatum:	WGS 84		
Verify met:	VERIFIED RELATIVE TO MAP FEATURES (1:24,000)		
Site id:	OHPW40000000942		

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

I48
South
1/2 - 1 Mile
Lower

FED USGS **USGS2316386**

Agency cd:	USGS	Site no:	394059084134400
Site name:	MT-302		
Latitude:	394059	EDR Site id:	USGS2316386
Longitude:	0841344	Dec lat:	39.68311463
Dec lon:	-84.2288293	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	39
State:	39	County:	113
Country:	US	Land net:	Not Reported
Location map:	DAYTON SOUTH	Map scale:	24000
Altitude:	722.94		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	005		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Great Miami. Indiana, Ohio. Area = 1390 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	19880622	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	157.6	Hole depth:	157.6
Source of depth data:	logs		
Project number:	443911200		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1993-08-11
Water quality data end date:	1993-08-11	Water quality data count:	1
Ground water data begin date:	1988-06-22	Ground water data end date:	1988-06-22
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1988-06-22	24.23	

Note: The site had been pumped recently.

49
East
1/2 - 1 Mile
Higher

OH WELLS **OHD400000017501**

Oid :	788100		
Well log n:	2015261		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	BLANCHARD	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	45439		
Well loc d:	CORNER OF BLANCHARD AND ELLERY		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.69134		
Longitude:	-84.21657		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	06/23/2005
Cas ht:	0		
Screen len:	10		
Total dept:	107		
Date of co:	02/14/2008	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	TEMPORARY 9.25" DIAMETER DRILLED TO 76 FT. DEPTH MW-84		
Well seal :	0		
Screen slo:	.01		
Screened i:	107		
Screened 1:	97		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	GLOBAL POSITION SYSTEM		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017501		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000016896**

J50
SSW
1/2 - 1 Mile
Lower

Oid :	753579		
Well log n:	2013404		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	ELTER	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	Not Reported		
Well loc d:	GM-80S		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.683667		
Longitude:	-84.232667		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	11/21/2008
Cas ht:	0		
Screen len:	10		
Total dept:	25		
Date of co:	10/16/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		

Screened i:	25		
Screened 1:	15		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016896		

J51
SSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016897**

Oid :	753580		
Well log n:	2013405		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	ELTER	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	Not Reported		
Well loc d:	GM-80D		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.683667		
Longitude:	-84.232667		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	11/21/2008

Cas ht:	0		
Screen len:	10		
Total dept:	60		
Date of co:	10/16/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		
Screened i:	60		
Screened 1:	50		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016897		

K52
SW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017069**

Oid :	295767		
Well log n:	334147		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	VIRGIL	Orig own 1:	HOWRWS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	42		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3446		
St name:	TRAIL-ON	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1511288.09		
Horiz y:	618720.57		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.58		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.685948		
Longitude:	-84.236544		
Source of :	Digitized	Flowing we:	N
Test rate:	30		
Draw down:	20		
Draw down :	0		
S water le:	40		
S water me:	Not Reported	S water 1:	11/20/2002
Cas ht:	0		
Screen len:	0		
Total dept:	78		
Date of co:	07/10/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	674		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017069		

53
SW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016982**

Oid :	295774		
Well log n:	341137		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	LEWIS	Orig own 1:	ARY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	50		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	36		
St dir cod:	Not Reported		
St no:	3412		
St name:	CLEARVIEW	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1511691.13		
Horiz y:	618265.48		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.68472		
Longitude:	-84.235081		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	12		
Draw down :	2		
S water le:	28		
S water me:	Not Reported	S water 1:	02/07/2003
Cas ht:	0		
Screen len:	0		
Total dept:	54		
Date of co:	02/01/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016982		

J54
SSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016906**

Oid :	296271		
Well log n:	295341		
Well type :	WATER WELL		
End user i:	1532		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	MONTGOMERY CO-WATER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL AND CLAY
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	52		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	Not Reported	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1512146.91		
Horiz y:	617911.32		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.4		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.683772		
Longitude:	-84.233437		
Source of :	Digitized	Flowing we:	N
Test rate:	2000		
Draw down:	10		
Draw down :	24		
S water le:	43		
S water me:	Not Reported	S water 1:	05/31/2007
Cas ht:	0		
Screen len:	0		
Total dept:	170		
Date of co:	09/25/1964	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	676		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016906		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
M55 **ENE** **1/2 - 1 Mile** **Higher**	**OH WELLS**	**OHD400000017783**

Oid :	286452		
Well log n:	9957677		
Well type :	WATER WELL		
End user i:	2166		
Cnty code:	113	Twp code:	2925
Orig owner:	Not Reported	Orig own 1:	FRIGIDAIRE DIV.GM
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1945	Loc area:	Not Reported
Loc no:	149		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	Not Reported	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1516576.15		
Horiz y:	622476.87		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.696536		
Longitude:	-84.218011		
Source of :	Digitized	Flowing we:	N
Test rate:	1500		
Draw down:	9		
Draw down :	10		
S water le:	26		
S water me:	Not Reported	S water 1:	04/20/2003
Cas ht:	0		
Screen len:	0		
Total dept:	123		
Date of co:	06/13/1946	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	N END OF OFFICE		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017783		

56
NNE **OH WELLS** **OHD400000018007**
1/2 - 1 Mile
Lower

Oid :	768970		
Well log n:	420730		
Well type :	WATER WELL		
End user i:	1076		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	FRIGIDAIRE DIV GENER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	BEDROCK
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	58		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1515275.8		
Horiz y:	623728.02		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	730		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.699903		
Longitude:	-84.222716		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	80		
S water me:	Not Reported	S water 1:	11/19/2007

Cas ht:	0		
Screen len:	0		
Total dept:	201		
Date of co:	06/18/1973	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	650		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018007		

57
SSW
1/2 - 1 Mile
Lower

OH WELLS **OHPW40000000941**

County:	MONTGOMERY	Pwsid:	OH5701315
Well num:	15815	Well name:	MONTGOMERY CO:WATER SYST WELL 0016
Dnr wl log:	Not Reported	Wl avail:	EMERGENCY
Act date:	10/15/1999	Wl status:	Active
Sys status:	Active	Sys name:	MONTGOMERY COUNTY WATER SERVICES 1 PWS
Sys type:	Community		
Src type:	purchased surface water		
Latitude:	39.683842		
Longitude:	-84.234108		
Accuracy:	5		
Ll colmeth:	GPS CODE MEASUREMENTS (PSEUDO RANGE) DIFFERENTIALLY CORRECTED		
Hdatum:	WGS 84		
Verify met:	VERIFIED RELATIVE TO MAP FEATURES (1:24,000)		
Site id:	OHPW40000000941		

M58
NE
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017834**

Oid :	753584		
Well log n:	2013409		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	STROOP	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	Not Reported		
Well loc d:	GM-75D		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.697333		
Longitude:	-84.218167		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	06/26/2008
Cas ht:	0		
Screen len:	10		
Total dept:	95		
Date of co:	09/20/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		
Screened i:	95		
Screened 1:	85		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017834		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
59 WSW 1/2 - 1 Mile Lower	**OH WELLS**	**OHD400000017119**

Oid :	295764		
Well log n:	289563		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	ROBERT	Orig own 1:	SHIDELER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	38		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3544		
St name:	BEECHGROVE	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1510673.28		
Horiz y:	619059.79		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	710		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.686846		
Longitude:	-84.238751		
Source of :	Digitized	Flowing we:	N
Test rate:	8		
Draw down:	0		
Draw down :	2		
S water le:	17		
S water me:	Not Reported	S water 1:	04/17/2007
Cas ht:	0		
Screen len:	0		
Total dept:	41		
Date of co:	02/08/1963	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	693		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017119		

60
West
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017467**

Oid :	585250		
Well log n:	129087		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	WILLIAM/THELMA	Orig own 1:	SMITH
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	30		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	45
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	ANGUS	St type co:	LN
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1510229.56		
Horiz y:	620453.2		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	720		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.690648		
Longitude:	-84.240423		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	25		
S water me:	Not Reported	S water 1:	08/10/2000

Cas ht:	0		
Screen len:	0		
Total dept:	38		
Date of co:	06/19/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	695		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017467		

N61
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS2316384**

Agency cd:	USGS	Site no:	394058084140000
Site name:	MT-1002		
Latitude:	394058	EDR Site id:	USGS2316384
Longitude:	0841400	Dec lat:	39.68283684
Dec lon:	-84.23327389	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	39
State:	39	County:	113
Country:	US	Land net:	Not Reported
Location map:	DAYTON SOUTH	Map scale:	24000
Altitude:	716.00		
Altitude method:	Level or other surveying method		
Altitude accuracy:	1		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Great Miami. Indiana, Ohio. Area = 1390 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19590522
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	OUTWASH		
Well depth:	160	Hole depth:	160
Source of depth data:	Not Reported		
Project number:	443900300		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00

Peak flow data count:	0	Water quality data begin date:	1976-01-30
Water quality data end date:	1976-01-30	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

N62
SSW
1/2 - 1 Mile
Lower

OH WELLS **OHPW40000000938**

County:	MONTGOMERY	Pwsid:	OH5701315
Well num:	15813	Well name:	MONTGOMERY CO:WATER SYST WELL 0014
Dnr wl log:	Not Reported	Wl avail:	EMERGENCY
Act date:	12/04/2000	Wl status:	Active
Sys status:	Active	Sys name:	MONTGOMERY COUNTY WATER SERVICES 1 PWS
Sys type:	Community		
Src type:	purchased surface water		
Latitude:	39.682753		
Longitude:	-84.233192		
Accuracy:	5		
Ll colmeth:	GPS CODE MEASUREMENTS (PSEUDO RANGE) DIFFERENTIALLY CORRECTED		
Hdatum:	WGS 84		
Verify met:	VERIFIED RELATIVE TO MAP FEATURES (1:24,000)		
Site id:	OHPW40000000938		

O63
SW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017062**

Oid :	772146		
Well log n:	351805		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	R	Orig own 1:	SELLENS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	39		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3321		
St name:	TRAIL-ON	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1510808.24		
Horiz y:	618680.06		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	711.64		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.685811		
Longitude:	-84.238246		
Source of :	Digitized	Flowing we:	N
Test rate:	30		
Draw down:	6		
Draw down :	0		
S water le:	38		
S water me:	Not Reported	S water 1:	09/15/2008
Cas ht:	0		
Screen len:	0		
Total dept:	72		
Date of co:	07/22/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	674		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017062		

P64
ENE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000017656**

Oid :	753586		
Well log n:	2013411		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	4109		
St name:	FULTON	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH

Zip:	Not Reported		
Well loc d:	GM-77S		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.694		
Longitude:	-84.215333		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	08/15/2004
Cas ht:	0		
Screen len:	10		
Total dept:	43		
Date of co:	09/12/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		
Screened i:	43		
Screened 1:	33		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017656		

P65
ENE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000017657**

Oid :	753587		
Well log n:	2013412		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	4109		
St name:	FULTON	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	Not Reported		
Well loc d:	GM-77D		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.694		
Longitude:	-84.215333		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	08/15/2004
Cas ht:	0		
Screen len:	10		
Total dept:	87		
Date of co:	09/11/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		
Screened i:	87		
Screened 1:	77		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017657		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
O66 **SW** **1/2 - 1 Mile** **Lower**	**OH WELLS**	**OHD400000017016**

Oid :	295766		
Well log n:	336165		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	HENRY	Orig own 1:	WATTS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	41		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3544		
St name:	TRAIL-ON	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1510857.69		
Horiz y:	618511.23		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.68535		
Longitude:	-84.238058		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	18		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	03/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	08/27/1965	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017016		

67
SW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016930**

Oid :	585252		
Well log n:	341139		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	LEONARD	Orig own 1:	HAYES
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	49		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	7		
St dir cod:	Not Reported		
St no:	3516		
St name:	CLEARVIEW	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1511210.92		
Horiz y:	618067		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	715.39		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.68415		
Longitude:	-84.236773		
Source of :	Digitized	Flowing we:	N
Test rate:	8		
Draw down:	10		
Draw down :	2		
S water le:	28		
S water me:	Not Reported	S water 1:	01/05/2009

Cas ht:	0		
Screen len:	0		
Total dept:	48		
Date of co:	02/15/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	687		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016930		

Q68
NE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000017971**

Oid :	296277		
Well log n:	210162		
Well type :	WATER WELL		
End user i:	0		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	FRIGIDAIRE DIV GMC
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	62		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	Not Reported	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1516287.78		
Horiz y:	623542.04		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	730		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.699445		
Longitude:	-84.219108		
Source of :	Digitized	Flowing we:	N
Test rate:	1000		
Draw down:	4.5		
Draw down :	.5		
S water le:	32		
S water me:	Not Reported	S water 1:	04/28/2006
Cas ht:	0		
Screen len:	0		
Total dept:	150		
Date of co:	11/07/1959	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	698		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017971		

R69
SSW
1/2 - 1 Mile
Lower

OH WELLS **OHPW40000000939**

County:	MONTGOMERY	Pwsid:	OH5701315
Well num:	15816	Well name:	MONTGOMERY CO:WATER SYST WELL 0017
Dnr wl log:	Not Reported	Wl avail:	EMERGENCY
Act date:	10/15/1999	Wl status:	Active
Sys status:	Active	Sys name:	MONTGOMERY COUNTY WATER SERVICES 1 PWS
Sys type:	Community		
Src type:	purchased surface water		
Latitude:	39.683019		
Longitude:	-84.235064		
Accuracy:	5		
Ll colmeth:	GPS CODE MEASUREMENTS (PSEUDO RANGE) DIFFERENTIALLY CORRECTED		
Hdatum:	WGS 84		
Verify met:	VERIFIED RELATIVE TO MAP FEATURES (1:24,000)		
Site id:	OHPW40000000939		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017980**

Q70
NE
1/2 - 1 Mile
Higher

Oid :	286420		
Well log n:	9957644		
Well type :	WATER WELL		
End user i:	1532		
Cnty code:	113	Twp code:	2925
Orig owner:	Not Reported	Orig own 1:	FRIGIDAIRE CORP
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND/GRAVEL/BOULDERS
Loc map ye:	1945	Loc area:	Not Reported
Loc no:	49		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	17		
St dir cod:	Not Reported		
St no:	0		
St name:	Not Reported	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1516288.83		
Horiz y:	623563.47		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.699504		
Longitude:	-84.219105		
Source of :	Digitized	Flowing we:	N
Test rate:	1200		
Draw down:	0		
Draw down :	0		
S water le:	23		
S water me:	Not Reported	S water 1:	07/18/2003
Cas ht:	0		
Screen len:	0		
Total dept:	108		
Date of co:	07/26/1934	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017980		

S71
South
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016729**

Oid :	293540		
Well log n:	128434		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1765
Orig owner:	EDWARD	Orig own 1:	SCHMIDT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	13		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	16		
St dir cod:	Not Reported		
St no:	5255		
St name:	MANCHESTER	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513659.47		
Horiz y:	616944.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.681197		
Longitude:	-84.227998		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	05/03/2007

Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	10/01/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016729		

T72
SSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016750**

Oid :	293538		
Well log n:	349845		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1765
Orig owner:	HAROLD	Orig own 1:	GWINN
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	11		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	16		
St dir cod:	S		
St no:	5441		
St name:	DIXIE	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1512604.06		
Horiz y:	617090.92		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	715.3		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.681544		
Longitude:	-84.231757		
Source of :	Digitized	Flowing we:	N
Test rate:	12		
Draw down:	10		
Draw down :	1		
S water le:	50		
S water me:	Not Reported	S water 1:	08/01/2002
Cas ht:	0		
Screen len:	0		
Total dept:	85		
Date of co:	09/22/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	665		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016750		

Q73
NE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000018026**

Oid :	296276		
Well log n:	420737		
Well type :	WATER WELL		
End user i:	1076		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	FRIGIDAIRE DIV GMC
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	BOULDERS
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	61		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	16		
St dir cod:	Not Reported		
St no:	0		
St name:	SPRINGBORO	St type co:	PI
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1516133.43		
Horiz y:	623784.88		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	730		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.700104		
Longitude:	-84.219673		
Source of :	Digitized	Flowing we:	N
Test rate:	1200		
Draw down:	8		
Draw down :	3		
S water le:	84		
S water me:	Not Reported	S water 1:	04/24/2008
Cas ht:	0		
Screen len:	0		
Total dept:	205		
Date of co:	06/18/1973	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	646		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018026		

U74
SW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016971**

Oid :	295772		
Well log n:	334144		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	JUIVS	Orig own 1:	ARNOLD
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	47		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3553		
St name:	COZY CAMP	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1510848.73		
Horiz y:	618229.75		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.85		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.684577		
Longitude:	-84.238071		
Source of :	Digitized	Flowing we:	N
Test rate:	28		
Draw down:	4		
Draw down :	0		
S water le:	39		
S water me:	Not Reported	S water 1:	06/22/2005
Cas ht:	0		
Screen len:	0		
Total dept:	56		
Date of co:	06/15/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	675		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016971		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database: **OH WELLS** | EDR ID Number: **OHD400000018178**

V75
North
1/2 - 1 Mile
Lower

Oid :	775527		
Well log n:	109421		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	AROND	Orig own 1:	BLAIR
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	29		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2901		
St name:	HOLMAN	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514237.23		
Horiz y:	624587.52		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.702207		
Longitude:	-84.226465		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	05/07/2004
Cas ht:	0		
Screen len:	0		
Total dept:	56		
Date of co:	07/21/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018178		

V76
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018194**

Oid :	295606		
Well log n:	131360		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	LEONARD	Orig own 1:	PARROT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	20		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2905		
St name:	GLADSTONE	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513961.02		
Horiz y:	624699.35		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	720		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.7025		
Longitude:	-84.227454		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	20		
S water me:	Not Reported	S water 1:	10/01/1997

Cas ht:	0		
Screen len:	0		
Total dept:	41		
Date of co:	12/11/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	700		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018194		

77
SSW
1/2 - 1 Mile
Lower

OH WELLS **OHPW40000000933**

County:	MONTGOMERY	Pwsid:	OH5701315
Well num:	15818	Well name:	MONTGOMERY CO:WATER SYST WELL 0019
Dnr wl log:	Not Reported	Wl avail:	EMERGENCY
Act date:	10/15/1999	Wl status:	Active
Sys status:	Active	Sys name:	MONTGOMERY COUNTY WATER SERVICES 1 PWS
Sys type:	Community		
Src type:	purchased surface water		
Latitude:	39.681964		
Longitude:	-84.234178		
Accuracy:	5		
Ll colmeth:	GPS CODE MEASUREMENTS (PSEUDO RANGE) DIFFERENTIALLY CORRECTED		
Hdatum:	WGS 84		
Verify met:	VERIFIED RELATIVE TO MAP FEATURES (1:24,000)		
Site id:	OHPW40000000933		

W78
NNE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000018140**

Oid :	296274		
Well log n:	420731		
Well type :	WATER WELL		
End user i:	1076		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	FRIGIDAIRE DIV GENER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	57		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1515499.75		
Horiz y:	624337.19		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	734.63		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.701586		
Longitude:	-84.221962		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	75		
S water me:	Not Reported	S water 1:	12/17/2005
Cas ht:	0		
Screen len:	0		
Total dept:	190		
Date of co:	06/18/1973	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	660		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018140		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
W79		
NNE	**OH WELLS**	**OHD400000018141**
1/2 - 1 Mile		
Higher		

Oid :	724012		
Well log n:	420732		
Well type :	WATER WELL		
End user i:	1076		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	FRIGIDAIRE DIV GENER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	BEDROCK
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	57		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1515499.75		
Horiz y:	624337.19		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.701586		
Longitude:	-84.221962		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	12/17/2005
Cas ht:	0		
Screen len:	0		
Total dept:	201		
Date of co:	06/18/1973	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018141		

X80
SE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000016931**

Oid :	753583		
Well log n:	2013408		
Well type :	WATER WELL		
End user i:	795		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	STROOP	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	Not Reported		
Well loc d:	GM-73		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.684167		
Longitude:	-84.217333		
Source of :	GLOBAL POSITION SYSTEM	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	01/05/2009

Cas ht:	0		
Screen len:	10		
Total dept:	95		
Date of co:	10/12/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	16" CABLE TOOL DRILLING TO 30 FT. DEPTH12" STEEL WELL CASING INSTALLED 30 FT. (WELDED)		
Well seal :	0		
Screen slo:	.01		
Screened i:	95		
Screened 1:	85		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016931		

U81
SW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016924**

Oid :	295771		
Well log n:	349824		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	MARY	Orig own 1:	PEARSON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	46		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	3609		
St name:	CLEARVIEW	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1510756.77		
Horiz y:	618055.02		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	714.66		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.684093		
Longitude:	-84.238386		
Source of :	Digitized	Flowing we:	N
Test rate:	8		
Draw down:	10		
Draw down :	2		
S water le:	34		
S water me:	Not Reported	S water 1:	01/05/2009
Cas ht:	0		
Screen len:	0		
Total dept:	54		
Date of co:	07/02/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	681		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016924		

S82
South
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016695**

Oid :	293541		
Well log n:	171315		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1765
Orig owner:	JAMES	Orig own 1:	BAKER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	14		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	16		
St dir cod:	Not Reported		
St no:	0		
St name:	MANCHESTER	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513872.8		
Horiz y:	616698.51		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.680533		
Longitude:	-84.227223		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	08/09/2004
Cas ht:	0		
Screen len:	0		
Total dept:	50		
Date of co:	10/23/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016695		

T83
SSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016720**

Oid :	293537		
Well log n:	513125		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1765
Orig owner:	TERRY	Orig own 1:	WENZEL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	10		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	16		
St dir cod:	Not Reported		
St no:	5449		
St name:	MARINA	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1512415.46		
Horiz y:	616920.25		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	710		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.681066		
Longitude:	-84.232416		
Source of :	Digitized	Flowing we:	N
Test rate:	12		
Draw down:	10		
Draw down :	2		
S water le:	59		
S water me:	Not Reported	S water 1:	12/10/2007
Cas ht:	0		
Screen len:	0		
Total dept:	114		
Date of co:	03/22/1977	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	651		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016720		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

84
East
1/2 - 1 Mile
Higher | **FED USGS** | **USGS2316396**

Agency cd:	USGS	Site no:	394123084124900
Site name:	MT-68		
Latitude:	394123	EDR Site id:	USGS2316396
Longitude:	0841249	Dec lat:	39.68978133
Dec lon:	-84.21355112	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	39
State:	39	County:	113
Country:	US	Land net:	NWSENWS10T1R6
Location map:	DAYTON SOUTH	Map scale:	24000
Altitude:	744.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5.		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Great Miami. Indiana, Ohio. Area = 1390 sq.mi.		
Topographic:	Flat surface		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	135	Hole depth:	Not Reported
Source of depth data:	Not Reported		
Project number:	443900200		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1993-08-13
Water quality data end date:	1993-08-13	Water quality data count:	1
Ground water data begin date:	1971-04-01	Ground water data end date:	1971-04-01
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1971-04-01	85.00	

S85
South
1/2 - 1 Mile
Lower | **OH WELLS** | **OHD400000016690**

Oid :	293539		
Well log n:	349829		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1765
Orig owner:	PHILIP	Orig own 1:	SHANK
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	12		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	16		
St dir cod:	Not Reported		
St no:	5308		
St name:	MANCHESTER	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513546.16		
Horiz y:	616682.78		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	728.76		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.680473		
Longitude:	-84.228383		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	5		
Draw down :	1		
S water le:	45		
S water me:	Not Reported	S water 1:	02/13/2006
Cas ht:	0		
Screen len:	0		
Total dept:	77		
Date of co:	07/26/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	684		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016690		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017792**

Y86
ENE
1/2 - 1 Mile
Higher

Oid :	779168		
Well log n:	2020490		
Well type :	WATER WELL		
End user i:	4249		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2601		
St name:	STROOP	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	45439		
Well loc d:	GM-69		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.69663		
Longitude:	-84.21478		
Source of :	MAP-OTHERS	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	25		
S water me:	G	S water 1:	04/20/2003
Cas ht:	0		
Screen len:	10		
Total dept:	100		
Date of co:	04/09/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		

Screened i:	100		
Screened 1:	90		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017792		

Y87
ENE **OH WELLS** **OHD400000017791**
1/2 - 1 Mile
Higher

Oid :	779167		
Well log n:	2020489		
Well type :	WATER WELL		
End user i:	4249		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2601		
St name:	STROOP	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	45439		
Well loc d:	GM-67S		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.69663		
Longitude:	-84.21478		
Source of :	MAP-OTHERS	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	30		
S water me:	G	S water 1:	04/20/2003

Cas ht:	0		
Screen len:	10		
Total dept:	54		
Date of co:	04/04/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		
Screened i:	54		
Screened 1:	44		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017791		

Y88
ENE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000017790**

Oid :	779166		
Well log n:	2020488		
Well type :	WATER WELL		
End user i:	4249		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2601		
St name:	STROOP	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	45439		
Well loc d:	GM-67D		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.69663		
Longitude:	-84.21478		
Source of :	MAP-OTHERS	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	30		
S water me:	G	S water 1:	04/20/2003
Cas ht:	0		
Screen len:	10		
Total dept:	80		
Date of co:	04/04/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		
Screened i:	80		
Screened 1:	70		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017790		

Y89
ENE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000017795**

Oid :	779171		
Well log n:	2020493		
Well type :	WATER WELL		
End user i:	4249		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2601		
St name:	STROOP	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH

Zip:	45439		
Well loc d:	GM-70		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.69663		
Longitude:	-84.21478		
Source of :	MAP-OTHERS	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	30		
S water me:	G	S water 1:	04/20/2003
Cas ht:	0		
Screen len:	10		
Total dept:	82		
Date of co:	04/12/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		
Screened i:	72		
Screened 1:	82		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017795		

Y90
ENE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000017794**

Oid :	779170		
Well log n:	2020492		
Well type :	WATER WELL		
End user i:	4249		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2601		
St name:	STROOP	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	45439		
Well loc d:	GM-66		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.69663		
Longitude:	-84.21478		
Source of :	MAP-OTHERS	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	30		
S water me:	G	S water 1:	04/20/2003
Cas ht:	0		
Screen len:	10		
Total dept:	37		
Date of co:	04/12/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		
Screened i:	55		
Screened 1:	45		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017794		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
Y91 **ENE** **1/2 - 1 Mile** **Higher**	**OH WELLS**	**OHD400000017793**

Oid :	779169		
Well log n:	2020491		
Well type :	WATER WELL		
End user i:	4249		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	GENERAL MOTORS
Drill type:	ROTOSONIC	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2601		
St name:	STROOP	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	MORAINE	State code:	OH
Zip:	45439		
Well loc d:	GM-68S		
Zone code:	Not Reported		
Horiz x:	0		
Horiz y:	0		
Horiz datu:	Not Reported		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.69663		
Longitude:	-84.21478		
Source of :	MAP-OTHERS	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	29		
S water me:	G	S water 1:	04/20/2003
Cas ht:	0		
Screen len:	10		
Total dept:	49.5		
Date of co:	04/12/2007	Located in:	Not Reported
Assoc rpt :	N		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		

Screened i:	49.5		
Screened 1:	39.5		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	2		
Screen typ:	MACHINE SLOTTED	Screen mat:	PVC
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017793		

T92
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS2316381**

Agency cd:	USGS	Site no:	394051084135600
Site name:	MT-1110		
Latitude:	394051	EDR Site id:	USGS2316381
Longitude:	0841356	Dec lat:	39.6808924
Dec lon:	-84.23216271	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	39
State:	39	County:	113
Country:	US	Land net:	Not Reported
Location map:	DAYTON SOUTH	Map scale:	24000
Altitude:	725		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Great Miami. Indiana, Ohio. Area = 1390 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	19770322
Date inventoried:	19931214	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Confined single aquifer		
Aquifer:	OUTWASH		
Well depth:	114.0	Hole depth:	114.0
Source of depth data:	driller		
Project number:	443910401		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	0000-00-00
Water quality data end date:	0000-00-00	Water quality data count:	0
Ground water data begin date:	1977-03-22	Ground water data end date:	1993-09-15
Ground water data count:	2		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
1993-09-15	20.42		1977-03-22	59.0	

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
V93 **North** **1/2 - 1 Mile** **Higher**	**OH WELLS**	**OHD400000018218**

Oid :	295611		
Well log n:	131389		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	FRANK	Orig own 1:	DANIELS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	28		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2866		
St name:	HOLMAN	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514535.65		
Horiz y:	624816.42		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	730		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.702851		
Longitude:	-84.22542		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	30		
S water me:	Not Reported	S water 1:	07/22/1999
Cas ht:	0		
Screen len:	0		
Total dept:	46		
Date of co:	04/01/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	700		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018218		

R94
SSW
1/2 - 1 Mile
Lower

OH WELLS **OHPW40000000935**

County:	MONTGOMERY	Pwsid:	OH5701315
Well num:	15817	Well name:	MONTGOMERY CO:WATER SYST WELL 0018
Dnr wl log:	Not Reported	Wl avail:	EMERGENCY
Act date:	10/15/1999	Wl status:	Active
Sys status:	Active	Sys name:	MONTGOMERY COUNTY WATER SERVICES 1 PWS
Sys type:	Community		
Src type:	purchased surface water		
Latitude:	39.682156		
Longitude:	-84.235814		
Accuracy:	5		
Ll colmeth:	GPS CODE MEASUREMENTS (PSEUDO RANGE) DIFFERENTIALLY CORRECTED		
Hdatum:	WGS 84		
Verify met:	VERIFIED RELATIVE TO MAP FEATURES (1:24,000)		
Site id:	OHPW40000000935		

95
NNW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018206**

Oid :	295478		
Well log n:	172803		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	AMERICA AGGREGATES C
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	11		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	17		
St dir cod:	E		
St no:	0		
St name:	EAST RIVER	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1512729.13		
Horiz y:	624805.93		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.702728		
Longitude:	-84.231839		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	06/06/2003
Cas ht:	0		
Screen len:	0		
Total dept:	41		
Date of co:	02/23/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018206		

Z96
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017279**

Oid :	585260		
Well log n:	133072		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	VIRGIL	Orig own 1:	LEET
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3535		
St name:	SELLARS	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	24		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	38		
Date of co:	08/12/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017279		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017280**

Z97
WSW
1/2 - 1 Mile
Lower

Oid :	585262		
Well log n:	111436		
Well type :	WATER WELL		
End user i:	2527		
Cnty code:	113	Twp code:	1873
Orig owner:	H	Orig own 1:	FULK
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3612		
St name:	SWIMMING HOLE	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	2		
S water le:	18		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	01/28/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	696		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017280		

Z98
WSW **OH WELLS** **OHD400000017277**
1/2 - 1 Mile
Lower

Oid :	585256		
Well log n:	300536		
Well type :	WATER WELL		
End user i:	707		
Cnty code:	113	Twp code:	1873
Orig owner:	JENNETTE	Orig own 1:	MCDONEIL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3664		
St name:	CLEARVIEW	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	4		
Draw down :	2		
S water le:	16		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	43		
Date of co:	09/13/1964	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	698		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017277		

Z99
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017278**

Oid :	585257		
Well log n:	170697		
Well type :	WATER WELL		
End user i:	1209		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	MIAMI SHORES ELEMENT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	SELLARS	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	125		
Draw down:	0		
Draw down :	3		
S water le:	25		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	100		
Date of co:	12/19/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	689		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017278		

Z100
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017283**

Oid :	717180		
Well log n:	131370		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	STANLEY	Orig own 1:	BOWLING
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COZY CAMP	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	18		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	38		
Date of co:	01/12/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	696		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017283		

Z101
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017284**

Oid :	717181		
Well log n:	302562		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	SAMUEL	Orig own 1:	GRAY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	4751		
St name:	WILLOWVIEW	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	30		
Draw down:	3		
Draw down :	1		
S water le:	27		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	60		
Date of co:	01/06/1964	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	687		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017284		

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
Z102		
WSW	**OH WELLS**	**OHD400000017281**
1/2 - 1 Mile		
Lower		

Oid :	585264		
Well log n:	334124		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	ALBIN	Orig own 1:	ERICKSON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	4509		
St name:	VENETIAN	St type co:	WAY
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	30		
Draw down:	10		
Draw down :	0		
S water le:	28		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	77		
Date of co:	12/09/1965	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	686		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017281		

Z103
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017282**

Oid :	717179		
Well log n:	171335		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	HOMER	Orig own 1:	GIBSON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	TRAIL-ON	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	19		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	47		
Date of co:	01/10/1957	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	695		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017282		

Z104
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017276**

Oid :	585255		
Well log n:	136259		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	PAUL	Orig own 1:	VINCENT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	ELTER	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	27		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	57		
Date of co:	07/20/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	687		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017276		

Z105
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017270**

Oid :	296109		
Well log n:	138560		
Well type :	WATER WELL		
End user i:	2562		
Cnty code:	113	Twp code:	1873
Orig owner:	C	Orig own 1:	BRYANT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	0		
St name:	MIAMI SHORES	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	45		
Date of co:	09/29/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017270		

Z106
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017271**

Oid :	296110		
Well log n:	338062		
Well type :	WATER WELL		
End user i:	707		
Cnty code:	113	Twp code:	1873
Orig owner:	BUR	Orig own 1:	HILL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3329		
St name:	SHADYVIEW	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	15		
Draw down:	2		
Draw down :	3		
S water le:	33		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	56		
Date of co:	12/01/1965	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	681		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017271		

Map ID Direction Distance Elevation			Database	EDR ID Number
Z107 WSW 1/2 - 1 Mile Lower			**OH WELLS**	**OHD400000017268**

Oid :	296106		
Well log n:	320902		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	SID	Orig own 1:	MATHEWS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	17		
St dir cod:	Not Reported		
St no:	0		
St name:	BEECHGROVE	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	10		
Draw down :	2		
S water le:	22		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	09/22/1964	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	692		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017268		

Z108
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017269**

Oid :	296108		
Well log n:	336190		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	ROSCOE	Orig own 1:	SINCS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	0		
St name:	OUTDOOR	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	6		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	51		
Date of co:	01/04/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017269		

Z109
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017274**

Oid :	585253		
Well log n:	171330		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	CELLA	Orig own 1:	BENNETT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	BEECHGROVE	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	18		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	43		
Date of co:	12/04/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	696		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017274		

Z110
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017275**

Oid :	585254		
Well log n:	107593		
Well type :	WATER WELL		
End user i:	2538		
Cnty code:	113	Twp code:	1873
Orig owner:	PAUL	Orig own 1:	ANDERSON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND CLAY
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3712		
St name:	COZY CAMP	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	41		
Date of co:	10/16/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017275		

Z111
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017272**

Oid :	296111		
Well log n:	251712		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	FRANK	Orig own 1:	FLETCHER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	4828		
St name:	MIAMI SHORES	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	8		
Draw down:	0		
Draw down :	2		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	49		
Date of co:	07/02/1960	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017272		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database: **OH WELLS** | EDR ID Number: **OHD400000017273**

Z112
WSW
1/2 - 1 Mile
Lower

Oid :	296112		
Well log n:	188164		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	JOHN	Orig own 1:	LOVELY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3823		
St name:	VONCE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	30		
Draw down:	0		
Draw down :	3		
S water le:	17		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	04/22/1958	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	697		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017273		

Z113
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017285**

Oid :	724009		
Well log n:	171327		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	H	Orig own 1:	CARRALL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	BEECHGROVE	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	19		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	46		
Date of co:	11/22/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	695		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017285		

Z114
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017297**

Oid :	772147		
Well log n:	129095		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	WILLIAM	Orig own 1:	NEUBERG
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2924		
St name:	TELHURST	St type co:	CT
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	30		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	46		
Date of co:	06/25/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	684		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017297		

Z115
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017298**

Oid :	772148		
Well log n:	278983		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	WELSEY	Orig own 1:	ROBBINS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	4387		
St name:	PARALLEL	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	0		
Draw down :	1		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	03/14/1962	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017298		

Z116
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017295**

Oid :	742742		
Well log n:	349823		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	DON	Orig own 1:	RICHEY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	125		
St dir cod:	Not Reported		
St no:	3332		
St name:	TRAIL-ON	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	10		
Draw down :	2		
S water le:	30		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	81		
Date of co:	07/02/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	684		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017295		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
Z117		
WSW	**OH WELLS**	**OHD400000017296**
1/2 - 1 Mile		
Lower		

Oid :	771665		
Well log n:	109474		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	JAMES	Orig own 1:	WILLIAMS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	SELLARS	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	28		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	58		
Date of co:	11/21/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	686		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017296		

Z118
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017301**

Oid :	775529		
Well log n:	313803		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	WISLEY	Orig own 1:	ROBBINS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	103		
St name:	HERFORD	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	15		
Draw down:	0		
Draw down :	0		
S water le:	23		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	45		
Date of co:	05/12/1964	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	691		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017301		

Z119
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017302**

Oid :	775530		
Well log n:	341136		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	LEWIS	Orig own 1:	ARY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	36		
St dir cod:	Not Reported		
St no:	3612		
St name:	CLEARVIEW	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	8		
Draw down:	12		
Draw down :	2		
S water le:	28		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	50		
Date of co:	01/29/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	686		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017302		

Z120
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017299**

Oid :	772149		
Well log n:	133071		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	HUBERT	Orig own 1:	MOORE
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	4735		
St name:	REICHERT	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	24		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	41		
Date of co:	08/12/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017299		

Z121
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017300**

Oid :	772150		
Well log n:	270897		
Well type :	WATER WELL		
End user i:	1309		
Cnty code:	113	Twp code:	1873
Orig owner:	G	Orig own 1:	ECKHART
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	26		
St dir cod:	Not Reported		
St no:	3617		
St name:	CLEARVIEW	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	35		
Draw down :	1		
S water le:	21		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	53		
Date of co:	03/18/1963	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	693		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017300		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
Z122		
WSW	**OH WELLS**	**OHD400000017294**
1/2 - 1 Mile		
Lower		

Oid :	742741		
Well log n:	302553		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	CLARENCE	Orig own 1:	FIELDER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	48095		
St name:	MIAMI SHORES	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	5		
Draw down :	2		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	47		
Date of co:	10/25/1963	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017294		

Z123
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017288**

Oid :	739485		
Well log n:	313837		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	JEROME	Orig own 1:	MILLER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	SWIMMING HOLE/WILLOWVIEW	St type co:	ST
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	12		
Draw down:	0		
Draw down :	0		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	09/25/1964	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017288		

Z124
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017289**

Oid :	739486		
Well log n:	136512		
Well type :	WATER WELL		
End user i:	2527		
Cnty code:	113	Twp code:	1873
Orig owner:	ROBERT	Orig own 1:	NELSON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	VENETIAN	St type co:	WAY
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	18		
Draw down:	0		
Draw down :	0		
S water le:	26		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	09/09/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	688		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017289		

Z125
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017286**

Oid :	724010		
Well log n:	171322		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	OLIVER	Orig own 1:	NOLLEY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COTTAGE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	19		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	11/06/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	695		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017286		

Z126
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017287**

Oid :	724011		
Well log n:	336193		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	JAMES	Orig own 1:	KEYS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

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Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3624		
St name:	COZY CAMP	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	43		
Date of co:	02/08/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	NO LINK		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017287		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017292**

Z127
WSW
1/2 - 1 Mile
Lower

Oid :	742739		
Well log n:	171346		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	H	Orig own 1:	HARPEST
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	MIAMI SHORES	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	24		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	03/01/1957	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	690		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017292		

Z128
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017293**

Oid :	742740		
Well log n:	313804		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	WESLEY	Orig own 1:	ROBBINS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	PARIS	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	12		
Draw down:	0		
Draw down :	1		
S water le:	23		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	42		
Date of co:	05/13/1964	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	691		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017293		

Z129
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017290**

Oid :	742737		
Well log n:	146322		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	CHARLES	Orig own 1:	GRAVES
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3467		
St name:	PARIS	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	29		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	49		
Date of co:	09/15/1955	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	685		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017290		

Z130
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017291**

Oid :	742738		
Well log n:	269395		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	BEREY	Orig own 1:	BURTON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	8		
St dir cod:	Not Reported		
St no:	3306		
St name:	OUTDOOR	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	8		
Draw down:	10		
Draw down :	2		
S water le:	15		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	02/13/1962	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	699		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017291		

Z131
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017216**

Oid :	295928		
Well log n:	349835		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	DANIEL	Orig own 1:	HAINES
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	20		
St dir cod:	Not Reported		
St no:	3329		
St name:	CLEARVIEW	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	45		
Draw down :	1		
S water le:	40		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	80		
Date of co:	08/18/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	674		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017216		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
Z132		
WSW	**OH WELLS**	**OHD400000017215**
1/2 - 1 Mile		
Lower		

Oid :	295927		
Well log n:	341112		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	HUBERT	Orig own 1:	EATON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	36		
St dir cod:	Not Reported		
St no:	0		
St name:	VENETIAN	St type co:	WAY
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	5		
Draw down:	5		
Draw down :	1		
S water le:	31		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	45		
Date of co:	10/29/1965	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	683		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017215		

Z133
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017218**

Oid :	295930		
Well log n:	207762		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	LEROY	Orig own 1:	NEWMAN
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	CLEARVIEW	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	8		
Draw down:	0		
Draw down :	2		
S water le:	10		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	08/14/1958	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	704		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017218		

Z134
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017217**

Oid :	295929		
Well log n:	349832		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	GENEVIVE	Orig own 1:	GIBSON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	5001		
St name:	ELTER	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	5		
Draw down :	1		
S water le:	48		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	84		
Date of co:	08/12/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	666		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017217		

Z135
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017214**

Oid :	295926		
Well log n:	301646		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	JIM	Orig own 1:	WAID
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	7		
St dir cod:	Not Reported		
St no:	3325		
St name:	COZY CAMP	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	5		
Draw down:	10		
Draw down :	2		
S water le:	25		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	01/28/1964	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	689		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017214		

Z136
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017211**

Oid :	295923		
Well log n:	109491		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	EDGAR	Orig own 1:	POTTER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	4900		
St name:	MIAMI SHORES	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	42		
Date of co:	02/10/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017211		

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017210**

Z137
WSW
1/2 - 1 Mile
Lower

Oid :	295795		
Well log n:	136255		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	PAUL	Orig own 1:	WITT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3908		
St name:	SHORELANDS	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	24		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	84		
Date of co:	07/12/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	690		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017210		

Z138
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017213**

Oid :	295925		
Well log n:	301614		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	THERMAN	Orig own 1:	SPENCER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	20		
St dir cod:	Not Reported		
St no:	3520		
St name:	TRAIL-ON	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	8		
Draw down:	5		
Draw down :	2		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	43		
Date of co:	10/07/1963	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017213		

Z139
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017212**

Oid :	295924		
Well log n:	136277		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	LLEWELLYN	Orig own 1:	SIMMONS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3711		
St name:	DARROCH	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	30		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	50		
Date of co:	10/02/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	684		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017212		

Z140
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017219**

Oid :	295931		
Well log n:	300514		
Well type :	WATER WELL		
End user i:	707		
Cnty code:	113	Twp code:	1873
Orig owner:	SHERIDON	Orig own 1:	TAYLOR
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3625		
St name:	CLEARVIEW	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	3		
Draw down :	2		
S water le:	22		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	12/01/1963	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	692		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017219		

Z141
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017226**

Oid :	295938		
Well log n:	49184		
Well type :	WATER WELL		
End user i:	1209		
Cnty code:	113	Twp code:	1873
Orig owner:	PEERCE	Orig own 1:	HALL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3449		
St name:	TRAIL-ON	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	5		
Draw down :	0		
S water le:	18		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	47		
Date of co:	09/20/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	696		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017226		

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017225**

Z142
WSW
1/2 - 1 Mile
Lower

Oid :	295937		
Well log n:	49183		
Well type :	WATER WELL		
End user i:	1209		
Cnty code:	113	Twp code:	1873
Orig owner:	DELBERT	Orig own 1:	BANNISTER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COZY CAMP/RECREATION	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	3		
Draw down :	0		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	42		
Date of co:	09/17/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017225		

Z143
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017228**

Oid :	295940		
Well log n:	131372		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	JOHN	Orig own 1:	POWELL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	TRAIL-ON	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	36		
Date of co:	01/16/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017228		

Z144
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017227**

Oid :	295939		
Well log n:	49185		
Well type :	WATER WELL		
End user i:	1209		
Cnty code:	113	Twp code:	1873
Orig owner:	PAUL	Orig own 1:	O'TOALE
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3349		
St name:	TRAIL-ON	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	2		
Draw down :	0		
S water le:	22		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	50		
Date of co:	09/22/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	692		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017227		

Z145
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017224**

Oid :	295936		
Well log n:	167415		
Well type :	WATER WELL		
End user i:	2548		
Cnty code:	113	Twp code:	1873
Orig owner:	CHARLES	Orig own 1:	VAN ZANT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	VANCE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	2		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	09/29/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017224		

Z146
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017221**

Oid :	295933		
Well log n:	131412		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	DALLOR	Orig own 1:	HARVILLE
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	DACROCK	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	6		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	50		
Date of co:	05/20/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017221		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017220**

Z147
WSW
1/2 - 1 Mile
Lower

Oid :	295932		
Well log n:	338065		
Well type :	WATER WELL		
End user i:	707		
Cnty code:	113	Twp code:	1873
Orig owner:	BUSH	Orig own 1:	HILL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3329		
St name:	SHADYVIEW	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	2		
Draw down :	4		
S water le:	33		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	54		
Date of co:	12/19/1965	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	681		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017220		

Z148
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017223**

Oid :	295935		
Well log n:	323711		
Well type :	WATER WELL		
End user i:	2532		
Cnty code:	113	Twp code:	1873
Orig owner:	LESTER	Orig own 1:	BUNCH
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COTTAGE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	14		
Draw down:	45		
Draw down :	0		
S water le:	30		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	80		
Date of co:	01/04/1965	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	684		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017223		

Z149
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017222**

Oid :	295934		
Well log n:	131419		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	ROBBINS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3708		
St name:	SELLARS	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	0		
S water le:	17		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	49		
Date of co:	06/26/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	697		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017222		

Z150
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017197**

Oid :	295782		
Well log n:	171331		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	SOMEL	Orig own 1:	METEALF
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COZY CAMP	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	18		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	46		
Date of co:	12/07/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	696		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017197		

Z151
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017196**

Oid :	295781		
Well log n:	171329		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	WILLIAM	Orig own 1:	HAWK
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COTTAGE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	29		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	84		
Date of co:	12/01/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	685		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017196		

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017199**

Z152
WSW
1/2 - 1 Mile
Lower

Oid :	295784		
Well log n:	171338		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	IRENE	Orig own 1:	JONES
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	CLEARVIEW	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	24		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	45		
Date of co:	01/24/1957	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	690		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017199		

Z153
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017198**

Oid :	295783		
Well log n:	171334		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	WILLIAM	Orig own 1:	TITTSGERLD
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COZY CAMP	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	22		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	45		
Date of co:	01/07/1957	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	692		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017198		

Z154
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017195**

Oid :	295780		
Well log n:	171328		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	CECILL	Orig own 1:	TAYTOR
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	SHORELANDS	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	30		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	80		
Date of co:	11/27/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	684		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017195		

Z155
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017192**

Oid :	295777		
Well log n:	171323		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	HAROLD	Orig own 1:	RICHMOND
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COTTAGE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	46		
Date of co:	01/09/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017192		

Z156
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017191**

Oid :	295776		
Well log n:	338053		
Well type :	WATER WELL		
End user i:	707		
Cnty code:	113	Twp code:	1873
Orig owner:	WILLIAM	Orig own 1:	JONES
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3893		
St name:	ANGUS	St type co:	LN
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	4		
Draw down :	3		
S water le:	36		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	56		
Date of co:	10/05/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	678		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017191		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
Z157		
WSW	**OH WELLS**	**OHD400000017194**
1/2 - 1 Mile		
Lower		

Oid :	295779		
Well log n:	171326		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	PERSLEY	Orig own 1:	RAY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COTTAGE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	28		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	74		
Date of co:	11/18/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	686		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017194		

Z158
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017193**

Oid :	295778		
Well log n:	171324		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	HOLLY	Orig own 1:	MYERS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COTTAGE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	27		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	84		
Date of co:	11/12/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	687		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017193		

Z159
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017200**

Oid :	295785		
Well log n:	171339		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	JOHN	Orig own 1:	ROSE
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COZY CAMP	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	26		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	48		
Date of co:	01/26/1957	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	688		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017200		

Z160
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017207**

Oid :	295792		
Well log n:	133077		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	DALLAS	Orig own 1:	HOWELL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	MIAMI SHORES	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	30		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	45		
Date of co:	12/02/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017207		

Z161
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017206**

Oid :	295791		
Well log n:	131421		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	JAMES	Orig own 1:	COURTRYMAN
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3324		
St name:	TRAIL-ON	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	4		
S water le:	25		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	85		
Date of co:	07/02/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	689		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017206		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
Z162 **WSW** **1/2 - 1 Mile** **Lower**	**OH WELLS**	**OHD400000017209**

Oid :	295794		
Well log n:	136266		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	EARNEST	Orig own 1:	HEFLIN
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3744		
St name:	CLEARVIEW	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	23		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	57		
Date of co:	08/17/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	691		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017209		

Z163
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017208**

Oid :	295793		
Well log n:	97495		
Well type :	WATER WELL		
End user i:	1309		
Cnty code:	113	Twp code:	1873
Orig owner:	ROBT	Orig own 1:	WARNER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COTTAGE	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	1		
S water le:	18		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	25		
Date of co:	10/24/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	696		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017208		

Z164
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017205**

Oid :	295790		
Well log n:	123404		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	WILLIAM	Orig own 1:	HUSSONG
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3305		
St name:	SHADYVIEW	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	38		
Date of co:	12/03/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017205		

Z165
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017202**

Oid :	295787		
Well log n:	109806		
Well type :	WATER WELL		
End user i:	2523		
Cnty code:	113	Twp code:	1873
Orig owner:	JAMES	Orig own 1:	MCBARN
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	19		
St dir cod:	Not Reported		
St no:	0		
St name:	ANGUS	St type co:	JCT
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	10		
Draw down :	1		
S water le:	13		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	42		
Date of co:	04/26/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	701		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017202		

Z166
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017201**

Oid :	295786		
Well log n:	171341		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	STERLING	Orig own 1:	ANDERSON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COTTAGE	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	30		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	66		
Date of co:	02/04/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	684		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017201		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database: **OH WELLS**
EDR ID Number: **OHD400000017204**

Z167
WSW
1/2 - 1 Mile
Lower

Oid :	295789		
Well log n:	118813		
Well type :	WATER WELL		
End user i:	2516		
Cnty code:	113	Twp code:	1873
Orig owner:	LESTER	Orig own 1:	BURRCH
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3718		
St name:	DANOCH	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	27		
Draw down:	0		
Draw down :	2		
S water le:	21		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	39		
Date of co:	12/10/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	693		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017204		

Z168
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017203**

Oid :	295788		
Well log n:	125167		
Well type :	WATER WELL		
End user i:	2517		
Cnty code:	113	Twp code:	1873
Orig owner:	FRANKLIN	Orig own 1:	DELONG
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	8		
St dir cod:	Not Reported		
St no:	0		
St name:	RIVER/UPPER RIVER RD	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	25		
Draw down:	0		
Draw down :	1		
S water le:	15		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	10/04/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	699		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017203		

Z169
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017229**

Oid :	295941		
Well log n:	146806		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	JAMES	Orig own 1:	BRIXEY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3500		
St name:	BEECHGROVE	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	18		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	01/03/1955	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	696		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017229		

Z170
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017255**

Oid :	296092		
Well log n:	111426		
Well type :	WATER WELL		
End user i:	2527		
Cnty code:	113	Twp code:	1873
Orig owner:	HOWARD	Orig own 1:	BOOKER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3622		
St name:	SWIMMING HOLE	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	15		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	09/30/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	699		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017255		

Z171
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017254**

Oid :	296091		
Well log n:	136515		
Well type :	WATER WELL		
End user i:	2527		
Cnty code:	113	Twp code:	1873
Orig owner:	W	Orig own 1:	LIHRMA
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3355		
St name:	TRAIL-ON	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	0		
S water le:	26		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	46		
Date of co:	09/14/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	688		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017254		

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
Z172		
WSW	**OH WELLS**	**OHD400000017257**
1/2 - 1 Mile		
Lower		

Oid :	296095		
Well log n:	129054		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	ROBERT	Orig own 1:	HARLAN
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	MIAMI SHORES	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	03/10/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017257		

Z173
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017256**

Oid :	296094		
Well log n:	129097		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	SAMUEL	Orig own 1:	SNODGRASS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3700		
St name:	CLEARVIEW	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	0		
Draw down :	0		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	38		
Date of co:	07/03/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017256		

Z174
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017253**

Oid :	296090		
Well log n:	136507		
Well type :	WATER WELL		
End user i:	2527		
Cnty code:	113	Twp code:	1873
Orig owner:	JOHN	Orig own 1:	JONES
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	WONDERVIEW	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	25		
Draw down:	0		
Draw down :	0		
S water le:	26		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	08/17/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	688		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017253		

Z175
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017250**

Oid :	296087		
Well log n:	109917		
Well type :	WATER WELL		
End user i:	1663		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	FARMER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3033		
St name:	VALLEY VIEW	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	8		
Draw down:	10		
Draw down :	1		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	01/04/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017250		

Z176
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017249**

Oid :	296086		
Well log n:	137015		
Well type :	WATER WELL		
End user i:	2276		
Cnty code:	113	Twp code:	1873
Orig owner:	DEWY	Orig own 1:	JOHNSON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3517		
St name:	CLEARVIEW	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	2		
Draw down :	0		
S water le:	23		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	38		
Date of co:	12/02/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	691		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017249		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
Z177		
WSW	**OH WELLS**	**OHD400000017252**
1/2 - 1 Mile		
Lower		

Oid :	296089		
Well log n:	271046		
Well type :	WATER WELL		
End user i:	2276		
Cnty code:	113	Twp code:	1873
Orig owner:	MELVIN	Orig own 1:	BALLARD
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	SELLARS	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	4		
Draw down :	0		
S water le:	27		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	48		
Date of co:	02/06/1964	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	687		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017252		

Z178
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017251**

Oid :	296088		
Well log n:	264396		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	VAILOUS	Orig own 1:	HAWKINS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3446		
St name:	TRAIL-ON	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	15		
Draw down:	5		
Draw down :	2		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	47		
Date of co:	08/28/1963	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017251		

Z179
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017258**

Oid :	296096		
Well log n:	109473		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	ROY/BEULAH	Orig own 1:	HOUNDSHELL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3651		
St name:	BEECHGROVE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	8		
Draw down:	0		
Draw down :	0		
S water le:	16		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	41		
Date of co:	11/16/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	698		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017258		

Z180
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017265**

Oid :	296103		
Well log n:	322129		
Well type :	WATER WELL		
End user i:	707		
Cnty code:	113	Twp code:	1873
Orig owner:	CURTIS	Orig own 1:	MIELLINS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	0		
St name:	VONCE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	12		
Draw down:	3		
Draw down :	1		
S water le:	24		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	42		
Date of co:	04/15/1965	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	690		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017265		

Z181
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017264**

Oid :	296102		
Well log n:	334150		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	VIRGIL	Orig own 1:	WELLER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3521		
St name:	CLEARVIEW	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	30		
Draw down:	8		
Draw down :	0		
S water le:	39		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	71		
Date of co:	07/16/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	675		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017264		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017267**

Z182
WSW
1/2 - 1 Mile
Lower

Oid :	296105		
Well log n:	334148		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	C	Orig own 1:	TURNER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	5844		
St name:	STUDENT	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	30		
Draw down:	10		
Draw down :	0		
S water le:	38		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	68		
Date of co:	07/12/1960	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	676		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017267		

Z183
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017266**

Oid :	296104		
Well log n:	74656		
Well type :	WATER WELL		
End user i:	2515		
Cnty code:	113	Twp code:	1873
Orig owner:	B	Orig own 1:	LEHOM
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	3548		
St name:	TRAIL-ON	St type co:	ST
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	2		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	73		
Date of co:	03/06/1957	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017266		

Z184
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017263**

Oid :	296101		
Well log n:	170696		
Well type :	WATER WELL		
End user i:	1209		
Cnty code:	113	Twp code:	1873
Orig owner:	ROBERT	Orig own 1:	MORRIS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	5		
St dir cod:	Not Reported		
St no:	3327		
St name:	CLEARVIEW	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	21		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	11/28/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	693		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017263		

Z185
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017260**

Oid :	296098		
Well log n:	334143		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	CARL	Orig own 1:	SHORT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3608		
St name:	COZY CAMP	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	28		
Draw down:	4		
Draw down :	0		
S water le:	39		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	62		
Date of co:	06/08/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	675		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017260		

Z186
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017259**

Oid :	296097		
Well log n:	136267		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	EVERT	Orig own 1:	BECRAFT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3303		
St name:	COTTAGE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	8		
Draw down:	0		
Draw down :	0		
S water le:	34		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	81		
Date of co:	08/24/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	680		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017259		

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017262**

Z187
WSW
1/2 - 1 Mile
Lower

Oid :	296100		
Well log n:	347615		
Well type :	WATER WELL		
End user i:	1309		
Cnty code:	113	Twp code:	1873
Orig owner:	JOHN	Orig own 1:	MCCOY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3660		
St name:	CLEARVIEW	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	0		
Draw down :	1		
S water le:	41		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	83		
Date of co:	10/30/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	673		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017262		

Z188
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017261**

Oid :	296099		
Well log n:	336191		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	JESSE	Orig own 1:	JEWELL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3637		
St name:	COZY CAMP	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	47		
Date of co:	01/28/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017261		

Z189
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017236**

Oid :	295948		
Well log n:	109497		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	ALBERT/ELSIE	Orig own 1:	MITCHELL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3015		
St name:	TELHURST	St type co:	ST
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	28		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	41		
Date of co:	02/22/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	686		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017236		

Z190
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017235**

Oid :	295947		
Well log n:	324745		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	BRADY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3317		
St name:	CLEARVIEW	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	6		
Draw down:	0		
Draw down :	0		
S water le:	28		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	46		
Date of co:	07/02/1968	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	686		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017235		

Z191
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017238**

Oid :	295950		
Well log n:	133065		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	CHARLES	Orig own 1:	GLASPY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3301		
St name:	SHORE	St type co:	LN
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	24		
Draw down:	2		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	36		
Date of co:	07/29/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017238		

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
Z192		
WSW	**OH WELLS**	**OHD400000017237**
1/2 - 1 Mile		
Lower		

Oid :	295949		
Well log n:	109479		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	H	Orig own 1:	FITE
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	SELLARS	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	32		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	60		
Date of co:	01/04/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	682		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017237		

Z193
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017234**

Oid :	295946		
Well log n:	109933		
Well type :	WATER WELL		
End user i:	1663		
Cnty code:	113	Twp code:	1873
Orig owner:	JOHN	Orig own 1:	MCINLASH
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	POLLOCK	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	0		
Draw down :	1		
S water le:	22		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	48		
Date of co:	05/19/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	692		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017234		

Z194
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017231**

Oid :	295943		
Well log n:	169901		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	RALPH	Orig own 1:	STANALL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3461		
St name:	TRAIL-ON	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	15		
Draw down:	0		
Draw down :	4		
S water le:	17		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	46		
Date of co:	10/29/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	697		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017231		

Z195
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017230**

Oid :	295942		
Well log n:	131418		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	JOHN	Orig own 1:	PETERSON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	112		
St name:	DOVERFORT	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	5		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	58		
Date of co:	06/24/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017230		

Z196
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017233**

Oid :	295945		
Well log n:	313848		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	WILLIAM	Orig own 1:	HALSEY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3313		
St name:	SHADYVIEW	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	12		
Draw down:	0		
Draw down :	0		
S water le:	30		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	82		
Date of co:	11/03/1964	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	684		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017233		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
Z197		
WSW	**OH WELLS**	**OHD400000017232**
1/2 - 1 Mile		
Lower		

Oid :	295944		
Well log n:	123417		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	EARL	Orig own 1:	SEXTON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3310		
St name:	COTTAGE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	87		
Date of co:	03/04/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017232		

Z198
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017239**

Oid :	295951		
Well log n:	162149		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	A	Orig own 1:	ROARK
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3800		
St name:	ANGUS	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	2		
Draw down :	0		
S water le:	23		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	39		
Date of co:	11/08/1956	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	691		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017239		

Z199
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017246**

Oid :	296083		
Well log n:	109947		
Well type :	WATER WELL		
End user i:	1663		
Cnty code:	113	Twp code:	1873
Orig owner:	GENE	Orig own 1:	BAKER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3541		
St name:	CLEARVIEW	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	34		
Draw down:	2		
Draw down :	2		
S water le:	19		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	92		
Date of co:	10/10/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	695		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017246		

Z200
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017245**

Oid :	296082		
Well log n:	133069		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	LESTER	Orig own 1:	HULBERT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3490		
St name:	SELLARS	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	24		
Draw down:	2		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	50		
Date of co:	08/02/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017245		

Z201
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017248**

Oid :	296085		
Well log n:	109950		
Well type :	WATER WELL		
End user i:	1663		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	BOSS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3540		
St name:	CLEARVIEW	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	5		
Draw down :	2		
S water le:	21		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	10/13/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	693		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017248		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
Z202 **WSW** **1/2 - 1 Mile** **Lower**	**OH WELLS**	**OHD400000017247**

Oid :	296084		
Well log n:	109949		
Well type :	WATER WELL		
End user i:	1663		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	EINGART
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	MIAMI SHORES	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	17		
Draw down:	3		
Draw down :	2		
S water le:	20		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	50		
Date of co:	10/12/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017247		

Z203
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017244**

Oid :	296081		
Well log n:	131423		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	MILTON	Orig own 1:	LEICAR
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3432		
St name:	BEECHGROVE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	15		
Draw down:	0		
Draw down :	4		
S water le:	17		
S water me:	Not Reported	S water 1:	07/25/2003

Cas ht:	0		
Screen len:	0		
Total dept:	59		
Date of co:	07/10/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	697		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017244		

Z204
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017241**

Oid :	295953		
Well log n:	169912		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	JAMES	Orig own 1:	JOHNSON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3904		
St name:	ANGUS	St type co:	LN
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	4		
S water le:	17		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	47		
Date of co:	04/06/1955	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	697		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017241		

Z205
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017240**

Oid :	295952		
Well log n:	351834		
Well type :	WATER WELL		
End user i:	1713		
Cnty code:	113	Twp code:	1873
Orig owner:	CHARLES	Orig own 1:	HILTON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3848		
St name:	ANGUS	St type co:	LN
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	5		
Draw down :	0		
S water le:	50		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	81		
Date of co:	11/10/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	664		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017240		

Z206
WSW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017243**

Oid :	296080		
Well log n:	131420		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	RAY	Orig own 1:	HACT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	95		
St dir cod:	Not Reported		
St no:	95		
St name:	HERFORD	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	4		
S water le:	17		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	47		
Date of co:	06/28/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	697		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017243		

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000017242**

Z207
WSW
1/2 - 1 Mile
Lower

Oid :	295954		
Well log n:	169904		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	WILLIAM	Orig own 1:	HURST
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	4530		
St name:	ANGUS	St type co:	LN
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509774.25		
Horiz y:	619474.09		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.687936		
Longitude:	-84.241973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	4		
S water le:	17		
S water me:	Not Reported	S water 1:	07/25/2003
Cas ht:	0		
Screen len:	0		
Total dept:	47		
Date of co:	11/18/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	697		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017242		

AA208
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018243**

Oid :	295605		
Well log n:	131416		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	WILLIAM	Orig own 1:	GRIFFEY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	19		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	120		
St dir cod:	Not Reported		
St no:	2856		
St name:	CADILLAC	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513683.9		
Horiz y:	625021.22		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.39		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.703369		
Longitude:	-84.228461		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	6		
S water le:	21		
S water me:	Not Reported	S water 1:	12/27/1982

Cas ht:	0		
Screen len:	0		
Total dept:	48		
Date of co:	06/18/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	698		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018243		

X209
SE
1/2 - 1 Mile
Higher

FRDS PWS **OH5701315**

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	101502		
Facility name:	Montgomery Co:Water Syst WELL 0002		
Facility type:	Well	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	101504		
Facility name:	Montgomery Co:Water Syst WELL 0014		
Facility type:	Well	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		

Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	101506		
Facility name:	Montgomery Co:Water Syst WELL 0015		
Facility type:	Well	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	101508		
Facility name:	Montgomery Co:Water Syst WELL 0016		
Facility type:	Well	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	101510		
Facility name:	Montgomery Co:Water Syst WELL 0017		
Facility type:	Well	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		

Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	101512		
Facility name:	Montgomery Co:Water Syst WELL 0018		
Facility type:	Well	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	101514		
Facility name:	Montgomery Co:Water Syst WELL 0019		
Facility type:	Well	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	101516		
Facility name:	Montgomery Co:Water Syst WELL 0020		
Facility type:	Well	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		

Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	101518		
Facility name:	Montgomery Co:Water Syst WELL 0021		
Facility type:	Well	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	101520		
Facility name:	Montgomery Co:Water Syst WELL 0022		
Facility type:	Well	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	101522		
Facility name:	Montgomery Co Water Sys 1 STU 1 P01		
Facility type:	Sampling_station	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		

Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	144689		
Facility name:	Montgomery Co Water System No 1 STU 2		
Facility type:	Pump_facility	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	144690		
Facility name:	Montgomery Co Water System No 1 STU 3		
Facility type:	Pump_facility	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	144691		
Facility name:	Montgomery Co Water System No 1 STU 4		
Facility type:	Pump_facility	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		

Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		
Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	145015		
Facility name:	Montgomery Co No 1 STU 1 Dayton		
Facility type:	Consecutive_connection	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		
Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	145016		
Facility name:	Montomgery Co No 1 STU 2 Dayton		
Facility type:	Consecutive_connection	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		
Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	145017		
Facility name:	Montgomery Co No 1 STU 3 Dayton Ottawa		
Facility type:	Consecutive_connection	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		

Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	145018		
Facility name:	Montgomery Co No 1 STU 4 Dayton Ottawa		
Facility type:	Consecutive_connection	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	145263		
Facility name:	Montgomery Co Water Sys 1 STU 2 P02		
Facility type:	Sampling_station	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	145264		
Facility name:	Montgomery Co Water Sys 1 STU 3 P03		
Facility type:	Sampling_station	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		

Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	145265		
Facility name:	Montgomery Co Water Sys 1 STU 4 P04		
Facility type:	Sampling_station	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	32286		
Facility name:	Montgomery Co Water System No 1 STU 1		
Facility type:	Treatment_plant	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		
Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		

Pwsid:	OH5701315	Epa region:	05
State:	OH	County:	Montgomery
Pws name:	Montgomery County Water System 1 PWS		
Population Served:	54264	Pwssvcconn:	54790
PWS Source:	Purch_surface_water		
Pws type:	CWS		
Status:	Active	Owner type:	Private
Facility id:	67395		
Facility name:	Montgomery Co:Water System 1 Distribution		
Facility type:	Distribution_system_zone	Treatment process:	gaseous chlorination, pre
Treatment objective:	disinfection		

Contact name:	Richard Brinkman		
Original name:	Montgomery County Water System		
Contact phone:	Not Reported	Contact address1:	1850 Spaulding Rd
Contact address2:	Not Reported		
Contact city:	Kettering		
Contact zip:	45432		
PWS ID:	OH5701315		
Date Initiated:	Not Reported	Date Deactivated:	Not Reported
PWS Name:	MONTGOMERY CO:WATER SYSTEM #1 SUPERINTENDENT OF WATER SUPPLY 4221 LAMME ROAD DAYTON, OH 45439		
Addressee / Facility:	Not Reported		
Facility Latitude:	39 41 38.0000	Facility Longitude:	84 12 37.0000
Facility Latitude:	39 41 0.0000	Facility Longitude:	84 13 0.0000
City Served:	Not Reported		
Treatment Class:	Treated	Population:	150000

Violations information not reported.

ENFORCEMENT INFORMATION:

Truedate:	03/31/2009	Pwsid:	OH5701315
Pwsname:	MONTGOMERY COUNTY WATER SERVICES 1 PWS		
Retpopsrvd:	134540	Pwstypecod:	C
Vioid:	917501	Contaminant:	SIMAZINE
Viol. Type:	3		
Complperbe:	4/1/2001 0:00:00		
Complperen:	6/30/2001 0:00:00	Enfdate:	10/4/2001 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		
Truedate:	03/31/2009	Pwsid:	OH5701315
Pwsname:	MONTGOMERY COUNTY WATER SERVICES 1 PWS		
Retpopsrvd:	134540	Pwstypecod:	C
Vioid:	917501	Contaminant:	SIMAZINE
Viol. Type:	3		
Complperbe:	4/1/2001 0:00:00		
Complperen:	6/30/2001 0:00:00	Enfdate:	10/4/2001 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		
Truedate:	03/31/2009	Pwsid:	OH5701315
Pwsname:	MONTGOMERY COUNTY WATER SERVICES 1 PWS		
Retpopsrvd:	134540	Pwstypecod:	C
Vioid:	917601	Contaminant:	ALACHLOR (LASSO)
Viol. Type:	3		
Complperbe:	4/1/2001 0:00:00		
Complperen:	6/30/2001 0:00:00	Enfdate:	10/4/2001 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	OH5701315
Pwsname:	MONTGOMERY COUNTY WATER SERVICES 1 PWS		
Retpopsrvd:	134540	Pwstypecod:	C
Vioid:	917601	Contaminant:	ALACHLOR (LASSO)
Viol. Type:	3		
Complperbe:	4/1/2001 0:00:00		
Complperen:	6/30/2001 0:00:00	Enfdate:	10/4/2001 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	OH5701315
Pwsname:	MONTGOMERY COUNTY WATER SERVICES 1 PWS		
Retpopsrvd:	134540	Pwstypecod:	C
Vioid:	917701	Contaminant:	ATRAZINE
Viol. Type:	3		
Complperbe:	4/1/2001 0:00:00		
Complperen:	6/30/2001 0:00:00	Enfdate:	10/4/2001 0:00:00
Enf action:	State Violation/Reminder Notice		
Violmeasur:	Not Reported		

Truedate:	03/31/2009	Pwsid:	OH5701315
Pwsname:	MONTGOMERY COUNTY WATER SERVICES 1 PWS		
Retpopsrvd:	134540	Pwstypecod:	C
Vioid:	917701	Contaminant:	ATRAZINE
Viol. Type:	3		
Complperbe:	4/1/2001 0:00:00		
Complperen:	6/30/2001 0:00:00	Enfdate:	10/4/2001 0:00:00
Enf action:	State Public Notif Requested		
Violmeasur:	Not Reported		

System Name:	Montgomery County Water System 1 PWS		
Violation Type:	3		
Contaminant:	SIMAZINE		
Compliance Period:	4/1/2001 0:00:00 - 6/30/2001 0:00:00		
Violation ID:	109175		
Enforcement Date:	10/4/2001 0:00:00	Enf. Action:	State Public Notif Requested

System Name:	Montgomery County Water System 1 PWS		
Violation Type:	3		
Contaminant:	SIMAZINE		
Compliance Period:	4/1/2001 0:00:00 - 6/30/2001 0:00:00		
Violation ID:	109175		
Enforcement Date:	10/4/2001 0:00:00	Enf. Action:	State Violation/Reminder Notice

System Name:	Montgomery County Water System 1 PWS		
Violation Type:	3		
Contaminant:	ALACHLOR (LASSO)		
Compliance Period:	4/1/2001 0:00:00 - 6/30/2001 0:00:00		
Violation ID:	109176		
Enforcement Date:	10/4/2001 0:00:00	Enf. Action:	State Violation/Reminder Notice

System Name:	Montgomery County Water System 1 PWS		
Violation Type:	3		
Contaminant:	ALACHLOR (LASSO)		
Compliance Period:	4/1/2001 0:00:00 - 6/30/2001 0:00:00		
Violation ID:	109176		
Enforcement Date:	10/4/2001 0:00:00	Enf. Action:	State Public Notif Requested

ENFORCEMENT INFORMATION:

System Name: Montgomery County Water System 1 PWS
Violation Type: 3
Contaminant: ATRAZINE
Compliance Period: 4/1/2001 0:00:00 - 6/30/2001 0:00:00
Violation ID: 109177
Enforcement Date: 10/4/2001 0:00:00 Enf. Action: State Public Notif Requested

System Name: Montgomery County Water System 1 PWS
Violation Type: 3
Contaminant: ATRAZINE
Compliance Period: 4/1/2001 0:00:00 - 6/30/2001 0:00:00
Violation ID: 109177
Enforcement Date: 10/4/2001 0:00:00 Enf. Action: State Violation/Reminder Notice

System Name: MONTGOMERY COUNTY WATER SYSTEM 1 PWS
Violation Type: 3
Contaminant: SIMAZINE
Compliance Period: 4/1/2001 0:00:00 - 6/30/2001 0:00:00
Violation ID: 917501
Enforcement Date: 10/4/2001 0:00:00 Enf. Action: State Public Notif Requested

System Name: MONTGOMERY COUNTY WATER SYSTEM 1 PWS
Violation Type: 3
Contaminant: SIMAZINE
Compliance Period: 4/1/2001 0:00:00 - 6/30/2001 0:00:00
Violation ID: 917501
Enforcement Date: 10/4/2001 0:00:00 Enf. Action: State Violation/Reminder Notice

System Name: MONTGOMERY COUNTY WATER SYSTEM 1 PWS
Violation Type: 3
Contaminant: ALACHLOR (LASSO)
Compliance Period: 4/1/2001 0:00:00 - 6/30/2001 0:00:00
Violation ID: 917601
Enforcement Date: 10/4/2001 0:00:00 Enf. Action: State Violation/Reminder Notice

System Name: MONTGOMERY COUNTY WATER SYSTEM 1 PWS
Violation Type: 3
Contaminant: ALACHLOR (LASSO)
Compliance Period: 4/1/2001 0:00:00 - 6/30/2001 0:00:00
Violation ID: 917601
Enforcement Date: 10/4/2001 0:00:00 Enf. Action: State Public Notif Requested

System Name: MONTGOMERY COUNTY WATER SYSTEM 1 PWS
Violation Type: 3
Contaminant: ATRAZINE
Compliance Period: 4/1/2001 0:00:00 - 6/30/2001 0:00:00
Violation ID: 917701
Enforcement Date: 10/4/2001 0:00:00 Enf. Action: State Violation/Reminder Notice

System Name: MONTGOMERY COUNTY WATER SYSTEM 1 PWS
Violation Type: 3
Contaminant: ATRAZINE
Compliance Period: 4/1/2001 0:00:00 - 6/30/2001 0:00:00
Violation ID: 917701
Enforcement Date: 10/4/2001 0:00:00 Enf. Action: State Public Notif Requested

System Name: MONTGOMERY CO:WATER SYSTEM
Violation Type: MCL, Acute (TCR)
Contaminant: COLIFORM (TCR)
Compliance Period: 1994-11-01 - 1994-11-30
Violation ID: 9500990
Enforcement Date: 1994-12-12 Enf. Action: State Violation/Reminder Notice

ENFORCEMENT INFORMATION:

System Name:	MONTGOMERY CO:WATER SYSTEM		
Violation Type:	MCL, Acute (TCR)		
Contaminant:	COLIFORM (TCR)		
Compliance Period:	1994-11-01 - 1994-11-30		
Violation ID:	9500990		
Enforcement Date:	1994-12-12	Enf. Action:	State Public Notif Requested
System Name:	MONTGOMERY CO:WATER SYSTEM		
Violation Type:	MCL, Acute (TCR)		
Contaminant:	COLIFORM (TCR)		
Compliance Period:	1994-11-01 - 1994-11-30		
Violation ID:	9500990		
Enforcement Date:	1994-11-08	Enf. Action:	State Public Notif Received

CONTACT INFORMATION:

Name:	MONTGOMERY COUNTY WATER SERVICES 1 PWS	Population:	134540
Contact:	DAY, RICK K	Phone:	Not Reported
Address:	1850 SPAULDING RD		
Address 2:	KETTERING		
	OH, 45 937-7		

210
SSW
1/2 - 1 Mile
Lower

OH WELLS **OHPW40000000930**

County:	MONTGOMERY	Pwsid:	OH5701315
Well num:	15819	Well name:	MONTGOMERY CO:WATER SYST WELL 0020
Dnr wl log:	Not Reported	Wl avail:	EMERGENCY
Act date:	10/15/1999	Wl status:	Active
Sys status:	Active	Sys name:	MONTGOMERY COUNTY WATER SERVICES 1 PWS
Sys type:	Community		
Src type:	purchased surface water		
Latitude:	39.681358		
Longitude:	-84.235681		
Accuracy:	5		
Ll colmeth:	GPS CODE MEASUREMENTS (PSEUDO RANGE) DIFFERENTIALLY CORRECTED		
Hdatum:	WGS 84		
Verify met:	VERIFIED RELATIVE TO MAP FEATURES (1:24,000)		
Site id:	OHPW40000000930		

AA211
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018257**

Oid :	295607		
Well log n:	146805		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	JAMES	Orig own 1:	HENDRICKS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	21		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2837		
St name:	GLADSTONE	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514004.28		
Horiz y:	625132.86		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	720		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.703692		
Longitude:	-84.22733		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	20		
S water me:	Not Reported	S water 1:	10/09/1989
Cas ht:	0		
Screen len:	0		
Total dept:	43		
Date of co:	01/02/1955	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	700		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018257		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000016965**

212
SW
1/2 - 1 Mile
Lower

Oid :	295765		
Well log n:	351801		
Well type :	WATER WELL		
End user i:	1712		
Cnty code:	113	Twp code:	1873
Orig owner:	VIRGIL	Orig own 1:	WELLER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	40		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	3660		
St name:	TRAIL-ON	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1510176.71		
Horiz y:	618214.25		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	711.71		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.684499		
Longitude:	-84.240457		
Source of :	Digitized	Flowing we:	N
Test rate:	30		
Draw down:	8		
Draw down :	0		
S water le:	38		
S water me:	Not Reported	S water 1:	08/16/2007
Cas ht:	0		
Screen len:	0		
Total dept:	72		
Date of co:	07/19/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	674		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016965		

AB213
East
1/2 - 1 Mile
Higher

OH WELLS **OHD400000017470**

Oid :	296451		
Well log n:	97900		
Well type :	WATER WELL		
End user i:	0		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	MONTGOMERY CO
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	ABANDONED	Aquifer ty:	SHALE
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	77		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	10		
St dir cod:	Not Reported		
St no:	0		
St name:	LAMME	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1518153.41		
Horiz y:	620351.19		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.690784		
Longitude:	-84.212263		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	08/10/2000

Cas ht:	0		
Screen len:	0		
Total dept:	200		
Date of co:	04/29/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017470		

AB214
East
1/2 - 1 Mile
Higher

OH WELLS **OHD400000017471**

Oid :	717183		
Well log n:	97893		
Well type :	WATER WELL		
End user i:	0		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	MONTGOMERY CO
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	77		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	10		
St dir cod:	Not Reported		
St no:	0		
St name:	LAMME	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1518153.41		
Horiz y:	620351.19		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	749.63		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.690784		
Longitude:	-84.212263		
Source of :	Digitized	Flowing we:	N
Test rate:	40		
Draw down:	.5		
Draw down :	.5		
S water le:	51		
S water me:	Not Reported	S water 1:	08/10/2000
Cas ht:	0		
Screen len:	0		
Total dept:	135		
Date of co:	03/27/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	699		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017471		

215
West
1/2 - 1 Mile
Lower

OH WELLS **OHD400000017405**

Oid :	295773		
Well log n:	349830		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	WAYNE	Orig own 1:	GULLETT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	48		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	24		
St dir cod:	Not Reported		
St no:	3637		
St name:	PARIS	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509384.11		
Horiz y:	620095.64		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	714.19		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.689621		
Longitude:	-84.243402		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	5		
Draw down :	1		
S water le:	45		
S water me:	Not Reported	S water 1:	07/04/2007
Cas ht:	0		
Screen len:	0		
Total dept:	83		
Date of co:	08/02/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	669		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000017405		

216
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018263**

Oid :	295610		
Well log n:	49172		
Well type :	WATER WELL		
End user i:	1333		
Cnty code:	113	Twp code:	1873
Orig owner:	HARLEY	Orig own 1:	CRUTCHFIELD
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	27		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	17		
St dir cod:	Not Reported		
St no:	2841		
St name:	HOLMAN	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1514295.55		
Horiz y:	625152.17		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	720.92		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.70376		
Longitude:	-84.226296		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	5		
Draw down :	0		
S water le:	23		
S water me:	Not Reported	S water 1:	02/02/2007
Cas ht:	0		
Screen len:	0		
Total dept:	43		
Date of co:	04/08/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	698		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018263		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
AC217 **SW** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS2316382**

Agency cd:	USGS	Site no:	394055084141500
Site name:	MT-303		
Latitude:	394055	EDR Site id:	USGS2316382
Longitude:	0841415	Dec lat:	39.68200349
Dec lon:	-84.23744068	Coor meth:	M
Coor accr:	F	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	39
State:	39	County:	113
Country:	US	Land net:	Not Reported
Location map:	MIAMISBURG	Map scale:	24000
Altitude:	715.65		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	005		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Great Miami. Indiana, Ohio. Area = 1390 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	Not Reported
Date inventoried:	19711129	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	Not Reported		
Well depth:	76.92	Hole depth:	76.92
Source of depth data:	logs		
Project number:	443911200		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1993-08-11
Water quality data end date:	1993-08-11	Water quality data count:	1
Ground water data begin date:	1971-11-29	Ground water data end date:	1971-11-29
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1971-11-29	46.65	

Note: The site had been pumped recently.

	Database	EDR ID Number
AB218 **East** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS2316398**

Agency cd:	USGS	Site no:	394127084124300
Site name:	MT-1001		
Latitude:	394127	EDR Site id:	USGS2316398
Longitude:	0841243	Dec lat:	39.69089244
Dec lon:	-84.21188441	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	39
State:	39	County:	113
Country:	US	Land net:	NWNESE S10 T1 R6
Location map:	DAYTON SOUTH	Map scale:	24000
Altitude:	749.40		
Altitude method:	Level or other surveying method		
Altitude accuracy:	1		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Great Miami. Indiana, Ohio. Area = 1390 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19540601
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	OUTWASH		
Well depth:	201	Hole depth:	223
Source of depth data:	Not Reported		
Project number:	443900300		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1976-01-30
Water quality data end date:	1976-01-30	Water quality data count:	1
Ground water data begin date:	0000-00-00	Ground water data end date:	0000-00-00
Ground water data count:	0		

Ground-water levels, Number of Measurements: 0

AC219
SW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016769**

Oid :	742745		
Well log n:	501169		
Well type :	WATER WELL		
End user i:	1575		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	MONTGOMERY CO WATER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	79		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	MIAMI SHORES	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1510862.23		
Horiz y:	617310.99		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	718.7		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.682056		
Longitude:	-84.23796		
Source of :	Digitized	Flowing we:	N
Test rate:	2000		
Draw down:	9.6		
Draw down :	2		
S water le:	29.7		
S water me:	Not Reported	S water 1:	05/05/2005
Cas ht:	0		
Screen len:	0		
Total dept:	220		
Date of co:	01/02/1980	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	689		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016769		

220
SW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016854**

Oid :	295770		
Well log n:	331225		
Well type :	WATER WELL		
End user i:	1209		
Cnty code:	113	Twp code:	1873
Orig owner:	ELSIE	Orig own 1:	KEARNS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	45		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	30		
St dir cod:	Not Reported		
St no:	3656		
St name:	CLEARVIEW	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1510414.02		
Horiz y:	617712.66		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	714.84		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.683135		
Longitude:	-84.23958		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	5		
Draw down :	0		
S water le:	38		
S water me:	Not Reported	S water 1:	03/10/2002
Cas ht:	0		
Screen len:	0		
Total dept:	81		
Date of co:	08/01/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	677		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016854		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
AD221 **North** **1/2 - 1 Mile** **Lower**	**OH WELLS**	**OHD400000018309**

Oid :	295625		
Well log n:	109415		
Well type :	WATER WELL		
End user i:	2030		
Cnty code:	113	Twp code:	1873
Orig owner:	LEONARD	Orig own 1:	PARROTT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2913		
St name:	HOLMAN	St type co:	ST
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	0		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	0		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	46		
Date of co:	07/09/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018309		

AD222
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018308**

Oid :	295624		
Well log n:	131363		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	JAMES	Orig own 1:	FORDD
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	17		
St dir cod:	Not Reported		
St no:	2762		
St name:	GLADSTONE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	18		
S water me:	Not Reported	S water 1:	06/05/2004

Cas ht:	0		
Screen len:	0		
Total dept:	38		
Date of co:	12/20/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	702		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018308		

AD223
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018307**

Oid :	295623		
Well log n:	136254		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	GEORGE	Orig own 1:	RAINER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2640		
St name:	HOLMAN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	30		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	52		
Date of co:	07/10/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	690		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018307		

AD224
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018312**

Oid :	295628		
Well log n:	49168		
Well type :	WATER WELL		
End user i:	1333		
Cnty code:	113	Twp code:	1873
Orig owner:	GEORGE	Orig own 1:	ROBERTS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2840		
St name:	CADILLAC	St type co:	ST
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	0		
S water le:	20		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	47		
Date of co:	06/14/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	700		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018312		

AD225
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018311**

Oid :	295627		
Well log n:	136256		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	ELMER	Orig own 1:	FLYNN
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2601		
St name:	HOLMAN	St type co:	ST
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	29		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	75		
Date of co:	07/15/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	691		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018311		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
AD226 **North** **1/2 - 1 Mile** **Lower**	**OH WELLS**	**OHD400000018310**

Oid :	295626		
Well log n:	136265		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	P	Orig own 1:	GROSS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2407		
St name:	GLADSTONE	St type co:	ST
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	23		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	41		
Date of co:	08/10/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	697		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018310		

AD227
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018303**

Oid :	295617		
Well log n:	131417		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	PAUL	Orig own 1:	NICKELL
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2849		
St name:	CADILLAC	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	6		
S water le:	22		
S water me:	Not Reported	S water 1:	06/05/2004

Cas ht:	0		
Screen len:	0		
Total dept:	49		
Date of co:	06/22/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	698		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018303		

AD228
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018302**

Oid :	295615		
Well log n:	131429		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	O	Orig own 1:	VARETTS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2732		
St name:	GLADSTONE	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	4		
S water le:	17		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	49		
Date of co:	08/07/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	703		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018302		

AD229
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018301**

Oid :	295613		
Well log n:	131388		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	HENRY	Orig own 1:	CARTWRIGHT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2868		
St name:	HOLMAN	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	33		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	03/28/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	687		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018301		

AD230
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018306**

Oid :	295622		
Well log n:	131394		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	WILLIE	Orig own 1:	ALSEPT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	HOLMAN	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	20		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	49		
Date of co:	05/10/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	700		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018306		

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000018305**

AD231
North
1/2 - 1 Mile
Lower

Oid :	295621		
Well log n:	131395		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	CARL	Orig own 1:	FETTERS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	SOUTHLAWN/HOLMAN	St type co:	ST
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	25		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	51		
Date of co:	05/02/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	695		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018305		

AD232
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018304**

Oid :	295619		
Well log n:	138557		
Well type :	WATER WELL		
End user i:	2562		
Cnty code:	113	Twp code:	1873
Orig owner:	RICHARD	Orig own 1:	COMBS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	DRYDEN	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	25		
Draw down :	0		
S water le:	25		
S water me:	Not Reported	S water 1:	06/05/2004

Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	05/05/1941	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	695		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018304		

AD233
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018313**

Oid :	295629		
Well log n:	109481		
Well type :	WATER WELL		
End user i:	2519		
Cnty code:	113	Twp code:	1873
Orig owner:	CORA	Orig own 1:	ADDLEMAN
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL AND CLAY
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2748		
St name:	CADILLAC	St type co:	ST
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	25		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	61		
Date of co:	01/07/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	695		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018313		

AD234
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018322**

Oid :	739484		
Well log n:	49169		
Well type :	WATER WELL		
End user i:	1333		
Cnty code:	113	Twp code:	1873
Orig owner:	EMA	Orig own 1:	SCOTT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2727		
St name:	HOLMAN	St type co:	ST
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	4		
Draw down :	0		
S water le:	24		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	72		
Date of co:	06/16/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	696		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018322		

AD235
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018321**

Oid :	739483		
Well log n:	136503		
Well type :	WATER WELL		
End user i:	2527		
Cnty code:	113	Twp code:	1873
Orig owner:	S	Orig own 1:	WEBB
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	Not Reported	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	10		
Draw down:	0		
Draw down :	0		
S water le:	26		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	07/06/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018321		

Map ID
Direction
Distance
Elevation

Database	EDR ID Number
OH WELLS	**OHD400000018320**

AD236
North
1/2 - 1 Mile
Lower

Oid :	717178		
Well log n:	49170		
Well type :	WATER WELL		
End user i:	1333		
Cnty code:	113	Twp code:	1873
Orig owner:	ESTEL/WALTER	Orig own 1:	SPURLOCK/FARMERS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2837		
St name:	CADILLAC	St type co:	ST
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	2		
Draw down :	0		
S water le:	21		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	54		
Date of co:	06/20/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	699		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018320		

AD237
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018325**

Oid :	775528		
Well log n:	111425		
Well type :	WATER WELL		
End user i:	2527		
Cnty code:	113	Twp code:	1873
Orig owner:	BRUCE	Orig own 1:	WAX
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	COLDMAN	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	7		
Draw down:	0		
Draw down :	0		
S water le:	27		
S water me:	Not Reported	S water 1:	06/05/2004

Cas ht:	0		
Screen len:	0		
Total dept:	47		
Date of co:	09/23/1953	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	693		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018325		

AD238
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018324**

Oid :	772145		
Well log n:	131391		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	FRANK	Orig own 1:	SMITH
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2845		
St name:	HOLMAN	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	32		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	42		
Date of co:	05/04/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	688		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018324		

AD239
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018323**

Oid :	742735		
Well log n:	109945		
Well type :	WATER WELL		
End user i:	800		
Cnty code:	113	Twp code:	1873
Orig owner:	PAUL	Orig own 1:	THOMAS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2637		
St name:	CADILLAC	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	6		
Draw down:	0		
Draw down :	1		
S water le:	30		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	10/01/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	690		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018323		

AD240
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018316**

Oid :	295632		
Well log n:	131371		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	GEORGE	Orig own 1:	ROBERTS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2800		
St name:	CADILLAC	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	20		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	40		
Date of co:	01/14/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	700		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018316		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
AD241 **North** **1/2 - 1 Mile** **Lower**	**OH WELLS**	**OHD400000018315**

Oid :	295631		
Well log n:	131373		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	DELBERT	Orig own 1:	ROBERTS
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2867		
St name:	CADILLAC	St type co:	AVE
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	18		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	01/18/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	702		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018315		

AD242
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018314**

Oid :	295630		
Well log n:	131379		
Well type :	WATER WELL		
End user i:	2528		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	CARKER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2868		
St name:	HOLMAN	St type co:	ST
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	25		
S water me:	Not Reported	S water 1:	06/05/2004

Cas ht:	0		
Screen len:	0		
Total dept:	44		
Date of co:	03/05/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	695		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018314		

AD243
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018319**

Oid :	715648		
Well log n:	131434		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	WILLIE	Orig own 1:	MAY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2744		
St name:	CADILLAC	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	15		
Draw down:	0		
Draw down :	4		
S water le:	21		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	45		
Date of co:	09/14/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	699		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018319		

AD244
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018318**

Oid :	295634		
Well log n:	131425		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	LLOYD	Orig own 1:	COLE
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2712		
St name:	GLADSTONE	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	3		
S water le:	20		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	48		
Date of co:	07/23/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	700		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018318		

AD245
North
1/2 - 1 Mile
Lower

OH WELLS **OHD400000018317**

Oid :	295633		
Well log n:	131433		
Well type :	WATER WELL		
End user i:	1976		
Cnty code:	113	Twp code:	1873
Orig owner:	ROBERT	Orig own 1:	MILTON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	A
Loc no:	0		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	2718		
St name:	GLADSTONE	St type co:	ST
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1513767.71		
Horiz y:	625428.38		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	719.72		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.704491		
Longitude:	-84.228191		
Source of :	Digitized	Flowing we:	N
Test rate:	15		
Draw down:	0		
Draw down :	4		
S water le:	21		
S water me:	Not Reported	S water 1:	06/05/2004
Cas ht:	0		
Screen len:	0		
Total dept:	46		
Date of co:	09/12/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	699		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018317		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
AC246 **SW** **1/2 - 1 Mile** **Lower**	**OH WELLS**	**OHPW40000000932**

County:	MONTGOMERY	Pwsid:	OH5701315
Well num:	15820	Well name:	MONTGOMERY CO:WATER SYST WELL 0021
Dnr wl log:	Not Reported	Wl avail:	EMERGENCY
Act date:	10/15/1999	Wl status:	Active
Sys status:	Active	Sys name:	MONTGOMERY COUNTY WATER SERVICES 1 PWS
Sys type:	Community		
Src type:	purchased surface water		
Latitude:	39.681633		
Longitude:	-84.238408		
Accuracy:	5		
Ll colmeth:	GPS CODE MEASUREMENTS (PSEUDO RANGE) DIFFERENTIALLY CORRECTED		
Hdatum:	WGS 84		
Verify met:	VERIFIED RELATIVE TO MAP FEATURES (1:24,000)		
Site id:	OHPW40000000932		

AE247 **SE** **1/2 - 1 Mile** **Higher**	**FED USGS**	**USGS2316389**

Agency cd:	USGS	Site no:	394103084124901
Site name:	MT-1259 MIAM NAWQA LUS WELL BVAS URB-18 MORAINE,OH		
Latitude:	394103.18	EDR Site id:	USGS2316389
Longitude:	0841249.12	Dec lat:	39.68421667
Dec lon:	-84.21364444	Coor meth:	G
Coor accr:	5	Latlong datum:	NAD83
Dec latlong datum:	NAD83	District:	39
State:	39	County:	113
Country:	US	Land net:	Not Reported
Location map:	DAYTON SOUTH	Map scale:	24000
Altitude:	739		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Great Miami. Indiana, Ohio. Area = 1390 sq.mi.		
Topographic:	Not Reported		
Site type:	Ground-water other than Spring	Date construction:	20010813
Date inventoried:	20010813	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Unconfined single aquifer		
Aquifer:	OUTWASH		
Well depth:	47.5	Hole depth:	Not Reported
Source of depth data:	reporting agency (generally USGS)		
Project number:	443912900		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	2001-08-13
Water quality data end date:	2001-10-31	Water quality data count:	3
Ground water data begin date:	2001-10-31	Ground water data end date:	2004-12-21
Ground water data count:	2		

Ground-water levels, Number of Measurements: 2

Date	Feet below Surface	Feet to Sealevel	Date	Feet below Surface	Feet to Sealevel
2004-12-21	32.75				
Note: Water level was affected by atmospheric pressure.					
2001-10-31	33.79				

AE248
SE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000016933**

Oid :	647661		
Well log n:	933320		
Well type :	WATER WELL		
End user i:	2637		
Cnty code:	113	Twp code:	743
Orig owner:	Not Reported	Orig own 1:	US GEO SURVEY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	MONITOR	Aquifer ty:	SAND
Loc map ye:	Not Reported	Loc area:	Not Reported
Loc no:	0		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	4699		
St name:	LAMME	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	DAYTON	State code:	OH
Zip:	45439		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1517728.75		
Horiz y:	617949.82		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	739		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.68417		
Longitude:	-84.21361		
Source of :	GPS	Flowing we:	Not Reported
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	34		
S water me:	Not Reported	S water 1:	08/13/2001
Cas ht:	0		
Screen len:	5		
Total dept:	47		
Date of co:	08/13/2001	Located in:	Not Reported
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	.01		

Screened i:	42		
Screened 1:	47		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	0		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016933		

AF249
SSE **OH WELLS** **OHD400000016611**
1/2 - 1 Mile
Lower

Oid :	292966		
Well log n:	137010		
Well type :	WATER WELL		
End user i:	2276		
Cnty code:	113	Twp code:	1765
Orig owner:	RICHARD	Orig own 1:	HOCHWOHT
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	52		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	15		
St dir cod:	Not Reported		
St no:	5515		
St name:	741	St type co:	RD
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1515372.1		
Horiz y:	616151.94		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	723.83		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.679112		
Longitude:	-84.22186		
Source of :	Digitized	Flowing we:	N
Test rate:	15		
Draw down:	2		
Draw down :	2		
S water le:	30		
S water me:	Not Reported	S water 1:	11/01/2005

Cas ht:	0		
Screen len:	0		
Total dept:	76		
Date of co:	09/10/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016611		

AG250
SW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016763**

Oid :	296452		
Well log n:	501170		
Well type :	WATER WELL		
End user i:	1575		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	MONTGOMERY CO WATER
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	78		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	MIAMI SHORES	St type co:	Not Reported
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1510351.39		
Horiz y:	617256.26		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	713.14		

Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.681879		
Longitude:	-84.239771		
Source of :	Digitized	Flowing we:	N
Test rate:	2000		
Draw down:	7.5		
Draw down :	2		
S water le:	28.5		
S water me:	Not Reported	S water 1:	05/05/2005
Cas ht:	0		
Screen len:	0		
Total dept:	221		
Date of co:	01/02/1980	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	Not Reported		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	684		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016763		

251
SW
1/2 - 1 Mile
Lower

OH WELLS **OHD400000016846**

Oid :	295769		
Well log n:	269393		
Well type :	WATER WELL		
End user i:	1855		
Cnty code:	113	Twp code:	1873
Orig owner:	RAY	Orig own 1:	EDINGTON
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	GRAVEL
Loc map ye:	1983	Loc area:	B
Loc no:	44		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	17		
St dir cod:	Not Reported		
St no:	3729		
St name:	CLEARVIEW	St type co:	DR
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH

Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1509950.66		
Horiz y:	617679.21		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	710.8		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.683019		
Longitude:	-84.241224		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	10		
Draw down :	2		
S water le:	15		
S water me:	Not Reported	S water 1:	06/22/2005
Cas ht:	0		
Screen len:	0		
Total dept:	46		
Date of co:	02/26/1962	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	696		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016846		

252
SSE
1/2 - 1 Mile
Lower

FED USGS **USGS2316380**

Agency cd:	USGS	Site no:	394048084130700
Site name:	MT-591		
Latitude:	394048	EDR Site id:	USGS2316380
Longitude:	0841307	Dec lat:	39.68005911
Dec lon:	-84.21855114	Coor meth:	M
Coor accr:	S	Latlong datum:	NAD27
Dec latlong datum:	NAD83	District:	39
State:	39	County:	113
Country:	US	Land net:	Not Reported
Location map:	DAYTON SOUTH	Map scale:	24000
Altitude:	725.00		
Altitude method:	Interpolated from topographic map		
Altitude accuracy:	5		
Altitude datum:	National Geodetic Vertical Datum of 1929		
Hydrologic:	Lower Great Miami. Indiana, Ohio. Area = 1390 sq.mi.		
Topographic:	Valley flat		
Site type:	Ground-water other than Spring	Date construction:	19550301
Date inventoried:	Not Reported	Mean greenwich time offset:	EST
Local standard time flag:	Y		
Type of ground water site:	Single well, other than collector or Ranney type		
Aquifer Type:	Not Reported		
Aquifer:	OUTWASH		
Well depth:	94.0	Hole depth:	94.0
Source of depth data:	Not Reported		
Project number:	443900300		
Real time data flag:	0	Daily flow data begin date:	0000-00-00
Daily flow data end date:	0000-00-00	Daily flow data count:	0
Peak flow data begin date:	0000-00-00	Peak flow data end date:	0000-00-00
Peak flow data count:	0	Water quality data begin date:	1976-02-04
Water quality data end date:	1976-02-04	Water quality data count:	1
Ground water data begin date:	1955-03-26	Ground water data end date:	1955-03-26
Ground water data count:	1		

Ground-water levels, Number of Measurements: 1

Date	Feet below Surface	Feet to Sealevel
1955-03-26	31.00	

253
NE
1/2 - 1 Mile
Higher

OH WELLS **OHD400000018126**

Oid :	742743		
Well log n:	342964		
Well type :	WATER WELL		
End user i:	1076		
Cnty code:	113	Twp code:	1873
Orig owner:	Not Reported	Orig own 1:	FRIGIDAIRE DIV GMC
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SHALE
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	60		

Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	0		
St dir cod:	Not Reported		
St no:	0		
St name:	SPRINGBORO	St type co:	PI
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1517350.55		
Horiz y:	624233.14		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	738.45		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.701398		
Longitude:	-84.215378		
Source of :	Digitized	Flowing we:	N
Test rate:	0		
Draw down:	0		
Draw down :	0		
S water le:	61		
S water me:	Not Reported	S water 1:	02/27/2008
Cas ht:	0		
Screen len:	0		
Total dept:	204		
Date of co:	08/29/1966	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		
Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	677		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000018126		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
AF254 **SSE** **1/2 - 1 Mile** **Lower**	**OH WELLS**	**OHD400000016578**

Oid :	771597		
Well log n:	111438		
Well type :	WATER WELL		
End user i:	2527		
Cnty code:	113	Twp code:	1765
Orig owner:	LOUIE	Orig own 1:	GODLEY
Drill type:	Not Reported	Test type :	Not Reported
Well use c:	Not Reported	Aquifer ty:	SAND AND GRAVEL
Loc map ye:	1983	Loc area:	Not Reported
Loc no:	53		
Sub name:	Not Reported	Sub map ye:	Not Reported
Sub no:	Not Reported	Permit no:	Not Reported
Sec owner :	Not Reported	Lot no:	Not Reported
Sect no:	15		
St dir cod:	Not Reported		
St no:	5605		
St name:	741	St type co:	PI
Sec add:	Not Reported		
Sec add no:	0		
City:	Not Reported	State code:	OH
Zip:	Not Reported		
Well loc d:	Not Reported		
Zone code:	S		
Horiz x:	1515336.36		
Horiz y:	615946.4		
Horiz datu:	NAD27		
Horiz acc :	0		
Horiz acc1:	0		
Horiz ac 1:	Not Reported		
Vert loc:	723.53		
Vert acc:	0		
Vert acc u:	Not Reported		
Latitude:	39.678546		
Longitude:	-84.221973		
Source of :	Digitized	Flowing we:	N
Test rate:	20		
Draw down:	0		
Draw down :	0		
S water le:	30		
S water me:	Not Reported	S water 1:	07/19/2006
Cas ht:	0		
Screen len:	0		
Total dept:	48		
Date of co:	02/01/1954	Located in:	Y
Assoc rpt :	Not Reported		
Depth to b:	0		
Drill year:	Not Reported		
Comments:	Not Reported		
Well seal :	0		
Screen slo:	0		

Screened i:	0		
Screened 1:	0		
Sustained :	0		
Attatch st:	\\NRAS1\		
Screen dia:	0		
Screen typ:	Not Reported	Screen mat:	Not Reported
Pump type:	Not Reported		
Pump capac:	0		
Pump set a:	0		
Pitless ty:	Not Reported	Pump inst :	Not Reported
Elev sourc:	Not Reported		
Water leve:	694		
Well drill:	Not Reported	Subcon odh:	Not Reported
Site id:	OHD400000016578		

AG255
SW
1/2 - 1 Mile
Lower

OH WELLS **OHPW40000000931**

County:	MONTGOMERY	Pwsid:	OH5701315
Well num:	15821	Well name:	MONTGOMERY CO:WATER SYST WELL 0022
Dnr wl log:	Not Reported	Wl avail:	EMERGENCY
Act date:	10/15/1999	Wl status:	Active
Sys status:	Active	Sys name:	MONTGOMERY COUNTY WATER SERVICES 1 PWS
Sys type:	Community		
Src type:	purchased surface water		
Latitude:	39.681439		
Longitude:	-84.240186		
Accuracy:	5		
Ll colmeth:	GPS CODE MEASUREMENTS (PSEUDO RANGE) DIFFERENTIALLY CORRECTED		
Hdatum:	WGS 84		
Verify met:	VERIFIED RELATIVE TO MAP FEATURES (1:24,000)		
Site id:	OHPW40000000931		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: OH Radon

Radon Test Results

Zip	Total Sites	Median	1st Quartile	3rd Quartile	Min.	Max.
45439	127	5.1	3	11.63	0.1	56.1

Federal EPA Radon Zone for MONTGOMERY County: 1

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for Zip Code: 45439

Number of sites tested: 2

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.500 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	17.200 pCi/L	0%	50%	50%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Scanned Digital USGS 7.5' Topographic Map (DRG)
Source: United States Geologic Survey
A digital raster graphic (DRG) is a scanned image of a U.S. Geological Survey topographic map. The map images are made by scanning published paper maps on high-resolution scanners. The raster image is georeferenced and fit to the Universal Transverse Mercator (UTM) projection.

HYDROLOGIC INFORMATION

Flood Zone Data: This data, available in select counties across the country, was obtained by EDR in 2003 & 2009 from the Federal Emergency Management Agency (FEMA). Data depicts 100-year and 500-year flood zones as defined by FEMA.

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002 and 2005 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetlands Inventory
Source: Department of Natural Resources
Telephone: 614-265-1044

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Services, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Public Water System Data
Source: Ohio Environmental Protection Agency
Telephone: 614-644-3677
The database includes community, transient noncommunity and nontransient noncommunity water wells; and source treatment unit locations.

Water Well Database
Source: Department of Natural Resources
Telephone: 614-265-6747

OTHER STATE DATABASE INFORMATION

RADON

State Database: OH Radon
Source: Department of Health
Telephone: 614-644-2727
Radon Statistics for Zip Code Areas

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

PHYSICAL SETTING SOURCE RECORDS SEARCHED

STREET AND ADDRESS INFORMATION

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APPENDIX D

Photograph Log

Photograph #1

Description of Photograph:

View looking west over the Closed South Settling Lagoon. The lagoon has been covered with a vegetated soil cover.

Site Location:
Former South Settling Lagoons
Moraine, Ohio

Photograph Taken By:
Todd J. Aebie

Date of Photograph:
December 3, 2009

Photograph #2

Description of Photograph:

Groundwater monitoring well located at the entrance to the Closed South Settling Lagoon. View is looking towards the south.

Site Location:
Former South Settling Lagoons
Moraine, Ohio

Photograph Taken By:
Todd J. Aebie

Date of Photograph:
December 3, 2009

Photograph #3

Description of Photograph:
View of the eastern boundary of the Closed South Settling Lagoon.

Site Location:
Former South Settling Lagoons
Moraine, Ohio

Photograph Taken By:
Todd J. Aebie

Date of Photograph:
December 3, 2009

Photograph #4

Description of Photograph:
Warehouse building to the north of the Closed South Settling Lagoon.

Site Location:
Former South Settling Lagoons
Moraine, Ohio

Photograph Taken By:
Todd J. Aebie

Date of Photograph:
December 3, 2009

Photograph #5

Description of Photograph:
Former railroad tracks along the western boundary of the Closed South Settling Lagoon. US Route I-75 is in the background.

Site Location:
Former South Settling Lagoons
Moraine, Ohio

Photograph Taken By:
Todd J. Aebie

Date of Photograph:
December 3, 2009

Photograph #6

Description of Photograph:
Remediation wells along the southern boundary of the Closed South Settling Lagoon. Offsite residences are located across the fence line.

Site Location:
Former South Settling Lagoons
Moraine, Ohio

Photograph Taken By:
Todd J. Aebie

Date of Photograph:
December 3, 2009

Photograph #7

Description of Photograph:
Railroad spur which runs between the former Building #14 site and Landfill L1, which is located southeast of the South Lagoons on the adjacent property.

Site Location:
Former South Settling Lagoons
Moraine, Ohio

Photograph Taken By:
Todd J. Aebie

Date of Photograph:
December 3, 2009

Photograph #8

Description of Photograph:
View looking south across the top of the Landfill L1 which is located southeast of the South Lagoons on the adjacent property.

Site Location:
Former Delphi Thermal Moraine Facility
Moraine, Ohio

Photograph Taken By:
Todd J. Aebie

Date of Photograph:
December 3, 2009

Photograph #9

Description of Photograph:
Residential property immediately west of the Landfill L1. Note: Closed South Settling Lagoon is located immediately to the right of the house, across the street.

Site Location:
Former Delphi Thermal Moraine Facility
Moraine, Ohio

Photograph Taken By:
Todd J. Aebie

Date of Photograph:
December 3, 2009

APPENDIX E

Copy of the NPDES Report

OhioEPA
State of Ohio Environmental Protection Agency

STREET ADDRESS:
Lazarus Government Center
50 W. Town St., Suite 700
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

June 20, 2007

Re: Ohio EPA Permit No. 1IC00008*ID
Facility Name: Moraine Utility Service

General Motors Corporation
300 Renaissance Center
Detroit, MI 48265

Ladies and Gentlemen:

Transmitted herewith is one copy of the final National Pollutant Discharge Elimination System permit referenced above.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and shall set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Review Appeals Commission within thirty (30) days after notice of the Director's action. The appeal must be accompanied by a filing fee of $70.00 which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the Directors within three (3) days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
309 South Fourth Street, Room 222
Columbus, Ohio 43215

Sincerely,

Patti L. Smith

Patti L. Smith, Supervisor
Permit Processing Unit
Division of Surface Water

PLS/kep

Enclosure

CERTIFIED MAIL

Ohio EPA Invoice/Receipt

Date Printed: June 19, 2007

Revenue ID: 612737

Please include this Revenue ID with all correspondence.

Organization ID: 61863

Information: General Motors Corporation Moraine
General Motors Corporation Moraine Utili
2601 W Stroop Rd
Moraine, OH 45439-

Due Date: August 16, 2007

Amount Due: $1,500.00

Effective Date: August 01, 2007

Revenue Description: DSW- NPDES Permit Issuance

Program Name: NPDES Permitting

Reason: NPDES Permit Renewal Issuance-1IC00008*ID-GMC Moraine Utility Svs

For some Revenues, Interest and/or Penalties may be charged for late payment.

Next Interest Date (If applicable): September 15, 2007

Next Penalty Date (if applicable):

[redacted]

Organization ID: 61863

Information: General Motors Corporation Moraine
General Motors Corporation Moraine Utili
2601 W Stroop Rd
OH 45439-

Due Date: Aug 16, 2007

Amount Due: $1,500.00

Secondary Type/Id: SNPDE / 1IC00008

Revenue Type: PTONI

Amount Enclosed: $_____

[redacted]

Remit to: **Ohio Environmental Protection Agency - OFA**
Department L-2711
Columbus, OH 43260-2711

[redacted]

Check ID: _____

Check Date: _____

Check Number: _____

Check Amount: $_____

61863	General Motors Corporation Moraine	150000	PTONI	612737

Application No. OH0009431

Issue Date: June 20, 2007

Effective Date: August 1, 2007

Expiration Date: July 31, 2012

Ohio Environmental Protection Agency
Authorization to Discharge Under the
National Pollutant Discharge Elimination System

In compliance with the provisions of the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et. seq., hereinafter referred to as the "Act"), and the Ohio Water Pollution Control Act (Ohio Revised Code Section 6111),

General Motors Corporation

is authorized by the Ohio Environmental Protection Agency, hereinafter referred to as "Ohio EPA," to discharge from the Moraine Utility Services facility located at 3600 Dryden Road, Moraine, Ohio, Montgomery County and discharging to the Great Miami River via storm sewer and drainage ditch in accordance with the conditions specified in Parts I, II, III, IV, V, and VI of this permit.

This permit is conditioned upon payment of applicable fees as required by Section 3745.11 of the Ohio Revised Code.

This permit and the authorization to discharge shall expire at midnight on the expiration date shown above. In order to receive authorization to discharge beyond the above date of expiration, the permittee shall submit such information and forms as are required by the Ohio EPA no later than 180 days prior to the above date of expiration.

Chris Korleski
Director

Total Pages: 29

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 1IC00008001. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 001 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day					
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Measuring Frequency	Sampling Type	Monitoring Months
00400 - pH - S.U.	9.0	6.5	-	-	-	-	-	1 / 2 Weeks	Grab	All
00530 - Total Suspended Solids - mg/l	45	-	-	30	129	-	86.5	1 / 2 Weeks	24hr Composite	All
00550 - Oil and Grease, Total - mg/l	20	-	-	10	57.6	-	28.8	1 / 2 Weeks	Grab	All
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Day	24hr Total	All

Notes for station 1IC00008001:

- This discharge is limited to non-contact cooling water, reverse osmosis blowdown, fire flow testing, and storm runoff.

- Suspended Solids and Oil & Grease shall be sampled when discharging from the retention basin.

* Effluent loadings based on average flow of 0.761 MGD.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 1IC00008002. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Final Outfall - 002 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring	Sampling	Monitoring
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly	Frequency	Type	Months
00400 - pH - S.U.	9.0	6.5	-	-	-	-	-	1 / 2 Weeks	Grab	All
00530 - Total Suspended Solids - mg/l	45	-	-	30	213	-	142	1 / 2 Weeks	24hr Composite	All
00550 - Oil and Grease, Total - mg/l	20	-	-	10	95	-	47	1 / 2 Weeks	Grab	All
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Day	24hr Total	All

Notes for station 1IC00008002

- This discharge is limited to non-contact cooling water, reverse osmosis blowdown, fire flow testing, and storm runoff:

- Suspended Solids and Oil & Grease shall be sampled when discharging from the retention basin.

* Effluent loadings based on average flow of 1.252 MGD.

Part I, A. - FINAL EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. During the period beginning on the effective date of this permit and lasting until the expiration date of this permit, the permittee is authorized to discharge in accordance with the following limitations and monitoring requirements from outfall 1IC00008601. See Part II, OTHER REQUIREMENTS, for locations of effluent sampling.

Table - Internal Monitoring Station - 601 - Final

Effluent Characteristic	Discharge Limitations							Monitoring Requirements		
	Concentration Specified Units				Loading* kg/day			Measuring Frequency	Sampling Type	Monitoring Months
Parameter	Maximum	Minimum	Weekly	Monthly	Daily	Weekly	Monthly			
00400 - pH - S.U.	9.0	6.5	-	-	-	-	-	1/Month	Grab	All
00550 - Oil and Grease, Total - mg/l	20	-	-	10	9.3	-	9.3	1/Month	Grab	All
03864 - 1,2-Cis-Dichloroethene - ug/l	10.0	-	-	-	0.0093	-	-	1/Month	Grab	All
34010 - Toluene - ug/l	10.0	-	-	-	0.0093	-	-	1/Month	Grab	All
34030 - Benzene - ug/l	10.0	-	-	-	0.0093	-	-	1/Month	Grab	All
34311 - Chloroethane - ug/l	10.0	-	-	-	0.0093	-	-	1/Month	Grab	All
34371 - Ethylbenzene - ug/l	10.0	-	-	-	0.0093	-	-	1/Month	Grab	All
34496 - 1,1-Dichloroethane - ug/l	10.0	-	-	-	0.0093	-	-	1/Month	Grab	All
34506 - 1,1,1-Trichloroethane - ug/l	10.0	-	-	-	0.0093	-	-	1/Month	Grab	All
39175 - Vinyl Chloride - ug/l	10.0	-	-	-	0.0093	-	-	1/Month	Grab	All
50050 - Flow Rate - MGD	-	-	-	-	-	-	-	1/Day	24hr Total	All
78389 - Tetrachloroethene - ug/l	10.0	-	-	-	0.0093	-	-	1/Month	Grab	All
78391 - Trichloroethene - ug/l	10.0	-	-	-	0.0093	-	-	1/Month	Grab	All
81551 - Xylene, Total - ug/l	10.0	-	-	-	0.0093	-	-	1/Month	Grab	All

Notes for station 1IC00008601:
.This discharge is limited to flow from the groundwater recovery and treatment system which has been installed as an interim measure pursuant to U.S. EPA orders.
.Sampling shall be performed when discharging. If NO DISCHARGE OCCURS DURING THE ENTIRE MONTH, state this in the remarks section and LEAVE THE DATA AREA BLANK (signature still required).
* Effluent loadings based on average design flow of 0.245 MGD.

Part II, OTHER REQUIREMENTS

A. Description of the location of the required sampling stations are as follows:

Sampling Station	Description of Location
1IC00008001	North retention basin discharge to storm drainage ditch (Lat: 39N 42' 02"; Long: 84W 14' 06")
1IC00008002	South retention basin discharge to storm sewer (Lat: 39N 41' 37"; Long: 84W 13' 58")
1IC00008601	Groundwater treatment system discharge to storm sewer to south retention basin (Lat: 39N 41' 26"; Long: 84W 13' 29")

B. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved.

1. Contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
2. Controls any pollutant not limited in the permit.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.

C. All parameters, except flow, need not be monitored on days when the plant is not normally staffed (Saturdays, Sundays, and Holidays). On those days, report "AN" on the monthly report form.

D. In the event that the permittee's operation requires the use of cooling or boiler water treatment additives that are discharged to surface waters of the state, written permission must be obtained from the director of the Ohio EPA prior to use. Reporting and testing requirements to apply for permission to use additives can be obtained from the Ohio EPA, Central Office, Division of Surface Water, Water Resources Management Section. Reported information will be used to evaluate whether the use of the additive(s) at concentrations expected in the final discharge will be harmful or inimical to aquatic life.

E. Permit limitations may be revised in order to meet water quality standards after a stream use determination and waste load allocation are completed and approved. This permit may be modified, or alternatively, revoked and reissued, to comply with any applicable water quality effluent limitations.

F. There shall be no detectable amount of any priority pollutant attributable to cooling tower maintenance chemicals in the cooling tower blowdown wastewater.

G. Composite samples shall be comprised of a series of grab samples collected over a 24-hour period and proportionate in volume to the wastewater flow rate at the time of sampling. Such samples shall be collected at such times and locations, and in such a fashion, as to be representative of the facility's overall performance.

H. Grab samples shall be collected at such times and locations, and in such fashion, as to be representative of the facility's performance.

I. Final permit limitations based on preliminary or approved waste load allocations are subject to change based on modifications to or finalization of the allocation or report or changes to Water Quality Standards. Monitoring requirements and/or special conditions of this permit are subject to change based on regulatory or policy changes.

PART III - GENERAL CONDITIONS

1. DEFINITIONS

"Daily discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.

"Average weekly" discharge limitation means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week. Each of the following 7-day periods is defined as a calendar week: Week 1 is Days 1 - 7 of the month; Week 2 is Days 8 - 14; Week 3 is Days 15 - 21; and Week 4 is Days 22 - 28. If the "daily discharge" on days 29, 30 or 31 exceeds the "average weekly" discharge limitation, Ohio EPA may elect to evaluate the last 7 days of the month as Week 4 instead of Days 22 - 28. Compliance with fecal coliform bacteria or E coli bacteria limitations shall be determined using the geometric mean.

"Average monthly" discharge limitation means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month. Compliance with fecal coliform bacteria or E coli bacteria limitations shall be determined using the geometric mean.

"85 percent removal" means the arithmetic mean of the values for effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of the values for influent samples collected at approximately the same times during the same period.

"Absolute Limitations" Compliance with limitations having descriptions of "shall not be less than," "nor greater than," "shall not exceed," "minimum," or "maximum" shall be determined from any single value for effluent samples and/or measurements collected.

"Net concentration" shall mean the difference between the concentration of a given substance in a sample taken of the discharge and the concentration of the same substances in a sample taken at the intake which supplies water to the given process. For the purpose of this definition, samples that are taken to determine the net concentration shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"Net Load" shall mean the difference between the load of a given substance as calculated from a sample taken of the discharge and the load of the same substance in a sample taken at the intake which supplies water to given process. For purposes of this definition, samples that are taken to determine the net loading shall always be 24-hour composite samples made up of at least six increments taken at regular intervals throughout the plant day.

"MGD" means million gallons per day.

"mg/l" means milligrams per liter.

"ug/l" means micrograms per liter.

"ng/l" means nanograms per liter.

"S.U." means standard pH unit.

"kg/day" means kilograms per day.

"Reporting Code" is a five digit number used by the Ohio EPA in processing reported data. The reporting code does not imply the type of analysis used nor the sampling techniques employed.

"Quarterly (1/Quarter) sampling frequency" means the sampling shall be done in the months of March, June, August, and December, unless specificially identified otherwise in the Effluent Limitations and Monitoring Requirements table.

"Yearly (1/Year) sampling frequency" means the sampling shall be done in the month of September, unless specificially identified otherwise in the effluent limitations and monitoring requirements table.

"Semi-annual (2/Year) sampling frequency" means the sampling shall be done during the months of June and December, unless specificially identified otherwise.

"Winter" shall be considered to be the period from November 1 through April 30.

"Bypass" means the intentional diversion of waste streams from any portion of the treatment facility.

"Summer" shall be considered to be the period from May 1 through October 31.

"Severe property damage" means substantial physical damage to property, damage to the treatment facilities which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

"Sewage sludge" means a solid, semi-solid, or liquid residue generated during the treatment of domestic sewage in a treatment works as defined in section 6111.01 of the Revised Code. "Sewage sludge" includes, but is not limited to, scum or solids removed in primary, secondary, or advanced wastewater treatment processes. "Sewage sludge" does not include ash generated during the firing of sewage sludge in a sewage sludge incinerator, grit and screenings generated during preliminary treatment of domestic sewage in a treatment works, animal manure, residue generated during treatment of animal manure, or domestic septage.

"Sewage sludge weight" means the weight of sewage sludge, in dry U.S. tons, including admixtures such as liming materials or bulking agents. Monitoring frequencies for sewage sludge parameters are based on the reported sludge weight generated in a calendar year (use the most recent calendar year data when the NPDES permit is up for renewal).

"Sewage sludge fee weight" means the weight of sewage sludge, in dry U.S. tons, excluding admixtures such as liming materials or bulking agents. Annual sewage sludge fees, as per section 3745.11(Y) of the Ohio Revised Code, are based on the reported sludge fee weight for the most recent calendar year.

2. GENERAL EFFLUENT LIMITATIONS

The effluent shall, at all times, be free of substances:

A. In amounts that will settle to form putrescent, or otherwise objectionable, sludge deposits; or that will adversely affect aquatic life or water fowl;

B. Of an oily, greasy, or surface-active nature, and of other floating debris, in amounts that will form noticeable accumulations of scum, foam or sheen;

C. In amounts that will alter the natural color or odor of the receiving water to such degree as to create a nuisance;

D. In amounts that either singly or in combination with other substances are toxic to human, animal, or aquatic life;

E. In amounts that are conducive to the growth of aquatic weeds or algae to the extent that such growths become inimical to more desirable forms of aquatic life, or create conditions that are unsightly, or constitute a nuisance in any other fashion;

F. In amounts that will impair designated instream or downstream water uses.

3. FACILITY OPERATION AND QUALITY CONTROL

All wastewater treatment works shall be operated in a manner consistent with the following:

A. At all times, the permittee shall maintain in good working order and operate as efficiently as possible all treatment or control facilities or systems installed or used by the permittee necessary to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with conditions of the permit.

B. The permittee shall effectively monitor the operation and efficiency of treatment and control facilities and the quantity and quality of the treated discharge.

C. Maintenance of wastewater treatment works that results in degradation of effluent quality shall be scheduled during non-critical water quality periods and shall be carried out in a manner approved by Ohio EPA as specified in the Paragraph in the PART III entitled, "UNAUTHORIZED DISCHARGES".

4. REPORTING

A. Monitoring data required by this permit may be submitted in hardcopy format on the Ohio EPA 4500 report form pre-printed by Ohio EPA or an approved facsimile. Ohio EPA 4500 report forms for each individual sampling station are to be received no later than the 15th day of the month following the month-of-interest. The original report form must be signed and mailed to:

Ohio Environmental Protection Agency
Lazarus Government Center
Division of Surface Water
Enforcement Section ES/MOR
P.O. Box 1049
Columbus, Ohio 43216-1049

Monitoring data may also be submitted electronically using Ohio EPA developed SWIMware software. Data must be transmitted to Ohio EPA via electronic mail or the bulletin board system by the 20th day of the month following the month-of-interest. A Surface Water Information Management System (SWIMS) Memorandum of Agreement (MOA) must be signed by the responsible official and submitted to Ohio EPA to receive an authorized Personal Identification Number (PIN) prior to sending data electronically. A hardcopy of the Ohio EPA 4500 form must be generated via SWIMware, signed and maintained onsite for records retention purposes.

B. If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified below, the results of such monitoring shall be included in the calculation and reporting of the values required in the reports specified above.

C. Analyses of pollutants not required by this permit, except as noted in the preceding paragraph, shall not be reported on Ohio EPA report form (4500) but records shall be retained as specified in the paragraph entitled "RECORDS RETENTION".

5. SAMPLING AND ANALYTICAL METHOD

Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored flow. Test procedures for the analysis of pollutants shall conform to regulation 40 CFR 136, "Test Procedures For The Analysis of Pollutants" unless other test procedures have been specified in this permit. The permittee shall periodically calibrate and perform maintenance procedures on all monitoring and analytical instrumentation at intervals to insure accuracy of measurements.

6. RECORDING OF RESULTS

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

A. The exact place and date of sampling; (time of sampling not required on EPA 4500)

B. The person(s) who performed the sampling or measurements;

C. The date the analyses were performed on those samples;

D. The person(s) who performed the analyses;

E. The analytical techniques or methods used; and

F. The results of all analyses and measurements.

7. RECORDS RETENTION

The permittee shall retain all of the following records for the wastewater treatment works for a minimum of three years except those records that pertain to sewage sludge disposal, use, storage, or treatment, which shall be kept for a minimum of five years, including:

A. All sampling and analytical records (including internal sampling data not reported);

B. All original recordings for any continuous monitoring instrumentation;

C. All instrumentation, calibration and maintenance records;

D. All plant operation and maintenance records;

E. All reports required by this permit; and

F. Records of all data used to complete the application for this permit for a period of at least three years, or five years for sewage sludge, from the date of the sample, measurement, report, or application.

These periods will be extended during the course of any unresolved litigation, or when requested by the Regional Administrator or the Ohio EPA. The three year period, or five year period for sewage sludge, for retention of records shall start from the date of sample, measurement, report, or application.

8. AVAILABILITY OF REPORTS

Except for data determined by the Ohio EPA to be entitled to confidential status, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the appropriate district offices of the Ohio EPA. Both the Clean Water Act and Section 6111.05 Ohio Revised Code state that effluent data and receiving water quality data shall not be considered confidential.

9. DUTY TO PROVIDE INFORMATION

The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking, and reissuing, or terminating the permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

10. RIGHT OF ENTRY

The permittee shall allow the Director or an authorized representative upon presentation of credentials and other documents as may be required by law to:

A. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit.

B. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit.

C. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit.

D. Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the Clean Water Act, any substances or parameters at any location.

11. UNAUTHORIZED DISCHARGES

A. Bypassing or diverting of wastewater from the treatment works is prohibited unless:

1. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

2. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of downtime. This condition is not satisfied if adequate back up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

3. The permittee submitted notices as required under paragraph D. of this section,

B. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least ten days before the date of the bypass.

C. The Director may approve an unanticipated bypass after considering its adverse effects, if the Director determines that it has met the three conditions listed in paragraph 11.A. of this section.

D. The permittee shall submit notice of an unanticipated bypass as required in section 12. A.

E. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded if that bypass is for essential maintenance to assure efficient operation.

12. NONCOMPLIANCE NOTIFICATION

A. The permittee shall by telephone report any of the following within twenty-four (24) hours of discovery at (toll free) 1-800-282-9378:

1. Any noncompliance which may endanger health or the environment;

2. Any unanticipated bypass which exceeds any effluent limitation in the permit; or

3. Any upset which exceeds any effluent limitation in the permit.

4. Any violation of a maximum daily discharge limitation for any of the pollutants listed by the Director in the permit.

B. For the telephone reports required by Part 12.A., the following information must be included:

1. The times at which the discharge occurred, and was discovered;

2. The approximate amount and the characteristics of the discharge;

3. The stream(s) affected by the discharge;

4. The circumstances which created the discharge;

5. The names and telephone numbers of the persons who have knowledge of these circumstances;

6. What remedial steps are being taken; and

7. The names and telephone numbers of the persons responsible for such remedial steps.

C. These telephone reports shall be confirmed in writing within five days of the discovery of the discharge and/or noncompliance and submitted to the appropriate Ohio EPA district office. The report shall include the following:

1. The limitation(s) which has been exceeded;

2. The extent of the exceedance(s);

3. The cause of the exceedance(s);

4. The period of the exceedance(s) including exact dates and times;

5. If uncorrected, the anticipated time the exceedance(s) is expected to continue, and

6. Steps being taken to reduce, eliminate, and/or prevent occurrence of the exceedance(s).

D. Compliance Schedule Events:

If the permittee is unable to meet any date for achieving an event, as specified in the schedule of compliance, the permittee shall submit a written report to the appropriate district office of the Ohio EPA within 14 days of becoming aware of such situation. The report shall include the following:

1. The compliance event which has been or will be violated;

2. The cause of the violation;

3. The remedial action being taken;

4. The probable date by which compliance will occur; and

5. The probability of complying with subsequent and final events as scheduled.

E. The permittee shall report all instances of noncompliance not reported under paragraphs A, B, or C of this section, at the time monitoring reports are submitted. The reports shall contain the information listed in paragraphs B and C of this section.

F. Where the permittee becomes aware that it failed to submit any relevant application or submitted incorrect information in a permit application or in any report to the director, it shall promptly submit such facts or information.

13. RESERVED

14. DUTY TO MITIGATE

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

15. AUTHORIZED DISCHARGES

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than, or at a level in excess of, that authorized by this permit shall constitute a violation of the terms and conditions of this permit. Such violations may result in the imposition of civil and/or criminal penalties as provided for in Section 309 of the Act and Ohio Revised Code Sections 6111.09 and 6111.99.

16. DISCHARGE CHANGES

The following changes must be reported to the appropriate Ohio EPA district office as soon as practicable:

A. For all treatment works, any significant change in character of the discharge which the permittee knows or has reason to believe has occurred or will occur which would constitute cause for modification or revocation and reissuance. The permittee shall give advance notice to the Director of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements. Notification of permit changes or anticipated noncompliance does not stay any permit condition.

B. For publicly owned treatment works:

1. Any proposed plant modification, addition, and/or expansion that will change the capacity or efficiency of the plant;

2. The addition of any new significant industrial discharge; and

3. Changes in the quantity or quality of the wastes from existing tributary industrial discharges which will result in significant new or increased discharges of pollutants.

C. For non-publicly owned treatment works, any proposed facility expansions, production increases, or process modifications, which will result in new, different, or increased discharges of pollutants.

Following this notice, modifications to the permit may be made to reflect any necessary changes in permit conditions, including any necessary effluent limitations for any pollutants not identified and limited herein. A determination will also be made as to whether a National Environmental Policy Act (NEPA) review will be required. Sections 6111.44 and 6111.45, Ohio Revised Code, require that plans for treatment works or improvements to such works be approved by the Director of the Ohio EPA prior to initiation of construction.

D. In addition to the reporting requirements under 40 CFR 122.41(l) and per 40 CFR 122.42(a), all existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis of any toxic pollutant which is not limited in the permit. If that discharge will exceed the highest of the "notification levels" specified in 40 CFR Sections 122.42(a)(1)(i) through 122.42(a)(1)(iv).

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the "notification levels" specified in 122.42(a)(2)(i) through 122.42(a)(2)(iv).

17. TOXIC POLLUTANTS

The permittee shall comply with effluent standards or prohibitions established under Section 307 (a) of the Clean Water Act for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement. Following establishment of such standards or prohibitions, the Director shall modify this permit and so notify the permittee.

18. PERMIT MODIFICATION OR REVOCATION

A. After notice and opportunity for a hearing, this permit may be modified or revoked, by the Ohio EPA, in whole or in part during its term for cause including, but not limited to, the following:

1. Violation of any terms or conditions of this permit;

2. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

3. Change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge.

B. Pursuant to rule 3745-33-04, Ohio Administrative Code, the permittee may at any time apply to the Ohio EPA for modification of any part of this permit. The filing of a request by the permittee for a permit modification or revocation does not stay any permit condition. The application for modification should be received by the appropriate Ohio EPA district office at least ninety days before the date on which it is desired that the modification become effective. The application shall be made only on forms approved by the Ohio EPA.

19. TRANSFER OF OWNERSHIP OR CONTROL

This permit may be transferred or assigned and a new owner or successor can be authorized to discharge from this facility, provided the following requirements are met:

A. The permittee shall notify the succeeding owner or successor of the existence of this permit by a letter, a copy of which shall be forwarded to the appropriate Ohio EPA district office. The copy of that letter will serve as the permittee's notice to the Director of the proposed transfer. The copy of that letter shall be received by the appropriate Ohio EPA district office sixty (60) days prior to the proposed date of transfer;

B. A written agreement containing a specific date for transfer of permit responsibility and coverage between the current and new permittee (including acknowledgement that the existing permittee is liable for violations up to that date, and that the new permittee is liable for violations from that date on) shall be submitted to the appropriate Ohio EPA district office within sixty days after receipt by the district office of the copy of the letter from the permittee to the succeeding owner;

At anytime during the sixty (60) day period between notification of the proposed transfer and the effective date of the transfer, the Director may prevent the transfer if he concludes that such transfer will jeopardize compliance with the terms and conditions of the permit. If the Director does not prevent transfer, he will modify the permit to reflect the new owner.

20. OIL AND HAZARDOUS SUBSTANCE LIABILITY

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Clean Water Act.

21. SOLIDS DISPOSAL

Collected grit and screenings, and other solids other than sewage sludge, shall be disposed of in such a manner as to prevent entry of those wastes into waters of the state, and in accordance with all applicable laws and rules.

22. CONSTRUCTION AFFECTING NAVIGABLE WATERS

This permit does not authorize or approve the construction of any onshore or offshore physical structures or facilities or the undertaking of any work in any navigable waters.

23. CIVIL AND CRIMINAL LIABILITY

Except as exempted in the permit conditions on UNAUTHORIZED DISCHARGES or UPSETS, nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance.

24. STATE LAWS AND REGULATIONS

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Clean Water Act.

25. PROPERTY RIGHTS

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

26. UPSET

The provisions of 40 CFR Section 122.41(n), relating to "Upset," are specifically incorporated herein by reference in their entirety. For definition of "upset," see Part III, Paragraph 1, DEFINITIONS.

27. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

28. SIGNATORY REQUIREMENTS

All applications submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR 122.22.

All reports submitted to the Director shall be signed and certified in accordance with the requirements of 40 CFR Section 122.22.

29. OTHER INFORMATION

A. Where the permittee becomes aware that it failed to submit any relevant facts in a permit application or submitted incorrect information in a permit application or in any report to the Director, it shall promptly submit such facts or information.

B. ORC 6111.99 provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than $25,000 per violation.

C. ORC 6111.99 states that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $25,000 per violation.

D. ORC 6111.99 provides that any person who violates Sections 6111.04, 6111.042, 6111.05, or division (A) of Section 6111.07 of the Revised Code shall be fined not more than $25,000 or imprisoned not more than one year, or both.

30. NEED TO HALT OR REDUCE ACTIVITY

40 CFR 122.41(c) states that it shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with conditions of this permit.

31. APPLICABLE FEDERAL RULES

All references to 40 CFR in this permit mean the version of 40 CFR which is effective as of the effective date of this permit.

32. AVAILABILITY OF PUBLIC SEWERS

Not withstanding the issuance or non-issuance of an NPDES permit to a semi-public disposal system, whenever the sewage system of a publicly owned treatment works becomes available and accessible, the permittee operating any semi-public disposal system shall abandon the semi-public disposal system and connect it into the publicly owned treatment works.

Part IV. STORM WATER POLLUTION PREVENTION PLANS

A storm water pollution prevention plan (plan) shall be developed to address each outfall that discharges to waters of the state that contains storm water associated with industrial activity. Storm water pollution prevention plans shall be prepared in accordance with good engineering practices. The plan shall identify potential sources of pollution which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. In addition, the plan shall describe and ensure the implementation of practices which are to be used to reduce the pollutants in storm water discharges associated with industrial activity at the facility and to assure compliance with the terms and conditions of this permit. Facilities must implement the provisions of the storm water pollution prevention plan required under this part as a condition of this permit.

A. Deadlines for Plan Preparation and Compliance.

1. The plan for a storm water discharge associated with industrial activity:

   a. shall be prepared within six months of the effective date of this permit (and updated as appropriate);
   b. shall provide for implementation and compliance with the terms of the plan within twelve months of the effective date of this permit.

2. Upon a showing of good cause, the Director may establish a later date for preparing and compliance with a plan for a storm water discharge associated with industrial activity.

B. Signature and Plan Review.

1. The plan shall be signed in accordance with Part VI, and be retained on-site at the facility which generates the storm water discharge.

2. The permittee shall make plans available upon request to the Ohio EPA Director, or authorized representative, or Regional Administrator of U.S. EPA, or in the case of a storm water discharge associated with industrial activity which discharges through a municipal separate storm sewer system, to the operator of the municipal system.

3. The Director may notify the permittee at any time that the plan does not meet one or more of the minimum requirements of this Part. Within 30 days of such notification from the Director, the permittee shall make the required changes to the plan and shall submit to the Director a written certification that the requested changes have been made.

4. All storm water pollution prevention plans required under this permit are considered reports that shall be available to the public under Section 308(b) of the Act. The permittee may claim any portion of a storm water pollution plan as confidential in accordance with 40 CFR Part 2 and does not have to release any portion of the plan describing facility security measures (such as provided for in Part IV.D.7.b.(8) of this permit). An interested party wishing a copy of a discharger's SWP3 will have to contact the Ohio EPA to obtain a copy.

C. Keeping Plans Current.

The permittee shall amend the plan whenever there is a change in design, construction, operation, or maintenance, that has a significant effect on the potential for the discharge of pollutants to the waters of the State or if the storm water pollution prevention plan proves to be ineffective in eliminating or significantly minimizing pollutants from sources identified under Part IV.D.2 of this permit, or otherwise achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Amendments to the plan may be reviewed by Ohio EPA in the same manner as Part IV.B above.

D. Contents of Plan. The plan shall include, at a minimum, the following items:

1. Pollution Prevention Team - Each plan shall identify a specific individual or individuals within the facility organization as members of a storm water Pollution Prevention Team that are responsible for developing the storm water pollution prevention plan and assisting the facility or plant manager in its implementation, maintenance, and revision. The plan shall clearly identify the responsibilities of each team member. The activities and responsibilities of the team shall address all aspects of the facility's storm water pollution prevention plan.

2. Description of Potential Pollutant Sources. Each plan shall provide a description of potential sources which may reasonably be expected to add significant amounts of pollutants to storm water discharges or which may result in the discharge of pollutants during dry weather from separate storm sewers draining the facility. Each plan shall identify all activities and significant materials which may potentially be significant pollutant sources. Each plan shall include, at a minimum:

Part IV. STORM WATER POLLUTION PREVENTION PLANS (continued)

D. (continued)

a. Drainage.

(1) A site map indicating an outline of the drainage area of each storm water outfall, each existing structural control measure to reduce pollutants in storm water runoff, surface water bodies, locations where significant materials are exposed to precipitation, locations where major spills or leaks identified under Part IV.D.2.c of this permit have occurred, and the locations of the following activities where such activities are exposed to precipitation: fueling stations, vehicle

and equipment maintenance and/or cleaning areas, loading/unloading areas, locations used for the treatment, storage or disposal of wastes, liquid storage tanks, processing areas and storage areas.

(2) For each area of the facility that generates storm water discharges associated with industrial activity with a reasonable potential for containing significant amounts of pollutants, a prediction of the direction of flow, and an estimate of the types of pollutants which are likely to be present in storm water discharges associated with industrial activity. Flows with a significant potential for causing erosion shall be identified.

b. Inventory of Exposed Materials. An inventory of the types of materials handled at the site that potentially may be exposed to precipitation. Such inventory shall include a narrative description of significant materials that have been handled, treated, stored or disposed in a manner to allow exposure to storm water between the time of three years prior to the date of the issuance of this permit and the present; method and location of on-site storage or disposal; materials management practices employed to minimize contact of materials with storm water runoff between the time of three years prior to the date of the issuance of this permit and the present; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of any treatment the storm water receives.

c. Spills and Leaks. A list of significant spills and significant leaks of toxic or hazardous pollutants that occurred at the facility after the date of three years prior to the effective date of this permit.

d. Sampling Data. A summary of existing discharge sampling data describing pollutants in storm water discharges from the facility.

e. Risk Identification and Summary of Potential Pollutant Sources. A narrative description of the potential pollutant sources at the following areas: loading and unloading operations; outdoor storage activities; outdoor manufacturing or processing activities; significant dust or particulate generating processes; and on-site waste disposal practices. The description shall specifically list any significant potential source of pollutants at the site and for each potential source, any pollutant or pollutant parameter (e.g. biochemical oxygen demand, etc.) of concerns shall be identified.

3. Measures and Controls. Each facility covered by this permit shall develop a description of storm water management controls appropriate for the facility, and implement such controls. The appropriateness and priorities of controls in a plan shall reflect identified potential sources of pollutants at the facility. The description of storm water management controls shall address the following minimum components, including a schedule for implementing such controls:

a. Good Housekeeping - Good housekeeping requires the maintenance of a clean, orderly facility.

b. Preventive Maintenance - A preventive maintenance program shall involve inspection and maintenance of storm water management devices (e.g. cleaning oil/water separators, catch basins) as well as inspecting and testing facility equipment and systems to uncover conditions that could cause breakdowns or failures resulting in discharges of pollutants to surface waters, and ensuring appropriate maintenance of such equipment and systems.

c. Spill Prevention and Response Procedures - Areas where potential spills can occur, and their accompanying drainage points shall be identified clearly in the storm water pollution prevention plan. Where appropriate, specifying material handling procedures, storage requirements, and use of equipment such as diversion valves in the plan should be considered. Procedures for cleaning up spills shall be identified in the plan and made available to the appropriate personnel. The necessary equipment to implement a clean up should be available to personnel.

Part IV. STORM WATER POLLUTION PREVENTION PLANS (continued)

D. (continued)

d. Inspections - In addition to or as part of the comprehensive site evaluation required under Part IV.4. of this permit, qualified facility personnel shall be identified to inspect designated equipment and areas of the facility at appropriate intervals specified in the plan. A set of tracking or follow-up procedures shall be used to ensure that appropriate actions are taken in response to the inspections. Records of inspections shall be maintained.

e. Employee Training - Employee training programs shall inform personnel at all levels of responsibility of the components and goals of the storm water pollution prevention plan. Training should address topics such as spill response, good housekeeping and material management practices. The plan shall identify periodic dates for such training.

f. Recordkeeping and Internal Reporting Procedures - A description of incidents such as spills, or other discharges, along with other information describing the quality and quantity of storm water discharges shall be included in the plan required under this part. Inspections and maintenance activities shall be documented and records of such activities shall be incorporated into the plan.

g. Non-Storm Water Discharges

(1) The plan shall include a certification that the discharge has been tested or evaluated for the presence of non-storm water discharges. The certification shall include the identification of potential significant sources of non-storm water at the site, a description of the results of any test and/or evaluation for the presence of non-storm water discharges, the evaluation criteria or testing method used, the date of any testing and/or evaluation, and the on-site drainage points that were directly observed during the test. Such certification may not be feasible if the facility operating the storm water discharge associated with industrial activity does not have access to an outfall, manhole, or other point of access to the ultimate conduit which receives the discharge. In such cases, the source identification section of the storm water pollution plan shall indicate why the certification required by this part was not feasible, along with the identification of potential significant sources of non-storm water at the site. A discharger that is unable to provide the certification required by this paragraph must notify in accordance with Part IV.A of this permit.

(2) Except for flows from fire fighting activities, sources of non-storm water listed in Part VI of this permit that are combined with storm water discharges associated with industrial activity must be identified in the plan. The plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-storm water component(s) of the discharge.

h. Sediment and Erosion Control - The plan shall identify areas which, due to topography, activities, or other factors, have a high potential for significant soil erosion, and identify measures to limit erosion.

i. Management of Runoff - The plan shall contain a narrative consideration of the appropriateness of traditional storm water management practices (practices other than those which control the source of pollutants) used to divert, infiltrate, reuse, or otherwise manage storm water runoff in a manner that reduces pollutants in storm water discharges from the site. The plan shall provide that measures determined to be reasonable and appropriate shall be implemented and maintained. The potential of various sources at the facility to contribute pollutants to storm water discharges associated with industrial activity (see Parts IV.D.2.(b), (d) and (e) of this permit) shall be considered when determining reasonable and appropriate measures. Appropriate measures may include: including vegetative swales and practices, reuse of collected storm water (such as for a process or as an irrigation source), inlet controls (such as oil/water separators), snow management activities, infiltration devices, and wet detention/retention devices.

4. Comprehensive Site Compliance Evaluation. Qualified personnel shall conduct site compliance evaluations at appropriate intervals specified in the plan, but, except as provided in paragraph IV.D.4.d, in no case less than once a year. Such evaluations shall provide:

a. Material handling areas and other potential sources of pollution identified in the plan in accordance with paragraph IV.D.2 of this permit shall be visually inspected for evidence of, or the potential for, pollutants entering the drainage system. Structural storm water management measures, sediment and control measures, and other structural pollution prevention measures identified in the plan shall be observed to ensure that they are operating correctly. A visual inspection of equipment needed to implement the plan, such as spill response equipment, shall be made.

D. (continued)

b. Based on the results of the inspection, the description of potential pollutant sources identified in the plan in accordance with paragraph IV.D.2 of this permit and pollution prevention measures and controls identified in the plan in accordance with paragraph IV.D.3 of this permit shall be revised as appropriate within two weeks of such inspection and shall provide for implementation of any changes to the plan in a timely manner, but in no case more than twelve weeks after the inspection.

c. A report summarizing the scope of the inspection, personnel making the inspection, the date(s) of the inspection, major observations relating to the implementation of the storm water pollution prevention plan, and actions taken in accordance with paragraph IV.D.4.b of the permit shall be made and retained as part of the storm water pollution prevention plan for at least three years. The report shall be signed in accordance with Part VI.B of this permit.

5. Additional requirements for storm water discharges associated with industrial activity through municipal separate storm sewer systems serving a population of 100,000 or more.

In addition to the applicable requirements of this permit, facilities covered by this permit must comply with applicable requirements in municipal storm water management programs developed under NPDES permits issued for the discharge of the municipal separate storm sewer system that receives the facility's discharge, provided the discharger has been notified of such conditions.

6. Consistency with other plans. Storm water pollution prevention plans may reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans developed for the facility under section 311 of the Act or Best Management Practices (BMP) Programs otherwise required by a NPDES permit for the facility as long as such requirement is incorporated into the storm water pollution prevention plan.

7. Additional requirements for storm water discharges associated with industrial activity from facilities subject to SARA Title III, Section 313 requirements are not applicable to Section 313 water priority chemicals in gaseous or non-soluble liquid or solid [at atmospheric pressure and temperature] forms. In addition to the requirements of Parts IV.D.1 through 4 of this permit and other applicable conditions of this permit, storm water pollution prevention plans for facilities subject to reporting requirements under SARA Title III, Section 313 for chemicals which are classified as "Section 313 water priority chemicals" in accordance with the definition in Part VI of this permit, shall describe and ensure the implementation of practices which are necessary to provide for conformance with the following guidelines:

a. In areas where Section 313 water priority chemicals are stored, processed or otherwise handled, appropriate containment, drainage control and/or diversionary structures shall be provided. At a minimum, one of the following preventive systems or its equivalent shall be used:

(1) Curbing, culverting, gutters, sewers or other forms of drainage control to prevent or minimize the potential for storm water run-on to come into contact with significant sources of pollutants; or
(2) Roofs, covers or other forms of appropriate protection to prevent storage piles from exposure to storm water, and wind blowing.

b. In addition to the minimum standards listed under Part IV.D.7.a of this permit, the storm water pollution prevention plan shall include a complete discussion of measures taken to conform with the following applicable guidelines, other effective storm water pollution prevention procedures, and applicable State rules, regulations and guidelines:

(1) Liquid storage areas where storm water comes into contact with any equipment, tank, container, or other vessel used for Section 313 water priority chemicals.

(a) No tank or container shall be used for the storage of a Section 313 water priority chemical unless its material and construction are compatible with the material stored and conditions of storage such as pressure and temperature, etc.

(b) Liquid storage areas for Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 chemicals. Appropriate measures to minimize discharges of Section 313 chemicals may include secondary containment provided for at least the entire contents of the largest single tank plus sufficient freeboard to allow for precipitation, a strong spill contingency and integrity testing plan, and/or other equivalent measures.

Part IV. STORM WATER POLLUTION PREVENTION PLANS (continued)

D. (continued)

(2) Material storage areas for Section 313 water priority chemicals other than liquids. Material storage areas for Section 313 water priority chemicals other than liquids which are subject to runoff, leaching, or wind blowing shall incorporate drainage or other control features which will minimize the discharge of Section 313 water priority chemicals by reducing storm water contact with Section 313 water priority chemicals.

(3) Truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals. Truck and rail car loading and unloading areas for liquid Section 313 water priority chemicals shall be operated to minimize discharges of Section 313 water priority chemicals. Appropriate measures to minimize discharges of Section 313 chemicals may include: the placement and maintenance of drip pans where spillage may occur (such as hose connections, hose reels and filler nozzles) for use when making and breaking hose connections; a strong spill contingency and integrity testing plan; and/or other equivalent measures.

(4) In facility areas where Section 313 water priority chemicals are transferred, processed or otherwise handled. Processing equipment and materials handling equipment shall be operated so as to minimize discharges of Section 313 water priority chemicals. Materials used in piping and equipment shall be compatible with the substances handled. Drainage from process and materials handling areas shall be designed as described in paragraphs (a), (b) and (c) of this section. Additional protection such as covers or guards to prevent wind blowing, spraying or releases from pressure relief vents from causing a discharge of Section 313 water priority chemicals to the drainage system, and overhangs or door skirts to enclose trailer ends at truck loading/unloading docks shall be provided as appropriate. Visual inspections or leak tests shall be provided for overhead piping conveying Section 313 water priority chemicals without secondary containment.

(5) Discharges from areas covered by paragraphs (1), (2), (3) or (4).

(a) Drainage from areas covered by paragraphs (1), (2), (3) or (4) of this part should be restrained by valves or other positive means to prevent the discharge of a spill or other excessive leakage of Section 313 water priority chemicals. Where containment units are employed, such units may be emptied by pumps or ejectors; however, these shall be manually activated.

(b) Flapper-type drain valves shall not be used to drain containment areas. Valves used for the drainage of containment areas should, as far as is practical, be of manual, open-and-closed design.

(c) If facility drainage is not engineered as above, the final discharge of all in-facility storm sewers shall be equipped to be equivalent with a diversion system that could, in the event of an uncontrolled spill of Section 313 water priority chemicals, return the spilled material to the facility.

(d) Records shall be kept of the frequency and estimated volume (in gallons) of discharges from containment areas.

(6) Facility site runoff other than from areas covered by (1), (2), (3) or (4). Other areas of the facility (those not addressed in paragraphs (1), (2), (3) or (4)), from which runoff which may contain Section 313 water priority chemicals or spills of Section 313 water priority chemicals could cause a discharge shall incorporate the necessary drainage or other control features to prevent discharge of spilled or improperly disposed material and ensure the mitigation of pollutants in runoff or leachate.

D. (continued)

(7) Preventive maintenance and housekeeping. All areas of the facility shall be inspected at specific intervals for leaks or conditions that could lead to discharges of Section 313 water priority chemicals or direct contact of storm water with raw materials, intermediate materials, waste materials or products. In particular, facility piping, pumps, storage tanks and bins, pressure vessels, process and material handling equipment, and material bulk storage area shall be examined for any conditions or failures which could cause a discharge. Inspection shall include examination for leaks, wind blowing, corrosion, support or foundation failure, or other forms of deterioration or non-containment. Inspection intervals shall be specified in the plan and shall be based on design and operational experience. Different areas may require different inspection intervals. Where a leak or other condition is discovered which may result in significant releases of Section 313 water priority chemicals to the drainage system, corrective action shall be immediately taken or the unit or process shut down until corrective action can be taken. When a leak or non-containment of a Section 313 water priority chemical has occurred, contaminated soil, debris, or other material must be promptly removed and disposed in accordance with Federal, State, and local requirements and as described in the plan.

(8) Facility security. Facilities shall have the necessary security systems to prevent accidental or intentional entry which could cause a discharge. Security systems described in the plan shall address fencing, lighting, vehicular traffic control, and securing of equipment and buildings.

(9) Training. Facility employees and contractor personnel using the facility shall be trained in and informed of preventive measures at the facility. Employee training shall be conducted at intervals specified in the plan, but not less than once per year, in matters of pollution control laws and regulations, and in the storm water pollution prevention plan and the particular features of the facility and its operation which are designed to minimize discharges of Section 313 water priority chemicals. The plan shall designate a person who is accountable for spill prevention at the facility and who will set up the necessary spill emergency procedures and reporting requirements so that spills and emergency releases of Section 313 water priority chemicals can be isolated and contained before a discharge of a Section 313 water priority chemical can occur. Contractor or temporary personnel shall be informed of facility operation and design features in order to prevent discharges or spills from occurring.

8. Additional Requirements for Salt Storage. Storage piles of salt used for deicing or other commercial or industrial purposes and which generate a storm water discharge associated with industrial activity which is discharged to surface waters of the State shall be enclosed or covered to prevent exposure to precipitation, except for exposure resulting from adding or removing materials from the pile within two years of the effective date of this permit. Piles do not need to be enclosed or covered where storm water from the pile is not discharged to surface waters of the State.

Part V. NUMERIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

A. Coal Pile Runoff Effluent Limitations. Any discharge of coal pile runoff is authorized to discharge as of the effective date of this permit and shall comply with the following effluent limitations as expeditiously as practicable, but no later than three years after the effective date of this permit. Coal pile runoff shall not be diluted with storm water or other flow in order to meet these limitations.

Units	Parameter	Daily Minimum	Daily Maximum
mg/l	Total Suspended Solids	-	50
S.U.	pH	6.0	9.0

Any untreated overflow from facilities designed, constructed and operated to treat the volume of coal pile runoff which is associated with 10 year, 24-hour rainfall event shall not be subject to the limitation for Total Suspended Solids. It is the permittee's responsibility to demonstrate to the Ohio EPA that a 10-year, 24-hour rainfall event has occurred and the volume of the overflow to which the Total Suspended Solids effluent limitation does not apply.

B. Monitoring Requirements. Only the activities described in the following matrix and associated definitions are required to conduct monitoring. The monitoring required in the following matrix shall be conducted annually. Monitoring shall be initiated within twelve months of the effective date of this permit and henceforth on an annual basis, weather conditions permitting. A permittee may, in lieu of annual monitoring, certify that industrial materials are not exposed to storm water; such certification shall be submitted to the Ohio EPA upon request of the Director.

1. MONITORING REQUIREMENTS MATRIX

Reporting Units	Parameter	INDUSTRIAL ACTIVITY CATEGORIES											
		a	b[1,2]	c	d	e	f	g	h	i[2]	j	k	l[1]
mg/l	Oil and Grease		x	x	x	x	x	x	x	x	x	x	x
mg/l	5-day Biochemical Oxygen Demand		x							x		x	
mg/l	Chemical Oxygen Demand		x	x	x	x	x		x	x			x
mg/l	Total Suspended Solids		x		x	x	x	x	x	x	x	x	x
mg/l	Total Kjeldahl Nitrogen			x								x	
mg/l	Phosphorus											x	
S.U.	pH		x	x	x	x	x	x	x	x	x	x	x
TU$_a$	Acute Toxicity												
Hours	Duration of Storm Event		x	x	x	x	x	x	x	x	x	x	x
Inches	Precipitation		x	x	x	x	x	x	x	x	x	x	x
Hours	Duration Between Storm Events[3]		x	x	x	x	x	x	x	x	x	x	x
Gallons	Volume (est)		x	x	x	x	x	x	x	x	x	x	x
mg/l	Nitrate-Nitrogen												
mg/l	Nitrite-Nitrogen												
ug/l	Lead, Total		x	x					x				
ug/l	Cadmium, Total		x[3]	x									
ug/l	Copper, Total		x[3]				x	x	x		x		
ug/l	Arsenic, Total		x[3]	x			x						
ug/l	Chromium, Total		x[3]	x			x						
mg/l	Ammonia												
ug/l	Magnesium, Total			x									

Part V. NUMERIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

B. (continued)

Reporting Units	Parameter	INDUSTRIAL ACTIVITY CATEGORIES											
		a	b[1,3]	c	d	e	f	g	h	i[3]	j	k	l[3]
ug/l	Magnesium, Dissolved			X									
mg/l	Total Dissolved Solids			X									
mg/l	Total Organic Carbon			X									
ug/l	Barium, Total			X									
mg/l	Cyanide, Total			X									
ug/l	Mercury, Total			X									
ug/l	Selenium, Total			X									
ug/l	Silver, Total			X									
ug/l	Pentachlorophenol				X								
ug/l	Nickel, Total							X			X		
ug/l	Zinc, Total							X			X		
#/100ml	Fecal Coliform											X	

* Time between the storm event when sampling is being conducted and the last storm event producing rainfall greater than 0.1 inches.

(1) and any pollutant limited in an effluent guideline or categorical pretreatment standard which the facility is subject.

(2) and the primary ingredient used in the deicing materials used at the site (e.g., ethylene glycol, urea, etc.).

(3) Facilities that are classified as SIC 33 only because they manufacture pure silicon and/or semiconductor grade silicon are not required to monitor for this parameter.

2. Industrial Activity Categories Definitions

a. Section 313 of SARA Title III Facilities. As of the effective date of this permit, facilities with storm water discharges associated with industrial activity that are subject to requirements to report releases into the environment under Section 313 of SARA Title III for chemicals which are classified as 'Section 313 water priority chemicals' are not (as they may have been in a previous permit) required to monitor storm water that is discharged from the facility unless required by paragraphs V.B.2.b through B.2.l.

b. Primary Metal Industries. Facilities with storm water discharges associated with industrial activity classified as Standard Industrial Classification (SIC) 33 (Primary Metal Industry) are required to monitor such storm water that is discharged from the facility.

c. Land Disposal Units/Incinerators/BIFs. Facilities with storm water discharges associated with industrial activity from any active or inactive landfill, land application sites or open dump without a stabilized final cover that has received any industrial wastes from a facility with a Standard Industrial Classification (SIC) of between 20-39 (manufacturing); and incinerators (including Boilers and Industrial Furnaces (BIFs)) that burn hazardous waste and operate under interim status or a permit under Subtitle C of RCRA, are required to monitor such storm water that is discharged from the facility.

d. Wood Treatment Using Chlorophenolic Formulations. Facilities with storm water discharges associated with industrial activity from areas that are used for wood treatment, wood surface application or storage of treated or surface protected wood at any wood preserving or wood surface facilities are required to monitor such storm water that is discharged from the facility.

e. Wood Treatment Using Creosote Formulations. Facilities with storm water discharges associated with industrial activity from areas that are used for wood treatment, wood surface application or storage of treated or surface protected wood at any wood preserving or wood surface facilities are required to monitor such storm water that is discharged from the facility.

B. (continued)

f. Wood Treatment Using Chromium-Arsenic Formulations. Facilities with storm water discharges associated with industrial activity from areas that are used for wood treatment, wood surface application or storage of treated or surface protected wood at any wood preserving or wood surface facilities are required to monitor such storm water that is discharged from the facility.

g. Coal Pile Runoff. Facilities with storm water discharges associated with industrial activity from coal pile runoff are required to monitor such storm water that is discharged from the facility.

h. Battery Reclaimers. Facilities with storm water discharges associated with industrial activity from areas used for storage of lead acid batteries, reclamation products, or waste products, and areas used for lead acid battery reclamation (including material handling activities) at facilities that reclaim lead acid batteries are required to monitor such storm water that is discharged from the facility.

i. Airports. At airports with over 50,000 flight operations per year, facilities with storm water discharges associated with industrial activity from areas where aircraft or airport deicing operations occur (including runways, taxiways, ramps, and dedicated aircraft deicing stations) are required to monitor such storm water that is discharged from the facility.

j. Coal-fired Steam Electric Facilities. Facilities with storm water discharges associated with industrial activity from coal handling sites at coal fired steam electric power generating facilities (other than discharges in whole or in part from coal piles subject to storm water effluent guidelines at 40 CFR 423 - which are not eligible for coverage under this permit) are required to monitor such storm water that is discharged from the facility.

k. Animal Handling / Meat Packing. Facilities with storm water discharges associated with industrial activity from animal handling areas, manure management (or storage) areas, and production waste management (or storage) areas that are exposed to precipitation at meat packing plants, poultry packing plants, and facilities that manufacture animal and marine fats and oils, are required to monitor such storm water that is discharged from the facility.

l. Additional Facilities. Facilities with storm water discharges associated with industrial activity that:

(1) come in contact with storage piles for solid chemicals used as raw materials that are exposed to precipitation at facilities classified as SIC 30 (Rubber and Miscellaneous Plastics Products) or SIC 28 (Chemicals and Allied Products);

(2) are from those areas at automobile junkyards with any of the following: (A) over 250 auto/truck bodies with drivelines (engine, transmission, axles, and wheels), 250 drivelines, or any combination thereof (in whole or in parts) are exposed to storm water; (B) over 500 auto/truck units (bodies with or without drivelines in whole or in parts) are stored exposed to storm water; or (C) over 100 units per year are dismantled and drainage or storage of automotive fluids occurs in areas exposed to storm water;

(3) come into contact with lime storage piles that are exposed to storm water at lime manufacturing facilities;

(4) are from oil handling sites at oil fired steam electric power generating facilities;

(5) are from cement manufacturing facilities and cement kilns (other than discharges in whole or in part from material storage piles subject to storm water effluent guidelines at 40 CFR 411 - which are not eligible for coverage under this permit);

(6) are from ready-mixed concrete facilities; or

(7) are from ship building and repairing facilities;

are required to monitor such storm water discharged from the facility.

Part V. NUMERIC EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

B. (continued)

3. Sample Type. Take a minimum of one grab sample from the discharge resulting from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (greater than 0.1 inch rainfall) storm event. The grab sample shall be taken during the first thirty minutes of the discharge. If the collection of a grab sample during the first thirty minutes is impracticable, a grab sample can be taken during the first hour of the discharge, and the discharger shall submit with the monitoring report a description of why a grab sample during the first thirty minutes was impracticable.

4. Sampling Waiver. When a discharger is unable to collect samples due to adverse climatic conditions, the discharger must submit in lieu of sampling data a description of why samples could not be collected, including available documentation of the event. Adverse climatic conditions which may prohibit the collection of samples includes weather conditions that create dangerous conditions for personnel (such as local flooding, high winds, hurricane, tornadoes, electrical storms, etc.) or otherwise make the collection of a sample impracticable (drought, extended frozen conditions, etc.).

5. Representative Discharge. When a facility has two or more outfalls that, based on a consideration of features and activities within the area drained by the outfall, the permittee reasonably believes discharge substantially identical effluents, the permittee may test the effluent of one of such outfalls and report that the quantitative data also applies to the substantially identical outfalls. In addition, for each outfall that the permittee believes is representative, an estimate of the size of the drainage area (in square feet) and an estimate of the runoff coefficient of the drainage area (e.g. low (under 40%), medium (40% to 65%) or high (above 65%)) shall be provided.

C. **Toxicity Testing.** Not Required.

D. **Alternative Certification of "Not Present or No Exposure."** You are not subject to the analytical monitoring requirement of this part provided: you make a certification for a given outfall, or on a pollutant-by-pollutant basis in lieu of monitoring required under this part, that material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, industrial machinery or operations, or significant materials from past industrial activity that are located in areas of the facility within the drainage area of the outfall are not presently exposed to storm water and are not expected to be exposed to storm water for the certification period; and your certification is signed in accordance with Attachment VI.G and retained in the SWP3. If you cannot certify for an entire period, you must note the date exposure was eliminated and perform any monitoring required up until that date.

Part VI. OTHER STORM WATER REQUIREMENTS, DEFINITIONS AND AUTHORIZATION

A. Failure to Certify. Any facility that is unable to provide the certification required under paragraph IV.D.3.g.(1) (testing for non-storm water discharges), must notify the Director within 180 days of the effective date of this permit. Such notification shall describe: the procedure of any test conducted for the presence of non-storm water discharges; the results of such test or other relevant observations; potential sources of non-storm water discharges to the storm sewer; and why adequate tests for such storm sewers were not feasible.

B. Signatory Requirements. See Part III.28.

C. Definitions.

"Section 313 water priority chemical" means a chemical or chemical categories which are: 1) are listed at 40 CFR 372.65 pursuant to Section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986, also titled the Emergency Planning and Community Right-to-Know Act of 1986; 2) are present at or above threshold levels at a facility subject to SARA Title III, Section 313 reporting requirements; and 3) that meet at least one of the following criteria: (i) are listed in Appendix D of 40 CFR 122 on either Table II (organic priority pollutants), Table III (certain metals, cyanides, and phenols) or Table V (certain toxic pollutants and hazardous substances); (ii) are listed as a hazardous substance pursuant to section 311(b)(2)(A) of the Act at 40 CFR 116.4; or (iii) are pollutants for which EPA has published acute or chronic water quality criteria.

"Significant materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to Section 313 of Title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

"Significant spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under section 311 of the Clean Water Act (see 40 CFR 110.10 and CFR 117.21) or section 102 of CERCLA (see 40 CFR 302.4).

"Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

"Definition of Storm Water Associated with Industrial Activity" means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program. For the categories of industries identified in subparagraphs (i) through (x) of this subsection, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at 40 CFR 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the categories of industries identified in subparagraph (xi), the term includes only storm water discharges from all areas listed in the previous sentence (except access roads) where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery are exposed to storm water. For the purposes of this paragraph, material handling activities include the: storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are Federally or municipally owned or operated that meet the description of the facilities listed in this paragraph (i)-(xi)) include those facilities designated under 40 CFR 122.26(a)(1)(v). The following categories of facilities are considered to be engaging in "industrial activity" for purposes of this subsection:

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR Subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) of this paragraph);

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285) 29, 311, 32 (except 323), 33, 3441, 373;

Part VI. OTHER STORM WATER REQUIREMENTS, DEFINITIONS AND AUTHORIZATION (continued)

C. (continued)

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations meeting the definition of a reclamation area under 40 CFR 434.11(l)) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator;

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under Subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under Subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but not limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (i)-(vii) or (ix)-(xi) of this subsection are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with 40 CFR 503;

(x) Construction activity - This category of industrial activity is not regulated under this permit.

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 34 (except 3441), 35, 36, 37 (except 373), 38, 39, 4221-25, (and which are not otherwise included within categories (ii)-(x)).

"SWPPP" means storm water pollution prevention plan to be completed as a condition of this permit (see Part IV of this permit).

"Time-weighted composite" means a composite sample consisting of a mixture of equal volume aliquots collected at a constant time interval.

"Waste pile" means any non-containerized accumulation of solid, non-flowing waste that is used for treatment or storage.

"10-year, 24-hour precipitation event" means the maximum 24-hour precipitation event with a probable reoccurrence interval of once in 10 years. This information is available in "Weather Bureau Technical Paper No. 40,", May 1961 and "NOAA Atlas 2," 1973 for the 11 Western States, and may be obtained from the National Climatic Center of the Environmental Data Service, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.

"Bypass" means the intentional diversion of waste streams from any portion of the treatment facility.

"Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

APPENDIX F

2008 Site-Wide Groundwater Monitoring Report

BOW ENVIRONMENTAL SOLUTIONS INC.

February 27, 2009

Mirtha Cápiro
U.S. Environmental Protection Agency
Region 5
77 W. Jackson Blvd. (DE-9J)
Chicago, IL 60604

Re: General Motors Corporation-Former Delphi Harrison Thermal Systems Facility
Moraine, Ohio
Site-Wide Groundwater Monitoring Report for 2008

Dear Ms. Cápiro:

BOW Environmental Solutions, Inc. is pleased to submit the Site-Wide Groundwater Monitoring Report for 2008 on behalf of General Motors Corporation (GM). This report presents the groundwater investigation activities conducted to assess the performance of the current corrective measures completed in 2008 at the following GM facilities located in Moraine, Ohio: former Delphi Harrison Thermal Systems Facility, former GM Powertrain Group, Moraine Engine and GM Truck Group Moraine Assembly Plant.

Please call 937-478-8221, if you have any questions.

Sincerely,

Pamela L. Barnett

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

cc: H. O'Connell, Ohio EPA
V. Orr, Ohio EPA

Enclosure

ARCADIS
Infrastructure, environment, buildings

DRAFT

Site-Wide Groundwater Monitoring Report for 2008

General Motors Corporation Facilities:

Former Delphi Harrison Thermal Systems Moraine Plant
Former General Motors Powertrain Group, Moraine Engine Plant
Former General Motors Truck Group, Moraine Assembly Plant

Moraine, Ohio

February 27, 2009

Imagine the result

ARCADIS

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ARCADIS

Site-Wide Groundwater Monitoring Report for 2008

General Motors Corporation
Moraine, Ohio

1. Introduction

This Site-Wide Groundwater Monitoring Report presents the groundwater monitoring activities completed in 2008 at the following General Motors Corporation (GM) facilities located in Moraine, Ohio (Figure 1): former Delphi Harrison Thermal Systems Moraine Plant (former Delphi Thermal Moraine [leased to Delphi Corporation between January 1999 and September 2003]), former General Motors Powertrain Group, Moraine Engine Plant (former Moraine Engine), and former General Motors Truck Group, Moraine Assembly Plant (former Moraine Assembly). A multi-phased Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) was completed for these facilities and approved by the United States Environmental Protection Agency (U.S. EPA) in June 2000 (ARCADIS Geraghty & Miller, Inc. 2000a and b, ENVIRON 2000a and b). The RFI identified that the primary source area of volatile organic compounds (VOCs) in shallow groundwater at the three facilities is located at the Area of Interest (AOI) 7 - Former Oil House Area, in the northern portion of the former Moraine Engine facility (Figure 2). The Baseline Risk Assessment (BRA) concluded that, under current conditions, there was no unacceptable risk associated with constituents detected in soil/waste at the AOIs and Solid Waste Management Units (SWMUs) investigated in the RFI. However, the BRA also concluded that constituents detected in groundwater at the Former Oil House Area may migrate to the extent that reasonably expected future uses of groundwater might be affected.

The focus of the Interim Measures/Corrective Measures (IM/CM) Report (ARCADIS Geraghty & Miller, Inc. 2001) was a site-wide remedy that addressed the source of the VOCs in groundwater and the downgradient plume based on the conceptual site model at that time. Subsequent to submittal of the IM/CM Report, implementation of the corrective measures proposed in the IM/CM Report has been conducted on an ongoing basis by GM. The corrective measures proposed in the IM/CM Report incorporated the Former Oil House Area corrective measures (in-situ remediation of groundwater in the Oil House Area and downgradient of the Oil House Area, Figure 2); the capture zone corrective measures (hydraulic control with a pump and treat system for the upper aquifer and hydraulic control for the lower aquifer, Figure 2); institutional actions (the site will remain industrial and groundwater use will be restricted to non-potable purposes); and a site-wide groundwater monitoring program.

The conceptual site model previously developed for the Site was revised using the additional data collected during the supplemental investigations since submittal of the IM/CM Report. The revised conceptual site model was presented in the draft Corrective Measures Proposal (CMP) (ARCADIS, Inc. 2008a) and was used to support

the updated risk analysis and corrective measures evaluation. The proposed final site-wide corrective measures for the Moraine Facilities combines source treatment and containment with downgradient hydraulic control of groundwater and appropriate engineering and institutional controls to prevent potentially significant exposures during the implementation of these corrective measures. The specific elements of the proposed final site-wide corrective measures presented in the CMP are:

1). Upper Aquifer Reactive Zone Corrective Measures: operation of in-situ remediation barriers in the upper aquifer downgradient and sidegradient of the Former Oil House Area and downgradient of the Moraine Assembly Process Waste Collection Systems (RZ-1, proposed relocated RZ-2, RZ-3, RZ-4) for treatment.

2). Upper Aquifer Capture Zone Corrective Measures: operation of an upper aquifer recovery well at the downgradient property boundary (TW-2) for hydraulic control.

3). Lower Aquifer Corrective Measures: operation of two lower aquifer recovery wells, one located downgradient of wells GM-68D/GM-75D for lower aquifer source containment and one downgradient of the Site property boundary (DN-13) for hydraulic control.

4). Corrective Measures Groundwater Monitoring: completion of monitoring groundwater quality associated with land-based units, performance monitoring for corrective measures, and the point of compliance wells.

5). Engineering/Institutional Controls: implementation of land and groundwater use restrictions via environmental covenants for the entire facility.

This report addresses several components of the proposed final remedy, including the site-wide groundwater monitoring program and the performance of the ongoing corrective measures (Table 1). In addition, analytical results and water level measurements from the Winter/Spring 2008 supplemental groundwater investigation that were presented in the CMP are incorporated by reference in this report. All groundwater monitoring for the facilities was conducted in accordance with the approved Site-Wide Groundwater Monitoring Plan (ARCADIS G&M, Inc. 2002) and as modified in the Site-Wide Groundwater Monitoring Report for 2007 (ARCADIS, Inc. 2008b).

1.1 Site Description

The GM site has been used for industrial purposes since the property was acquired in the mid-1920's. The former Moraine Engine and former Moraine Assembly facilities occupy approximately 300 acres, while the adjacent former Delphi Thermal Moraine facility occupies approximately 165 acres. The facilities are located in the City of Moraine in Montgomery County in southwestern Ohio. A small portion of the Moraine Assembly facility is located in the City of Kettering. Figure 1 presents the location of each facility, property boundaries, and site features.

Frigidaire (a former division of GM) produced appliances from the late 1920's until 1979. GM announced the shut down of all Frigidaire operations in January 1979. During 1980 and 1981, the majority of the former Frigidaire Plant 2 was converted to the former Moraine Engine facility, and the former Frigidaire Plant 3 and the northeast corner of former Frigidaire Plant 2 were converted to the Moraine Assembly facility. Since 1981, former Moraine Engine operations have included the machining, painting (this operation was discontinued in September 1995), and assembly of diesel truck engines. Former Moraine Engine operations ceased in the fall of 2000. The plant building has undergone decommissioning and demolition, and the majority of this site has been covered with an asphalt parking surface. GM operated a regional haulaway at the location of the former Moraine Engine plant, which is now referred to as the Vehicle Distribution Center. Operations at the regional haulaway ceased in December 2008.

Since 1981, the former Moraine Assembly operations included the manufacture, assembly, and painting of small trucks and mid-size sport utility vehicles. Operations at the former Moraine Assembly ceased in December 2008. The Moraine Assembly building is currently undergoing decommissioning activities.

Former Delphi Thermal Moraine's major operations, which began in 1941, included the machining and assembly of automotive air conditioning compressors, accumulator dehydrators, and miscellaneous air conditioning valves. Delphi Corporation leased the property from GM from January 1999 through October 2003. Operations at the former Delphi Thermal Moraine Building 14 ceased in September 2003 and the building was decommissioned. As of October 1, 2003, management of the property has reverted to GM and GM remains the property owner. Demolition of Building 14 was completed in 2005.

1.2 Groundwater Monitoring Program Objectives

The objectives of groundwater monitoring at the GM Moraine Facilities are as follows:

1. Monitor groundwater quality upgradient and downgradient of the closed North and South Settling Lagoons;

2. Monitor groundwater quality upgradient and downgradient of Landfills L1, L2, and L3;

3. Monitor the effectiveness of and the need for current groundwater capture systems in the upper and lower aquifers at the southern, downgradient property boundary;

4. Monitor the effectiveness of corrective measures activities in In-Situ Reactive Zones (RZ) RZ-1, RZ-3, and RZ-4, to address VOCs related to the Former Oil House Area; and

5. Monitor an appropriate list of wells once corrective measures objectives have been met, as defined in the CMP (ARCADIS, Inc. 2008a), to verify that these objectives continue to be met without the active measures.

1.3 Baseline Groundwater Monitoring Program Sampling Event

To provide a basis for evaluating the performance of the Corrective Measures, a comprehensive site-wide groundwater sampling event for VOCs was conducted in September 1999 to establish a baseline data set. The next site-wide groundwater sampling event was completed between September and October 2000. During the 2000 sampling event, at the request of U.S. EPA, groundwater samples were analyzed for Appendix IX VOCs by Method 8260 and cis-1,2-dichloroethene (cis-1,2-DCE), semi-volatile organic compounds (SVOCs) and metals to verify that current groundwater conditions were consistent with previous site conditions. The results of this one-time sampling event confirmed that VOCs were the only constituents of potential concern in groundwater at the site. SVOCs were not detected and metals were not detected above levels of concern during the 2000 sampling event. The analytical results from the 1999 baseline event and the 2000 site-wide event are presented in the Draft Interim Measures/Corrective Measures Report (ARCADIS Geraghty & Miller, Inc. 2001).

2. Groundwater Monitoring Summary

In accordance with the Site-Wide Groundwater Monitoring Plan (ARCADIS G&M, Inc. 2002), annual groundwater sampling was conducted in 2001 through 2007. The analytical results from these sampling events are presented in the Site-Wide Groundwater Monitoring Report for 2007 (ARCADIS, Inc. 2008b). The 1999 baseline through 2007 groundwater quality data for the site-specific VOC parameter list are reproduced in tables in Appendix A of this report to support the evaluation of the on-going remedial activities.

The latest groundwater monitoring was conducted in fall 2008 (September, October, and November). Additional events were conducted in 2008 in support of the CMP development. These events occurred in February, March and April 2008 and included newly installed wells, water level measurements, upper aquifer potentiometric surface mapping, lower aquifer potentiometric surface mapping, and groundwater gradient calculations. The data from these events are presented in the draft CMP (ARCADIS, Inc. 2008a).

All data generated as part of the monitoring events in 2008 are used to evaluate groundwater quality upgradient and downgradient of the closed lagoons, performance of the IRZs and the performance of the capture zones (as discussed in Sections 3.2 and 4.0). A summary of the activities and methodologies that were completed in September through November are presented in Section 2.1 and the groundwater monitoring results are presented in Section 2.2.

2.1 Groundwater Monitoring Activities/Methodologies

In order to meet the objectives of the groundwater monitoring program, the scope of work presented in Section 3.0 of the Site-Wide Groundwater Monitoring Plan and Section 5.0 of the Site-Wide Groundwater Monitoring Report for 2007, was implemented during 2008. The following sections summarize the collection of the annual groundwater elevation measurements, the monthly groundwater monitoring, and the annual site-wide groundwater monitoring.

2.1.1 Groundwater Elevation Monitoring

Groundwater levels were measured on November 17 and 18, 2008. The measured wells included all on-site and off-site monitoring wells at the three facilities as shown on Figure 3 (upper aquifer wells) and Figure 4 (lower aquifer wells). Groundwater levels

were also measured in Moraine Assembly production wells (where accessible), Moraine Assembly fire wells, two lower aquifer wells (MT596M and MT576M) located east of the Moraine Assembly and the former Moraine Engine plants, four City of Moraine upper aquifer wells located west of the Great Miami River, and four stream gauges along the Great Miami River and two stream gauges along Holes Creek. One lower aquifer well (MT-69) located south of the Dryden Road North Wellfield that is normally measured was not due to well damage. Based on field observations including sounded total depths, the well screen for MT-69 has collapsed and can no longer provide an accurate groundwater level. This Montgomery County well was installed with a red brass screen, which is susceptible to deterioration. Groundwater levels were measured in accordance with procedures defined in the RFI Sampling and Analysis Plan, Standard Operating Procedure (SOP) #4 (Geraghty & Miller, Inc. 1997a) and recorded on a field data sheet.

2.1.2 Monthly Groundwater Recovery System Monitoring

The National Pollution Discharge Elimination System (NPDES) Permit issued to GM for the groundwater recovery and treatment system requires periodic monitoring and reporting of water quality in the effluent stream and pumping flow rates. Samples of groundwater being pumped through the air stripping treatment tower were collected and analyzed monthly for the parameters required in the permit. GM's air permit for the air stripper tower expired on June 20, 2003 and the Regional Air Pollution Control Agency (RAPCA) approved renewal of this permit through June 20, 2008 as a registration status permit due to the negligible organic compound emissions from the tower. GM submitted a request on June 19, 2008 to RAPCA for recognition of P001 as a de minimis source of air emissions and the removal of the TW-2 Recovery Well Air Stripping Tower (P001) permit from RAPCA's records. In a letter received by GM on June 27, 2008, RAPCA approved the stripper tower to be listed as de minimis air contaminant source and exempt from air permitting requirements. RAPCA stated in the approval letter that RAPCA will not process the submitted PTO application and will request to the Ohio EPA to withdraw P001 and Permit-To-Install 08-3161 issued on October 26, 1994. Table 2 summarizes the VOC results for the monthly air stripper tower influent stream during 2008. The monthly air stripper influent data are also presented in Figure 5, for the period from the initial start-up in January 1996 through December 2008. Table 3 summarizes the VOC results for the monthly air stripper tower effluent stream during 2008. Table 4 summarizes the VOC results for the monthly DN-13 sampling during 2008. All analyses were conducted in accordance with methods specified in the Final Interim Measures Design Plans (Geraghty & Miller, Inc. 1995).

2.1.3 Site-Wide Groundwater Monitoring

In accordance with the Site-Wide Groundwater Monitoring Plan (ARCADIS G&M, Inc. 2002), monitoring wells were sampled in September and October 2008. A summary of the 2008 sampling events, including number of wells and analytical parameters are presented on Table 1. Well construction and survey data for the wells used in the site-wide program are presented in Table 5.

Groundwater samples were collected from specified wells using low-flow or bailing sampling procedures. Field parameters including pH, specific conductance, temperature, oxidation/reduction potential, and dissolved oxygen were measured during purging of each well using a multi-parameter flow-through cell. SOP #21 was followed when sampling monitoring wells (ARCADIS G&M, Inc., 2002). One groundwater sample from well DN-13 was collected through the sampling valve according to SOP #28 (ARCADIS G&M, Inc., 2002).

All groundwater samples were collected and managed under standard chain-of-custody procedures, and validated in accordance with the approved Supplemental RFI Work Plan and the RFI Quality Assurance Project Plan (Geraghty & Miller, Inc., 1997a). The Supplemental RFI Quality Assurance Project Plan will be followed until the Draft Quality Assurance Project Plan for RCRA Corrective Action is approved by the U.S. EPA (draft report was submitted to the U.S. EPA on December 23, 2003). All pertinent field data were recorded electronically. A field parameter data table is presented in Appendix B. Analytical results are presented and discussed in Section 2.2.3.

2.1.4 Laboratory Analytical Methods

Groundwater samples were analyzed for the site-specific VOC parameter list using SW 846 Method 8260. This parameter list was developed after evaluating data from the September 1999 baseline groundwater sampling event and the one-time sampling event conducted in September/October 2000 (which included analysis of Appendix IX VOCs and cis-1,2-DCE, SVOCs, and metals), conducted as part of the Former Oil House Area corrective measures. The site-specific VOC parameter list is: benzene, 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), cis-1,2-DCE, trans-1,2-dichloroethene (trans-1,2-DCE), ethylbenzene, tetrachloroethene (PCE), toluene, 1,1,1-trichloroethane (1,1,1-TCA), trichloroethene (TCE), vinyl chloride, and xylenes. Select groundwater samples from upper aquifer monitoring wells were also analyzed for the following biogeochemical indicator parameters: manganese (total and

dissolved), iron (total and dissolved), sulfate, sulfide, total organic carbon (TOC), chlorides, light hydrocarbons (ethane and ethene), and methane. Table 1 lists specific field, laboratory, biogeochemical indicator parameters, and field and laboratory analytical methods. All samples were submitted to TestAmerica in North Canton, Ohio or Microseeps in Pittsburgh, Pennsylvania. Only ethene, ethane, and methane samples were submitted to and analyzed by Microseeps. For the 2008 groundwater event additional parameters were added to specific wells to support the CMP supplemental risk assessment for Landfill L2 and the Waste Pile Staging Area. HR-3 were sampled and analyzed for site-specific VOCs and both GM-19S and GM-35 were sampled and analyzed in addition to the site-wide program list (Table 1) for benzo(a)anthracene, benzo(b)fluoranthene, antimony, cadmium, chromium, and total PCBs. The methods are presented in Appendix C for these additional parameters along with the complete set of groundwater results, including quality assurance/quality control (QA/QC) samples for the entire event.

2.2 Groundwater Monitoring Program Results

2.2.1 Groundwater Elevation Monitoring

As part of the site-wide assessment of current groundwater conditions, groundwater levels were measured to determine groundwater flow directions in the upper and lower aquifers and to determine vertical gradients between the two aquifers. Three groundwater elevation monitoring events were completed in 2008, two were completed to support the CMP on March 5-6 and April 24-25, 2008 (ARCADIS, Inc. 2008a) and one was completed on November 17-18, 2008 as part of the site-wide groundwater monitoring. The March and April 2008 groundwater level measurement data is presented on Tables 2 and 3, respectively, of the CMP (ARCADIS, Inc. 2008a) and the November 2008 groundwater level measurement event data is presented on Table 6.

2.2.1.1 Upper Aquifer

The groundwater level data collected during preparation of the CMP (ARCADIS, Inc. 2008a) resulted in an improved resolution of the groundwater flow conditions near the Great Miami River. The upper aquifer potentiometric surface for March 2008 and April 2008 are shown on Figures 6 and 7, respectively, of the CMP (ARCADIS, Inc. 2008a). A comparison between the March and April 2008 water levels indicate a significant difference in upper aquifer groundwater flow. Precipitation levels were higher than normal before and during the March water level measurement event (ARCADIS, Inc. 2008a). Groundwater level data for this event indicates flow is away from the Great

Miami River southwest of the Site and stream levels at high stage. Therefore it was determined that this section of the Great Miami River was a losing stream during the March 2008 event. The upper aquifer potentiometric surface on April 24-25 (Figure 7 of the CMP) indicates that flow in the upper aquifer is generally from the northeast to southwest on- and off-site and corresponds to long term trends. As stated in the CMP, upstream of the confluence of the Great Miami River and Holes Creek, the updated groundwater flow model predicts an east/southeasterly component of flow from the Great Miami River towards the Site (i.e., immediately adjacent to the Great Miami River), indicating that the upper aquifer is gaining water from the Great Miami River (ARCADIS, Inc. 2008a). Further discussion of the March and April 2008 events, including hydraulic gradients are located in the CMP (ARCADIS, Inc. 2008a).

The upper aquifer potentiometric surface on November 17-18, 2008 (Figure 6) show that flow in the upper aquifer is generally from northeast to southwest. TW-2 was measured during the November event and was operational. The November measurements show that the TW-2 water level was lower than the water levels in nearby wells (GM-16, GM-17, 4S, and WSU-24) indicating capture in the vicinity of recovery well. A comparison of the November 2008 groundwater flow conditions to the October 2007 groundwater flow map for the upper aquifer (ARCADIS, Inc. 2008b) indicates a similar gradient and flow direction across the site in 2008 and 2007. The 2008 upper aquifer flow patterns are generally consistent with groundwater flow conditions since TW-2 operation was initiated in January 1996.

Table 7 presents the 2008 monthly precipitation totals, recorded by the National Weather Service, and the deviation from calculated average amounts. The 2008 annual total precipitation recorded at the Dayton, Ohio monitoring station was 45.25 inches, which was 6.90 inches above average. Precipitation for the months of February, March, May, June, July, and December was above normal, while precipitation for all other months was below normal.

The average hydraulic gradient of the upper aquifer, calculated from site-wide groundwater level measurements in November 2008 was 0.0005 foot/foot (ft/ft). The groundwater flow velocity for the upper aquifer was calculated using the following equation:

$$V_w = Ki/N_e$$

where

V_w = groundwater flow velocity (feet per day [ft/day])

K = hydraulic conductivity (ft/day)

i = hydraulic gradient (ft/ft)

N_e = effective porosity

Hydraulic characteristics of the upper aquifer were determined by evaluation of data from pumping tests conducted in 1985 and in 1989. The median hydraulic conductivity value estimated from pumping test data was 1,650 ft/day, and effective porosity was assumed to be 0.3 to 0.5. Using hydraulic gradients for November 2008, groundwater flow velocities in the upper aquifer ranged from 1.76 ft/day to 2.93 ft/day. Assuming the most extreme condition (i.e., no retardation or retardation factor [R_d] equal to 0), the rate of VOC migration could equal the rate of groundwater flow. However, soil-VOC interaction does occur, and, therefore, the actual VOC migration rates are slower than that of groundwater flow. Most of the VOCs detected in the upper aquifer at the GM facilities are likely to have a R_d ranging from 2 to 10 (Walton 1985), so the rate of migration of the VOCs in the upper aquifer in November 2008 could be as low as 0.18 ft/day.

During the Supplemental RFI, conducted in August 1998 at the Former Oil House Area, slug tests were conducted on three monitor wells (GM-23, GM-27 and GM-28) to assess aquifer characteristics in this area of the site. These slug tests determined that hydraulic conductivity in the upper aquifer in this area is lower than the hydraulic conductivity calculated on a site-wide basis. Hydraulic conductivity of the portion of the aquifer above the upper clay till at the Former Oil House Area was determined to be approximately 43 ft/day. Below the upper clay till, the hydraulic conductivity was determined to be 54 ft/day. Using hydraulic gradients from November 2008, the groundwater flow velocities in the upper aquifer above the Former Oil House Area ranged from 0.043 ft/day to 0.072 ft/day.

2.2.1.2 Lower Aquifer

The lower aquifer potentiometric surface for November 2008 (Figure 7) shows groundwater flow in the lower aquifer to be generally from northeast to southwest. County Well DN-13, located south of the former Delphi Thermal facility in the Dryden Road North Wellfield, was in operation during groundwater level measurements and had approximately 61 feet of drawdown. This localized cone of depression around DN-13 is shown on Figure 7; however, individual contours are not shown. Production

Wells 11B and 12A were not operating during the November water level measurement event.

No significant change in the overall flow conditions across the northern to central portion of the site were noted during the April and November2008 lower aquifer groundwater elevation data in comparison with the October 2007 groundwater flow map. However, during the March 2008 groundwater level measurement event production well 12A was operating. A cone of depression centered around 12A was evident during this event and groundwater flow in general was more from the north to the south than was evident in the April and November events (ARCADIS, Inc. 2008a). Potentiometric surface for the lower aquifer during the March and April 2008 events are on Figures 8 and 9, respectively of the CMP (ARCADIS, Inc. 2008a). Further discussion of the March and April 2008 events, including hydraulic gradients is located in the CMP (ARCADIS, Inc. 2008a).

The average hydraulic gradients of the potentiometric surface in the lower aquifer, calculated from groundwater level measurements November 2008 were 0.0007 ft/ft. Using a hydraulic conductivity of 400 ft/day, assuming a porosity of 0.3 to 0.5, and using the equation presented earlier ($V_w = Ki/N_e$), groundwater flow velocity in the lower aquifer for November 2008 ranged between 0.58 ft/day and 0.97 ft/day. As discussed above, most of the VOCs detected in the lower aquifer groundwater at the GM facilities are likely to have an R_d ranging from 2 to 10 (Walton 1985), so the rate of migration of the VOCs in the lower aquifer in November could be as low as 0.06 ft/day.

2.2.2 Vertical Gradients

The groundwater level measurements collected on November 17 and 18, 2008 were used to determine the direction and magnitude of vertical gradients between the upper and lower aquifers (Table 8). The vertical gradients were calculated using the following equation:

$$i = h_2\text{-}h_1/d$$

where

h_2 = hydraulic head of lower well A (ft)

h_1 = hydraulic head of upper well B (ft)

d = distance between midpoint of screen for well A and B (ft)

i = vertical gradient

The magnitude and direction of vertical gradients indicate whether the potential exists for groundwater to move from one aquifer to another through a confining unit, and which direction it may move (positive for an upward gradient and negative for a downward gradient). Calculated vertical gradients ranged from 0.0050 ft/ft upward (GM-8/GM-7R) to 0.0267 ft/ft downward (GM-16/GM-15).

At the northern (upgradient) end of the site, a slight downward vertical gradient was present in upper/lower monitoring well pair HR- 9/HR-10 and no vertical gradient was present in upper/lower monitoring well pair HR-11/HR-12.

The well pairs immediately downgradient (south) of the closed North Settling Lagoon (W-3-N/HR-15 and W-4-N/HR-14) had downward vertical gradients. The vertical gradient at well pair HR-3/HR-13 (side gradient to the closed North Settling Lagoon) was upward. Well pairs in the vicinity of Landfill L1 (GM-16/GM-15, GM-2/GM-1, GM-18/GM-13, GM-17/GM-11, GM-6/GM-3, 4S/GM-5) all had downward vertical gradients, with the exception of well pair GM-8/GM-7R which had an upward gradient (since June 1995 the vertical gradient in this well pair was upward 50 percent of the time and downward 50 percent of the time). The downward vertical gradient at the other five well pairs near Landfill L1 was likely due to the proximity of these well pairs to lower aquifer extraction well DN-13. Downgradient of the site, the vertical gradient was downward for well pair GM-10/GM-9. A vertical gradient was not calculated at well pair GM-26/MT-69 due to MT-69 well damage.

At the Former Oil House Area, groundwater level measurements in upper aquifer well pair GM-23/GM-27 (above the upper clay till/beneath the upper clay till) were used to evaluate the vertical gradient in the upper aquifer. A downward vertical gradient was present in the upper aquifer across the upper clay till present at the Former Oil House Area. Well pair GM-23/GM-39 was used to evaluate the vertical gradient in the lower aquifer compared to the upper aquifer. A downward vertical gradient was present across both the upper clay till and regional clay till.

Downgradient of the Site near Holes Creek, till is not present; and upon evaluation of vertical gradients in this area in well pairs GM-65S/GM-65D and GM-55/GM-56 show a downward vertical gradient.

2.2.3 Groundwater Monitoring Analytical Results

As described in Section 2.1.4, groundwater was evaluated on a site-wide basis for the presence of the site-specific list of VOCs. Tables 9 through 12 present the VOC results upgradient and downgradient of the RZs. Tables 13 through 16 present the bioattenuation parameter results upgradient and downgradient of the RZs. These results are discussed in Section 3.2.1 as they pertain to the performance of the RZ corrective measures. Table 17 presents the VOC results for the site-wide groundwater sampling event completed in September-October 2008 for the upper and lower aquifer wells. Data for 1999 through 2008 groundwater sampling events are presented on Figures 8 and 9 for the upper and lower aquifer wells respectively. The groundwater results are presented in this section and evaluated based on groundwater quality upgradient of the site, on site, and downgradient of the site. The complete set of groundwater results, including QA/QC samples, is presented in Appendix C. The additional parameter results (SVOCs, metals, PCBs) selected for the 2008 sampling are also presented in Appendix C. The 1999 baseline sampling data, used as a point of comparison for the September-October 2008 groundwater results, are presented in Appendix A.

2.2.3.1 Upper Aquifer Groundwater Quality

The following sections include a discussion of the groundwater quality in upper aquifer monitoring wells shown on Figure 3 that are part of the site-wide program.

2.2.3.1.1 Upgradient Groundwater Quality

In 2008, two upgradient upper aquifer monitoring wells exhibited the presence of VOCs:

- HR-9, total VOCs were 114.19 micrograms per liter (ug/L) in 2008, compared to a 1999 baseline total VOC concentration of 116 ug/L.

- HR-11, total VOCs were 5.2 ug/L in 2008, compared to a 1999 baseline total VOC concentration of 17.3 ug/L.

Two key observations can be made relative to upgradient groundwater quality. First, the detected VOCs are consistent with historical values for upgradient groundwater quality as indicated in the Description of Current Conditions (DOCC) (Geraghty & Miller, Inc. 1991 and 1997b) and RFI Reports (ARCADIS Geraghty & Miller, Inc. 2000a

and 2000b) for the GM Moraine facilities (including the 1999 baseline sampling results). This confirms that upgradient sources of VOCs not related to GM operations continue to exist in the local area. The highest VOC concentrations upgradient to the site are 1,1,1-TCA, TCE and the breakdown products 1,1-DCA, cis-1,2-DCE, and trans-1,2-DCE, suggesting that the upgradient releases have been migrating long enough to allow for degradation of the chlorinated VOCs 1,1,1-TCA and PCE and/or TCE to occur. Second, the types of VOCs detected upgradient are similar to those detected further downgradient beneath the site, indicating that total VOC concentrations detected beneath the site include both upgradient (off-site) and on-site contributions.

2.2.3.1.2 On-Site Groundwater Quality

To evaluate the primary source area of VOCs at the site (Former Oil House Area), five upper aquifer monitoring wells (GM-23, GM-27, GM-28, GM-29, and GM-30) were sampled in 2008. With the exception of GM-27, all of these wells are screened above the upper clay till present at the Former Oil House Area.

- GM-30 (northern most Former Oil House Area well, located next to the former tank farm) - total VOC concentrations decreased from 37,350 ug/L in the 1999 baseline to 981 ug/L in 2008. This well predominantly contained ethylbenzene, xylenes, and 1,1-DCA.

- GM-23 (located next to the Former Oil House building) - total VOC concentrations decreased from 17,853.3 ug/L in the 1999 baseline sampling to 4,229 ug/L in 2008. TCE and PCE concentrations have decreased while concentrations for daughter products cis-1,2-DCE and vinyl chloride have increased. This well predominantly contained cis-1,2-DCE and vinyl chloride. This well is upgradient to the original RZ-1 barrier and is within the zone of influence of carbon introductions conducted in the Former Oil House Area which results in solubilizing previously adsorbed VOCs to be treated by RZ-1.

- GM-27 (paired with GM-23 and screened below the upper clay till) - exhibited a decrease of total VOCs between the 1999 baseline (145.7 ug/L) and 2008 (71.85 ug/L). GM-27 predominantly contains TCE, cis-1,2-DCE, and 1,1-DCA. This well is upgradient to RZ-1.

- GM-29 (serves as an upgradient well for RZ-1) - total VOC concentrations increased from 1,256.3 ug/L in the 1999 baseline to 1,406 ug/L in 2008 primarily

due to an increase in daughter products (cis-1,2-DCE and vinyl chloride); however, TCE concentrations have decreased since the baseline sampling event. This well is upgradient to the original RZ-1 barrier and is within the zone of influence of carbon introductions conducted in the Former Oil House Area after RZ-1 was expanded in 2002, which results in solubilizing previously adsorbed VOCs to be treated by RZ-1.

- GM-28 (serves as the downgradient well for RZ-1; the VOC and bioattenuation parameter results for this well are discussed in greater detail in Section 3.3) - total VOC concentrations decreased from 1,292.4 ug/L in 1999 to 16.9 ug/L in 2008.

Additional wells installed southeast of the Former Oil House Area during the supplemental groundwater investigation (GM-59, GM-60, GM-75S), also contain PCE, TCE, and cis-1,2-DCE. Wells GM-59/GM-60, located in the Vehicle Distribution Center, are paired where GM-59 is screened at a shallow depth in the upper aquifer and GM-60 is screened deeper at the regional clay till. Well GM-75S is located in the southwest corner of the former Moraine Assembly and is screened at the regional clay till. In 2008, PCE was detected in wells GM-59, GM-60, GM-75S at concentrations of 750 ug/L, 900 ug/L, and 690 ug/L, respectively. In 2008, TCE was detected in wells GM-59, GM-60, GM-75S at concentrations of 750 ug/L, 920 ug/L, and 250 ug/L, respectively. This area of the site is currently not addressed by corrective measures but the proposed final corrective measures discussed in the 2008 draft CMP do include a remedy to address these concentrations.

Of the wells identified as downgradient from the Former Oil House Area in the southwestern and southerly directions toward the property boundary, the total VOC concentrations have decreased over time, as discussed below.

- ME-6, total VOCs were 944.9 ug/L in the 1999 baseline sampling event, decreasing to 37.55 ug/L in 2008.

- ME-3, total VOCs were 159.7 ug/L in the 1999 baseline sampling event, decreasing to 19 ug/L in 2008.

- GM-33, total VOCs were 292.1 ug/L in 2001 (this well was installed after the 1999 baseline sampling event), decreasing to 89.98 ug/L in 2008.

- GM-35, total VOCs were 732.8 ug/L in 2001 (this well was installed after the 1999 baseline sampling event), decreasing to 241.9 ug/L in 2008.

- GM-8, total VOCs were 150.3 ug/L in the 1999 baseline sampling event, decreasing to 21.75 ug/L in 2008.

- GM-6, total VOCs were 275.1 ug/L in the 1999 baseline sampling event, decreasing to 11.3 ug/L in 2008.

- GM-2, total VOCs were 82.9 ug/L in the 1999 baseline sampling event, decreasing to 10.59 ug/L in 2008.

These data indicate that VOC concentrations in monitoring wells hydraulically downgradient of the Former Oil House Area and RZ-1 decreased from the 1999 baseline to 2008. Wells GM-21 and GM-22, located south of and sidegradient to the Former Oil House Area, exhibited a decrease and slight increase in total VOC concentrations, respectively. In well GM-22, total VOCs were 7.6 ug/L in 1999 baseline and slightly increased to 12.13 ug/L in 2008. In well GM-21, total VOCs were 168.9 ug/L in the 1999 baseline and decreased to 104.29 ug/L in 2008. The significance of these concentrations is further discussed in Section 4.0.

The following total VOC concentrations are noted in monitor wells hydraulically downgradient of the Former Oil House Area to the southwest and upgradient of the closed South Settling Lagoon:

- HR-1, total VOCs were 114 ug/L in the 1999 baseline event, decreasing to 106.57 ug/L in 2008.

- HR-17, total VOCs were 29.1 ug/L in the 1999 baseline event, increasing to 155.8 ug/L in 2008.

The following total VOC concentrations are noted in monitor wells hydraulically side-gradient of the Former Oil House Area to the west and east of the closed North Settling Lagoon:

- HR-2, total VOC concentrations were 15 ug/L in the 1999 baseline event and 8.83 ug/L in 2008.

- HR-4, total VOC concentrations were 2.6 ug/L in the 1999 baseline event and 5.08 ug/L in 2008.

Wells downgradient of the closed North (W-2-N, W-3-N, W-4-N) and South (W-2-S, W-3-S, W-4-S) Settling Lagoons (closed through in-situ solidification and installation of a cover system in 2001, after the 1999 baseline sampling event) were sampled for both the site-wide groundwater monitoring and post-closure monitoring programs. Total VOC concentrations in wells downgradient of the closed North Settling Lagoon, ranged from 3.3 ug/L to 308.9 ug/L in the 1999 baseline event and ranged from 2.17 ug/L to 103.2 ug/L in 2008. The detected VOCs included 1,1-DCA, cis-1,2-DCE, trans-1,2-DCE, 1,1,1-TCA, TCE, PCE, and vinyl chloride. Total VOC concentrations in wells downgradient of the closed South Settling Lagoon, ranged from 6.5 ug/L to 52.9 ug/L in the 1999 baseline event and 5.33 ug/L to 57.66 ug/L in 2008. The detected VOCs included 1,1-DCA, cis-1,2-DCE, trans-1,2-DCE, 1,1,1-TCA, TCE, and PCE. The significance of these concentrations is further discussed in Section 4.0.

2.2.3.1.3 Downgradient Groundwater Quality

On-site downgradient wells (GM-6, TW-2, GM-2) and off-site downgradient wells (GM-47, GM-50, GM-51, GM-52, GM-16, GM-17, GM-18, WSU-24, GM-10) in the upper aquifer exhibited concentrations of PCE, TCE, 1,1,1-TCA and their associated daughter products. In the 1999 baseline event, total VOC concentrations in these wells ranged from 16.5 ug/L to 266.3 ug/L (excluding wells GM-47, GM-50, GM-51, GM-52 which were installed in 2006). In 2008, total VOC concentrations in these downgradient wells ranged from 7.28 ug/L to 291.2 ug/L (including wells GM-47, GM-50, GM-51, GM-52 which were installed in 2006). At the off-site downgradient well GM-26, which was defined for the site-wide groundwater monitoring program as the point of compliance (POC) well for the upper aquifer, no VOCs were detected in the 1999 baseline event, while PCE was detected below the MCL at 1.4 ug/L in 2008. The decreasing concentrations in the wells downgradient of the site (GM-6, TW-2, GM-2, GM-17, GM-18, GM-10, and WSU-24) compared to the RFI data (ARCADIS Geraghty & Miller, Inc. 2000a) and the 1999 baseline conditions, is likely attributable to the effects of corrective measures pumping at TW-2 which began in January 1996, pumping at DN-13, the effects of the RZs and on-going natural attenuation of the VOCs. PCE and TCE concentrations in GM-16 in 2008 are greater than the 1999 baseline concentrations. RZ-4 was installed in July 2006 to address the increased concentrations observed at GM-16. Additional off-site wells installed during the supplemental groundwater investigation further delineated downgradient concentrations including well installation west of the Great Miami River. Concentrations in these wells (GM-55, GM-65S, GM-78, GM-79, GM-80) in 2008 ranged from 2.45 ug/L to 12.5 ug/L.

2.2.3.2 Lower Aquifer Groundwater Quality

This section includes a discussion of the groundwater quality in lower aquifer monitoring wells shown on Figure 4 that are part of the site-wide program. In 1999 and 2008, the upgradient lower aquifer monitor well HR-12 exhibited the presence of VOCs (total VOCs of 7.4 ug/L and 6.79 ug/L, respectively). The detected VOCs included 1,1,1-TCA, PCE, and TCE, suggesting that upgradient releases of chlorinated VOCs has occurred. The detected VOCs in HR-12 are consistent with historical values for upgradient groundwater quality as indicated in the DOCC (Geraghty & Miller, Inc. 1991 and 1997b) and RFI Reports (ARCADIS Geraghty & Miller, Inc. 2000a and 2000b) for the GM Moraine facilities. This confirms that upgradient sources of VOCs, not related to GM operations, continue to exist in the lower aquifer in the local area. Additionally, the types of VOCs detected upgradient are similar to those detected further downgradient beneath the site, indicating that total VOC concentrations detected beneath the site include both upgradient (off-site) and on-site contributions. VOCs were not detected in upgradient lower aquifer well HR-10 in 2008.

On-site lower-aquifer monitor wells that were part of the site-wide monitoring program in September-October 2008 included HR-15, GM-39, GM-40,GM-61, GM-75D, GM-68D, GM-82, GM-41, GM-58, GM-54, GM-42, GM-19D. Wells GM-39, GM-40, GM-41, and GM-42 were installed in 2003 and wells GM-54, GM-58, GM-61, GM-68D, GM-75D, and GM-82 were installed in 2006 to 2008 after the 1999 baseline sampling event. Detected VOCs included PCE, TCE, 1,1,1-TCA and their associated daughter products. In 1999 (baseline conditions) the total VOC concentrations in these wells ranged from 13.5 ug/L to 70.3 ug/L. In 2008, total VOC concentrations in these wells ranged from 3.6 ug/L to 1,090 ug/L. The increase in the concentration range for this area in 2008 compared to the baseline conditions is due to the sampling data from GM-68D and GM-75D, which were installed after the baseline sampling event. The area of the site monitored by these wells is currently not addressed by corrective measures but the proposed final corrective measures discussed in the 2008 draft CMP do include an approach to address these concentrations.

Additional monitor wells were installed during the supplemental groundwater investigation off-site to the west (GM-83D) and to the east (GM-84) of the site. In 2008, total VOCs in GM-83D were 1.6 ug/L and in GM-84 were 6.6 ug/L.

On-site downgradient wells (GM-3, GM-1) and off-site downgradient wells (GM-15, GM-11, GM-20D, DN-13, GM-9) contained similar VOCs when compared to the on-site groundwater quality. In 1999 (baseline conditions) the total VOC concentrations in

these wells ranged from non-detect to 115 ug/L. In 2008, total VOC concentrations in these wells decreased (total VOCs ranged from non-detect to 33.49 ug/L). VOCs were not detected in off-site, downgradient well MT-69 in 1999 and 2007. Well MT-69 was not sampled in 2008 due to well damage. The off-site downgradient wells GM-15, GM-11, and GM-20D were defined for the site-wide groundwater monitoring program as the POC wells for the lower aquifer. The MCL for TCE was exceeded in wells GM-15, GM-11, and GM-20D in 2008. However, groundwater downgradient of these wells is captured in the lower aquifer capture zone well, DN-13. All other detected VOCs in these POC wells were below MCLs.

3. Corrective Measures Implementation and Performance

To address the source of VOCs in groundwater (Former Oil House Area Source Area) and the associated downgradient plume, GM continued to operate the corrective measures systems in 2008. This involved operation of the RZs and capture zones, as presented in Section 3.1. To meet the objectives defined in Section 4.0 of the Site-Wide Groundwater Monitoring Plan, the data collected in 2008 (described in Section 2.0 of this report) are evaluated in Sections 3.2 and 4.0 to assess the ongoing effectiveness of and the need for continuation of these corrective measures. The corrective measures performance is summarized in Section 3.2 and presented in more detail in Appendix D.

3.1 Corrective Measures Implementation

3.1.1 In-Situ Reactive Zones

The reductive dechlorination of chlorinated VOCs can be enhanced by the introduction of a carbon source that stimulates activity of indigenous microorganisms. The high carbon loading triggers a succession of microbial species. Initially, aerobic electron acceptors such as oxygen and nitrate are consumed. Then, the microbial succession leads to a consortium of species that survive by sulfate reduction, methanogenesis and other similar metabolic pathways, supporting the highly reducing conditions necessary for the dechlorination of PCE, TCE, cis-1,2-DCE, and vinyl chloride. This enhanced reductive dechlorination process (ERD) has been developed at the GM Moraine site through the use of RZs for introduction of a degradable carbon source necessary to develop the desired reducing conditions.

Enhanced reductive dechlorination was implemented in 1999 as a component of the Former Oil House Area corrective measures at three zones: 1) at the southern boundary of the Former Oil House Area (RZ-1); 2) at an intermediate downgradient location south of the Former Oil House Area in the ME well series area (RZ-2 which was operated from 1999 to 2002); and 3) at a downgradient location south of former Delphi Thermal Moraine (RZ-3 West) and the former Moraine Engine plant (RZ-3 East). Using the data obtained from the Supplemental Groundwater Investigation conducted in 2006, RZ-4 was designed and installed to address VOC impacts identified west of RZ-3 West (GM-16). The RZ locations are shown on Figure 2. The actual layouts of each RZ are shown on Figures 10 and 11, and discussed below:

- At RZ-1, molasses solution was introduced into the upper aquifer, above the upper clay till. The carbon injection wells are screened across the lower 10 ft of the upper aquifer, which is 4 ft to 12 ft thick. RZ-1 consists of 21 introduction wells, of which 12 wells (RZ-1J through RZ-1U) were added in 2002, to expand RZ-1.

- Former RZ-2 consisted of four monitoring wells (ME-1 [abandoned], ME-2, ME-4, ME-5 [abandoned]), located along the western edge of the former Moraine Engine Plant 3 building. The RZ-2 wells were screened within the upper 3 ft of the upper aquifer. RZ-2 was operated from 1999 to 2002. Relocation of in situ reactive zone RZ-2 has been evaluated as part of the CMP.

- RZ-3 consists of 46 introduction wells, 30 wells in RZ-3 West (RZ-3A through RZ-3DD) and 16 wells in RZ-3 East (RZ-3FF through RZ-3KK, and RZ-3MM through RZ-3VV). At RZ-3, the carbon injection wells were screened from approximately the aquifer surface to a depth of 46 ft to 68 ft bls, allowing carbon introduction through the lower 20 to 30 feet of the upper aquifer. Introduction wells RZ-3RR through RZ-3VV were installed in April 2005 in order to establish a reactive zone further down-gradient and closer to the property boundary. The additional introduction wells were screened from 34 ft to 54 ft bls. Wells RZ-3MM through RZ-3QQ have not been operated since the installation of RZ-3RR through RZ-3VV in 2005, therefore, of the 16 existing introduction wells in RZ-3 East, only 11 are active.

- RZ-4 consists of 15 introduction wells, 7 wells in RZ-4 West (RZ-4I through RZ-4O) and 8 wells in RZ-4 East (RZ-4A through RZ-4H). These wells were installed in July 2006. The RZ-4 West wells are located in the southeast corner of the closed South Settling Lagoon and the RZ-4 East wells are located north of Landfill L1 and west of the Waste Pile/Staging Area. At RZ-4, the carbon injection wells were screened from approximately the aquifer surface to a depth of 57 ft to 62 ft bls, allowing carbon introduction through the lower 30 feet of the upper aquifer. Only RZ-4 East remains active.

To establish conditions conducive to ERD within reactive zones RZ-1, RZ-2, and RZ-3, a readily degradable carbon source (a dilute solution of molasses and potable water) was periodically delivered into the reactive zone introduction wells during a 6-month period from December 1999 to May 2000. The molasses solution consisted of either a 10-to-1 or 20–to-1 ratio of potable water to feed-grade molasses that was pumped into each RZ well. The initial event, conducted in December 1999, consisted of two consecutive rounds of carbon source introductions in each RZ well. After the initial

introduction event, the carbon source solution introductions were scheduled twice per month through May 2000. Due to the success during the first six months of implementing this technology, carbon source introduction activities continued in October, November, and December 2000, and subsequently from June 2001 through December 2008.

Introductions in RZ-1 were modified in the fall of 2003 after review of the previous site-wide groundwater analytical results. Due to the success of RZ-1, GM implemented a reduced carbon loading frequency of one introduction event every other month, and periodically monitored GM-28 to ensure that the necessary reducing conditions were being sustained to promote the dechlorination process. In May 2005, the introduction routine was changed to two injections every quarter to ensure reducing conditions are maintained and sufficient carbon is available to allow for complete degradation of the VOCs. This injection schedule of two per quarter was followed in 2008 with the exception of the fourth quarter when RZ-1 was not skipped in order to address an increase in VOC concentrations (cis-1,2-dichloroethene and vinyl chloride) noted during the third quarter performance monitoring.

Introductions continued throughout 2008 on a monthly introduction schedule in Reactive Zone RZ-3. Wells GM-21, GM-6, and GM-8 serve as the downgradient performance monitoring wells for RZ-3. Monthly carbon introductions in RZ-4 East continued through December 2008. Monitoring Well GM-19S serves as the downgradient performance monitoring well for RZ-4 East. The molasses is stored on-site and mixed with potable water prior to injections. Details regarding the frequency and strength of carbon source introductions are provided in Table 18 for 2008. Additional discussion is presented in Appendix D.

3.1.2 Capture Zones

The capture zone corrective measure for the upper aquifer consists of groundwater extraction at the property boundary using well TW-2; treatment through an air stripper tower; and discharge through GM's NPDES permitted outfall to the Great Miami River. Groundwater recovery from TW-2 began on January 31, 1996. During the 13 years of operation (January 31, 1996 through December 31, 2008), the system has recovered and treated a total of 853,513,983 gallons of groundwater at an average flow rate of 143.4 gallons per minute (gpm). Annual total gallons recovered and average flow rate during 2008 were 61,858,963 gallons and approximately 129.7 gpm, respectively. The location of recovery well TW-2 is shown on Figure 2.

From November 1996 through the end of this reporting period, GM has monitored the water level in TW-2 and adjusted the TW-2 flow rate as recommended in the October 1996 Monthly Technical Progress Report (Geraghty & Miller, Inc. 1996) and approved by U.S. EPA (Personal Communication, 1996). This procedure was implemented to avoid excessive drawdown within the well, which could cause damage to the well screen and/or the pump. The flow rate from TW-2 is adjusted as necessary to maintain the water level in TW-2 at least 0.5 feet above the top of the well screen. As documented in the 2008 Monthly Technical Progress Reports, the treatment system is periodically shut down for short periods of time for operation and maintenance activities.

Well DN-13 is a lower aquifer well that Montgomery County has been using in a Pump-to-Waste Program since March 1990. The capture zone corrective measure for the lower aquifer consists of continued pumping of DN-13 in 2008 at an approximate range of 1,000 to 1,100 gpm. Well DN-13 was operational throughout 2008 except for the periodic shutdowns for operation and maintenance activities that are documented in the 2008 Monthly Technical Progress Reports. As further discussed in Section 3.2.2, these temporary shut downs did not have long-term effects on the capture zone around well DN-13. The location of well DN-13 is shown on Figure 2.

3.2 Corrective Measures Performance

3.2.1 In-Situ Reactive Zone Performance Results

As described earlier in Section 3.1.1, the carbon solution delivery network consisted of RZ-1, RZ-3 (West and East), and RZ-4 East. Molasses was introduced in 2008 into the groundwater through introduction points shown on Figures 10 and 11. Operation of the RZs was monitored through the collection of field parameter measurements, and laboratory analyses of biogeochemical indicator parameters and VOCs, according to the Site-Wide Groundwater Monitoring Plan (ARCADIS G&M, Inc. 2002). A detailed assessment of the effectiveness of the In-situ Reactive Zones and the results of this monitoring are presented in Appendix D and summarized below:

- Existing aquifer conditions have been converted to more reducing conditions within and downgradient of the reactive zones through the introduction of a carbon source, as evidenced by the changes in field and bioattenuation parameters;

- The target compounds (PCE and TCE) have been effectively reduced to daughter products (cis-1,2-DCE and vinyl chloride) and ultimately to end products (ethene and ethane) based on a review of the VOC results; and

- Levels of vinyl chloride were consistently low to non-detect in all downgradient wells, indicating degradation of cis-1,2-DCE to ethene and ethane.

In general, the process of enhanced reductive dechlorination at this site has been successful in achieving the desired reduction of VOC concentrations. In 2009, GM will continue to evaluate if modifications to the RZs are needed based on water quality and performance monitoring data.

3.2.2 Capture Zone Performance Results

Figures 6 and 7 indicate the location of the capture zone corrective measures at the southern end of the former Delphi Thermal Moraine site for both the upper and lower aquifers, respectively. Additionally, it should be noted that these flow maps are consistent with the flow conditions predicted by the capture zone modeling, presented on Figures 2 and 3 of the Final Interim Measures Design Plans (Geraghty & Miller, Inc. 1995). Seasonal weather conditions vary throughout the year and this variation will have an impact on the groundwater elevations observed at the site (Table 7). The observed elevation differences in 2008 are consistent with the above average precipitation in 2008. Although precipitation was higher than normal (6.31 inches above normal) during 2008 and 5 inches higher than 2007, the above average precipitation occurred early in the year. The November 2008 event closely matches the October 2007 potentiometric surface across the site. Water-level elevations in TW-2 are regularly monitored to ensure the water level does not fall below the well screen. If the water level approaches the well screen, the pumping rate is reduced for protection of the pump. Pumping rate adjustments were not necessary in 2008 as discussed previously in Section 3.1. The pumping rate for DN-13 was not adjusted; therefore, only seasonal variations influence water level elevations at DN-13. Effective capture has been maintained in spite of seasonal variations in both the upper and lower aquifers.

Figure 5 presents a graph of the influent concentration of total chlorinated VOCs and benzene, toluene, ethylbenzene, and xylenes (BTEX) compounds in TW-2 since start up of the recovery and treatment system in January 1996. The data shows a steady decline in total chlorinated VOCs and a significant decrease in VOC concentrations.

The data indicates that the remediation at the site is continuing to provide VOC mass reduction downgradient of RZ-3 West.

4. Corrective Action Completion Strategy

4.1 Effectiveness of Corrective Measures Activities

4.1.1 Background and Objectives

The goal of the corrective measures for groundwater at the Site is to reduce existing site-related groundwater concentrations to levels that are protective of reasonably expected future uses of groundwater. GM's approach for achieving this goal is through a combination of the corrective measures that achieve plume migration control, reduce existing plume concentrations, and monitor performance of these measures. Once on-site groundwater concentrations are reduced sufficiently by active corrective measures (pumping and in-situ treatment) to ensure continued protection of reasonably expected groundwater uses, some, or all, of the active measures will be terminated. Groundwater monitoring as described in the Site-Wide Groundwater Monitoring Plan (ARCADIS G&M, Inc. 2002) or as will be described in the forthcoming corrective measures design plan (to be developed following U.S. EPA approval of the CMP) will continue to verify that groundwater conditions remain acceptable, and that ultimately, groundwater concentrations at the POC defined for the upper and lower aquifers, decline below the appropriate protective levels (i.e., appropriate for the protection of the groundwater resource and its reasonably expected future uses). Data have been and will continue to be acquired during the implementation of the site-wide groundwater monitoring program to evaluate progress towards achieving this goal.

The need for continued operation of the remedial measures described in Section 2 will be determined based on achieving and maintaining the following conditions:

1. Upper aquifer: consistent with the criterion stated in the approved RCRA Corrective Action Environmental Indicator Determination – Migration of Contaminated Groundwater Under Control (CA 750), the condition to be met in the upper aquifer is no migration of VOCs at concentrations exceeding appropriately protective levels (i.e., appropriate for the protection of the groundwater resource and its reasonably expected future uses as characterized in the RFI) beyond the existing area of contaminated groundwater. Based on the groundwater conditions established during the September 1999 baseline sampling event, the existing well GM-26 was identified as the POC monitoring point for ensuring that this condition is maintained.

2. Lower aquifer: consistent with the goal to maintain a usable aquifer, including off-site drinking water use, the condition to be met in the lower aquifer is no VOC concentrations exceeding appropriate protective levels (i.e., appropriate for the protection of the groundwater resource and its reasonably expected future uses as characterized in the RFI) beyond the existing area of contaminated groundwater. Based on the groundwater conditions established during the September 1999 baseline sampling event, the existing wells GM-15, GM-11, and GM-20D were identified as the POC monitoring points for ensuring that this condition is maintained.

Once on-site groundwater concentrations are reduced sufficiently by active measures to be protective of reasonably expected future uses, some or all of these active measures will be terminated. Following termination of any active measures, GM will continue its groundwater monitoring program to confirm that the conditions in the upper and lower aquifer continue to be met without these active measures.

4.1.2 Methodology

In accordance with the Site-Wide Groundwater Monitoring Plan (ARCADIS G&M, Inc. 2002), groundwater data are compared to remediation target levels (RTLs) developed to ensure compliance with the above-stated conditions without active corrective measures. As defined in the Site-Wide Groundwater Monitoring Plan, these RTLs have been calculated using the groundwater assessment methods developed in the Baseline and Supplemental Baseline Risk Assessments (ENVIRON 2000a, b) taking into consideration the current pumping conditions at and in the vicinity of the facility. Specifically, the MODFLOW groundwater flow model (Geraghty & Miller, Inc. 1994) developed for Delphi Thermal Moraine and the surrounding region (including former Moraine Engine and Moraine Assembly) is used to support estimation of RTLs which are concentrations in on-site groundwater at locations downgradient of the Former Oil House Area that would not be expected to result in exceedances of the MCL at the designated monitoring points.

As discussed in the 2008 CMP (ARCADIS, Inc. 2008a), the MODFLOW groundwater flow model developed for the site was updated to reflect changes in on-site pumping conditions and the refined hydrogeologic conceptual site model. In particular, due to the cessation of operations at the former Moraine Assembly facility in December 2008, GM production wells 11B and 12A are currently operating at a greatly deminished level and will cease to operate a some point in the near future. Therefore, the MODFLOW model was updated to project the flow conditions with wells 11B, and 12A no longer

operating (model scenario "1A" as defined in the CMP [ARCADIS, Inc. 2008a]). Additional details regarding the refinements made to the groundwater flow model can be found in Appendix D of the 2008 CMP (ARCADIS, Inc. 2008a).

Using this approach and considering the scope of the annual groundwater monitoring program, GM developed RTLs for the following remediation monitoring zones in both the upper and lower aquifer at and downgradient of the Former Oil House Area:

- Upper Aquifer
  - Former Oil House Area, (AOI 7 Shallow): the Former Oil House Area source area (wells GM-23, GM-29 and GM-30),
  - Zone S1: the monitoring zone immediately downgradient of RZ-1 (well GM-28),
  - Zone S1 to Zone S2: the monitoring zone between RZ-1 and RZ-2 (wells GM-28, and ME-6),
  - Zone S2: the monitoring zone immediately downgradient of RZ-2 (wells ME-6, ME-3, GM-31),
  - Zone S2 to Zone S3: the monitoring zone between RZ-2 and RZ-3 (wells ME-6, ME-3, GM-31, GM-22, GM-19S, EAST, GM-33, GM-35),
  - Zone S3: the monitoring zone immediately downgradient of RZ-3 (wells GM-32, GM-21, W-4-S, GM-63, and GM-64),
  - Zone S3 to GM-10: the monitoring zone between RZ-3 and GM-10 (wells 4S, GM-32, GM-21, GM-8, GM-6, W-4-S, GM-2, GM-16, GM-18, WSU-24, GM-47, GM-50, GM-51, GM-63, GM-64 and GM-10),
  - GM-10/GM-52: the monitoring zone downgradient of RZ-3 (wells GM-10 and GM-52), and
  - POC Shallow: monitoring at well GM-26.

- Lower Aquifer
  - Former Oil House Area, (AOI 7 Deep): the Former Oil House Area source area (wells GM-23, GM-29, and GM-30),
  - Zone GM-40/41/54: the monitoring zone encompassing GM-40, GM-41 and GM-54,
  - Zone GM-42: the monitoring zone encompassing GM-42,
  - Zone D1: the monitoring zone encompassing GM-19D,
  - Zone D2: the monitoring zone encompassing wells GM-1 and GM-3, and
  - POC Deep: monitoring at wells GM-11, GM-15 and GM-20D.

The following steps were conducted to assess the site-wide monitoring data for the purpose of determining the extent to which each remedial measure is contributing to achievement of the conditions outlined above for the upper and lower aquifers:

- As discussed above, the groundwater flow model was updated in 2008 to reflect current pumping conditions. The pumping conditions are summarized on Table E-1 in Appendix E. Table E-1 also provides the source reduction factors calculated from the groundwater flow model that are used to assess hypothetical concentrations at receptor wells that are attributable to the land-based units (i.e., North and South Settling Lagoons, and Landfills L1, L2 and L3). The RTLs, updated to reflect these current pumping conditions at and in the vicinity of the site (ARCADIS, Inc. 2008a), are presented on Table E-4 in Appendix E.

- Minimum, mean and maximum constituent concentrations in each remediation monitoring zone were calculated based on data collected during the 2008 monitoring period. One-half sample quantitation limits were used for non-detect results.

- Minimum, mean and maximum constituent concentrations were compared against the RTLs developed for each remediation monitoring zone.

4.1.3 Results

The results for groundwater quality data collected in all groundwater monitoring events in 2008 in each remediation monitoring zone wells are discussed in Section 2.2.3. A comparison of the minimum, mean and maximum concentrations for each parameter in each remediation monitoring zone to the RTLs is presented on Table 19. These results and relative change in these results in comparison with the 2007 monitoring period are discussed below and presented on Table 19. For reference, Table 19 also presents a comparison with the results from the 1999 baseline sampling event.

The comparison of the 2008 shallow zone (upper aquifer) monitoring data with the RTLs indicates the following:

AOI 7, Shallow (wells GM-23, GM-29 and GM-30):

- Consistent with 2007, concentrations of 1,1-DCE, cis-1,2,-DCE, PCE and TCE remained below the RTLs.

- As compared with 2007, the concentrations of vinyl chloride have decreased but still remain above the RTL.

Zone S1 (well GM-28):

- Consistent with 2007, all concentrations remain below the RTLs.

Zone S1 to S2 (wells GM-28, ME-6):

- Consistent with 2007, all concentrations remain below the RTLs.

Zone S2 (wells ME-6, ME-3, GM-31):

- Consistent with 2007, the concentrations of 1,1-DCE, cis-1,2,-DCE, PCE and vinyl chloride remain below RTLs.

- As compared to 2007, the maximum concentration of TCE has decreased but still remains above the RTL.

Zone S2 to S3 (wells ME-6, ME-3, GM-31, GM-22, GM-19S, EAST, GM-33, GM-35):

- Consistent with 2007, the concentrations of 1,1-DCE, cis-1,2,-DCE, PCE and vinyl chloride remain below RTLs.

- As compared with 2007, the maximum concentration of TCE has decreased but still remains above the RTL.

Zone S3 (wells W-4-S, GM-32, GM-21, GM-63, and GM-64):

- Consistent with 2007, the concentrations of 1,1-DCE remain below the RTL.

- As compared with 2007, the maximum concentration of cis-1,2-DCE has decreased to a level below the RTL. The maximum concentrations of PCE and TCE have increased slightly and remain above the RTLs. The maximum concentration of vinyl chloride has decreased but remains above RTL.

Zone S3 to GM-10 (wells 4S, GM-32, GM-21, GM-8, GM-6, W-4-S, 4S, GM-2, GM-16, GM-18, WSU-24, GM-47, GM-50, GM-51, GM-63, GM-64 and GM-10):

- Consistent with 2007, the concentrations of 1,1-DCE remain below the RTL.
- As compared with 2007, the maximum concentration of cis-1,2-DCE has decreased to a level below the RTL.
- As compared with 2007, the maximum concentrations of TCE and PCE have slightly increased and remain above the RTLs. The maximum concentration of vinyl chloride has decreased but still remains above the RTL.
- As compared with 2007, the average concentration of PCE has remained stable above the RTL.

GM-10/GM-52:

- Consistent with 2007, the concentrations of 1,1-DCE, cis-1,2-DCE and vinyl chloride remain below RTLs.
- Consistent with 2007, the maximum and average concentrations of PCE have remained relatively stable above the RTL. The maximum and average concentrations of TCE have decreased but still remain above the RTL.

POC Shallow (well GM-26):

- Consistent with 2007, all concentrations remain below the RTLs.

The comparison of the 2008 deep zone monitoring data with the RTLs indicates the following:

AOI 7, Deep (wells GM-23, GM-29, and GM-30):

- Consistent with 2007, the concentrations of 1,1-DCE remain below the RTL.
- As compared with 2007, the maximum concentrations of cis-1,2-DCE and PCE have decreased to levels below the RTLs.
- Consistent with 2007, the maximum concentration of vinyl chloride has decreased but still remains above the RTL. The maximum and average concentrations of TCE have remained relatively stable above the RTL. The average concentration of vinyl chloride has decreased but remains above the RTL.

Zone GM-40/41/54:

- Consistent with 2007, the concentrations of 1,1-DCE, cis-1,2-DCE, and vinyl chloride remain below the RTLs.
- As compared with 2007, the maximum and average concentrations of PCE have increased slightly and remain above the RTL. The maximum and average TCE concentrations have decreased but also remain above the RTL.

GM-42:

- Consistent with 2007, all concentrations remain below the RTLs.

Zone D1 (well GM-19D):

- Consistent with 2007, concentrations of 1,1-DCE, cis-1,2-DCE, PCE, and TCE remain below the RTLs.
- Consistent with 2007, the detected concentration of vinyl chloride has decreased but remains above the RTL.

Zone D2 (wells GM-1 and GM-3):

- Consistent with 2007, concentrations of 1,1-DCE, cis-1,2-DCE, PCE, and vinyl chloride remain below the RTLs.
- As compared with 2007, the concentrations of TCE have decreased but remain above the RTL.

POC Deep (wells GM-11, GM-15 and GM-20D):

- Consistent with 2007, concentrations of 1,1-DCE, cis-1,2-DCE, PCE and vinyl chloride remain below RTLs.

- As compared to 2007, the minimum concentration of TCE has increased above the RTL. The maximum and average concentrations of TCE have decreased slightly but remain above the RTL.

As indicated by the comparison of groundwater monitoring data with the RTLs presented on Table 19, concentrations at the upper aquifer POC well remain below RTLs. Concentrations in the monitoring zone immediately upgradient of the upper aquifer POC remain stable and above RTLs since 2006. Concentrations in the monitoring zones further upgradient of the upper aquifer POC, as well as concentrations at the lower aquifer POC wells remain above the RTLs for one or more constituents. Therefore, active corrective measures are still required to maintain the short-term objective in the upper aquifer, and to achieve the short-term corrective action objective in the lower aquifer.

Concentrations in the AOI-7 area remain above levels necessary to achieve the RTLs at the downgradient upper and lower aquifer POCs. However, concentrations immediately downgradient of RZ-1 remain below the RTLs, thus indicating that RZ-1 has been effective at remediating groundwater impacts from AOI-7 in the upper aquifer. Continued corrective measures downgradient of RZ-1 (i.e., at RZ-3 and RZ-4) will be continued to address residual impacts in the downgradient upper aquifer plume area. In addition, the CMP submitted in August 2008 included a review of the appropriateness of the monitoring wells selected as POC wells (ARCADIS Inc. 2008a), and provided proposed modifications to the monitoring program, specifically the POC wells for the upper and lower aquifer. These changes including additional modifications to the monitoring program will be proposed in the corrective measures design plan which will be developed following approval of the 2008 CMP (ARCADIS Inc. 2008a).

4.2 Monitoring of Land-Based Waste Management Units

4.2.1 Background and Objectives

One additional component of the site-wide groundwater monitoring program is monitoring of other specific units (i.e., the closed lagoons). Although the RFI,

Supplemental RFI and CMP, determined that the wastes at these units do not contribute constituents to groundwater at levels that would have a significant effect on current and reasonably expected future groundwater uses, the monitoring program includes monitoring wells that are used to confirm these findings. In addition, the Site-Wide Groundwater Monitoring Plan was developed to meet the objectives of Ohio EPA's post-closure monitoring for the closed North and South Settling Lagoons.

4.2.2 Methodology

As indicated above, this site-wide monitoring program was developed to meet the objectives of RCRA corrective action and the post-closure groundwater monitoring requirements for the closed lagoons. The site-wide program monitors potentially significant contributions of hazardous waste constituents to existing groundwater quality from the closed lagoons. To determine if the closed lagoons may be significant contributors of hazardous waste constituents to existing groundwater concentrations, monitoring data collected from the designated post-closure monitoring wells located downgradient of each of the closed lagoons are evaluated for temporal trends. The approach proposed in the Site-Wide Groundwater Monitoring Plan for this assessment includes, as an initial approach, the application of straight line regression to determine if the data suggests a strong positive correlation.

In addition, in accordance with the Site-Wide Groundwater Monitoring Plan, the monitoring wells located immediately downgradient of the in-place waste management units are evaluated to determine whether these units are significantly affecting groundwater quality. Specifically, the potential health significance of constituents detected in monitoring wells immediately downgradient of these units to current and reasonably expected groundwater uses on-site and off-site are evaluated using the groundwater assessment methods developed in the Supplemental RFI Baseline Risk Assessment (ENVIRON 2000b) and CMP (ARCADIS, Inc. 2008a). If this evaluation identifies detected concentrations that indicate one or more of these units may be having a potentially significant impact on downgradient groundwater quality, then a review of groundwater quality from monitoring wells upgradient and downgradient of the particular unit would be conducted to identify whether the unit is affecting groundwater quality. The monitoring wells identified in the Site-Wide Groundwater Monitoring Plan for monitoring each of the waste management units are:

- Closed North Settling Lagoon: HR-4 (upgradient), W-2-N, W-3-N, W-4-N.
- Closed South Settling Lagoon: HR-17 (upgradient), W-2-S, W-3-S, W-4-S.

- Landfill L1: GM-2, GM-6, 4S.
- Landfill L2: W-4-N, HR-2, HR-3.
- Landfill L3: W-4-N, HR-2, HR-4.

Consistent with the groundwater exposure evaluation conducted for the Supplemental Baseline Risk Assessment (ENVIRON 2000b) and CMP (ARCADIS, Inc. 2008a), groundwater concentrations reported for each set of downgradient monitoring wells are assumed to represent source concentrations associated with each unit. These source concentrations are combined with source reduction factors developed for the base case exposure scenario (i.e., current groundwater use conditions without corrective measures pumping – "Scenario 1a") to estimate exposure concentrations at the points of groundwater use (e.g., downgradient municipal well fields). For the current evaluation, the maximum concentrations detected during the 2008 sampling events in each set of monitoring wells are used as the source concentration and combined with the updated source reduction factors presented on Table E-1 (as described in Section 4.1.2). The estimated exposure concentrations are then compared with MCLs or risk-based equivalent drinking water levels (EDWLs) ("drinking water criteria").

4.2.3 Results

As proposed in the Site-Wide Groundwater Monitoring Plan (ARCADIS G&M, Inc. 2002), post-closure monitoring data collected from those wells assigned to the closed North and South Settling Lagoons were reviewed for temporal trends (see Section 2.2.3.1.2). Data considered in the evaluation included results through the September 2008 monitoring event and data ranging back to the initial post-closure monitoring event conducted in November 2001. Currently, the data set collected since the lagoons were closed includes seven data points for any monitoring well/constituent pair; the data plots for key constituents are provided on Figure E-1 for the closed North Settling Lagoon (NSL) and Figure E-2 for the closed South Settling Lagoon (SSL). In general, the linear regression analysis for the NSL, using the available data, indicates either declining concentrations or little significant changes over time. Similarly for the SSL, changes in concentrations in the wells immediately downgradient of this unit appear to correspond to changes in concentrations in the upgradient well (HR-17). While a slight increase in cis-1,2-DCE concentrations has been observed in well W-4-S, this increase does not represent a significant change. Between 2002 and 2008, cis-1,2-DCE concentrations in this well have only increased from about 3 ug/L to about 6 ug/L. The drinking water criterion for cis-1,2-DCE is 70 ug/L. These concentration

trend lines do not indicate that any significant increases in groundwater concentrations that would be attributable to these land based units.

Using the methodology developed in the Supplemental RFI baseline risk assessment (ENVIRON 2000b) and CMP (ARCADIS Inc. 2008a) for assessing potential impacts to groundwater receptors from releases at the Moraine facilities, GM determined that the data from the wells downgradient of the closed North and South Settling Lagoons do not indicate that these units are significantly affecting groundwater quality. The potential significance of concentrations detected during the 2008 sampling events in each set of downgradient monitoring wells for the lagoons and landfills were assessed. Based on the maximum concentrations detected during the 2008 sampling events at each of these units, exposure concentrations at water supply wells representing current pumping conditions were estimated. The estimated combined groundwater concentrations at each of the receptor wells are presented on Table 20 in comparison with drinking water criteria. As shown on Table 20, the maximum concentrations detected downgradient of each of the land-based waste disposal units do not contribute significantly to concentrations at these points of potential exposure. Therefore, the data from the wells downgradient of the waste management units indicate that these units are not significantly affecting groundwater quality. Supporting calculations for this assessment are provided in Appendix E.

5. Conclusions and Recommendations

This summary report presents the groundwater monitoring activities completed in 2008 at the GM Moraine Facilities located in Moraine, Ohio. This sampling was conducted to meet the five objectives presented in Section 1.2. Compliance with these objectives is presented for the waste management units, corrective measures, and on-going site-wide groundwater monitoring in the following sections.

5.1 Land-Based Waste Management Units

As proposed in the Site-Wide Groundwater Monitoring Plan (ARCADIS G&M, Inc. 2002), monitoring data collected immediately downgradient of the closed North and South Settling Lagoons, and Landfills L1, L2 and L3 were evaluated to determine if these units may be contributing constituents to groundwater at levels that would have a significant effect on current and reasonably expected future groundwater uses. Using the methodology developed in the Supplemental RFI baseline risk assessment (ENVIRON 2000b) and CMP (ARCADIS, Inc. 2008a) for assessing potential impacts to groundwater receptors from releases at the Moraine facilities, the potential significance of observed groundwater concentrations downgradient of these units was evaluated.

This evaluation determined that data from the wells downgradient of the in-place waste management units indicate that these units are not significantly affecting groundwater quality. Based on the results from the 2008 monitoring, no changes in the monitoring program for the waste management units are proposed.

5.2 Corrective Measures Performance

GM's approach for achieving its corrective action goals for the Moraine facilities is based on a combination of corrective measures (in-situ treatment and hydraulic control) designed to reduce existing plume concentrations thereby achieving plume reduction and migration control.

5.2.1 In-Situ Treatment

Groundwater quality monitoring at and downgradient of the reductive dechlorination treatment zones indicates that this in-situ treatment program has been effective at reducing VOC concentrations in groundwater. As observed during the 2008 monitoring, the upper aquifer conditions in the areas downgradient of the in-situ reactive zones have been converted to more reducing conditions through the

introduction of a carbon source, as evidenced by the changes in field and bioattenuation indicator parameters. Further, the VOC results indicate that the target compounds (PCE and TCE) have been effectively reduced to daughter products (cis-1,2-DCE and vinyl chloride) and ultimately to ethene and ethane.

In general, the process of enhanced reductive dechlorination at this site has been successful in achieving a reduction of VOC concentrations. Based on the data collected in 2008 as part of the site-wide groundwater monitoring program, GM does not believe that additional modifications to the RZs will be necessary at this time; however, GM will evaluate if modifications to the current RZs are needed based on water quality and performance monitoring data.

5.2.2 Hydraulic Control

Groundwater elevation monitoring indicates that the capture zone corrective measures continue to be effective at maintaining hydraulic control in both the upper and lower aquifers in the southern area of the former Delphi Thermal Moraine. Additionally, the observed flow conditions are consistent with the conditions predicted by the capture zone modeling performed in developing the corrective measures pumping plan, which confirms the continued utility of the groundwater flow model as a predictive tool.

Based on the effective performance of the pumping program during the 2008 monitoring and exceedences of RTLs at the Former Oil House Area and in Zones S1 to S2, S2, S2 to S3, S3, S3 to GM-10/-52, GM-10/-52, Zone GM-40/-41/-54, GM-42, Zone D1, Zone D2, and POC monitoring points in the deep aquifer (GM-11, GM-15, GM-20D), no changes to the hydraulic control component of the ongoing corrective measures are proposed at this time.

GM's ongoing groundwater monitoring program includes the assessment of changes in site-specific VOCs in both the upper and lower aquifers at locations upgradient of the GM Moraine facilities, as well as on-site and downgradient of the facilities. Data collected from upper and lower aquifer wells located upgradient of the facilities confirms that upgradient sources of VOCs, not related to GM operations, continue to exist in the local area. Notwithstanding these upgradient contributions of VOCs to on-site groundwater, the monitoring data indicate a site-wide decrease in VOC concentrations since the baseline sampling event conducted in 1999, other than areas to be addressed as proposed in the CMP. In addition, VOC concentrations at the current off-site downgradient upper aquifer POC well GM-26 remained below drinking water criteria. Concentrations of TCE remained above the drinking water criterion in

downgradient lower aquifer wells GM-11, GM-15 and GM-20D, however, groundwater downgradient of these wells is contained by the lower aquifer capture zone well DN-13.

The overall decreasing concentrations in the wells downgradient of the site since the corrective measures were first implemented is likely attributable to the combined effects of corrective measures pumping at TW-2 which began in January 1996, pumping at DN-13, and on-going enhanced natural attenuation of the VOCs. However, concentrations in the monitoring zones immediately upgradient of the upper aquifer POC (GM-26), as well as concentrations at the lower aquifer POC wells remain above the RTLs. Therefore, active corrective measures are still required to achieve the corrective action objectives presented in the CMP.

Based on the evaluation of the site-wide groundwater quality, both the in-situ treatment and hydraulic control components of the corrective action program will be continued.

5.3 Reassessment of Site-Wide Groundwater Monitoring Program

In accordance with the Site-Wide Groundwater Monitoring Plan (ARCADIS G&M, Inc. 2002), groundwater monitoring was conducted in 2008 to evaluate groundwater quality upgradient and downgradient of the closed lagoons and landfills, performance of the in-situ reactive zones, and performance of the capture zones. Based on the data collected during the 2008 monitoring period, GM believes that the monitoring program has provided sufficient data for a comprehensive evaluation of the current corrective action objectives. To reassess the monitoring program in support of the proposed final corrective measures, GM recommends the following:

- A proposed revised site-wide groundwater monitoring program for 2009 is presented in Table 21. Table 21 reflects a reduced list of wells based on an evaluation of data trends observed at each monitor well since 1999. The rationale for reducing the list is presented on Table 21. The groundwater monitoring for 2009 will focus primarily on the required wells needed to support evaluation of the land-based waste management units, IRZ performance monitoring, capture zone monitoring, and POC monitoring. For those wells that are not retained in 2009, they will be sampled every 5 years or until the time the groundwater monitoring program is revised for the final site-wide corrective measures when the CMP is finalized.

- As part of the corrective measures design plan, GM will use the updated groundwater flow model to develop new RTLs, as appropriate at the time the

corrective measure design plan is prepared. These updated RTLs will serve to evaluate groundwater data collected as part of final corrective measures performance monitoring.

- GM will present future revisions to the site-wide groundwater monitoring program in support of the final site-wide corrective measures when the CMP is finalized.

6. References

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Table 1. Site-Wide Groundwater Monitoring Events in 2008, General Motors Corporation, Moraine, Ohio.

November 2008 Site-Wide Groundwater and Surface Water Elevations

Groundwater and surface water elevations were measured on November 17-18, 2008.

September-October 2008 Site-Wide Annual Groundwater Sampling

Site-specific list of VOCs(1) and field parameters(2) were analyzed during September 22 to October 23, 2008 from the following upper aquifer monitoring wells. Biogeochemical parameters(3) and additional parameters(4) were analyzed at select wells identified below:

W-2-N	W-2-S	GM-10	GM-28(3)	GM-52
W-3-N	W-3-S	GM-16	GM-29(3)	GM-55
W-4-N	W-4-S(3)	GM-17	GM-30(3)	GM-59(3)
HR-1	TW-2	GM-18	GM-31(3)	GM-60(3)
HR-2	ME-3(3)	GM-19S(3,4)	GM-32(3)	GM-63(3)
HR-3	ME-6(3)	GM-21(3)	GM-33	GM-64(3)
HR-4	WSU-24	GM-22(3)	GM-35(4)	GM-65S
HR-5	GM-2	GM-23(3)	GM-47(3)	GM-75S(3)
HR-9	GM-6(3)	GM-26	GM-50(3)	GM-78
HR-11	GM-8(3)	GM-27	GM-51	GM-79
HR-17				GM-80

Site-specific list of VOCs(1) were analyzed during September 22 to October 23, 2008 from the following list of lower aquifer monitoring wells:

HR-10	GM-3	GM-20D	GM-54	GM-82
HR-12	GM-9	GM-39	GM-58	GM-83D
HR-15	GM-11	GM-40	GM-61	GM-84
DN-13	GM-15	GM-41	GM-68D	
GM-1	GM-19D	GM-42	GM-75D	

1. Site-specific list of VOCs includes: benzene, 1,1-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, ethylbenzene, tetrachloroethene, toluene, 1,1,1-trichloroethane, trichloroethene, vinyl chloride, and xylenes.

2. Field parameters include: pH, specific conductivity, dissolved oxygen, oxidation reduction potential, and temperature.

3. Biogeochemical parameters include: manganese (total and dissolved), iron (total and dissolved), sulfate, sulfide, total organic carbon, chlorides, ethane, ethene, and methane.

4. Additional parameters include: metals (antimony, cadmium, chromium), semi-volatile organic compounds (benzo(a)anthracene, benzo(b)fluoranthene) and, polychlorinated biphenyls.

DN-13 Monthly Groundwater Sampling

Appendix IX VOCs and cis-1,2-DCE were analyzed during these monthly sampling events from DN-13.

Table 1. Site-Wide Groundwater Monitoring Events in 2008, General Motors Corporation, Moraine, Ohio.

Air Stripper Tower Influent and Effluent Monthly Groundwater Sampling

Benzene, chloroethane, 1,1-dichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, ethylbenzene, tetrachloroethene, toluene, 1,1,1-trichloroethane, trichloroethene, vinyl chloride, and xylenes were analyzed during the influent sampling events from the air stripper tower by EPA Method 8260B. The stripping tower effluent sample was analyzed for oil and grease and the following list of VOCs: benzene, chloroethane, 1,1-dichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, ethylbenzene, tetrachloroethene, toluene, 1,1,1-trichloroethane, trichloroethene, vinyl chloride, and xylenes. The effluent sample was analyzed by EPA Methods 8260B and 624 (drinking water standard).

RZ Performance Sampling

The following events were performed in 2008:

The following wells were sampled on March 4 and 6, 2008 for site-specific list of VOCs(1), TOC, ethane, ethene, methane, and field parameters(2): GM-8, GM-19S, GM-21, GM-28, GM-29, GM-32, GM-63, GM-64 and W-4-S;

The following wells were sampled on June 2-3, 2008 for site-specific list of VOCs(1), TOC, ethane, ethene, methane, and field parameters(2): GM-8, GM-19S, GM-21, GM-28, GM-29, GM-32, GM-63, and GM-64.

The following wells were sampled on September 3-4, 2008 for site-specific list of VOCs(1), TOC, ethane, ethene, methane, and field parameters(2): GM-8, GM-19S, GM-21, GM-28, GM-29, GM-32, GM-63, and GM-64.

Parameter	Analytical Method
Site-specific list of VOCs	EPA Method 8260B/EPA Method 624
Manganese, total and dissolved	EPA Method 6010B
Iron, total and dissolved	EPA Method 6010B
Sulfate	SM 375.4
Sulfide	SM 376.1
Total Organic Carbon	SM 415.1
Chlorides	SM 325.2
Ethane, Ethene, Methane	Method AM18G
Metals	EPA Method 6010B
SVOCs	EPA Method 8270
PCBs	EPA Method 8082

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Table 2. Influent Monitoring of the Air Stripper Tower for 2008, General Motors Corporation, Moraine, Ohio.

Constituent	Units	1/7/08	2/13/08	3/3/08	4/3/08	5/9/08	6/5/08	7/9/08	8/11/08	9/12/08	10/7/08	11/7/08	12/1/08
Oil & Grease[1]	mg/L	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	2.1 B	< 5 U	1.3 B	< 5 U	< 5 U	< 5 U
VOCs[2]													
Benzene	ug/L	< 5 U	1.2	1.5	1.3	1.6	1.4	1.2	1.4	1.5	1.5	1.7	1.5
Chloroethane	ug/L	8.3	6.1	9.9	6.6	8.6	13	7.7	11	8.8	8.6	8.7	6.6
1,1-Dichloroethane	ug/L	8.4	11	8.2	5.4	2.9	3.6	2	1.9	1.8	2	2.5	3.7
cis-1,2-Dichloroethene	ug/L	11	11	11	27	13	9.9	8.1	7	5.2	4.9	4.3	4.8
trans-1,2-Dichloroethene	ug/L	< 5 U	0.64 J	0.7 J	0.62 J	0.48 J	0.52 J	0.38 J	0.34 J	0.32 J	0.34 J	0.38 J	0.53 J
Ethylbenzene	ug/L	< 5 U	< 1 U	< 1 U	< 1 U	< 1 U	0.64 J	1.4	1.1	0.76 J	0.57 J	0.46 J	0.46 J
Tetrachloroethene	ug/L	3.8 J	2.8	3.1	2.9	2.2	2.2	1.6	1.6	1.5	1.4	1.4	1.6
Toluene	ug/L	< 5 U	< 1 U	< 1 U	< 1 U	< 1 U	0.29 J	0.51 J B	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,1-Trichloroethane	ug/L	< 5 U	< 1 U	< 1 U	0.26 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene	ug/L	11	7.3	10	14	7.5	9.4	8.4	8.3	7.4	7.4	5.7	6.8
Vinyl chloride	ug/L	2.5 J	2.7	2.7	3.1	2.6	2.5	1.4	1.5	0.99 J	1	1.2	1.3
Xylenes	ug/L	< 10 U	< 2 U	< 2 U	< 2 U	< 2 U	0.33 J	1.7 J B	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Total VOCs	ug/L	45.0	42.74	47.1	61.18	38.88	43.78	34.39	34.14	28.27	27.71	26.34	27.29

1 Analytical method for oil & grease is EPA 1664A.
2 Analytical method for VOC analysis is SW-846 Method 8260B.
VOC concentrations in micrograms per liter (ug/L) and Oil & Grease concentrations in milligrams per liter (mg/L) as reported by the laboratory.
J Estimated result. Result is less than reporting limit.
B Method blank contamination.

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Table 3. NPDES Permit Effluent Monitoring of the Air Stripper Tower for 2008, General Motors Corporation, Moraine, Ohio.

Constituent	Units	Permit Limit	1/7/08	2/13/08	3/3/08	4/3/08	5/9/08	6/5/08	7/9/08	8/11/08	9/12/08	10/7/08	11/7/08	12/1/08
Oil & Grease[1]	mg/L	10	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	2 B	< 5 U	< 5 U	1.4 B J	1.7 B	< 5 U
VOCs[3]														
Benzene	ug/L	10	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.29 J
Chloroethane	ug/L	10	< 1 U	< 1 U	0.78 J	< 1 U	0.71 J	0.91 J	0.76 J	< 1 U	0.42 J	0.53 J	0.94 J	0.77 J
1,1-Dichloroethane	ug/L	10	< 1 U	0.43 J	0.44 J	0.24 J	0.35 J	0.36 J	0.34 J	< 1 U	< 1 U	< 1 U	0.40 J	0.68 J
cis-1,2-Dichloroethene	ug/L	10	0.26 J	0.58 J	0.75 J	1.3	1.7	1.1	1.5	0.49 J	0.46 J	0.59 J	0.83 J	1.0
trans-1,2-Dichloroethene	ug/L	10	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Ethylbenzene	ug/L	10	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/L	10	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Toluene	ug/L	10	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.46 J B	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,1-Trichloroethane	ug/L	10	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene	ug/L	10	< 1 U	< 1 U	0.44 J	0.54 J	0.77 J	0.78 J	1.1	0.43 J	0.46 J	0.54 J	0.78 J	0.91 J
Vinyl Chloride	ug/L	10	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Xylenes	ug/L	10	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	0.98 J B	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U

mg/L Milligrams per Liter.
ug/L Micrograms per Liter.
1 Analytical method for oil & grease is EPA 1664A.
2 Analytical method for pH is EPA 150.1.
3 Analytical method for volatile organic compounds (VOCs) is SW-846 Method 8260B.
VOC concentrations in micrograms per liter (ug/L) and Oil & Grease concentrations in milligrams per liter (mg/L) as reported by the laboratory
J Estimated result. Result is less than reporting limit.
B Method blank contamination.

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Table 4. DN-13 Monthly Monitoring for 2008, General Motors Corporation, Moraine, Ohio.

Volatile Organic Compound[1]	Units	1/7/08	2/13/08	3/3/08	4/3/08	5/9/08	6/5/08	7/9/08	8/11/08	9/12/08	10/7/08	11/7/08	12/1/08
1,1,1,2-Tetrachloroethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,1-Trichloroethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.57 J	0.68 J	< 1 U
1,1,2,2-Tetrachloroethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1,2-Trichloroethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethane	ug/L	1.9	2.1	2.3	2	2	2	1.8	1.7	1.7	1.6	2.0	2.0
1,1-Dichloroethene	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2,3-Trichloropropane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dibromo-3-chloropropane	ug/L	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
1,2-Dibromoethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dichloroethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,2-Dichloropropane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,4-Dioxane	ug/L	< 200 U	< 200 U	< 200 U	< 200 U	< 200 U	< 200 U	< 200 U	< 200 U	< 200 U	< 200 U	< 200 U	< 200 U
2-Butanone	ug/L	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
2-Hexanone	ug/L	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
4-Methyl-2-Pentanone	ug/L	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Acetone	ug/L	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U
Acetonitrile	ug/L	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U
Acrolein	ug/L	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U
Acrylonitrile	ug/L	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U	< 20 U
Allyl chloride	ug/L	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Benzene	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Bromodichloromethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Bromoform	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Bromomethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Carbon disulfide	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Carbon tetrachloride	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chlorobenzene	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chloroethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chloroform	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Chloromethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U

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Table 4. DN-13 Monthly Monitoring for 2008, General Motors Corporation, Moraine, Ohio.

Volatile Organic Compound[1]	Units	1/7/08	2/13/08	3/3/08	4/3/08	5/9/08	6/5/08	7/9/08	8/11/08	9/12/08	10/7/08	11/7/08	12/1/08
Chloroprene	ug/L	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
cis-1,2-Dichloroethene	ug/L	7	7	7.3	6.6	6.9	6.8	6.7	6	6.4	6.6	7.0	7.5
cis-1,3-Dichloropropene	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Dibromochloromethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Dibromomethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Dichlorodifluoromethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Ethyl methacrylate	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Ethylbenzene	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Iodomethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Isobutyl alcohol	ug/L	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U
Methyl acrylonitrile	ug/L	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Methyl methacrylate	ug/L	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Methylene chloride	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Propionitrile	ug/L	< 4 U	< 4 U	< 4 U	< 4 U	< 4 U	< 4 U	< 4 U	< 4 U	< 4 U	< 4 U	< 4 U	< 4 U
Styrene	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Toluene	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.40 J	0.50 J	< 1 U
trans-1,3-Dichloropropene	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,4-Dichloro-2-butene	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene	ug/L	4.1	3.6	4.3	4.2	4.3	4.5	4.7	4.7	5	4.7	4.7	5.6
Trichlorofluoromethane	ug/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Vinyl acetate	ug/L	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Vinyl chloride	ug/L	2.2	1.9	2.4	1.5	1.9	1.6	1.4	1.4	1.4	1.5	2.0	1.8
Xylene (total)	ug/L	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Total VOCs	**ug/L**	**15.2**	**14.6**	**16.3**	**14.3**	**15.1**	**14.9**	**14.6**	**13.8**	**14.5**	**15.37**	**16.88**	**16.9**

1 Analytical method for VOC analysis is SW-846 Method 8260B.
All concentrations in micrograms per liter (ug/L) as reported by the laboratory.
< - Value below laboratory reporting limits.

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Table 5. Monitoring Well Construction Details, General Motors Corporation, Moraine, Ohio.

	Surface Elevation	TOC Elevation	Well Diameter	Screened Interval				Borehole Depth	Site Coordinates		State Plane Coordinates		Geologic
Well	ft msl	ft msl	inches	ft bls	ft bls	ft msl	ft msl	ft bls	Northing, y	Easting, x	Northing, y	Easting, x	Modifiers
Upper Aquifer Wells													
W-1-N	737.61	739.02	4	35	70	703	668	70	6618	5037	625116.2043	1483946.9943	UA:TT
W-2-N	729.68	731.68	4	35	60	695	670	60	5264	4744	623865.9104	1483351.6742	UA
W-3-N	731.98	733.66	4	32	57	700	675	57	5157	5032	623695.8796	1483607.3111	UA
W-4-N	729.88	731.63	4	40	65	690	665	65	5157	5224	623651.9134	1483795.0108	UA:TT
HR-1	730.10	732.71	2	47	57	683	673	57	3420	5205	621967.7490	1483378.1275	UA:TT
HR-2	732.62	734.75	2	47	57	686	676	58	5209	5455	623649.3090	1484030.9226	UA:TT
HR-3	734.31	736.75	2	50	60	684	674	61	5211	5648	623612.1403	1484238.0984	UA:TT
HR-4	740.61	742.60	2	55	65	686	676	67	6111	5214	624582.0074	1484003.5860	UA:TT
HR-5	730.95	734.27	2	44	54	687	677	59	4760	4985	623354.8172	1483478.6541	UA:TT
HR-6	730.18	732.66	2	43	53	687	677	59	4009	4985	622588.6622	1483298.8965	UA:TT
HR-7	731.00	731.73	2	47	57	684	674	58	4743	4678	623373.8266	1483168.5266	UA:TT
HR-8	740.84	743.42	2	54	64	687	677	76	6819	5626	625177.0505	1484566.7534	UA
HR-9	741.00	743.51	2	58	68	683	673	75	7669	5508	626071.2019	1484648.1158	UA
HR-11	740.90	743.33	2	60	70	681	671	75	7313	6207	625682.4858	1485262.9762	UA
HR-16	724.60	727.01	4	42	62	683	663	70	2354	4198	621167.6648	1482171.8435	UA:TT
HR-17	725.40	726.43	4	27	47	698	678	56	2457	4776	621128.4488	1482780.5158	UA:TT
W-1-S	728.23	729.29	4	25	60	703	668	60	2777	4958	621396.0291	1482990.4046	UA:TT
W-2-S	725.01	726.64	4	30	65	695	660	65	1786	4207	620618.7813	1482078.7622	UA:TT
W-3-S	NM	729.17	4	36	76	NA	NA	76	1678	4386	620466.6686	1482207.4451	UA
W-4-S	726.66	727.92	4	30	70	697	657	70	1671	4785	620394.9579	1482564.2035	UA
GM-2	NM	735.81	2	45	55	NA	NA	55	1102	5803	619586.2208	1483427.9998	UA
4S	NM	731.36	4	30	65	NA	NA	65	1071	5564	619578.3226	1483129.6378	UA
GM-6	NM	730.27	2	35	45	NA	NA	45	1042	5306	619627.6172	1482930.9571	UA:TT
GM-8	735.17	735.17	2	40	50	695	685	50	1283	5285	619866.4552	1482965.5535	UA:TT
GM-10	NM	723.90	2	40	50	NA	NA	50	162	5258	618762.6410	1482667.7306	UA:TT
GM-16	NM	725.30	2	48	58	NA	NA	58	652	4566	619420.5576	1482149.1466	UA
GM-17	NM	723.84	2	40	50	NA	NA	50	672	5174	619311.8761	1482697.0210	UA:TT
GM-18	NM	723.80	2	45	55	NA	NA	55	583	4993	619229.5883	1482505.4542	UA
GM-19S	NM	730.92	2	47	57	NA	NA	57	1767	5274	620339.5683	1483017.2551	UA:TT
GM-21	725.36	725.00	2	45	55	680	670	55	1519	6052	619920.5937	1483764.5951	UA:TT
GM-22	731.84	731.63	2	44	54	688	678	54	2531	6285	620840.4209	1484226.5683	UA:TT
GM-23	NM	731.07	2	24	34	NA	NA	34	5393	6018	623699.2336	1484619.9213	UA:TUT
GM-24	747.61	747.29	2	58	68	690	680	70	8122	7812	625945.0802	1486991.6971	UA

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Table 5. Monitoring Well Construction Details, General Motors Corporation, Moraine, Ohio.

Well	Surface Elevation	TOC Elevation	Well Diameter	Screened Interval				Borehole Depth	Site Coordinates		State Plane Coordinates		Geologic
	ft msl	ft msl	inches	ft bls	ft bls	ft msl	ft msl	ft bls	Northing, y	Easting, x	Northing, y	Easting, x	Modifiers
Upper Aquifer Wells													
GM-25	747.05	746.17	2	48	58	699	689	58	4930	8170	622786.2705	1486599.6865	UA:TT
GM-26	722.29	722.29	2	50	60	672	662	60	-988	4961	617729.9788	1482129.0695	UA
GM-27	731.03	730.57	2	40	50	691	681	58	5393	6029	623696.6136	1484630.7659	UA:TT
GM-28	NM	736.46	2	22	32	NA	NA	32	5041	5916	623392.3799	1484436.8617	UA:TUT
GM-29	731.31	731.37	2	28	38	703	693	38	5209	5974	623534.4471	1484535.0727	UA:TUT
GM-30[(1)]	NM	734.79	2	28	38	NA	NA	38	5559	5970	623876.3465	1484609.5933	UA:TUT
GM-31[(1)]	732.05	732.13	2	51	61	681	671	62	2939	5914	621336.9337	1483965.1322	UA:TT
GM-32	732.47	732.08	2	51	61	681	671	61	3486	6070	620114.2493	1483379.9656	UA:TT
GM-33	730.30	729.77	2	48	58	682	672	58	2278	5762	620761.9955	1483714.2282	UA:TT
GM-34	731.06	730.56	2	26	36	705	695	36	2278	5770	620753.8480	1483727.5719	UA:WT
GM-35	731.56	731.27	2	57	67	675	665	70	1750	5510	620389.3810	1483279.5201	UA:TT
GM-36	731.44	731.11	2	25	35	706	696	35	1755	5551	620383.2312	1483300.8386	UA:WT
GM-37	730.36	730.05	2	46	56	684	674	56	1857	5696	620407.3595	1483456.0282	UA:TT
GM-38	730.31	729.88	2	24	34	706	696	34	1858	5686	620403.1387	1483471.6479	UA:WT
GM-43	729.41	729.00	2	40	50	NA	NA	54	3655	5211	622192.2046	1483441.3723	UA:TT
GM-44	729.30	728.77	2	51	61	NA	NA	62	3137	5217	621686.3425	1483331.5124	UA:TT
GM-45	730.03	729.75	2	50	60	NA	NA	60	2853	5217	621409.1769	1483266.9285	UA:TT
GM-46	728.13	727.79	2	19.8	29.8	708	698	29.8	5130	6257	623393.7601	1484777.0271	UA:TUT
GM-47	727.03	726.75	2	49.4	59.4	678	668	59.4	1312	4776	620060.6143	1482479.3608	UA:TT
GM-48	728.98	728.67	2	63.2	73.2	666	656	73.2	610	4200	619488.4287	1481740.8154	UA:TT
GM-49	728.28	727.88	2	66.9	76.9	661	651	76.9	-222	4383	618643.7266	1481742.8231	UA:TT
GM-50	727.03	726.56	2	29.7	39.7	697	687	39.7	1312	4773	620065.0482	1482445.8840	UA:WT
GM-51	728.82	728.30	2	34.3	44.3	695	685	44.3	614	4198	619465.2399	1481753.1472	UA:WT
GM-52	728.16	727.62	2	34	44	694	684	44	-226	4383	618604.5296	1481740.7235	UA:WT
GM-53	730.53	730.35	2	23	33	708	698	33	2999	6824	621184.8324	1484855.6876	UA:TT
GM-55	719.90	719.86	2	25	35	695	685	35	-646	5202	618008.2839	1482441.5719	UA:WT
GM-57	719.41	721.74	2	25	35	694	684	35	-993	4966	617724.0851	1482132.1351	UA:WT
GM-59	732.46	732.25	2	25	35	707	697	35	4501	6323	622761.5281	1484712.7729	UA:WT
GM-60	732.46	732.24	2	42	52	690	680	52	4501	6324	622761.3002	1484712.7809	UA:TT
GM-62	722.17	722.11	2	50	60	672	662	60	-189	5443	618397.3774	1482818.1330	UA
GM-63	726.21	725.79	2	30	40	696	686	40	1625	4919	620283.7218	1482686.3290	UA:WT
GM-64	726.38	725.95	2	50	60	676	666	60	1625	4914	620284.6106	1482681.2885	UA:TT

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Table 5. Monitoring Well Construction Details, General Motors Corporation, Moraine, Ohio.

Well	Surface Elevation ft msl	TOC Elevation ft msl	Well Diameter inches	Screened Interval ft bls		Screened Interval ft msl		Borehole Depth ft bls	Site Coordinates Northing, y	Site Coordinates Easting, x	State Plane Coordinates Northing, y	State Plane Coordinates Easting, x	Geologic Modifiers
Upper Aquifer Wells													
GM-65S	723.94	723.58	2	42	52	682	672	52	-1488	4312	617392.2259	1481382.4271	UA
GM-66	733.50	733.22	2	45	55	688	678	57	4377	5714	622780.3860	1484091.5572	UA:TT
GM-67S	732.54	732.06	2	44	54	689	679	54	4744	6096	623050.0533	1484547.2174	UA:TT
GM-68S	732.48	732.18	2	39.5	49.5	693	683	49.5	4064	6358	622326.2125	1484652.8528	UA:TT
GM-71	737.19	736.82	2	21	31	716	706	37	4494	6849	622633.7567	1485222.9070	UA:TUT
GM-72	737.05	736.78	2	52	62	685	675	67	4496	6861	622633.7567	1485233.9320	UA:TT
GM-74S	732.52	732.17	2	40	50	693	683	50	4198	6417	622444.5430	1484733.8601	UA:TT
GM-75S	738.26	737.69	2	42	52	696	686	52	4605	6635	622790.6745	1485039.3503	UA:TT
GM-76S	739.49	739.00	2	27	37	712	702	37	5396	6730	623538.7809	1485313.4176	UA:TT
GM-77S	741.49	741.14	2	33	43	708	698	43	3618	7743	621576.9342	1485892.0315	UA:TT
GM-78	721.58	721.18	2	40	50	682	672	70	-267	5723	618257.5787	1483035.5947	UA
GM-79	718.54	717.91	2	45	55	674	664	60	-29	3623	618970.9862	1481045.8893	UA:TT
GM-80	716.23	715.82	2	15	25	701	691	25	-1046	3753	617951.2997	1480939.3277	UA:WT
GM-81	715.8	715.31	2	50	60	666	656	90	-1063	3752	617934.8895	1480934.7439	UA
GM-83S	726.44	725.84	2	44	54	682	672	54	3718	3837	622568.7465	1482112.9569	UA:TT
EAST	NM	730.98	2	NA	NA	NA	NA	71	2120	5818	620545.6947	1483674.2190	UA:TT
WEST	NM	731.08	2	NA	NA	NA	NA	52	2004	5463	620509.6228	1483299.0985	UA:TT
WSU-17	726.93	726.18	2	11.69	66.9	715.2	659.3	67	970	5279	619558.2279	1482898.5384	UA:TT
WSU-18	734.18	733.52	2	29.2	69.2	705.0	664.3	69	1004	5458	619554.9290	1483096.6469	UA:TT
WSU-19	727.28	726.62	2	33.4	63.4	693.9	663.2	63	1182	5212	619736.8872	1482880.3995	UA:TT
WSU-22	726.21	726.49	2	NA	NA	NA	NA	52	1625	4917	620311.4363	1482687.2293	UA:TT
WSU-23	724.65	724.90	2	NA	NA	NA	NA	58	1535	4204	620381.0854	1481978.6336	UA:TT
WSU-24	725.10	724.82	2	NA	NA	NA	NA	66	574	5663	619124.1425	1483169.1107	UA:TT
TW-2	NM	733.38	10	35	45	NA	NA	45	1027	5337	619568.4036	1482942.6663	UA:TT
ME-2[1]	732.38	732.08	2	27	37	705	695	37	2945	5973	621327.2669	1484014.6258	UA:WT
ME-3[1]	732.23	731.73	2	29	39	703	693	39	2897	5938	621288.3532	1483969.5620	UA:WT
ME-4[1]	732.05	732.24	2	26	36	706	696	36	2925	5914	621321.4422	1483952.3693	UA:WT
ME-6[1]	733.09	732.68	2	29	39	704	694	39	3325	5927	621706.9517	1484057.0461	UA:WT
MW-1[2]	713.60	715.53	2	61.2	71.2	652	642	71.7	2164	2247	621420.6144	1480209.1127	UA:TT
MW-4[2]	707.45	707.19	2	19.6	39.6	688	668	40	-653	692	619035.3250	1478050.0733	UA
MW-5[2]	709.59	709.34	2	22.5	42.5	687	667	43	-682	1646	618787.9839	1478971.6197	UA
MW-9[2]	713.16	712.85	2	63	73	650	640	73.5	-2309	1798	617169.4849	1478747.1452	UA
Lower Aquifer Wells													
GM-1	NM	735.74	2	90	100	NA	NA	100	1087	5803	619570.7118	1483421.8130	LA
GM-3	NM	730.44	2	90	100	NA	NA	100	1023	5309	619621.9727	1482926.3542	LA
GM-4	NM	731.46	2	140	150	NA	NA	150	1010	5322	619602.7099	1482922.7333	LA
GM-5	NM	731.29	2	90	100	NA	NA	100	1037	5512	619588.6213	1483126.6107	LA

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Table 5. Monitoring Well Construction Details, General Motors Corporation, Moraine, Ohio.

	Surface Elevation	TOC Elevation	Well Diameter	Screened Interval				Borehole Depth	Site Coordinates		State Plane Coordinates		Geologic
Well	ft msl	ft msl	inches	ft bls	ft bls	ft msl	ft msl	ft bls	Northing, y	Easting, x	Northing, y	Easting, x	Modifiers
Lower Aquifer Wells													
GM-7R	NM	735.61	2	80	90	NA	NA	91	1247	5295	619863.8298	1482962.1340	LA
GM-9	NM	724.07	2	90	100	NA	NA	100	146	5247	618771.8670	1482674.1902	LA
GM-11	NM	723.71	2	90	100	NA	NA	100	679	5164	619318.6270	1482694.0524	LA
GM-13	NM	723.82	2	90	100	NA	NA	100	566	4990	619239.1943	1482501.6168	LA
GM-14	NM	723.50	2	140	150	NA	NA	150	611	5030	619244.0886	1482515.5184	LA
GM-15	NM	725.23	2	90	100	NA	NA	100	664	4581	619427.7004	1482156.5128	LA
GM-19D	NM	730.73	4	145	150	NA	NA	150	1775	5298	620339.8625	1483063.5273	LA
GM-20D	NM	727.26	4	87	92	NA	NA	92	619	5699	619177.7271	1483236.8889	LA
GM-39	731.15	730.95	2	106	116	625	615	116	5396	6006	623705.5364	1484609.0626	LA
GM-40	727.28	727.04	2	140	150	587	577	150	3089	4984	621693.8055	1483084.8121	LA
GM-41	731.22	733.65	2	104	114	627	617	114	3430	6684	621635.7801	1484818.4021	LA
GM-42	729.48	729.16	2	140	150	589	579	150	2338	5651	620810.1968	1483562.5296	LA
GM-54	730.51	730.29	2	70	80	661	651	80	2995	6818	621182.1891	1484848.6752	LA
GM-56	719.75	719.52	2	75	85	645	635	85	-646	5209	618006.1752	1482448.5647	LA:NTP
GM-58	735.59	735.46	2	72	82	664	654	82	3451	7183	621541.9882	1485308.7468	LA:BT
GM-61	732.48	732.23	2	70	80	662	652	80	4501	6318	622762.6947	1484707.4691	LA:BT
GM-65D	723.83	723.54	2	85	95	639	629	108	-1491	4311	617389.5183	1481380.4746	LA:NTP
GM-67D	732.64	732.19	2	70	80	663	653	121	4744	6082	623053.5624	1484533.4779	LA:BT
GM-68D	732.46	732.27	2	64	74	668	658	150	4064	6358	622327.5383	1484645.8862	LA:BT
GM-69	732.42	732.08	2	90	100	642	632	140	3022	6352	621314.8199	1484401.6371	LA
GM-70	737.47	737.19	2	72	82	665	655	120	3887	7283	621944.0370	1485505.8829	LA
GM-73	737.34	736.97	2	85	95	652	642	120	4495	6843	622635.9765	1485216.5022	LA
GM-74D	732.49	732.04	2	69	79	663	653	120	4203	6417	622450.0123	1484735.6502	LA:BT
GM-75D	738.13	737.68	2	85	95	653	643	120	4604	6623	622793.2406	1485027.5873	LA
GM-76D	739.48	738.94	2	70	80	669	659	120	5392	6730	623535.2043	1485312.4245	LA:BT
GM-77D	741.52	740.93	2	75	85	667	657	100	3615	7741	621574.4283	1485889.3662	LA:BT
GM-82	732.55	732.14	2	85	95	648	638	119.5	3640	6107	621972.7146	1484304.7894	LA
GM-83D	726.41	725.77	2	110	120	616	606	120	3719	3844	622568.1953	1482120.4685	LA
GM-84	740.44	739.92	2	96.5	106.5	644	634	120	2580	7606	620619.4561	1485522.1487	LA:BT
HR-10	740.90	742.81	4	115	125	626	616	125	7686	5492	626078.4125	1484653.5358	LA:NTP
HR-12	741.00	742.64	4	120	130	621	611	130	7333	6194	625702.3993	1485250.0490	LA
HR-13	733.20	735.03	4	75	85	658	648	85	5221	5665	623616.8315	1484215.3411	LA:BT
HR-14	729.90	731.63	4	78	88	652	642	88	5178	5209	623675.4267	1483782.2839	LA
HR-15	732.10	733.74	4	88	98	644	634	98	5161	5020	623712.7941	1483595.9072	LA
M73C	NM	716.55	NA	NA	NA	NA	NA	NA	180	4539	618973.2537	1482114.3309	LA
MT69	719.84	722.71	8	NA	NA	NA	NA	158	-988	5020	617749.1907	1482121.3945	LA
MT576M	750.00	751.46	5	NA	NA	NA	NA	114	4804	9620	622940.2909	1487799.4686	LA

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Table 5. Monitoring Well Construction Details, General Motors Corporation, Moraine, Ohio.

Well	Surface Elevation ft msl	TOC Elevation ft msl	Well Diameter inches	Screened Interval ft bls	Screened Interval ft bls	Screened Interval ft msl	Screened Interval ft msl	Borehole Depth ft bls	Site Coordinates Northing, y	Site Coordinates Easting, x	State Plane Coordinates Northing, y	State Plane Coordinates Easting, x	Geologic Modifiers
Lower Aquifer Wells													
MT596M*	759.18	757.73	5	NA	NA	NA	NA	89	6438	10644	624057.1091	1488849.1418	LA
DN-13	724.09	727.54	20	110	170	614	554	170	470	4760	619196.1959	1482267.5426	LA
11B	744.5	742.56	NA	NA	NA	NA	NA	158	4501	7456	622501.4801	1485799.6814	LA
12A	740.86	742.39	18	104	144	637	597	154	4787	7510	622804.0361	1485951.2100	LA
A	NM	739	20	155	205	NA	NA	205	6045	6056	624325.4108	1484805.7949	LA
31	NM	734.05	20	90	122	NA	NA	122	5521	6422	623727.4107	1485049.2752	LA
34	NM	733.46	20	107	140	NA	NA	140	4004	6754	622178.4664	1485017.7925	LA
39	NM	732.07	20	117	142	NA	NA	145	5263	6435	623442.4628	1484987.5777	LA
FW-1A	NM	739.89	24	105	166	NA	NA	169	7344	7069	625357.5160	1486090.3366	LA
FW-2	NM	737.48	20	NA	150	NA	NA	160	4470	7259	622516.4369	1485616.6642	LA
FW-3	NM	739.26	20	NA	141	NA	NA	200	4476	6593	622675.0394	1484968.9430	LA
FW-4	NM	731.62	14	NA	136	NA	NA	160	2316	6453	620605.0473	1484338.1137	LA

TOC - Top of Casing. NA - Not Available.
ft msl - Feet Above Mean Sea Level. NM - Not Measured.
ft bls - Feet Below Land Surface.
(1) - Depth of screened interval and total well depth have been modified from the well log due to site construction.
(2) - City of Moraine Monitoring Wells.
* Measuring point is top of cement housing.
Site coordinates based on site-specific benchmarks.
State plane coordinates in NAD 83 Ohio South.
UA - Upper Aquifer.
LA - Lower Aquifer.
TT - Top of Till (regional clay till).
TUT - Top of Upper Till (upper clay till).
BT - Below Till (regional clay till).
WT - Water Table (screened across the watertable interface).
NTP - No Till Present.

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Table 6. Groundwater Level Measurements Collected During November 17-18, 2008, General Motors Corporation, Moraine, Ohio.

Well	Measuring Point Elevation	Depth-to-Water (feet)	Groundwater Elevation (AMSL)
Upper Aquifer Wells			
W-1-N	739.02	30.90	708.12
W-2-N	731.68	24.08	707.60
W-3-N	733.66	26.13	707.53
W-4-N	731.63	24.06	707.57
HR-1	732.71	26.48	706.23
HR-2	734.75	27.09	707.66
HR-3	736.75	29.12	707.63
HR-4	742.60	35.52	707.08
HR-5	734.27	27.06	707.21
HR-6	732.66	26.06	706.60
HR-7	731.73	25.51	706.22
HR-8	743.42	35.10	708.32
HR-9	743.51	34.80	708.71
HR-11	743.33	34.54	708.79
HR-16	727.01	21.32	705.69
HR-17	726.43	20.50	705.93
W-1-S	729.29	23.07	706.22
W-2-S	726.64	21.58	705.06
W-3-S	729.17	24.80	704.37
W-4-S	727.92	22.58	705.34
GM-2	735.81	30.58	705.23
4S	731.36	26.48	704.88
GM-6	730.27	25.70	704.57
GM-8	735.17	30.42	704.75
GM-10	723.90	19.61	704.29
GM-16	725.30	20.85	704.45
GM-17	723.84	19.31	704.53
GM-18	723.80	19.37	704.43
GM-19S	730.92	25.34	705.58
GM-21	725.00	19.50	705.50
GM-22	731.63	25.21	706.42
GM-23	731.07	23.20	707.87
GM-24	747.29	37.83	709.46
GM-25	746.17	37.88	708.29
GM-26	722.29	18.57	703.72
GM-27	730.57	22.76	707.81
GM-28	736.46	28.95	707.51
GM-29	731.37	23.62	707.75
GM-30	734.79	27.00	707.79
GM-31	732.13	25.91	706.22
GM-32	732.08	26.60	705.48
GM-33	729.77	23.80	705.97
GM-34	730.56	24.60	705.96
GM-35	731.27	25.87	705.40
GM-36	731.11	25.58	705.53

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Table 6. Groundwater Level Measurements Collected During November 17-18, 2008, General Motors Corporation, Moraine, Ohio.

Well	Measuring Point Elevation	Depth-to-Water (feet)	Groundwater Elevation (AMSL)
Upper Aquifer Wells			
GM-37	730.05	24.22	705.83
GM-38	729.88	24.38	705.50
GM-43	729.00	NM	NA
GM-44	728.77	22.40	706.37
GM-45	729.75	23.00	706.75
GM-46	727.79	19.21	708.58
GM-47	726.75	21.98	704.77
GM-48	728.67	24.39	704.28
GM-49	727.88	24.21	703.67
GM-50	726.56	21.83	704.73
GM-51	728.30	24.27	704.03
GM-52	727.62	23.15	704.47
GM-53	730.35	23.75	706.60
GM-55	719.86	16.03	703.83
GM-57	721.74	18.46	703.28
GM-59	732.25	25.00	707.25
GM-60	732.24	25.00	707.24
GM-62	722.11	17.89	704.22
GM-63	725.79	20.72	705.07
GM-64	725.95	20.88	705.07
GM-65S	723.58	20.71	702.87
GM-66	733.22	26.18	707.04
GM-67S	732.06	24.71	707.35
GM-68S	732.18	25.08	707.10
GM-71	736.82	29.45	707.37
GM-72	736.78	29.40	707.38
GM-74S	732.17	24.95	707.22
GM-75S	737.69	30.35	707.34
GM-76S	739.00	30.81	708.19
GM-77S	741.14	33.63	707.51
GM-78	721.18	16.75	704.43
GM-79	717.91	14.27	703.64
GM-80	715.82	12.92	702.90
GM-81	715.31	12.30	703.01
GM-83S	725.84	19.32	706.52
EAST	730.98	25.05	705.93
WEST	731.08	29.25	701.83
WSU-17	726.18	21.53	704.65
WSU-18	733.52	28.71	704.81
WSU-19	726.62	23.36	703.26
WSU-22	NA	NM	NA
WSU-23	724.90	20.07	704.83
WSU-24	724.82	19.95	704.87
TW-2 (ON)	733.38	31.55	701.83
ME-2	732.08	NM	NA
ME-3	731.73	25.51	706.22
ME-4	732.24	26.08	706.16
ME-6	732.68	26.50	706.18

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Table 6. Groundwater Level Measurements Collected During November 17-18, 2008, General Motors Corporation, Moraine, Ohio.

Well	Measuring Point Elevation	Depth-to-Water (feet)	Groundwater Elevation (AMSL)
Lower Aquifer Wells			
GM-1	735.74	30.77	704.97
GM-3	730.44	26.95	703.49
GM-4	731.46	27.00	704.46
GM-5	731.29	26.62	704.67
GM-7R	735.61	30.66	704.95
GM-9	724.07	20.07	704.00
GM-11	723.71	19.69	704.02
GM-13	723.82	20.24	703.58
GM-14	723.50	20.09	703.41
GM-15	725.23	21.90	703.33
GM-19D	730.73	25.24	705.49
GM-20D	727.26	22.22	705.04
GM-39	730.95	23.16	707.79
GM-40	727.04	21.35	705.69
GM-41	733.65	26.97	706.68
GM-42	729.16	23.75	705.41
GM-54	730.29	23.63	706.66
GM-56	719.52	15.73	703.79
GM-58	735.46	28.53	706.93
GM-61	732.23	25.03	707.20
GM-65D	723.54	20.68	702.86
GM-67D	732.19	24.85	707.34
GM-68D	732.27	25.35	706.92
GM-69	732.08	25.77	706.31
GM-70	737.19	30.18	707.01
GM-73	736.97	29.68	707.29
GM-74D	732.04	24.97	707.07
GM-75D	737.68	30.28	707.40
GM-76D	738.94	31.16	707.78
GM-77D	740.93	33.74	707.19
GM-82	732.14	25.56	706.58
GM-83D	725.77	18.97	706.80
GM-84	739.92	33.44	706.48
HR-10	742.81	34.11	708.70
HR-12	742.64	33.85	708.79
HR-13	735.03	27.34	707.69
HR-14	731.63	24.09	707.54
HR-15	733.74	26.34	707.40
M73C	716.55	13.09	703.46
MT69	722.71	NM	NA
MT576M	751.46	42.43	709.03
MT596M	757.73	42.37	715.36

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Table 6. Groundwater Level Measurements Collected During November 17-18, 2008, General Motors Corporation, Moraine, Ohio.

Well	Measuring Point Elevation	Depth-to-Water (feet)	Groundwater Elevation (AMSL)
Production and Fire Wells			
DN-13 (County Well)	727.78	86.28	641.50
11B	NS	35.03	707.53
12A	NS	36.96	705.43
31	734.05	25.96	708.09
34	733.46	26.33	707.13
39	732.07	24.36	707.71
A	739.00	29.41	709.59
FW-1A	739.89	31.97	707.92
FW-2	737.48	30.27	707.21
FW-3	739.26	31.93	707.33
FW-4	731.62	25.78	705.84
Stream Gauge*			
SG1	747.64	NM	NA
SG2	709.95	0.27	709.68
SG3	718.45	6.71	711.74
SG4	714.78	6.03	708.75
SG5	711.10	NM	NA
SG6	723.21	15.82	707.39
SG7	731.55	0.00	731.55
IRZ Wells			
RZ-1D	731.20	22.63	708.57
RZ-1H	730.32	22.60	707.72
RZ-1K	729.85	NM	NA
RZ-1N	731.66	23.12	708.54
RZ-1U	735.13	NM	NA
OW-4	735.02	NM	NA
RZ-3A	726.74	21.93	704.81
RZ-3D	728.64	23.21	705.43
RZ-3F	728.54	NM	NA
RZ-3I	729.36	22.79	706.57
RZ-3L	730.65	NM	NA
RZ-3N	729.99	18.17	711.82
RZ-3U	730.37	NM	NA
RZ-3Y	731.03	25.55	705.48
RZ-3CC	729.39	24.07	705.32
RZ-3GG	725.77	20.21	705.56
RZ-3II	726.08	NM	NA
RZ-3MM	726.92	21.50	705.42
RZ-4A	725.71	20.23	705.48
RZ-4D	727.07	20.23	706.84
RZ-4G	728.16	22.67	705.49
RZ-4I	728.55	NM	NA
RZ-4L	727.54	22.40	705.14
RZ-4O	726.46	NM	NA

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Table 6. Groundwater Level Measurements Collected During November 17-18, 2008, General Motors Corporation, Moraine, Ohio.

Well	Measuring Point Elevation	Depth-to-Water (feet)	Groundwater Elevation (AMSL)
Moraine City			
MW-1	715.53	11.13	704.40
MW-4	707.19	7.47	699.72
MW-5	709.34	7.92	701.42
MW-9	712.85	12.94	699.91

Measuring point is to top of the well casing or surveyed measuring point.
Groundwater elevations are reported in feet above mean sea level (AMSL).
Groundwater levels were measured on November 17-18, 2008 using an electronic water level indicator (more than one meter was used and WL elevations reflect a calibration factor).
Groundwater level measurements are reported in feet below the measuring point.
NS - Not Surveyed.
NM - Not measured.
NA - Not applicable.
*Surface water measurement

Table 7. Summary of Precipitation Measurements Recorded by the National Weather Service, During 2008 - Dayton, Ohio.

Date	Actual Precipitation	Average Precipitation	Departure from Average
January	2.04	2.59	0.55 below average
February	4.14	2.15	1.99 above average
March	6.98	3.24	3.74 above average
April	2.21	3.86	1.65 below average
May	4.38	4.25	0.13 above average
June	6.63	4.05	2.58 above average
July	5.89	3.79	2.10 above average
August	1.65	3.14	1.49 below average
September	2.69	2.82	0.13 below average
October	1.24	2.52	1.28 below average
November	2.28	3.07	0.79 below average
December	5.12	2.87	2.25 above average
2008 Total	**45.25**	**38.35**	**6.90 above average**

All precipitation measurements are reported in inches.
Information obtained from the NOAA Website (http://www7.ncdc.noaa.gov/IPS/lcd/lcd.html)

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Table 8. Vertical Gradients For Shallow/Deep Well Pairs During 2008, General Motors Corporation, Moraine, Ohio.

	Vertical Gradients November 17 and 18, 2008	
Upper/Lower Wells	**Direction**	**Gradient (ft/ft)**
Upgradient		
HR-9/HR-10	D	-0.0002
HR-11/HR-12	NA	0.0000
On-Site		
W-3-N/HR-15	D	-0.0027
W-4-N/HR-14	D	-0.0010
HR-3/HR-13	U	0.0024
GM-8/GM-7R	U	0.0050
GM-2/GM-1	D	-0.0058
GM-6/GM-3	D	-0.0196
4S/GM-5	D	-0.0044
GM-68S/GM-68D	D	-0.0004
GM-75S/GM-75D	U	0.0014
Former Oil House Area		
GM-23/GM-27	D	-0.0037
GM-23/GM-39	D	-0.0010
Off-Site/Downgradient		
GM-10/GM-9	D	-0.0058
GM-16/GM-15	D	-0.0267
GM-18/GM-13	D	-0.0189
GM-17/GM-11	D	-0.0102
GM-55/GM-56	D	-0.0009
GM-65S/GM-65D	D	-0.0002

D - Downward gradient (-). NA - Not applicable.
U - Upward gradient (+).

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Table 9. Summary of Groundwater Analytical Results from Reactive Zone 1 Wells, General Motors Corporation, Moraine, Ohio.

RZ-1		Sidegradient Well GM-29																
Constituents	**Units**	**9/1/99**	**2/22/00**	**5/26/00**	**9/21/00**	**3/20/01**	**6/26/01**	**11/13/01**	**12/12/01**	**6/13/02**	**9/25/02**	**5/22/03**	**9/24/03**	**9/15/04**	**10/17/05**	**9/28/06**	**9/26/07**	**10/6/08**
Volatile Organic Compounds																		
1,1,1-Trichloroethane	ug/L	37.8	36.0	32.5	24.5	27.0	23.8J	<50	19J	17	16J	< 50	18J	21 J	19 J	17 J	15 J	12 J
1,1-Dichloroethane	ug/L	4.3	4.1	6.3	16.6	10.8	6.3J	<50	<50	<50	<40	< 50	<33	< 50 U	18 J	15 J	15 J	11 J
1,1-Dichloroethene	ug/L	1.3	1.1	1.6	3.1	3.5	3.0J	<50	<50	<50	<40	< 50	<33	< 50 U	< 50 U	< 33 U	< 50 U	< 33 U
Benzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0UJ	<50	<50	<50	<40	< 50	<33	< 50 U	< 50 U	< 33 U	< 50 U	< 33 U
cis-1,2-Dichloroethene	ug/L	320	223	1,190J	2,871	2,170	2050J	1,800	1,800	1600	1300	950	1200	1200	1600	1300	1200	900
Ethylbenzene	ug/L	<1.0	1.4	<1.0	<1.0	<1.0	<1.0UJ	21J	<50	<50	<40	< 50	<33	< 50 U	< 50 U	< 33 U	< 50 U	< 33 U
Tetrachloroethene	ug/L	<20	38.7	24.6	20.0	24.4	24.8J	17J	22J	22	18J	47J	18J	20 J	15 J	15 J	18 J	17 J
Toluene	ug/L	<1.0	<1.0	<1.0	2.2	<1.0	<1.0UJ	<50	<50	<50	<40	< 50	<33	< 50 U	< 50 U	< 33 U	< 50 U	< 33 U
trans-1,2-Dichloroethene	ug/L	11.1	9.1	8.9	14.4	20.4	25.6J	26	24J	21	21	< 25	20	21 J	27 J	20 J	19 J	16 J
Trichloroethene	ug/L	878	758	649J	289	354	437J	270	320	380	310	280	390	440	390	310	350	300
Vinyl chloride	ug/L	3.8	1.0	1.7	788	362	276J	230	280	140	140	99	150	230	490	210	290	150
Xylenes	ug/L	<1.0	6.0	<1.0	<1.0	<1.0	<1.0UJ	52	<50	<50	<40	< 50	<33	< 50 U	< 100 U	< 67 U	< 100 U	< 67 U
Total VOCs	**ug/L**	**1,256.3**	**1,078.4**	**1,914.6**	**4,028.8**	**2,972.1**	**2,846.5**	**2,416**	**2,465**	**2,180**	**1,805**	**1,376**	**1,796**	**1,932**	**2,559**	**1,887**	**1,907**	**1,406**

ug/L - Micrograms per liter.
J - Value is estimated.
UJ - Constituent not detected above laboratory reporting limit. Reporting limit estimated.
< - Constituent not detected above laboratory reporting limit shown.
U - Constituent not detected.
Samples collected in September and October 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 9. Summary of Groundwater Analytical Results from Reactive Zone 1 Wells, General Motors Corporation, Moraine, Ohio.

RZ-1		Upgradient Well GM-23																
Constituents	**Units**	**9/2/99**	**2/21/00**	**5/31/00**	**9/20/00**	**3/20/01**	**6/26/01**	**11/12/01**	**12/12/01**	**6/13/02**	**9/26/02**	**5/22/03**	**9/23/03**	**9/14/04**	**10/17/05**	**9/28/06**	**9/27/07**	**10/23/08**
Volatile Organic Compounds																		
1,1,1-Trichloroethane	ug/L	7.2	< 50	< 20	2.0	3.1	1.5	< 420	< 500	< 330	< 400	< 620 U	< 500 U	< 500 U	< 560 U	< 330 U	< 200 U	< 62 U
1,1-Dichloroethane	ug/L	32.5	< 50	12.8 J	16.3	17.9	3.7	< 420	< 500	< 330	< 400	< 620 U	< 500 U	< 500 U	< 560 U	< 330 U	< 200 U	< 62 U
1,1-Dichloroethene	ug/L	17.2	<50	6.6 J	5.1	15.9	16.3	< 420	< 500	< 330	< 400	< 620 U	< 500 U	< 500 U	< 560 U	< 330 U	< 200 U	< 62 U
Benzene	ug/L	1.9	< 50	< 20	< 1.0	1.4	< 1.0	< 420	< 500	< 330	< 400	< 620 U	< 500 U	< 500 U	< 560 U	< 330 U	< 200 U	< 62 U
cis-1,2-Dichloroethene	ug/L	7530	10400 D	4080 J	5620	9640	11000	8400	7200	9900	7700	6800	5800	4600	19000	11000	4700	2000
Ethylbenzene	ug/L	< 1.0	<50	< 20	< 1.0	<1.0	< 1.0	< 420	< 500	< 330	< 400	< 620 U	< 500 U	< 500 U	< 560 U	< 330 U	< 200 U	< 62 U
Tetrachloroethene	ug/L	6250	7280 J	6200 J	3470	2910	8600	15000	14000	8400	10000	12000	12000	6700	2300	370	280	71
Toluene	ug/L	<1.0	< 50	< 20	< 1.0	< 1.0	2.3	< 420	< 500	< 330	< 400	< 620 U	< 500 U	< 500 U	< 560 U	< 330 U	< 200 U	< 62 U
trans-1,2-Dichloroethene	ug/L	54.5	118 J	39.8 J	33.2	85.5	60.8	<210	< 250	<170	< 200	< 310 U	< 250 U	< 250 U	< 560 U	270 J	130 J	58 J
Trichloroethene	ug/L	1460	1350 D	1480 J	609	745	1780J	2200	2100	1900	1700	1500	1600	1100	490 J	95 J	82 J	< 62 U
Vinyl chloride	ug/L	2500	2420 J	140 J	801	765	68	1200	< 500	810	540	1700	690	870	2800	4100	2600	2100
Xylenes	ug/L	< 1.0	< 50	< 20	< 1.0	< 1.0	1.4	< 420	< 500	< 330	< 400	< 620 U	< 500 U	< 500 U	< 1100 U	< 670 U	< 400 U	< 120 U
Total VOCs	**ug/L**	**17,853.3**	**21,568**	**11,959.2**	**10,556.6**	**14,183.8**	**21,533.8**	**26,800**	**23,300**	**21,010**	**19,940**	**22,000**	**20,090**	**13,270**	**24,590**	**15,835**	**7,792**	**4,229**

ug/L - Micrograms per liter.
J - Value is estimated.
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U - Constituent not detected.
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Carbon source introductions began in December 1999.

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Table 9. Summary of Groundwater Analytical Results from Reactive Zone 1 Wells, General Motors Corporation, Moraine, Ohio.

RZ-1		Downgradient Well GM-28																	
Constituents	**Units**	**9/1/99**	**2/23/00**	**5/26/00**	**9/21/00**	**3/20/01**	**6/26/01**	**11/15/01**	**12/12/01**	**7/21/02**	**9/24/02**	**5/23/03**	**10/1/03**	**4/30/04**	**9/15/04**	**10/18/05**	**9/27/06**	**9/20/07**	**10/22/08**
Volatile Organic Compounds																			
1,1,1-Trichloroethane	ug/L	17.7	23.2	18.1	5.0	<1.0	<1.0	<10	<5.0UJ	<4.0	<1	< 1	<1.0	< 1	< 1 U	< 1.0 U	< 1 U	< 1 U	< 5 U
1,1-Dichloroethane	ug/L	3.3	4.2	11.8	9.9	<1.0	<1.0	<10	<5.0UJ	<4.0	2.7	4.2	3.3	3.5	3.3	4.0	4.2	4.6	2.2 J
1,1-Dichloroethene	ug/L	<1.0	<1.0	3.8	<1.0	<1.0	<1.0	<10	<5.0UJ	<4.0	<1	< 1	<1.0	< 1	< 1 U	< 1.0 U	< 1 U	< 1 U	< 5 U
Benzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0UJ	<4.0	<1	< 1	<1.0	< 1	< 1 U	< 1.0 U	< 1 U	< 1 U	< 5 U
cis-1,2-Dichloroethene	ug/L	175	503	2,700	37.0	7.7	352	<5.0	2.2UJ	<2.0	1.1	0.66	0.58	0.45 J	0.41 J	0.32 J	0.26 J	0.72 J	6.9
Ethylbenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0UJ	<4.0	<1	< 1	0.28J	< 1	< 1 U	< 1.0 U	< 1 U	< 1 U	< 5 U
Tetrachloroethene	ug/L	316	88.4	30.2	2.3	2.8	<1.0	<10	<5.0UJ	<4.0	<1	0.95J	<1.0	< 1	0.88 J	< 1.0 U	< 1 U	< 1 U	< 5 U
Toluene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	< 1.8UJ	<4.0	<1.3	1	1.0	< 1	< 1 U	< 1.0 U	< 1 U	< 1 U	< 5 U
trans-1,2-Dichloroethene	ug/L	9.2	9.7	36.5	22.3	17.6	<1.0	11	11J	8.6	11	9.2	4.0	2.2	1.2	0.63 J	0.66 J	0.58 J	1.3 J
Trichloroethene	ug/L	768	833	14.8	1.6	1.8	<1.0	<10	<5.0UJ	<4.0	0.86J	3.1	1.6	1.6	1.4	0.66 J	0.43 J	0.51 J	< 5 U
Vinyl chloride	ug/L	3.2	<1.0	1.9	12.4	2.6	<1.0	<10	<5.0UJ	<4.0	<1	< 1	0.53J	< 1	0.44 J	1.1	0.42 J	1.2	6.5
Xylenes	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0UJ	<4.0	<1.2	0.87J	1.6	< 1	< 1 U	< 2.0 U	< 2 U	< 2 U	< 10 U
Total VOCs	**ug/L**	**1,292.4**	**1,461.5**	**2,817.1**	**90.5**	**32.5**	**352**	**11**	**11**	**8.6**	**15.66**	**19.98**	**12.89**	**7.75**	**7.63**	**6.71**	**5.97**	**7.61**	**16.9**

ug/L - Micrograms per liter.
J - Value is estimated.
UJ - Constituent not detected above laboratory reporting limit. Reporting limit estimated.
< - Constituent not detected above laboratory reporting limit shown.
U - Constituent not detected.
Samples collected in September and October 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 10. Summary of Groundwater Analytical Results from Reactive Zone 3 West Wells, General Motors Corporation, Moraine, Ohio.

RZ-3 West		Upgradient Well EAST														
Constituents	**Units**	**9/21/99**	**2/23/00**	**5/25/00**	**9/22/00**	**3/19/01**	**6/25/01**	**11/12/01**	**12/11/01**	**6/12/02**	**9/23/02**	**5/21/03**	**9/25/03**	**9/13/04**	**10/18/05**	**9/21/06**
Volatile Organic Compounds																
1,1,1-Trichloroethane	ug/L	21.0	20.6	20.5	22.2	19.3	16.7	13	12	14	10	6.2	7.1	5.7	5.9	10
1,1-Dichloroethane	ug/L	5.4	7.3	7.7	7.7	5.9	5.5	6.2	5.3	6.0	3.9	1.9	2.3	0.72 J	3.0	3.2
1,1-Dichloroethene	ug/L	<1.0	<1.0	1.02J	1.2	1.2	<1.0	0.90J	<3.3	1.3	0.73J	< 1.4	<2.0	0.34 J	< 1.0 U	0.59 J
Benzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.3	<3.3	<2.5	<2	< 1.4	<2.0	< 1 U	< 1.0 U	< 1.4 U
cis-1,2-Dichloroethene	ug/L	9.1	24.0	32.0	77.3	117	80.1	51	51	33	8.8	4.5	4.3	1.6	3.1	4.1
Ethylbenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.3	<3.3	<2.5	<2	< 1.4	<2.0	< 1	< 1.0 U	< 1.4 U
Tetrachloroethene	ug/L	61.0	77.1	54.6	55.8	49.9	59.3	56	49	37	49	42	47	40	47	41
Toluene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.3	<3.3	<2.5	<2	< 1.4	<2.0	< 1 U	< 1.0 U	< 1.4 U
trans-1,2-Dichloroethene	ug/L	<1.0	2.0	1.5	1.8	5.8	3.3	2.7	2.4	1.3	<1	< 0.72	<1.0	< 0.5 U	< 1.0 U	< 1.4 U
Trichloroethene	ug/L	56.1	90.1	81.3	97.2	105	117	92	94	75	46	29	35	23	23	29
Vinyl chloride	ug/L	<1.0	5.3	1.2	3.0	4.8	<1.0	1.5J	0.66J	0.48	<2	< 1.4	<2.0	< 1 U	1.2	< 1.4 U
Xylenes	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.3	<3.3	<2.5	<2	< 1.4	<2.0	< 1 U	< 2.0 U	< 2.9 U
Total VOCs	**ug/L**	**152.6**	**226.4**	**199.82**	**266.2**	**308.9**	**281.9**	**223.3**	**214.36**	**168.08**	**118.43**	**83.6**	**95.7**	**71.36**	**83.2**	**87.89**

ug/L - Micrograms per liter.
J - Value is estimated.
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U - Constituent not detected.
Samples collected in September and October 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 10. Summary of Groundwater Analytical Results from Reactive Zone 3 West Wells, General Motors Corporation, Moraine, Ohio.

RZ-3 West		Downgradient Well GM-32																
Constituents	**Units**	**9/22/99**	**2/28/00**	**5/30/00**	**9/25/00**	**3/19/01**	**6/25/01**	**11/12/01**	**12/11/01**	**6/12/02**	**9/20/02**	**5/23/03**	**10/1/03**	**9/14/04**	**10/19/05**	**9/19/06**	**9/18/07**	**9/23/08**
Volatile Organic Compounds																		
1,1,1-Trichloroethane	ug/L	<1.0	<10	<100	<1.0	<50	9.2	<5.0	<100	<20	<10	< 1 U	<2.0	< 10 U	< 10 U	< 10 U	< 5 U	< 10 U
1,1-Dichloroethane	ug/L	3.3	101	46.0J	35.9	<50	3.1	6.2	<100	12	9.7J	5.5	5.5	3 J	4.9 J	3.7 J	4.3 J	4 J
1,1-Dichloroethene	ug/L	<1.0	<10	<100	<1.0	<50	<1.0	<5.0	<100	<20	<10	< 1 U	<2.0	< 10 U	< 10 U	< 10 U	< 5 U	< 10 U
Benzene	ug/L	<1.0	<10	<100	<1.0	<50	<1.0	4.3J	<100	4.0	<10	1.6	1.5J	< 10 U	< 10 U	< 10 U	1.6 J	< 10 U
cis-1,2-Dichloroethene	ug/L	2.6	<10	<100	<1.0	<50	32.0	<2.5	<50	<10	<5	0.66	<1.0	< 5 U	< 10 U	< 10 U	< 5 U	< 10 U
Ethylbenzene	ug/L	<1.0	<10	<100	<1.0	<50	<1.0	0.79J	<100	<20	<10	0.65J	0.73J	< 10 U	< 10 U	< 10 U	< 5 U	< 10 U
Tetrachloroethene	ug/L	1.2	<10	<100	<1.0	<50	37.6	<5.0	<100	<20	<10	< 1 U	<2.0	< 10 U	< 10 U	< 10 U	< 5 U	< 10 U
Toluene	ug/L	1.0	20.6	<100	10.4	<50	<1.0	12	<100	4.9	<10	2.2	2.3	< 10 U	< 10 U	< 10 U	< 5 U	< 10 U
trans-1,2-Dichloroethene	ug/L	4.2	111	41.0J	20.3	<50	2.5	2.9	<50	3.0	<5	1.6	1.0	< 5 U	< 10 U	< 10 U	1 J	< 10 U
Trichloroethene	ug/L	3.2	<10	<100	<1.0	<50	107	<5.0	<100	<20	<10	< 1 U	<2.0	< 10 U	< 10 U	< 10 U	< 5 U	< 10 U
Vinyl chloride	ug/L	3.0	<10	<100	<1.0	<50	<1.0	1.1J	<100	3.0	<10	< 1 U	<2.0	< 10 U	< 10 U	< 10 U	< 5 U	< 10 U
Xylenes	ug/L	<1.0	<10	<100	<1.0	<50	<1.0	3.0J	<100	<20	<10	2.1	3.6	< 10 U	< 20 U	< 20 U	3.4 J	< 20 U
Total VOCs	**ug/L**	**18.5**	**232.6**	**87**	**66.6**	**0**	**191.4**	**30.29**	**0**	**26.9**	**9.7**	**14.31**	**14.63**	**3**	**4.9**	**3.7**	**10.3**	**4**

ug/L - Micrograms per liter.
J - Value is estimated.
UJ - Constituent not detected above laboratory reporting limit. Reporting limit estimated.
< - Constituent not detected above laboratory reporting limit shown.
U - Constituent not detected.
Samples collected in September and October 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 10. Summary of Groundwater Analytical Results from Reactive Zone 3 West Wells, General Motors Corporation, Moraine, Ohio.

RZ-3 West		Downgradient Well GM-8											Downgradient Well GM-6									
Constituents	**Units**	**3/6/98**	**9/20/99**	**9/26/00**	**11/9/01**	**9/20/02**	**10/1/03**	**9/14/04**	**10/19/05**	**9/19/06**	**9/18/07**	**9/23/08**	**3/6/98**	**9/20/99**	**9/26/00**	**11/9/01**	**9/20/02**	**10/2/03**	**9/14/04**	**10/19/05**	**9/19/06**	**9/18/07**	**9/24/08**
Volatile Organic Compounds																						
1,1,1-Trichloroethane	ug/L	6.7	1.9	<1.0	0.40J	<2.0	<2.0	< 1 U	< 1.0 U	< 5 U	< 2 U	< 1 U	36.2	24.6	12.1	3.9	1.4J	0.19J	< 1 U	< 1.0 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethane	ug/L	49.3	30.2	36.5	40	63	48	15	16	18	9.1	1.7	35.3	33.2	13.0	14	60	20	18	21	16	26	< 8.4 U
1,1-Dichloroethene	ug/L	1.0	<1.0	<1.0	< 1.0	<2.0	<2.0	< 1 U	< 1.0 U	< 5 U	< 2 U	< 1 U	<1.0	1.2	<1.0	< 2.0	<2.0	<1.0	< 1 U	< 1.0 U	< 1 U	< 1 U	< 1 U
Benzene	ug/L	2.3	3.4	1.1	0.78J	5.5	5.4	4.2	3.5	2.1 J	2.4	6.8	<1.0	<1.0	<1.0	< 2.0	2.2	1.0	1.7	0.49 J	< 1 U	0.42 J	1.2
cis-1,2-Dichloroethene	ug/L	56.1	26.2	1.5	2.0	5.5	<1.0	< 0.5	0.24 J	2.1 J	< 2 U	< 1 U	82.4	52.9	41.0	8.2	43	13	10	20	18	16	6.7
Ethylbenzene	ug/L	28.9	20.7	12.5	0.40J	7.5	11	19	29	< 5 U	1.7 J	8.6	<1.0	<10.0	<1.0	< 2.0	<2.0	0.22J	< 1 U	< 1.0 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/L	20.0	14.8	<1.0	< 1.0	<2.0	<2.0	< 1 U	< 1.0 U	< 5 U	< 2 U	< 1 U	94.0	81.4	51.5	14	14	11	2.6	0.34 J	< 1 U	< 1 U	< 1 U
Toluene	ug/L	<1.0	<1.0	<1.0	< 1.0	1.8J	1.2J	< 1 U	0.39 J	< 5 U	< 2 U	< 1 U	<1.0	<1.0	<1.0	< 2.0	<2.0	0.83J	< 1 U	< 1.0 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/L	10.1	12.0	5.4	3.6	9	4.4	1.1	0.99 J	1 J	0.9 J	0.27 J	2.4	2.0	2.2	1.8	8.6	2.5	1.9	2.1	1.6	2.6	1.3
Trichloroethene	ug/L	95.2	30.4	6.6	4.4	<2.0	<2.0	< 1 U	< 1.0 U	< 5 U	< 2 U	< 1 U	119	78.2	56.6	48	33	23	5.7	1.4	0.35 J	0.34 J	< 1 U
Vinyl chloride	ug/L	10.1	8.4	2.4	1.9	5.8	<2.0	0.48 J	0.73 J	3.2 J	< 2 U	0.48 J	2.3	1.6	3.7	1.9J	12	3.3	3	11	7.3	6.7	2.1
Xylenes	ug/L	10.3	2.3	1.9	0.39J	1.5J	2.0	1.1	< 2.0 U	< 10 U	0.9 J	3.9	<1.0	<10	<1.0	< 2.0	< 2.0	1.0	< 1 U	< 2.0 U	< 2 U	< 2 U	< 2 U
Total VOCs	**ug/L**	**290**	**150.3**	**67.9**	**53.87**	**99.6**	**72**	**40.88**	**50.85**	**26.4**	**15**	**21.75**	**371.6**	**275.1**	**180.1**	**91.8**	**174.2**	**76.04**	**42.9**	**56.33**	**43.25**	**52.06**	**11.3**

ug/L - Micrograms per liter.
J - Value is estimated.
UJ - Constituent not detected above laboratory reporting limit. Reporting limit estimated.
< - Constituent not detected above laboratory reporting limit shown.
U - Constituent not detected.
Samples collected in September and October 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 11. Summary of Groundwater Analytical Results from Reactive Zone 3 East Wells, General Motors Corporation, Moraine, Ohio.

RZ-3 East		Upgradient Well GM-22																
Constituents	**Units**	**9/1/99**	**2/23/00**	**5/25/00**	**9/21/00**	**3/20/01**	**6/26/01**	**11/13/01**	**12/12/01**	**6/13/02**	**9/25/02**	**5/22/03**	**9/24/03**	**9/14/04**	**10/17/05**	**9/20/06**	**9/26/07**	**10/3/08**
Volatile Organic Compounds																		
1,1,1-Trichloroethane	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.4	0.63J	0.47	0.93J	0.61J	1.2	1.7	0.96 J	0.47 J	0.66 J	0.73 J
1,1-Dichloroethane	ug/L	<1.0	2.2	2.8	2.4	3.8	4.7	6.8	6.6	4.1	<2	1.2	1.0	2.1	1.0	1.1	0.72 J	< 1 U
1,1-Dichloroethene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.58J	0.32J	<1.0	<2	< 1	<1.0	< 1 U	< 1.0 U	< 1 U	< 1 U	< 1 U
Benzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2	< 1	<1.0	< 1 U	< 1.0 U	< 1 U	< 1 U	< 1 U
cis-1,2-Dichloroethene	ug/L	<1.0	3.1	4.0	1.9	3.5	5.1	8.5	7.8	3.6	<1	0.46J	0.45J	0.9	0.36 J	0.28 J	0.24 J	< 1 U
Ethylbenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2	< 1	<1.0	< 1 U	< 1.0 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/L	3.6	2.8	3.0	1.6	2.2	3.2	4.9	2.9	1.9	2.3	2.5	2.9	2.9	3.6	3.2	3.3	5.7
Toluene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	0.32J	<1.0	<2	0.49J	<1.0	< 1 U	< 1.0 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.17J	<0.50	<0.50	<1	< 0.5	<0.50	< 0.5 U	< 1.0 U	< 1 U	< 1 U	< 1 U
Trichloroethene	ug/L	4.0	2.5	3.6	<1.0	1.6	2.8	7.5	2.3	2.1	7.6	6	7.6	10	4.7	3	3.3	5.7
Vinyl chloride	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	0.60J	0.85J	0.38	<2	< 1	<1.0	< 1 U	< 1.0 U	< 1 U	< 1 U	< 1 U
Xylenes	ug/L	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2	< 1	<1.0	< 1 U	< 2.0 U	< 2 U	< 2 U	< 2 U
Total VOCs	**ug/L**	**7.6**	**11.8**	**13.4**	**5.9**	**11.1**	**16.9**	**33.45**	**21.72**	**12.55**	**10.83**	**11.26**	**13.15**	**17.6**	**10.62**	**8.05**	**8.22**	**12.13**

ug/L - Micrograms per liter.
J - Value is estimated.
UJ - Constituent not detected above laboratory reporting limit. Reporting limit estimated.
< - Constituent not detected above laboratory reporting limit shown.
U - Constituent not detected.
Samples collected in September and October 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 11. Summary of Groundwater Analytical Results from Reactive Zone 3 East Wells, General Motors Corporation, Moraine, Ohio.

RZ-3 East		Downgradient Well GM-21																	
Constituents	**Units**	**9/22/99**	**2/23/00**	**5/26/00**	**9/22/00**	**3/19/01**	**6/25/01**	**11/13/01**	**12/11/01**	**6/12/02**	**9/25/02**	**5/22/03**	**9/24/03**	**9/14/04**	**10/17/05**	**9/20/06**	**12/1/06**	**9/26/07**	**10/3/08**
Volatile Organic Compounds																			
1,1,1-Trichloroethane	ug/L	53.1	15.4	27.9	15.7	7.0	7.7	6.9	1.2	23	31	18	31	26	4.3	12	4.7	8.5	8.7
1,1-Dichloroethane	ug/L	9.0	5.8	6.8	5.6	5.1	4.1	3.8J	0.71J	5.4	5J	4.1J	6.9J	4.2 J	3.4	8.6	6.4	18	15
1,1-Dichloroethene	ug/L	3.9	1.6	2.4	1.6	1.2	<1.0	<5.0	<1.0	3.6	2.6J	< 6.7	2.0J	3.1 J	< 1.0 U	0.19 J	0.2 J	< 1.4 U	0.33 J
Benzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<6.0	<6.7	< 6.7	<8.0	< 9.1 U	< 1.0 U	< 1 U	< 1 U	< 1.4 U	< 1.4 U
cis-1,2-Dichloroethene	ug/L	66.4	35.9	47.8	38.7	39.5	37.8	39	6.5	48	43	130	100	56	20	14	8.2	26	38
Ethylbenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<6.0	<6.7	< 6.7	<8.0	< 9.1 U	< 1.0 U	< 1 U	< 1 U	< 1.4 U	< 1.4 U
Tetrachloroethene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<6.0	<6.7	< 6.7	<8.0	< 9.1 U	< 1.0 U	< 1 U	< 1 U	< 1.4 U	0.56 J
Toluene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<6.0	<6.7	< 6.7	<8.0	< 9.1 U	< 1.0 U	< 1 U	< 1 U	< 1.4 U	< 1.4 U
trans-1,2-Dichloroethene	ug/L	7.8	9.3	7.4	12.9	16.4	15.7	15	2.8	8.3	5.1	2.2J	2.9J	7.9	22	4.3	4.8	2.5	4.7
Trichloroethene	ug/L	28.7	283	311	189	169	158	160	28	210	230	79	200	180	1.8	5.9	0.8 J	2.8	18
Vinyl chloride	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<6.0	<6.7	< 6.7	<8.0	< 9.1 U	13	9.3	4.7	12	19
Xylenes	ug/L	<1.0	2.3	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<6.0	<6.7	< 6.7	<8.0	< 9.1 U	< 2.0 U	< 2 U	< 2 U	< 2.9 U	< 2.9 U
Total VOCs	**ug/L**	**168.9**	**353.3**	**403.3**	**263.5**	**238.2**	**223.3**	**224.7**	**39.21**	**298.3**	**316.7**	**233.3**	**342.8**	**277.2**	**64.5**	**54.29**	**29.8**	**69.8**	**104.29**

ug/L - Micrograms per liter.
J - Value is estimated.
UJ - Constituent not detected above laboratory reporting limit. Reporting limit estimated.
< - Constituent not detected above laboratory reporting limit shown.
U - Constituent not detected.
Samples collected in September and October 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 12. Summary of Groundwater Analytical Results from Reactive Zone 4 East Wells, General Motors Corporation, Moraine, Ohio.

RZ-4 East		Upgradient Well WEST			Downgradient Well GM-19S													
Constituents	**Units**	**9/21/99**	**2/23/00**	**5/25/00**	**9/20/99**	**5/24/00**	**9/22/00**	**3/19/01**	**6/25/01**	**11/12/01**	**6/12/02**	**9/26/02**	**5/21/03**	**9/25/03**	**9/13/04**	**10/18/05**	**9/21/06**	**9/17/07**	**9/23/08**
Volatile Organic Compounds																			
1,1,1-Trichloroethane	ug/L	24.8	25.1	27.4	16.0	17.9	14.5	11.9	9.6	7.6	7.2	6.3	12	13	14	13	9.7 J	0.59 J	< 1 U
1,1-Dichloroethane	ug/L	25.6	24.5	32.5	7.7	7.0	4.4	4.1	2.9	2.9J	3.7	6.3	8.4	8.3	8.1	9.0	7 J	10	13
1,1-Dichloroethene	ug/L	<1.0	<1.0	<1.0	1.0	1.1	<1.0	<1.0	<1.0	<3.3	0.98	<4	< 4	1.6J	1.9 J	1.2 J	< 22 U	< 1 U	< 1 U
Benzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.3	0.62	<4	< 4	<5.0	< 4 U	< 1.7 U	< 22 U	< 1 U	< 1 U
cis-1,2-Dichloroethene	ug/L	125	34.5	29.0	34.6	42.9	37.6	38.2	31.5	26	28	39	81	89	61	29	660	0.3 J	0.68 J
Ethylbenzene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.3	<3.3	<4	< 4	<5.0	< 4 U	< 1.7 U	< 22 U	< 1 U	< 1 U
Tetrachloroethene	ug/L	41.3	53.9	37.7	46.0	57.1	68.0	67.6	71.7	64	60	52	62	62	71	95	9.1 J	1.5	0.94 J
Toluene	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.3	<3.3	<4	< 4	<5.0	< 4 U	< 1.7 U	< 22 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/L	<1.0	1.7	1.3	2.3	2.7	2.6	3.0	2.4	2.0	2.3	2.7	2.5	2.9	2.4	1.0 J	10 J	0.29 J	0.52 J
Trichloroethene	ug/L	37.3	108	103.0	71.1	104	104	107	121	97	110	110	120	140	120	140	11 J	0.46 J	3
Vinyl chloride	ug/L	<1.0	<1.0	<1.0	<1.0	1.4	<1.0	<1.0	<1.0	<3.3	0.70	5.2	< 4	<5.0	< 4 U	1.8	< 22 U	< 1 U	9.3
Xylenes	ug/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<3.3	<3.3	<4	< 4	<5.0	< 4 U	< 3.3 U	< 44 U	< 2 U	< 2 U
Total VOCs	**ug/L**	**254**	**247.7**	**230.9**	**178.7**	**234.1**	**231.1**	**231.8**	**239.1**	**199.5**	**213.5**	**221.5**	**285.9**	**316.8**	**278.4**	**290**	**706.8**	**13.14**	**27.44**

ug/L - Micrograms per liter.
J - Value is estimated.
UJ - Constituent not detected above laboratory reporting limit. Reporting limit estimated.
< - Constituent not detected above laboratory reporting limit shown.
U - Constituent not detected.
Samples collected in September and October 1999 represent baseline conditions.
Carbon source introductions began in August 2006.

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Table 13. Bioattenuation Parameter Results for Groundwater Samples Collected in Reactive Zone 1, General Motors Corporation, Moraine, Ohio.

RZ-1		Sidegradient Well GM-29																
Constituents	**Units**	**9/1/99**	**2/22/00**	**5/26/00**	**9/21/00**	**3/20/01**	**6/26/01**	**11/13/01**	**12/12/01**	**6/13/02**	**9/25/02**	**5/22/03**	**9/24/03**	**9/15/04**	**10/17/05**	**9/28/06**	**9/26/07**	**10/6/08**
Inorganics & TOC																		
Nitrate	mg/l	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite	mg/l	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Ammonia	mg/l	<0.30	<0.30	<0.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Total)	mg/l	0.552	0.136	0.35	0.248	0.203	0.136	0.17B	0.17	1.5B	0.18B	0.67J	0.20J	0.17	0.18	1.3	0.3 J	< 0.19 U
Manganese (Dissolved)	mg/l	0.13	0.101	0.177	0.125	0.116	0.128	0.17B	0.15	0.13B	0.16B	0.15J	0.21J	0.15	0.14	0.12	0.16 J	< 0.16 U
Iron (Total)	mg/l	18	1.43	10.1	8.48	5.84	2.52	3.4	3.8	47.8B	3.8	28.6	4.9	3.2	4.6	< 0.1 U	8.9	< 5.4 U
Iron (Dissolved)	mg/l	0.24	0.13	2.78	3.09	<0.10	2.03	3.3	2.9	2.2B	2.8	2.4	3.6	2.7	3.7	2.9	3.4	< 3.9 U
Iron (Ferrous)	mg/l	0.02	0	2.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	90	126	31	29	31	37	65	48	63	76	91J	52	14 J	51	70	65	< 5 UJ
Sulfide	mg/l	<4	<1	<1	<1	<1	<1	1.3	<1	<1	<1	0.54B	1.6	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Total Organic Carbon	mg/l	18	11	22	<1	7.57	7.3	10	10	8	8	7	9	9	11	13	15 J	16
Chloride	mg/l	254	426	508	373	337	262	600B	460	490	490	490	560J	540	370	380	360 J	< 1 U
Permanent Gases																		
Carbon Dioxide	mg/l	46.52	49.87	44.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxygen	mg/l	1.02	0.66	1.41	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen	mg/l	20.29	18.7	15.61	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	mg/l	0.01152	0.007699	0.00017	1.62	1.30	1.5	0.610	1.2	0.56	1.1	0.6	1.5	3.8	13	10	NA	16
Carbon Monoxide	mg/l	<0.40	<0.40	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Light Hydrocarbon Scan																		
Ethane	ng/l	5641	1861	751	639	460	17000	20000	28000	14000	16000	7400	9900	13000	170000	350000	NA	370000
Ethene	ng/l	9769	1275	12098	441796	160000	130000	230000	180000	48000	140000	150000	200000	1700000	1600000 J	750000	NA	420000
Field Parameters																		
pH	S.U.	6.99	7.02	6.86	7.24	7.31	7.20	7.47	7.57	7.14	7.22	6.32	6.88	6.85	6.80	6.94	6.63	7.1
Specific Conductivity	umhos/cm	1502	3044	2388	1942	1733	1291	2703	2860	1977	2354	2303	2278	2580	2200	2170	2350	1870
Dissolved Oxygen	mg/l	0.35	0.51	0.45	3.44	8.20	0.40	0.22	0.01	3.57	1.40	1.38	0.13	0.04	0	0.29	0.4	0.11
Redox Potential	mV	-526.6	19.6	-105.4	-35.0	-158.2	-166.4	-129.7	-168	-122.9	-91.3	-157.8	-118.6	-134	-153	-168	-139	-54
Temperature	°C	17.8	16.9	17.97	17.64	20.04	20.47	16.42	17.13	19.33	17.63	18.23	16.81	16.4	16.8	16.69	18	16.78

mg/l - milligrams per liter.
S.U. - Standard Units.
mV - Millivolts.
°C - Degrees Celsius.
J - Value is estimated.
B - Blank contamination.
NA - Not Analyzed.
umhos/cm - Micromohs/centimeter.
ng/l - nanograms per liter.
Samples collected in September 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 13. Bioattenuation Parameter Results for Groundwater Samples Collected in Reactive Zone 1, General Motors Corporation, Moraine, Ohio.

RZ-1		Upgradient Well GM-23												
Constituents	**Units**	**9/2/99**	**2/21/00**	**5/31/00**	**3/20/01**	**6/13/02**	**9/26/02**	**5/22/03**	**9/23/03**	**9/14/04**	**10/17/05**	**9/28/06**	**9/27/07**	**10/23/08**
Inorganics & TOC														
Nitrate	mg/l	0.08	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite	mg/l	3.83	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Ammonia	mg/l	<0.30	0.94	2.84	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Total)	mg/l	4.71	0.887	0.121	0.469	1.5 J	1.0 J	1.5 J	1.6 J	1.3 J	0.79	1.5	1.4 J	0.89
Manganese (Dissolved)	mg/l	0.346	0.841	0.101	0.311	1.3 J	0.68 J	1.5 J	1.7 J	1.2 J	0.81	1.5	1.3 J	0.9
Iron (Total)	mg/l	13.6	0.53	0.18	0.48	0.16 J	0.63	0.50	0.14	0.11	30.7	13.6	10.8	10.1
Iron (Dissolved)	mg/l	<0.10	<0.10	<0.10	< 1.0	<0.10	<0.10	<0.10	<0.10	<0.10	34.2	13.2	10	10
Iron (Ferrous)	mg/l	4	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	72	650	8040	1440	920	810	310 J	650	430 J	120	850	590	490
Sulfide	mg/l	<4	<1	<1	<1	<1	<1	<1 U	0.67 B	<1	<1	<1 U	< 1 U	< 1 U
Total Organic Carbon	mg/l	19	25	19	10.8	15 J	15	15	13	10 J	360	11	9	9
Chloride	mg/l	118	143	85	232	180	190	220	140 J	220	260	220	210	220
Permanent Gases														
Carbon Dioxide	mg/l	88.47	264.8	323.79	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxygen	mg/l	0.96	1.56	17.78	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen	mg/l	20.22	13.75	3.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	mg/l	0.1248	0.72	0.02083	0.780	1.6	2.1	2.7	1.8	1.5	1.3	0.91	0.64	1.9
Carbon Monoxide	mg/l	<0.40	<0.40	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Light Hydrocarbon Scan														
Ethane	ng/l	6,878	14644	1037	11000	25000	32000	44000	23000	17000	16000	12000	7100	21000
Ethene	ng/l	580916	439458	569	260000	230000	230000	1200000	270000	260000	500000	900000	370000 J	960000
Field Parameters														
pH	S.U.	6.80	6.62	6.31	6.64	6.81	6.76	5.59	6.73	7.04	5.66	6.69	6.34	7.74
Specific Conductivity	umhos/cm	1160	2856	6720	3448	2290	2390	1683	2258	2130	2570	2740	2470	1465
Dissolved Oxygen	mg/l	0.65	0.78	10.48	8.38	4.23	0.42	1.76	0.85	0	0	0.4	0.44	0.11
Redox Potential	mV	122.2	158.7	194.2	160.4	346.5	215.6	247.9	198.8	57	-108	-108	-91	189
Temperature	°C	17.89	17.6	26.45	19.08	16.40	19.06	17.91	17.38	16.30	16.5	16.78	17.5	17.12

mg/l - milligrams per liter.
S.U. - Standard Units.
mV - Millivolts.
°C - Degrees Celsius.
J - Value is estimated.
B - Blank contamination.
NA - Not Analyzed.
umhos/cm - Micromohs/centimeter.
ng/l - nanograms per liter.
Samples collected in September 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 13. Bioattenuation Parameter Results for Groundwater Samples Collected in Reactive Zone 1, General Motors Corporation, Moraine, Ohio.

RZ-1		Downgradient Well GM-28																	
Constituents	**Units**	**9/1/99**	**2/23/00**	**5/26/00**	**9/21/00**	**3/20/01**	**6/26/01**	**11/15/01**	**12/12/01**	**7/21/02**	**9/24/02**	**5/23/03**	**10/1/03**	**4/30/04**	**9/15/04**	**10/18/05**	**9/27/06**	**9/20/07**	**10/22/08**
Inorganics & TOC																			
Nitrate	mg/l	0.08	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite	mg/l	0.06	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Ammonia	mg/l	<0.30	<0.30	0.68	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Total)	mg/l	3.2	1.15	6.26	4.1	0.594	2.24	0.58	0.47	1.1	0.48B	0.69J	0.42J	0.34	0.37	0.45	0.46	0.44 J	1.4
Manganese (Dissolved)	mg/l	0.068	0.449	6.71	3.94	0.477	1.76	0.61	0.49	1.1	0.41B	0.29J	0.40J	0.32	0.36	0.45	0.43	0.43 J	1.5
Iron (Total)	mg/l	106	25.3	22.7	58.9	29.6	59	23.6	23.5	36.2	28.7	47.9	23.4J	17.6	15.7	16.1	14.5	11.7	23.4
Iron (Dissolved)	mg/l	<0.10	0.59	23.3	48.3	2.65	49.8	23.3	23.7	34.7	23.4	16.7	22.4J	16.4	15.1	15.2	13.1	10.7	23.7
Iron (Ferrous)	mg/l	0	0.03	2.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	89	43	<5	<5	9	106	<5	<5	<5	18	65J	31J	89	93 J	91	75	77	33
Sulfide	mg/l	<4	<1	<1	<1	<1	<1	1.5	<1.0	2.0	4.3	2.5	<1.0	< 1 U	< 1 U	< 1.0 U	< 1 U	< 1 U	< 1 U
Total Organic Carbon	mg/l	15	24	742	571	90.0	360	74	68B	140	23	15	17	15 J	8	10	7	8 J	310
Chloride	mg/l	208	664	805	782	1030	508	730B	560	370	450	350	270J	320	340	320	320	300 J	260
Permanent Gases																			
Carbon Dioxide	mg/l	41.52	63.57	16.51	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxygen	mg/l	2.32	0.59	0.64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen	mg/l	19.42	16.39	19.82	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	mg/l	0.002487	0.001832	0.21	1.70	13.0	13.0	13	20	19	14	8.9	11	7.9	6.6	2.8	2.5	2.3	2.9
Carbon Monoxide	mg/l	<0.40	<0.40	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Light Hydrocarbon Scan																			
Ethane	ng/l	750	493	865	1198	42000	39000	91000	98000	420000	300000	310000	230000	160000	150000	81000	73000	72000	52000
Ethene	ng/l	48	98	646	1794606	57000	5000	1100	1400	8800	12000	74000	430	160	54	< 210 U	< 25 U	62	9300
Field Parameters																			
pH	S.U.	7.02	6.92	7.01	7.18	7.10	6.64	6.50	7.45	6.84	7.24	6.86	6.80	NA	6.85	5.47	7.08	6.72	6.49
Specific Conductivity	umhos/cm	1359	3124	4402	4538	3724	3216	3136	3700	2187	2195	2132	1501	NA	2030	2230	1880	1.95	1428
Dissolved Oxygen	mg/l	0.95	1.45	2.52	6.78	4.36	0.41	0.83	0.20	0.68	0.35	1.41	0.34	NA	0	0	0.29	0.64	0.13
Redox Potential	mV	90.5	56.0	-93.7	-200.1	-70.6	-177.8	-148.2	-203	-153.3	-135.3	-93.1	-146.9	NA	-165	-166	-183	-152	27
Temperature	°C	16.4	18.48	19.24	20.21	18.93	19.04	19.24	18.92	20.44	18.68	16.88	17.97	NA	16.2	15.9	16.33	17.1	16.38

mg/l - milligrams per liter.
S.U. - Standard Units.
mV - Millivolts.
°C - Degrees Celsius.
J - Value is estimated.
B - Blank contamination.
NA - Not Analyzed.
umhos/cm - Micromohs/centimeter.
ng/l - nanograms per liter.
Samples collected in September 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 14. Bioattenuation Parameter Results for Groundwater Samples Collected in Reactive Zone 3 West, General Motors Corporation, Moraine, Ohio.

RZ-3 West		Upgradient Well EAST													
Constituents	**Units**	**9/21/99**	**2/23/00**	**5/25/00**	**9/22/00**	**3/19/01**	**11/12/01**	**12/11/01**	**6/12/02**	**9/23/02**	**5/21/03**	**9/25/03**	**9/13/04**	**10/18/05**	**9/21/06**
Inorganics & TOC															
Nitrate	mg/l	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite	mg/l	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Ammonia	mg/l	<0.30	<0.30	<0.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Total)	mg/l	0.627	0.474	0.361	0.227	0.182	0.20B	0.21B	0.56B	0.28B	0.12J	0.23J	0.19	1.4	0.92
Manganese (Dissolved)	mg/l	0.098	0.157	0.116	0.136	0.129	0.18B	0.17B	0.20B	0.16B	0.041J	0.096	0.047	0.10	0.12
Iron (Total)	mg/l	4.82	5.55	5.3	2.26	1.17	0.21	0.29	7.9	0.89	0.16	0.64	0.4	5.1	14
Iron (Dissolved)	mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<1.0	<0.10	< 0.1 U	< 0.10 U	< 0.1 U
Iron (Ferrous)	mg/l	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	75	130	117	96	101	130	120	170	95	63J	110	54 J	130	71
Sulfide	mg/l	<1	<1	<1	<1	<1.0	1.2	1.6	<1.0	<1.0	<1	2.1	< 1 U	< 1.0 U	< 1 U
Total Organic Carbon	mg/l	3	10	4	<1	<1.0	3B	2	4	2	<1	1	0.5 B	4	2
Chloride	mg/l	283	254	194	196	198	190B	180	270	310	250	310J	290	370	430
Permanent Gases															
Carbon Dioxide	mg/l	34.69	58.08	52.02	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxygen	mg/l	1.88	0.97	1.26	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen	mg/l	17.88	17.50	19.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	mg/l	0.000571	0.003269	0.01158	1.08	1.100	0.310	0.15	0.0042	0.0027	0.00055	0.0013	0.0012	< 0.0058 U	0.0018
Carbon Monoxide	mg/l	<0.40	<0.40	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Light Hydrocarbon Scan															
Ethane	ng/l	32	39	118	126	2600	2000	1800	440	50	13	14	20	< 76 U	28
Ethene	ng/l	18	107	57	73	190	150	56	170	37	34	21	20	< 210 U	43
Field Parameters															
pH	S.U.	6.99	7.04	7.00	7.11	7.34	7.15	7.32	7.02	7.18	6.69	6.94	7.18	6.17	6.88
Specific Conductivity	umhos/cm	1777	1955	1503	1133	1189	1363	1480	1439	1467	1506	1548	1700	2190	2120
Dissolved Oxygen	mg/l	0.30	0.37	2.76	1.68	1.00	1.73	0.05	1.05	1.82	1.79	1.04	0.94	0	0.52
Redox Potential	mV	14.9	122.9	144.5	143.7	468.4	177.1	86	306.5	215.6	201	147.6	195	189	104
Temperature	°C	21.21	19.38	19.32	20.30	19.60	18.68	18.69	19.61	19.62	19.45	18.47	17.4	17.5	18.03

mg/l - milligrams per liter.
S.U. - Standard Units.
mV - Millivolts.
°C - Degrees Celsius.
J - Value is estimated.
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NA - Not Analyzed.
umhos/cm - Micromohs/centimeter.
ng/l - nanograms per liter.
Samples collected in September 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 14. Bioattenuation Parameter Results for Groundwater Samples Collected in Reactive Zone 3 West, General Motors Corporation, Moraine, Ohio.

RZ-3 West		Downgradient Well GM-32															
Constituents	**Units**	**9/22/99**	**2/28/00**	**5/30/00**	**9/25/00**	**3/19/01**	**11/12/01**	**12/11/01**	**6/12/02**	**9/20/02**	**5/23/03**	**10/1/03**	**9/14/04**	**10/19/05**	**9/19/06**	**9/18/07**	**9/23/08**
Inorganics & TOC																	
Nitrate	mg/l	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite	mg/l	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Ammonia	mg/l	2.29	2.00	19.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Total)	mg/l	0.147	0.516	0.051	0.30	0.17	0.16B	0.087B	0.043B	0.053B	0.1J	0.13J	0.13 J	0.076	0.088	0.077 J	0.051
Manganese (Dissolved)	mg/l	0.052	0.061	0.048	0.31	<0.050	0.020B	0.024B	0.042B	0.028B	0.077J	0.11J	0.13 J	0.067	0.078	0.072 J	0.056
Iron (Total)	mg/l	8.14	42.4	18.4	81.0	13.0	16.5	10.5	7.5	8.4B	21.3	31.4J	33.9	22.0	24.7	20	14
Iron (Dissolved)	mg/l	3.53	0.59	17.1	81.6	3.17	5.2	6.5	8.1	6.8B	18.7	30.5J	34.5	19.8	24.5	19.5	13.6
Iron (Ferrous)	mg/l	1.8	2.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	30	<5	<10	<10	<20	5	4J	1J	<5	<5	<5	< 5 U	< 5 U	< 5 U	< 5 U	24
Sulfide	mg/l	<1	<10	<1	<1	1.60	<1	<1.0	0.50J	1.3	0.86B	7.3	16	4.1	1	14	7.7
Total Organic Carbon	mg/l	68	1200	2020	2720	1120	320B	250	240	160	150	170	240 J	300	260	290 J	95
Chloride	mg/l	317	638	740	740	798	700B	630	470	510	390	510J	530	550	560	560 J	400
Permanent Gases																	
Carbon Dioxide	mg/l	39.79	8.94	24.32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxygen	mg/l	1.67	0.85	<0.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen	mg/l	14.93	15.23	2.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	mg/l	2.73	7.06	14.91	16.84	29	29	38	24	32	24	19	25	30 J	26	26	25
Carbon Monoxide	mg/l	<0.40	<0.40	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Light Hydrocarbon Scan																	
Ethane	ng/l	1649	9965	1029	189	7900	42000	72000	84000	94000	74000	46000	57000	85000 J	76000	73000	58000
Ethene	ng/l	86509	163855	472312	510593	150000	130000	90000	93000	49000	9900	3400	2000	1900 J	2400	1200	940
Field Parameters																	
pH	S.U.	7.54	8.59	7.64	7.73	8.36	8.42	8.13	8.55	8.13	6.41	6.81	6.86	6.3	6.84	7	7.13
Specific Conductivity	umhos/cm	2750	9030	9195	9225	7483	6874	6200	5432	4289	3908	3192	4210	4810	4510	4240	3220
Dissolved Oxygen	mg/l	0.09	0.23	10.82	2.55	0.36	0.07	0.03	1.14	0.22	1.93	0.31	0	0	0.21	0.45	1.79
Redox Potential	mV	-226.4	-279.1	-213.6	-353.8	-152.5	-222.8	-279	-220.5	-227.1	-204.6	-154.4	-160	-191	-193	-161	-200
Temperature	^{o}C	19.27	19.72	23.48	19.27	19.30	18.84	18.62	20.83	19.81	19.31	18.47	17.2	17.0	17.7	16.7	18.71

mg/l - milligrams per liter.
S.U. - Standard Units.
mV - Millivolts.
^{o}C - Degrees Celsius.
J - Value is estimated.
B - Blank contamination.
NA - Not Analyzed.
umhos/cm - Micromohs/centimeter.
ng/l - nanograms per liter.
Samples collected in September 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 14. Bioattenuation Parameter Results for Groundwater Samples Collected in Reactive Zone 3 West, General Motors Corporation, Moraine, Ohio.

RZ-3 West		Downgradient Well GM-8									Downgradient Well GM-6								
Constituents	**Units**	**3/6/98**	**9/20/99**	**9/20/02**	**12/9/03**	**9/14/04**	**10/19/05**	**9/19/06**	**9/18/07**	**9/23/08**	**3/6/98**	**9/20/99**	**9/20/02**	**12/9/03**	**9/14/04**	**10/19/05**	**9/19/06**	**9/18/07**	**9/24/08**
Inorganics & TOC																			
Nitrate	mg/l	<4.4	0	NA	NA	NA	NA	NA	NA	NA	<4.4	0	NA	NA	NA	NA	NA	NA	NA
Nitrite	mg/l	<0.033	0	NA	NA	NA	NA	NA	NA	NA	<0.033	0	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Ammonia	mg/l	1.69	1.95	NA	NA	NA	NA	NA	NA	NA	<0.300	<0.30	NA	NA	NA	NA	NA	NA	NA
Manganese (Total)	mg/l	0.204	0.125	0.085B	0.21	0.13	0.17	0.16	0.12 J	0.027	1.07	1.11	0.27B	0.57	0.43	0.50	0.54	0.4 J	0.14
Manganese (Dissolved)	mg/l	0.229	0.125	0.084B	0.21	0.14	0.15	0.15	0.11 J	0.026	1	0.958	0.24B	0.53	0.47	0.49	0.54	0.39 J	0.13
Iron (Total)	mg/l	1.01	0.27	0.55B	1.9	1.8	3.2	3.4	3.3	0.69	1.32	0.27	0.40B	5.7	3.2	5.4	5.7	6.7	2.9
Iron (Dissolved)	mg/l	1.22	0.26	0.52B	1.9	1.8	2.8	3.1	3	0.64	<0.1	<0.10	0.30B	1.9	3.1	4.8	5.6	6.3	2.6
Iron (Ferrous)	mg/l	<0.2	0	NA	NA	NA	NA	NA	NA	NA	<0.2	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	59	54	59	<5	13 J	27	24	49	32	93	83	43	27	26 J	52	55	66	26
Sulfide	mg/l	<1	<1	<1.0	<1.0	2	< 1.0 U	1.8	0.86 J	0.54 J	<1	<1	<1.0	<1.0	3.4	< 1.0 U	< 1 U	< 1 U	6.5
Total Organic Carbon	mg/l	7	8	16	20	19 J	19	16	16 J	12	3	4	17	12	16 J	6	7	8 J	14 J
Chloride	mg/l	248	216	180	180J	190	260	320	360 J	250	227	247	170	190J	230	290	340	400 J	250
Permanent Gases																			
Carbon Dioxide	mg/l	15.8	9.91	NA	NA	NA	NA	NA	NA	NA	47.4	48.44	NA	NA	NA	NA	NA	NA	NA
Oxygen	mg/l	1.1	0.92	NA	NA	NA	NA	NA	NA	NA	1.57	2.23	NA	NA	NA	NA	NA	NA	NA
Nitrogen	mg/l	19.7	25.42	NA	NA	NA	NA	NA	NA	NA	20.5	21.77	NA	NA	NA	NA	NA	NA	NA
Methane	mg/l	1.48	2.47	8.5	14	9	8.1 J	7.2	9.1	4.4	0.008337	0.006916	7.8	7.8	7.2	4.4 J	3.5	5.3	5.2
Carbon Monoxide	mg/l	<0.4	<0.40	NA	NA	NA	NA	NA	NA	NA	<0.4	<0.40	NA	NA	NA	NA	NA	NA	NA
Light Hydrocarbon Scan																			
Ethane	ng/l	370	1134	13000	12000	18000	17000 J	7200	10000	22000	47	67	10000	2400	5000	870 J	520	660	13000
Ethene	ng/l	12233	39617	3700	440	56	< 76 U J	1200	32	140	91	97	4900	750	2000	3600 J	1700	1800	680
Field Parameters																			
pH	S.U.	7.7	7.98	8.18	7.2	7.76	6.45	7.31	7.21	8.1	7	7.05	7.46	7.76	7.16	6.06	6.8	6.84	7.17
Specific Conductivity	umhos/cm	1539	1584	1734	1870	1900	2080	2120	2300	2060	1422	1493	1658	2080	1830	1880	1920	2130	2160
Dissolved Oxygen	mg/l	0.16	0.28	0.37	0.04	0	0	0.53	0.70	0	0.88	0.48	0.34	0.03	0	0	0.24	0.51	1.43
Redox Potential	mV	-145	-49.8	-150.6	-137	-186	-162	-160	-125	-262	57.6	26.5	-27.7	-223	-111	-107	-111	-86	-159
Temperature	°C	17.53	19.09	19.20	18.17	16.6	16.3	18.1	17	17.6	18.49	21.07	19.07	17.71	16.8	16.8	17.3	17.5	16.51

mg/l - milligrams per liter.
S.U. - Standard Units.
mV - Millivolts.
°C - Degrees Celsius.
J - Value is estimated.
B - Blank contamination.
NA - Not Analyzed.
umhos/cm - Micromohs/centimeter.
ng/l - nanograms per liter.
Samples collected in September 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 15. Bioattenuation Parameter Results for Groundwater Samples Collected in Reactive Zone 3 East, General Motors Corporation, Moraine, Ohio.

RZ-3 East		Upgradient Well GM-22															
Constituents	**Units**	**9/1/99**	**2/23/00**	**5/25/00**	**9/21/00**	**3/20/01**	**11/13/01**	**12/12/01**	**6/13/02**	**9/25/02**	**5/22/03**	**9/24/03**	**9/14/04**	**10/17/05**	**9/20/06**	**9/26/07**	**10/3/08**
Inorganics & TOC																	
Nitrate	mg/l	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite	mg/l	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Ammonia	mg/l	<0.30	<0.30	<0.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Total)	mg/l	0.089	0.273	0.355	0.422	0.458	0.74B	0.63	0.38B	0.029B	0.031J	0.027J	0.1 J	0.040	0.26	0.071 J	0.033
Manganese (Dissolved)	mg/l	0.096	0.263	0.328	0.403	0.413	0.73B	0.62	0.40B	0.093B	0.023J	0.020J	0.035 J	0.026	0.18	0.015 J	< 0.015 U
Iron (Total)	mg/l	<0.10	0.16	0.96	0.94	0.28	<0.10	<0.10	0.11B	0.18	0.22	0.23	1.6	0.19	2.1	1	0.68
Iron (Dissolved)	mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.1	<0.10	< 0.1 U	< 0.10 U	< 0.1 U	< 0.1 U	< 0.1 U
Iron (Ferrous)	mg/l	0.6	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	49	125	120	117	99	300	150	120	70	72J	77	49 J	52	48	66	42
Sulfide	mg/l	<1	<1	<1	<1	<1.0	<1	<1.0	<1.0	0.40J	0.54B	1.6	< 1 U	< 1.0 U	< 1 U	< 1U	1.5
Total Organic Carbon	mg/l	6	4	4	<1	<1.0	16B	6B	3	2	<1	1	1 J	2	2	< 2 U	1
Chloride	mg/l	246	270	279	248	326	220B	280	290	370	350	350J	370	330	420	390 J	240
Permanent Gases																	
Carbon Dioxide	mg/l	40.15	43.99	40.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxygen	mg/l	1.05	0.86	1.28	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen	mg/l	23.38	19.43	21.3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	mg/l	0.05818	0.23	0.18	0.000967	0.280	0.067	0.16	0.039	0.014	0.00039	1.2	0.02	< 0.012 U	< 0.0047 U	0.0016	0.0043
Carbon Monoxide	mg/l	<0.40	<0.40	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Light Hydrocarbon Scan																	
Ethane	ng/l	42	91	69	29	83	130	120	140	270	13	8.4	340	< 810 U	< 83 U	22 J	13 J
Ethene	ng/l	67	32	64	111	39	210	12	54	62	27	11	12	< 810 U	< 59 U	11 J	< 25 U
Field Parameters																	
pH	S.U.	7.12	7.15	7.08	7.17	7.00	7.33	7.39	7.21	7.02	6.89	7.04	7.10	6.88	6.97	6.78	6.76
Specific Conductivity	umhos/cm	1373	1975	1671	1684	1610	1753	2020	1415	1720	1730	1597	1760	1930	2080	2170	1280
Dissolved Oxygen	mg/l	0.32	0.46	0.49	1.73	0.82	0.01	0.15	0.94	2.14	1.04	1.2	0	0	0.27	1.18	3.15
Redox Potential	mV	62.2	70.2	26.1	-80.8	175.1	54.8	-110	105.2	181.2	116.6	74.6	62	68	51	79	174
Temperature	°C	19.41	18.87	20.87	22.28	20.79	19.45	18.99	20.29	19.49	18.62	18.45	17.2	16.9	17.46	18.1	16.79

mg/l - milligrams per liter.
S.U. - Standard Units.
mV - Millivolts.
°C - Degrees Celsius.
J - Value is estimated.
B - Blank contamination.
NA - Not Analyzed.
umhos/cm - Micromohs/centimeter.
ng/l - nanograms per liter.
Samples collected in September 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 15. Bioattenuation Parameter Results for Groundwater Samples Collected in Reactive Zone 3 East, General Motors Corporation, Moraine, Ohio.

RZ-3 East		Downgradient Well GM-21															
Constituents	**Units**	**9/22/99**	**2/23/00**	**5/26/00**	**9/22/00**	**3/19/01**	**11/13/01**	**12/11/01**	**6/12/02**	**9/25/02**	**5/22/03**	**9/24/03**	**9/14/04**	**10/17/05**	**9/20/06**	**9/26/07**	**10/3/08**
Inorganics & TOC																	
Nitrate	mg/l	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite	mg/l	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Ammonia	mg/l	<0.30	<0.3	<0.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Total)	mg/l	0.321	0.233	0.215	0.336	0.298	0.30B	0.30B	0.31B	0.29B	0.32J	0.37J	0.35 J	0.17	0.19	0.27 J	0.78
Manganese (Dissolved)	mg/l	0.273	0.225	0.212	0.312	0.291	0.32B	0.29B	0.29B	0.25B	0.26J	0.38J	0.33 J	0.16	0.19	0.27 J	0.77
Iron (Total)	mg/l	2.58	0.30	0.83	0.63	0.11	<0.10	0.16	0.65	0.56	12.6	0.27	2.3	26.9	10.7	9.2	17.9
Iron (Dissolved)	mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.11	<0.10	<0.10	1.4	0.47	< 0.1 U	25.5	10.7	8.9	16.7
Iron (Ferrous)	mg/l	0.4	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	103	102	80	102	118	120	100	76	76	55J	82	79 J	< 5 U	35	17	38
Sulfide	mg/l	<1	<1	<1	<1	<1	<1	1.9	0.50J	0.40J	0.54B	1.5	2.9	< 1.0 U	< 1 U	< 1 U	1.5
Total Organic Carbon	mg/l	1	3	2	<1	<1	2B	1	0.9J	2	2	2	2 J	92	7	14 J	18
Chloride	mg/l	136	145	126	129	165	140	150	170	180	160	190J	190	190	240	260 J	240
Permanent Gases																	
Carbon Dioxide	mg/l	37.04	37.40	18.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxygen	mg/l	1.41	0.99	1.89	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen	mg/l	23.40	21.67	23.64	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	mg/l	0.03744	0.01769	0.01370	0.04218	0.048	0.049	0.035	0.022	0.03	0.031	1.5	0.077	17	4.9	30	28
Carbon Monoxide	mg/l	<0.40	<0.40	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Light Hydrocarbon Scan																	
Ethane	ng/l	72	67	84	72	82	76	120	150	120	130	30	140	9800	27000	290000 J	77000
Ethene	ng/l	169	38	70	69	46	46	100	120	64	570	520	250	330000	63000	80000	13000
Field Parameters																	
pH	S.U.	6.99	7.22	7.06	7.21	7.85	7.50	7.45	7.22	7.09	6.76	7.05	7.19	6.73	6.9	6.64	6.05
Specific Conductivity	umhos/cm	1188	1299	1048	1096	1067	1190	1360	1045	1245	968	1181	1180	1640	1580	1870	1405
Dissolved Oxygen	mg/l	0.66	0.60	0.40	0.99	0.57	0.04	0.04	0.63	0.41	0.83	0.75	0	0	0.25	0.46	0.12
Redox Potential	mV	-26.9	113.3	167.1	153.9	218.5	168.8	-25	373.8	238.1	77.1	-26.7	-7	-140	-137	-126	68
Temperature	°C	20.43	18.43	17.92	19.03	17.59	16.73	15.82	18.67	18.67	17.54	18.39	17.1	16.4	16.94	17.2	16.5

mg/l - milligrams per liter.
S.U. - Standard Units.
mV - Millivolts.
°C - Degrees Celsius.
J - Value is estimated.
B - Blank contamination.
NA - Not Analyzed.
umhos/cm - Micromohs/centimeter.
ng/l - nanograms per liter.
Samples collected in September 1999 represent baseline conditions.
Carbon source introductions began in December 1999.

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Table 16. Bioattenuation Parameter Results for Groundwater Samples Collected in Reactive Zone 4 East, General Motors Corporation, Moraine, Ohio.

RZ-4 East		Upgradient Well WEST			Upgradient Well GM-19S															
Constituents	**Units**	**9/21/99**	**2/23/00**	**5/25/00**	**9/20/99**	**2/23/00**	**5/24/00**	**9/22/00**	**3/19/01**	**11/20/01**	**12/11/01**	**6/12/02**	**9/26/02**	**5/21/03**	**9/25/03**	**9/13/04**	**10/18/05**	**9/21/06**	**9/17/07**	**9/23/08**
Inorganics & TOC																				
Nitrate	mg/l	0	0	0	11	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrite	mg/l	17.6	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen, Ammonia	mg/l	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Manganese (Total)	mg/l	0.391	0.038	0.029	0.726	1.09	0.247	0.238	0.191	0.20	0.21B	0.25B	0.39B	0.3J	0.23J	0.25	0.24	0.99	0.28 J	0.16
Manganese (Dissolved)	mg/l	0.383	<0.010	<0.010	0.185	0.205	0.200	0.187	0.155	0.19	0.18B	0.18B	0.19B	0.2J	0.21J	0.16	0.20	0.94	0.15 J	0.16
Iron (Total)	mg/l	0.27	0.40	0.37	16.9	39.4	1.19	0.40	0.90	0.091	0.18	0.26	0.44	0.17	0.96	3	0.38	1.6	12.7	7.4
Iron (Dissolved)	mg/l	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.1	<0.10	< 0.1 U	< 0.10 U	1.4	9.4	7.3
Iron (Ferrous)	mg/l	0	0	0	0	0	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	mg/l	73	129	155	127	131	131	118	113	100	90	110	110	150J	150	110 J	83	95	63	68
Sulfide	mg/l	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.96J	<1.0	<1.0	<1	1.3	1.6	< 1.0 U	< 1 U	< 1 U	< 1 U
Total Organic Carbon	mg/l	2	7	3	2	7	5	<1	<1	2B	1	1	3	2	2	1	3	22	6 J	3
Chloride	mg/l	260	166	164	247	197	168	165	158	130B	150	140	210	270	300J	310	320	350	400 J	390
Permanent Gases																				
Carbon Dioxide	mg/l	50.41	67.57	61.09	41.85	57.12	50.12	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxygen	mg/l	1.30	1.50	2.20	4.43	1.01	1.24	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrogen	mg/l	13.24	13.74	17.1	20.87	17.07	17.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methane	mg/l	0.001409	0.000217	0.002179	0.00986	0.002712	0.003325	0.003706	0.039	0.005	0.0088	0.002	0.46	0.0021	0.0022	0.0014	< 0.0065 U	0.025	7.5	0.79
Carbon Monoxide	mg/l	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Light Hydrocarbon Scan																				
Ethane	ng/l	37	33	57	71	104	139	184	210	300	350	410	730	170	80	48	< 250 U	730	7800	550
Ethene	ng/l	100	17	47	55	45	43	36	61	34	27	130	770	78	45	51	< 220 U	550	22000	30000
Field Parameters																				
pH	S.U.	6.89	6.97	6.97	7.05	7.05	7.00	7.19	7.14	7.28	7.31	7.09	7.02	6.71	6.93	7.13	5.97	6.84	7.03	7.1
Specific Conductivity	umhos/cm	1759	1640	1547	1500	1784	1548	1235	1097	1190	1350	1052	1474	1706	1726	1970	1940	2150	2010	2290
Dissolved Oxygen	mg/l	0.41	1.73	1.50	0.92	0.30	1.94	1.36	0.96	1.75	0.06	0.90	0.47	2.01	1.87	0	0	0.3	0.43	1.87
Redox Potential	mV	106.2	139.1	198.3	31.3	149.6	200.1	187.7	320.8	195.6	13	446.3	259.6	178.3	135	160	122	-82	-145	-153
Temperature	°C	21.44	19.90	19.75	20.85	18.69	20.80	20.09	20.14	19.24	19.10	20.39	20.36	20.22	19.57	18.6	17.6	17.9	17.5	16.9

mg/l - milligrams per liter.
S.U. - Standard Units.
mV - Millivolts.
°C - Degrees Celsius.
J - Value is estimated.
B - Blank contamination.
NA - Not Analyzed.
umhos/cm - Micromohs/centimeter.
ng/l - nanograms per liter.
Samples collected in September 1999 represent baseline conditions.
Carbon source introductions began in August 2006.

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Table 17. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		Upgradient of the Site		On-Site				
		HR-9	HR-11	HR-4	W-2-N	W-3-N	W-4-N	HR-2
		9/30/2008	9/25/2008	9/30/2008	9/29/2008	9/29/2008	9/29/2008	10/1/2008
	Units	Upper Aquifer	Upper Aquifer	Upper Aquifer	Upper Aquifer	Upper Aquifer	Upper Aquifer	Upper Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	8.2	< 1 U	< 1 U	< 1 U	< 3.3 U	0.39 J	< 1 U
1,1-Dichloroethane	ug/l	58	5.2	4.1	< 1 U	< 3.3 U	1.9	4.6
1,1-Dichloroethene	ug/l	0.49 J	< 1 U	< 1 U	< 1 U	< 3.3 U	< 1 U	< 1 U
Benzene	ug/l	< 2.5 U	< 1 U	< 1 U	< 1 U	< 3.3 U	< 1 U	< 1 U
cis-1,2-Dichloroethene	ug/l	32	< 1 U	0.23 J	1.7	98	11	3.4
Ethylbenzene	ug/l	< 2.5 U	< 1 U	< 1 U	< 1 U	< 3.3 U	< 1 U	< 1 U
Tetrachloroethene	ug/l	< 2.5 U	< 1 U	0.44 J	< 1 U	< 3.3 U	0.38 J	< 1 U
Toluene	ug/l	< 2.5 U	< 1 U	< 1 U	< 1 U	< 3.3 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/l	4.5	< 1 U	< 1 U	< 1 U	1.4 J	0.92 J	0.47 J
Trichloroethene	ug/l	11	< 1 U	0.31 J	0.47 J	< 3.3 U	8.4	0.36 J
Vinyl chloride	ug/l	< 2.5 U	< 1 U	< 1 U	< 1 U	3.8	0.34 J	< 1 U
Xylene (total)	ug/l	< 5 U	< 2 U	< 2 U	< 2 U	< 6.7 U	< 2 U	< 2 U
Total VOCs	**ug/l**	**114.19**	**5.2**	**5.08**	**2.17**	**103.2**	**23.33**	**8.83**

ug/l - Micrograms per liter.
All QA/QC results for 2008 data are shown in Appendix C.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table 17. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

	Units	HR-3 10/2/2008 Upper Aquifer	HR-5 9/29/2008 Upper Aquifer	HR-1 9/29/2008 Upper Aquifer	On-Site GM-30 10/6/2008 Upper Aquifer	GM-23 10/23/2008 Upper Aquifer	GM-27 10/23/2008 Upper Aquifer	GM-29 10/6/2008 Upper Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	0.84 J	< 1 U	0.77 J	< 10 U	< 62 U	< 1.4 U	12 J
1,1-Dichloroethane	ug/l	16	0.48 J	1.8 J	11	< 62 U	2	11 J
1,1-Dichloroethene	ug/l	0.27 J	< 1 U	< 2.5 U	< 10 U	< 62 U	< 1.4 U	< 33 U
Benzene	ug/l	< 1 UJ	< 1 U	< 2.5 U	< 10 U	< 62 U	< 1.4 U	< 33 U
cis-1,2-Dichloroethene	ug/l	17	5.4	5	< 10 U	2000	11	900
Ethylbenzene	ug/l	< 1 U	< 1 U	< 2.5 U	300	< 62 U	< 1.4 U	< 33 U
Tetrachloroethene	ug/l	< 1 U	< 1 U	27	< 10 U	71	0.9 J	17 J
Toluene	ug/l	< 1 U	< 1 U	< 2.5 U	< 10 U	< 62 U	< 1.4 U	< 33 U
trans-1,2-Dichloroethene	ug/l	1.6	0.59 J	2 J	< 10 U	58 J	0.51 J	16 J
Trichloroethene	ug/l	32	13	70	< 10 U	< 62 U	57	300
Vinyl chloride	ug/l	2.2	< 1 U	< 2.5 U	< 10 U	2100	0.44 J	150
Xylene (total)	ug/l	< 2 U	< 2 U	< 5 U	670	< 120 U	< 2.9 U	< 67 U
Total VOCs	**ug/l**	**69.91**	**19.47**	**106.57**	**981**	**4,229**	**71.85**	**1,406**

ug/l - Micrograms per liter.
All QA/QC results for 2008 data are shown in Appendix C.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table 17. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

	Units	GM-28 10/22/2008 Upper Aquifer	GM-59 10/3/2008 Upper Aquifer	GM-60 10/3/2008 Upper Aquifer	On-Site GM-75S 10/6/2008 Upper Aquifer	ME-6 10/22/2008 Upper Aquifer	GM-31 10/23/2008 Upper Aquifer	ME-3 10/22/2008 Upper Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	< 5 U	< 33 U	< 25 U	< 20 U	2.7	2.9	2.1
1,1-Dichloroethane	ug/l	2.2 J	< 33 U	< 25 U	< 20 U	11	3.2	1.8
1,1-Dichloroethene	ug/l	< 5 U	< 33 U	< 25 U	< 20 U	< 1 U	< 2.5 U	< 1 U
Benzene	ug/l	< 5 U	< 33 U	< 25 U	< 20 U	< 1 U	< 2.5 U	< 1 U
cis-1,2-Dichloroethene	ug/l	6.9	41	360	< 20 U	5.2	76	1.4
Ethylbenzene	ug/l	< 5 U	< 33 U	< 25 U	< 20 U	< 1 U	< 2.5 U	< 1 U
Tetrachloroethene	ug/l	< 5 U	750	900	690	7.7	< 2.5 U	8.1
Toluene	ug/l	< 5 U	< 33 U	< 25 U	< 20 U	< 1 U	< 2.5 U	< 1 U
trans-1,2-Dichloroethene	ug/l	1.3 J	< 33 U	< 25 U	< 20 U	0.25 J	3	< 1 U
Trichloroethene	ug/l	< 5 U	750	920	250	9	78	4.9
Vinyl chloride	ug/l	6.5	< 33 U	< 25 U	< 20 U	1.7	0.9 J	0.7 J
Xylene (total)	ug/l	< 10 U	< 67 U	< 50 U	< 40 U	< 2 U	< 5 U	< 2 U
Total VOCs	**ug/l**	**16.9**	**1,541**	**2,180**	**940**	**37.55**	**164**	**19**

ug/l - Micrograms per liter.
All QA/QC results for 2008 data are shown in Appendix C.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table 17. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

	Units	GM-22 10/3/2008 Upper Aquifer	GM-19S 9/23/2008 Upper Aquifer	GM-33 10/23/2008 Upper Aquifer	On-Site GM-35 9/29/2008 Upper Aquifer	GM-32 9/23/2008 Upper Aquifer	GM-21 10/3/2008 Upper Aquifer	HR-17 9/26/2008 Upper Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	0.73 J	< 1 U	8.4	4.6 J	< 10 U	8.7	< 4 U
1,1-Dichloroethane	ug/l	< 1 U	13	2.9	20	4 J	15	1.1 J
1,1-Dichloroethene	ug/l	< 1 U	< 1 U	0.58 J	< 10 U	< 10 U	0.33 J	< 4 U
Benzene	ug/l	< 1 U	< 1 U	< 1.4 U	< 10 U	< 10 U	< 1.4 U	< 4 U
cis-1,2-Dichloroethene	ug/l	< 1 U	0.68 J	4.1	92	< 10 U	38	2.7 J
Ethylbenzene	ug/l	< 1 U	< 1 U	< 1.4 U	< 10 U	< 10 U	< 1.4 U	< 4 U
Tetrachloroethene	ug/l	5.7	0.94 J	38	20	< 10 U	0.56 J	120
Toluene	ug/l	< 1 U	< 1 U	< 1.4 U	< 10 U	< 10 U	< 1.4 U	< 4 U
trans-1,2-Dichloroethene	ug/l	< 1 U	0.52 J	< 1.4 U	9.4 J	< 10 U	4.7	1 J
Trichloroethene	ug/l	5.7	3	36	88	< 10 U	18	31
Vinyl chloride	ug/l	< 1 U	9.3	< 1.4 U	7.9 J	< 10 U	19	< 4 U
Xylene (total)	ug/l	< 2 U	< 2 U	< 2.9 U	< 20 U	< 20 U	< 2.9 U	< 8 U
Total VOCs	**ug/l**	**12.13**	**27.44**	**89.98**	**241.9**	**4**	**104.29**	**155.8**

ug/l - Micrograms per liter.
All QA/QC results for 2008 data are shown in Appendix C.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table 17. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		On-Site			Downgradient of the Site			
	Units	W-2-S 9/25/2008 Upper Aquifer	W-3-S 9/26/2008 Upper Aquifer	W-4-S 9/26/2008 Upper Aquifer	GM-63 10/1/2008 Upper Aquifer	GM-64 10/1/2008 Upper Aquifer	GM-47 10/1/2008 Upper Aquifer	GM-50 10/1/2008 Upper Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	1.4	1.2	0.95 J	4 J	0.55 J	1.4 J	1.6 J
1,1-Dichloroethane	ug/l	0.92 J	0.21 J	1.3	2.2 J	2.7	2 J	1.7 J
1,1-Dichloroethene	ug/l	< 1 U	< 1 U	0.21 J	< 5 U	< 1 U	< 5 U	< 2.5 U
Benzene	ug/l	< 1 U	< 1 U	< 1 U	< 5 U	< 1 U	< 5 U	< 2.5 U
cis-1,2-Dichloroethene	ug/l	0.78 J	0.52 J	6	4.9 J	15	160	13
Ethylbenzene	ug/l	< 1 U	< 1 U	< 1 U	< 5 U	< 1 U	< 5 U	< 2.5 U
Tetrachloroethene	ug/l	< 1 U	1.3	32	140	31	86	82
Toluene	ug/l	< 1 U	< 1 U	< 1 U	< 5 U	< 1 U	< 5 U	< 2.5 U
trans-1,2-Dichloroethene	ug/l	< 1 U	< 1 U	1.2	< 5 U	2.3	3.9 J	0.68 J
Trichloroethene	ug/l	5.2	2.1	16	92	14	36	54
Vinyl chloride	ug/l	< 1 U	< 1 U	< 1 U	< 5 U	2.3	1.9 J	< 2.5 U
Xylene (total)	ug/l	< 2 U	< 2 U	< 2 U	< 10 U	< 2 U	< 10 U	< 5 U
Total VOCs	**ug/l**	**8.3**	**5.33**	**57.66**	**243.1**	**67.85**	**291.2**	**152.98**

ug/l - Micrograms per liter.
All QA/QC results for 2008 data are shown in Appendix C.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table 17. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		Downgradient of the Site						
	Units	GM-8 9/23/2008 Upper Aquifer	GM-6 9/24/2008 Upper Aquifer	TW-2 9/24/2008 Upper Aquifer	GM-2 9/24/2008 Upper Aquifer	GM-51 9/30/2008 Upper Aquifer	GM-16 9/30/2008 Upper Aquifer	GM-17 9/24/2008 Upper Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	0.6 J	1.8 J	0.29 J
1,1-Dichloroethane	ug/l	1.7	< 8.4 U	< 1.9 U	< 1.1 U	0.78 J	3.8	< 1 U
1,1-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 3.3 U	< 1 U
Benzene	ug/l	6.8	1.2	1.4	< 1 U	< 1 U	< 3.3 U	< 1 U
cis-1,2-Dichloroethene	ug/l	< 1 U	6.7	< 5.2 U	6.7	2	20	< 1.9 U
Ethylbenzene	ug/l	8.6	< 1 U	0.76 J	< 1 U	< 1 U	< 3.3 U	< 1 U
Tetrachloroethene	ug/l	< 1 U	< 1 U	1.4	1.3	9.3	100	4.8
Toluene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 3.3 U	< 1 U
trans-1,2-Dichloroethene	ug/l	0.27 J	1.3	0.36 J	0.19 J	0.7 J	1.1 J	< 1 U
Trichloroethene	ug/l	< 1 U	< 1 U	7.5	2.4	7.7	48	10
Vinyl chloride	ug/l	0.48 J	2.1	1	< 1 U	< 1 U	< 3.3 U	< 1 U
Xylene (total)	ug/l	3.9	< 2 U	< 2 U	< 2 U	< 2 U	< 6.7 U	< 2 U
Total VOCs	**ug/l**	**21.75**	**11.3**	**12.42**	**10.59**	**21.08**	**174.7**	**15.09**

ug/l - Micrograms per liter.
All QA/QC results for 2008 data are shown in Appendix C.
< - Constituent not detected above laboratory reporting limit shown.
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Table 17. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		Downgradient of the Site						
	Units	GM-18 9/24/2008 Upper Aquifer	WSU-24 9/25/2008 Upper Aquifer	GM-52 9/30/2008 Upper Aquifer	GM-10 9/24/2008 Upper Aquifer	GM-79 10/2/2008 Upper Aquifer	GM-55 10/2/2008 Upper Aquifer	GM-78 10/2/2008 Upper Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	2.3	0.62 J	1.9 J	0.53 J	0.65 J	< 1 U	< 1 U
1,1-Dichloroethane	ug/l	< 6.1 U	0.85 J	3	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethene	ug/l	< 1.4 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
Benzene	ug/l	< 1.4 U	< 1 U	< 2.5 U	< 1 U	< 1 UJ	< 1 UJ	< 1 UJ
cis-1,2-Dichloroethene	ug/l	13	2.4 J	14	< 1 U	< 1 U	< 1 U	< 1 U
Ethylbenzene	ug/l	< 1.4 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/l	16	1.7	88	0.85 J	< 1 U	7.2	11
Toluene	ug/l	< 1.4 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/l	0.79 J	0.35 J	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene	ug/l	38	12 J	43	5.9	1.8	< 1 U	< 1 U
Vinyl chloride	ug/l	< 1.4 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
Xylene (total)	ug/l	< 2.9 U	< 2 U	< 5 U	< 2 U	< 2 U	< 2 U	< 2 U
Total VOCs	**ug/l**	**70.09**	**17.92**	**149.9**	**7.28**	**2.45**	**7.2**	**11**

ug/l - Micrograms per liter.
All QA/QC results for 2008 data are shown in Appendix C.
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Table 17. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		Downgradient of the Site			Upgradient of the Site		On-Site	
		GM-80	GM-26	GM-65S	HR-10	HR-12	HR-15	GM-39
		9/22/2008	10/1/2008	10/6/2008	9/30/2008	9/25/2008	9/29/2008	10/1/2008
	Units	Upper Aquifer	Upper Aquifer	Upper Aquifer	Lower Aquifer	Lower Aquifer	Lower Aquifer	Lower Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	0.39 J	< 1 U	< 1 U
1,1-Dichloroethane	ug/l	0.39 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Benzene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
cis-1,2-Dichloroethene	ug/l	3.6	< 1 U	< 1 U	< 1 U	< 1 U	3.6	0.67 J
Ethylbenzene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/l	0.93 J	1.4	8.7	< 1 U	1.3	< 1 U	< 1 U
Toluene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/l	0.19 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene	ug/l	5.4	< 1 U	3.8	< 1 U	5.1	0.47 J	< 1 U
Vinyl chloride	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	9.7	3.2
Xylene (total)	ug/l	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Total VOCs	**ug/l**	**10.51**	**1.4**	**12.5**	**0**	**6.79**	**13.77**	**3.87**

ug/l - Micrograms per liter.
All QA/QC results for 2008 data are shown in Appendix C.
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Table 17. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

	Units	GM-83D 10/2/2008 Lower Aquifer	GM-40 9/30/2008 Lower Aquifer	GM-61 10/1/2008 Lower Aquifer	On-Site GM-75D 10/6/2008 Lower Aquifer	GM-68D 10/3/2008 Lower Aquifer	GM-82 10/2/2008 Lower Aquifer	GM-41 9/26/2008 Lower Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	< 1 U	< 1 U	< 1 U	< 33 U	< 5 U	1 J	< 7.1 U
1,1-Dichloroethane	ug/l	< 1 U	< 1 U	0.94 J	< 33 U	< 5 U	2.4 J	< 7.1 U
1,1-Dichloroethene	ug/l	< 1 U	< 1 U	0.19 J	< 33 U	< 5 U	0.64 J	< 7.1 U
Benzene	ug/l	< 1 UJ	< 1 U	< 1 U	< 33 U	< 5 U	< 3.3 U	< 7.1 U
cis-1,2-Dichloroethene	ug/l	0.3 J	< 1 U	20	120	14	46	11
Ethylbenzene	ug/l	< 1 U	< 1 U	< 1 U	< 33 U	< 5 U	< 3.3 U	< 7.1 U
Tetrachloroethene	ug/l	< 1 U	< 1 U	13	220	190	51	< 7.1 U
Toluene	ug/l	< 1 U	< 1 U	< 1 U	< 33 U	< 5 U	< 3.3 U	< 7.1 U
trans-1,2-Dichloroethene	ug/l	< 1 U	< 1 U	0.92 J	< 33 U	< 5 U	2 J	< 7.1 U
Trichloroethene	ug/l	< 1 U	< 1 U	23	750	46	100	180
Vinyl chloride	ug/l	1.3	3.6	0.75 J	< 33 U	< 5 U	< 3.3 U	< 7.1 U
Xylene (total)	ug/l	< 2 U	< 2 U	< 2 U	< 67 U	< 10 U	< 6.7 U	< 14 U
Total VOCs	**ug/l**	**1.6**	**3.6**	**58.8**	**1,090**	**250**	**203.04**	**191**

ug/l - Micrograms per liter.
All QA/QC results for 2008 data are shown in Appendix C.
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J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table 17. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		On-Site					Downgradient of the Site	
	Units	GM-58 9/26/2008 Lower Aquifer	GM-54 9/30/2008 Lower Aquifer	GM-42 9/30/2008 Lower Aquifer	GM-84 10/2/2008 Lower Aquifer	GM-19D 9/23/2008 Lower Aquifer	GM-3 9/24/2008 Lower Aquifer	GM-1 9/24/2008 Lower Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	< 2.5 U	< 5.7 U	< 1 U	< 1 U	< 1 U	< 1 U	0.69 J
1,1-Dichloroethane	ug/l	< 2.5 U	< 5.7 U	0.66 J	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethene	ug/l	< 2.5 U	< 5.7 U	0.53 J	< 1 U	< 1 U	< 1 U	< 1 U
Benzene	ug/l	< 2.5 U	< 5.7 U	< 1 U	< 1 UJ	< 1 U	< 1 U	< 1 U
cis-1,2-Dichloroethene	ug/l	< 2.5 U	< 5.7 U	20	< 1 U	2.4	< 1 U	< 1 U
Ethylbenzene	ug/l	< 2.5 U	< 5.7 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/l	80	190	< 1 U	< 1 U	< 1 U	< 1 UJ	1.8
Toluene	ug/l	< 2.5 U	< 5.7 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/l	< 2.5 U	< 5.7 U	0.89 J	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene	ug/l	< 2.5 U	2.5 J	9.9	6.6	< 1 U	< 1 UJ	31
Vinyl chloride	ug/l	< 2.5 U	< 5.7 U	0.31 J	< 1 U	9.8	< 1 U	< 1 U
Xylene (total)	ug/l	< 5 U	< 11 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Total VOCs	**ug/l**	**80**	**192.5**	**32.29**	**6.6**	**12.2**	**0**	**33.49**

ug/l - Micrograms per liter.
All QA/QC results for 2008 data are shown in Appendix C.
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U - Constituent not detected above laboratory reporting limit shown.

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Table 17. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		Downgradient of the Site				
	Units	GM-15 9/30/2008 Lower Aquifer	GM-11 9/24/2008 Lower Aquifer	GM-20D 9/25/2008 Lower Aquifer	DN-13 9/24/2008 Lower Aquifer	GM-9 9/24/2008 Lower Aquifer
Volatile Organic Compounds						
1,1,1-Trichloroethane	ug/l	< 1 U	0.47 J	0.45 J	0.63 J	1.2
1,1-Dichloroethane	ug/l	1.1	< 1 U	< 1 U	< 1.7 U	< 1 U
1,1-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Benzene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
cis-1,2-Dichloroethene	ug/l	0.79 J	< 1 U	< 1 U	6.2	< 1 U
Ethylbenzene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/l	< 1 U	1.7	2.6	< 1 U	< 1 U
Toluene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	0.44 J	< 1 U
Trichloroethene	ug/l	6.2	31	6.6	4.5	18
Vinyl chloride	ug/l	< 1 U	< 1 U	< 1 U	1.4	< 1 U
Xylene (total)	ug/l	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U
Total VOCs	**ug/l**	**8.09**	**33.17**	**9.65**	**13.17**	**19.2**

ug/l - Micrograms per liter.
All QA/QC results for 2008 data are shown in Appendix C.
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J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table 18. Carbon Source Solution Introduction Volumes for 2008, General Motors Corporation, Moraine, Ohio.

Location	Injection Well	January		February		March		April	
		Injection Event #93[1]		Injection Event #94[2]		Injection Event #95[3]		Injection Event #96[4]	
		Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)
Reactive Zone 1									
	RZ-1C	800	33.33	---	NA	800	33.33	800	33.33
	RZ-1D	800	23.53	---	NA	800	29.63	800	30.77
	RZ-1E	800	26.67	---	NA	800	25.81	800	27.59
	RZ-1F	800	26.67	---	NA	800	34.78	800	25.81
	RZ-1G	800	27.58	---	NA	800	25.81	800	22.22
	RZ-1H	800	20.00	---	NA	800	20.00	800	32.00
	RZ-1I	800	29.63	---	NA	800	40.00	800	33.33
	RZ-1J	800	34.78	---	NA	800	30.77	800	34.78
	RZ-1K	800	34.78	---	NA	800	30.77	800	33.33
	RZ-1L	800	33.33	---	NA	800	36.36	800	33.33
	RZ-1M	800	30.77	---	NA	800	28.57	800	33.33
	RZ-1N	800	26.67	---	NA	800	19.05	800	30.77
	RZ-1O	800	27.58	---	NA	800	32.00	800	28.57
	RZ-1P	800	26.67	---	NA	400	14.29	800	32.00
	RZ-1Q	800	36.36	---	NA	400	8.00	800	30.77
	RZ-1R	800	32.00	---	NA	800	34.78	800	32.00
	RZ-1S	---[13]	NA	---	NA	400	10.53	800	32.00
	RZ-1T	---[13]	NA	---	NA	800	32.00	800	17.39
	RZ-1U	800	29.63	---	NA	800	30.77	800	16.33

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Table 18. Carbon Source Solution Introduction Volumes for 2008, General Motors Corporation, Moraine, Ohio.

Location	Injection Well	January		February		March		April	
		Injection Event #93[1]		Injection Event #94[2]		Injection Event #95[3]		Injection Event #96[4]	
		Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)
Reactive Zone 3									
	RZ-3A	1600	23.34	1600	29.62	1600	32.78	1600	35.57
	RZ-3B	1600	26.79	1600	28.08	1600	30.82	1600	33.57
	RZ-3C	1600	31.39	1600	24.77	1600	33.00	1600	31.39
	RZ-3D	1600	22.45	1600	23.94	1600	34.18	1600	28.08
	RZ-3E	1600	22.46	1600	32.78	1600	30.29	1600	30.95
	RZ-3F	1600	30.95	1600	30.29	--[13]	NA	1600	29.18
	RZ-3G	1600	27.51	1600	32.05	--[13]	NA	1600	28.72
	RZ-3H	1600	32.21	1600	32.05	1600	34.43	1600	32.21
	RZ-3I	1600	32.05	1600	29.18	1600	30.20	1600	28.79
	RZ-3J	1600	29.67	1600	32.20	1600	30.73	1600	35.57
	RZ-3K	1600	23.36	1600	30.20	1600	27.48	1600	23.72
	RZ-3L	1600	20.65	1600	27.62	1600	30.77	1600	24.17
	RZ-3M	1600	37.23	1600	33.39	1600	33.33	1600	25.21
	RZ-3N	1600	26.05	1600	25.39	1600	28.15	1600	30.46
	RZ-3O	1600	27.43	1600	26.53	1600	47.32	1600	20.10
	RZ-3P	1600	30.95	1600	28.61	1600	30.73	1600	20.95
	RZ-3Q	1600	28.90	1600	28.91	1600	20.39	1600	17.25
	RZ-3R	1600	29.79	1600	25.56	1600	21.62	1600	20.00
	RZ-3S	1600	31.39	1600	30.29	1600	25.76	1600	12.88
	RZ-3T	1600	29.79	1600	33.39	1600	33.33	1600	12.35
	RZ-3U	1600	32.00	1600	32.78	1600	23.72	1600	16.47
	RZ-3V	1600	30.82	1600	31.52	1600	33.33	1600	10.37
	RZ-3W	1600	32.00	1600	33.39	1600	24.50	1600	10.04
	RZ-3X	1600	32.05	1600	30.81	1600	33.80	1600	14.30
	RZ-3Y	800	34.78	800	27.62	1600	34.78	1600	15.25
	RZ-3Z	1600	31.39	1600	30.20	1600	29.63	1600	23.22
	RZ-3AA	1600	30.20	1600	30.29	1600	31.19	1600	27.32
	RZ-3BB	1600	28.15	1600	30.46	1600	30.20	1600	27.89

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Table 18. Carbon Source Solution Introduction Volumes for 2008, General Motors Corporation, Moraine, Ohio.

Location	Injection Well	January		February		March		April	
		Injection Event #93[1]		Injection Event #94[2]		Injection Event #95[3]		Injection Event #96[4]	
		Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)
Reactive Zone 3									
	RZ-3CC	1600	32.67	1600	29.62	1600	23.93	1600	32.67
	RZ-3DD	1600	31.39	1600	26.24	1600	15.72	1600	31.39
	RZ-3FF	---[13]	NA	---[13]	NA	---[13]	NA	---[13]	NA
	RZ-3GG	1600	30.73	1600	19.81	---[13]	NA	---[14]	NA
	RZ-3HH	1600	31.39	1600	28.10	1600	30.46	1600	25.03
	RZ-3II	1600	30.00	1600	30.20	1600	30.29	1600	22.03
	RZ-3JJ	1600	33.57	---[13]	NA	1600	30.82	1600	31.39
	RZ-3KK	1600	23.94	---[13]	NA	1600	28.50	1600	20.05
	RZ-3RR	800 [14]	36.36	1600	26.92	1600	58.34	800 [14]	16.67
	RZ-3SS	800 [14]	20.51	800 [14]	13.56	1600	45.43	800 [14]	19.52
	RZ-3TT	1000 [14]	11.15	---[14]	NA	1600	3.95	500 [15]	5.71
	RZ-3UU	800 [14]	33.33	1600	28.90	1600	17.76	---[14]	NA
	RZ-3VV	800 [14]	32.00	1600	30.00	1600	13.09	---[14]	NA
Reactive Zone 4									
	RZ-4A	3000	30.97	3000	25.66	3000	26.81	3000	26.59
	RZ-4B	3000	37.07	3200	28.14	3000	33.43	3000	22.48
	RZ-4C	3000	22.19	3000	26.09	3000	24.23	3000	24.27
	RZ-4D	3000	39.63	3200	29.06	3000	20.86	3000	26.16
	RZ-4E	3000	40.46	3000	31.08	3000	23.67	3000	19.99
	RZ-4F	3000	33.33	3000	29.69	3000	28.49	3000	17.54
	RZ-4G	3000	41.40	---[14]	NA	3000	22.17	3000	20.61
	RZ-4H	3000	39.67	3000	28.51	3000	27.84	3000	26.95
Site-Wide Total		97,000		79,000		97,200		95,700	

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Table 18. Carbon Source Solution Introduction Volumes for 2008, General Motors Corporation, Moraine, Ohio.

Location	Injection Well	May		June		July		August	
		Injection Event #97[5]		Injection Event #98[6]		Injection Event #99[7]		Injection Event #100[8]	
		Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)
Reactive Zone 1									
	RZ-1C	800	26.66	---	NA	---[14]	NA	800	32.00
	RZ-1D	800	17.77	---	NA	800	33.33	800	30.77
	RZ-1E	800	32.00	---	NA	800	32.00	800	32.00
	RZ-1F	800	36.36	---	NA	800	32.00	800	28.57
	RZ-1G	800	13.11	---	NA	800	28.57	800	27.59
	RZ-1H	800	32.00	---	NA	800	30.77	800	23.53
	RZ-1I	800	20.51	---	NA	800	32.00	800	29.63
	RZ-1J	800	36.36	---	NA	800	30.77	800	15.69
	RZ-1K	800	25.00	---	NA	800	38.09	800	15.69
	RZ-1L	800	30.77	---	NA	800	32.00	800	30.77
	RZ-1M	800	33.33	---	NA	800	28.57	800	20.00
	RZ-1N	800	30.77	---	NA	800	33.33	800	20.00
	RZ-1O	800	33.33	---	NA	800	33.33	800	25.00
	RZ-1P	800	29.63	---	NA	800	30.77	800	36.36
	RZ-1Q	800	29.63	---	NA	800	33.33	800	22.86
	RZ-1R	800	33.33	---	NA	800	32.00	800	22.86
	RZ-1S	---[13]	NA	---	NA	800	25.81	800	12.91
	RZ-1T	800	34.78	---	NA	800	22.86	800	21.62
	RZ-1U	800	26.66	---	NA	800	15.38	800	18.18

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Table 18. Carbon Source Solution Introduction Volumes for 2008, General Motors Corporation, Moraine, Ohio.

Location	Injection Well	May		June		July		August	
		Injection Event #97[5]		Injection Event #98[6]		Injection Event #99[7]		Injection Event #100[8]	
		Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)
Reactive Zone 3									
	RZ-3A	1600	25.15	1600	27.43	1600	32.67	1600	32.00
	RZ-3B	1600	40.66	1600	30.86	1600	27.13	1600	35.05
	RZ-3C	1600	47.73	1600	28.12	1600	34.06	1600	26.24
	RZ-3D	1600	18.57	1600	30.68	1600	32.38	1600	28.91
	RZ-3E	1600	18.14	1600	27.72	1600	34.18	1600	31.48
	RZ-3F	1600	20.87	1600	25.39	1600	19.90	1600	30.72
	RZ-3G	1600	32.00	1600	27.62	1600	29.10	1600	24.12
	RZ-3H	1600	23.91	1600	19.55	1600	30.46	1600	22.42
	RZ-3I	1600	28.13	1600	27.89	1600	28.08	1600	8.64
	RZ-3J	1600	26.13	1600	27.19	1600	38.22	1600	18.33
	RZ-3K	1600	25.42	1600	35.57	1600	20.52	1600	27.13
	RZ-3L	1600	30.63	1600	26.79	1600	22.80	1600	27.89
	RZ-3M	1600	29.33	1600	24.28	1600	28.71	1600	23.03
	RZ-3N	1600	16.16	1600	21.88	1600	26.20	1600	22.64
	RZ-3O	1600	22.86	1600	32.00	1600	30.00	1600	27.32
	RZ-3P	1600	29.33	1600	21.03	1600	29.34	1600	27.00
	RZ-3Q	1600	26.66	1600	23.93	1600	25.00	1600	25.92
	RZ-3R	1600	29.33	1600	24.70	1600	30.81	1600	12.66
	RZ-3S	1600	27.62	1600	28.15	1600	19.25	1600	13.97
	RZ-3T	1600	18.65	1600	17.06	1600	19.87	1600	9.05
	RZ-3U	1600	20.27	1600	24.52	1600	8.60	1600	13.63
	RZ-3V	1600	20.61	1600	28.08	1600	11.94	1600	21.54
	RZ-3W	1600	17.85	1600	28.72	1600	29.79	1600	19.41
	RZ-3X	1600	34.18	1600	30.82	1600	21.84	1600	19.99
	RZ-3Y	1600	29.80	1600	32.21	1600	21.07	1600	21.59
	RZ-3Z	1600	36.44	1600	31.39	1600	21.47	1600	24.61
	RZ-3AA	1600	18.00	1600	23.45	1600	18.70	1600	13.68
	RZ-3BB	1600	27.11	1600	18.37	1600	23.69	1600	20.81

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Table 18. Carbon Source Solution Introduction Volumes for 2008, General Motors Corporation, Moraine, Ohio.

Location	Injection Well	May		June		July		August	
		Injection Event #97[5]		Injection Event #98[6]		Injection Event #99[7]		Injection Event #100[8]	
		Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)
Reactive Zone 3									
	RZ-3CC	1600	20.26	1600	20.19	1600	15.68	1600	21.19
	RZ-3DD	1600	21.67	1600	17.77	1600	32.20	1600	17.25
	RZ-3FF	---[13]	NA	---[13]	NA	---[13]	NA	---[13]	NA
	RZ-3GG	---[13]	NA	1600	23.55	1600	25.10	1600	29.80
	RZ-3HH	1600	24.14	1600	27.15	1600	31.39	1600	21.48
	RZ-3II	1600	26.24	1600	30.82	1600	26.48	1600	31.51
	RZ-3JJ	1600	31.39	1600	31.19	1600	25.91	1600	32.67
	RZ-3KK	1600	33.57	1600	27.15	1600	34.85	1600	29.33
	RZ-3RR	1600	31.39	1600	26.24	1600	28.72	1600	21.01
	RZ-3SS	1600	14.13	1600	29.63	1600	19.12	1600	21.84
	RZ-3TT	---[13]	NA	1600	8.30	1600	9.30	1600	13.33
	RZ-3UU	1600	19.84	1600	25.41	1600	24.34	1600	19.16
	RZ-3VV	1600	12.42	1600	24.61	1600	17.08	1600	16.41
Reactive Zone 4									
	RZ-4A	3000	38.79	3000	36.88	3000	19.94	3000	15.04
	RZ-4B	3000	36.41	3000	37.50	3000	15.29	3000	20.83
	RZ-4C	3000	38.31	3000	31.07	3000	31.12	3000	29.87
	RZ-4D	3000	40.93	3000	42.07	3000	23.34	3000	16.61
	RZ-4E	3000	36.83	3000	37.17	3000	19.45	3000	20.60
	RZ-4F	3000	26.11	3000	28.04	3000	18.46	3000	9.36
	RZ-4G	3000	37.90	3000	37.90	3000	23.83	3000	13.97
	RZ-4H	3000	32.82	3000	24.37	3000	30.35	3000	20.47
Site-Wide Total		99,200		88,000		102,400		103,200	

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Table 18. Carbon Source Solution Introduction Volumes for 2008, General Motors Corporation, Moraine, Ohio.

Location	Injection Well	September		October		November		December	
		Injection Event #101[9]		Injection Event #102[10]		Injection Event #103[11]		Injection Event #104[12]	
		Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)
Reactive Zone 1									
	RZ-1C	800	38.09	1600	18.09	800	11.26	800	19.05
	RZ-1D	800	32.00	1600	22.58	800	21.05	800	21.05
	RZ-1E	800	33.33	1600	23.23	800	26.67	800	28.57
	RZ-1F	800	32.00	1600	21.19	800	22.22	800	23.53
	RZ-1G	800	28.57	1600	18.53	800	14.29	800	33.33
	RZ-1H	800	22.86	1600	17.79	800	20.00	800	13.79
	RZ-1I	800	29.63	1600	20.78	800	19.05	800	21.62
	RZ-1J	800	27.58	1600	19.90	800	18.60	800	16.33
	RZ-1K	800	28.57	1600	16.89	200 [14]	8.33	---[13]	NA
	RZ-1L	800	38.09	1600	19.30	600 [14]	24.00	800	14.81
	RZ-1M	800	32.00	800	18.60	800	14.04	800	19.51
	RZ-1N	800	27.58	---	NA	800	16.33	400 [13]	12.50
	RZ-1O	800	32.00	800	24.24	800	19.05	400 [14]	16.66
	RZ-1P	800	32.00	800	14.81	800	25.00	800	15.09
	RZ-1Q	800	32.00	800	19.51	800	20.51	800	32.00
	RZ-1R	800	26.66	800	29.63	800	16.00	800	27.59
	RZ-1S	800	38.09	800	22.86	50 [13]	5.56	---[13]	NA
	RZ-1T	800	32.00	800	17.39	800	22.85	800	18.60
	RZ-1U	800	34.78	800	34.78	800	17.78	---[13]	NA

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Table 18. Carbon Source Solution Introduction Volumes for 2008, General Motors Corporation, Moraine, Ohio.

Location	Injection Well	September		October		November		December	
		Injection Event #101[9]		Injection Event #102[10]		Injection Event #103[11]		Injection Event #104[12]	
		Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)
Reactive Zone 3									
	RZ-3A	1600	30.00	1600	25.84	1600	20.96	1600	28.09
	RZ-3B	1600	28.82	1600	21.50	1600	14.72	1600	35.57
	RZ-3C	1600	28.12	1600	26.00	1600	38.35	1600	15.91
	RZ-3D	1600	34.06	1600	28.82	1600	19.90	1600	20.46
	RZ-3E	1600	28.82	1600	25.46	1600	23.59	1600	25.09
	RZ-3F	1600	35.57	1600	27.77	1600	30.29	1600	15.38
	RZ-3G	1600	34.06	1600	32.67	1600	20.74	1600	28.82
	RZ-3H	1600	32.00	1600	21.23	1600	22.54	1600	24.02
	RZ-3I	1600	35.05	1600	24.61	1600	19.45	1600	24.27
	RZ-3J	1600	24.76	1600	24.89	1600	21.07	1600	28.57
	RZ-3K	1600	16.42	1600	32.00	1600	19.05	1600	20.52
	RZ-3L	1600	35.57	1600	22.24	1600	23.20	1600	15.78
	RZ-3M	1600	32.77	1600	26.69	1600	22.45	1600	31.16
	RZ-3N	1600	31.68	1600	22.43	1600	20.64	1600	14.97
	RZ-3O	1600	36.36	1600	19.75	1600	22.88	1600	24.34
	RZ-3P	1600	25.10	1600	29.33	1600	31.98	1600	13.78
	RZ-3Q	1600	29.50	1600	19.55	1600	28.43	1600	16.78
	RZ-3R	1600	32.00	1600	21.88	1600	30.95	1600	17.02
	RZ-3S	1600	27.62	1600	30.29	1600	15.55	1600	17.50
	RZ-3T	1600	32.50	1600	26.28	1600	24.57	1600	22.00
	RZ-3U	1600	21.41	1600	20.95	1600	16.00	1600	43.53
	RZ-3V	1600	23.12	1600	24.76	1600	32.05	1600	42.11
	RZ-3W	1600	20.05	1600	21.11	1600	23.34	1600	44.59
	RZ-3X	1600	30.82	1600	27.19	1600	32.50	1600	47.72
	RZ-3Y	1600	16.16	1600	24.02	1600	26.59	1600	31.78
	RZ-3Z	1600	14.13	1600	25.72	1600	25.00	1600	44.44
	RZ-3AA	1600	13.40	1600	16.86	1600	31.48	1600	48.53
	RZ-3BB	1600	32.21	1600	18.12	1600	11.51	1600	47.06

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Table 18. Carbon Source Solution Introduction Volumes for 2008, General Motors Corporation, Moraine, Ohio.

Location	Injection Well	September		October		November		December	
		Injection Event #101[9]		Injection Event #102[10]		Injection Event #103[11]		Injection Event #104[12]	
		Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)	Volume (gal.)	Flow Rate (gpm)
Reactive Zone 3									
	RZ-3CC	1600	18.78	1600	14.29	1600	27.62	---	NA
	RZ-3DD	1600	9.20	1600	19.81	1600	23.14	---	NA
	RZ-3FF	---[13]	NA	---[13]	NA	---[13]	NA	---[13]	NA
	RZ-3GG	1600	30.29	1600	25.09	1600	21.07	1600	34.85
	RZ-3HH	1600	28.10	1600	26.30	1600	22.54	1600	30.20
	RZ-3II	1600	30.29	1600	32.78	1600	22.88	1600	42.39
	RZ-3JJ	1600	32.05	1600	18.09	1600	20.81	1600	32.67
	RZ-3KK	1600	28.10	1600	19.80	1600	27.62	1600	32.00
	RZ-3RR	---[14]	NA	1600	17.85	1600	29.34	1600	26.30
	RZ-3SS	---[14]	NA	1600	14.74	1600	18.39	1600	18.17
	RZ-3TT	1600	30.29	800[14]	5.03	1600	20.81	1600	14.06
	RZ-3UU	---[14]	NA	1600	22.89	1600	26.70	1600	36.00
	RZ-3VV	---[14]	NA	1600	10.13	1600	24.67	1600	22.02
Reactive Zone 4									
	RZ-4A	3000	13.93	3000	17.31	3000	32.58	3000	41.11
	RZ-4B	3000	28.80	3000	26.69	3000	14.49	3000	37.37
	RZ-4C	3000	36.22	3000	17.74	3000	20.21	3000	30.52
	RZ-4D	3000	30.24	3000	28.95	3000	30.32	3000	40.45
	RZ-4E	3000	27.88	3000	18.73	3000	24.92	3000	37.66
	RZ-4F	3000	22.30	3000	18.39	3000	21.37	3000	35.65
	RZ-4G	3000	24.01	3000	24.13	3000	29.60	3000	37.68
	RZ-4H	3000	19.84	3000	29.00	3000	27.76	3000	44.69
Site-Wide Total		96,800		109,600		101,650		96,800	

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Table 18. Carbon Source Solution Introduction Volumes for 2008, General Motors Corporation, Moraine, Ohio.

Notes:

From January 2008 through August 2008 Carbon source introduced into each well was a 20:1 solution (potable water to molasses) for RZ-1C through RZ-3KK, 33:1 for RZ-3RR through RZ-3VV, and 50:1 solution for RZ-4.

From September 2008 through December 2008 Carbon source introduced into each well was a 20:1 solution (potable water to molasses) for RZ-1 and 50:1 for RZ-3 and RZ-4.

NA Not Applicable

--- Introduction well was not selected for introduction during this event.

(1) Injection Event #93 was completed January 2nd through 4th, 7th through 10th, 14th through 18th, and the 21st.

(2) Injection Event #94 was completed February 5th, 11th through 14th, 19th through 21st, and 25th through 28th, 2008.

(3) Injection Event #95 was completed March 3rd through 6th, 11th through 13th, 17th through 20th, and 24th through 27th, 2008.

(4) Injection Event #96 was completed April 2nd, 7th through 10th, 14th through 17th, 21st through 23rd, and 28th through 30th, 2008.

(5) Injection Event #97 was completed May 15th and 16th, 19th through 23rd, 27th through 29th, and June 2nd through 4th, 2008.

(6) Injection Event #98 was completed June 2nd through 5th, 10th through 12th, 19th, 20th, and 23rd through 25th, 2008.

(7) Injection Event #99 was completed July 1st through 3rd, 10th and 11th, 14th through 17th, 21st through 24th, and 28th through 31st, 2008.

(8) Injection Event #100 was completed August 4th through 7th, 11th through 14th, 18th through 21st, and 25th through 28th, 2008.

(9) Injection Event #101 was completed September 2nd through 4th, 8th through 11th, 15th through 18th, and 22nd through 25th, 2008.

(10) Injection Event #102 was completed October 6th through 9th, 13th through 17th, 20th through 24th, and 27th through 31st, 2008.

(11) Injection Event #103 was completed November 3rd through 7th, 10th through 14th, 17th through 20th, and 24th through 26th, 2008.

(12) Injection Event #104 was completed December 1st through 3rd, 8th through 11th, 15th through 19th, and 23rd and 24th, and 29th, and 30th, 2008.

(13) Introduction not completed or introduction volume reduced due to accessibility.

(14) Introduction not completed or introduction volume reduced because well would not accept solution and/or due to high pressure.

(15) Indicates flow rate for pressurized injections only. A portion of this well was gravity fed and rate is not included in rate calculation.

Table 19: Corrective Action Monitoring Results for Comparison to Remediation Target Levels (RTLs)
General Motors Corporation - Moraine, Ohio

			2008					2007			1999											
Aquifer	Remediation Zone	Chemical	Num of Analyses	Num of Detects	Min Value (mg/l)	Mean Value (mg/L)	Max Value (mg/l)	Min Value (mg/l)	Mean Value (mg/L)	Max Value (mg/l)	Min Value (mg/l)	Mean Value (mg/L)	Max Value (mg/l)	RTL[1] (mg/L)	Ratio: Min 2008 Value to RTL	Ratio: Mean 2008 Value to RTL	Ratio: Max 2008 Value to RTL	Ratio: Min 2007 Value to RTL	Ratio: Mean 2007 Value to RTL	Ratio: Max 2007 Value to RTL	Ratio: Min 1999 Value to RTL	Ratio: Mean 1999 Value to RTL	Ratio: Max 1999 Value to RTL
Shallow	AOI 7 Shallow	1,1-Dichloroethene	6		9.5E-04	3.6E-03	6.0E-03	1.8E-03	6.9E-03	1.9E-02	1.3E-03	6.5E-01	5.1E+00	7.0E-01	1.4E-03	5.1E-03	8.6E-03	2.5E-03	9.9E-03	2.7E-02	1.9E-03	9.3E-01	**7.2E+00**
Shallow	AOI 7 Shallow	cis-1,2-Dichloroethene	6	5	8.5E-04	1.0E+00	2.0E+00	1.6E-03	1.6E+00	4.7E+00	2.5E-03	5.2E+00	9.7E+00	7.0E+00	1.2E-04	1.5E-01	2.9E-01	2.2E-04	2.3E-01	6.7E-01	3.6E-04	7.4E-01	**1.4E+00**
Shallow	AOI 7 Shallow	Tetrachloroethene	6	5	1.5E-03	2.2E-02	7.1E-02	2.7E-03	6.6E-02	2.8E-01	9.5E-03	4.0E+00	7.1E+00	5.0E-01	2.9E-03	4.5E-02	1.4E-01	5.3E-03	1.3E-01	5.6E-01	1.9E-02	**8.0E+00**	**1.4E+01**
Shallow	AOI 7 Shallow	Trichloroethene	6	4	8.5E-04	2.1E-01	3.6E-01	1.6E-03	2.1E-01	3.5E-01	2.5E-03	1.4E+00	5.1E+00	5.0E-01	1.7E-03	4.3E-01	7.2E-01	3.1E-03	4.3E-01	7.0E-01	5.0E-03	**2.8E+00**	**1.0E+01**
Shallow	AOI 7 Shallow	Vinyl Chloride	6	5	1.1E-03	4.7E-01	2.1E+00	2.0E-03	6.9E-01	2.6E+00	1.0E-03	1.5E+00	2.6E+00	2.0E-01	5.5E-03	**2.4E+00**	**1.1E+01**	1.0E-02	**3.4E+00**	**1.3E+01**	5.0E-03	**7.4E+00**	**1.3E+01**
Shallow	Zone S1	1,1-Dichloroethene	4		9.5E-05	1.9E-04	4.8E-04	9.0E-05	9.3E-05	9.5E-05	5.0E-04	5.0E-04	5.0E-04	6.3E-01	1.5E-04	3.0E-04	7.5E-04	1.4E-04	1.5E-04	1.5E-04	7.9E-04	7.9E-04	7.9E-04
Shallow	Zone S1	cis-1,2-Dichloroethene	4	4	5.5E-03	1.4E-02	3.3E-02	7.4E-04	1.1E-02	3.0E-02	1.8E-01	1.8E-01	1.8E-01	6.3E+00	8.7E-04	2.2E-03	5.2E-03	1.2E-04	1.8E-03	4.8E-03	2.8E-02	2.8E-02	2.8E-02
Shallow	Zone S1	Tetrachloroethene	4		1.5E-04	2.8E-04	7.0E-04	9.5E-05	1.3E-04	1.5E-04	3.2E-01	3.2E-01	3.2E-01	4.5E-01	3.2E-04	6.3E-04	1.6E-03	2.1E-04	2.9E-04	3.2E-04	7.0E-01	7.0E-01	7.0E-01
Shallow	Zone S1	Trichloroethene	4	3	4.3E-04	8.3E-04	1.9E-03	5.4E-04	6.3E-04	7.8E-04	7.7E-01	7.7E-01	7.7E-01	4.5E-01	9.4E-04	1.9E-03	4.2E-03	1.2E-03	1.4E-03	1.7E-03	**1.7E+00**	**1.7E+00**	**1.7E+00**
Shallow	Zone S1	Vinyl Chloride	4	4	3.7E-03	1.0E-02	2.2E-02	1.1E-03	8.6E-03	2.2E-02	3.2E-03	3.2E-03	3.2E-03	1.8E-01	2.1E-02	5.7E-02	1.2E-01	6.1E-03	4.8E-02	1.2E-01	1.8E-02	1.8E-02	1.8E-02
Shallow	Zone S1 to S2	1,1-Dichloroethene	5		9.5E-05	1.7E-04	4.8E-04	9.0E-05	9.4E-05	9.5E-05	5.0E-04	5.0E-04	5.0E-04	1.3E-01	7.1E-04	1.3E-03	3.6E-03	6.8E-04	7.0E-04	7.1E-04	3.8E-03	3.8E-03	3.8E-03
Shallow	Zone S1 to S2	cis-1,2-Dichloroethene	5	5	5.2E-03	1.2E-02	3.3E-02	7.4E-04	1.1E-02	3.0E-02	1.8E-01	2.2E-01	2.6E-01	1.3E+00	3.9E-03	9.1E-03	2.5E-02	5.6E-04	8.1E-03	2.3E-02	1.3E-01	1.6E-01	1.9E-01
Shallow	Zone S1 to S2	Tetrachloroethene	5	1	1.5E-04	1.8E-03	7.7E-03	9.5E-05	1.2E-03	4.5E-03	2.1E-01	2.6E-01	3.2E-01	9.5E-02	1.5E-03	1.9E-02	8.1E-02	1.0E-03	1.3E-02	4.7E-02	**2.2E+00**	**2.8E+00**	**3.3E+00**
Shallow	Zone S1 to S2	Trichloroethene	5	4	4.3E-04	2.5E-03	9.0E-03	5.4E-04	3.5E-03	1.2E-02	4.7E-01	6.2E-01	7.7E-01	9.5E-02	4.5E-03	2.6E-02	9.5E-02	5.6E-03	3.7E-02	1.3E-01	**5.0E+00**	**6.5E+00**	**8.1E+00**
Shallow	Zone S1 to S2	Vinyl Chloride	5	5	1.7E-03	8.6E-03	2.2E-02	1.1E-03	7.6E-03	2.2E-02	5.0E-04	1.9E-03	3.2E-03	3.8E-02	4.5E-02	2.3E-01	5.8E-01	2.9E-02	2.0E-01	5.8E-01	1.3E-02	4.9E-02	8.4E-02
Shallow	Zone S2	1,1-Dichloroethene	3		9.5E-05	1.4E-04	2.4E-04	9.5E-05	1.7E-04	3.2E-04	5.0E-04	1.0E-03	2.5E-03	7.0E-02	1.4E-03	2.0E-03	3.4E-03	1.4E-03	2.4E-03	4.5E-03	7.1E-03	1.4E-02	3.6E-02
Shallow	Zone S2	cis-1,2-Dichloroethene	3	3	1.4E-03	2.8E-02	7.9E-02	1.2E-03	3.7E-02	1.0E-01	2.5E-03	6.8E-02	2.6E-01	7.0E-01	2.0E-03	4.1E-02	1.1E-01	1.7E-03	5.3E-02	1.4E-01	3.6E-03	9.7E-02	3.6E-01
Shallow	Zone S2	Tetrachloroethene	3	2	3.6E-04	5.4E-03	8.1E-03	4.9E-04	3.4E-03	5.2E-03	1.3E-03	6.9E-02	2.1E-01	5.0E-02	7.2E-03	1.1E-01	1.6E-01	9.7E-03	6.8E-02	1.0E-01	2.6E-02	**1.4E+00**	**4.3E+00**
Shallow	Zone S2	Trichloroethene	3	3	4.9E-03	3.2E-02	8.1E-02	3.6E-03	3.5E-02	9.0E-02	2.5E-03	1.4E-01	4.7E-01	5.0E-02	9.8E-02	6.3E-01	**1.6E+00**	7.2E-02	7.0E-01	**1.8E+00**	5.0E-02	**2.7E+00**	**9.5E+00**
Shallow	Zone S2	Vinyl Chloride	3	3	7.0E-04	1.1E-03	1.7E-03	8.2E-04	2.1E-03	4.5E-03	5.0E-04	6.3E-04	1.0E-03	2.0E-02	3.5E-02	5.4E-02	8.5E-02	4.1E-02	1.1E-01	2.3E-01	2.5E-02	3.1E-02	5.0E-02
Shallow	Zone S2 to S3	1,1-Dichloroethene	8	2	9.5E-05	2.9E-04	9.5E-04	9.5E-05	3.0E-04	9.5E-04	5.0E-04	7.9E-04	2.5E-03	6.3E-02	1.5E-03	4.7E-03	1.5E-02	1.5E-03	4.8E-03	1.5E-02	7.9E-03	1.2E-02	4.0E-02
Shallow	Zone S2 to S3	cis-1,2-Dichloroethene	8	7	8.5E-05	2.4E-02	9.2E-02	2.4E-04	3.3E-02	1.4E-01	5.0E-04	4.1E-02	2.6E-01	6.3E-01	1.3E-04	3.8E-02	1.5E-01	3.8E-04	5.3E-02	2.2E-01	7.9E-04	6.5E-02	4.0E-01
Shallow	Zone S2 to S3	Tetrachloroethene	8	7	3.6E-04	1.8E-02	3.9E-02	4.9E-04	1.4E-02	3.2E-02	1.3E-03	5.3E-02	2.1E-01	4.5E-02	8.0E-03	4.1E-01	8.7E-01	1.1E-02	3.2E-01	7.1E-01	2.9E-02	**1.2E+00**	**4.7E+00**
Shallow	Zone S2 to S3	Trichloroethene	8	8	4.9E-03	3.2E-02	8.8E-02	3.3E-03	3.7E-02	1.1E-01	2.5E-03	8.9E-02	4.7E-01	4.5E-02	1.1E-01	7.2E-01	**2.0E+00**	7.3E-02	8.2E-01	**2.4E+00**	5.6E-02	**2.0E+00**	**1.1E+01**
Shallow	Zone S2 to S3	Vinyl Chloride	8	4	1.1E-04	1.5E-03	7.9E-03	1.1E-04	2.4E-03	1.2E-02	5.0E-04	5.7E-04	1.0E-03	1.8E-02	6.1E-03	8.1E-02	4.4E-01	6.1E-03	1.3E-01	6.7E-01	2.8E-02	3.2E-02	5.6E-02
Shallow	Zone S3	1,1-Dichloroethene	16	1	9.5E-05	4.8E-04	1.9E-03	9.0E-05	5.7E-04	2.4E-03	5.0E-04	2.3E-03	3.9E-03	4.9E-02	1.9E-03	9.8E-03	3.9E-02	1.8E-03	1.2E-02	4.9E-02	1.0E-02	4.7E-02	8.0E-02
Shallow	Zone S3	cis-1,2-Dichloroethene	16	13	3.9E-04	1.5E-02	4.4E-02	4.3E-04	1.0E-01	5.3E-01	2.6E-03	4.4E-02	6.6E-02	4.9E-01	8.0E-04	3.0E-02	9.0E-02	8.7E-04	2.1E-01	**1.1E+00**	5.3E-03	9.1E-02	1.4E-01
Shallow	Zone S3	Tetrachloroethene	16	9	1.5E-04	4.0E-02	1.7E-01	9.5E-05	4.0E-02	1.3E-01	5.0E-04	1.4E-03	2.5E-03	3.5E-02	4.1E-03	**1.1E+00**	**4.7E+00**	2.7E-03	**1.2E+00**	**3.7E+00**	1.4E-02	4.0E-02	7.1E-02
Shallow	Zone S3	Trichloroethene	16	12	8.5E-05	3.2E-02	1.3E-01	4.3E-04	3.6E-02	1.2E-01	3.2E-03	1.6E-01	4.6E-01	3.5E-02	2.4E-03	9.1E-01	**3.7E+00**	1.2E-02	1.0E+00	**3.4E+00**	9.1E-02	**4.6E+00**	**1.3E+01**
Shallow	Zone S3	Vinyl Chloride	16	9	3.7E-04	5.9E-03	2.5E-02	2.1E-04	1.0E-02	5.3E-02	5.0E-04	1.5E-03	3.0E-03	1.4E-02	2.6E-02	4.2E-01	**1.8E+00**	1.5E-02	7.2E-01	**3.8E+00**	3.6E-02	1.1E-01	2.1E-01
Shallow	Zone S3 to GM-10/GM-52	1,1-Dichloroethene	28	1	9.5E-05	3.4E-04	1.9E-03	9.0E-05	4.1E-04	2.4E-03	5.0E-04	1.3E-03	3.9E-03	3.5E-02	2.7E-03	9.8E-03	5.4E-02	2.6E-03	1.2E-02	6.9E-02	1.4E-02	3.6E-02	1.1E-01
Shallow	Zone S3 to GM-10/GM-52	cis-1,2-Dichloroethene	28	23	8.5E-05	1.6E-02	1.6E-01	8.5E-05	7.0E-02	5.3E-01	5.0E-04	2.8E-02	6.6E-02	3.5E-01	2.4E-04	4.7E-02	4.6E-01	2.4E-04	2.0E-01	**1.5E+00**	1.4E-03	8.0E-02	1.9E-01
Shallow	Zone S3 to GM-10/GM-52	Tetrachloroethene	28	16	1.5E-04	3.3E-02	1.7E-01	9.5E-05	3.3E-02	1.3E-01	5.0E-04	1.7E-02	8.1E-02	2.5E-02	5.8E-03	**1.3E+00**	**6.6E+00**	3.8E-03	**1.3E+00**	**5.2E+00**	2.0E-02	6.7E-01	**3.3E+00**
Shallow	Zone S3 to GM-10/GM-52	Trichloroethene	28	19	8.5E-05	2.5E-02	1.3E-01	8.5E-05	2.8E-02	1.2E-01	5.0E-04	8.4E-02	4.6E-01	2.5E-02	3.4E-03	1.0E+00	**5.2E+00**	3.4E-03	**1.1E+00**	**4.8E+00**	2.0E-02	**3.3E+00**	**1.8E+01**
Shallow	Zone S3 to GM-10/GM-52	Vinyl Chloride	28	15	1.1E-04	3.7E-03	2.5E-02	1.1E-04	5.9E-03	5.3E-02	5.0E-04	1.8E-03	8.4E-03	1.0E-02	1.1E-02	3.7E-01	**2.5E+00**	1.1E-02	5.9E-01	**5.3E+00**	5.0E-02	1.8E-01	8.4E-01
Shallow	GM-10/GM-52	1,1-Dichloroethene	2		9.5E-05	1.7E-04	2.4E-04	9.5E-05	1.7E-04	2.4E-04	5.0E-04	5.0E-04	5.0E-04	2.8E-02	3.4E-03	6.0E-03	8.6E-03	3.4E-03	6.0E-03	8.6E-03	1.8E-02	1.8E-02	1.8E-02
Shallow	GM-10/GM-52	cis-1,2-Dichloroethene	2	1	8.5E-05	7.0E-03	1.4E-02	3.5E-04	9.2E-03	1.8E-02	5.0E-04	5.0E-04	5.0E-04	2.8E-01	3.0E-04	2.5E-02	5.0E-02	1.2E-03	3.3E-02	6.4E-02	1.8E-03	1.8E-03	1.8E-03
Shallow	GM-10/GM-52	Tetrachloroethene	2	2	8.5E-04	4.4E-02	8.8E-02	9.7E-04	4.4E-02	8.8E-02	5.0E-04	5.0E-04	5.0E-04	2.0E-02	4.3E-02	**2.2E+00**	**4.4E+00**	4.8E-02	**2.2E+00**	**4.4E+00**	2.5E-02	2.5E-02	2.5E-02
Shallow	GM-10/GM-52	Trichloroethene	2	2	5.9E-03	2.4E-02	4.3E-02	8.6E-03	2.8E-02	4.7E-02	1.4E-02	1.4E-02	1.4E-02	2.0E-02	3.0E-01	**1.2E+00**	**2.2E+00**	4.3E-01	**1.4E+00**	**2.4E+00**	7.2E-01	7.2E-01	7.2E-01
Shallow	GM-10/GM-52	Vinyl Chloride	2		1.1E-04	1.9E-04	2.8E-04	1.1E-04	1.9E-04	2.8E-04	5.0E-04	5.0E-04	5.0E-04	8.0E-03	1.4E-02	2.4E-02	3.4E-02	1.4E-02	2.4E-02	3.4E-02	6.3E-02	6.3E-02	6.3E-02
Shallow	POC Shallow	1,1-Dichloroethene	2		9.5E-05	9.5E-05	9.5E-05	9.5E-05	9.5E-05	9.5E-05	5.0E-04	5.0E-04	5.0E-04	7.0E-03	1.4E-02	1.4E-02	1.4E-02	1.4E-02	1.4E-02	1.4E-02	7.1E-02	7.1E-02	7.1E-02
Shallow	POC Shallow	cis-1,2-Dichloroethene	2		8.5E-05	8.5E-05	8.5E-05	8.5E-05	8.5E-05	8.5E-05	5.0E-04	5.0E-04	5.0E-04	7.0E-02	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	1.2E-03	7.1E-03	7.1E-03	7.1E-03
Shallow	POC Shallow	Tetrachloroethene	2	2	1.3E-03	1.3E-03	1.4E-03	1.2E-03	1.2E-03	1.2E-03	5.0E-04	5.0E-04	5.0E-04	5.0E-03	2.5E-01	2.7E-01	2.8E-01	2.4E-01	2.4E-01	2.4E-01	1.0E-01	1.0E-01	1.0E-01
Shallow	POC Shallow	Trichloroethene	2		8.5E-05	8.5E-05	8.5E-05	8.5E-05	8.5E-05	8.5E-05	5.0E-04	5.0E-04	5.0E-04	5.0E-03	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.7E-02	1.0E-01	1.0E-01	1.0E-01
Shallow	POC Shallow	Vinyl Chloride	2		1.1E-04	1.1E-04	1.1E-04	1.1E-04	1.1E-04	1.1E-04	5.0E-04	5.0E-04	5.0E-04	2.0E-03	5.5E-02	5.5E-02	5.5E-02	5.5E-02	5.5E-02	5.5E-02	2.5E-01	2.5E-01	2.5E-01

Table 19: Corrective Action Monitoring Results for Comparison to Remediation Target Levels (RTLs)
General Motors Corporation - Moraine, Ohio

			2008					2007			1999											
Aquifer	Remediation Zone	Chemical	Num of Analyses	Num of Detects	Min Value (mg/l)	Mean Value (mg/L)	Max Value (mg/l)	Min Value (mg/l)	Mean Value (mg/L)	Max Value (mg/l)	Min Value (mg/l)	Mean Value (mg/L)	Max Value (mg/l)	RTL[1] (mg/L)	Ratio: Min 2008 Value to RTL	Ratio: Mean 2008 Value to RTL	Ratio: Max 2008 Value to RTL	Ratio: Min 2007 Value to RTL	Ratio: Mean 2007 Value to RTL	Ratio: Max 2007 Value to RTL	Ratio: Min 1999 Value to RTL	Ratio: Mean 1999 Value to RTL	Ratio: Max 1999 Value to RTL
Deep	AOI 7 Deep	1,1-Dichloroethene	6		9.5E-04	3.6E-03	6.0E-03	1.8E-03	6.9E-03	1.9E-02	1.3E-03	6.5E-01	5.1E+00	2.3E-01	4.1E-03	1.5E-02	2.6E-02	7.5E-03	3.0E-02	8.1E-02	5.6E-03	**2.8E+00**	**2.2E+01**
Deep	AOI 7 Deep	cis-1,2-Dichloroethene	6	5	8.5E-04	1.0E+00	2.0E+00	1.6E-03	1.6E+00	4.7E+00	2.5E-03	5.2E+00	9.7E+00	2.3E+00	3.6E-04	4.4E-01	8.6E-01	6.6E-04	7.0E-01	**2.0E+00**	1.1E-03	**2.2E+00**	**4.2E+00**
Deep	AOI 7 Deep	Tetrachloroethene	6	5	1.5E-03	2.2E-02	7.1E-02	2.7E-03	6.6E-02	2.8E-01	9.5E-03	4.0E+00	7.1E+00	1.7E-01	8.7E-03	1.3E-01	4.3E-01	1.6E-02	4.0E-01	**1.7E+00**	5.7E-02	**2.4E+01**	**4.3E+01**
Deep	AOI 7 Deep	Trichloroethene	6	4	8.5E-04	2.1E-01	3.6E-01	1.6E-03	2.1E-01	3.5E-01	2.5E-03	1.4E+00	5.1E+00	1.7E-01	5.1E-03	**1.3E+00**	**2.2E+00**	9.3E-03	**1.3E+00**	**2.1E+00**	1.5E-02	**8.4E+00**	**3.0E+01**
Deep	AOI 7 Deep	Vinyl Chloride	6	5	1.1E-03	4.7E-01	2.1E+00	2.0E-03	6.9E-01	2.6E+00	1.0E-03	1.5E+00	2.6E+00	6.7E-02	1.7E-02	**7.1E+00**	**3.2E+01**	3.0E-02	**1.0E+01**	**3.9E+01**	1.5E-02	**2.2E+01**	**3.9E+01**
Deep	GM-40/41/54	1,1-Dichloroethene	3		9.5E-05	4.5E-04	7.0E-04	9.5E-05	4.5E-04	6.5E-04				6.1E-02	1.6E-03	7.4E-03	1.2E-02	1.6E-03	7.5E-03	1.1E-02			
Deep	GM-40/41/54	cis-1,2-Dichloroethene	3	1	8.5E-05	3.9E-03	1.1E-02	8.5E-05	6.6E-03	1.7E-02				6.1E-01	1.4E-04	6.4E-03	1.8E-02	1.4E-04	1.1E-02	2.8E-02			
Deep	GM-40/41/54	Tetrachloroethene	3	1	1.5E-04	6.4E-02	1.9E-01	1.5E-04	6.2E-02	1.6E-01				4.3E-02	3.3E-03	**1.5E+00**	**4.4E+00**	3.3E-03	**1.4E+00**	**3.7E+00**			
Deep	GM-40/41/54	Trichloroethene	3	2	8.5E-05	6.1E-02	1.8E-01	8.5E-05	8.1E-02	2.3E-01				4.3E-02	2.0E-03	**1.4E+00**	**4.2E+00**	2.0E-03	**1.9E+00**	**5.3E+00**			
Deep	GM-40/41/54	Vinyl Chloride	3	1	6.5E-04	1.7E-03	3.6E-03	5.0E-04	1.9E-03	4.0E-03				1.7E-02	3.8E-02	9.7E-02	2.1E-01	2.9E-02	1.1E-01	2.3E-01			
Deep	GM-42	1,1-Dichloroethene	1	1	5.3E-04	5.3E-04	5.3E-04	1.5E-04	1.5E-04	1.5E-04				3.3E-02	1.6E-02	1.6E-02	1.6E-02	4.5E-03	4.5E-03	4.5E-03			
Deep	GM-42	cis-1,2-Dichloroethene	1	1	2.0E-02	2.0E-02	2.0E-02	1.8E-02	1.8E-02	1.8E-02				3.3E-01	6.1E-02	6.1E-02	6.1E-02	5.4E-02	5.4E-02	5.4E-02			
Deep	GM-42	Tetrachloroethene	1		1.5E-04	1.5E-04	1.5E-04	1.5E-04	1.5E-04	1.5E-04				2.3E-02	6.2E-03	6.2E-03	6.2E-03	6.2E-03	6.2E-03	6.2E-03			
Deep	GM-42	Trichloroethene	1	1	9.9E-03	9.9E-03	9.9E-03	2.2E-03	2.2E-03	2.2E-03				2.3E-02	4.2E-01	4.2E-01	4.2E-01	9.2E-02	9.2E-02	9.2E-02			
Deep	GM-42	Vinyl Chloride	1	1	3.1E-04	3.1E-04	3.1E-04	4.7E-04	4.7E-04	4.7E-04				9.3E-03	3.3E-02	3.3E-02	3.3E-02	5.0E-02	5.0E-02	5.0E-02			
Deep	Zone D1	1,1-Dichloroethene	1		9.5E-05	9.5E-05	9.5E-05	9.5E-05	9.5E-05	9.5E-05	5.0E-04	5.0E-04	5.0E-04	7.0E-03	1.4E-02	1.4E-02	1.4E-02	1.4E-02	1.4E-02	1.4E-02	7.1E-02	7.1E-02	7.1E-02
Deep	Zone D1	cis-1,2-Dichloroethene	1	1	2.4E-03	2.4E-03	2.4E-03	1.4E-03	1.4E-03	1.4E-03	1.2E-03	1.2E-03	1.2E-03	7.0E-02	3.4E-02	3.4E-02	3.4E-02	2.0E-02	2.0E-02	2.0E-02	1.7E-02	1.7E-02	1.7E-02
Deep	Zone D1	Tetrachloroethene	1		1.5E-04	1.5E-04	1.5E-04	1.5E-04	1.5E-04	1.5E-04	5.0E-04	5.0E-04	5.0E-04	5.0E-03	2.9E-02	2.9E-02	2.9E-02	2.9E-02	2.9E-02	2.9E-02	1.0E-01	1.0E-01	1.0E-01
Deep	Zone D1	Trichloroethene	1		8.5E-05	8.5E-05	8.5E-05	3.2E-03	3.2E-03	3.2E-03	1.4E-02	1.4E-02	1.4E-02	5.0E-03	1.7E-02	1.7E-02	1.7E-02	6.4E-01	6.4E-01	6.4E-01	**2.7E+00**	**2.7E+00**	**2.7E+00**
Deep	Zone D1	Vinyl Chloride	1	1	9.8E-03	9.8E-03	9.8E-03	1.6E-02	1.6E-02	1.6E-02	1.5E-03	1.5E-03	1.5E-03	2.0E-03	**4.9E+00**	**4.9E+00**	**4.9E+00**	**8.0E+00**	**8.0E+00**	**8.0E+00**	7.5E-01	7.5E-01	7.5E-01
Deep	Zone D2	1,1-Dichloroethene	2		9.5E-05	9.5E-05	9.5E-05	9.5E-05	9.5E-05	9.5E-05	5.0E-04	5.0E-04	5.0E-04	1.3E-02	7.4E-03	7.4E-03	7.4E-03	7.4E-03	7.4E-03	7.4E-03	3.9E-02	3.9E-02	3.9E-02
Deep	Zone D2	cis-1,2-Dichloroethene	2		8.5E-05	8.5E-05	8.5E-05	8.5E-05	1.9E-03	3.8E-03	5.0E-04	8.0E-04	1.1E-03	1.3E-01	6.6E-04	6.6E-04	6.6E-04	6.6E-04	1.5E-02	3.0E-02	3.9E-03	6.2E-03	8.6E-03
Deep	Zone D2	Tetrachloroethene	2	2	1.1E-03	1.4E-03	1.8E-03	1.8E-03	1.9E-03	1.9E-03	1.2E-03	1.6E-03	2.0E-03	9.2E-03	1.2E-01	1.6E-01	2.0E-01	2.0E-01	2.0E-01	2.1E-01	1.3E-01	1.7E-01	2.2E-01
Deep	Zone D2	Trichloroethene	2	2	6.5E-03	1.9E-02	3.1E-02	1.4E-02	2.3E-02	3.2E-02	7.5E-03	1.9E-02	3.1E-02	9.2E-03	7.1E-01	**2.0E+00**	**3.4E+00**	**1.5E+00**	**2.5E+00**	**3.5E+00**	8.2E-01	**2.1E+00**	**3.3E+00**
Deep	Zone D2	Vinyl Chloride	2		1.1E-04	1.1E-04	1.1E-04	1.1E-04	1.1E-04	1.1E-04	5.0E-04	5.0E-04	5.0E-04	3.7E-03	3.0E-02	3.0E-02	3.0E-02	3.0E-02	3.0E-02	3.0E-02	1.4E-01	1.4E-01	1.4E-01
Deep	POC Deep	1,1-Dichloroethene	3		9.5E-05	9.5E-05	9.5E-05	9.5E-05	9.5E-05	9.5E-05	5.0E-04	5.0E-04	5.0E-04	7.0E-03	1.4E-02	1.4E-02	1.4E-02	1.4E-02	1.4E-02	1.4E-02	7.1E-02	7.1E-02	7.1E-02
Deep	POC Deep	cis-1,2-Dichloroethene	3	1	8.5E-05	3.2E-04	7.9E-04	8.5E-05	4.2E-04	1.1E-03	5.0E-04	1.8E-03	4.3E-03	7.0E-02	1.2E-03	4.6E-03	1.1E-02	1.2E-03	6.0E-03	1.6E-02	7.1E-03	2.5E-02	6.1E-02
Deep	POC Deep	Tetrachloroethene	3	2	1.5E-04	1.5E-03	2.6E-03	1.5E-04	1.2E-03	2.1E-03	5.0E-04	8.3E-04	1.5E-03	5.0E-03	2.9E-02	3.0E-01	5.2E-01	2.9E-02	2.5E-01	4.2E-01	1.0E-01	1.7E-01	3.0E-01
Deep	POC Deep	Trichloroethene	3	3	6.2E-03	1.5E-02	3.1E-02	5.1E-03	1.6E-02	3.5E-02	5.0E-04	6.4E-03	1.5E-02	5.0E-03	**1.2E+00**	**2.9E+00**	**6.2E+00**	1.0E+00	**3.3E+00**	**7.0E+00**	1.0E-01	**1.3E+00**	**2.9E+00**
Deep	POC Deep	Vinyl Chloride	3		1.1E-04	1.1E-04	1.1E-04	1.1E-04	1.1E-04	1.1E-04	5.0E-04	5.0E-04	5.0E-04	2.0E-03	5.5E-02	5.5E-02	5.5E-02	5.5E-02	5.5E-02	5.5E-02	2.5E-01	2.5E-01	2.5E-01

NOTES
1. RTL reflect groundwater modeling conducted in 2008 to reflect current pumping conditions without interim measures pumping (see CMP, ARCADIS 2008a)

Table 20: In-Place Waste Mangement Unit Assessment
Summary of Downgradient Groundwater Concentrations (mg/L) for Current Groundwater Use[1]
GM Moraine, Moraine, Ohio

TCL/TAL Group	Constituent	CASRN	West Carrollton	Criteria	Flag
VOC	1,1,1-Trichloroethane	71-55-6	0.0001	0.2	
VOC	1,1-Dichloroethane	75-34-3	0.0002	3.65	
VOC	1,1-Dichloroethene	75-35-4	0.	0.007	
VOC	1,2-Dichloroethene (total)	540-59-0	0.	0.07	
VOC	2-Butanone	78-93-3	0.0001	21.9	
VOC	Acetone	67-64-1	0.	32.85	
VOC	Benzene	71-43-2	0.	0.005	
VOC	Carbon Disulfide	75-15-0	0.	3.65	
VOC	Chlorobenzene	108-90-7	0.	0.1	
VOC	Chloroethane	75-00-3	0.	14.6	
VOC	Chloroform	67-66-3	0.	0.08	
VOC	cis-1,2-Dichloroethene	156-59-2	0.003	0.07	
VOC	Ethyl Benzene	100-41-4	0.	0.7	
VOC	Styrene	100-42-5	0.	0.1	
VOC	Tetrachloroethene	127-18-4	0.0002	0.005	
VOC	Toluene	108-88-3	0.	1.	
VOC	trans-1,2-Dichloroethene	156-60-5	0.0001	0.1	
VOC	Trichloroethene	79-01-6	0.0007	0.005	
VOC	Trichlorofluoromethane	75-69-4	0.0001	10.95	
VOC	Vinyl Chloride	75-01-4	0.0002	0.002	
VOC	Xylenes (total)	1330-20-7	0.	10.	
SVOC	1,2-Dichlorobenzene	95-50-1	0.	0.6	
SVOC	2-Methylnaphthalene	91-57-6	0.	0.73	
SVOC	Benzo(a)anthracene	56-55-3	0.	0.0009	
SVOC	Benzo(a)pyrene	50-32-8	0.	0.0002	
SVOC	Benzo(b)fluoranthene	205-99-2	0.	0.0009	
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	0.	0.006	
SVOC	Butylbenzylphthalate	85-68-7	0.	7.3	
SVOC	Chrysene	218-01-9	0.	0.0921	
SVOC	Di-n-butylphthalate	84-74-2	0.	3.7	
SVOC	Fluoranthene	206-44-0	0.0001	1.46	
SVOC	Fluorene	86-73-7	0.0001	1.46	
SVOC	Naphthalene	91-20-3	0.0002	0.73	
SVOC	Phenanthrene	85-01-8	0.0007	1.095	
SVOC	Pyrene	129-00-0	0.	1.095	
P/PCB	Aroclor-1242	53469-21-9	0.	0.0005	
P/PCB	Aroclor-1254	11097-69-1	0.	0.0005	
P/PCB	Aroclor-1260	11096-82-5	0.	0.0005	
INORG	Antimony	7440-36-0	0.0001	0.006	
INORG	Arsenic	7440-38-2	0.0002	0.01	
INORG	Barium	7440-39-3	0.0073	2.	
INORG	Beryllium	7440-41-7	0.	0.004	
INORG	Cadmium	7440-43-9	0.	0.005	
INORG	Chromium (total)	7440-47-3	0.0004	0.1	
INORG	Cobalt	7440-48-4	0.0005	0.73	
INORG	Copper	7440-50-8	0.0001	1.3	
INORG	Cyanide (total)	57-12-5	0.	0.2	
INORG	Lead	7439-92-1	0.0001	0.015	
INORG	Manganese	7439-96-5	0.0147	0.876	
INORG	Mercury	7439-97-6	0.	0.002	
INORG	Nickel	7440-02-0	0.0007	0.73	
INORG	Selenium	7782-49-2	0.0001	0.05	
INORG	Silver	7440-22-4	0.0001	0.1825	
INORG	Thallium	7440-28-0	0.	0.002	
INORG	Vanadium	7440-62-2	0.	0.0365	
INORG	Zinc	7440-66-6	0.0024	10.95	
Notes:					
1	Draft Corrective Measures Proposal (ARCADIS 2008a) Groundwater Exposure Scenario 1A - Baseline The only wells currently pumping are those in the West Carrollton municipal well field.				

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Table 21. Summary of Site-Wide Groundwater Monitoring Plan for 2009, General Motors Corporation, Moraine, Ohio.

Monitor Wells	Reason for Monitoring in 2008	Monitoring Frequency	Parameter List	Revised Reason for Monitoring in 2009	Revised Monitoring Frequency	Revised Parameter List
Upper Aquifer Wells						
HR-9	Monitoring groundwater quality upgradient of the site.	Annual	VOCs[1]	Retain well for annual monitoring. Well contains stable chlorinated VOC concentrations for 10 years. Well retained to monitor upgradient groundwater quality.	Annual	VOCs[1]
HR-11	Monitoring groundwater quality upgradient of the site.	Annual	VOCs[1]	Remove well from annual monitoring. VOCs have been stable for the past 6 years and well is redundant with HR-9.	Every 5 years	VOCs[1]
HR-4	Monitoring of groundwater quality upgradient of the closed North Settling Lagoon and downgradient of Landfill L3.	Annual	VOCs[1]	Retain well for annual monitoring. Well required for long-term lagoon and landfill monitoring.	Annual	VOCs[1]
W-2-N	Monitoring of groundwater quality downgradient of the closed North Settling Lagoon.	Annual	VOCs[1]	Retain well for annual monitoring. Well required for long-term lagoon monitoring.	Annual	VOCs[1]
W-3-N	Monitoring of groundwater quality downgradient of the closed North Settling Lagoon.	Annual	VOCs[1]	Retain well for annual monitoring. Well required for long-term lagoon monitoring.	Annual	VOCs[1]
W-4-N	Monitoring of groundwater quality downgradient of the closed North Settling Lagoon and Landfills L2 and L3.	Annual	VOCs[1]	Retain well for annual monitoring. Well required for long-term lagoon monitoring.	Annual	VOCs[1]
HR-2	Monitoring groundwater quality downgradient of Landfills L2 and L3.	Annual	VOCs[1]	Retain well for annual monitoring. Well required for long-term landfill monitoring.	Annual	VOCs[1]

Table 21. Summary of Site-Wide Groundwater Monitoring Plan for 2009, General Motors Corporation, Moraine, Ohio.

Monitor Wells	Reason for Monitoring in 2008	Monitoring Frequency	Parameter List	Revised Reason for Monitoring in 2009	Revised Monitoring Frequency	Revised Parameter List
HR-5	Monitoring of groundwater quality downgradient of the North Settling Lagoon.	Annual	VOCs[1]	Remove well from annual monitoring. Groundwater quality downgradient of the lagoon will be monitored using W-2-N, W-3-N, and W-4-N.	Every 5 years	VOCs[1]
HR-1	Monitoring groundwater quality in the central portion of the site.	Annual	VOCs[1]	Remove well from annual monitoring. Groundwater quality on the western side of the plume to be monitored using well GM-43.	Every 5 years	VOCs[1]
GM-43	Monitoring groundwater quality in the central portion of the site.	Annual	VOCs[1]	Retain well for annual monitoring. This well location better represents Building 14 groundwater quality.	Annual	VOCs[1]
GM-30	Monitoring effectiveness of corrective measures at AOI 7.	Annual	VOCs [1] Biogeochemical[2]	Remove well from annual monitoring. Analysis indicates well primarily contains ethylbenzene and xylene with decreasing trend. No other well in the Former Oil House Area contains these VOCs therefore, it is local to the former tank farm area.	Every 5 years	VOCs[1]
GM-23	Monitoring effectiveness of corrective measures at RZ-1.	Annual	VOCs [1] Biogeochemical[2]	Retain well for annual monitoring. Well represents groundwater quality within the Former Oil House Area.	Annual	VOCs [1] Biogeochemical[2]
GM-27	Monitoring effectiveness of corrective measures at RZ-1 in lower portion of the upper aquifer.	Annual	VOCs[1]	Remove well from annual monitoring. Stable VOC concentration data trend has been observed over 10 years along with reduction in TCE concentrations.	Every 5 years	VOCs[1]

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Table 21. Summary of Site-Wide Groundwater Monitoring Plan for 2009, General Motors Corporation, Moraine, Ohio.

Monitor Wells	Reason for Monitoring in 2008	Monitoring Frequency	Parameter List	Revised Reason for Monitoring in 2009	Revised Monitoring Frequency	Revised Parameter List
GM-29	Monitoring effectiveness of corrective measures sidegradient to RZ-1.	Annual	VOCs [1] Biogeochemical[2]	Retain well for annual monitoring of RZ-1 performance.	Annual	VOCs [1] Biogeochemical[2]
GM-28	Monitoring effectiveness of corrective measures downgradient of RZ-1.	Annual	VOCs [1] Biogeochemical[2]	Retain well for annual monitoring of RZ-1 performance.	Annual	VOCs [1] Biogeochemical[2]
ME-6	Monitoring effectiveness of corrective measures at the upgradient boundary of RZ-2.	Annual	VOCs [1] Biogeochemical[2]	Remove well from annual monitoring. Stable VOC concentration data trend has been observed since former RZ-2 operations ceased.	Every 5 years	VOCs[1]
GM-31	Monitoring effectiveness of corrective measures beneath the introduction zone within RZ-2.	Annual	VOCs [1] Biogeochemical[2]	Remove well from annual monitoring. Other wells will be retained to monitor groundwater quality in the central portion of the site (GM-59, GM-60, GM-75S).	Every 5 years	VOCs[1]
ME-3	Monitoring effectiveness of corrective measures at the downgradient boundary of RZ-2.	Annual	VOCs [1] Biogeochemical[2]	Remove well from annual monitoring. Stable VOC concentration data trend has been observed since former RZ-2 operations ceased.	Every 5 years	VOCs[1]
GM-22	Monitoring effectiveness of corrective measures upgradient of RZ-3 East.	Annual	VOCs [1] Biogeochemical[2]	Remove well from annual monitoring. Low level stable VOC concentrations have been observed for 10 years. Other wells will be retained to monitor groundwater quality in the central portion of the site (GM-59, GM-60, GM-75S).	Every 5 years	VOCs[1]

Table 21. Summary of Site-Wide Groundwater Monitoring Plan for 2009, General Motors Corporation, Moraine, Ohio.

Monitor Wells	Reason for Monitoring in 2008	Monitoring Frequency	Parameter List	Revised Reason for Monitoring in 2009	Revised Monitoring Frequency	Revised Parameter List
GM-19S	Monitoring effectiveness of corrective measures downgradient of RZ-4 East and groundwater quality upgradient of Landfill L1.	Annual	VOCs [1] Biogeochemical[2] SVOCs, Metals, PCBs[3]	Retain well for annual monitoring of RZ-4 performance.	Annual	VOCs [1] Biogeochemical[2]
GM-33	Monitoring effectiveness of corrective measures upgradient of RZ-3 West and groundwater quality upgradient of Landfill L1.	Annual	VOCs[1]	Remove well from annual monitoring. The WPSA and upgradient groundwater quality for RZ-3 and Landfill L1 will be monitored using GM-35.	Every 5 years	VOCs[1]
GM-35	Monitoring effectiveness of corrective measures upgradient of RZ-3 West and groundwater quality upgradient of Landfill L1.	Annual	VOCs [1] SVOCs, Metals, PCBs[3]	Retain well for annual monitoring of the WPSA and upgradient groundwater quality for RZ-3 and Landfill L1.	Annual	VOCs[1]
GM-32	Monitoring effectiveness of corrective measures downgradient of RZ-3 West and groundwater quality upgradient of Landfill L1.	Annual	VOCs [1] Biogeochemical[2]	Retain well for TOC analysis only. Low VOC concentrations trends are stable.	Annual	TOC
GM-21	Monitoring effectiveness of corrective measures downgradient of RZ-3 West.	Annual	VOCs [1] Biogeochemical[2]	Retain well for annual monitoring of RZ-3 performance.	Annual	VOCs [1] Biogeochemical[2]
HR-17	Monitoring of groundwater quality upgradient of the closed South Settling Lagoon.	Annual	VOCs[1]	Retain well for annual monitoring. Well required for long-term lagoon monitoring.	Annual	VOCs[1]
W-2-S	Monitoring of groundwater quality downgradient of the closed South Settling Lagoon.	Annual	VOCs[1]	Retain well for annual monitoring. Well required for long-term lagoon monitoring.	Annual	VOCs[1]
W-3-S	Monitoring of groundwater quality downgradient of the closed South Settling Lagoon.	Annual	VOCs[1]	Retain well for annual monitoring. Well required for long-term lagoon monitoring.	Annual	VOCs[1]

Table 21. Summary of Site-Wide Groundwater Monitoring Plan for 2009, General Motors Corporation, Moraine, Ohio.

Monitor Wells	Reason for Monitoring in 2008	Monitoring Frequency	Parameter List	Revised Reason for Monitoring in 2009	Revised Monitoring Frequency	Revised Parameter List
W-4-S	Monitoring of groundwater quality downgradient of the closed South Settling Lagoon and sidegradient to RZ-4 West.	Annual	VOCs[1] Biogeochemical[2]	Retain well for annual monitoring. Well required for long-term lagoon monitoring.	Annual	VOCs[1]
GM-8	Monitoring groundwater quality downgradient of RZ-3 West and within Landfill L1.	Annual	VOCs [1] Biogeochemical[2]	Retain well for annual monitoring of RZ-3 performance and for long-term landfill monitoring.	Annual	VOCs [1] Biogeochemical[2]
GM-6	Monitoring groundwater quality downgradient of RZ-3 West and within Landfill L1.	Annual	VOCs [1] Biogeochemical[2]	Retain well for annual long-term landfill monitoring.	Annual	VOCs[1]
GM-47	Monitoring effectiveness of corrective measures downgradient of RZ-4 West.	Annual	VOCs [1] Biogeochemical[2]	Retain well for annual monitoring of offsite groundwater quality in the residential area.	Annual	VOCs[1]
GM-50	Monitoring effectiveness of corrective measures downgradient of RZ-4 West.	Annual	VOCs [1] Biogeochemical[2]	Retain well for annual monitoring of offsite groundwater quality in the residential area.	Annual	VOCs[1]
GM-51	Monitoring effectiveness of corrective measures downgradient of the site.	Annual	VOCs[1]	Remove well from annual monitoring. Other offsite downgradient wells selected for POC.	Every 5 years	VOCs[1]
GM-52	Monitoring effectiveness of corrective measures downgradient of the site.	Annual	VOCs[1]	Retain well for annual monitoring of VOC concentrations on the eastern side of the river.	Annual	VOCs[1]
GM-63	Monitoring effectiveness of corrective measures downgradient of RZ-4 West.	Annual	VOCs [1] Biogeochemical[2]	Remove from annual monitoring. Groundwater quality in this area to be monitored using GM-47/GM-50.	Every 5 years	VOCs[1]

Table 21. Summary of Site-Wide Groundwater Monitoring Plan for 2009, General Motors Corporation, Moraine, Ohio.

Monitor Wells	Reason for Monitoring in 2008	Monitoring Frequency	Parameter List	Revised Reason for Monitoring in 2009	Revised Monitoring Frequency	Revised Parameter List
GM-64	Monitoring effectiveness of corrective measures downgradient of RZ-4 West.	Annual	VOCs [(1)] Biogeochemical[(2)]	Remove from annual monitoring. Groundwater quality in this area to be monitored using GM-47/GM-50.	Every 5 years	VOCs[(1)]
TW-2	Monitoring groundwater quality downgradient of the site and Landfill L1.	Annual	VOCs[(1)]	Retain well for annual monitoring. Capture zone well.	Annual	VOCs[(1)]
GM-2	Monitoring groundwater quality downgradient of the site.	Annual	VOCs[(1)]	Retain well for annual long-term landfill monitoring.	Annual	VOCs[(1)]
GM-16	Monitoring groundwater quality downgradient of the site.	Annual	VOCs[(1)]	Retain well for annual monitoring of offsite PCE and TCE concentration trends.	Annual	VOCs[(1)]
GM-17	Monitoring groundwater quality downgradient of the site.	Annual	VOCs[(1)]	Remove well from annual monitoring. Other offsite downgradient wells selected for POC.	Every 5 years	VOCs[(1)]
GM-18	Monitoring groundwater quality downgradient of the site.	Annual	VOCs[(1)]	Remove well from annual monitoring. Other offsite downgradient wells selected for POC.	Every 5 years	VOCs[(1)]
WSU-24	Monitoring groundwater quality downgradient of the site.	Annual	VOCs[(1)]	Remove well from annual monitoring. Other offsite downgradient wells selected for POC.	Every 5 years	VOCs[(1)]
GM-10	Monitoring groundwater quality downgradient of the site.	Annual	VOCs[(1)]	Remove well from annual monitoring. Other offsite downgradient wells selected for POC.	Every 5 years	VOCs[(1)]
GM-26	Monitoring groundwater quality downgradient of the site. Point of compliance well.	Annual	VOCs[(1)]	Retain well for annual monitoring as POC.	Annual	VOCs[(1)]

Table 21. Summary of Site-Wide Groundwater Monitoring Plan for 2009, General Motors Corporation, Moraine, Ohio.

Monitor Wells	Reason for Monitoring in 2008	Monitoring Frequency	Parameter List	Revised Reason for Monitoring in 2009	Revised Monitoring Frequency	Revised Parameter List
GM-59	Monitoring groundwater quality for the proposed corrective measures.	Annual	VOCs [1] Biogeochemical[2]	Retain well for annual monitoring. Data from this well will be used to support the future CMP design and establish a data trend.	Annual	VOCs [1] Biogeochemical[2]
GM-60	Monitoring groundwater quality for the proposed corrective measures.	Annual	VOCs [1] Biogeochemical[2]	Retain well for annual monitoring. Data from this well will be used to support the future CMP design and establish a data trend.	Annual	VOCs [1] Biogeochemical[2]
GM-75S	Monitoring groundwater quality for the proposed corrective measures.	Annual	VOCs [1] Biogeochemical[2]	Retain well for annual monitoring. Data from this well will be used to support the future CMP design and establish a data trend.	Annual	VOCs [1] Biogeochemical[2]
GM-55	Monitoring groundwater quality for the proposed point of compliance well.	Annual	VOCs[1]	Retain well for annual monitoring as proposed POC in the CMP and to establish a data trend.	Annual	VOCs[1]
GM-65S	Monitoring groundwater quality for the proposed point of compliance well.	Annual	VOCs[1]	Retain well for annual monitoring as proposed POC in the CMP and to establish a data trend.	Annual	VOCs[1]
GM-78	Monitoring groundwater quality for the proposed point of compliance well.	Annual	VOCs[1]	Retain well for annual monitoring as proposed POC in the CMP and to establish a data trend.	Annual	VOCs[1]
GM-79	Monitoring groundwater quality for the proposed point of compliance well.	Annual	VOCs[1]	Retain well for annual monitoring as proposed POC in the CMP and to establish a data trend.	Annual	VOCs[1]

Table 21. Summary of Site-Wide Groundwater Monitoring Plan for 2009, General Motors Corporation, Moraine, Ohio.

Monitor Wells	Reason for Monitoring in 2008	Monitoring Frequency	Parameter List	Revised Reason for Monitoring in 2009	Revised Monitoring Frequency	Revised Parameter List
GM-80	Monitoring groundwater quality for the proposed point of compliance well.	Annual	VOCs[(1)]	Retain well for annual monitoring as proposed POC in the CMP and to establish a data trend.	Annual	VOCs[(1)]
HR-3	Monitoring groundwater quality downgradient of Landfill L2.	Annual	VOCs[(1)]	Remove well for annual long-term landfill monitoring. Other wells retained to monitor groundwater quality in this area.	Every 5 years	VOCs[(1)]
Lower Aquifer Wells						
HR-10	Monitoring groundwater quality upgradient of the site.	Annual	VOCs[(1)]	Remove well from annual monitoring. VOCs have been nondetect for 10 years and well is redundant with HR-12.	Every 5 years	VOCs[(1)]
HR-12	Monitoring groundwater quality upgradient of the site.	Annual	VOCs[(1)]	Retain for annual monitoring. Well contains low level chlorinated VOC concentrations. Well retained to monitor upgradient groundwater quality.	Annual	VOCs[(1)]
HR-15	Monitoring groundwater quality in the central portion of the site.	Annual	VOCs[(1)]	Retain well for annuall monitoring. Well contains vinyl chloride and will be retained to monitor groundwater quality on the western plume boundary.	Annual	VOCs[(1)]
GM-39	Monitoring groundwater quality in the central portion of the site.	Annual	VOCs[(1)]	Remove well from annual monitoring. Low level stable VOC concentrations have been observed for 6 years. Other wells will be retained to monitor groundwater quality in the central portion of the site (GM-68D, GM-75D).	Every 5 years	VOCs[(1)]

Table 21. Summary of Site-Wide Groundwater Monitoring Plan for 2009, General Motors Corporation, Moraine, Ohio.

Monitor Wells	Reason for Monitoring in 2008	Monitoring Frequency	Parameter List	Revised Reason for Monitoring in 2009	Revised Monitoring Frequency	Revised Parameter List
GM-40	Monitoring groundwater quality in the central portion of the site.	Annual	VOCs[(1)]	Remove well from annual monitoring. Low level stable VOC concentrations have been observed for 6 years. Other wells will be retained to monitor groundwater quality on the western plume boundary (GM-19D).	Every 5 years	VOCs[(1)]
GM-41	Monitoring groundwater quality in the central portion of the site.	Annual	VOCs[(1)]	Remove well from annual monitoring. Well contains TCE that can be monitored by downgradient onsite well GM-69.	Every 5 years	VOCs[(1)]
GM-42	Monitoring groundwater quality in the central portion of the site.	Annual	VOCs[(1)]	Remove well from annual monitoring. Low level stable VOC concentrationshave been observed for 6 years. Other wells will be retained to monitor groundwater quality on the western plume boundary (GM-19D).	Every 5 years	VOCs[(1)]
GM-54	Monitoring groundwater quality in the central portion of the site.	Annual	VOCs[(1)]	Retain well for annuall monitoring. Well contains PCE and will be retained to monitor groundwater quality on the eastern plume boundary.	Annual	VOCs[(1)]
GM-58	Monitoring groundwater quality in the central portion of the site.	Annual	VOCs[(1)]	Remove well from annual monitoring. Well contains PCE that can be monitored by downgradient onsite well GM-54.	Every 5 years	VOCs[(1)]

Table 21. Summary of Site-Wide Groundwater Monitoring Plan for 2009, General Motors Corporation, Moraine, Ohio.

Monitor Wells	Reason for Monitoring in 2008	Monitoring Frequency	Parameter List	Revised Reason for Monitoring in 2009	Revised Monitoring Frequency	Revised Parameter List
GM-61	Monitoring groundwater quality in the central portion of the site.	Annual	VOCs[1]	Remove well from annual monitoring. Other wells will be retained to monitor groundwater quality in the central portion of the site (GM-68D, GM-75D). This well may be added in the future to support the CMP design.	Every 5 years	VOCs[1]
GM-19D	Monitoring groundwater quality downgradient of the site.	Annual	VOCs[1]	Retain well for annual monitoring. Well contains vinyl chloride and will be retained to monitor groundwater quality on the western plume boundary.	Annual	VOCs[1]
GM-3	Monitoring groundwater quality downgradient of the site.	Annual	VOCs[1]	Remove well from annual monitoring. Stable VOC concentrations have been observed for 10 years. Groundwater in this area will be monitored by POC wells.	Every 5 years	VOCs[1]
GM-1	Monitoring groundwater quality downgradient of the site.	Annual	VOCs[1]	Remove well from annual monitoring. Stable VOC concentrations have been observed for 10 years. Groundwater in this area will be monitored by POC wells.	Every 5 years	VOCs[1]
GM-15	Monitoring groundwater quality downgradient of the site. Point of compliance well.	Annual	VOCs[1]	Retain well for annual monitoring as POC.	Annual	VOCs[1]
GM-11	Monitoring groundwater quality downgradient of the site. Point of compliance well.	Annual	VOCs[1]	Retain well for annual monitoring as POC.	Annual	VOCs[1]
GM-20D	Monitoring groundwater quality downgradient of the site. Point of compliance well.	Annual	VOCs[1]	Retain well for annual monitoring as POC.	Annual	VOCs[1]

Table 21. Summary of Site-Wide Groundwater Monitoring Plan for 2009, General Motors Corporation, Moraine, Ohio.

Monitor Wells	Reason for Monitoring in 2008	Monitoring Frequency	Parameter List	Revised Reason for Monitoring in 2009	Revised Monitoring Frequency	Revised Parameter List
DN-13	Monitoring groundwater quality downgradient of the site.	Annual	VOCs[(1)]	Retain well for annual monitoring. Capture zone well.	Annual	VOCs[(1)]
GM-9	Monitoring groundwater quality downgradient of the site.	Annual	VOCs[(1)]	Remove well from annual monitoring. Stable VOC concentrations have been observed for 10 years. Groundwater in this area will be monitored by POC wells.	Every 5 years	VOCs[(1)]
MT-69	Monitoring groundwater quality downgradient of the site.	Annual	VOCs[(1)]	Remove well from annual monitoring. Well screen is damaged, groundwater quality in this area can be monitored using GM-56.	NA	NA
GM-68D	Monitoring groundwater quality for the proposed corrective measures.	Annual	VOCs[(1)]	Retain well for annual monitoring. Data from this well will be used to support the future CMP design and establish a data trend.	Annual	VOCs[(1)]
GM-75D	Monitoring groundwater quality for the proposed corrective measures.	Annual	VOCs[(1)]	Retain well for annual monitoring. Data from this well will be used to support the future CMP design and establish a data trend.	Annual	VOCs[(1)]
GM-82	Monitoring groundwater quality for the proposed corrective measures.	Annual	VOCs[(1)]	Remove well from annual monitoring. Other wells will be retained to monitor groundwater quality in the central portion of the site (GM-68D, GM-75D). This well will be added in the future to support the CMP design.	Every 5 years	VOCs[(1)]
GM-83D	Monitoring groundwater quality for the proposed point of compliance well.	Annual	VOCs[(1)]	Retain well for annual monitoring as proposed POC in the CMP and to establish a data trend.	Annual	VOCs[(1)]

Table 21. Summary of Site-Wide Groundwater Monitoring Plan for 2009, General Motors Corporation, Moraine, Ohio.

Monitor Wells	Reason for Monitoring in 2008	Monitoring Frequency	Parameter List	Revised Reason for Monitoring in 2009	Revised Monitoring Frequency	Revised Parameter List
GM-84	Monitoring groundwater quality for the proposed point of compliance well.	Annual	VOCs(1)	Retain well for annual monitoring as proposed POC in the CMP and to establish a data trend.	Annual	VOCs(1)

(1) The parameters for the remaining annual sampling events will include the site-specific list of VOCs: benzene, 1,1,-dichloroethane, 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, ethylbenzene, tetrachloroethene, toluene, 1,1,1-trichloroethane, trichloroethene, vinyl chloride, and xylenes.

(2) The biogeochemical list includes the following field and laboratory parameters: Field parameter - pH, specific conductivity, dissolved oxygen, oxidation reduction potential, and temperature, and Laboratory parameters - manganese (total and dissolved), iron (total and dissolved), sulfate, sulfide, total organic carbon, chlorides, ethane, ethene, and methane.

(3) Additional parameters include benzo(a)anthracene, benzo(b)fluoranthene, antimony (total), cadmium (total), chromium (total), and PCBs.

CITY:DUBLIN DIV/GROUP:SER2 DB:R. SMITH LD:(Opt) PIC:(Opt) PM:N. GILLOTTI TM:T. FORTNER LYR:(Opt)ON=*;OFF=*REF*
G:\DRAWINGS\HARRISON\CRA-DWG\2008\SH-DP-08.dwg LAYOUT: FIG 1 SITE LAYOUT SAVED: 2/26/2009 11:20 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: — PLOTTED: 2/27/2009 10:06 AM BY: SMITH, BOB
XREFS: PROJECTNAME: —
OH294BASE MAP 2008

LEGEND

PROPERTY BOUNDARY

RIVER LEVEE

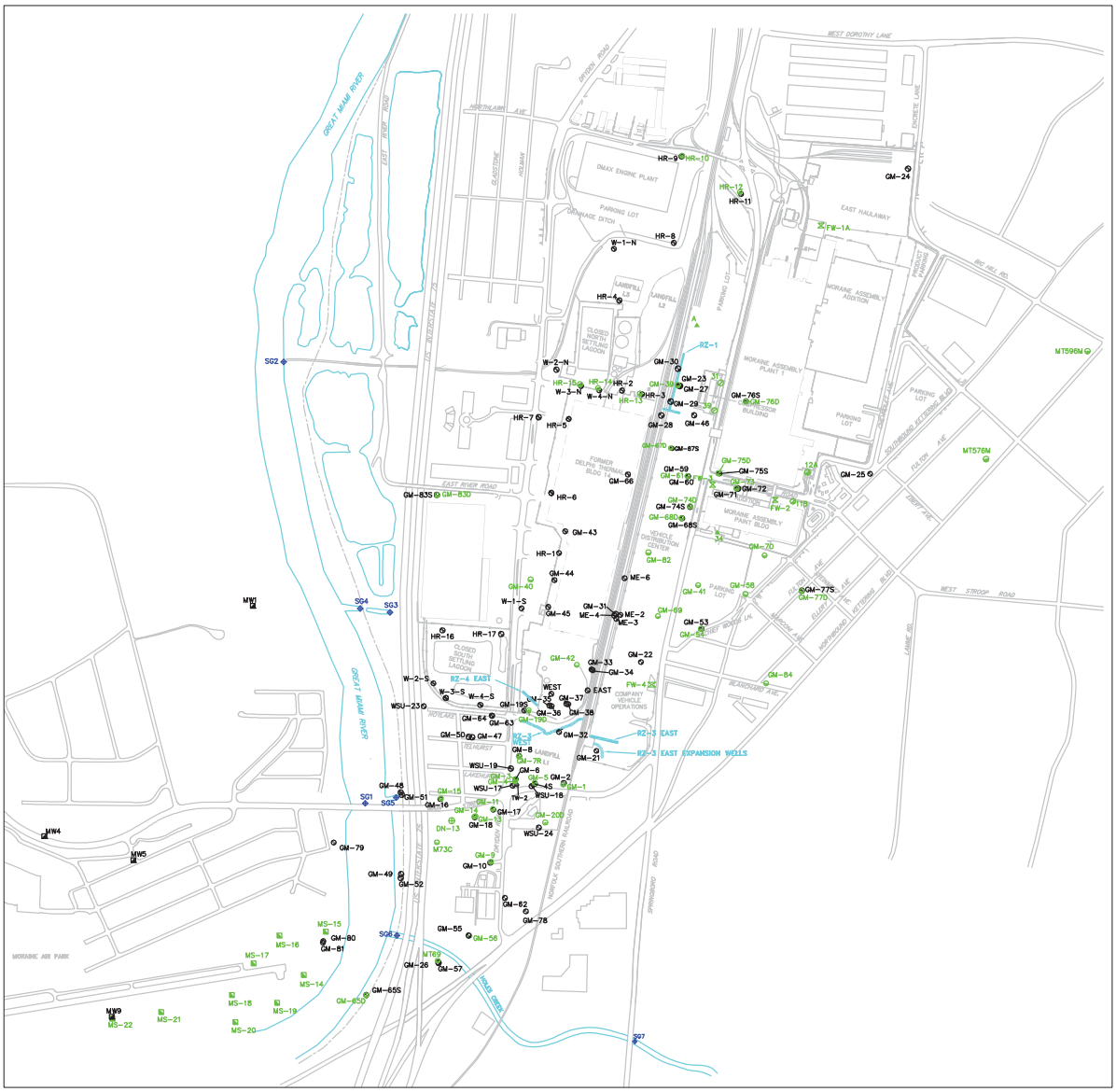
GENERAL MOTORS CORPORATION
MORAINE, OHIO
OH000294.0012

SITE LAYOUT

ARCADIS

FIGURE
1

CITY:DUBLIN DIV/GROUP:SER2 DB:R. SMITH LD:(Opt) PIC:(Opt) PM:N. GILLOTTI TM:T. FORTNER LYR:(Opt)ON=*;OFF=*REF*
G:\DRAWINGS\HARRISON\CRA-DWG\2008\SH-DP-08.dwg LAYOUT: FIG 2 - SITE LAYOUT-ALL WELLS SAVED: 2/28/2008 11:30 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: --- PLOTTED: 2/27/2008 10:09 AM BY: SMITH, BOB
XREFS: PROJECTNAME: ---
OH294BASE MAP 2008



LEGEND

- MONITORING WELL (UPPER AQUIFER)
- RECOVERY WELL (TW-2)
- MONITORING WELL (LOWER AQUIFER)
- CARBON SOURCE INTRODUCTION WELLS, REACTIVE ZONES (RZ-1, RZ-3, AND RZ-4)
- FIRE WELL
- PRODUCTION WELL CONVERTED TO MONITORING WELL (31, 39)
- INACTIVE PRODUCTION WELL (31, 39)
- ACTIVE PRODUCTION WELL (11B, 12A)
- MONTGOMERY COUNTY WELL (USED BY GM FOR PUMP TO WASTE PROGRAM)
- MONTGOMERY COUNTY WELL (INACTIVE MIAMI SHORES DAYTON PRIMARY PUBLIC SUPPLY BACKUP)
- STREAM GAUGE
- RIVER LEVEE
- CITY OF MORAINE MONITORING WELL

NOTES:
1. GREEN INDICATES LOWER AQUIFER WELLS.
2. BLACK INDICATES UPPER AQUIFER WELLS.

N

0 200 1000ft

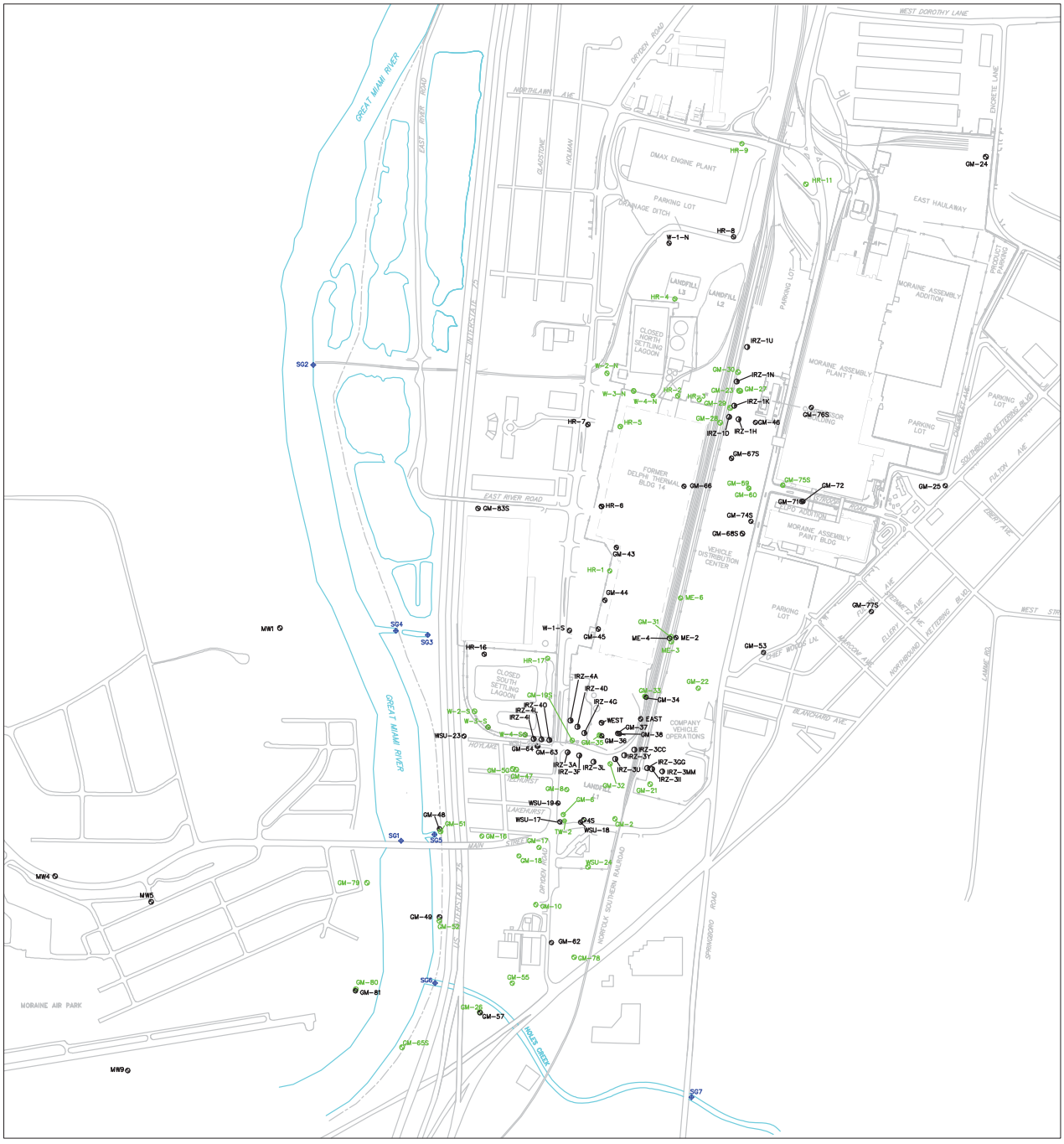
GENERAL MOTORS CORPORATION
MORAINE, OHIO
OH000294.0012

SITE-WIDE CORRECTIVE MEASURES

ARCADIS

FIGURE
2

CITY:DUBLIN DIV/GROUP:SER2 DB:R. SMITH LD:(Opt) PIC:(Opt) PM:N. GILLOTTI TM:T. FORTNER LYR:(Opt)ON=*;OFF=*REF*
G:\DRAWINGS\HARRISON\CRA-DWG\2008\SH-DP-08.dwg LAYOUT: FIG 3 UPPER WELLS SAVED: 2/26/2009 11:30 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 2/27/2009 10:10 AM BY: SMITH, BOB
XREFS: PROJECTNAME: ----
OH294BASE MAP 2008



LEGEND

- MONITORING WELL (UPPER AQUIFER)
- RECOVERY WELL (USED FOR SITE-WIDE MONITORING)
- STREAM GAUGE
- CARBON INTRODUCTION WELL
- MONITORING WELL USED FOR SITE-WIDE MONITORING (UPPER AQUIFER)
- FORMER BUILDING 14 FOOTPRINT
- RIVER LEVEE

N

0 200 1000ft

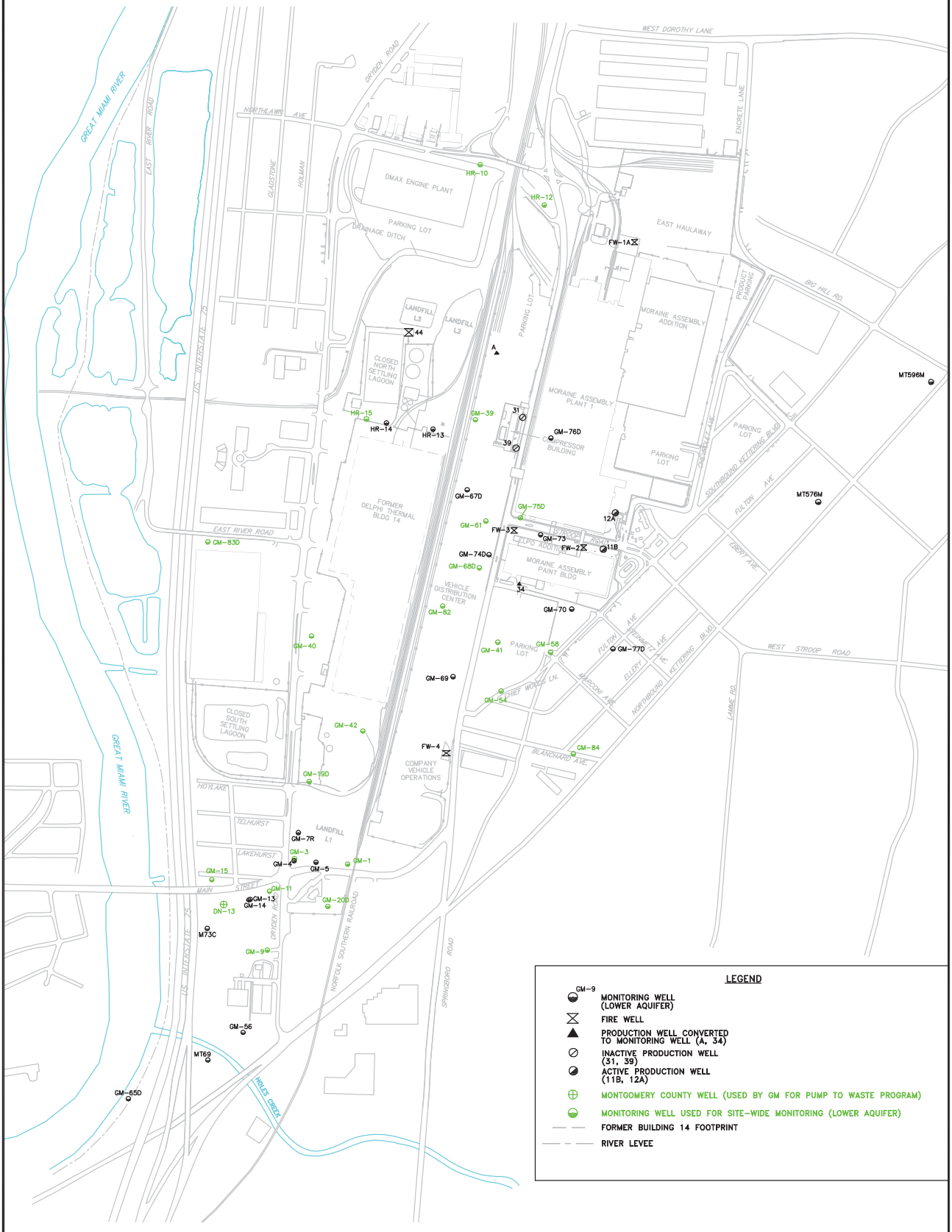
GENERAL MOTORS CORPORATION
MORAINE, OHIO

UPPER AQUIFER MONITORING WELLS FOR SITE-WIDE GROUNDWATER MONITORING

ARCADIS

FIGURE 3

CITY:DUBLIN DIV/GROUP:SER2 DB:R. SMITH LD:(Opt) PIC:(Opt) PM:N. GILLOTTI TM:T. FORTNER LYR:(Opt)ON=*;OFF=*REF*
G:\DRAWINGS\HARRISON\CRA-DWG\2008\SH-DP-06.dwg LAYOUT: FIG 4 DEEP WELLS SAVED: 2/27/2009 10:12 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: --- PLOTTED: 2/27/2009 10:13 AM BY: SMITH, BOB
XREFS: PROJECTNAME: ---
OH294BASE MAP 2006



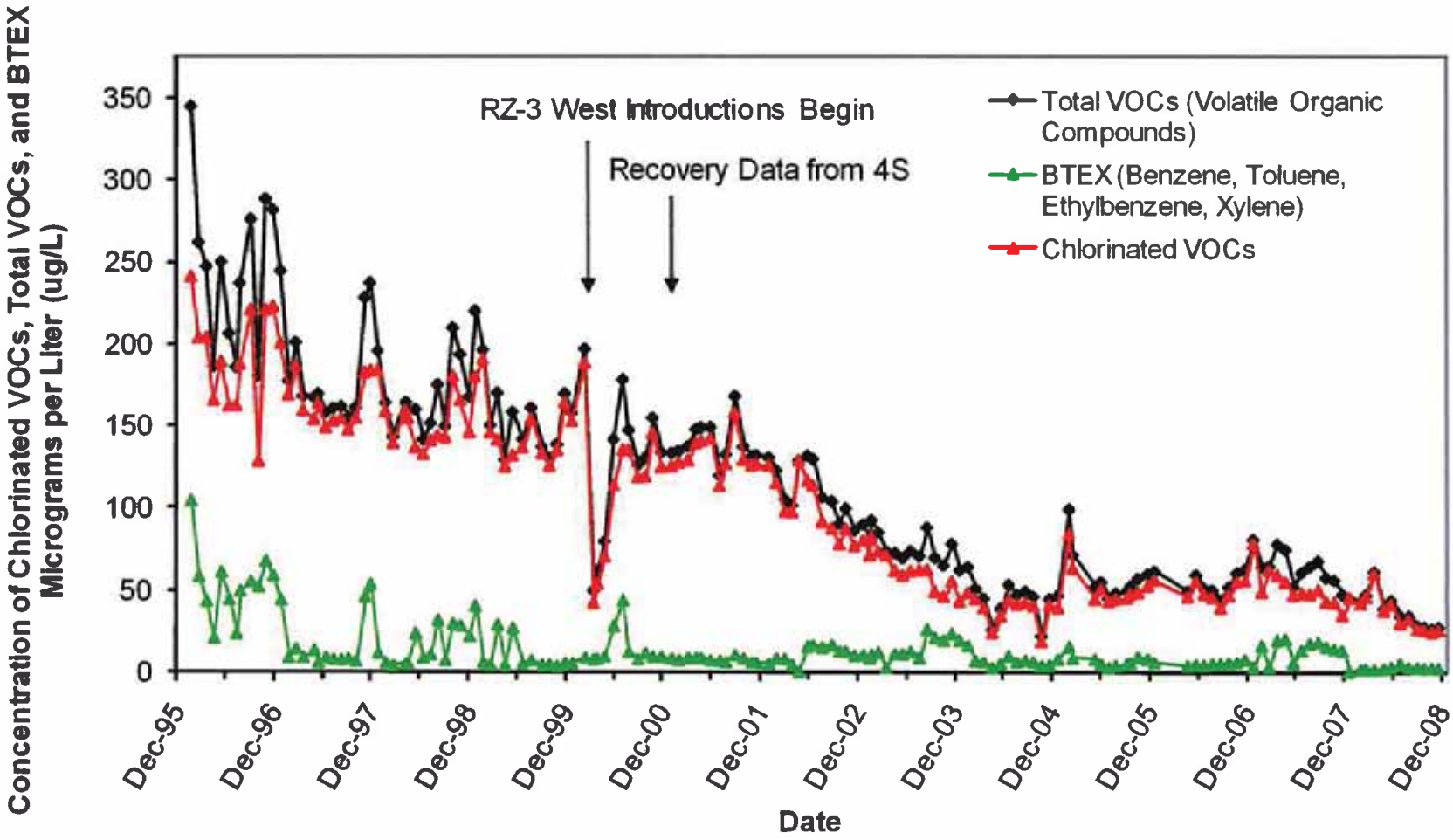
GENERAL MOTORS CORPORATION
MORAINE, OHIO
OH000294.0012

LOWER AQUIFER MONITORING WELLS FOR SITE-WIDE GROUNDWATER MONITORING

ARCADIS

FIGURE
4

CITY (DUBLIN) DIV/GROUP (SER2) DB (R. SMITH) LD:(Opt) PIC:(Opt) PM:(N. GILLOTTI) TM (T. FORTNER) LYR:(Opt)ON=*;OFF=*REF*
G:\DRAWINGS\HARRISON\CRA-DWG\2008\SH-DP-08.dwg LAYOUT: FIG 5 INFLUENT VOCS SINCE STARTUP SAVED: 2/27/2009 10:58 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: --- PLOTTED: 2/27/2009 11:22 AM BY: SMITH, BOB
PROJECTNAME: ---



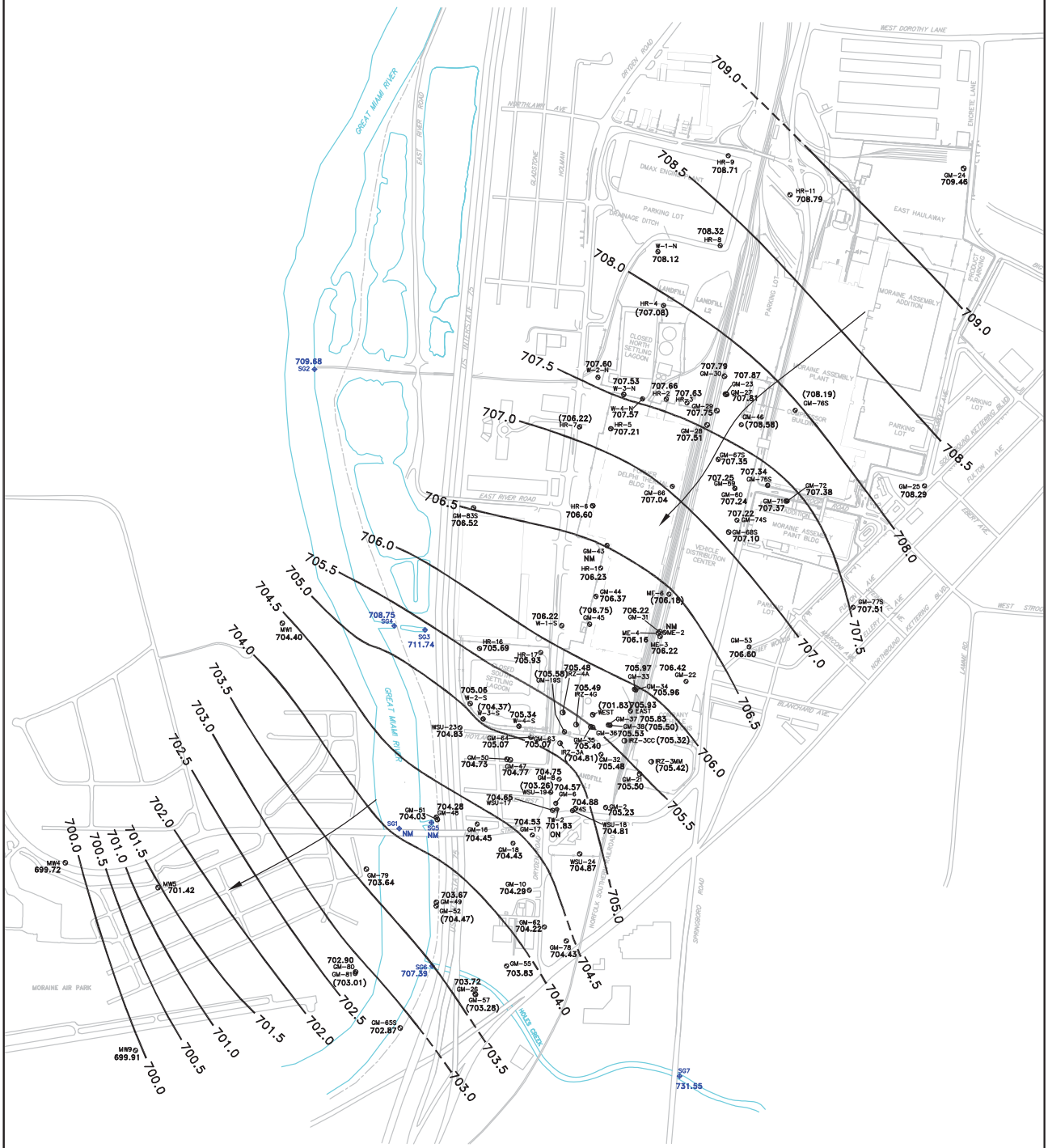
GENERAL MOTORS CORPORATION
MORAINE, OHIO
OH000294.0012

INFLUENT VOCs SINCE START-UP, GROUNDWATER RECOVERY AND TREATMENT SYSTEM

ARCADIS

FIGURE
5

CITY:DUBLIN DIV/GROUP:SER2 DB:R. SMITH LD:(Opt) PIC:(Opt) PM:N. GILLOTTI TM:T. FORTNER LYR:(Opt)ON=*;OFF=*REF*
G:\DRAWINGS\HARRISON\CRA-DWG\2008\SH-DP-08.dwg LAYOUT: FIG 6 GW ELEV 1117-1808 SHAL SAVED: 2/27/2009 10:12 AM ACADVER: 17.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 2/27/2009 10:14 AM BY: SMITH, BOB
XREFS: PROJECTNAME: ----
OH294BASE MAP 2008



LEGEND

- MONITORING WELL (UPPER AQUIFER)
- RECOVERY WELL (TW-2)
- 707.94 STREAM GAUGE AND STREAM GAUGE MEASUREMENT; NOT USED FOR CONTOURING
- CARBON INTRODUCTION WELL
- RIVER LEVEE
- 706.23 GROUNDWATER ELEVATION (FEET MSL)
- 706.0 — GROUNDWATER CONTOUR (FEET MSL) (DASHED WHERE INFERRED)
- ( ) NOT USED FOR CONTOURING
- NM NOT MEASURED; DUE TO FLOODING OR DAMAGED WELL
- FLOW DIRECTION
- ON/OFF INDICATES WHETHER RECOVERY WELL IS IN OPERATION

CONTOUR INTERVAL = 0.5 FOOT

N

0 200 1000ft

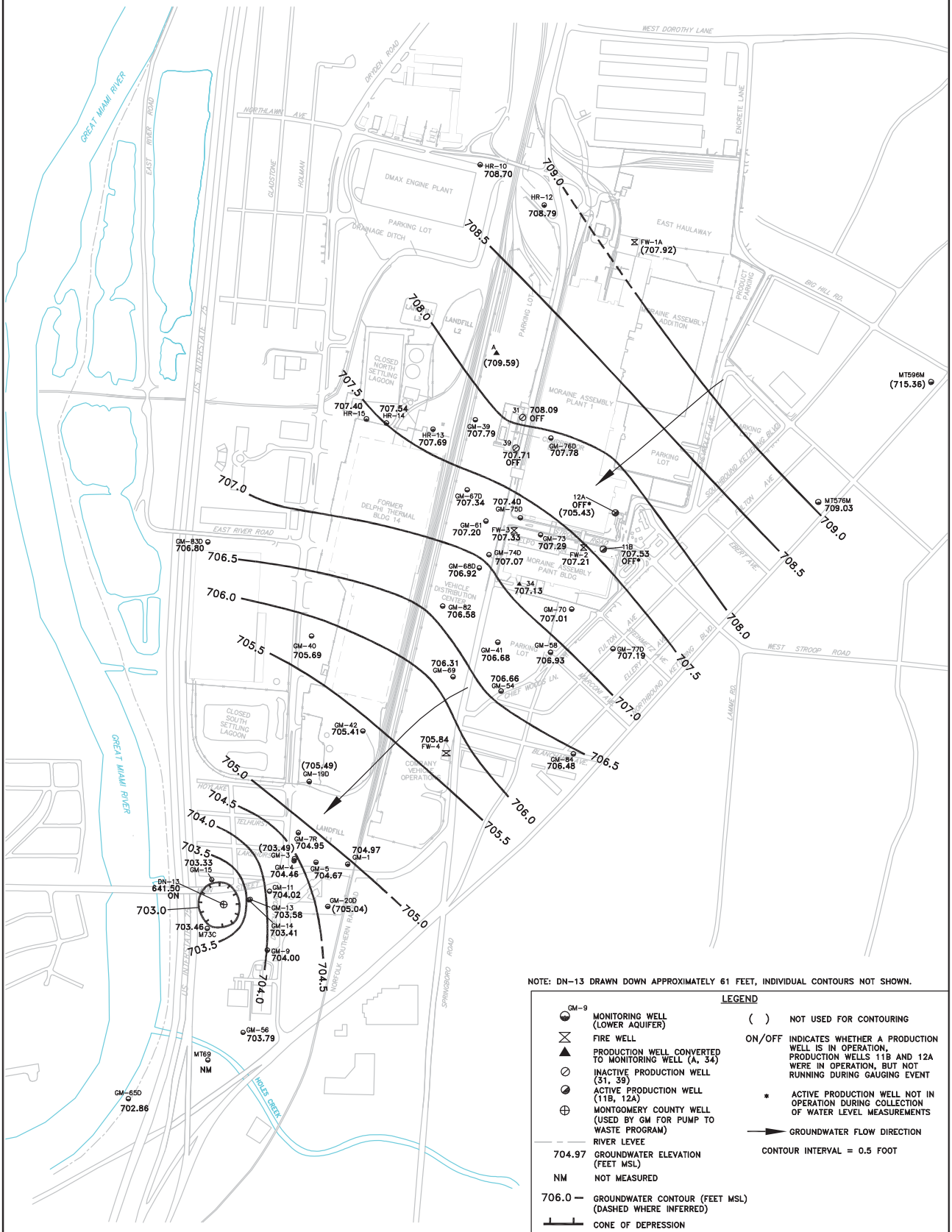
GENERAL MOTORS CORPORATION
MORAINE, OHIO

POTENTIOMETRIC SURFACE (UPPER AQUIFER) ON NOVEMBER 17-18, 2008

ARCADIS

FIGURE 6

CITY:DUBLIN DIV/GROUP:SER2 DB:R. SMITH LD:(Opt) PIC:(Opt) PM:N. GILLOTTI TM:T. FORTNER LYR:(Opt)ON=*;OFF=*REF*
G:\DRAWINGS\HARRISON\CRA-DWG\2008\SH-DP-08.dwg LAYOUT: FIG 7 GW ELEV 1117-1808 DEEP SAVED: 2/27/2009 12:26 PM ACADVER: 17.0S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: — PLOTTED: 2/27/2009 12:26 PM BY: SMITH, BOB
XREFS: PROJECTNAME: —
OH294BASE MAP 2008



NOTE: DN-13 DRAWN DOWN APPROXIMATELY 61 FEET, INDIVIDUAL CONTOURS NOT SHOWN.

LEGEND

- GM-9 — MONITORING WELL (LOWER AQUIFER)
- FW-1A — FIRE WELL
- ▲ — PRODUCTION WELL CONVERTED TO MONITORING WELL (A, 34)
- ⊘ — INACTIVE PRODUCTION WELL (31, 39)
- ◪ — ACTIVE PRODUCTION WELL (11B, 12A)
- ⊕ — MONTGOMERY COUNTY WELL (USED BY GM FOR PUMP TO WASTE PROGRAM)
- RIVER LEVEE
- 704.97 — GROUNDWATER ELEVATION (FEET MSL)
- NM — NOT MEASURED
- 706.0 — GROUNDWATER CONTOUR (FEET MSL) (DASHED WHERE INFERRED)
- CONE OF DEPRESSION
- ( ) — NOT USED FOR CONTOURING
- ON/OFF — INDICATES WHETHER A PRODUCTION WELL IS IN OPERATION. PRODUCTION WELLS 11B AND 12A WERE IN OPERATION, BUT NOT RUNNING DURING GAUGING EVENT
- * — ACTIVE PRODUCTION WELL NOT IN OPERATION DURING COLLECTION OF WATER LEVEL MEASUREMENTS
- GROUNDWATER FLOW DIRECTION

CONTOUR INTERVAL = 0.5 FOOT

0 200 700ft

GENERAL MOTORS CORPORATION
MORAINE, OHIO

POTENTIOMETRIC SURFACE (LOWER AQUIFER) ON NOVEMBER 17-18, 2008

ARCADIS

FIGURE 7

CITY:(COLUMBUS) DIV/GROUP:(SER2) DB:(R. SMITH) LD:(Opt) PIC:(Opt) PM:(N. GILLOTTI) TM:(J. MANZO) LYR:(Opt)ON=*;OFF=*REF*
G:\DRAWINGS\HARRISON\CRA-DWG\2009\DBUP09-01.dwg LAYOUT: MODEL SAVED: 2/26/2009 3:53 PM ACADVER: 17.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ---- PLOTTED: 2/27/2009 10:18 AM BY: SMITH, BOB
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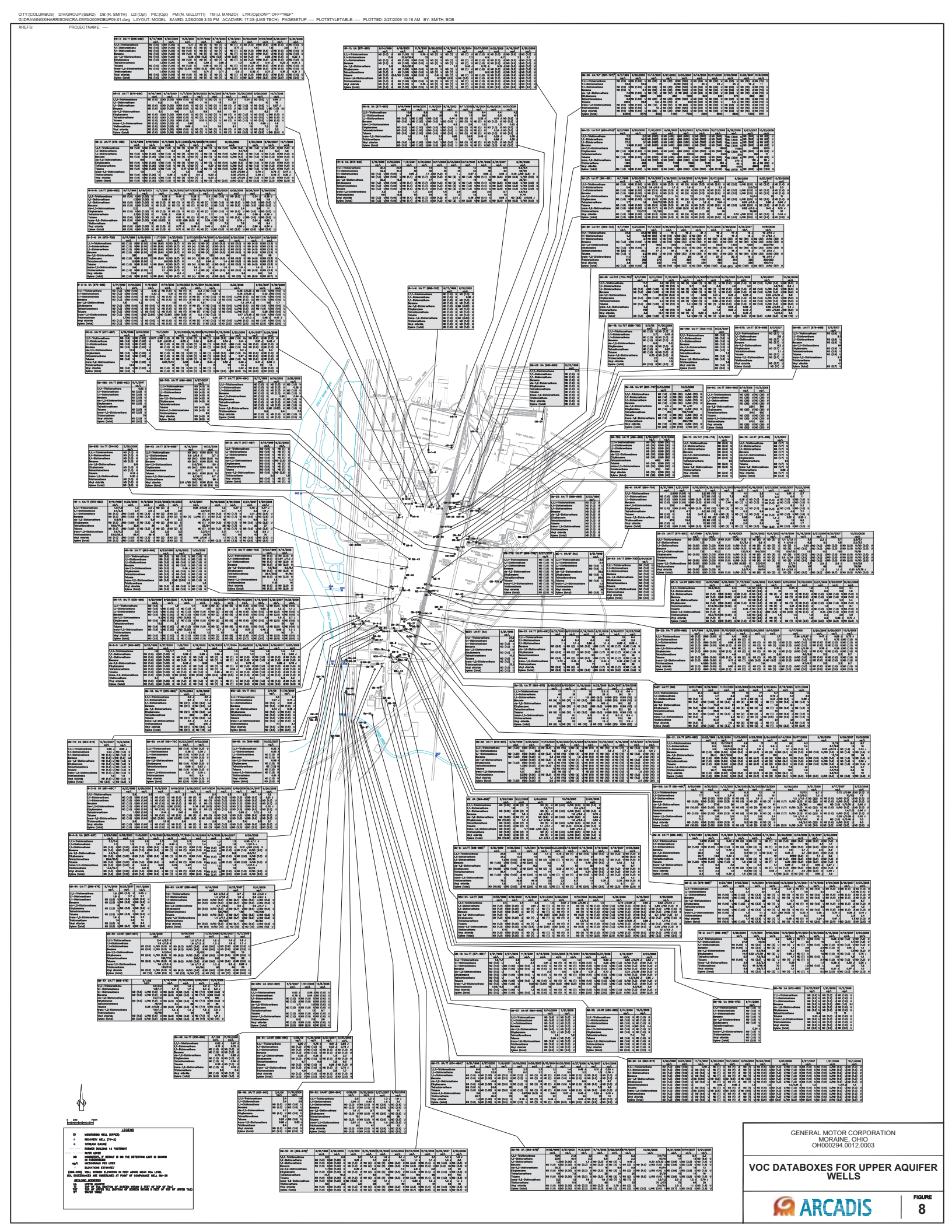
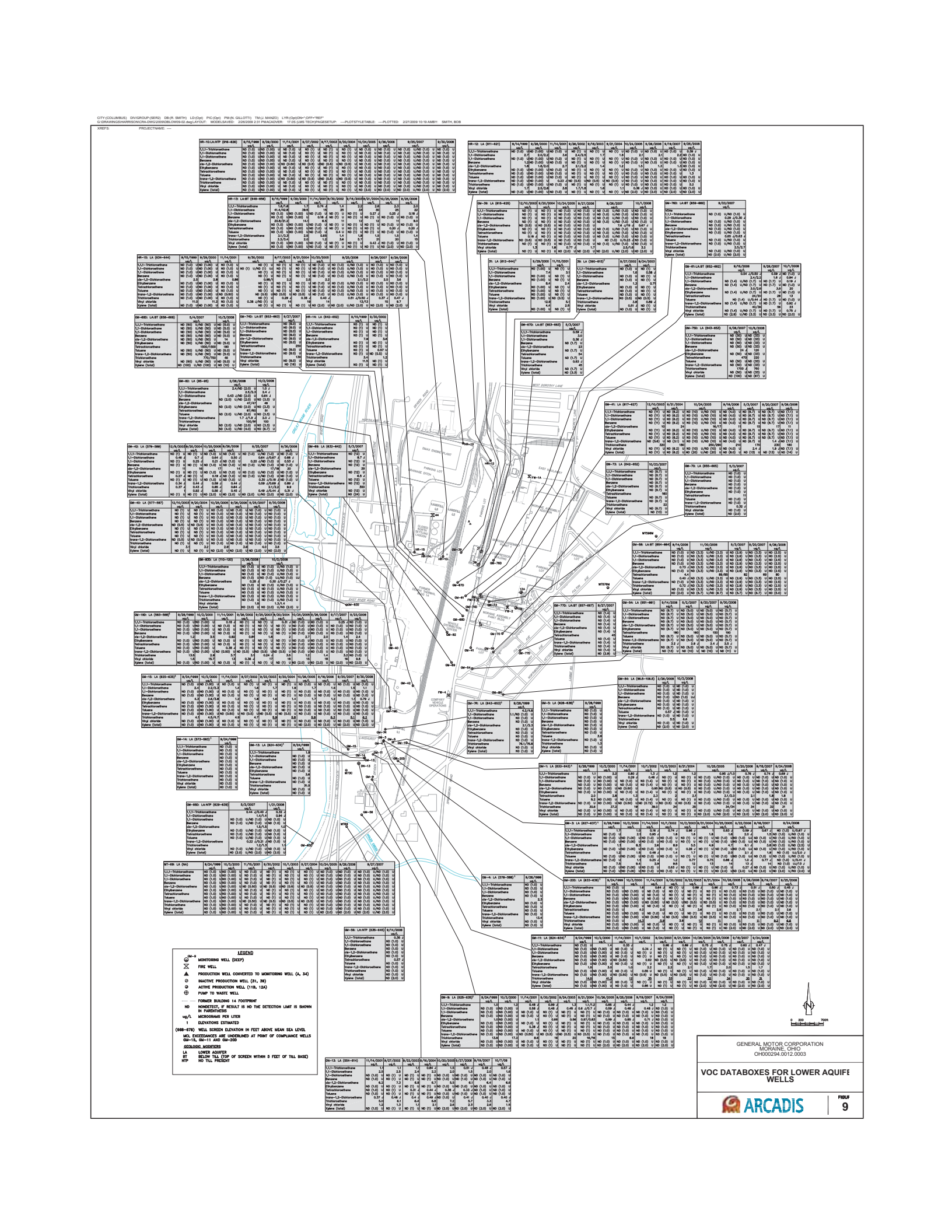
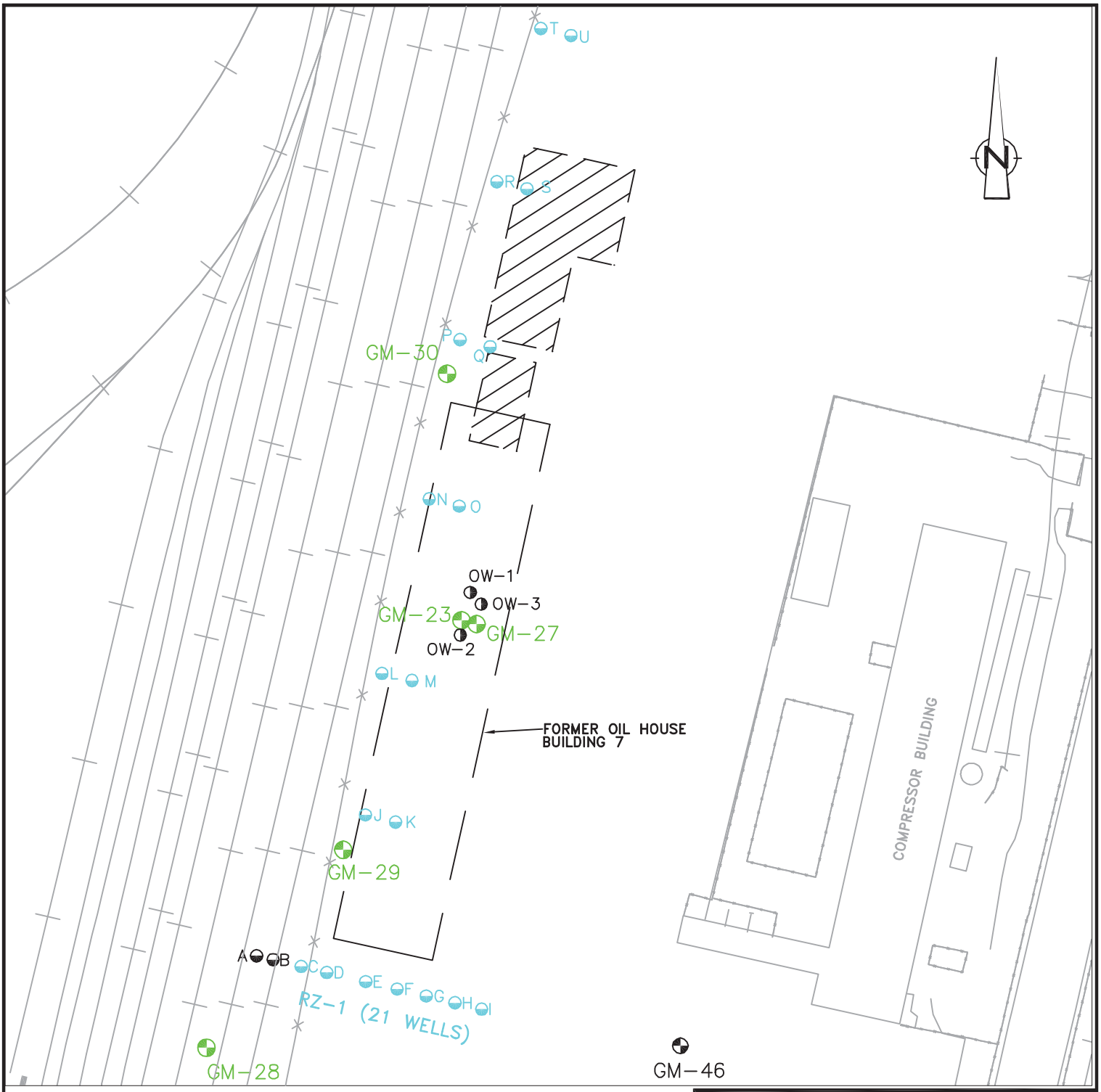



MW-10 LA/NTP (856–936)
MW-12 LA (911–921)
MW-13 LA/BT (648–696)
MW-39 LA (915–935)
MW-760 LA/BT (653–666)
MW-15 LA (634–644)
MW-1 LA (812–844)
MW-2A LA (789–897)
MW-81 LA/BT (852–862)
MW-682 LA/BT (858–866)
MW-740 LA/BT (853–863)
MW-16 LA (842–852)
MW-670 LA/BT (853–863)
MW-750 LA (843–853)
MW-32 LA (85–95)
MW-61 LA (817–827)
MW-40 LA (579–586)
MW-69 LA (632–642)
MW-73 LA (842–852)
MW-70 LA (655–665)
MW-60 LA (577–587)
MW-58 LA/BT (854–864)
MW-835 LA (115–120)
MW-770 LA/BT (857–867)
MW-54 LA (691–661)
MW-190 LA (583–586)
MW-15 LA (625–635)
MW-84 LA (96.5–106.5)
MW-14 LA (573–583)
MW-13 LA (624–634)
MW-760 LA/BT (643–653)
MW-5 LA (638–638)
MW-660 LA/NTP (629–639)
MW-3 LA (627–637)
MW-4L LA (578–588)
MW-20D LA (53–63)
MW-15 LA (624–634)
MW-9L LA (625–635)
MW-13 LA (564–614)
LEGEND
MW-9 MONITORING WELL (DEEP)
FIRE WELL
PRODUCTION WELL CONVERTED TO MONITORING WELL (A, 34)
INACTIVE PRODUCTION WELL (31, 38)
ACTIVE PRODUCTION WELL (11B, 12A)
PUMP TO WASTE WELL
FORMER BUILDING 14 FOOTPRINT
ND NONDETECT, IF RESULT IS ND THE DETECTION LIMIT IS SHOWN IN PARENTHESIS
ug/L MICROGRAMS PER LITER
1 ELEVATIONS ESTIMATED
(668–678) WELL SCREEN ELEVATION IN FEET ABOVE MEAN SEA LEVEL
MCL EXCEEDANCES ARE UNDERLINED AT POINT OF COMPLIANCE WELLS GM-1B, GM-11 AND GM-20D
GEOLOGIC MODIFIERS
LA LOWER AQUIFER
BT BELOW TILL (TOP OF SCREEN WITHIN 5 FEET OF TILL BASE)
NTP NO TILL PRESENT
0 350 700ft
GENERAL MOTOR CORPORATION
MORAINE, OHIO
OH000294.0012.0003
VOC DATABOXES FOR LOWER AQUIFER WELLS
ARCADIS
FIGURE
9



0 150 FT

LEGEND

- MONITORING WELL (UPPER AQUIFER)
- OXIDATION WELLS USED AS CARBON SOURCE INTRODUCTION WELLS (INACTIVE)
- MONITORING WELL USED FOR SITE-WIDE (UPPER AQUIFER)
- CARBON SOURCE INTRODUCTION WELL
- INACTIVE CARBON SOURCE INTRODUCTION WELL
- APPROXIMATE LOCATION OF FORMER MORAINE ENGINE TANK FARM

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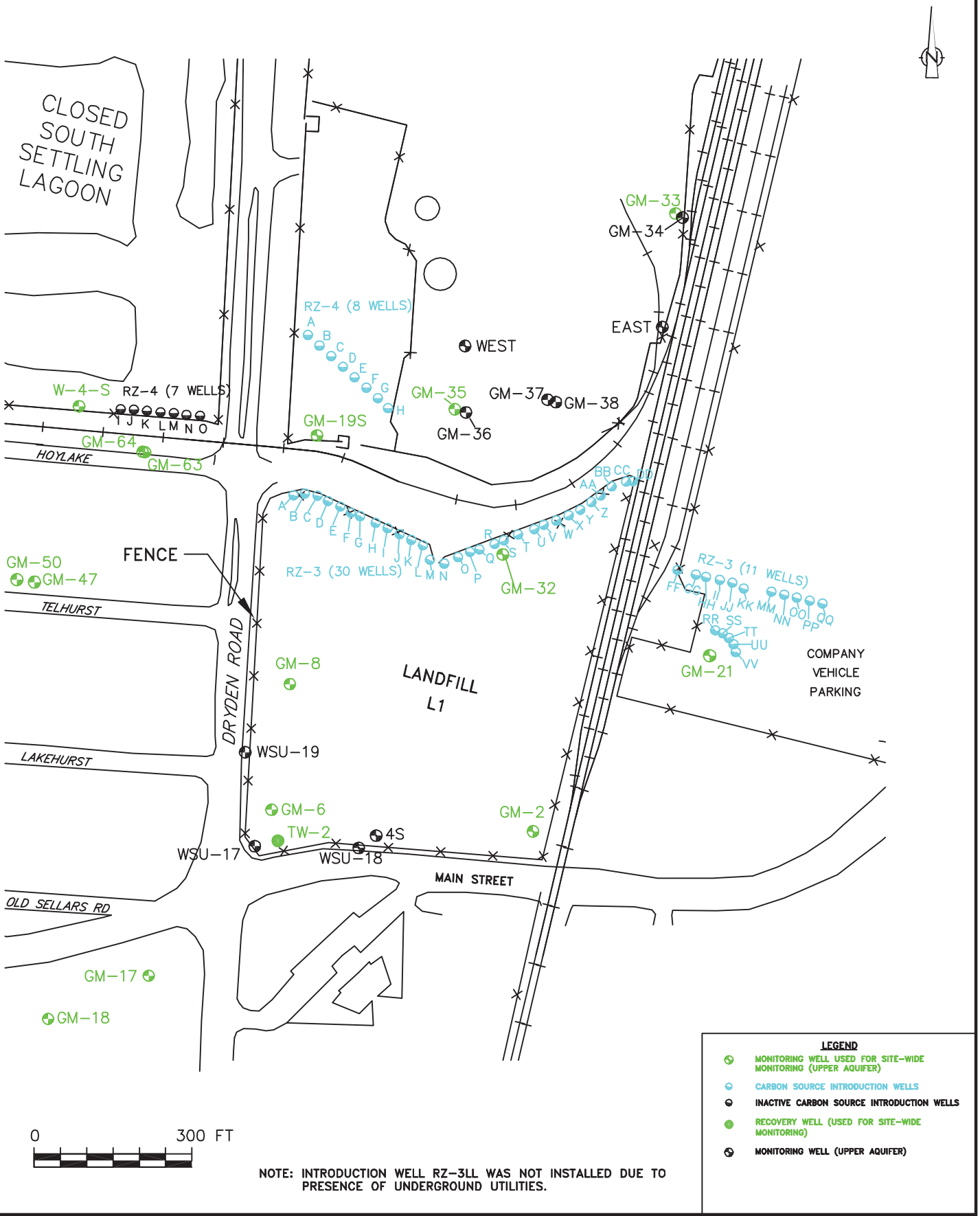
Tel: 614/764-2310 Fax: 614/764-1270

REACTIVE ZONE #1
GENERAL MOTORS CORPORATION
MORAINE, OHIO

DATE	PROJECT MANAGER	DRAWING NAME
2/16/2009	N. GILLOTTI	C\07\ANN\ANN08-07
DRAWN	LEAD DESIGN PROF.	CHECKED
R. SMITH	J. HUNT	T. FORTNER
PROJECT NUMBER		FIGURE NUMBER
0H000294.0012.0002		10



NOTE: INTRODUCTION WELL RZ-3LL WAS NOT INSTALLED DUE TO PRESENCE OF UNDERGROUND UTILITIES.

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REACTIVE ZONES #3 AND #4
GENERAL MOTORS CORPORATION
MORAINE, OHIO

DATE	PROJECT MANAGER	DRAWING NAME
2/16/2009	N. GILLOTTI	C\07\ANN\ANN08-09
DRAWN	LEAD DESIGN PROF.	CHECKED
R. SMITH	J. HUNT	N. GILLOTTI
PROJECT NUMBER		FIGURE NUMBER
0H000294.0012.0002		11

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Appendix A

Site-Wide Groundwater VOC
Analytical Results from 1999 to 2007

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Table A-1. Groundwater Analytical Results for the Upper Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
Upgradient of the Site													
HR-9	9/16/1999	20.3	52.2	<1.0	<1.0	20.3	<1.0	<1.0	<1.0	3.2	18.1	<1.0	<1.0
HR-9	9/18/2000	20.5	51.0	<1.0	<1.0	16.3	<1.0	<1.0	<1.0	2.6	16.9	<1.0	<1.0
HR-9	11/6/2001	17	38	0.95J	< 1.4	12	< 1.4	< 1.4	< 1.4	1.7	14	< 1.4	< 1.4
HR-9	9/19/2002	13	46	1.1J	< 1.7	17	< 1.7	< 1.7	< 1.7	2.5	15	< 1.7	< 1.7
HR-9	9/17/2003	12	35	< 1.2 U	< 1.2 U	11	< 1.2 U	< 1.2 U	< 1.2 U	1.5	11	< 1.2 U	< 1.2 U
HR-9	9/13/2004	15	45	1 J	< 2 U	17	< 2 U	< 2 U	< 2 U	2.5	13	0.44 J	< 2 U
HR-9	10/19/2005	14	42	0.97 J	< 1.2 U	19	< 1.2 U	< 1.2 U	< 1.2 U	2.8	12	0.46 J	< 2.5 U
HR-9	9/21/2006	16	36	0.65 J	< 1.4 U	15	< 1.4 U	< 1.4 U	< 1.4 U	2.5	13	< 1.4 U	< 2.9 U
HR-9	9/25/2007	8.9	62	0.56J	< 2.5 U	25	< 2.5 U	< 2.5 U	< 2.5 U	3.7	12	0.66J	<5 U
HR-11	9/14/1999	<1.0	13.5	<1.0	<1.0	3.3	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
HR-11	9/18/2000	<1.0	32.9	<1.0	<1.0	18.5	<1.0	<1.0	<1.0	2.6	<1.0	<1.0	<1.0
HR-11	11/6/2001	0.30J	33	<1.0	< 1.0	18	< 1.0	< 1.0	< 1.0	2.3	< 1.0	< 1.0	< 1.0
HR-11	9/26/2002	< 1	18	< 1	< 1	6.1	< 1	< 1	< 1	0.72	< 1	< 1	< 1
HR-11	9/18/2003	< 1 U	10	< 1 U	< 1 U	1.7	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U
HR-11	9/15/2004	< 1 U	7.3	< 1 U	< 1 U	0.45 J	< 1 U	2.2	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U
HR-11	10/17/2005	< 1.0 U	6.5	< 1.0 U	< 1.0 U	0.72 J	< 1.0 U	6.0	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
HR-11	9/25/2006	< 1 U	6.7	< 1 U	< 1 U	0.31 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U
HR-11	9/19/2007	< 1 U	7.1	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U
GM-24	9/23/1999	2.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
On-Site													
HR-8	9/16/1999	10.6	26.4	<1.0	<1.0	4.4	<1.0	<1.0	<1.0	1.5	1.6	<1.0	<1.0
HR-8	9/18/2000	9.9	29.0	<1.0	<1.0	5.6	<1.0	<1.0	<1.0	1.8	1.1	<1.0	<1.0
HR-8	11/6/2001	10	26	< 1.0	< 1.0	5.4	< 1.0	< 1.0	< 1.0	1.3	1.4	< 1.0	< 1.0
HR-8	9/19/2002	11	18	0.44J	< 1.0	4.8	< 1.0	< 1.0	< 1.0	0.85	1.8	< 1.0	< 1.0
HR-8	9/17/2003	7.8	13	< 1 U	< 1 U	2.8	< 1 U	< 1 U	< 1 U	0.63	1.3	< 1 U	< 1 U
HR-8	9/13/2004	6.4	8.6	0.32 J	< 1 U	1.5	< 1 U	< 1 U	< 1 U	0.45 J	1	< 1 U	< 1 U
HR-8	10/19/2005	4.4	5.5	0.19 J	< 1.0 U	1.3	< 1.0 U	0.24 J	< 1.0 U	0.28 J	0.66 J	< 1.0 U	< 2.0 U
HR-8	9/21/2006	4.2	6.1	< 1 U	< 1 U	0.92 J	< 1 U	< 1 U	< 1 U	0.3 J	0.55 J	< 1 U	< 2 U
W-1-N	9/17/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
W-1-N	9/19/2002	< 1.0	0.36J	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0
HR-4	9/14/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	1.4	<1.0	<1.0
HR-4	9/20/2000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
HR-4	11/6/2001	0.17J	< 1.0	< 1.0	< 1.0	0.28J	< 1.0	0.88J	< 1.0	< 0.50	1.0	< 1.0	< 1.0
HR-4	9/27/2002	< 1	< 1	< 1	< 1	< 0.5	< 1	0.59J	< 1	< 0.5	0.71J	< 1	< 1
HR-4	9/18/2003	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	0.55 J	< 1 U	< 0.5 U	0.71 J	< 1 U	< 1 U
HR-4	9/16/2004	< 1 U	0.77 J	< 1 U	< 1 U	< 0.5 U	< 1 U	1.3	< 1 U	< 0.5 U	0.5 J	< 1 U	< 1 U

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Table A-1. Groundwater Analytical Results for the Upper Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
HR-4	10/20/2005	< 1.0 U	1.5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.39 J	< 1.0 U	< 1.0 U	0.32 J	< 1.0 U	< 2.0 U
HR-4	9/25/2006	< 1 U	1.6	< 1 U	< 1 U	0.26 J	< 1 U	0.41 J	< 1 U	< 1 U	0.34 J	< 1 U	< 2 U
HR-4	9/26/2007	< 1 U	3.6	< 1 U	< 1 U	< 1 U	< 1 U	0.33 J	< 1 U	< 1 U	0.31 J	< 1 U	< 2 U
W-2-N	9/14/1999	<1.0	<1.0	<1.0	<1.0	1.6	<1.0	<1.0	<1.0	<1.0	1.7	<1.0	<1.0
W-2-N	9/19/2000	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
W-2-N	11/6/2001	0.48J	0.33J	< 1.0	< 1.0	1.1	< 1.0	< 1.0	< 1.0	< 0.50	1.3	< 1.0	< 1.0
W-2-N	9/19/2002	< 1.0	0.31J	< 1.0	< 1.0	1.6	< 1.0	< 1.0	< 1.0	< 0.50	1.4	< 1.0	< 1.0
W-2-N	9/18/2003	< 1 U	< 1 U	< 1 U	< 1 U	1.3	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U
W-2-N	9/16/2004	0.3 J	0.36 J	< 1 U	< 1 U	1.8	< 1 U	0.31 J	< 1 U	0.2 J	1.4	< 1 U	< 1 U
W-2-N	10/20/2005	< 1.0 U	0.28 J	< 1.0 U	< 1.0 U	1.3	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.91 J	< 1.0 U	< 2.0 U
W-2-N	9/22/2006	0.25 J	0.29 J	< 1 UJ	< 1 UJ	1.4 J	< 1 UJ	< 1 UJ	< 1 UJ	0.18 J	1 J	< 1 UJ	< 2 UJ
W-2-N	9/25/2007	< 1 U	0.22 J	< 1 U	< 1 U	1.6	< 1 U	< 1 U	0.28J	< 1 U	0.88J	< 1 U	< 2 U
W-3-N	9/17/1999	<1.0	<1.0	<1.0	<1.0	291	<1.0	2.5	<1.0	2.6	<1.0	12.8	<1.0
W-3-N	9/19/2000	<1.0	<1.0	<1.0	<1.0	282	<1.0	<1.0	<1.0	3.9	<1.0	24.0	<1.0
W-3-N	11/7/2001	< 5.6	< 5.6	< 5.6	< 5.6	160	< 5.6	9.0	< 5.6	2.2J	2.1J	7.6	< 5.6
W-3-N	9/23/2002	< 6.7	< 6.7	< 6.7	< 6.7	150	< 6.7	< 6.7	< 6.7	< 3.3	< 6.7	6.5J	< 6.7
W-3-N	9/17/2003	< 4 U	< 4 U	< 4 U	< 4 U	100	< 4 U	5.1	< 4 U	1.6 J	1.7 J	6.6	< 4 U
W-3-N	9/16/2004	< 4 U	< 4 U	< 4 U	< 4 U	120	< 4 U	0.94 J	< 4 U	1.6 J	< 4 U	6.1	< 4 U
W-3-N	10/20/2005	< 4.0 U	< 4.0 U	< 4.0 U	< 4.0 U	84	< 4.0 U	1.4 J	< 4.0 U	1.0 J	< 4.0 U	8.0	< 8.0 U
W-3-N	9/25/2006	< 5 U	< 5 U	< 5 U	< 5 U	140	< 5 U	< 5 U	< 5 U	1.9 J	< 5 U	9.6	< 10 U
W-3-N	9/26/2007	< 4 U	< 4 U	< 4 U	< 4 U	110	< 4 U	< 4 U	< 4 U	1.4 J	< 4 U	5.6	< 8 U
W-4-N	9/17/1999	<1.0	1.3	<1.0	<1.0	2.2	<1.0	2.1	<1.0	<1.0	9.8	<1.0	<1.0
W-4-N	9/19/2000	<1.0	<1.0	<1.0	<1.0	2.0	<1.0	<1.0	<1.0	<1.0	7.3	<1.0	<1.0
W-4-N	11/7/2001	0.33J	0.89J	< 1.0	< 1.0	1.6	< 1.0	0.92J	< 1.0	< 0.50	7.1	< 1.0	< 1.0
W-4-N	9/24/2002	0.44J	1.7	< 1	< 1	5.2	< 1	0.94J	< 1	0.33J	8.5	0.77J	< 1
W-4-N	9/17/2003	0.26 J	0.94 J	< 1 U	< 1 U	1.7	< 1 U	1.1	< 1 U	< 0.5 U	8.1	0.48 J	< 1 U
W-4-N	9/16/2004	0.4 J	1.7	< 1 U	< 1 U	5.8	< 1 U	1.7	< 1 U	0.38 J	12	0.49 J	< 1 U
W-4-N	10/20/2005	< 1.0 U	1.2	< 1.0 U	< 1.0 U	2.0	< 1.0 U	1.0	< 1.0 U	< 1.0 U	7.2	0.54 J	< 2.0 U
W-4-N	9/25/2006	< 1 U	1.3	< 1 U	< 1 U	2.4	< 1 U	0.96 J	< 1 U	0.19 J	7.6	0.56 J	< 2 U
W-4-N	9/26/2007	0.34J	1.6	< 1 U	< 1 U	2.6	< 1 U	0.88 J	< 1 U	0.24 J	10	0.96 J	< 2 U
HR-2	9/16/1999	<1.0	3.9	<1.0	<1.0	9.6	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	<1.0
HR-2	9/19/2000	<1.0	4.6	<1.0	<1.0	8.6	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0
HR-2	11/7/2001	< 1.0	4.2	< 1.0	< 1.0	8.3	< 1.0	< 1.0	< 1.0	1.1	0.56J	< 1.0	< 1.0
HR-2	9/24/2002	< 1	4.9	< 1	< 1	8.8	< 1	< 1	< 1	1.2	0.46J	< 1	< 1
HR-2	9/16/2003	< 1 U	4.5	< 1 U	< 1 U	7.2	< 1 U	< 1 U	< 1 U	0.96	0.4 J	< 1 U	< 1 U
HR-2	9/16/2004	< 1 U	5.6	< 1 U	< 1 U	7.8	< 1 U	0.37 J	< 1 U	1.1	0.53 J	0.23 J	< 1 U
HR-2	10/20/2005	< 1.0 U	4.4	< 1.0 U	< 1.0 U	5.0	< 1.0 U	< 1.0 U	< 1.0 U	0.78 J	0.35 J	0.29 J	< 2.0 U

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Table A-1. Groundwater Analytical Results for the Upper Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
HR-2	9/25/2006	< 1 U	5.2	< 1 U	< 1 U	5.6	< 1 U	< 1 U	< 1 U	0.79 J	0.48 J	< 1 U	< 2 U
HR-2	9/26/2007	< 1 U	5.3	< 1 U	< 1 U	5.0	< 1 U	< 1 U	< 1 U	0.76J	0.45J	< 1 U	< 2 U
HR-3	9/16/1999	<1.0	6.2	<1.0	<1.0	6.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
HR-3	9/19/2000	<1.0	5.1	<1.0	<1.0	4.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
HR-3	11/7/2001	< 1.0	6.9	< 1.0	< 1.0	5.1	< 1.0	< 1.0	< 1.0	0.60	0.66J	< 1.0	< 1.0
HR-3	9/24/2002	< 1	15	< 1	< 1	9.9	< 1	< 1	< 1	1	1.4	< 1	< 1
HR-3	9/16/2003	< 1 U	13	< 1 U	< 1 U	9.9	< 1 U	< 1 U	< 1 U	1.1	1.6	< 1 U	< 1 U
HR-3	9/16/2004	0.27 J	23	< 1 U	< 1 U	18	< 1 U	0.32 J	< 1 U	1.8	8.1	< 1 U	< 1 U
HR-3	10/20/2005	0.34 J	18	< 1.0 U	< 1.0 U	11	< 1.0 U	< 1.0 U	< 1.0 U	1.5	10	< 1.0 U	< 2.0 U
HR-3	9/25/2006	< 1 U	10	< 1 U	< 1 U	8.2	< 1 U	< 1 U	< 1 U	0.99 J	7.2	< 1 U	< 2 U
GM-30	9/2/1999	<10	53.8J	<10	<10	7.5J	7030J	9.5J	6950J	<10	<10	<10	23300J
GM-30	9/20/2000	<1.0	50.6	<1.0	2.7	<1.0	2290	<1.0	98.9	<1.0	<1.0	<1.0	6770
GM-30	11/13/2001	< 25	31	< 25	< 25	< 12	840	< 25	5.0J	< 12	12J	< 25	2000
GM-30	9/27/2002	< 33	34	< 33	< 33	< 17	350	< 33	< 33	< 17	< 33	< 33	1400
GM-30	9/23/2003	< 120 U	< 120 U	< 120 U	< 120 U	< 62 U	1000	< 120 U	240	< 62 U	< 120 U	< 120 U	7000
GM-30	9/14/2004	< 40 U	33 J	< 40 U	< 40 U	< 20 U	530	< 40 U	< 40 U	< 20 U	< 40 U	< 40 U	3000
GM-30	10/17/2005	< 50 U	23 J	< 50 U	< 50 U	< 50 U	620	< 50 U	< 50 U	< 50 U	< 50 U	< 50 U	3800
GM-30	9/20/2006	< 33 U	25 J	< 33 U	< 33 U	< 33 U	570	< 33 U	5.8 J	< 33 U	< 33 U	< 33 U	2500
GM-30	9/26/2007	< 18 U	16 J	< 18 U	< 18 U	< 18 U	380	< 18 U	< 18 U	< 18 U	< 18 U	< 18 U	1300
GM-23	9/2/1999	7.2	32.5	17.2	1.9	7530	<1.0	6250	<1.0	54.5	1460	2500	7.0
GM-23	9/20/2000	2.0	16.3	5.1	<1.0	5620	<1.0	3470	<1.0	33.2	609	801	<1.0
GM-23	11/12/2001	< 420	< 420	< 420	< 420	8400	< 420	15000	< 420	< 210	2200	1200	< 420
GM-23	9/26/2002	< 400	< 400	< 400	< 400	7700	< 400	10000	< 400	< 200	1700	540	< 400
GM-23	9/23/2003	< 500 U	< 500 U	< 500 U	< 500 U	5800	< 500 U	12000	< 500 U	< 250 U	1600	690	< 500 U
GM-23	9/14/2004	< 500 U	< 500 U	< 500 U	< 500 U	4600	< 500 U	6700	< 500 U	< 250 U	1100	870	< 500 U
GM-23	10/17/2005	< 560 U	< 560 U	< 560 U	< 560 U	19000	< 560 U	2300	< 560 U	< 560 U	490 J	2800	< 1100 U
GM-23	9/28/2006	< 330 U	< 330 U	< 330 U	< 330 U	11000	< 330 U	370	< 330 U	270 J	95 J	4100	< 670 U
GM-23	9/27/2007	< 200 U	< 200 U	< 200 U	< 200 U	4700	< 200 U	280	< 200 U	130 J	82 J	2600	< 400 U
GM-27	9/1/1999	<1.0	2.4	<1.0	<1.0	20.6	<1.0	1.7	<1.0	<1.0	121	<1.0	<1.0
GM-27	9/20/2000	<1.0	2.2	<1.0	<1.0	13.9	<1.0	1.2	<1.0	<1.0	112	<1.0	<1.0
GM-27	11/13/2001	< 3.3	1.8J	< 3.3	< 3.3	13	< 3.3	6.8	< 3.3	< 1.7	110	< 3.3	< 3.3
GM-27	9/26/2002	< 3.3	1.7J	< 3.3	< 3.3	14	< 3.3	< 3.3	< 3.3	< 1.7	100	< 3.3	< 3.3
GM-27	9/23/2003	< 5 U	1.9 J	< 5 U	< 5 U	12	< 5 U	2.1 J	< 5 U	< 2.5 U	100	< 5 U	< 5 U
GM-27	9/15/2004	< 3.3 U	2 J	< 3.3 U	< 3.3 U	13	< 3.3 U	1.8 J	< 3.3 U	< 1.7 U	81	< 3.3 U	< 3.3 U
GM-27	10/17/2005	< 2.5 U	2.2 J	< 2.5 U	< 2.5 U	14	< 2.5 U	0.94 J	< 2.5 U	0.49 J	76	0.82 J	< 5.0 U
GM-27	9/28/2006	< 2.5 U	2.6	< 2.5 U	< 2.5 U	14	< 2.5 U	1 J	< 2.5 U	1 J	80	< 2.5 U	< 5 U
GM-27	9/27/2007	< 2 U	2.3	< 2 U	< 2 U	12	< 2 U	0.9 J	< 2 U	0.41 J	70	< 2 U	< 4 U

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Table A-1. Groundwater Analytical Results for the Upper Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
GM-29	9/1/1999	37.8	4.3	1.3	<1.0	320	<1.0	<20	<1.0	11.1	878	3.8	<1.0
GM-29	9/21/2000	24.5	16.6	3.1	<1.0	2871	<1.0	20.0	2.2	14.4	289	788	<1.0
GM-29	11/13/2001	< 50	< 50	< 50	< 50	1800	21J	17J	< 50	26	270	230	52
GM-29	9/25/2002	16J	< 40	< 40	< 40	1300	< 40	18J	< 40	21	310	140	< 40
GM-29	9/24/2003	18 J	< 33 U	< 33 U	< 33 U	1200	< 33 U	18 J	< 33 U	20	390	150	< 33 U
GM-29	9/15/2004	21 J	< 50 U	< 50 U	< 50 U	1200	< 50 U	20 J	< 50 U	21 J	440	230	< 50 U
GM-29	10/17/2005	19 J	18 J	< 50 U	< 50 U	1600	< 50 U	15 J	< 50 U	27 J	390	490	< 100 U
GM-29	9/28/2006	17 J	15 J	< 33 U	< 33 U	1300	< 33 U	15 J	< 33 U	20 J	310	210	< 67 U
GM-29	9/26/2007	15 J	15 J	< 50 U	< 50 U	1200	< 50 U	18 J	< 50 U	19 J	350	290	< 100 U
GM-28	9/1/1999	17.7	3.3	<1.0	<1.0	175	<1.0	316	<1.0	9.2	768	3.2	<1.0
GM-28	9/21/2000	5.0	9.9	<1.0	<1.0	37.0	<1.0	2.3	<1.0	22.3	1.6	12.4	<1.0
GM-28	11/15/2001	< 10	< 10	< 10	< 10	< 5.0	< 10	< 10	< 10	11	< 10	< 10	< 10
GM-28	9/24/2002	< 1	2.7	< 1	< 1	1.1	< 1	< 1	< 1.3 U	11	0.86J	< 1	< 1.2 U
GM-28	10/1/2003	< 1 U	3.3	< 1 U	< 1 U	0.58	< 1 U	< 1 U	< 1 U	4	1.6	0.53 J	< 1 U
GM-28	9/15/2004	< 1 U	3.3	< 1 U	< 1 U	0.41 J	< 1 U	0.88 J	< 1 U	1.2	1.4	0.44 J	< 1 U
GM-28	10/18/2005	< 1.0 U	4.0	< 1.0 U	< 1.0 U	0.32 J	< 1.0 U	< 1.0 U	< 1.0 U	0.63 J	0.66 J	1.1	< 2.0 U
GM-28	9/27/2006	< 1 U	4.2	< 1 U	< 1 U	0.26 J	< 1 U	< 1 U	< 1 U	0.66 J	0.43 J	0.42 J	< 2 U
GM-28	9/20/2007	< 1 U	4.6	< 1 U	< 1 U	0.72 J	< 1 U	< 1 U	< 1 U	0.58 J	0.51 J	1.2	< 2 U
GM-25	9/22/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
GM-25	9/22/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
HR-7	9/17/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	9.8	<1.0	<1.0
HR-7	9/19/2002	< 1.0	< 1.0	< 1.0	< 1.0	0.65	< 1.0	< 1.0	< 1.0	< 0.50	9.4	< 1.0	< 1.0
HR-7	9/19/2002	< 1.0	< 1.0	< 1.0	< 1.0	0.65	< 1.0	< 1.0	< 1.0	< 0.50	9.4	< 1.0	< 1.0
HR-5	9/16/1999	<1.0	<1.0	<1.0	<1.0	10.5	<1.0	<1.0	<1.0	1.1	12.0	<1.0	<1.0
HR-5	9/19/2000	<1.0	<1.0	<1.0	<1.0	5.6	<1.0	<1.0	3.0	<1.0	8.1	<1.0	2.0
HR-5	11/7/2001	0.17J	0.55J	< 1.0	< 1.0	7.8	< 1.0	< 1.0	< 1.0	0.74	11	< 1.0	< 1.0
HR-5	9/23/2002	< 1	0.55J	< 1	< 1	7.5	< 1	< 1	< 1	0.58	13	< 1	< 1
HR-5	9/18/2003	< 1 U	0.42 J	< 1 U	< 1 U	5	< 1 U	< 1 U	< 1 U	0.46 J	11	< 1 U	< 1 U
HR-5	9/13/2004	< 1 U	0.43 J	< 1 U	< 1 U	4.8	< 1 U	< 1 U	< 1 U	0.44 J	11	< 1 U	< 1 U
HR-5	10/18/2005	< 1.0 U	0.54 J	< 1.0 U	< 1.0 U	4.6	< 1.0 U	< 1.0 U	< 1.0 U	0.52 J	13	1.1	< 2.0 U
HR-5	9/22/2006	< 1 UJ	0.41 J	< 1 UJ	< 1 UJ	5.2 J	< 1 UJ	0.27 J	< 1 UJ	0.46 J	13 J	0.22 J	< 2 UJ
HR-5	9/24/2007	< 1 U	0.51J	< 1 U	< 1 U	5.4	< 1 U	< 1 U	< 1 U	0.41J	13	< 1 U	< 2 U
HR-6	9/16/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.0	<1.0	<1.0
HR-6	9/23/2002	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 1	< 0.5	1.5	< 1	< 1
HR-1	9/16/1999	1.6	2.4	<1.0	<1.0	5.8	<1.0	44.3	<1.0	3.9	56.0	<1.0	<1.0
HR-1	9/25/2000	1.3	2.4	<1.0	<1.0	8.5	<1.0	32.6	<1.0	3.2	56.4	<1.0	<1.0
HR-1	11/8/2001	2.2J	2.8J	< 3.3	< 3.3	9.9	< 3.3	36	< 3.3	2.8	86B	< 3.3	< 3.3

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Table A-1. Groundwater Analytical Results for the Upper Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
HR-1	9/23/2002	< 2	2.8	< 2	< 2	4.5	< 2	33	< 2	3.2	33	< 2	< 2
HR-1	9/18/2003	1 J	2.6	< 2 U	< 2 U	2.3	< 2 U	27	< 2 U	3.2	56	< 2 U	< 2 U
HR-1	9/13/2004	0.56 J	2.5	< 1 U	< 1 UJ	24	< 1 U	23	< 1 U	2.3	30	0.55 J	< 1 U
HR-1	10/18/2005	1.2	2.7	< 1.0 U	< 1.0 U	19	< 1.0 U	28	< 1.0 U	2.3	43	1.1	< 2.0 U
HR-1	9/25/2006	0.57 J	1.7	< 1.7 U	< 1.7 U	14	< 1.7 U	< 1.7 U	< 1.7 U	1.4 J	50	< 1.7 U	< 3.3 U
HR-1	9/24/2007	0.45J	2.2	0.21J	< 1 U	9.5	< 1 U	20	< 1 U	1.9	40	< 1 U	< 2 U
W-1-S	9/22/1999	<1.0	<1.0	<1.0	<1.0	8.0	<1.0	30.9	<1.0	1.1	11.6	<1.0	<1.0
W-1-S	9/19/2002	< 2.0	0.97J	< 2.0	< 2.0	6.0	< 2.0	62	< 2.0	1.3	16	< 2.0	< 2.0
W-1-S	9/19/2002	< 2.0	0.97J	< 2.0	< 2.0	6.0	< 2.0	62	< 2.0	1.3	16	< 2.0	< 2.0
ME-6	8/31/1999	2.9	<1.0	<1.0	<1.0	255	<1.0	213	<1.0	<1.0	474	<1.0	<1.0
ME-6	9/21/2000	<1.0	<1.0	<1.0	<1.0	98.8	<1.0	6.7	1.9	2.5	19.0	6.1	<1.0
ME-6	11/15/2001	2.2	2.7	< 2.0	< 2.0	65	< 2.0	8.2	0.42J	1.8	23	13	< 2.0
ME-6	9/25/2002	< 10	< 10	< 10	< 10	5.2	< 10	< 10	6.6J	< 5	< 10	< 10	< 10
ME-6	10/1/2003	13	7.2	< 2 U	0.46 J	20	< 2 U	12	< 2 U	< 1 U	31	2.9	< 2 U
ME-6	9/15/2004	4.1	6.3	0.26 J	< 1 U	14	< 1 U	5.3	< 1 U	0.56	9.2	2.4	< 1 U
ME-6	10/18/2005	2.2	7.0	< 1.0 U	< 1.0 U	13	< 1.0 U	9.8	< 1.0 U	0.93 J	25	5.6	< 2.0 U
ME-6	9/27/2006	1.4	6.3	< 1.4 U	< 1.4 U	27	< 1.4 U	13	< 1.4 U	1.3 J	32	11	< 2.9 U
ME-6	9/20/2007	0.61 J	6.4	< 1 U	< 1 U	9.2	< 1 U	4.5	< 1 U	0.51 J	12	4.5	< 2 U
ME-1	8/31/1999	13.5	2.4	<1.0	<1.0	38.2	<1.0	83.6	<1.0	1.5	292	36	<1.0
GM-31	9/1/1999	<1.0	1.3	<1.0	<1.0	7.8	<1.0	1.3	<1.0	<1.0	27.2	<1.0	<1.0
GM-31	9/21/2000	<1.0	1.1	<1.0	<1.0	40.2	<1.0	<1.0	<1.0	<1.0	8.5	<1.0	<1.0
GM-31	11/15/2001	< 4.0	3.1J	< 4.0	< 4.0	120	< 4.0	< 4.0	< 4.0	1.8J	11	7.4	< 4.0
GM-31	9/24/2002	< 6	5.9J	< 6	< 6	200	< 6	< 6	< 6	3.5	10	19	< 6
GM-31	10/1/2003	< 5 U	6	< 5 U	< 5 U	170	< 5 U	< 5 U	< 5 U	3.5	28	10	< 5 U
GM-31	9/15/2004	1.4 J	4 J	< 5 U	< 5 U	120	< 5 U	2.5 J	< 5 U	2.7	29	2.4 J	< 5 U
GM-31	10/18/2005	3.4	6.2	0.42 J	< 2.0 U	120	< 2.0 U	< 2.0 U	< 2.0 U	3.7	67	3.1	< 4.0 U
GM-31	9/27/2006	2.3 J	5.1	< 4 U	< 4 U	110	< 4 U	< 4 U	< 4 U	2.9 J	65	1.2 J	< 8 U
GM-31	9/20/2007	3.7	4.8	< 3.3 U	< 3.3 U	100	< 3.3 U	< 3.3 U	< 3.3 U	2.8 J	90	1.1 J	6.7 U
ME-3	8/31/1999	42.5	6.1	<1.0	<1.0	5.7	<1.0	57.9	<1.0	<1.0	47.5	<1.0	<1.0
ME-3	9/21/2000	6.4	3.4	<1.0	<1.0	2.9	<1.0	<1.0	1.4	2.9	<1.0	2.1	<1.0
ME-3	11/15/2001	1.6	5.9	< 1.0	< 1.0	16	< 1.0	1.3	0.34J	2.7	3.8	7.3	< 1.0
ME-3	9/24/2002	< 2.5	< 2.5	< 2.5	< 2.5	< 1.2	< 2.5	< 2.5	< 2.5	< 1.2	< 2.5	< 2.5	< 2.5
ME-3	10/1/2003	0.31 J	24	< 1 U	0.6 J	0.96	< 1 U	< 1 U	< 1 U	< 0.5 U	1.5	< 1 U	< 1 U
ME-3	9/15/2004	0.53 J	18	< 1 U	< 1 U	2.2	< 1 U	0.21 J	< 1 U	< 0.5 U	1.5	1.1	< 1 U
ME-3	10/18/2005	1.6	15	< 1.0 U	< 1.0 U	1.1	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	1.9	1.6	< 2.0 U
ME-3	9/27/2006	1.1	8.5	< 1 U	< 1 U	3.5	< 1 U	1.9	< 1 U	0.34 J	2.4	2.2	< 2 U
ME-3	9/20/2007	2	3.8	< 1 U	< 1 U	1.2	< 1 U	5.2	< 1 U	< 1 U	3.6	0.82 J	< 2 U

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Table A-1. Groundwater Analytical Results for the Upper Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
GM-43	9/22/2006	< 5 UJ	3.7 J	< 5 UJ	< 5 UJ	120 J	< 5 UJ	21 J	< 5 UJ	5.7 J	98 J	< 5 UJ	< 10 UJ
GM-45	9/22/2006	3.5 J	3.1 J	< 8 UJ	< 8 UJ	54 J	< 8 UJ	230 J	< 8 UJ	2.7 J	230 J	< 8 UJ	< 16 UJ
HR-16	9/23/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.7	<1.0	<1.0
HR-16	9/18/2002	< 1.0	< 1.0	< 1.0	< 1.0	0.46J	< 1.0	< 1.0	< 1.0	< 0.50	1.5	< 1.0	< 1.0
HR-17	9/23/1999	<1.0	<1.0	<1.0	<1.0	6.2	<1.0	15.5	<1.0	<1.0	7.4	<1.0	<1.0
HR-17	9/28/2000	1.9	<1.0	<1.0	<1.0	<1.0	<1.0	3.7	<1.0	<1.0	4.4	<1.0	<1.0
HR-17	11/8/2001	1.4	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	3.3	< 1.0	< 0.50	4.2B	< 1.0	< 1.0
HR-17	9/18/2002	0.39J	1.5	< 1.0	< 1.0	5.1	< 1.0	22	< 1.0	1.4	12	< 1.0	< 1.0
HR-17	9/25/2003	< 2 U	0.75 J	< 2 U	< 2 U	2.2	< 2 U	64	< 2 U	0.7 J	10	< 2 U	< 2 U
HR-17	9/17/2004	< 5 U	2 J	< 5 U	< 5 U	7.1	< 5 U	82	< 5 U	1.6 J	18	< 5 U	< 5 U
HR-17	10/19/2005	< 1.8 U	0.70 J	< 1.8 U	< 1.8 U	3.1	< 1.8 U	45	< 1.8 U	0.57 J	8.3	< 1.8 U	< 3.7 U
HR-17	9/18/2006	< 1 U	0.6 J	< 1 U	< 1 U	4.6	< 1 U	34	< 1 U	0.46 J	5.6	< 1 U	< 2 U
HR-17	9/25/2007	< 2.5 U	1.2 J	< 2.5 U	< 2.5 U	1.9 J	< 2.5 U	51	< 2.5 U	0.69 J	16	< 2.5 U	< 5 U
W-2-S	9/23/1999	1.9J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	6.1	<1.0	<1.0
W-2-S	9/27/2000	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.0	<1.0	<1.0
W-2-S	11/8/2001	1.7	0.58J	< 1.0	< 1.0	0.49J	< 1.0	< 1.0	< 1.0	< 0.50	5.2B	< 1.0	< 1.0
W-2-S	9/18/2002	1.5	0.98J	< 1.0	< 1.0	0.90	< 1.0	< 1.0	< 1.0	< 0.50	4.9	< 1.0	< 1.0
W-2-S	9/26/2003	1.4	0.99 J	< 1 U	< 1 U	0.74	< 1 U	< 1 U	0.25 J	< 0.5 U	5.5	< 1 U	< 1 U
W-2-S	9/17/2004	1.5	1.3	< 1 U	< 1 U	1.1	< 1 U	0.55 J	< 1 U	< 0.5 U	6	< 1 U	< 1 U
W-2-S	10/19/2005	1.6	1.2	< 1.0 U	< 1.0 U	0.78 J	< 1.0 U	0.36 J	< 1.0 U	< 1.0 U	5.4	< 1.0 U	< 2.0 U
W-2-S	9/18/2006	1.8	1.2	< 1 U	< 1 U	1.2	< 1 U	< 1 U	< 1 U	< 1 U	5.1	< 1 U	< 2 U
W-2-S	9/24/2007	1.4	1.1	< 1 U	< 1 U	0.89 J	< 1 U	< 1 U	< 1 U	< 1 U	5.3	< 1 U	< 2 U
W-3-S	9/23/1999	3.9	<1.0	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	2.6	<1.0	<1.0
W-3-S	9/28/2000	2.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.5	<1.0	<1.0
W-3-S	11/8/2001	1.6	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	0.44J	< 1.0	< 0.50	1.5B	< 1.0	< 1.0
W-3-S	9/18/2002	2.1	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	0.61J	< 1.0	< 0.50	2.4	< 1.0	< 1.0
W-3-S	9/26/2003	1.8	< 1 U	< 1 U	< 1 U	0.34 J	< 1 U	0.81 J	< 1 U	< 0.5 U	2	< 1 U	< 1 U
W-3-S	9/17/2004	2.4	0.21 J	< 1 U	< 1 U	< 0.5 U	< 1 U	1.2	< 1 U	< 0.5 U	2.9	< 1 U	< 1 U
W-3-S	10/19/2005	2.5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	1.0	< 1.0 U	< 1.0 U	2.9	< 1.0 U	< 2.0 U
W-3-S	9/18/2006	2.5	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.6 J	< 1 U	< 1 U	3.4	< 1 U	< 2 U
W-3-S	9/24/2007	1.4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.72 J	< 1 U	< 1 U	2	< 1 U	< 2 U
W-4-S	9/23/1999	3.3	1.2	<1.0	<1.0	4.4	<1.0	30.5J	<1.0	<1.0	14.7J	<1.0	<1.0
W-4-S	9/28/2000	3.0	1.0	<1.0	<1.0	4.0	<1.0	15.4	<1.0	<1.0	11.3	<1.0	<1.0
W-4-S	11/8/2001	2.9	1.1	< 1.0	< 1.0	3.3	< 1.0	13	< 1.0	0.43J	8.9B	< 1.0	< 1.0
W-4-S	9/18/2002	2.3	0.87J	< 1.0	< 1.0	3.6	< 1.0	17	< 1.0	0.60	9.8	< 1.0	< 1.0
W-4-S	9/26/2003	2	0.92 J	< 1 U	< 1 U	3.6	< 1 U	24	0.25 J	0.78	13	< 1 U	< 1 U
W-4-S	9/17/2004	2.3	1.2	< 1 U	< 1 U	4.4	< 1 U	18	< 1 U	0.97	13	< 1 U	< 1 U

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Table A-1. Groundwater Analytical Results for the Upper Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
W-4-S	10/19/2005	2.4	1.4	< 1.0 U	< 1.0 U	4.3	< 1.0 U	20	< 1.0 U	1.1	13	< 1.0 U	< 2.0 U
W-4-S	9/19/2006	1.7	1.3	< 1 U	< 1 U	4.3	< 1 U	18	< 1 U	1	12	< 1 U	< 2 U
W-4-S	9/24/2007	1.5	1.8	< 1 U	< 1 U	5.9	< 1 U	26	< 1 U	1.3	16	< 1 U	< 2 U
GM-19S	9/20/1999	16.0	7.7	1.0	<1.0	34.6	<10	46.0	<1.0	2.3	71.1	<1.0	<10
GM-19S	9/22/2000	14.5	4.4	<1.0	<1.0	37.6	<1.0	68.0	<1.0	2.6	104	<1.0	<1.0
GM-19S	11/12/2001	7.6	2.9J	< 3.3	< 3.3	26	< 3.3	64	< 3.3	2.0	97	< 3.3	< 3.3
GM-19S	9/26/2002	6.3	6.3	< 4	< 4	39	< 4	52	< 4	2.7	110	5.2	< 4
GM-19S	9/25/2003	13	8.3	1.6 J	< 5 U	89	< 5 U	62	< 5 U	2.9	140	< 5 U	< 5 U
GM-19S	9/13/2004	14	8.1	1.9 J	< 4 U	61	< 4 U	71	< 4 U	2.4	120	< 4 U	< 4 U
GM-19S	10/18/2005	13	9.0	1.2 J	< 1.7 U	29	< 1.7 U	95	< 1.7 U	1.0 J	140	1.8	< 3.3 U
GM-19S	9/21/2006	9.7 J	7 J	< 22 U	< 22 U	660	< 22 U	9.1 J	< 22 U	10 J	11 J	< 22 U	< 44 U
GM-19S	9/17/2007	0.59 J	10	< 1 U	< 1 U	0.3 J	< 1 U	1.5	< 1 U	0.29 J	0.46 J	< 1 U	< 2 U
EAST	9/21/1999	21.0	5.4	<1.0	<1.0	9.1	<1.0	61.0	<1.0	<1.0	56.1	<1.0	<1.0
EAST	9/22/2000	22.2	7.7	1.2	<1.0	77.3	<1.0	55.8	<1.0	1.8	97.2	3.0	<1.0
EAST	11/12/2001	13	6.2	0.90J	< 3.3	51	< 3.3	56	< 3.3	2.7	92	1.5J	< 3.3
EAST	9/23/2002	10	3.9	0.73J	< 2	8.8	< 2	49	< 2	< 1	46	< 2	< 2
EAST	9/25/2003	7.1	2.3	< 2 U	< 2 U	4.3	< 2 U	47	< 2 U	< 1 U	35	< 2 U	< 2 U
EAST	9/13/2004	5.7	0.72 J	0.34 J	< 1 U	1.6	< 1 U	40	< 1 U	< 0.5 U	23	< 1 U	< 1 U
EAST	10/18/2005	5.9	3.0	< 1.0 U	< 1.0 U	3.1	< 1.0 U	47	< 1.0 U	< 1.0 U	23	1.2	< 2.0 U
EAST	9/21/2006	10	3.2	0.59 J	< 1.4 U	4.1	< 1.4 U	41	< 1.4 U	< 1.4 U	29	< 1.4 U	< 2.9 U
WEST	9/21/1999	24.8	25.6	<1.0	<1.0	125	<1.0	41.3	<1.0	<1.0	37.3	<1.0	<1.0
GM-33	9/25/2003	21	8.4	1 J	< 2.5 U	19	< 2.5 U	37	< 2.5 U	0.72 J	75	< 2.5 U	< 2.5 U
GM-33	9/13/2004	17	5.4	1.1 J	< 2 U	9.5	< 2 U	37	< 2 U	0.45 J	55	< 2 U	< 2 U
GM-33	10/18/2005	18	6.4	0.69 J	< 1.0 U	7.4	< 1.0 U	50	< 1.0 U	0.36 J	71	1.0	< 2.0 U
GM-33	9/21/2006	18	4.5	1.1 J	< 1.7 U	6.9	< 1.7 U	37	< 1.7 U	0.44 J	64	< 1.7 U	< 3.3 U
GM-33	9/24/2007	15	4.9	0.68 J	< 1.7 U	5.5	< 1.7 U	32	< 1.7 U	0.34 J	49	< 1.7 U	< 3.3 U
GM-35	9/25/2003	17	46	4 J	< 8 U	300	< 8 U	21	< 8 U	12	270	59	< 8 U
GM-35	9/13/2004	17	36	4.1 J	< 11 U	270	< 11 U	21	< 11 U	9.1	230	50	< 11 U
GM-35	10/18/2005	12	36	1.8 J	< 5.0 U	190	< 5.0 U	29	< 5.0 U	9.3	240	23	< 10 U
GM-35	9/22/2006	5.5 J	26 J	< 5 UJ	< 5 UJ	160 J	< 5 UJ	14 J	< 5 UJ	11 J	130 J	13 J	< 10 UJ
GM-35	9/24/2007	5.8 J	26	< 10 U	< 10 U	140	< 10 U	22	< 10 U	8 J	110	12	< 20 U
GM-32	9/22/1999	<1.0	3.3	<1.0	<1.0	2.6	<1.0	1.2	1.0	4.2	3.2	3.0	<1.0
GM-32	9/25/2000	<1.0	35.9	<1.0	<1.0	<1.0	<1.0	<1.0	10.4	20.3	<1.0	<1.0	<1.0
GM-32	11/12/2001	< 5.0	6.2	< 5.0	4.3J	< 2.5	0.79J	< 5.0	12	2.9	< 5.0	1.1J	3.0J
GM-32	9/20/2002	< 10	9.7J	< 10	< 10	< 5	< 10	< 10	< 10	< 5	< 10	< 10	< 10
GM-32	10/1/2003	< 2 U	5.5	< 2 U	1.5 J	< 1 U	< 2 U	< 2 U	< 2 U	1	< 2 U	< 2 U	< 2 U
GM-32	9/14/2004	< 10 U	3 J	< 10 U	< 10 U	< 5 U	< 10 U	< 10 U	< 10 U	< 5 U	< 10 U	< 10 U	< 10 U

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Table A-1. Groundwater Analytical Results for the Upper Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
GM-32	10/19/2005	< 10 U	4.9 J	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 20 U
GM-32	9/19/2006	< 10 U	3.7 J	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 10 U	< 20 U
GM-32	9/18/2007	< 5 U	4.3 J	< 5 U	1.6 J	< 5 U	< 5 U	< 5 U	< 5 U	1 J	< 5 U	< 5 U	3.4 J
GM-22	9/1/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.6	<1.0	<1.0	4.0	<1.0	<1.0
GM-22	9/21/2000	<1.0	2.4	<1.0	<1.0	1.9	<1.0	1.6	<1.0	<1.0	<1.0	<1.0	<1.0
GM-22	11/13/2001	4.4	6.8	0.58J	< 1.0	8.5	< 1.0	4.9	< 1.0	0.17J	7.5	0.60J	< 1.0
GM-22	9/25/2002	0.93J	< 2	< 2	< 2	< 1	< 2	2.3	< 2	< 1	7.6	< 2	< 2
GM-22	9/24/2003	1.2	1	< 1 U	< 1 U	0.45 J	< 1 U	2.9	< 1 U	< 0.5 U	7.6	< 1 U	< 1 U
GM-22	9/14/2004	1.7	2.1	< 1 U	< 1 U	0.9	< 1 U	2.9	< 1 U	< 0.5 U	10	< 1 U	< 1 U
GM-22	10/17/2005	0.96 J	1.0	< 1.0 U	< 1.0 U	0.36 J	< 1.0 U	3.6	< 1.0 U	< 1.0 U	4.7	< 1.0 U	< 2.0 U
GM-22	9/20/2006	0.47 J	1.1	< 1 U	< 1 U	0.28 J	< 1 U	3.2	< 1 U	< 1 U	3	< 1 U	< 2 U
GM-22	9/26/2007	0.66 J	0.72 J	< 1 U	< 1 U	0.24 J	< 1 U	3.3	< 1 U	< 1 U	3.3	< 1 U	< 2 U
GM-21	9/22/1999	53.1	9.0	3.9	<1.0	66.4	<1.0	<1.0	<1.0	7.8	28.7	<1.0	<1.0
GM-21	9/22/2000	15.7	5.6	1.6	<1.0	38.7	<1.0	<1.0	<1.0	12.9	189	<1.0	<1.0
GM-21	11/13/2001	6.9	3.8J	< 5.0	< 5.0	39	< 5.0	< 5.0	< 5.0	15	160	< 5.0	< 5.0
GM-21	9/25/2002	31	5J	2.6J	< 6.7	43	< 6.7	< 6.7	< 6.7	5.1	230	< 6.7	< 6.7
GM-21	9/24/2003	31	6.9 J	2 J	< 8 U	100	< 8 U	< 8 U	< 8 U	2.9 J	200	< 8 U	< 8 U
GM-21	9/14/2004	26	4.2 J	3.1 J	< 9.1 U	56	< 9.1 U	< 9.1 U	< 9.1 U	7.9	180	< 9.1 U	< 9.1 U
GM-21	10/17/2005	4.3	3.4	< 1.0 U	< 1.0 U	20	< 1.0 U	< 1.0 U	< 1.0 U	22	1.8	13	< 2.0 U
GM-21	9/20/2006	12	8.6	0.19 J	< 1 U	14	< 1 U	< 1 U	< 1 U	4.3	5.9	9.3	< 2 U
GM-21	9/26/2007	8.5	18	<1.4 U	<1.4 U	26	<1.4 U	<1.4 U	<1.4 U	2.5	2.8	12	< 2.9 U
GM-8	9/20/1999	1.9	30.2	<1.0	3.4	26.2	20.7	14.8	<1.0	12.0	30.4	8.4	2.3
GM-8	9/26/2000	<1.0	36.5	<1.0	1.1	1.5	12.5	<1.0	<1.0	5.4	6.6	2.4	1.9
GM-8	11/9/2001	0.40J	40	< 1.0	0.78J	2.0	0.40J	< 1.0	< 1.0	3.6	4.4	1.9	0.39J
GM-8	9/20/2002	< 2	63	< 2	5.5	5.5	7.5	< 2	1.8J	9	< 2	5.8	1.5J
GM-8	10/1/2003	< 2 U	48	< 2 U	5.4	< 1 U	11	< 2 U	< 2 U	4.4	< 2 U	< 2 U	< 2 U
GM-8	9/14/2004	< 1 U	15	< 1 U	4.2	< 0.5 U	19	< 1 U	< 1 U	1.1	< 1 U	0.48 J	1.1
GM-8	10/19/2005	< 1.0 U	16	< 1.0 U	3.5	0.24 J	29	< 1.0 U	0.39 J	0.99 J	< 1.0 U	0.73 J	< 2.0 U
GM-8	9/19/2006	< 5 U	18	< 5 U	2.1 J	2.1 J	< 5 U	< 5 U	< 5 U	1 J	< 5 U	3.2 J	< 10 U
GM-8	9/18/2007	< 2 U	9.1	< 2 U	2.4	< 2 U	1.7 J	< 2 U	< 2 U	0.9 J	< 2 U	< 2 U	0.9 J

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Table A-1. Groundwater Analytical Results for the Upper Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
GM-6	9/20/1999	24.6	33.2	1.2	<1.0	52.9	<10	81.4	<1.0	2.0	78.2	1.6	<10
GM-6	9/26/2000	12.1	13.0	<1.0	<1.0	41.0	<1.0	51.5	<1.0	2.2	56.6	3.7	<1.0
GM-6	11/9/2001	3.9	14	< 2.0	< 2.0	8.2	< 2.0	14	< 2.0	1.8	48	1.9J	< 2.0
GM-6	9/20/2002	1.4J	60	< 2	2.2	43	< 2	14	< 2	8.6	33	12	< 2
GM-6	10/2/2003	0.19 J	20	< 1 U	1	13	0.22 J	11	< 1 U	2.5	23	3.3	< 1 U
GM-6	9/14/2004	< 1 U	18	< 1 U	1.7	10	< 1 U	2.6	< 1 U	1.9	5.7	3	< 1 U
GM-6	10/19/2005	< 1.0 U	21	< 1.0 U	0.49 J	20	< 1.0 U	0.34 J	< 1.0 U	2.1	1.4	11	< 2.0 U
GM-6	9/19/2006	< 1 U	16	< 1 U	< 1 U	18	< 1 U	< 1 U	< 1 U	1.6	0.35 J	7.3	< 2 U
GM-6	9/18/2007	< 1 U	26	< 1 U	0.42 J	16	< 1 U	< 1 U	< 1 U	2.6	0.34 J	6.7	< 2 U
Downgradient of the Site													
TW-2	9/26/2000	4.5	27.8	<1.0	<1.0	22.5	10.4	5.0	<1.0	2.9	43.1	5.9	3.2
TW-2	11/9/2001	3.9	20	< 2.0	< 2.0	8.8	0.38J	8.5	< 2.0	2.4	48	2.7	< 2.0
TW-2	9/20/2002	2.2	9	< 2	< 2	26	< 2	5.9	< 2	1.4	70	2.5	< 2
TW-2	10/2/2003	0.66 J	5.7	< 1 U	1.5	8.3	0.86 J	4.7	< 1 U	0.59	24	1.4	< 1 U
TW-2	9/14/2004	< 1 U	22	< 1 U	2.9	5.5	< 1 U	< 1 U	< 1 U	2	1.5	2.5	< 1 U
TW-2	10/20/2005	< 1.0 U	12	< 1.0 U	2.5	5.3	12	< 1.0 U	3.4	1.4	< 1.0 U	4.4	5.0
TW-2	9/19/2006	0.55 J	3.4	< 1 U	< 1 U	11	< 1 U	7	< 1 U	0.38 J	32	0.27 J	< 2 U
TW-2	9/18/2007	< 1 U	1.7	< 1 U	0.81 J	7.9	< 1 U	1.9	< 1 U	0.25 J	24	0.97 J	< 2 U
4S	9/20/1999	<1.0	1.6	<1.0	1.6	<1.0	<10	<1.0	<1.0	<1.0	<1.0	<1.0	<10
4S	10/2/2003	< 2 U	7	< 2 U	1.6 J	< 1 U	1.7 J	< 2 U	< 2 U	1.7	< 2 U	< 2 U	< 2 U
4S	9/14/2004	< 5 U	7.5	< 5 U	4.5 J	< 2.5 U	4.7 J	< 5 U	1.1 J	< 2.5 U	< 5 U	< 5 U	2.4 J
4S	10/19/2005	< 4.0 U	2.3 J	< 4.0 U	1.6 J	< 4.0 U	1.6 J	< 4.0 U	< 4.0 U	0.95 J	< 4.0 U	< 4.0 U	< 8.0 U
4S	9/20/2006	< 1 U	5.6	< 1 U	0.7 J	0.25 J	0.52 J	< 1 U	< 1 U	0.75 J	< 1 U	< 1 U	< 2 U
GM-2	9/20/1999	5.5	1.4	<1.0	<1.0	8.4	<10	6.0	<1.0	<1.0	61.6	<1.0	<10
GM-2	9/25/2000	5.7	3.7	<1.0	<1.0	39.2	<1.0	7.7	<1.0	1.3	82.8	1.7	<1.0
GM-2	11/9/2001	6.1	6.1	< 3.3	< 3.3	26	< 3.3	8.4	< 3.3	1.1J	65	< 3.3	< 3.3
GM-2	9/20/2002	0.75J	3.4	< 1	< 1	7.6	< 1	8.7	< 1	0.37J	26	< 1	< 1
GM-2	10/2/2003	0.21 J	1.7	< 1 U	< 1 U	4.7	0.21 J	5.7	< 1 U	< 0.5 U	13	0.46 J	< 1 U
GM-2	9/14/2004	< 1 U	1.6	< 1 U	< 1 U	5.6	< 1 U	4	< 1 U	0.23 J	6.2	< 1 U	< 1 U
GM-2	10/19/2005	< 1.0 U	2.0	< 1.0 U	< 1.0 U	6.8	< 1.0 U	3.6	< 1.0 U	0.26 J	4.6	0.24 J	< 2.0 U
GM-2	9/20/2006	< 1 U	2.1	< 1 U	< 1 U	7.7	< 1 U	2.6	< 1 U	0.34 J	5.1	0.61 J	< 2 U
GM-2	9/18/2007	< 1 U	1.4	< 1 U	< 1 U	4.9	< 1 U	1.6	< 1 U	0.28 J	2.3	1.1	< 2 U
GM-16	9/21/1999	2.2	<1.0	<1.0	<1.0	1.7	<1.0	44.1	<1.0	<1.0	8.5	<1.0	<1.0
GM-16	9/26/2000	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	16.2	<1.0	<1.0	3.5	<1.0	<1.0
GM-16	11/8/2001	2.2	0.31J	< 1.0	< 1.0	0.39J	< 1.0	17	< 1.0	< 0.50	3.6	< 1.0	< 1.0
GM-16	9/24/2002	1.4J	4.1	< 2	< 2	6.2	< 2	63	< 2	1.6	28	< 2	< 2
GM-16	9/22/2003	1.9 J	2.8 J	< 4 U	< 4 U	5.8	< 4 U	110	< 4 U	1.1 J	57	< 4 U	< 4 U

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Table A-1. Groundwater Analytical Results for the Upper Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
GM-16	9/16/2004	3.1 J	4.3	< 3.3 U	< 3.3 U	7.4	< 3.3 U	130	< 3.3 U	1 J	90	< 3.3 U	< 3.3 U
GM-16	10/19/2005	1.7 J	1.1 J	< 3.3 U	< 3.3 U	2.8 J	< 3.3 U	100	< 3.3 U	0.90 J	55	< 3.3 U	< 6.7 U
GM-16	9/18/2006	2.1	1.1 J	< 1.4 U	< 1.4 U	3.8	< 1.4 U	98	< 1.4 U	1 J	51	< 1.4 U	< 2.9 U
GM-16	9/25/2007	1.4 J	1.5 J	< 4 U	< 4 UJ	43	< 4 U	94	< 4 U	1.3 J	52	< 4 U	< 8 U
GM-17	9/21/1999	6.4	26.4	<1.0	<1.0	30.0	<1.0	<1.0	<1.0	2.6	28.7	1.4	<1.0
GM-17	9/27/2000	6.7	23.9	<1.0	<1.0	41.6	<1.0	24.6	<1.0	2.5	48.4	<1.0	<1.0
GM-17	11/8/2001	6.8	7.3	< 3.3	< 3.3	16	< 3.3	48	< 3.3	1.8	79	< 3.3	< 3.3
GM-17	9/19/2002	2.3	6.0	< 1.2	< 1.2	13	< 1.2	22	< 1.2	0.67	39	0.79J	< 1.2
GM-17	9/24/2003	1.3	1.2	< 1 U	< 1 U	2.9	< 1 U	12	< 1 U	< 0.5 U	24	< 1 U	< 1 U
GM-17	9/15/2004	1.1	4	< 1 U	< 1 U	11	< 1 U	3.6	< 1 U	0.64	22	0.49 J	< 1 U
GM-17	10/20/2005	1.4	5.5	< 1.0 U	< 1.0 U	9.0	< 1.0 U	8.1	< 1.0 U	0.57 J	29	2.0	< 2.0 U
GM-17	9/27/2006	0.46 J	3.2	< 1 U	< 1 U	9.5	< 1 U	11	< 1 U	0.49 J	24	0.54 J	< 2 U
GM-17	9/18/2007	0.31 J	1.5	< 1 U	< 1 U	4	< 1 U	7.3	< 1 U	0.22 J	15	< 1 U	< 2 U
GM-18	9/22/1999	42.6	22.6	1.3	<1.0	35.3	<1.0	4.9	<1.0	2.2	131	<1.0	<1.0
GM-18	9/27/2000	31.8	10.4	<1.0	<1.0	23.9	<1.0	7.8	<1.0	1.8	115	<1.0	<1.0
GM-18	11/8/2001	23	3.3	1.3J	< 3.3	14	< 3.3	12	< 3.3	1.6J	93	< 3.3	< 3.3
GM-18	9/19/2002	18	6.0	< 3.3	< 3.3	15	< 3.3	28	< 3.3	1.6J	98	< 3.3	< 3.3
GM-18	9/22/2003	10	3.7	< 2 U	< 2 U	8.8	< 2 U	24	< 2 U	< 1 U	77	0.75 J	< 2 U
GM-18	9/15/2004	5.2	2.2	0.46 J	< 2 U	5.9	< 2 U	20	< 2 U	< 1 U	53	< 2 U	< 2 U
GM-18	10/20/2005	7.0	15	0.30 J	< 1.0 U	14	< 1.0 U	21	< 1.0 U	1.2	70 J	3.0	< 2.0 U
GM-18	9/27/2006	6.2	17	< 2.9 U	< 2.9 U	21	< 2.9 U	15	< 2.9 U	2 J	72	2.5 J	< 5.7 U
GM-18	9/19/2007	5.4	13	< 2.5 U	< 2.5 U	19	< 2.5 U	14	< 2.5 U	1.2 J	64	1.1 J	< 5 U
WSU-24	9/23/1999	2.4	<1.0	<1.0	<1.0	<1.0	<1.0	1.9	<1.0	<1.0	17.0	<1.0	<1.0
WSU-24	9/26/2000	2.1	<1.0	<1.0	<1.0	2.7	<1.0	1.2.	<1.0	<1.0	16.8	<1.0	<1.0
WSU-24	11/9/2001	2.4	0.81J	< 1.0	< 1.0	4.0	< 1.0	1.6	< 1.0	< 0.50	18	< 1.0	< 1.0
WSU-24	9/24/2002	1.4	< 1	< 1	< 1	< 0.5	< 1	1.2	< 1	< 0.5	13	< 1	< 1
WSU-24	9/22/2003	0.67 J	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	1	< 1 U	< 0.5 U	7.9	< 1 U	< 1 U
WSU-24	9/16/2004	0.58 J	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	1.3	< 1 U	< 0.5 U	8	< 1 U	< 1 U
WSU-24	10/20/2005	1.5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	1.2	< 1.0 U	< 1.0 U	11	< 1.0 U	< 2.0 U
WSU-24	9/26/2006	0.65 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.81 J	< 1 U	< 1 U	10	< 1 U	< 2 U
WSU-24	9/19/2007	0.66 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.89 J	< 1 U	< 1 U	7.9	< 1 U	< 2 U
GM-10	9/21/1999	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	14.8	<1.0	<1.0
GM-10	9/27/2000	2.5	1.4	<1.0	<1.0	5.7	<1.0	1.4	<1.0	<1.0	23.2	<1.0	<1.0
GM-10	11/8/2001	2.7	3.4	< 1.0	< 1.0	16	< 1.0	1.9	< 1.0	0.93	27	1.2	< 1.0
GM-10	9/18/2002	1.8	0.61J	< 1.0	< 1.0	2.3	< 1.0	1.1	< 1.0	< 0.50	19	< 1.0	< 1.0
GM-10	9/24/2003	0.96 J	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	2.2	< 1 U	< 0.5 U	33	< 1 U	< 1 U
GM-10	9/14/2004	1.2	< 1 U	< 1 U	< 1 U	0.38 J	< 1 U	1.5	< 1 U	< 0.5 U	15	< 1 U	< 1 U

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Table A-1. Groundwater Analytical Results for the Upper Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
GM-10	10/20/2005	1.6	< 1.0 U	< 1.0 U	< 1.0 U	0.31 J	< 1.0 U	1.2	< 1.0 U	< 1.0 U	12	< 1.0 U	< 2.0 U
GM-10	9/27/2006	0.9 J	0.29 J	< 1 U	< 1 U	0.77 J	< 1 U	0.98 J	< 1 U	< 1 U	11	< 1 U	< 2 U
GM-10	9/19/2007	0.75 J	< 1 U	< 1 U	< 1 U	0.35 J	< 1 U	0.93 J	< 1 U	< 1 U	8.8	< 1 U	< 2 U
GM-26	9/22/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
GM-26	9/27/2000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
GM-26	11/12/2001	0.19J	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	1.1	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0
GM-26	9/25/2002	< 1	< 1	< 1	< 1	< 0.5	< 1	0.92J	< 1	< 0.5	< 1	< 1	< 1
GM-26	10/1/2003	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	0.85 J	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U
GM-26	9/16/2004	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	1.3	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U
GM-26	10/20/2005	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	1.0	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
GM-26	9/21/2006	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.91 J	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U
GM-26	9/27/2007	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1.2	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U
GM-47	9/25/2007	2.2 J	2.4 J	< 7.1 U	< 7.1 U	170	< 7.1 U	71	< 7.1 U	4.6 J	53	< 7.1 U	< 14 U
GM-50	9/25/2007	1.4 J	1.9 J	< 5.9 U	< 5.9 U	130	< 5.9 U	100	< 5.9 U	2.5 J	44	< 5.9 U	< 12 U
GM-51	9/27/2007	0.61 J	0.23 J	< 1 U	< 1 U	1	< 1 U	7.2	0.29 J	< 1 U	3.9	< 1 U	< 2 U
GM-52	9/26/2007	1.3 J	1.5 J	< 2.5 U	< 2.5 U	18	< 2.5 U	88	< 2.5 U	1 J	47	< 2.5 U	< 5 U
GM-63	9/25/2007	2.7 J	1.8 J	< 6.7 U	< 6.7 U	5 J	< 6.7 U	130	< 6.7 U	< 6.7 U	120	< 6.7 U	< 13 U
GM-64	9/25/2007	< 3.3 U	2.7 J	< 3.3 U	< 3.3 U	74	< 3.3 U	11	< 3.3 U	6.6	4.5	18	< 6.7 U

All concentrations presented in ug/l.
1,1-DCA - 1,1-Dichloroethane.
1,1-DCE - 1,1-Dichloroethene.
cis-1,2-DCE - cis-1,1-Dichloroethene.
trans-1,2-DCE - trans-1,2-Dichloroethene.
PCE - Tetrachloroethene.
1,1,1-TCA - 1,1,1-Trichloroethane.
TCE - Trichloroethene.
VOCs - Volatile Organic Compounds.

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Table A-2. Groundwater Analytical Results for the Lower Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

Well	Date	VOCs 1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
Upgradient of the Site													
HR-10	9/15/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
HR-10	9/29/2000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
HR-10	11/14/2001	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0
HR-10	9/27/2002	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 1	< 0.5	< 1	< 1	< 1
HR-10	9/17/2003	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U
HR-10	9/20/2004	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U
HR-10	10/24/2005	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
HR-10	9/26/2006	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U
HR-10	9/25/2007	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U
HR-12	9/14/1999	<1.0UJ	2.7	<1.0	1.2	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	1.7	<1.0
HR-12	9/28/2000	<1.0	2.2	<1.0	<1.0	2.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.5	<1.0
HR-12	11/14/2001	< 1.0	3.6	< 1.0	< 1.0	2.7	< 1.0	< 1.0	< 1.0	0.23	< 1.0	3.8	< 1.0
HR-12	9/26/2002	< 1	2.4	< 1	< 1	2.1	< 1	< 1	< 1	< 0.5	< 1	1.7	< 1
HR-12	9/18/2003	< 1 U	1.7	< 1 U	< 1 U	1.4	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	1.6	< 1 U
HR-12	9/21/2004	< 1 U	1.8	< 1 U	< 1 U	1.2	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	1.1	< 1 U
HR-12	10/24/2005	< 1.0 U	2.1	< 1.0 U	< 1.0 U	1.5	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.36 J	< 2.0 U
HR-12	9/26/2006	< 1 U	2.1	< 1 U	< 1 U	1.3	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U
HR-12	9/19/2007	< 1 U	2.2	< 1 U	< 1 U	1.3	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U
On-Site													
HR-14	9/15/1999	<1.0	<1.0	<1.0	<1.0	7.9	<1.0	<1.0	<1.0	<1.0	3.4	11.5	<1.0
HR-14	9/30/2002	< 1	< 1	< 1	< 1	3.6	< 1	< 1	< 1	< 0.5	1.2	< 1	< 1
HR-15	9/15/1999	<1.0	<1.0	<1.0	<1.0	2.5	<1.0	<1.0	<1.0	<1.0	<1.0	11.0	<1.0
HR-15	9/29/2000	<1.0	<1.0	<1.0	<1.0	2.8	<1.0	<1.0	<1.0	<1.0	<1.0	11.2	<1.0
HR-15	11/14/2001	< 1.0	< 1.0	< 1.0	< 1.0	0.86	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0
HR-15	9/30/2002	< 1	< 1UJ	< 1	< 1	1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 1
HR-15	9/17/2003	< 1 U	< 1 U	< 1 U	< 1 U	2.2	< 1 U	< 1 U	< 1 U	< 0.5 U	0.29 J	14	< 1 U
HR-15	9/21/2004	< 1 U	< 1 U	< 1 U	< 1 U	2.5	< 1 U	< 1 U	< 1 U	< 0.5 U	0.38 J	19	< 1 U
HR-15	10/25/2005	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	2.2	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.40 J	14	< 2.0 U
HR-15	9/25/2006	< 1 U	< 1 U	< 1 U	< 1 U	2.2	< 1 U	< 1 U	< 1 U	< 1 U	0.5 J	13	< 2 U
HR-15	9/26/2007	< 1 U	< 1 U	< 1 U	< 1 U	2.5	< 1 U	< 1 U	< 1 U	< 1 U	0.37 J	15	< 2 U
HR-13	9/15/1999	1.6	41.4	<1.0	<1.0	20.8	<1.0	<1.0	<1.0	3.1	3.4	<1.0	<1.0
HR-13	9/29/2000	1.7	39.5	<1.0	<1.0	14.1	<1.0	<1.0	<1.0	2.5	2.0	<1.0	<1.0
HR-13	11/14/2001	0.74J	15	< 1.0	0.18J	6.5	< 1.0	< 1.0	< 1.0	0.65	1.2	< 1.0	< 1.0
HR-13	9/30/2002	1.4	25	< 1	< 1	11	< 1	< 1	< 1	1.4	3.6	< 1	< 1
HR-13	9/16/2003	2.2	33	< 1 U	< 1 U	12	< 1 U	< 1 U	< 1 U	1.8	5.7	< 1 U	< 1 U
HR-13	9/21/2004	2.6	30	0.27 J	< 1 U	12	< 1 U	< 1 U	< 1 U	1.5	21	0.43 J	< 1 U
HR-13	10/25/2005	2.3	25	0.25 J	< 1.0 U	11	< 1.0 U	0.20 J	< 1.0 U	1.5	20	< 1.0 U	< 2.0 U
HR-13	9/25/2006	2	22	0.18 J	< 1 U	9	< 1 U	0.2 J	< 1 U	1.4	15	< 1 U	< 2 U

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Table A-2. Groundwater Analytical Results for the Lower Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
HR-13	9/25/2007	< 1 U	1.5	< 1 U	< 1 U	1.1	< 1 U	< 1 U	< 1 U	< 1 U	5.1	< 1 U	< 2 U
31	9/29/2000	<1.0	7.4	<1.0	<1.0	8.4	<1.0	<1.0	<1.0	<1.0	12.9	4.4	<1.0
31	11/15/2001	< 1.0	3.1	< 1.0	< 1.0	2.4	< 1.0	< 1.0	< 1.0	< 0.50	5.1	2.5	< 1.0
39	9/27/2002	< 1	1.6	< 1	< 1	1.3	< 1	< 1	< 1	< 0.5	3.8	0.51J	< 1
39	9/24/2003	< 1 U	0.58 J	< 1 U	< 1 U	0.71	< 1 U	< 1 U	< 1 U	< 0.5 U	0.89 J	< 1 U	< 1 U
GM-39	12/10/2003	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	0.18 J	< 0.5 U	< 1 U	1.3	< 1 U
GM-39	9/20/2004	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	1.8	< 1 U
GM-39	10/24/2005	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	0.77 J	< 2.0 U
GM-39	9/27/2006	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1.7	< 2 U
GM-39	9/26/2007	< 1 U	< 1 U	< 1 U	< 1 U	19 J	< 1 U	< 1 U	< 1 U	0.23 J	< 1 U	1.6	< 2 U
GM-40	12/10/2003	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	3.1	< 1 U
GM-40	9/20/2004	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	3.2	< 1 U
GM-40	10/25/2005	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	2.9	< 2.0 U
GM-40	9/26/2006	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	3.9	< 2 U
GM-40	9/25/2007	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	4	< 2 U
GM-61	9/26/2007	0.59 J	1.6 J	< 1.7 U	< 1.7 U	3.9	< 1.7 U	28	< 1.7 U	< 1.7 U	56	< 1.7 U	< 3.3 U
GM-41	12/10/2003	< 11 U	< 11 U	< 11 U	< 1 U	10	< 11 U	< 11 U	< 11 U	< 5.6 U	320	< 11 U	< 11 U
GM-41	9/21/2004	< 6.2 U	< 6.2 U	< 6.2 U	< 6.2 U	24	< 6.2 U	< 6.2 U	< 6.2 U	< 3.1 U	180	< 6.2 U	< 6.2 U
GM-41	10/24/2005	< 10 U	< 10 U	< 10 U	< 10 U	16	< 10 U	< 10 U	< 10 U	< 10 U	250	< 10 U	< 20 U
GM-41	9/18/2006	< 4 U	< 4 U	< 4 U	< 4 U	11	< 4 U	< 4 U	< 4 U	< 4 U	210	< 4 U	< 8 U
GM-41	9/20/2007	< 6.7 U	< 6.7 U	< 6.7 U	< 6.7 U	17	< 6.7 U	< 6.7 U	< 6.7 U	1.4 J	230	1.9 J	< 13 U
GM-58	9/20/2007	< 3.3 U	< 3.3 U	< 3.3 U	< 3.3 U	< 3.3 U	< 3.3 U	69	< 3.3 U	< 3.3 U	< 3.3 U	< 3.3 U	< 6.7 U
GM-54	9/20/2007	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	150	< 5 U	< 5 U	2.4 J	< 5 U	< 10 U
GM-42	12/9/2003	< 1 U	0.46 J	< 1 U	< 1 U	11	< 1 U	0.27 J	< 1 U	0.34 J	0.37 J	1	< 1 U
GM-42	9/20/2004	< 1 U	0.7 J	0.25 J	< 1 U	16	< 1 U	< 1 U	< 1 U	0.44 J	0.43 J	0.92 J	< 1 U
GM-42	10/25/2005	< 1.0 U	0.64 J	0.21 J	< 1.0 U	17	< 1.0 U	0.19 J	< 1.0 U	0.59 J	0.85 J	0.56 J	< 2.0 U
GM-42	9/26/2006	< 1 U	0.5 J	< 1 U	< 1 U	14	< 1 U	< 1 U	< 1 U	0.44 J	0.64 J	0.45 J	< 2 U
GM-42	9/25/2007	< 1 U	0.67 J	< 1 U	< 1 U	18	< 1 U	< 1 U	0.18 J	0.69 J	2.2	0.44 J	< 2 U
GM-19D	9/28/1999	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	<1.0	<1.0	13.5	1.5	<1.0
GM-19D	10/2/2000	<1.0	<1.0	<1.0	<1.0	3.5	<1.0	<1.0	<1.0	<1.0	2.9	15.7	<1.0
GM-19D	11/14/2001	0.18J	< 1.0	< 1.0	< 1.0	0.92	< 1.0	< 1.0	0.38J	< 0.50	3.7	13	< 1.0
GM-19D	9/26/2002	< 1	< 1	< 1	< 1	0.81	< 1	< 1	< 1	< 0.5	3.1	0.36J	< 1
GM-19D	9/25/2003	< 1 U	< 1 U	< 1 U	< 1 U	1.8	< 1 U	< 1 U	< 1 U	< 0.5 U	0.24 J	17	< 1 U
GM-19D	9/20/2004	0.31 J	< 1 U	< 1 U	< 1 U	2	< 1 U	< 1 U	< 1 U	< 0.5 U	3.5	18	< 1 U
GM-19D	10/25/2005	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	2.7	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	1.2	15	< 2.0 U
GM-19D	9/26/2006	< 1 U	< 1 U	< 1 U	< 1 U	2	< 1 U	< 1 U	< 1 U	< 1 U	1.4	18	< 2 U
GM-19D	9/17/2007	0.25 J	< 1 U	< 1 U	< 1 U	1.4	< 1 U	< 1 U	< 1 U	< 1 U	3.2	16	< 2 U
GM-7R	9/28/1999	4.2	<1.0	<1.0	<1.0	2.1	<1.0	<1.0	<1.0	<1.0	76.1	<1.0	<1.0

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Table A-2. Groundwater Analytical Results for the Lower Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

Well	Date	VOCs 1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
Downgradient of the Site													
GM-3	9/28/1999	1.7	<1.0	<1.0	<1.0	1.1	<1.0	1.2	<1.0	<1.0	7.5	<1.0	<1.0
GM-3	10/2/2000	1.0	2.1	<1.0	<1.0	8.3	<1.0	1.5	<1.0	1.1	9.4	<1.0	<1.0
GM-3	11/14/2001	0.16J	0.95J	< 1.0	< 1.0	2.6	< 1.0	0.48J	< 1.0	0.25J	2.9	< 1.0	< 1.0
GM-3	10/1/2002	0.74J	1.8	< 1	< 1	8.9	< 1	1.4	< 1	1.2	9.5	0.63J	< 1
GM-3	10/2/2003	0.96 J	1.6	< 1 U	< 1 U	5.5	0.26 J	1.7	< 1 U	0.77	12	< 1 U	< 1 U
GM-3	9/21/2004	1	1.8	< 1 U	< 1 U	4.9	< 1 U	2	< 1 U	0.75	13	< 1 U	< 1 U
GM-3	10/25/2005	0.83 J	1.6	< 1.0 U	< 1.0 U	4.7	< 1.0 U	2.0	< 1.0 U	0.66 J	14	< 1.0 U	< 2.0 U
GM-3	9/22/2006	0.59 J	2 J	< 1 UJ	< 1 UJ	6.1 J	< 1 UJ	2.1 J	< 1 UJ	1 J	13 J	0.27 J	< 2 UJ
GM-3	9/18/2007	0.67 J	1.5	< 1 U	< 1 U	3.8	< 1 U	1.9	< 1 U	0.77 J	14	< 1 U	< 2 U
GM-4	9/28/1999	<1.0	<1.0	<1.0	<1.0	2.3	<1.0	<1.0	<1.0	<1.0	13.4	<1.0	<1.0
GM-5	9/28/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	3.9	<1.0	1.3	<1.0	<1.0
GM-1	9/28/1999	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	2.0	5.2	<1.0	30.6	<1.0	<1.0
GM-1	10/2/2000	2.2	<1.0	<1.0	<1.0	<1.0	<1.0	2.8	<1.0	<1.0	37.2	<1.0	<1.0
GM-1	11/14/2001	0.80J	0.29J	< 1.0	< 1.0	< 0.50	< 1.0	1.3	< 1.0	< 0.50	19	< 1.0	< 1.0
GM-1	10/1/2002	1.3 J	0.48 J	< 1.4 U	< 1.4 U	0.95	< 1.4 U	2.3	< 1.4 U	< 0.72 U	39	< 1.4 U	< 1.4 U
GM-1	10/2/2003	1.2	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	2	< 1 U	< 0.5 U	34	< 1 U	< 1 U
GM-1	9/21/2004	1.2	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	2.1	< 1 U	< 0.5 U	35	< 1 U	< 1 U
GM-1	10/25/2005	0.95 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	2.1	< 1.0 U	< 1.0 U	34	< 1.0 U	< 2.0 U
GM-1	9/20/2006	0.76 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	2.1	< 1 U	< 1 U	34	< 1 U	< 2 U
GM-1	9/18/2007	0.74 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1.8	< 1 U	< 1 U	32	< 1 U	< 2 U
GM-15	9/24/1999	<1.0	2.4	<1.0	<1.0	4.3	<1.0	<1.0	<1.0	<1.0	4.1	<1.0	<1.0
GM-15	10/2/2000	<1.0	2.3	<1.0	<1.0	2.6	<1.0	<1.0	<1.0	<1.0	4.7	<1.0	<1.0
GM-15	11/14/2001	< 1.0	1.4	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 0.50	4.9	< 1.0	< 1.0
GM-15	9/27/2002	< 1	1.6	< 1	< 1	1.8	< 1	< 1	< 1	< 0.5	4.7	< 1	< 1
GM-15	9/22/2003	< 1 U	1.7	< 1 U	< 1 U	1.6	< 1 U	< 1 U	< 1 U	< 0.5 U	5.9	< 1 U	< 1 U
GM-15	9/20/2004	< 1 U	1.8	< 1 U	< 1 U	1.4	< 1 U	< 1 U	< 1 U	< 0.5 U	5.8	< 1 U	< 1 U
GM-15	10/26/2005	< 1.0 U	1.7	< 1.0 U	< 1.0 U	1.7	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	5.9	< 1.0 U	< 2.0 U
GM-15	9/18/2006	< 1 U	1.6	< 1 U	< 1 U	1.2	< 1 U	< 1 U	< 1 U	< 1 U	6.3	< 1 U	< 2 U
GM-15	9/25/2007	< 1 U	1.5	< 1 U	< 1 U	1.1	< 1 U	< 1 U	< 1 U	< 1 U	5.1	< 1 U	< 2 U
GM-14	9/24/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
GM-13	9/24/1999	1.9	<1.0	<1.0	<1.0	<1.0	<1.0	3.6	<1.0	<1.0	31.0	<1.0	<1.0
GM-11	9/24/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	<1.0	14.5	<1.0	<1.0
GM-11	10/2/2000	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	3.0	<1.0	<1.0	41.3	<1.0	<1.0
GM-11	11/14/2001	0.33J	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	1.0	< 1.0	< 0.50	12	< 1.0	< 1.0
GM-11	10/1/2002	1	0.34J	< 1	< 1	0.62	< 1	2.2	< 1	< 0.5	35	< 1	< 1
GM-11	9/24/2003	0.96 J	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	2.2	< 1 U	< 0.5 U	33	< 1 U	< 1 U
GM-11	9/21/2004	0.89 J	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	2.1	< 1 U	< 0.5 U	33	< 1 U	< 1 U

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Table A-2. Groundwater Analytical Results for the Lower Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
GM-11	10/26/2005	0.75 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	1.7	< 1.0 U	< 1.0 U	32	< 1.0 U	< 2.0 U
GM-11	9/25/2006	0.75 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	2	< 1 U	< 1 U	34	< 1 U	< 2 U
GM-11	9/18/2007	0.6 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1.5	< 1 U	< 1 U	35	< 1 U	< 2 U
GM-20D	9/24/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
GM-20D	10/3/2000	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	4.2	<1.0	<1.0	14.3	<1.0	<1.0
GM-20D	11/14/2001	0.64J	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	2.0	< 1.0	< 0.50	5.9	< 1.0	< 1.0
GM-20D	9/30/2002	< 1	< 1	< 1	< 1	< 0.5	< 1	1.3	< 1	< 0.5	3.8	< 1	< 1
GM-20D	9/22/2003	0.89 J	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	3.6	< 1 U	< 0.5 U	12	< 1 U	< 1 U
GM-20D	9/21/2004	0.96 J	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	2.9	< 1 U	< 0.5 U	11	< 1 U	< 1 U
GM-20D	10/26/2005	0.73 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	2.7	< 1.0 U	< 1.0 U	11	< 1.0 U	< 2.0 U
GM-20D	9/26/2006	0.51 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	2.1	< 1 U	< 1 U	11	< 1 U	< 2 U
GM-20D	9/19/2007	0.5 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	2.1	< 1 U	< 1 U	9.2	< 1 U	< 2 U
DN-13	11/14/2001	1.1	2.5	< 1.0	< 1.0	6.2	< 1.0	< 1.0	< 1.0	0.37J	5.0	1.2	< 1.0
DN-13	9/27/2002	1.1	2.5	< 1	< 1	7.3	< 1	< 1	< 1	0.48J	6.1	1.3	< 1
DN-13	9/22/2003	1.1	2.4	< 1 U	< 1 U	6.8	< 1 U	0.31 J	< 1 U	0.4 J	6.4	1.1	< 1 U
DN-13	9/16/2004	0.84 J	2.2	< 1 U	< 1 U	6.7	< 1 U	0.44 J	< 1 U	0.49 J	6.8	2.1	< 1 U
DN-13	10/20/2005	1.5	2.0	< 1.0 U	< 1.0 U	5.5	< 1.0 U	0.38 J	< 1.0 U	< 1.0 U	7.2	2.6	< 2.0 U
DN-13	9/27/2006	0.51 J	1.5	< 1 U	< 1 U	6.1	< 1 U	0.33 J	< 1 U	0.41 J	5.7	2.3	< 2 U
DN-13	9/19/2007	0.48 J	2	< 1 U	< 1 U	6.4	< 1 U	< 1 U	< 1 U	0.4 J	3.3	2.6	< 2 U
GM-9	9/24/1999	1.0	<1.0	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	<1.0	13.8	<1.0	<1.0
GM-9	10/3/2000	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	17.2	<1.0	<1.0
GM-9	11/14/2001	0.48J	0.58J	< 1.0	< 1.0	1.1	< 1.0	0.38J	< 1.0	< 0.50	8.6	< 1.0	< 1.0
GM-9	9/30/2002	0.99J	0.48J	< 1	< 1	0.66	< 1	< 1	< 1	< 0.5	16	< 1	< 1
GM-9	9/24/2003	1.3	0.45 J	< 1 U	< 1 U	0.56	< 1 U	< 1 U	< 1 U	< 0.5 U	20	< 1 U	< 1 U
GM-9	9/21/2004	1.1	0.6 J	< 1 U	< 1 U	0.97	< 1 U	< 1 U	< 1 U	< 0.5 U	16	< 1 U	< 1 U
GM-9	10/26/2005	0.85 J	0.59 J	< 1.0 U	< 1.0 U	0.99 J	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	15	< 1.0 U	< 2.0 U
GM-9	9/25/2006	0.44 J	0.48 J	< 1 U	< 1 U	0.85 J	< 1 U	< 1 U	< 1 U	< 1 U	6.6	< 1 U	< 2 U
GM-9	9/19/2007	1.2	0.48 J	< 1 U	< 1 U	0.71 J	< 1 U	< 1 U	< 1 U	< 1 U	18	< 1 U	< 2 U
MT-69	9/24/1999	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MT-69	10/3/2000	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MT-69	11/15/2001	< 1.0	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0	< 0.50	< 1.0	< 1.0	< 1.0
MT-69	9/30/2002	< 1	< 1	< 1	< 1	< 0.5	< 1	< 1	< 1	< 0.5	< 1	< 1	< 1
MT-69	10/1/2003	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U
MT-69	9/27/2004	< 1 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U	< 0.5 U	< 1 U	< 1 U	< 1 U

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Table A-2. Groundwater Analytical Results for the Lower Aquifer Wells from 1999-2007, General Motors Corporation, Moraine, Ohio.

		VOCs											
Well	Date	1,1,1-TCA	1,1-DCA	1,1-DCE	Benzene	cis-1,2-DCE	Ethyl-benzene	PCE	Toluene	trans-1,2-DCE	TCE	Vinyl Chloride	Xylenes
MT-69	10/24/2005	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 1.0 U	< 2.0 U
MT-69	9/26/2006	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U
MT-69	9/27/2007	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 2 U

All concentrations presented in ug/l.
1,1-DCA - 1,1-Dichloroethane.
1,1-DCE - 1,1-Dichloroethene.
cis-1,2-DCE - cis-1,1-Dichloroethene.
trans-1,2-DCE - trans-1,2-Dichloroethene.
PCE - Tetrachloroethene.
1,1,1-TCA - 1,1,1-Trichloroethane.
TCE - Trichloroethene.
VOCs - Volatile Organic Compounds.

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Appendix B

Groundwater Sampling Data for 2008

Table B-1. Annual Groundwater Sampling Event Field Parameter Data Sheet for 2008, General Motors Corporation, Moraine, Ohio.

Well ID	Sample ID	pH (s.u.)	Temp (°C)	ORP (mV)	Conductivity (mS/cm)	DO (mg/L)	Purge Rate (mL/min)	Time - Start Purge	Time - End Purge	Volume Purged (gal)	Sample Date	Time - Sample	Total Depth (ft)	Sampler
Upper Aquifer Wells														
W-2-N	WG-092908-MB-035	6.93	16.17	-88.4	0.935	0.15	500	15:07	15:42	4.5	9/29/2008	15:50	63.00	MB
W-3-N	WG-092908-MB-030	6.84	16.39	-91.4	0.887	0.15	500	11:28	12:20	7.5	9/29/2008	12:30	58.90	MB
W-4-N	WG-092908-NZ-031	7.3	16.4	184	1.05	0.21	400	11:20	12:20	6	9/29/2008	12:25	67.15	NZ
W-2-S	WG-092508-MB-023	6.99	16:03	145	1.28	3.06	500	13:50	14:20	3.75	9/25/2008	14:30	68.40	MB
W-3-S	WG-092608-MB-024	6.81	14.5	169	1.13	2.41	500	7:50	8:15	3.5	9/26/2008	8:20	75.00	MB
W-4-S	WG-092608-MB-025	6.71	16.18	161	1.43	0	500	9:38	10:13	4.5	9/26/2008	10:20	71.20	MB
HR-1	WG-092908-MB-032	6.73	16.32	0.22	1.138	0.22	500	13:30	14:10	5	9/29/2008	14:20	59.40	MB
HR-2	WG-100108-NZ-052	6.8	13.9	279	0.999	0.23	400	10:20	10:55	3.75	10/1/2008	11:00	58.90	NZ
HR-3	WG-100208-NZ-064	6.9	14.6	161	1.17	0.27	400	15:55	16:35	4.5	10/2/2008	16:40	57.20	NZ
HR-4	WG-093008-NZ-041	7.26	15.9	219	0.996	0.35	400	14:10	14:55	4.75	9/30/2008	15:00	67.90	NZ
HR-5	WG-092908-NZ-033	7.29	17.25	191	1.008	0.23	400	12:55	13:45	5.5	9/29/2008	13:50	58.00	NZ
HR-9	WG-093008-MB-042	6.61	16.39	48	0.932	0.14	500	15:30	16:10	5.5	9/30/2008	16:15	69.76	MB
HR-11	WG-092508-MB-022	6.74	15.7	52	1.35	2.68	500	11:05	11:50	6.25	9/25/2008	11:55	68.90	MB
HR-17	WG-092608-NZ-027	7	15.79	326	1.106	0.3	400	9:45	10:10	3.5	9/26/2008	10:25	49.00	NZ
GM-2	WG-092408-MB-011	7.1	17.38	16	1.47	1.64	500	13:30	14:00	3.75	9/24/2008	14:10	56.90	MB
GM-6	WG-092408-MB-008	7.17	16.51	-159	2.16	1.43	500	9:57	10:22	3.125	9/24/2008	10:30	46.30	MB
GM-8	WG-092308-NZ-004	8.1	17.6	-262	2.06	0	400	14:30	14:55	2.5	9/23/2008	15:00	51.50	NZ
GM-10	WG-092408-MB-015	7.03	15.52	116	1.17	5.58	500	15:50	16:10	2.5	9/24/2008	15:20	49.48	MB
GM-16	WG-093008-NZ-046	7.1	15.89	196	1.361	0.17	400	16:50	17:30	5.5	9/30/2008	17:35	56.80	NZ
GM-17	WG-092408-NZ-012	6.81	16.57	20	1.71	0.36	300	13:40	14:20	3	9/24/2008	14:25	49.50	NZ
GM-18	WG-092408-NZ-016	6.86	16.74	22	1.61	0	300	15:40	16:20	3	9/24/2008	16:25	54.04	NZ
GM-19S	WG-092308-MB-002	7.1	16.9	-153	2.29	1.87	500	11:18	11:42	3	9/23/2008	11:50	56.20	MB
GM-21	WG-100308-NZ-068	6.05	16.5	68	1.405	0.12	400	10:15	11:10	6	10/3/2008	11:15	53.30	NZ
GM-22	WG-100308-NZ-069	6.76	16.79	174	1.28	3.15	400	11:50	12:45	6	10/3/2008	12:50	56.19	NZ
GM-23	WG-102308-NZ-083	7.74	17.12	189	1.465	0.11	400	14:25	15:00	NA	10/23/2008	15:00	31.96	NZ
GM-26	WG-100108-NZ-051	6.83	13.56	284	0.905	4.56	500	8:30	9:15	5	10/1/2008	9:20	58.34	NZ
GM-27	WG-102308-NZ-082	7.85	16.02	214	1.266	0.12	400	13:35	14:15	NA	10/23/2008	14:20	46.63	NZ
GM-28	WG-102208-NZ-078	6.49	16.38	27	1.428	0.13	400	15:55	16:55	NA	10/22/2008	17:00	36.34	nz
GM-29	WG-100608-NZ-074	7.1	16.78	-54	1.87	0.11	400	14:45	16:10	11	10/6/2008	16:15	32.61	NZ
GM-30	WG-100608-JC-073	6.53	18.13	129	2.62	0.17	400	14:38	16:40	13	10/6/2008	16:45	36.05	JC
GM-31	WG-102308-NZ-079	7.92	16.91	156	2.48	0.12	400	9:25	10:55	NA	10/23/2008	11:00	63.15	NZ
GM-32	WG-092308-MB-005	7.13	18.71	-200	3.22	1.79	400	14:38	15:03	2	9/23/2008	15:10	57.20	MB
GM-33	WG-102308-NZ-081	7.76	17.04	178	2.06	0.14	400	12:10	12:55	NA	10/23/2008	13:00	54.33	NZ
GM-35	WG-092908-NZ-034	8.77	18.07	146	6.09	0.13	400	14:05	14:55	5.5	9/29/2008	15:00	65.75	NZ
GM-47	WG-100108-MB-053	6.94	16.85	33.1	1.203	0.09	500	13:53	14:43	6.5	10/1/2008	14:50	59.40	MB
GM-50	WG-100108-MB-054	6.95	16.5	63.9	1.527	0.09	500	15:42	16:37	6.5	10/1/2008	16:45	39.75	MB
GM-51	WG-093008-NZ-038	6.99	16.23	91	1.181	0.65	400	9:40	10:45	6	9/30/2008	10:50	43.99	NZ
GM-52	WG-093008-NZ-040	7.02	15.54	0.19	1.345	0.19	400	10:55	11:35	4.5	9/30/2008	11:40	43.83	NZ
GM-55	WG-100108-MB-059	7.1	13.93	75.7	0.784	3.59	500	11:00	12:30	12	10/2/2008	12:35	35.03	MB
GM-59	WG-100308-MB-065	6.92	18.7	76.1	1.192	0.79	500	8:16	9:06	6	10/3/2008	9:15	34.26	MB
GM-60	WG-100308-MB-067	6.93	17.38	64	1.256	0.1	500	9:40	10:35	6	10/3/2008	10:40	50.28	MB

Table B-1. Annual Groundwater Sampling Event Field Parameter Data Sheet for 2008, General Motors Corporation, Moraine, Ohio.

Well ID	Sample ID	pH (s.u.)	Temp (°C)	ORP (mV)	Conductivity (mS/cm)	DO (mg/L)	Purge Rate (mL/min)	Time - Start Purge	Time - End Purge	Volume Purged (gal)	Sample Date	Time - Sample	Total Depth (ft)	Sampler
Upper Aquifer Wells														
GM-63	WG-100108-MB-048	6.96	16.85	77.1	1.669	0.2	500	8:45	9:24	5.5	10/1/2008	9:30	39.70	MB
GM-64	WG-100108-MB-050	6.93	17.2	-105.3	1.256	0.06	500	10:25	11:45	10.5	10/1/2008	11:45	58.40	MB
GM-65S	WG-100608-JC-071	7.14	14.37	226	1.074	1.42	400	11:20	12:35	6.5	10/6/2008	12:40	51.90	JC
GM-75S	WG-100608-NZ-072	6.9	19	204	1.299	1.05	400	11:55	12:40	5.5	10/6/2008	12:45	51.38	NZ
GM-78	WG-100208-MB-060	7.15	14.99	81.1	0.938	4.56	500	13:35	14:30	8	10/2/2008	14:35	49.25	MB
GM-79	WG-100208-MB-057	7.1	16.53	47.4	0.968	0.11	500	9:30	10:20	6.5	10/2/2008	10:30	54.10	MB
GM-80	WG-092208-NZ-001	6.86	14.99	40	1.08	1.18	400	16:25	17:10	5	9/22/2008	17:15	24.42	NZ
WSU-24	WG-092508-MB-019	6.81	15.25	120	1.39	6.33	500	9:22	10:02	5	9/25/2008	10:10	65.33	MB
TW-2	WG-092408-NZ-009	7.03	16:45	-180	1.74	0	600	11:15	11:35	3	9/24/2008	11:40	N/A	NZ
ME-3	WG-102208-NZ-077	7	17.23	179	2.34	1.06	400	14:35	15:15		10/22/2008	15:20	36.58	NZ
ME-6	WG-102208-NZ-076	6.68	17.2	206	2.23	1.31		13:45	14:10	7.5	10/22/2008	14:15	35.45	NZ
Lower Aquifer Wells														
GM-1	WG-092408-MB-010	6.97	15.25	106	1.31	3.03	500	11:37	12:02	5	9/24/2008	0:10	102.80	MB
GM-3	WG-092408-NZ-007	6.68	16.38	71	1.23	0.04	400	9:55	10:45	5	9/24/2008	10:55	102.10	NZ
GM-9	WG-092408-MB-014	7.08	15.5	65	1.38	1.8	500	14:50	15:20	4	9/24/2008	15:30	99.45	MB
GM-11	WG-092408-NZ-013	6.81	16.47	64	1.2	1.39	400	14:35	15:15	4	9/24/2008	15:20	98.95	NZ
GM-15	WG-093008-NZ-045	7.1	16.24	190	0.995	0.2	400	16:00	16:40	5.5	9/30/2008	16:45	98.70	NZ
GM-19D	WG-092308-NZ-003	6.9	17.07	-136	1.48	0	400	11:40	12:20	5	9/23/2008	12:25	148.05	NZ
GM-20D	WG-092508-NZ-018	7.02	14.86	260	1.001	0.32	400	9:25	10:20	5.5	9/25/2008	10:25	99.87	NZ
GM-39	WG-100108-NZ-055	6.94	15.29	102	1.134	0.17	400	14:18	15:13	5.5	10/1/2008	15:15	116.76	NZ
GM-40	WG-093008-MB-039	6.88	16.08	-120.8	1.082	0.22	500	10:40	11:10	4	9/30/2008	11:15	161.00	MB
GM-41	WG-092608-NZ-028	6.94	16.97	238	1.141	0.18	400	11:05	12:05	6	9/26/2008	12:10	116.07	NZ
GM-42	WG-093008-MB-037	6.83	16.49	-39.1	1.058	0.15	500	9:05	9:55	6	9/30/2008	10:05	151.03	MB
GM-54	WG-093008-MB-047	6.88	16.52	64.9	1.043	4.18	500	18:36	19:21	6	9/30/2008	19:35	79.27	MB
GM-58	WG-092608-MB-029	6.79	16.12	162	1.37	0	500	11:40	12:35	7	9/26/2008	12:45	81.50	MB
GM-61	WG-100108-NZ-056	6.72	16.72	127	1.151	0.17	400	15:55	16:55	6.5	10/1/2008	17:00	78.37	NZ
GM-68D	WG-100308-NZ-066	6.27	17.18	126	1.35	0.13	400	8:40	9:40	6.5	10/3/2008	9:45	74.21	NZ
GM-75D	WG-100608-NZ-070	6.6	17.81	178	1.222	0.22	400	10:55	11:50	6	10/6/2008	11:55	94.15	NZ
GM-82	WG-100208-MB-063	6.8	17.26	-8	1.198	0.08	500	15:51	17:06	6	10/2/2008	NA	95.26	MB
GM-83D	WG-100208-NZ-061	7.21	14.86	81	0.889	0.26	400	14:15	15:15	6	10/2/2008	15:20	119.14	NZ
GM-84	WG-100208-NZ-058	6.89	14.49	63	0.946	0.34	400	10:40	11:40	6.5	10/2/2008	11:45	106.87	NZ
HR-10	WG-093008-MB-044	6.83	15.43	-99.5	1.005	0.28	500	16:38	17:18	5.5	9/30/2008	NA	128.30	MB
HR-12	WG-092508-NZ-021	7.22	15.86	131	0.995	0.16	400	11:00	11:40	4	9/25/2008	11:45	131.10	NZ
HR-15	WG-092908-NZ-036	7.37	16.32	116	1.061	0.26	400	15:35	16:25	4.5	9/29/2008	16:30	105.40	NZ
DN-13	WG-092408-NZ-017	NM	NM	NM	NM	NM	NM	16:20	16:40	NA	9/24/2008	16:40	N/A	NZ

Notes:

pH - negative logarithm of the concentration (mol/L) of the $H_2O^+[H^+]$ ion; scale is commonly used over a range 0 to 14 standard units (s.u.)

Temp - temperature

ORP - oxidation reduction potential

DO - dissolved oxygen

ºC - degrees Celsius

mV - millivolts

mg/L - milligrams per liter

mS/cm - miillisiemens per centimeter

gal - gallons

mL/min - milliliters per minute

ft - feet

mL - millilliters

VOCs - volatile organic compounds

NM - not measured

NA - not available

WG - groundwater

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Appendix C

Groundwater Analytical Database for 2008

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		Upgradient of the Site			On-Site			
	Units	HR-9 9/30/2008 Upper Aquifer	Duplicate 9/30/2008 QA/QC	HR-11 9/25/2008 Upper Aquifer	HR-4 9/30/2008 Upper Aquifer	W-2-N 9/29/2008 Upper Aquifer	W-3-N 9/29/2008 Upper Aquifer	W-4-N 9/29/2008 Upper Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	8.2	8.5	< 1 U	< 1 U	< 1 U	< 3.3 U	0.39 J
1,1-Dichloroethane	ug/l	58	59	5.2	4.1	< 1 U	< 3.3 U	1.9
1,1-Dichloroethene	ug/l	0.49 J	< 2.5 U	< 1 U	< 1 U	< 1 U	< 3.3 U	< 1 U
Benzene	ug/l	< 2.5 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 3.3 U	< 1 U
cis-1,2-Dichloroethene	ug/l	32	34	< 1 U	0.23 J	1.7	98	11
Ethylbenzene	ug/l	< 2.5 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 3.3 U	< 1 U
Tetrachloroethene	ug/l	< 2.5 U	< 2.5 U	< 1 U	0.44 J	< 1 U	< 3.3 U	0.38 J
Toluene	ug/l	< 2.5 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 3.3 U	< 1 U
trans-1,2-Dichloroethene	ug/l	4.5	4.6	< 1 U	< 1 U	< 1 U	1.4 J	0.92 J
Trichloroethene	ug/l	11	11	< 1 U	0.31 J	0.47 J	< 3.3 U	8.4
Vinyl chloride	ug/l	< 2.5 U	0.55 J	< 1 U	< 1 U	< 1 U	3.8	0.34 J
Xylene (total)	ug/l	< 5 U	< 5 U	< 2 U	< 2 U	< 2 U	< 6.7 U	< 2 U

ug/l - Micrograms per liter.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

	Units	HR-2 10/1/2008 Upper Aquifer	HR-3 10/2/2008 Upper Aquifer	HR-5 9/29/2008 Upper Aquifer	On-Site HR-1 9/29/2008 Upper Aquifer	GM-30 10/6/2008 Upper Aquifer	GM-23 10/23/2008 Upper Aquifer	GM-27 10/23/2008 Upper Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	< 1 U	0.84 J	< 1 U	0.77 J	< 10 U	< 62 U	< 1.4 U
1,1-Dichloroethane	ug/l	4.6	16	0.48 J	1.8 J	11	< 62 U	2
1,1-Dichloroethene	ug/l	< 1 U	0.27 J	< 1 U	< 2.5 U	< 10 U	< 62 U	< 1.4 U
Benzene	ug/l	< 1 U	< 1 UJ	< 1 U	< 2.5 U	< 10 U	< 62 U	< 1.4 U
cis-1,2-Dichloroethene	ug/l	3.4	17	5.4	5	< 10 U	2000	11
Ethylbenzene	ug/l	< 1 U	< 1 U	< 1 U	< 2.5 U	300	< 62 U	< 1.4 U
Tetrachloroethene	ug/l	< 1 U	< 1 U	< 1 U	27	< 10 U	71	0.9 J
Toluene	ug/l	< 1 U	< 1 U	< 1 U	< 2.5 U	< 10 U	< 62 U	< 1.4 U
trans-1,2-Dichloroethene	ug/l	0.47 J	1.6	0.59 J	2 J	< 10 U	58 J	0.51 J
Trichloroethene	ug/l	0.36 J	32	13	70	< 10 U	< 62 U	57
Vinyl chloride	ug/l	< 1 U	2.2	< 1 U	< 2.5 U	< 10 U	2100	0.44 J
Xylene (total)	ug/l	< 2 U	< 2 U	< 2 U	< 5 U	670	< 120 U	< 2.9 U

ug/l - Micrograms per liter.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

	Units	GM-29 10/6/2008 Upper Aquifer	Duplicate 10/6/2008 QA/QC	GM-28 10/22/2008 Upper Aquifer	On-Site GM-59 10/3/2008 Upper Aquifer	GM-60 10/3/2008 Upper Aquifer	GM-75S 10/6/2008 Upper Aquifer	ME-6 10/22/2008 Upper Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	12 J	10 J	< 5 U	< 33 U	< 25 U	< 20 U	2.7
1,1-Dichloroethane	ug/l	11 J	9.1 J	2.2 J	< 33 U	< 25 U	< 20 U	11
1,1-Dichloroethene	ug/l	< 33 U	< 33 U	< 5 U	< 33 U	< 25 U	< 20 U	< 1 U
Benzene	ug/l	< 33 U	< 33 U	< 5 U	< 33 U	< 25 U	< 20 U	< 1 U
cis-1,2-Dichloroethene	ug/l	900	750	6.9	41	360	< 20 U	5.2
Ethylbenzene	ug/l	< 33 U	< 33 U	< 5 U	< 33 U	< 25 U	< 20 U	< 1 U
Tetrachloroethene	ug/l	17 J	12 J	< 5 U	750	900	690	7.7
Toluene	ug/l	< 33 U	< 33 U	< 5 U	< 33 U	< 25 U	< 20 U	< 1 U
trans-1,2-Dichloroethene	ug/l	16 J	14 J	1.3 J	< 33 U	< 25 U	< 20 U	0.25 J
Trichloroethene	ug/l	300	250	< 5 U	750	920	250	9
Vinyl chloride	ug/l	150	110	6.5	< 33 U	< 25 U	< 20 U	1.7
Xylene (total)	ug/l	< 67 U	< 67 U	< 10 U	< 67 U	< 50 U	< 40 U	< 2 U

ug/l - Micrograms per liter.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

	Units	GM-31 10/23/2008 Upper Aquifer	Duplicate 10/23/2008 QA/QC	ME-3 10/22/2008 Upper Aquifer	On-Site GM-22 10/3/2008 Upper Aquifer	GM-19S 9/23/2008 Upper Aquifer	GM-33 10/23/2008 Upper Aquifer	GM-35 9/29/2008 Upper Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	2.9	3.1	2.1	0.73 J	< 1 U	8.4	4.6 J
1,1-Dichloroethane	ug/l	3.2	3.3	1.8	< 1 U	13	2.9	20
1,1-Dichloroethene	ug/l	< 2.5 U	< 2.5 U	< 1 U	< 1 U	< 1 U	0.58 J	< 10 U
Benzene	ug/l	< 2.5 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1.4 U	< 10 U
cis-1,2-Dichloroethene	ug/l	76	81	1.4	< 1 U	0.68 J	4.1	92
Ethylbenzene	ug/l	< 2.5 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1.4 U	< 10 U
Tetrachloroethene	ug/l	< 2.5 U	< 2.5 U	8.1	5.7	0.94 J	38	20
Toluene	ug/l	< 2.5 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1.4 U	< 10 U
trans-1,2-Dichloroethene	ug/l	3	2.8	< 1 U	< 1 U	0.52 J	< 1.4 U	9.4 J
Trichloroethene	ug/l	78	84	4.9	5.7	3	36	88
Vinyl chloride	ug/l	0.9 J	0.78 J	0.7 J	< 1 U	9.3	< 1.4 U	7.9 J
Xylene (total)	ug/l	< 5 U	< 5 U	< 2 U	< 2 U	< 2 U	< 2.9 U	< 20 U

ug/l - Micrograms per liter.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

	Units	GM-32 9/23/2008 Upper Aquifer	GM-21 10/3/2008 Upper Aquifer	HR-17 9/26/2008 Upper Aquifer	On-Site W-2-S 9/25/2008 Upper Aquifer	W-3-S 9/26/2008 Upper Aquifer	W-4-S 9/26/2008 Upper Aquifer	Duplicate 9/26/2008 QA/QC
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	< 10 U	8.7	< 4 U	1.4	1.2	0.95 J	1.1 J
1,1-Dichloroethane	ug/l	4 J	15	1.1 J	0.92 J	0.21 J	1.3	1.5 J
1,1-Dichloroethene	ug/l	< 10 U	0.33 J	< 4 U	< 1 U	< 1 U	0.21 J	< 2 U
Benzene	ug/l	< 10 U	< 1.4 U	< 4 U	< 1 U	< 1 U	< 1 U	< 2 U
cis-1,2-Dichloroethene	ug/l	< 10 U	38	2.7 J	0.78 J	0.52 J	6	7.1
Ethylbenzene	ug/l	< 10 U	< 1.4 U	< 4 U	< 1 U	< 1 U	< 1 U	< 2 U
Tetrachloroethene	ug/l	< 10 U	0.56 J	120	< 1 U	1.3	32	46
Toluene	ug/l	< 10 U	< 1.4 U	< 4 U	< 1 U	< 1 U	< 1 U	< 2 U
trans-1,2-Dichloroethene	ug/l	< 10 U	4.7	1 J	< 1 U	< 1 U	1.2	1.5 J
Trichloroethene	ug/l	< 10 U	18	31	5.2	2.1	16	22
Vinyl chloride	ug/l	< 10 U	19	< 4 U	< 1 U	< 1 U	< 1 U	< 2 U
Xylene (total)	ug/l	< 20 U	< 2.9 U	< 8 U	< 2 U	< 2 U	< 2 U	< 4 U

ug/l - Micrograms per liter.
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J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		Downgradient of the Site						
	Units	GM-63 10/1/2008 Upper Aquifer	Duplicate 10/1/2008 QA/QC	GM-64 10/1/2008 Upper Aquifer	GM-47 10/1/2008 Upper Aquifer	GM-50 10/1/2008 Upper Aquifer	GM-8 9/23/2008 Upper Aquifer	GM-6 9/24/2008 Upper Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	4 J	4.2 J	0.55 J	1.4 J	1.6 J	< 1 U	< 1 U
1,1-Dichloroethane	ug/l	2.2 J	2.1 J	2.7	2 J	1.7 J	1.7	< 8.4 U
1,1-Dichloroethene	ug/l	< 5 U	< 5 U	< 1 U	< 5 U	< 2.5 U	< 1 U	< 1 U
Benzene	ug/l	< 5 U	< 5 U	< 1 U	< 5 U	< 2.5 U	6.8	1.2
cis-1,2-Dichloroethene	ug/l	4.9 J	4.7 J	15	160	13	< 1 U	6.7
Ethylbenzene	ug/l	< 5 U	< 5 U	< 1 U	< 5 U	< 2.5 U	8.6	< 1 U
Tetrachloroethene	ug/l	140	130	31	86	82	< 1 U	< 1 U
Toluene	ug/l	< 5 U	< 5 U	< 1 U	< 5 U	< 2.5 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/l	< 5 U	< 5 U	2.3	3.9 J	0.68 J	0.27 J	1.3
Trichloroethene	ug/l	92	92	14	36	54	< 1 U	< 1 U
Vinyl chloride	ug/l	< 5 U	< 5 U	2.3	1.9 J	< 2.5 U	0.48 J	2.1
Xylene (total)	ug/l	< 10 U	< 10 U	< 2 U	< 10 U	< 5 U	3.9	< 2 U

ug/l - Micrograms per liter.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		Downgradient of the Site					
	Units	TW-2 9/24/2008 Upper Aquifer	GM-2 9/24/2008 Upper Aquifer	GM-51 9/30/2008 Upper Aquifer	GM-16 9/30/2008 Upper Aquifer	GM-17 9/24/2008 Upper Aquifer	GM-18 9/24/2008 Upper Aquifer
Volatile Organic Compounds							
1,1,1-Trichloroethane	ug/l	< 1 U	< 1 U	0.6 J	1.8 J	0.29 J	2.3
1,1-Dichloroethane	ug/l	< 1.9 U	< 1.1 U	0.78 J	3.8	< 1 U	< 6.1 U
1,1-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 3.3 U	< 1 U	< 1.4 U
Benzene	ug/l	1.4	< 1 U	< 1 U	< 3.3 U	< 1 U	< 1.4 U
cis-1,2-Dichloroethene	ug/l	< 5.2 U	6.7	2	20	< 1.9 U	13
Ethylbenzene	ug/l	0.76 J	< 1 U	< 1 U	< 3.3 U	< 1 U	< 1.4 U
Tetrachloroethene	ug/l	1.4	1.3	9.3	100	4.8	16
Toluene	ug/l	< 1 U	< 1 U	< 1 U	< 3.3 U	< 1 U	< 1.4 U
trans-1,2-Dichloroethene	ug/l	0.36 J	0.19 J	0.7 J	1.1 J	< 1 U	0.79 J
Trichloroethene	ug/l	7.5	2.4	7.7	48	10	38
Vinyl chloride	ug/l	1	< 1 U	< 1 U	< 3.3 U	< 1 U	< 1.4 U
Xylene (total)	ug/l	< 2 U	< 2 U	< 2 U	< 6.7 U	< 2 U	< 2.9 U

ug/l - Micrograms per liter.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		Downgradient of the Site						
	Units	WSU-24 9/25/2008 Upper Aquifer	Duplicate 9/25/2008 QA/QC	GM-52 9/30/2008 Upper Aquifer	GM-10 9/24/2008 Upper Aquifer	GM-79 10/2/2008 Upper Aquifer	GM-55 10/2/2008 Upper Aquifer	GM-78 10/2/2008 Upper Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	0.62 J	0.42 J	1.9 J	0.53 J	0.65 J	< 1 U	< 1 U
1,1-Dichloroethane	ug/l	0.85 J	< 1 U	3	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethene	ug/l	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
Benzene	ug/l	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 UJ	< 1 UJ	< 1 UJ
cis-1,2-Dichloroethene	ug/l	2.4 J	< 1 UJ	14	< 1 U	< 1 U	< 1 U	< 1 U
Ethylbenzene	ug/l	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/l	1.7	1.3	88	0.85 J	< 1 U	7.2	11
Toluene	ug/l	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/l	0.35 J	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene	ug/l	12 J	4.9 J	43	5.9	1.8	< 1 U	< 1 U
Vinyl chloride	ug/l	< 1 U	< 1 U	< 2.5 U	< 1 U	< 1 U	< 1 U	< 1 U
Xylene (total)	ug/l	< 2 U	< 2 U	< 5 U	< 2 U	< 2 U	< 2 U	< 2 U

ug/l - Micrograms per liter.
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J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		Downgradient of the Site			Upgradient of the Site		On-Site	
		GM-80	GM-26	GM-65S	HR-10	HR-12	HR-15	GM-39
		9/22/2008	10/1/2008	10/6/2008	9/30/2008	9/25/2008	9/29/2008	10/1/2008
	Units	Upper Aquifer	Upper Aquifer	Upper Aquifer	Lower Aquifer	Lower Aquifer	Lower Aquifer	Lower Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	0.39 J	< 1 U	< 1 U
1,1-Dichloroethane	ug/l	0.39 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Benzene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
cis-1,2-Dichloroethene	ug/l	3.6	< 1 U	< 1 U	< 1 U	< 1 U	3.6	0.67 J
Ethylbenzene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/l	0.93 J	1.4	8.7	< 1 U	1.3	< 1 U	< 1 U
Toluene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/l	0.19 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene	ug/l	5.4	< 1 U	3.8	< 1 U	5.1	0.47 J	< 1 U
Vinyl chloride	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	9.7	3.2
Xylene (total)	ug/l	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U

ug/l - Micrograms per liter.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

	Units	GM-83D 10/2/2008 Lower Aquifer	Duplicate 10/2/2008 QA/QC	GM-40 9/30/2008 Lower Aquifer	On-Site GM-61 10/1/2008 Lower Aquifer	GM-75D 10/6/2008 Lower Aquifer	GM-68D 10/3/2008 Lower Aquifer	GM-82 10/2/2008 Lower Aquifer
Volatile Organic Compounds								
1,1,1-Trichloroethane	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 33 U	< 5 U	1 J
1,1-Dichloroethane	ug/l	< 1 U	< 1 U	< 1 U	0.94 J	< 33 U	< 5 U	2.4 J
1,1-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	0.19 J	< 33 U	< 5 U	0.64 J
Benzene	ug/l	< 1 UJ	< 1 UJ	< 1 U	< 1 U	< 33 U	< 5 U	< 3.3 U
cis-1,2-Dichloroethene	ug/l	0.3 J	0.27 J	< 1 U	20	120	14	46
Ethylbenzene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 33 U	< 5 U	< 3.3 U
Tetrachloroethene	ug/l	< 1 U	< 1 U	< 1 U	13	220	190	51
Toluene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 33 U	< 5 U	< 3.3 U
trans-1,2-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	0.92 J	< 33 U	< 5 U	2 J
Trichloroethene	ug/l	< 1 U	< 1 U	< 1 U	23	750	46	100
Vinyl chloride	ug/l	1.3	1.4	3.6	0.75 J	< 33 U	< 5 U	< 3.3 U
Xylene (total)	ug/l	< 2 U	< 2 U	< 2 U	< 2 U	< 67 U	< 10 U	< 6.7 U

ug/l - Micrograms per liter.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		On-Site						Downgradient of the Site	
	Units	GM-41 9/26/2008 Lower Aquifer	GM-58 9/26/2008 Lower Aquifer	GM-54 9/30/2008 Lower Aquifer	GM-42 9/30/2008 Lower Aquifer	GM-84 10/2/2008 Lower Aquifer	GM-19D 9/23/2008 Lower Aquifer	GM-3 9/24/2008 Lower Aquifer	Duplicate 9/24/2008 QA/QC
Volatile Organic Compounds									
1,1,1-Trichloroethane	ug/l	< 7.1 U	< 2.5 U	< 5.7 U	< 1 U	< 1 U	< 1 U	< 1 U	0.67 J
1,1-Dichloroethane	ug/l	< 7.1 U	< 2.5 U	< 5.7 U	0.66 J	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethene	ug/l	< 7.1 U	< 2.5 U	< 5.7 U	0.53 J	< 1 U	< 1 U	< 1 U	< 1 U
Benzene	ug/l	< 7.1 U	< 2.5 U	< 5.7 U	< 1 U	< 1 UJ	< 1 U	< 1 U	< 1 U
cis-1,2-Dichloroethene	ug/l	11	< 2.5 U	< 5.7 U	20	< 1 U	2.4	< 1 U	< 2.5 U
Ethylbenzene	ug/l	< 7.1 U	< 2.5 U	< 5.7 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/l	< 7.1 U	80	190	< 1 U	< 1 U	< 1 U	< 1 UJ	2 J
Toluene	ug/l	< 7.1 U	< 2.5 U	< 5.7 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/l	< 7.1 U	< 2.5 U	< 5.7 U	0.89 J	< 1 U	< 1 U	< 1 U	0.41 J
Trichloroethene	ug/l	180	< 2.5 U	2.5 J	9.9	6.6	< 1 U	< 1 UJ	13 J
Vinyl chloride	ug/l	< 7.1 U	< 2.5 U	< 5.7 U	0.31 J	< 1 U	9.8	< 1 U	< 1 U
Xylene (total)	ug/l	< 14 U	< 5 U	< 11 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U

ug/l - Micrograms per liter.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		Downgradient of the Site					
	Units	GM-1 9/24/2008 Lower Aquifer	GM-15 9/30/2008 Lower Aquifer	GM-11 9/24/2008 Lower Aquifer	GM-20D 9/25/2008 Lower Aquifer	DN-13 9/24/2008 Lower Aquifer	GM-9 9/24/2008 Lower Aquifer
Volatile Organic Compounds							
1,1,1-Trichloroethane	ug/l	0.69 J	< 1 U	0.47 J	0.45 J	0.63 J	1.2
1,1-Dichloroethane	ug/l	< 1 U	1.1	< 1 U	< 1 U	< 1.7 U	< 1 U
1,1-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Benzene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
cis-1,2-Dichloroethene	ug/l	< 1 U	0.79 J	< 1 U	< 1 U	6.2	< 1 U
Ethylbenzene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/l	1.8	< 1 U	1.7	2.6	< 1 U	< 1 U
Toluene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	0.44 J	< 1 U
Trichloroethene	ug/l	31	6.2	31	6.6	4.5	18
Vinyl chloride	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	1.4	< 1 U
Xylene (total)	ug/l	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U

ug/l - Micrograms per liter.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		Rinse Blanks							
	Units	9/24/2008 QA/QC	9/25/2008 QA/QC	9/29/2008 QA/QC	9/30/2008 QA/QC	10/1/2008 QA/QC	10/2/2008 QA/QC	10/6/2008 QA/QC	10/23/2008 QA/QC
Volatile Organic Compounds									
1,1,1-Trichloroethane	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethane	ug/l	1.7	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Benzene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
cis-1,2-Dichloroethene	ug/l	1.1	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Ethylbenzene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	1.5	< 1 U
Toluene	ug/l	< 1 U	< 1 U	0.36 J	0.28 J	0.22 J	0.21 J	0.42 J	< 1 U
trans-1,2-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Vinyl chloride	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Xylene (total)	ug/l	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U

ug/l - Micrograms per liter.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-1. Summary of Groundwater VOC Analytical Results from Upper/Lower Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

		Trip Blanks									
	Units	9/23/2008 QA/QC	9/24/2008 QA/QC	9/25/2008 QA/QC	9/26/2008 QA/QC	9/29/2008 QA/QC	9/30/2008 QA/QC	10/1/2008 QA/QC	10/2/2008 QA/QC	10/6/2008 QA/QC	10/23/2008 QA/QC
Volatile Organic Compounds											
1,1,1-Trichloroethane	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethane	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Benzene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
cis-1,2-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Ethylbenzene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Tetrachloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Toluene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
trans-1,2-Dichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Trichloroethene	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Vinyl chloride	ug/l	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U
Xylene (total)	ug/l	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U

ug/l - Micrograms per liter.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Table C-2. Summary of Additional Groundwater Analytical Results from Upper Aquifer Monitoring Wells in September-October 2008, General Motors Corporation, Moraine, Ohio.

	Units	On-Site GM-19S 9/23/2008 Upper Aquifer	On-Site GM-35 9/29/2008 Upper Aquifer
Semi-Volatile Organic Compounds			
Benzo(a)anthracene	ug/l	< 10 U	< 40 U
Benzo(b)fluoranthene	ug/l	< 10 U	< 40 U
Metals			
Antimony	mg/l	< 0.06 U	< 0.06 U
Cadmium	mg/l	< 0.005 U	< 0.005 U
Chromium	mg/l	0.0026 J	0.0071 J
Polychlorinated Biphenyls			
Aroclor-1016	ug/l	< 1 U	< 1 U
Aroclor-1221	ug/l	< 1 U	< 1 U
Aroclor-1232	ug/l	< 1 U	< 1 U
Aroclor-1242	ug/l	< 1 U	< 1 U
Aroclor-1248	ug/l	< 1 U	< 1 U
Aroclor-1254	ug/l	< 1 U	< 1 U
Aroclor-1260	ug/l	< 1 U	< 1 U

ug/l - Micrograms per liter.
mg/l - Milligrams per liter.
< - Constituent not detected above laboratory reporting limit shown.
J - Value is estimated.
U - Constituent not detected above laboratory reporting limit shown.

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Appendix D

In-Situ Reactive Zones Performance Results for 2008

In-Situ Reactive Zones Performance Results

As described in Section 3.1.1 of the Site-Wide Groundwater Monitoring Report for 2008 (Monitoring Report), the carbon solution delivery network consisted of three reactive zones, RZ-1, RZ-3 (East and West) and RZ-4 (East). During 2008, a carbon solution was introduced into the groundwater through introduction points at RZ-1, RZ-3 (East and West), and RZ-4 (East) shown on Figures 10, and 11 of the Monitoring Report, respectively. RZ-1 was originally installed in 1999 as a nine well barrier downgradient of the Former Oil House Area source area, and then based on the performance of the ERD technology, RZ-1 was expanded into portions of the Former Oil House Area source area by the addition of 12 introduction points in 2002. RZ-3 was originally installed in 1999 and has been operated as a cut-off barrier (30 wells in RZ-3 East and 11 wells in RZ-3 West) to mitigate further downgradient VOC migration. In 2005, RZ-3 East was modified by the addition of 5 introduction wells (RZ-3RR through RZ-3VV) and cessation of introduction in 5 existing wells (RZ-3MM through RZ-3QQ) to improve performance at the far eastern edge of the plume. Using data obtained from the Supplemental Groundwater Investigation conducted in 2006, RZ-4 was designed and installed to address VOC concentrations present on the western side of the plume. RZ-4 consists of 15 introduction wells, 7 wells in RZ-4 West and 8 wells in RZ-4 East. The RZ-4 West wells are located in the southeast corner of the closed South Settling Lagoon and the RZ-4 East wells are located north of Landfill L1 and west of the Waste Pile/Staging Area. Introductions to RZ-4 began in August 2006. RZ-4 West was not in operation in 2008. The following sections discuss the monitoring completed to assess the effectiveness of the in-situ reactive zones and the results of this monitoring.

Reactive Zone Monitoring

Operation of the reactive zones was monitored through the collection of field parameter measurements, and laboratory analyses of biogeochemical indicator parameters and volatile organic compounds (VOCs), according to the Site-Wide Groundwater Monitoring Plan (ARCADIS G&M, Inc. 2002). Field parameter measurements included: pH, specific conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and temperature. Biogeochemical parameters included manganese (total and dissolved), iron (total and dissolved), sulfate, sulfide, total organic carbon (TOC), chlorides, light hydrocarbons (ethane and ethene), and methane. The monitored VOCs included: benzene, toluene, ethylbenzene, xylenes, tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroethene (cis-1,2-DCE), vinyl chloride, 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), and trans-1,2-dichloroethene (trans-1,2-DCE). The VOC data collected are presented in Tables 9 through 12 of the Monitoring Report. The bioattenuation parameter data is presented on Tables 13 through 16. An evaluation of pertinent monitoring data is presented in the following sections.

The operational monitoring data collected, as indicated above, can be broadly categorized as: (i) “primary” operational monitoring data, which tracks the actual operation of the remediation system and determines whether the operation is proceeding as planned, and (ii) “secondary” operational monitoring data, which assists in the occasional troubleshooting of the system. The

secondary data becomes important in the event that degradation of the VOCs is not proceeding as expected, and the cause cannot be determined from the primary operational monitoring data. The primary operational monitoring data includes pH, TOC, VOCs, ethene, ethane, and methane. Secondary operational monitoring data includes dissolved manganese, dissolved iron, sulfate, and ORP. The primary operational data for select monitoring wells is discussed below and presented graphically on Figures D-1 through D-8.

The purpose of upgradient and downgradient monitor wells, separate from the introduction points within the reactive zones, is to collect and compare data before and after biodegradation by the stimulated microbial population. Locations of these wells are shown on Figures 10 and 11 of the Monitoring Report.

- At RZ-1, GM-29 is designated as the upgradient monitoring well, while GM-28 is designated as the downgradient monitor well. These wells are ideally positioned, relative to estimated groundwater travel time, approximately 100 days upgradient and 100 days downgradient from the original introduction wells installed to create the RZ-1 introduction zone (line of nine introduction wells, RZ-1A through 1I, placed in an East-West direction). GM-29 is located within the area of the RZ-1 expansion wells (twelve introduction wells placed in two rows north of the original nine wells, RZ-1J through 1U). Therefore, GM-23 is also used as an upgradient monitoring point because this well is located within the source area.

- For RZ-3 West, monitor well GM-19S is used as the upgradient well. It should be noted that as of August 2006 GM-19S is now the downgradient monitoring well for RZ-4 East. At RZ-3 West, GM-32, which is within the introduction zone due to its location being constrained by the proximity of Landfill L1, is designated as the downgradient monitor well. Results at GM-32 are analyzed with caution, as this well is located in the early stages of the reactive zone due to its proximity to the introduction points. Annual data collected from GM-8 and GM-6, which are further downgradient from the introduction zone and located along the west side of Landfill L1, have also been evaluated with respect to monitoring the performance of RZ-3 West. At RZ-3 West, carbon solution is introduced in thirty wells, RZ-3A through RZ-3DD.

- For RZ-3 East, GM-22 is designated as the upgradient monitor well and GM-21 is designated as the downgradient monitor well. At RZ-3 East, carbon solution is introduced in the original wells, RZ-3FF through RZ-3KK, and five additional wells, RZ-3RR through RZ-3VV.

- For RZ-4 East monitoring well GM-19S is used at the downgradient monitoring well. For RZ-4 West monitoring well pair GM-63 and GM-64 are used as the downgradient monitoring wells. This well pair has screened intervals in the intermediate and deep portions of the upper aquifer.

In 2008, in general, a target volume of 800 gallons of 5 percent molasses solution (approximately 17,400 milligrams per liter [mg/L] TOC) was injected into the introduction wells of RZ-1 during January, March, April, May, July, August, September, October, November, and December. The

introduction wells at RZ-3 West and RZ-3 East introduction wells RZ-3FF through RZ-3KK received a target volume of approximately 1,600 gallons of 2 percent molasses solution (approximately 17,400 mg/L TOC) monthly in general from January through December 2008. The RZ-3 East replacement wells (RZ-3RR through RZ-3VV) received a target volume of approximately 1,600 gallons of 2.7 percent molasses solution (approximately 9,405 mg/L TOC) in 2008. A target volume of 3,000 gallons of 2 percent molasses solution (approximately 6,960 mg/L TOC) was injected into the RZ-4 East wells from January through December 2008. Table 18 in the Monitoring Report presents the carbon solution introduction volumes for different introduction wells in 2008.

Analysis of Primary Operational Monitoring Data

The primary operational data is comprised of a limited number of variables that are monitored at a frequency necessary to supply the information required for the operation of the remediation system. The entire data set is presented in Tables 9 through 16 of the Monitoring Report. These tables are organized such that upgradient and downgradient changes can be easily identified for each reactive zone from 1999 to 2008. Figures D-1 through D-8 present the primary operational data (pH, TOC, methane, VOCs, ethane, and ethene) graphically for monitoring wells used for monitoring the effectiveness of each of the IRZs (GM-23, GM-29, GM-28, GM-32, GM-8, GM-6, GM-21, and GM-19S). The graphs are organized to allow a simple comparison of the trends in each monitoring well for pH, TOC, methane, VOCs, ethene, ethane, and total parent-daughter compound molarity. A discussion of the primary operational data is provided below.

pH

The preferred pH range for reductive dechlorination is between 6 and 8, and the acceptable pH range extends from 5 to 9. All pH measurements collected in 2008 from upgradient and downgradient monitoring wells were within the acceptable pH range.

Total Organic Carbon/Methane

At RZ-1, the reductive dechlorination process is continuing effectively even though the TOC levels at the designated downgradient well, GM-28, is only 5 to 6 mg/L which is at background levels. Considering the differences in the VOC concentrations at the upgradient wells GM-29 and GM-23, and the VOC concentrations at GM-28, the RZ is performing as an effective barrier, reducing the total target VOC concentrations from 1,406 micrograms per liter (µg/L) in GM-29 and 4,229 µg/L in GM-23 (September-October 2008) to 16.9 µg/L at GM-28 (September-October 2008). Based on the TOC values in the RZ-1 injectate, the carbon was consumed rapidly by an active soil microbial community. Methane concentrations in GM-28 continue to be sustained above background concentrations, which provides evidence that methanogenesis is occurring and that the desired reducing conditions are being sustained in the reactive zone. TOC concentrations at GM-29 have increased since introductions began at the RZ-1 expansion wells

and methane concentrations in GM-29 remain above the background levels observed in this monitoring well in the 1999 sampling before the start of carbon introductions.

TOC and methane concentrations at RZ-3 West downgradient well GM-32 were sustained above background levels through 2008. TOC and methane concentrations observed at further downgradient wells decreased in GM-8 and remained the same in GM-6 from 2007 to 2008. Due to the distance/travel-time from RZ-3 West to downgradient well GM-6, TOC concentrations above background levels would not be expected in this well. TOC concentrations observed in groundwater samples collected from GM-21, which is the downgradient well for RZ-3 East, were at background levels. However, dissolved methane concentrations were well above background indicating that the aquifer is anaerobic at GM-21.

Analytical results from GM-19S, the downgradient monitoring well for RZ-4 East, exhibit a common ERD signature. An initial spike in TOC (September 2006 sampling event) above background concentrations followed by a spike in total parent-daughter ethene molarity (indicating that target compounds may have been de-sorbed from the aquifer soil-matrix), and increasing methane concentrations indicating that the carbon substrate loading is adequate to support methanogenesis and reductive dechlorination. TOC and methane concentrations in 2008 were sustained at similar levels observed in 2007.

VOC Analytical Results

The groundwater analytical data for the site-specific list of VOCs are presented in Table 9 for RZ-1, Table 10 for RZ-3 West, Table 11 for RZ-3 East, and Table 12 for RZ-4 East in the Monitoring Report. Additionally, the degradation of PCE and TCE (parent compounds) to cis-1,2-DCE, vinyl chloride (daughter products), and ethene and ethane (end products) are provided with the pH, TOC, and methane data for the upgradient monitor wells at RZ-1 (GM-29 and GM-23) and downgradient monitor wells in RZ-1, RZ-3 West, RZ-3 East, and RZ-4 East on Figures D-1 through D-8, respectively.

The following bullets summarize the observations and trends evident among the reactive zones at the GM Moraine Facilities which indicate that enhanced reduction of the targeted chlorinated VOCs is progressing as a result of the carbon introduction process:

- Comparing the 2008 profiles of chlorinated compounds in the upgradient and downgradient wells in RZ-1 (Figures D-1 and D-3, respectively), it was observed that degradation of the chlorinated VOCs was sustained throughout 2008. The total chlorinated VOC concentrations in GM-29 have decreased in 2008 as compared to 2007 (1,907 µg/L in 2007 and 1,406 µg/L in 2008). Total chlorinated VOC concentrations in GM-23 decreased from 15,835 µg/L in 2006 to 7,792 µg/L in 2007 and to 4,229 µg/L in 2008. This well is upgradient to the original RZ-1 barrier and is within the zone of influence of carbon introductions conducted in the Former Oil House Area in wells OW-1 through OW-3.

- Data from monitoring wells GM-8 and GM-6, which are located downgradient of RZ-3 West along the west side of Landfill L1, were considered to evaluate the effect of carbon introductions at RZ-3 West. Concentrations of total chlorinated VOCs at GM-8 remained steady in 2008 (21.75 µg/L) compared to 2007 (15 µg/L). Though GM-6 is located further downgradient, concentrations of PCE and TCE have consistently decreased since 1998. It is expected that consistent carbon introduction at RZ-3 West will eventually reduce the concentrations of all chlorinated VOCs at GM-6.

- Total chlorinated VOC concentrations in monitoring well GM-21, which is the downgradient monitor well for RZ-3 East, have remained significantly lower compared to baseline conditions since the installation of Reactive Zone introduction wells RZ-3RR through RZ-3VV.

- Data from monitoring well GM-19S, downgradient of RZ-4 East has exhibited a strong decreasing trend in total chlorinated VOC concentrations falling from 607 µg/L in December 2006 to 27.44 µg/L in September-October 2008.

- The concentrations of VOCs at the influent to the air-stripper tower are being monitored on a monthly basis since the startup of the air stripper unit on January 31, 1996 (Figure 5 of the Monitoring Report). The first monitoring event was in February 1996, and the introduction of carbon in RZ-3 commenced in December 1999. On reviewing the data presented in Figure 5, it can be observed that the concentrations of VOCs in 2008 remained consistent with the 2007 monitoring data.

Conclusions

The following observations and conclusions can be made:

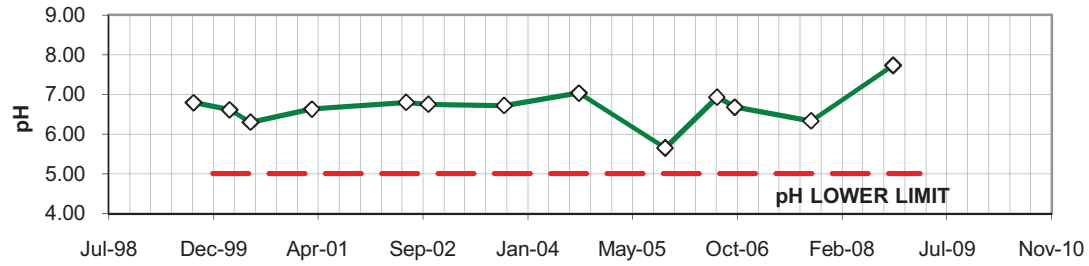
- Existing aquifer conditions have been converted to more reducing conditions within and downgradient of the reactive zones through the introduction of a carbon source, as evidenced by the changes in field and bioattenuation parameters;

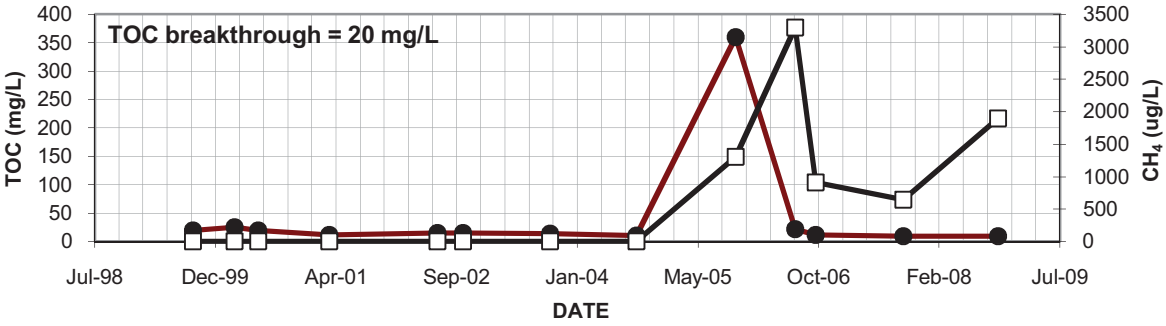
- The target compounds (PCE and TCE) have been effectively reduced to daughter products (cis-1,2-DCE and vinyl chloride) and ultimately to end products (ethene and ethane) based on a review of the VOC results; and

- Levels of vinyl chloride were consistently low to non-detect in all downgradient wells, indicating degradation of cis-1,2-DCE to ethene and ethane.

Overall, the process of enhanced reductive dechlorination at this site has been successful in achieving the desired reduction of VOC concentrations. In 2009, GM will continue to evaluate if modifications to the RZs are needed based on water quality and performance monitoring data.

Figure D-1
GM-23 ERD Analysis





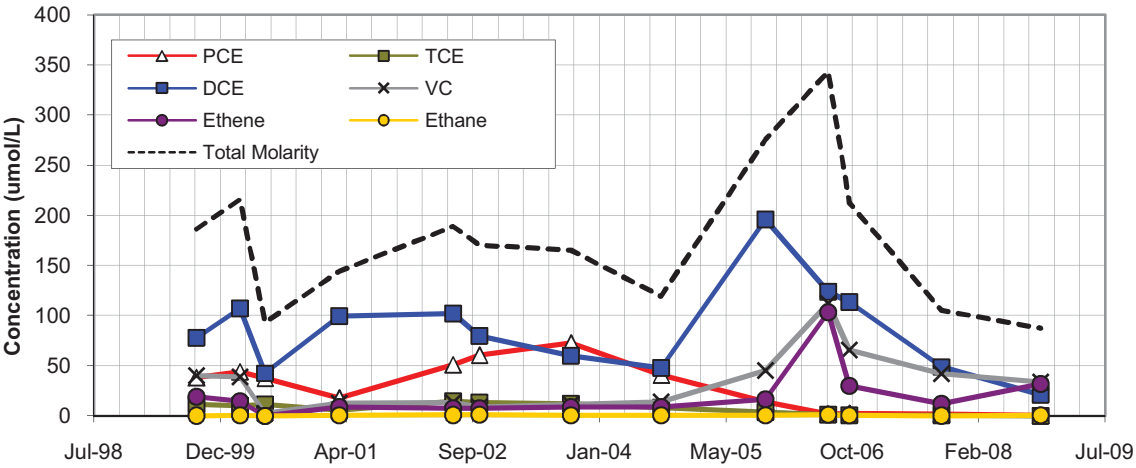
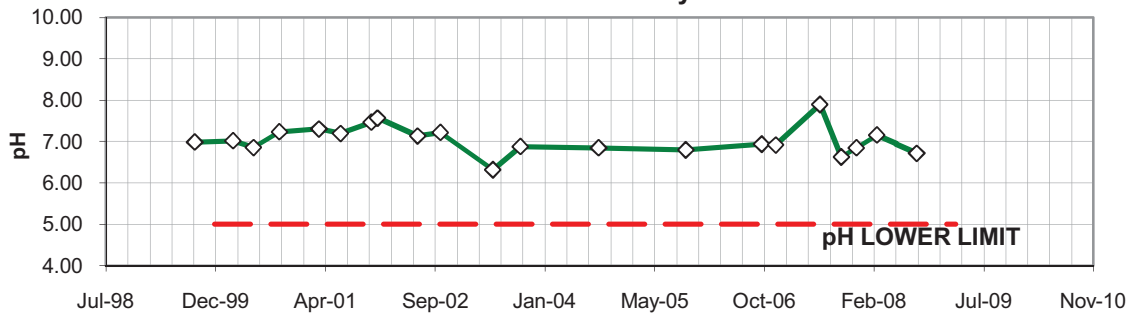
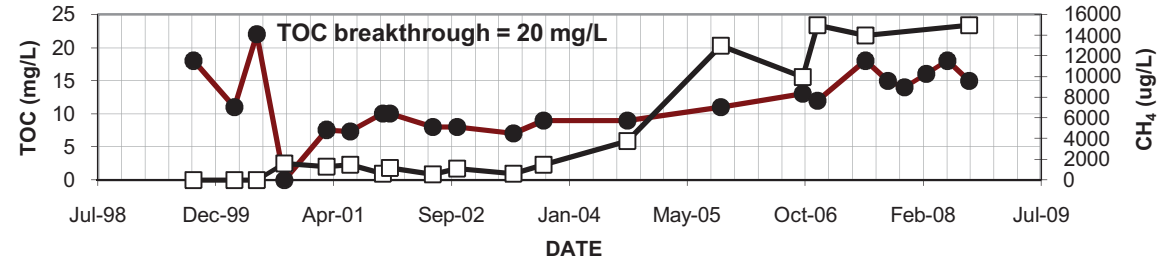


Figure D-2
GM-29 ERD Analysis





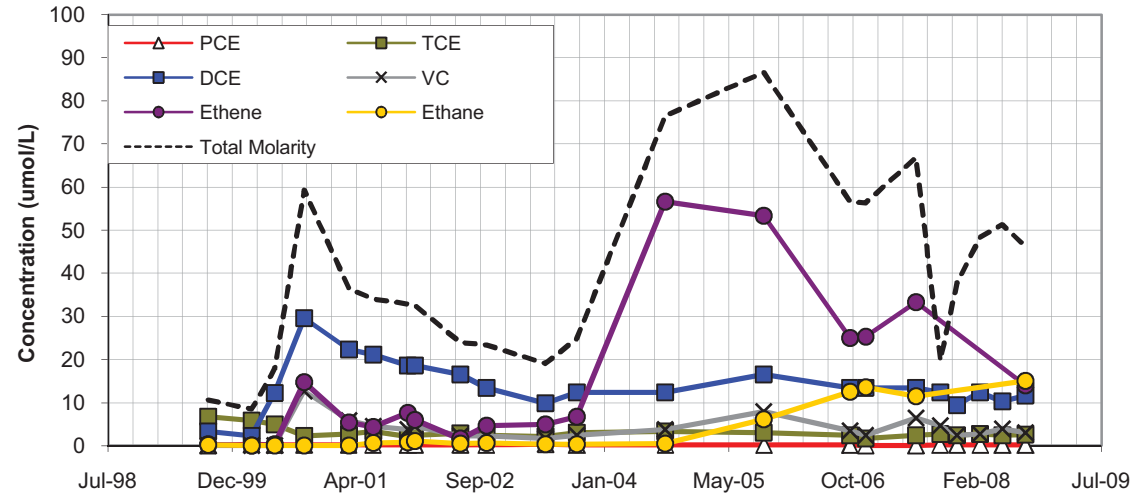
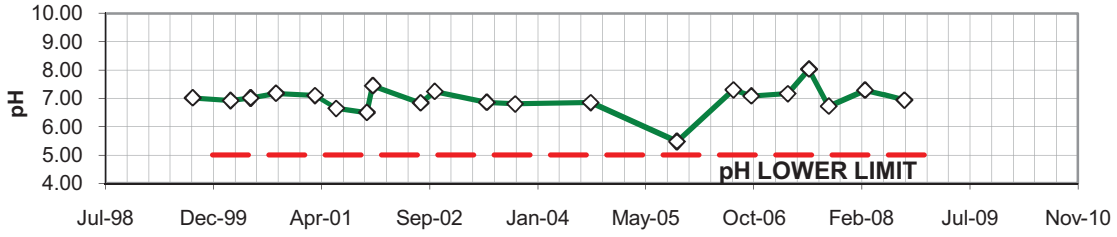
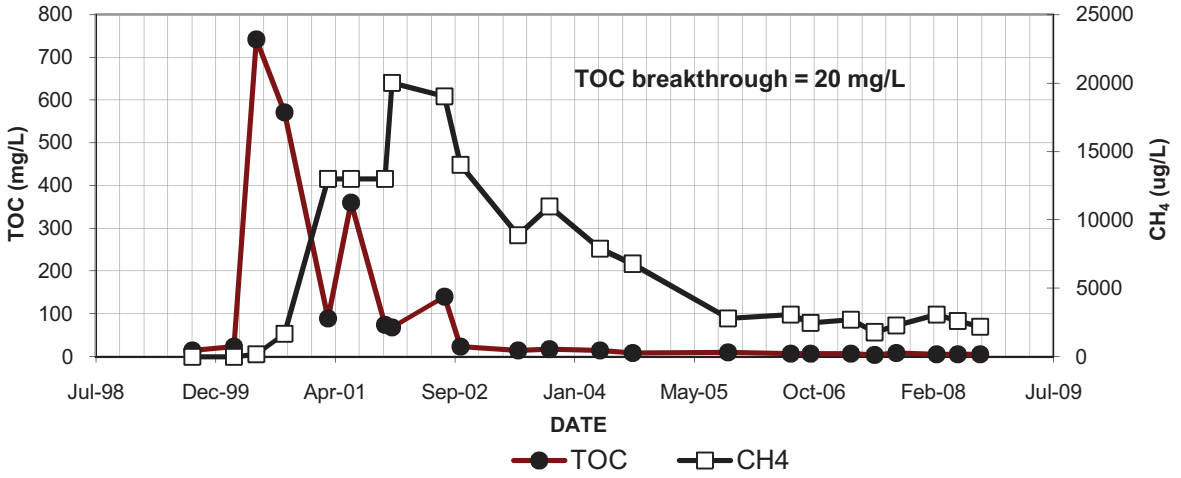


Figure D-3
GM-28 ERD Analysis





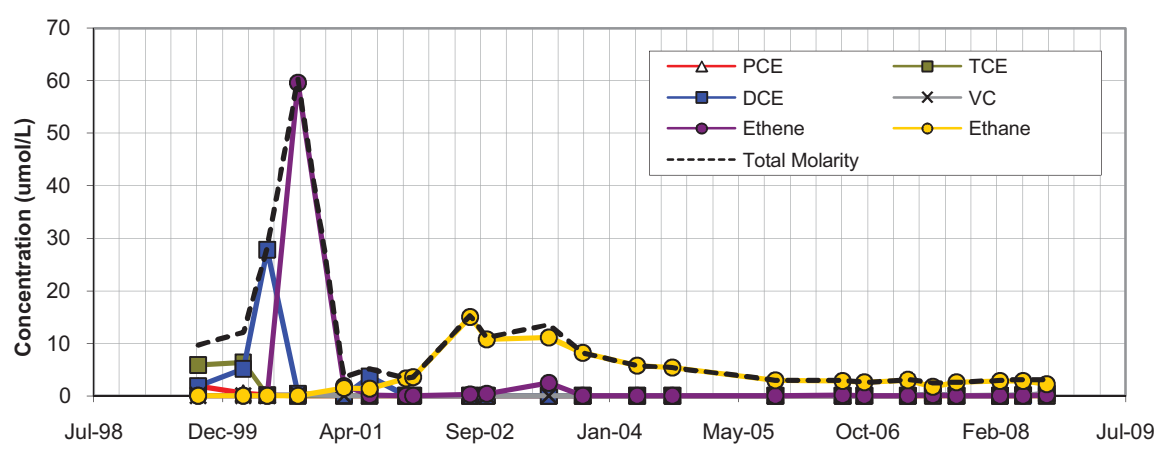
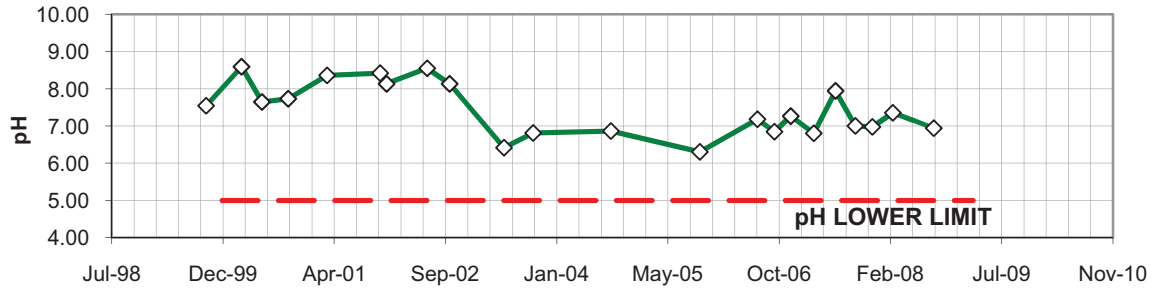
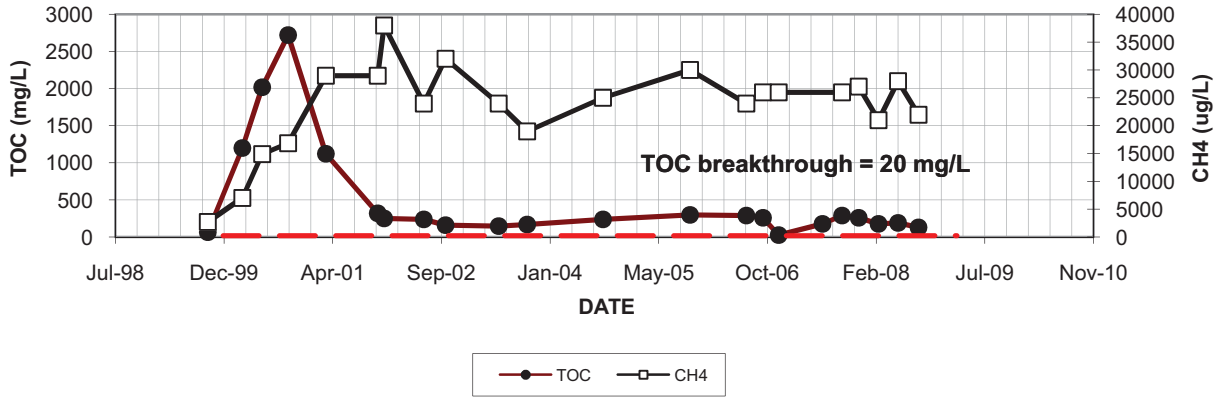


Figure D-4
GM-32 ERD Analysis





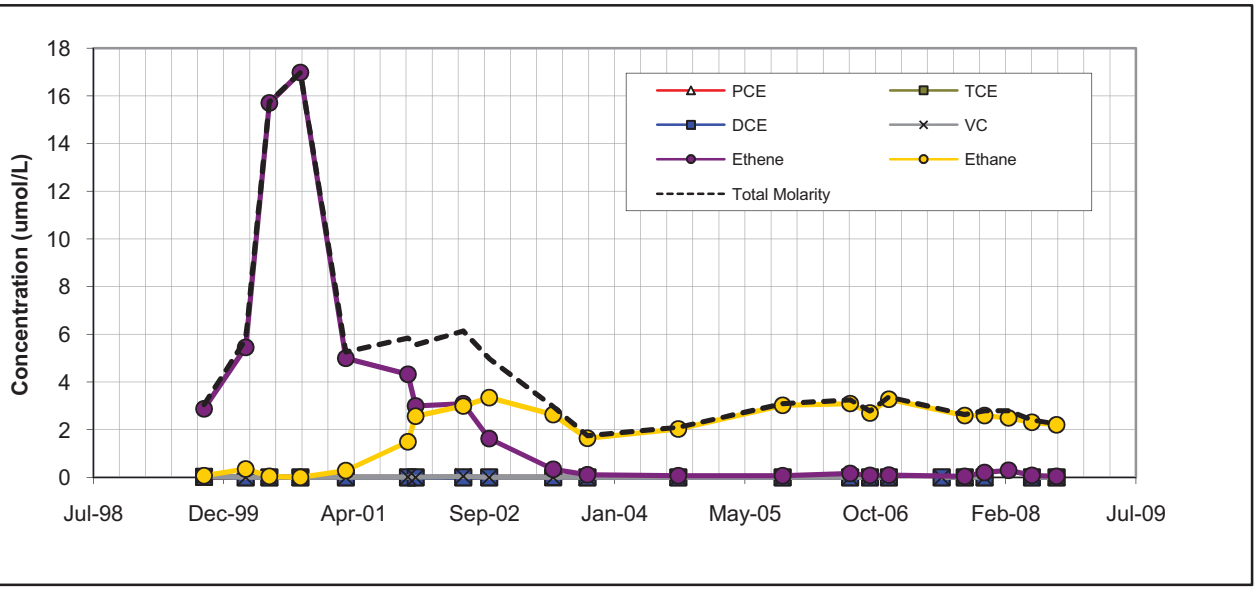
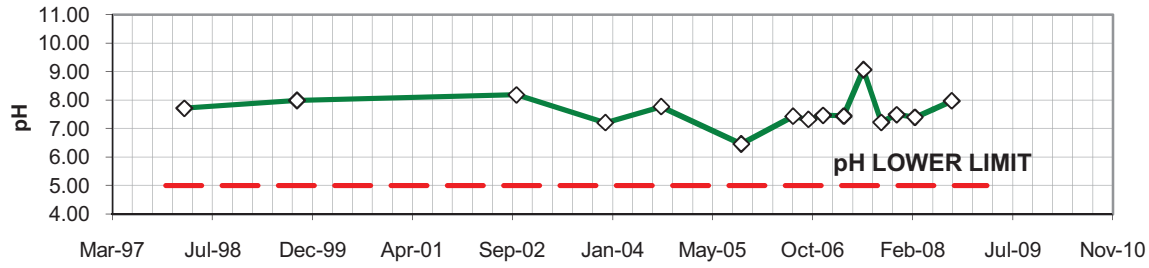
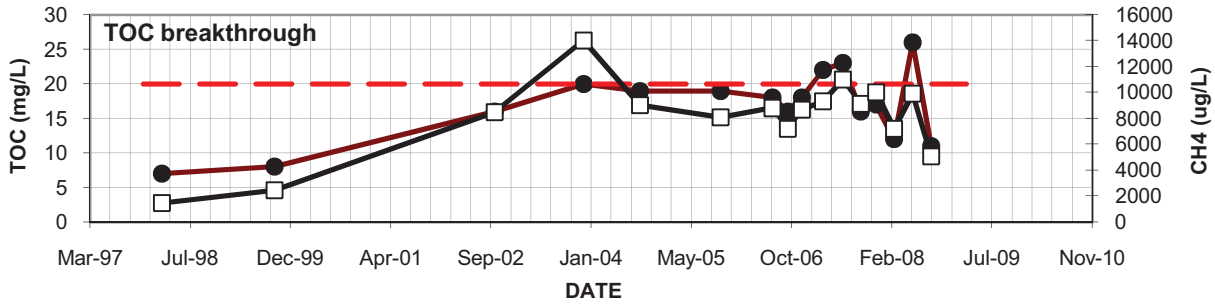


Figure D-5
GM-8 ERD Analysis





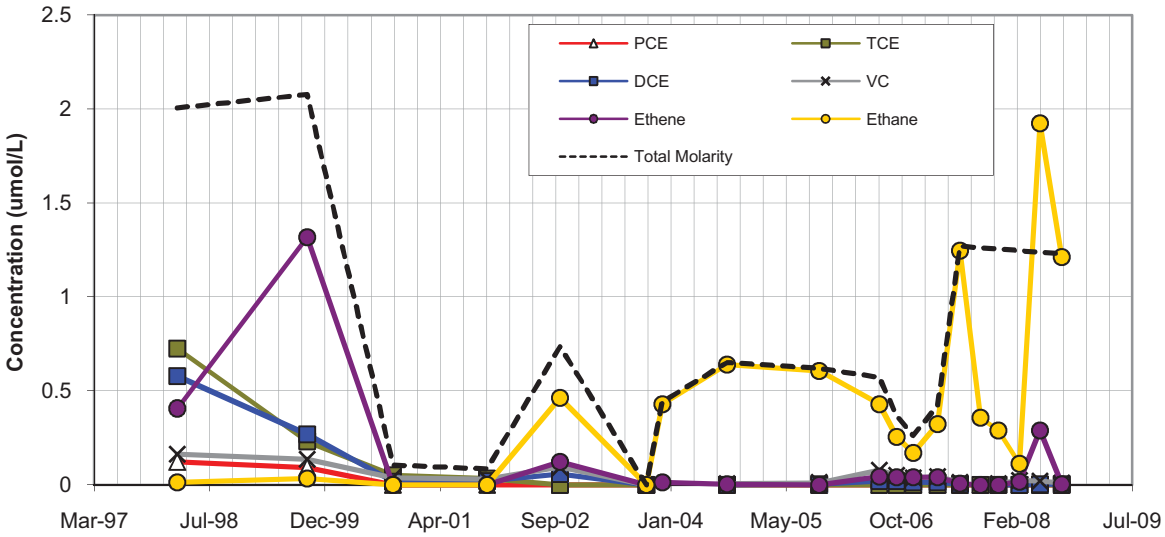
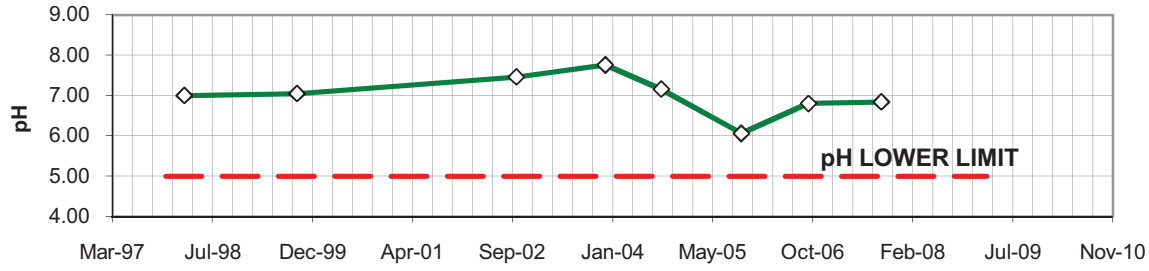
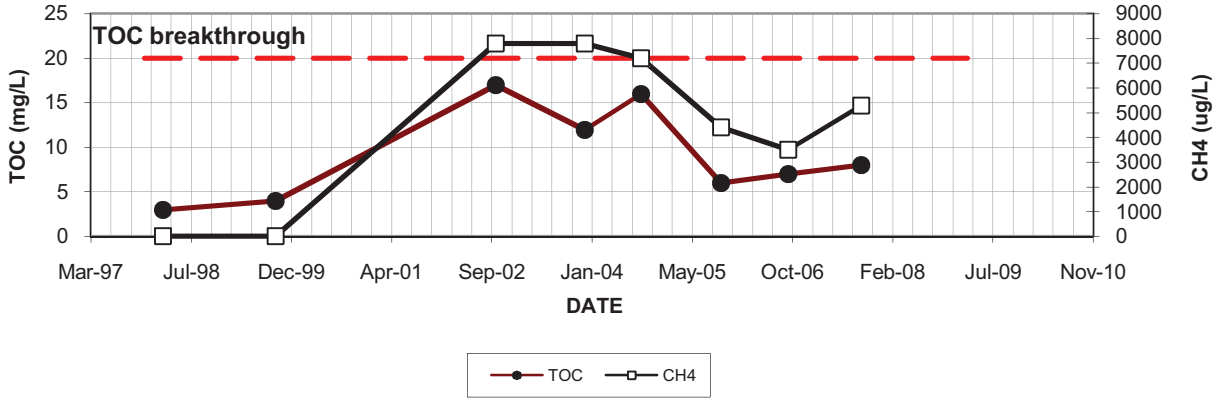


Figure D-6
GM-6 ERD Analysis





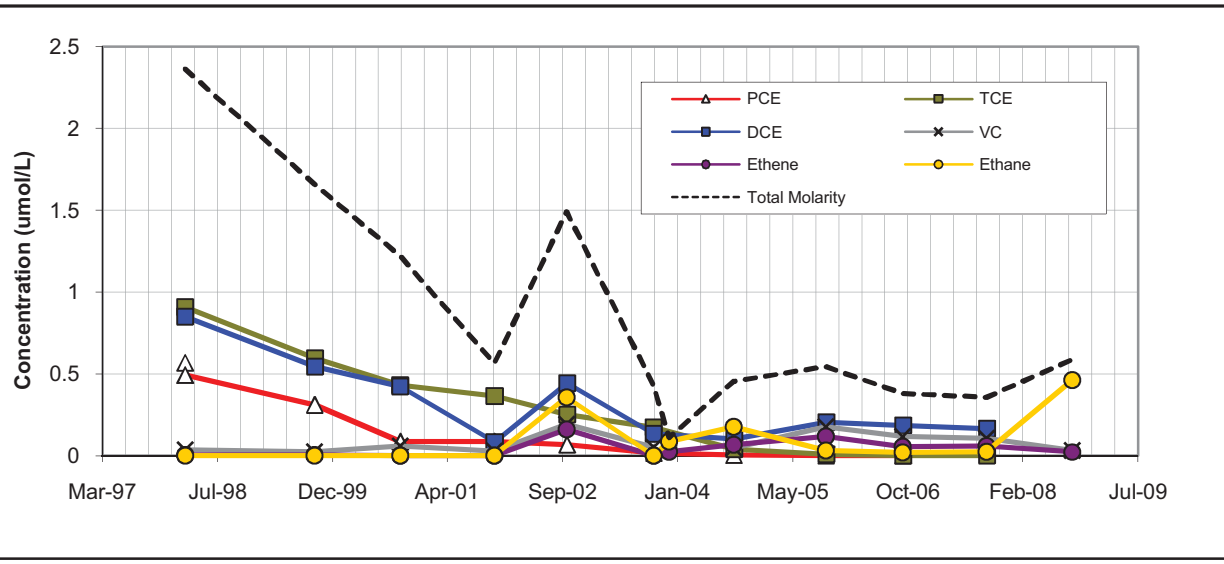
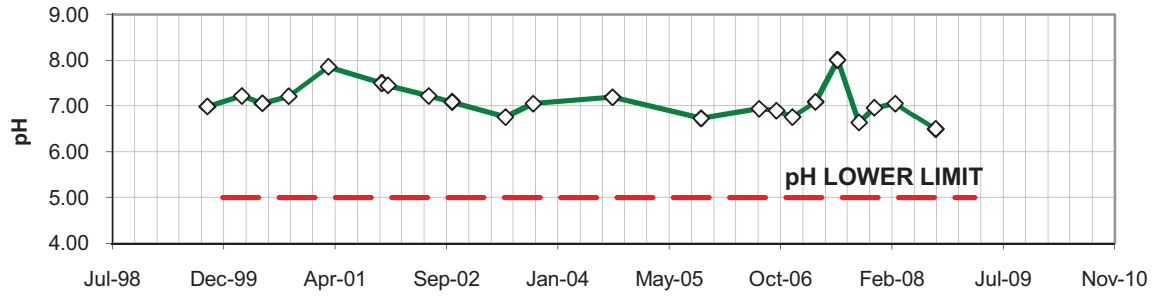
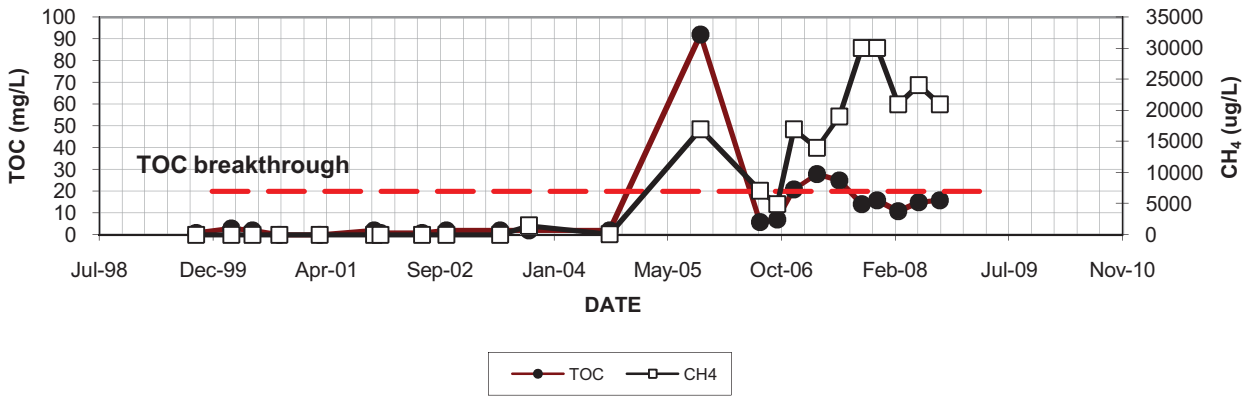


Figure D-7
GM-21 ERD Analysis





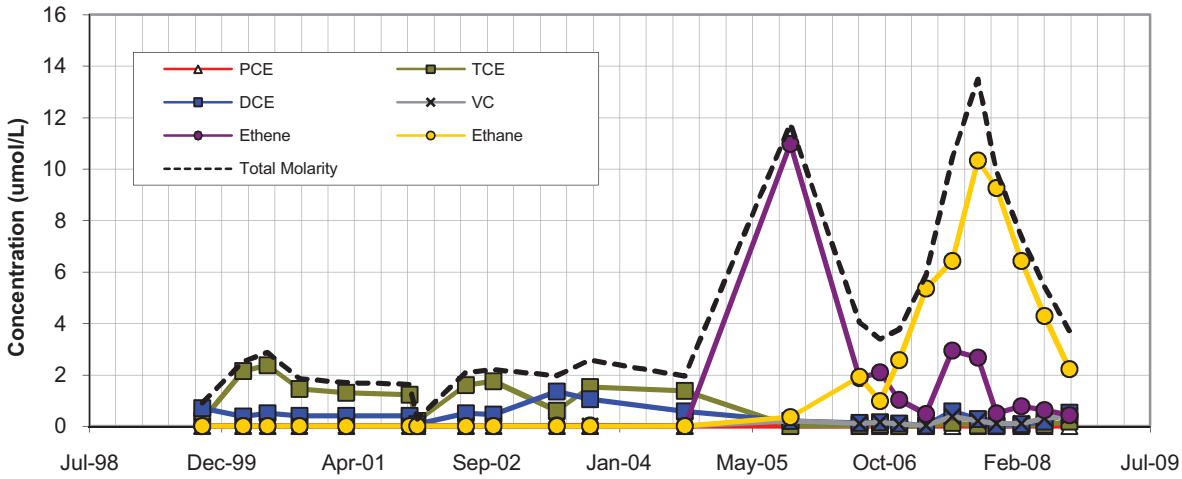
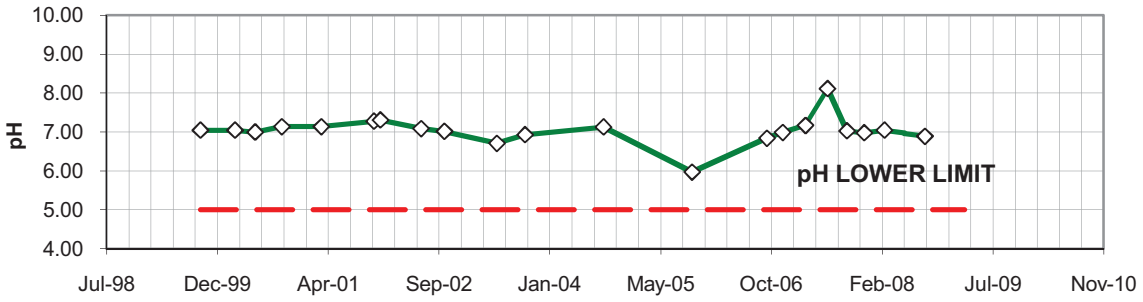
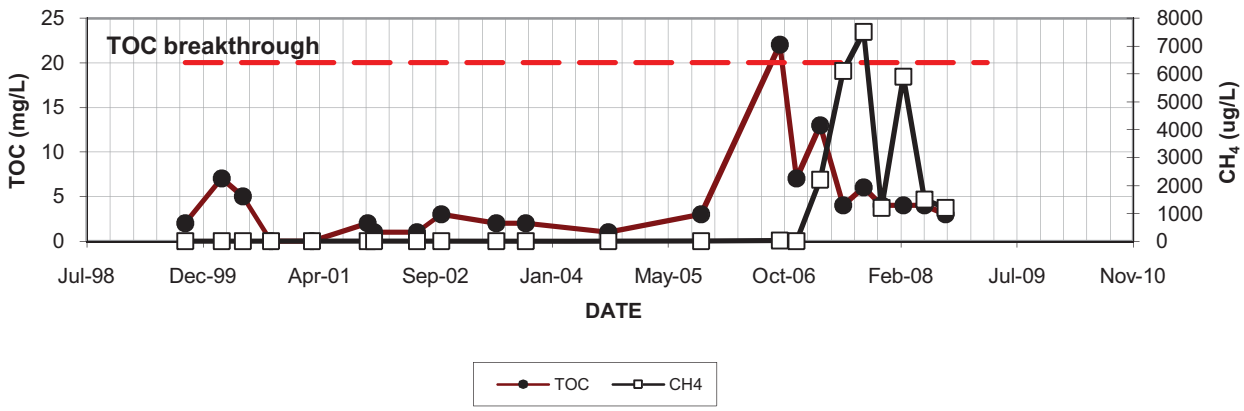
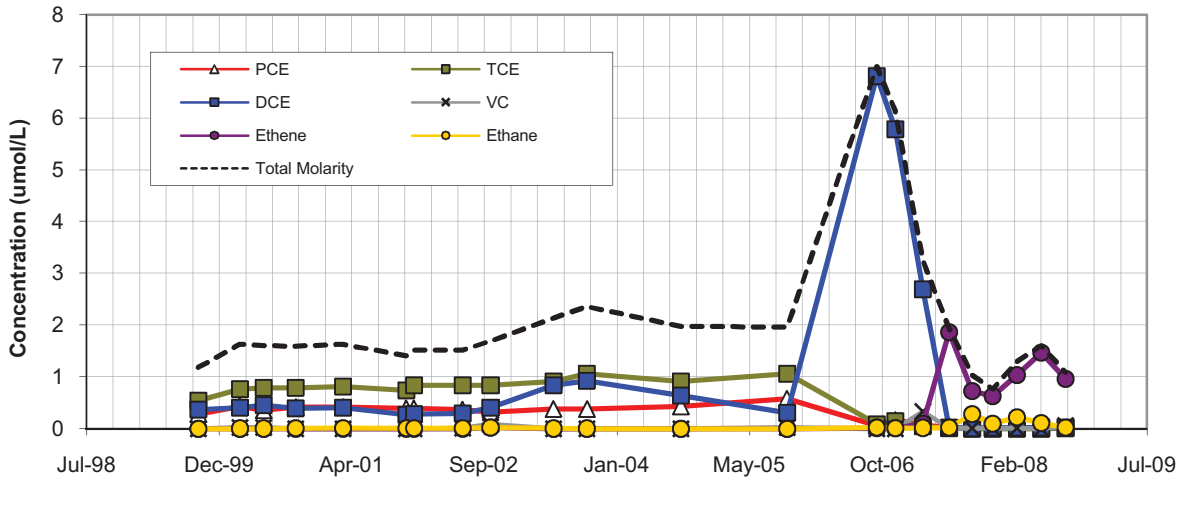


Figure D-8
GM-19S ERD Analysis







ARCADIS

Appendix E

Supporting Documentation for Corrective Action Completion Evaluation for 2008

Supporting Calculations
Table E-1: Source Reduction Factors

Potential Receptors Points	Well ID	Model Location (row, column, layer)	Pumping Rates	Potential Source Areas				
				Landfill 1	Landfill 2	Landfill 3	North Settling Lagoon	South Settling Lagoon
Shallow Treatment Well	TW-2	(215,144,1)	0	1.00E+00	1.47E-03	2.36E-05	4.50E-06	0.00E+00
Dryden North Well	DN-13	(225,117,3-4)	0	1.80E-01	8.24E-02	7.35E-03	8.23E-03	1.80E-02
Dryden South Well	DS-7	(249,118,3)	0	6.73E-01	4.04E-03	1.71E-04	1.29E-04	7.56E-05
Miami Shores Well Field	MS-14 MS-15	(252,75,3-5) (245,79,3-5)	0	2.02E-01	1.39E-01	3.94E-02	5.77E-02	1.87E-01
	MS-16 MS-17	(246,70,3-5) (250,66,3-5)	0	6.02E-02	1.51E-01	7.61E-02	1.19E-01	3.05E-01
	MS-18 MS-19 MS-20	(254,62,3-5) (255,70,3-5) (257,63,3-5)	0	1.79E-01	1.17E-01	5.70E-02	8.83E-02	2.15E-01
	MS-21	(256,54,3-5)	0	1.89E-02	1.02E-01	8.42E-02	1.34E-01	3.15E-01
	MS-22	(257,49,3-5)	0	4.41E-03	6.22E-02	7.08E-02	1.15E-01	2.63E-01
Moraine Assembly Production Wells	11B	(116,224,3)	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	12A	(108,226,3)	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Moraine Engine Well 28	28	(58,80,3)	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Moraine Engine Plant	31	(86,210,3)	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	39	(40,81,3)	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Harrison Production Wells	44	(29,70,3)	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	42	(54,59,3)	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
	45	(74,56,3)	0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
West Carrollton Well Field	WC-1	(282,27,3-5)	259	8.44E-06	2.65E-03	7.60E-03	1.14E-02	5.51E-03
	WC-3	(280,31,3-5)	259	1.51E-04	1.00E-02	2.19E-02	3.44E-02	4.00E-02
	WC-4	(281,29,3-5)	259	5.12E-05	6.01E-03	1.45E-02	1.03E-02	1.90E-02
Miami River [1]	--	--	--	6.76E-07	2.74E-04	1.02E-03	1.47E-03	4.25E-04

Notes:

1. Source reduction factors reflect updated groundwater model results generated using current site pumping conditions without interim measures pumping (Pumping Scenario 1a, ARCADIS 2008a)
2. Shadded cells indicate those potential receptor wells which are not pumping in pumping Scenario 1a (i.e., current conditions without interim measures pumping).
3. Dilution factors reported for the Miami River are mass loading factors to the river [$^{lb/day}/_{mg/L}$]

Supporting Calculations
Table E-2: Source Concentrations for In-Place Waste Management Units
(Based on all 2008 sampling data)

SWMU	TCL/TAL Group	Constituent	CASRN	Maximum Downgradient Ground Water Concentration (mg/L)
Landfill L1	VOC	1,1,1-Trichloroethane	71-55-6	**0.**
Landfill L1	VOC	1,1-Dichloroethane	75-34-3	**0.0056**
Landfill L1	VOC	1,1-Dichloroethene	75-35-4	**0.**
Landfill L1	VOC	1,2-Dichloroethene (total)	540-59-0	**0.**
Landfill L1	VOC	2-Butanone	78-93-3	**0.**
Landfill L1	VOC	Acetone	67-64-1	**0.**
Landfill L1	VOC	Benzene	71-43-2	**0.0012**
Landfill L1	VOC	Carbon Disulfide	75-15-0	**0.**
Landfill L1	VOC	Chlorobenzene	108-90-7	**0.**
Landfill L1	VOC	Chloroethane	75-00-3	**0.0542**
Landfill L1	VOC	Chloroform	67-66-3	**0.**
Landfill L1	VOC	cis-1,2-Dichloroethene	156-59-2	**0.0067**
Landfill L1	VOC	Ethyl Benzene	100-41-4	**0.0005**
Landfill L1	VOC	Styrene	100-42-5	**0.**
Landfill L1	VOC	Tetrachloroethene	127-18-4	**0.0013**
Landfill L1	VOC	Toluene	108-88-3	**0.**
Landfill L1	VOC	trans-1,2-Dichloroethene	156-60-5	**0.0013**
Landfill L1	VOC	Trichloroethene	79-01-6	**0.0024**
Landfill L1	VOC	Trichlorofluoromethane	75-69-4	**0.**
Landfill L1	VOC	Vinyl Chloride	75-01-4	**0.0021**
Landfill L1	VOC	Xylenes (total)	1330-20-7	**0.**
Landfill L1	SVOC	1,2-Dichlorobenzene	95-50-1	**0.**
Landfill L1	SVOC	2-Methylnaphthalene	91-57-6	**0.**
Landfill L1	SVOC	Benzo(a)anthracene	56-55-3	**0.**
Landfill L1	SVOC	Benzo(a)pyrene	50-32-8	**0.**
Landfill L1	SVOC	Benzo(b)fluoranthene	205-99-2	**0.**
Landfill L1	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	**0.**
Landfill L1	SVOC	Butylbenzylphthalate	85-68-7	**0.**
Landfill L1	SVOC	Chrysene	218-01-9	**0.**
Landfill L1	SVOC	Di-n-butylphthalate	84-74-2	**0.**
Landfill L1	SVOC	Fluoranthene	206-44-0	**0.**
Landfill L1	SVOC	Fluorene	86-73-7	**0.**
Landfill L1	SVOC	Naphthalene	91-20-3	**0.**
Landfill L1	SVOC	Phenanthrene	85-01-8	**0.**
Landfill L1	SVOC	Pyrene	129-00-0	**0.**
Landfill L1	P/PCB	Aroclor-1242	53469-21-9	**0.**
Landfill L1	P/PCB	Aroclor-1254	11097-69-1	**0.**
Landfill L1	P/PCB	Aroclor-1260	11096-82-5	**0.**
Landfill L1	INORG	Antimony	7440-36-0	**0.**
Landfill L1	INORG	Arsenic	7440-38-2	**0.022**
Landfill L1	INORG	Barium	7440-39-3	**0.49**
Landfill L1	INORG	Beryllium	7440-41-7	**0.**
Landfill L1	INORG	Cadmium	7440-43-9	**0.**
Landfill L1	INORG	Chromium (total)	7440-47-3	**0.0025**
Landfill L1	INORG	Cobalt	7440-48-4	**0.**
Landfill L1	INORG	Copper	7440-50-8	**0.**
Landfill L1	INORG	Cyanide (total)	57-12-5	**0.**
Landfill L1	INORG	Lead	7439-92-1	**0.**
Landfill L1	INORG	Manganese	7439-96-5	**0.7**
Landfill L1	INORG	Mercury	7439-97-6	**0.**
Landfill L1	INORG	Nickel	7440-02-0	**0.0117**
Landfill L1	INORG	Selenium	7782-49-2	**0.**
Landfill L1	INORG	Silver	7440-22-4	**0.**
Landfill L1	INORG	Thallium	7440-28-0	**0.**
Landfill L1	INORG	Vanadium	7440-62-2	**0.**
Landfill L1	INORG	Zinc	7440-66-6	**0.**
Notes:				
Downgradient wells: GM-02, GM-06, 4S				

Supporting Calculations
Table E-2: Source Concentrations for In-Place Waste Management Units
(Based on all 2008 sampling data)

SWMU	TCL/TAL Group	Constituent	CASRN	Maximum Downgradient Ground Water Concentration (mg/L)
Landfill L2	VOC	1,1,1-Trichloroethane	71-55-6	**0.0008**
Landfill L2	VOC	1,1-Dichloroethane	75-34-3	**0.016**
Landfill L2	VOC	1,1-Dichloroethene	75-35-4	**0.0003**
Landfill L2	VOC	1,2-Dichloroethene (total)	540-59-0	**0.**
Landfill L2	VOC	2-Butanone	78-93-3	**0.**
Landfill L2	VOC	Acetone	67-64-1	**0.**
Landfill L2	VOC	Benzene	71-43-2	**0.**
Landfill L2	VOC	Carbon Disulfide	75-15-0	**0.**
Landfill L2	VOC	Chlorobenzene	108-90-7	**0.**
Landfill L2	VOC	Chloroethane	75-00-3	**0.**
Landfill L2	VOC	Chloroform	67-66-3	**0.**
Landfill L2	VOC	cis-1,2-Dichloroethene	156-59-2	**0.017**
Landfill L2	VOC	Ethyl Benzene	100-41-4	**0.**
Landfill L2	VOC	Styrene	100-42-5	**0.**
Landfill L2	VOC	Tetrachloroethene	127-18-4	**0.0004**
Landfill L2	VOC	Toluene	108-88-3	**0.**
Landfill L2	VOC	trans-1,2-Dichloroethene	156-60-5	**0.0016**
Landfill L2	VOC	Trichloroethene	79-01-6	**0.032**
Landfill L2	VOC	Trichlorofluoromethane	75-69-4	**0.**
Landfill L2	VOC	Vinyl Chloride	75-01-4	**0.0022**
Landfill L2	VOC	Xylenes (total)	1330-20-7	**0.**
Landfill L2	SVOC	1,2-Dichlorobenzene	95-50-1	**0.**
Landfill L2	SVOC	2-Methylnaphthalene	91-57-6	**0.**
Landfill L2	SVOC	Benzo(a)anthracene	56-55-3	**0.**
Landfill L2	SVOC	Benzo(a)pyrene	50-32-8	**0.**
Landfill L2	SVOC	Benzo(b)fluoranthene	205-99-2	**0.**
Landfill L2	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	**0.**
Landfill L2	SVOC	Butylbenzylphthalate	85-68-7	**0.**
Landfill L2	SVOC	Chrysene	218-01-9	**0.**
Landfill L2	SVOC	Di-n-butylphthalate	84-74-2	**0.**
Landfill L2	SVOC	Fluoranthene	206-44-0	**0.**
Landfill L2	SVOC	Fluorene	86-73-7	**0.**
Landfill L2	SVOC	Naphthalene	91-20-3	**0.**
Landfill L2	SVOC	Phenanthrene	85-01-8	**0.**
Landfill L2	SVOC	Pyrene	129-00-0	**0.**
Landfill L2	P/PCB	Aroclor-1242	53469-21-9	**0.**
Landfill L2	P/PCB	Aroclor-1254	11097-69-1	**0.**
Landfill L2	P/PCB	Aroclor-1260	11096-82-5	**0.**
Landfill L2	INORG	Antimony	7440-36-0	**0.**
Landfill L2	INORG	Arsenic	7440-38-2	**0.**
Landfill L2	INORG	Barium	7440-39-3	**0.0795**
Landfill L2	INORG	Beryllium	7440-41-7	**0.**
Landfill L2	INORG	Cadmium	7440-43-9	**0.**
Landfill L2	INORG	Chromium (total)	7440-47-3	**0.**
Landfill L2	INORG	Cobalt	7440-48-4	**0.**
Landfill L2	INORG	Copper	7440-50-8	**0.**
Landfill L2	INORG	Cyanide (total)	57-12-5	**0.**
Landfill L2	INORG	Lead	7439-92-1	**0.**
Landfill L2	INORG	Manganese	7439-96-5	**0.211**
Landfill L2	INORG	Mercury	7439-97-6	**0.**
Landfill L2	INORG	Nickel	7440-02-0	**0.0116**
Landfill L2	INORG	Selenium	7782-49-2	**0.**
Landfill L2	INORG	Silver	7440-22-4	**0.**
Landfill L2	INORG	Thallium	7440-28-0	**0.**
Landfill L2	INORG	Vanadium	7440-62-2	**0.**
Landfill L2	INORG	Zinc	7440-66-6	**0.**
Notes:				
Downgradient wells: W-4-N, HR-2, HR-3				

Supporting Calculations
Table E-2: Source Concentrations for In-Place Waste Management Units
(Based on all 2008 sampling data)

SWMU	TCL/TAL Group	Constituent	CASRN	Maximum Downgradient Ground Water Concentration (mg/L)
Landfill L3	VOC	1,1,1-Trichloroethane	71-55-6	**0.0004**
Landfill L3	VOC	1,1-Dichloroethane	75-34-3	**0.0046**
Landfill L3	VOC	1,1-Dichloroethene	75-35-4	**0.**
Landfill L3	VOC	1,2-Dichloroethene (total)	540-59-0	**0.**
Landfill L3	VOC	2-Butanone	78-93-3	**0.**
Landfill L3	VOC	Acetone	67-64-1	**0.**
Landfill L3	VOC	Benzene	71-43-2	**0.**
Landfill L3	VOC	Carbon Disulfide	75-15-0	**0.**
Landfill L3	VOC	Chlorobenzene	108-90-7	**0.**
Landfill L3	VOC	Chloroethane	75-00-3	**0.**
Landfill L3	VOC	Chloroform	67-66-3	**0.**
Landfill L3	VOC	cis-1,2-Dichloroethene	156-59-2	**0.011**
Landfill L3	VOC	Ethyl Benzene	100-41-4	**0.**
Landfill L3	VOC	Styrene	100-42-5	**0.**
Landfill L3	VOC	Tetrachloroethene	127-18-4	**0.0004**
Landfill L3	VOC	Toluene	108-88-3	**0.**
Landfill L3	VOC	trans-1,2-Dichloroethene	156-60-5	**0.0009**
Landfill L3	VOC	Trichloroethene	79-01-6	**0.0084**
Landfill L3	VOC	Trichlorofluoromethane	75-69-4	**0.**
Landfill L3	VOC	Vinyl Chloride	75-01-4	**0.0003**
Landfill L3	VOC	Xylenes (total)	1330-20-7	**0.**
Landfill L3	SVOC	1,2-Dichlorobenzene	95-50-1	**0.**
Landfill L3	SVOC	2-Methylnaphthalene	91-57-6	**0.**
Landfill L3	SVOC	Benzo(a)anthracene	56-55-3	**0.**
Landfill L3	SVOC	Benzo(a)pyrene	50-32-8	**0.**
Landfill L3	SVOC	Benzo(b)fluoranthene	205-99-2	**0.**
Landfill L3	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	**0.**
Landfill L3	SVOC	Butylbenzylphthalate	85-68-7	**0.**
Landfill L3	SVOC	Chrysene	218-01-9	**0.**
Landfill L3	SVOC	Di-n-butylphthalate	84-74-2	**0.**
Landfill L3	SVOC	Fluoranthene	206-44-0	**0.**
Landfill L3	SVOC	Fluorene	86-73-7	**0.**
Landfill L3	SVOC	Naphthalene	91-20-3	**0.**
Landfill L3	SVOC	Phenanthrene	85-01-8	**0.**
Landfill L3	SVOC	Pyrene	129-00-0	**0.**
Landfill L3	P/PCB	Aroclor-1242	53469-21-9	**0.**
Landfill L3	P/PCB	Aroclor-1254	11097-69-1	**0.**
Landfill L3	P/PCB	Aroclor-1260	11096-82-5	**0.**
Landfill L3	INORG	Antimony	7440-36-0	**0.**
Landfill L3	INORG	Arsenic	7440-38-2	**0.**
Landfill L3	INORG	Barium	7440-39-3	**0.0675**
Landfill L3	INORG	Beryllium	7440-41-7	**0.**
Landfill L3	INORG	Cadmium	7440-43-9	**0.**
Landfill L3	INORG	Chromium (total)	7440-47-3	**0.**
Landfill L3	INORG	Cobalt	7440-48-4	**0.**
Landfill L3	INORG	Copper	7440-50-8	**0.**
Landfill L3	INORG	Cyanide (total)	57-12-5	**0.**
Landfill L3	INORG	Lead	7439-92-1	**0.**
Landfill L3	INORG	Manganese	7439-96-5	**0.**
Landfill L3	INORG	Mercury	7439-97-6	**0.**
Landfill L3	INORG	Nickel	7440-02-0	**0.0116**
Landfill L3	INORG	Selenium	7782-49-2	**0.**
Landfill L3	INORG	Silver	7440-22-4	**0.**
Landfill L3	INORG	Thallium	7440-28-0	**0.**
Landfill L3	INORG	Vanadium	7440-62-2	**0.**
Landfill L3	INORG	Zinc	7440-66-6	**0.**
Notes:				
Downgradient wells: W-4-N, HR-2, HR-4				

Supporting Calculations
Table E-2: Source Concentrations for In-Place Waste Management Units
(Based on all 2008 sampling data)

SWMU	TCL/TAL Group	Constituent	CASRN	Maximum Downgradient Ground Water Concentration (mg/L)
North Settling Lagoon	VOC	1,1,1-Trichloroethane	71-55-6	**0.**
North Settling Lagoon	VOC	1,1-Dichloroethane	75-34-3	**0.**
North Settling Lagoon	VOC	1,1-Dichloroethene	75-35-4	**0.**
North Settling Lagoon	VOC	1,2-Dichloroethene (total)	540-59-0	**0.**
North Settling Lagoon	VOC	2-Butanone	78-93-3	**0.**
North Settling Lagoon	VOC	Acetone	67-64-1	**0.**
North Settling Lagoon	VOC	Benzene	71-43-2	**0.**
North Settling Lagoon	VOC	Carbon Disulfide	75-15-0	**0.**
North Settling Lagoon	VOC	Chlorobenzene	108-90-7	**0.**
North Settling Lagoon	VOC	Chloroethane	75-00-3	**0.**
North Settling Lagoon	VOC	Chloroform	67-66-3	**0.**
North Settling Lagoon	VOC	cis-1,2-Dichloroethene	156-59-2	**0.098**
North Settling Lagoon	VOC	Ethyl Benzene	100-41-4	**0.**
North Settling Lagoon	VOC	Styrene	100-42-5	**0.**
North Settling Lagoon	VOC	Tetrachloroethene	127-18-4	**0.0004**
North Settling Lagoon	VOC	Toluene	108-88-3	**0.**
North Settling Lagoon	VOC	trans-1,2-Dichloroethene	156-60-5	**0.0014**
North Settling Lagoon	VOC	Trichloroethene	79-01-6	**0.0084**
North Settling Lagoon	VOC	Trichlorofluoromethane	75-69-4	**0.**
North Settling Lagoon	VOC	Vinyl Chloride	75-01-4	**0.0038**
North Settling Lagoon	VOC	Xylenes (total)	1330-20-7	**0.**
North Settling Lagoon	SVOC	1,2-Dichlorobenzene	95-50-1	**0.**
North Settling Lagoon	SVOC	2-Methylnaphthalene	91-57-6	**0.**
North Settling Lagoon	SVOC	Benzo(a)anthracene	56-55-3	**0.**
North Settling Lagoon	SVOC	Benzo(a)pyrene	50-32-8	**0.**
North Settling Lagoon	SVOC	Benzo(b)fluoranthene	205-99-2	**0.**
North Settling Lagoon	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	**0.**
North Settling Lagoon	SVOC	Butylbenzylphthalate	85-68-7	**0.**
North Settling Lagoon	SVOC	Chrysene	218-01-9	**0.**
North Settling Lagoon	SVOC	Di-n-butylphthalate	84-74-2	**0.**
North Settling Lagoon	SVOC	Fluoranthene	206-44-0	**0.**
North Settling Lagoon	SVOC	Fluorene	86-73-7	**0.**
North Settling Lagoon	SVOC	Naphthalene	91-20-3	**0.**
North Settling Lagoon	SVOC	Phenanthrene	85-01-8	**0.**
North Settling Lagoon	SVOC	Pyrene	129-00-0	**0.**
North Settling Lagoon	P/PCB	Aroclor-1242	53469-21-9	**0.**
North Settling Lagoon	P/PCB	Aroclor-1254	11097-69-1	**0.**
North Settling Lagoon	P/PCB	Aroclor-1260	11096-82-5	**0.**
North Settling Lagoon	INORG	Antimony	7440-36-0	**0.**
North Settling Lagoon	INORG	Arsenic	7440-38-2	**0.0074**
North Settling Lagoon	INORG	Barium	7440-39-3	**0.0986**
North Settling Lagoon	INORG	Beryllium	7440-41-7	**0.**
North Settling Lagoon	INORG	Cadmium	7440-43-9	**0.**
North Settling Lagoon	INORG	Chromium (total)	7440-47-3	**0.**
North Settling Lagoon	INORG	Cobalt	7440-48-4	**0.**
North Settling Lagoon	INORG	Copper	7440-50-8	**0.0055**
North Settling Lagoon	INORG	Cyanide (total)	57-12-5	**0.**
North Settling Lagoon	INORG	Lead	7439-92-1	**0.001**
North Settling Lagoon	INORG	Manganese	7439-96-5	**0.**
North Settling Lagoon	INORG	Mercury	7439-97-6	**0.**
North Settling Lagoon	INORG	Nickel	7440-02-0	**0.0116**
North Settling Lagoon	INORG	Selenium	7782-49-2	**0.**
North Settling Lagoon	INORG	Silver	7440-22-4	**0.**
North Settling Lagoon	INORG	Thallium	7440-28-0	**0.**
North Settling Lagoon	INORG	Vanadium	7440-62-2	**0.**
North Settling Lagoon	INORG	Zinc	7440-66-6	**0.**
Notes:				
Downgradient wells: W-2-N, W-3-N, W-4-N				

Supporting Calculations
Table E-2: Source Concentrations for In-Place Waste Management Units
(Based on all 2008 sampling data)

SWMU	TCL/TAL Group	Constituent	CASRN	Maximum Downgradient Ground Water Concentration (mg/L)
South Settling Lagoon	VOC	1,1,1-Trichloroethane	71-55-6	**0.**
South Settling Lagoon	VOC	1,1-Dichloroethane	75-34-3	**0.**
South Settling Lagoon	VOC	1,1-Dichloroethene	75-35-4	**0.**
South Settling Lagoon	VOC	1,2-Dichloroethene (total)	540-59-0	**0.**
South Settling Lagoon	VOC	2-Butanone	78-93-3	**0.**
South Settling Lagoon	VOC	Acetone	67-64-1	**0.**
South Settling Lagoon	VOC	Benzene	71-43-2	**0.**
South Settling Lagoon	VOC	Carbon Disulfide	75-15-0	**0.**
South Settling Lagoon	VOC	Chlorobenzene	108-90-7	**0.**
South Settling Lagoon	VOC	Chloroethane	75-00-3	**0.**
South Settling Lagoon	VOC	Chloroform	67-66-3	**0.**
South Settling Lagoon	VOC	cis-1,2-Dichloroethene	156-59-2	**0.0066**
South Settling Lagoon	VOC	Ethyl Benzene	100-41-4	**0.**
South Settling Lagoon	VOC	Styrene	100-42-5	**0.**
South Settling Lagoon	VOC	Tetrachloroethene	127-18-4	**0.**
South Settling Lagoon	VOC	Toluene	108-88-3	**0.**
South Settling Lagoon	VOC	trans-1,2-Dichloroethene	156-60-5	**0.**
South Settling Lagoon	VOC	Trichloroethene	79-01-6	**0.**
South Settling Lagoon	VOC	Trichlorofluoromethane	75-69-4	**0.0031**
South Settling Lagoon	VOC	Vinyl Chloride	75-01-4	**0.**
South Settling Lagoon	VOC	Xylenes (total)	1330-20-7	**0.**
South Settling Lagoon	SVOC	1,2-Dichlorobenzene	95-50-1	**0.**
South Settling Lagoon	SVOC	2-Methylnaphthalene	91-57-6	**0.**
South Settling Lagoon	SVOC	Benzo(a)anthracene	56-55-3	**0.**
South Settling Lagoon	SVOC	Benzo(a)pyrene	50-32-8	**0.**
South Settling Lagoon	SVOC	Benzo(b)fluoranthene	205-99-2	**0.**
South Settling Lagoon	SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	**0.**
South Settling Lagoon	SVOC	Butylbenzylphthalate	85-68-7	**0.**
South Settling Lagoon	SVOC	Chrysene	218-01-9	**0.**
South Settling Lagoon	SVOC	Di-n-butylphthalate	84-74-2	**0.**
South Settling Lagoon	SVOC	Fluoranthene	206-44-0	**0.**
South Settling Lagoon	SVOC	Fluorene	86-73-7	**0.**
South Settling Lagoon	SVOC	Naphthalene	91-20-3	**0.**
South Settling Lagoon	SVOC	Phenanthrene	85-01-8	**0.**
South Settling Lagoon	SVOC	Pyrene	129-00-0	**0.**
South Settling Lagoon	P/PCB	Aroclor-1242	53469-21-9	**0.**
South Settling Lagoon	P/PCB	Aroclor-1254	11097-69-1	**0.**
South Settling Lagoon	P/PCB	Aroclor-1260	11096-82-5	**0.**
South Settling Lagoon	INORG	Antimony	7440-36-0	**0.**
South Settling Lagoon	INORG	Arsenic	7440-38-2	**0.**
South Settling Lagoon	INORG	Barium	7440-39-3	**0.176**
South Settling Lagoon	INORG	Beryllium	7440-41-7	**0.**
South Settling Lagoon	INORG	Cadmium	7440-43-9	**0.**
South Settling Lagoon	INORG	Chromium (total)	7440-47-3	**0.0035**
South Settling Lagoon	INORG	Cobalt	7440-48-4	**0.0144**
South Settling Lagoon	INORG	Copper	7440-50-8	**0.**
South Settling Lagoon	INORG	Cyanide (total)	57-12-5	**0.**
South Settling Lagoon	INORG	Lead	7439-92-1	**0.**
South Settling Lagoon	INORG	Manganese	7439-96-5	**0.115**
South Settling Lagoon	INORG	Mercury	7439-97-6	**0.**
South Settling Lagoon	INORG	Nickel	7440-02-0	**0.0067**
South Settling Lagoon	INORG	Selenium	7782-49-2	**0.**
South Settling Lagoon	INORG	Silver	7440-22-4	**0.**
South Settling Lagoon	INORG	Thallium	7440-28-0	**0.**
South Settling Lagoon	INORG	Vanadium	7440-62-2	**0.**
South Settling Lagoon	INORG	Zinc	7440-66-6	**0.**
Notes:				
Downgradient wells: W-2-S, W-3-S, W-4-S				

Supporting Calculations
Table E-3a: Estimated Contributions to Ground Water Concentrations (mg/L) at West Carrollton Receptor Point (Pumping Scenario 1a)

TCL/TAL Group	Constituent	CASRN	Landfill L1	Landfill L2	Landfill L3	N Settling Lagoon	S Settling Lagoon	Total	Criteria	Flag
VOC	1,1,1-Trichloroethane	71-55-6		5.22E-06	5.72E-06			0.0001	0.2	
VOC	1,1-Dichloroethane	75-34-3	3.93E-07	9.95E-05	6.75E-05			0.0002	3.65	
VOC	1,1-Dichloroethene	75-35-4		1.68E-06				0.	0.007	
VOC	1,2-Dichloroethene (total)	540-59-0						0.	0.07	
VOC	2-Butanone	78-93-3						0.0001	21.9	
VOC	Acetone	67-64-1						0.	32.85	
VOC	Benzene	71-43-2	8.43E-08					0.	0.005	
VOC	Carbon Disulfide	75-15-0						0.	3.65	
VOC	Chlorobenzene	108-90-7						0.	0.1	
VOC	Chloroethane	75-00-3	3.81E-06					0.	14.6	
VOC	Chloroform	67-66-3						0.	0.08	
VOC	cis-1,2-Dichloroethene	156-59-2	4.70E-07	1.06E-04	1.61E-04	1.83E-03	1.41E-04	0.003	0.07	
VOC	Ethyl Benzene	100-41-4	3.65E-08					0.	0.7	
VOC	Styrene	100-42-5						0.	0.1	
VOC	Tetrachloroethene	127-18-4	9.13E-08	2.36E-06	6.45E-06	7.11E-06		0.0002	0.005	
VOC	Toluene	108-88-3						0.	1.	
VOC	trans-1,2-Dichloroethene	156-60-5	9.13E-08	9.95E-06	1.35E-05	2.62E-05		0.0001	0.1	
VOC	Trichloroethene	79-01-6	1.69E-07	1.99E-04	1.23E-04	1.57E-04		0.0007	0.005	
VOC	Trichlorofluoromethane	75-69-4					6.67E-05	0.0001	10.95	
VOC	Vinyl Chloride	75-01-4	1.47E-07	1.37E-05	4.99E-06	7.11E-05		0.0002	0.002	
VOC	Xylenes (total)	1330-20-7						0.	10.	
SVOC	1,2-Dichlorobenzene	95-50-1						0.	0.6	
SVOC	2-Methylnaphthalene	91-57-6						0.	0.73	
SVOC	Benzo(a)anthracene	56-55-3						0.	0.0009	
SVOC	Benzo(a)pyrene	50-32-8						0.	0.0002	
SVOC	Benzo(b)fluoranthene	205-99-2						0.	0.0009	
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7						0.	0.006	
SVOC	Butylbenzylphthalate	85-68-7						0.	7.3	
SVOC	Chrysene	218-01-9						0.	0.0921	
SVOC	Di-n-butylphthalate	84-74-2						0.	3.7	
SVOC	Fluoranthene	206-44-0						0.0001	1.46	
SVOC	Fluorene	86-73-7						0.0001	1.46	
SVOC	Naphthalene	91-20-3						0.0002	0.73	
SVOC	Phenanthrene	85-01-8						0.0007	1.095	
SVOC	Pyrene	129-00-0						0.	1.095	
P/PCB	Aroclor-1242	53469-21-9						0.	0.0005	
P/PCB	Aroclor-1254	11097-69-1						0.	0.0005	
P/PCB	Aroclor-1260	11096-82-5						0.	0.0005	
INORG	Antimony	7440-36-0						0.0001	0.006	
INORG	Arsenic	7440-38-2	1.54E-06			1.38E-04		0.0002	0.01	
INORG	Barium	7440-39-3	3.44E-05	4.94E-04	9.90E-04	1.84E-03	3.78E-03	0.0073	2.	
INORG	Beryllium	7440-41-7						0.	0.004	
INORG	Cadmium	7440-43-9						0.	0.005	
INORG	Chromium (total)	7440-47-3	1.76E-07				7.53E-05	0.0004	0.1	
INORG	Cobalt	7440-48-4					3.10E-04	0.0005	0.73	
INORG	Copper	7440-50-8				1.03E-04		0.0001	1.3	
INORG	Cyanide (total)	57-12-5						0.	0.2	
INORG	Lead	7439-92-1				1.87E-05		0.0001	0.015	
INORG	Manganese	7439-96-5	4.91E-05	1.31E-03			2.47E-03	0.0147	0.876	
INORG	Mercury	7439-97-6						0.	0.002	
INORG	Nickel	7440-02-0	8.21E-07	7.22E-05	1.70E-04	2.17E-04	1.44E-04	0.0007	0.73	
INORG	Selenium	7782-49-2						0.0001	0.05	
INORG	Silver	7440-22-4						0.0001	0.1825	
INORG	Thallium	7440-28-0						0.	0.002	
INORG	Vanadium	7440-62-2						0.	0.0365	
INORG	Zinc	7440-66-6						0.0024	10.95	

Supporting Calculations
Table E-3b: Estimated Contributions to Ground Water Concentrations (mg/L) at Great Miami River Receptor Point (Pumping Scenario 1a)

TCL/TAL Group	Constituent	CASRN	Landfill L1	Landfill L2	Landfill L3	N Settling Lagoon	S Settling Lagoon	Total	Criteria	Flag
VOC	1,1,1-Trichloroethane	71-55-6		1.74E-11	3.01E-11			0.	0.2	
VOC	1,1-Dichloroethane	75-34-3	2.86E-13	3.31E-10	3.54E-10			0.	3.65	
VOC	1,1-Dichloroethene	75-35-4		5.59E-12				0.	0.007	
VOC	1,2-Dichloroethene (total)	540-59-0						0.	0.07	
VOC	2-Butanone	78-93-3						0.	21.9	
VOC	Acetone	67-64-1						0.	32.85	
VOC	Benzene	71-43-2	6.13E-14					0.	0.005	
VOC	Carbon Disulfide	75-15-0						0.	3.65	
VOC	Chlorobenzene	108-90-7						0.	0.1	
VOC	Chloroethane	75-00-3	2.77E-12					0.	14.6	
VOC	Chloroform	67-66-3						0.	0.08	
VOC	cis-1,2-Dichloroethene	156-59-2	3.42E-13	3.52E-10	8.48E-10	1.09E-08	2.10E-10	0.	0.07	
VOC	Ethyl Benzene	100-41-4	2.66E-14					0.	0.7	
VOC	Styrene	100-42-5						0.	0.1	
VOC	Tetrachloroethene	127-18-4	6.64E-14	7.87E-12	3.39E-11	4.22E-11		0.	0.005	
VOC	Toluene	108-88-3						0.	1.	
VOC	trans-1,2-Dichloroethene	156-60-5	6.64E-14	3.31E-11	7.09E-11	1.55E-10		0.	0.1	
VOC	Trichloroethene	79-01-6	1.23E-13	6.62E-10	6.47E-10	9.33E-10		0.	0.005	
VOC	Trichlorofluoromethane	75-69-4					9.95E-11	0.	10.95	
VOC	Vinyl Chloride	75-01-4	1.07E-13	4.55E-11	2.62E-11	4.22E-10		0.	0.002	
VOC	Xylenes (total)	1330-20-7						0.	10.	
SVOC	1,2-Dichlorobenzene	95-50-1						0.	0.6	
SVOC	2-Methylnaphthalene	91-57-6						0.	0.73	
SVOC	Benzo(a)anthracene	56-55-3						0.	0.0009	
SVOC	Benzo(a)pyrene	50-32-8						0.	0.0002	
SVOC	Benzo(b)fluoranthene	205-99-2						0.	0.0009	
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7						0.	0.006	
SVOC	Butylbenzylphthalate	85-68-7						0.	7.3	
SVOC	Chrysene	218-01-9						0.	0.0921	
SVOC	Di-n-butylphthalate	84-74-2						0.	3.7	
SVOC	Fluoranthene	206-44-0						0.	1.46	
SVOC	Fluorene	86-73-7						0.	1.46	
SVOC	Naphthalene	91-20-3						0.	0.73	
SVOC	Phenanthrene	85-01-8						0.	1.095	
SVOC	Pyrene	129-00-0						0.	1.095	
P/PCB	Aroclor-1242	53469-21-9						0.	0.0005	
P/PCB	Aroclor-1254	11097-69-1						0.	0.0005	
P/PCB	Aroclor-1260	11096-82-5						0.	0.0005	
INORG	Antimony	7440-36-0						0.	0.006	
INORG	Arsenic	7440-38-2	1.12E-12			8.22E-10		0.	0.01	
INORG	Barium	7440-39-3	2.50E-11	1.65E-09	5.20E-09	1.10E-08	5.65E-09	0.	2.	
INORG	Beryllium	7440-41-7						0.	0.004	
INORG	Cadmium	7440-43-9						0.	0.005	
INORG	Chromium (total)	7440-47-3	1.28E-13				1.12E-10	0.	0.1	
INORG	Cobalt	7440-48-4					4.62E-10	0.	0.73	
INORG	Copper	7440-50-8				6.11E-10		0.	1.3	
INORG	Cyanide (total)	57-12-5						0.	0.2	
INORG	Lead	7439-92-1				1.11E-10		0.	0.015	
INORG	Manganese	7439-96-5	3.58E-11	4.37E-09			3.69E-09	0.	0.876	
INORG	Mercury	7439-97-6						0.	0.002	
INORG	Nickel	7440-02-0	5.98E-13	2.40E-10	8.94E-10	1.29E-09	2.15E-10	0.	0.73	
INORG	Selenium	7782-49-2						0.	0.05	
INORG	Silver	7440-22-4						0.	0.1825	
INORG	Thallium	7440-28-0						0.	0.002	
INORG	Vanadium	7440-62-2						0.	0.0365	
INORG	Zinc	7440-66-6						0.	10.95	

TABLE E-4: Preliminary Remediation Target Levels (Updated February 2009)

Remediation Target Levels (mg/L) - Upper Aquifer

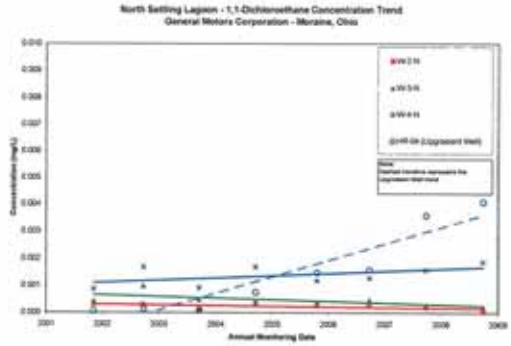
			Constituent of Concern					
Point of Compliance	***GM-26***		***PCE***	***TCE***	***1,1-DCE***	***cis-1,2-DCE***	***Vinyl Chloride***	**monitoring wells**
Allowable POC Concentration (mg/L):			***0.005***	***0.005***	***0.007***	***0.070***	***0.002***	
Estimated Remediation Target Level at AOI 7 (mg/L):			***0.500***	***0.500***	***0.700***	***7.000***	***0.200***	GM-23, GM-29 and GM-30
Distance from AOI 7 (monitoring zone)	**Source Reduction Factor[1]**	**Normalized Remediation Target**	**Remediation Target (mg/L)**	**Remediation Target (mg/L)**	**Remediation Target (mg/L)**	**Remediation Target (mg/L)**	**Remediation Target (mg/L)**	
140 ft (Zone S1)	0.90	90	0.450	0.450	0.630	6.300	0.180	GM-28
1190 ft (Zone S1 to Zone S2)	0.19	19	0.095	0.095	0.133	1.330	0.038	GM-28, ME-6
2240 ft (Zone S2)	0.10	10	0.050	0.050	0.070	0.700	0.020	ME-6, ME-3, GM-31
2940 ft (Zone S2 to Zone S3)	0.09	9	0.045	0.045	0.063	0.630	0.018	ME-6, ME-3, GM-31, GM-22, GM-19S, and EAST
3640 ft (Zone S3)	0.07	7	0.035	0.035	0.049	0.490	0.014	GM-32, GM-21, W-4-S, GM-63, and GM-64
4430 ft (Zone S3 to GM-10)	0.05	5	0.025	0.025	0.035	0.350	0.010	GM-47, GM-50, GM-51, GM-63, GM-64, GM-32, GM-21, GM-8, GM-6, 4S, GM-2, GM-16, GM-17, GM-18, WSU-24, W-4-S, and GM-10
5215 ft (GM-10/GM-52)	0.04	4	0.020	0.020	0.028	0.280	0.008	GM-10 and GM-52
6370 ft (POC)	0.01	1	0.005	0.005	0.007	0.070	0.002	GM-26

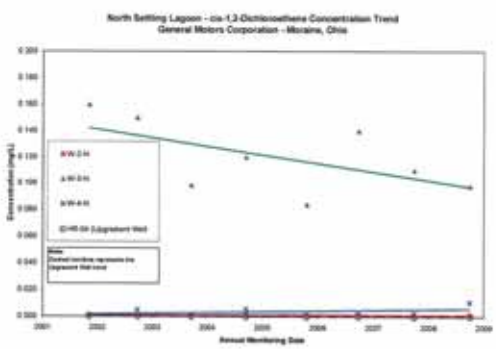
Remediation Target Level (mg/L) - Lower Aquifer

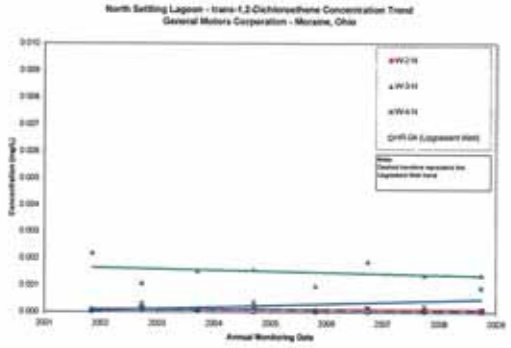
			Constituent of Concern					
Point of Compliance	***GM-11, GM-15 and GM-20D***		***PCE***	***TCE***	***1,1-DCE***	***cis-1,2-DCE***	***Vinyl Chloride***	**monitoring wells**
Allowable POC Concentration (mg/L):			***0.005***	***0.005***	***0.007***	***0.070***	***0.002***	
Estimated Remediation Target Level at AOI 7 (mg/L):			***0.167***	***0.167***	***0.233***	***2.333***	***0.067***	GM-23, GM-29 and GM-30
Distance from AOI 7 (monitoring zone)	**Source Reduction Factor[1]**	**Normalized Remediation Target**	**Remediation Target (mg/L)**	**Remediation Target (mg/L)**	**Remediation Target (mg/L)**	**Remediation Target (mg/L)**	**Remediation Target (mg/L)**	
2000 ft (GM-40/41/54)	0.26	8.7	0.043	0.043	0.061	0.607	0.017	GM-40, GM-41, and GM-52
2900 ft (Well GM-42)	0.14	4.7	0.023	0.023	0.033	0.327	0.009	GM-42 (replaces Well 32)
3600 ft (Well GM-19D)	0.09	3.0	0.015	0.015	0.021	0.210	0.006	GM-19D
4250 ft (Zone D2)	0.055	1.8	0.009	0.009	0.013	0.128	0.004	GM-1 and GM-3
4900 ft (POC)	0.03	1.0	0.005	0.005	0.007	0.070	0.002	GM-11, GM-15 and GM-20D

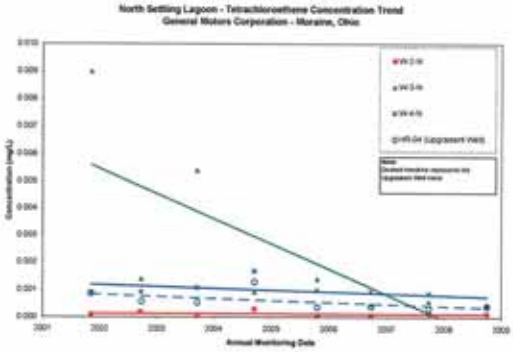
Note
1. Source Reduction Factors reflect updated groundwater model results generated using current site conditions without interim measures pumping (ARCADIS 2008a

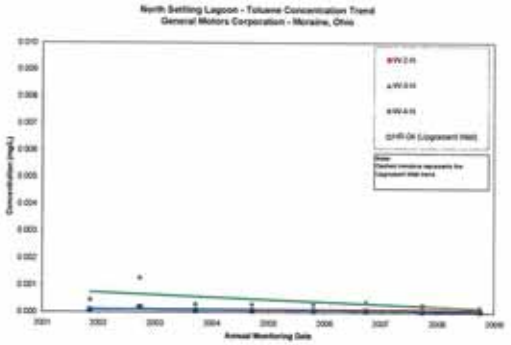
Figure E-1:
North Settling Lagoon

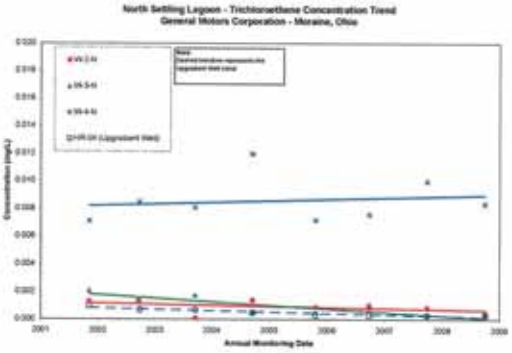


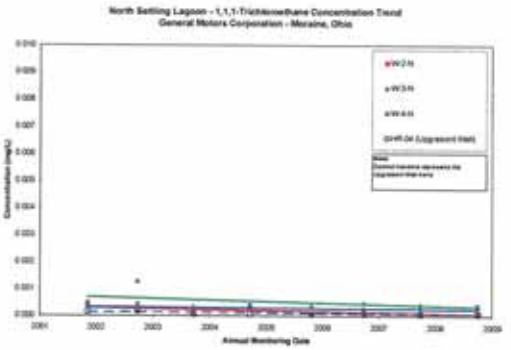












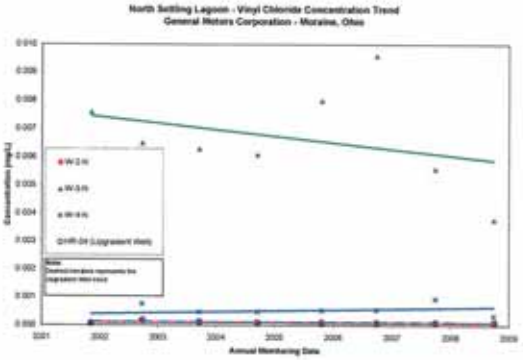
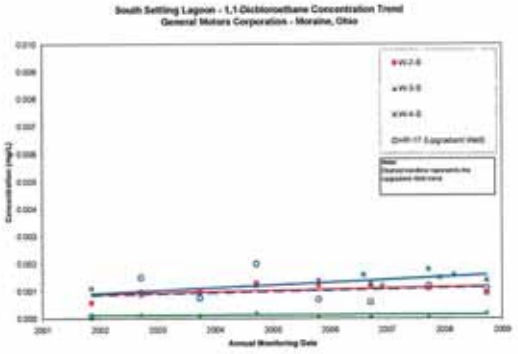
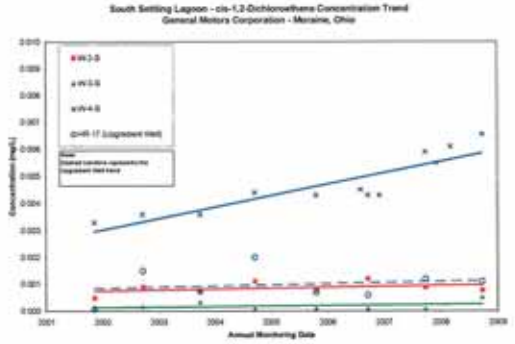
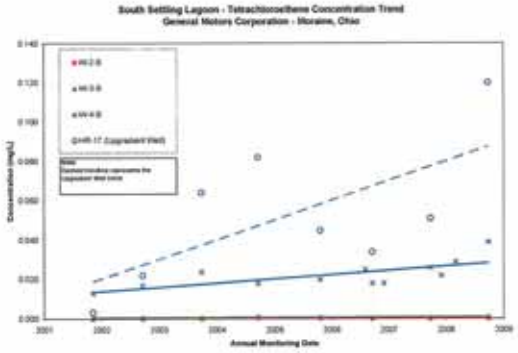
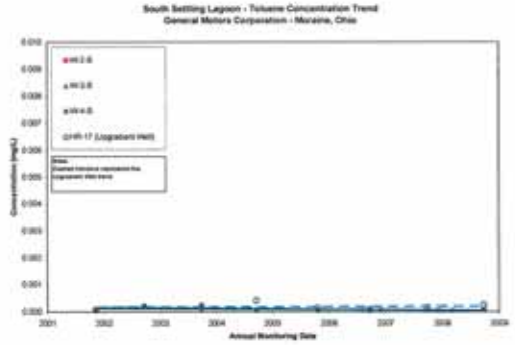


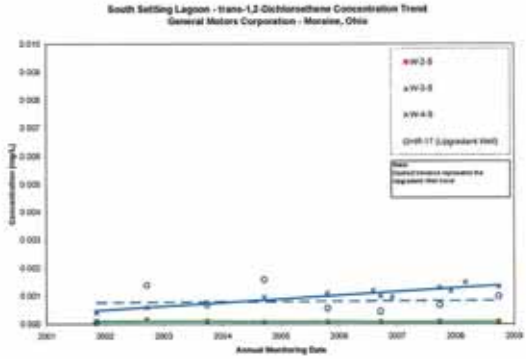
Figure E-2:
South Settling Lagoon

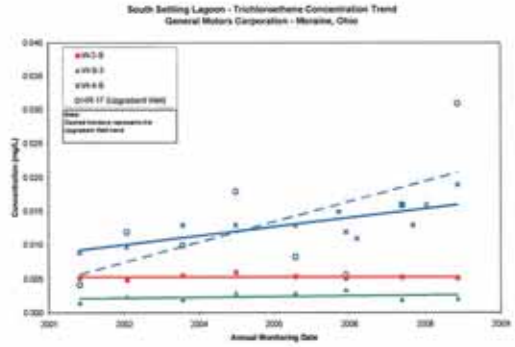


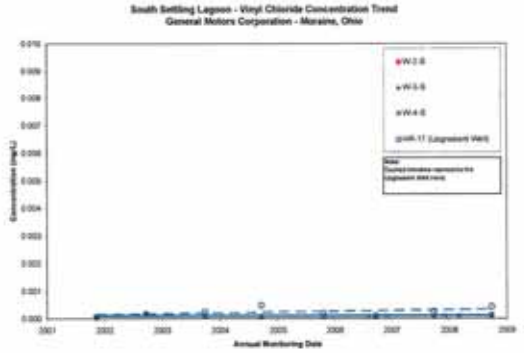












APPENDIX G

2008 Corrective Measures Proposal

ARCADIS
Infrastructure, environment, facilities

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Draft

Corrective Measures Proposal

General Motors Corporation
Moraine, Ohio

August 25, 2008

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1. Introduction

A multi-phased Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) was completed for the following General Motors Corporation (GM) facilities located in Moraine, Ohio (Site) (Figure 1): former Delphi Harrison Thermal Systems Moraine Plant (former Delphi Thermal Moraine [leased to Delphi Corporation between January 1999 and September 2003]), former General Motors Powertrain Group, Moraine Engine Plant (former Moraine Engine), and General Motors Truck Group, Moraine Assembly Plant (Moraine Assembly) and approved by the United States Environmental Protection Agency (U.S. EPA) in June 2000 (ARCADIS Geraghty & Miller, Inc. 2000a and b, ENVIRON Corporation 2000a and b). The RFI, conducted during the period of 1992 to 1998, identified that the primary source area of volatile organic compounds (VOCs) in shallow groundwater at the three facilities is located at the Area of Interest (AOI) 7 - Former Oil House Area, in the northern portion of the former Moraine Engine facility (Figure 2). The Baseline Risk Assessment (BRA) concluded that, under current conditions, there was no unacceptable risk associated with constituents detected in soil/waste at the AOIs and Solid Waste Management Units (SWMUs) investigated in the RFI. However, the BRA also concluded that constituents detected in groundwater at the Former Oil House Area may migrate to the extent that reasonably expected future uses of groundwater might be affected. Therefore, the focus of the Interim Measures/Corrective Measures (IM/CM) Report (ARCADIS Geraghty & Miller, Inc. 2001) was development of a site-wide remedy that addressed the source of the VOCs in groundwater and the downgradient plume based on the site conceptual model at that time.

The IM/CM Report, which was submitted to the U.S. EPA on March 2, 2001, served as the site-wide corrective measures report for the three facilities. Subsequent to submittal of the IM/CM Report, implementation of the corrective measures proposed in the IM/CM Report have been conducted on an ongoing basis by GM. These corrective measures include: the Former Oil House Area corrective measures (in-situ remediation of groundwater in the Former Oil House Area and downgradient of the Former Oil House Area, see Figure 2); the capture zone corrective measures (hydraulic control with a pump and treat system for the upper aquifer and hydraulic control for the lower aquifer, see Figure 2); and a site-wide groundwater monitoring program. In addition, GM identified the need to conduct the following additional work to refine the final corrective measures for the site:

- Updated characterization and implementation of interim measures at the Waste Pile/Staging Area (WPSA) at the former Delphi Thermal Moraine facility;

- Investigation of a box sewer system located at the former Moraine Engine facility;
- Investigation under the former Delphi Thermal Moraine Building 14; and
- Focused investigations of groundwater chemistry and hydrogeology in certain areas within and downgradient of the existing area of groundwater contamination.

The supplemental soil and groundwater investigation and targeted soil excavation interim measures were completed for the WPSA located south of the former Delphi Thermal Moraine Building 14 (ARCADIS, Inc. 2006) from 2000 to 2006. The soil investigation was completed for the box sewer located east of the former Moraine Engine in 2001 and 2002 (ARCADIS, Inc. 2002a). The soil and groundwater investigation was completed for the former Delphi Thermal Moraine Building 14 in 2004 and 2005 (ARCADIS, Inc. 2005a). These investigations were discussed in the Site Summary that was submitted to the U.S. EPA in June 2005 (ARCADIS, Inc. 2005b). A Revised Draft Corrective Measures Proposal (CMP) which served as an addendum to the IM/CM Report was also submitted to the U.S. EPA in June 2005 (BOW Environmental Solutions, Inc. 2005a). The Revised Draft CMP included revised corrective measures goals and updates to the final recommended site-wide remedy that were previously presented in the IM/CM Report. Since submittal of the Revised Draft CMP, GM implemented a supplemental groundwater investigation from 2005 to 2008 to further refine the understanding of groundwater chemistry and hydrogeology for the final corrective measures implementation. This groundwater investigation completed in 2006 was presented in the Corrective Measures Supplemental Groundwater Investigation Report (ARCADIS, Inc. 2007), along with recommendations for further focused study of groundwater chemistry and hydrogeology. This focused groundwater investigation was completed in 2007 and 2008. The results of these investigations are presented in this CMP along with the revised site conceptual model.

This CMP serves as a comprehensive document that includes a summary of all RFI, Supplemental RFI, and additional supplemental investigations that have been completed since approval of the RFI and Supplemental RFI Reports. Appendix A contains excerpts of pertinent information from the RFI/Supplemental RFI Reports. This CMP also includes a summary of the revised groundwater flow model (Appendix D), the off-site private well survey conducted in 2008 (Appendix F), the updated human health risk assessment (Appendix G), the interim measures (IMs) completed to date, the revised corrective measures goals, and the updated technology identification and screening. The final recommended site-wide corrective measures are also presented in this CMP.

2. Proposed Final Corrective Measures

The proposed final site-wide corrective measures for the Moraine Facilities includes a strategy which combines source treatment and containment with downgradient hydraulic control of groundwater and appropriate engineering and institutional controls to prevent potentially significant exposures during the implementation of these corrective measures. The specific elements of the CMP are:

1). Upper Aquifer Reactive Zone Corrective Measures: operation of in-situ remediation barriers in the upper aquifer downgradient and sidegradient of the Former Oil House Area and downgradient of the Moraine Assembly Process Waste Collection Systems (RZ-1, proposed relocated RZ-2, RZ-3, RZ-4) for treatment.

2). Upper Aquifer Capture Zone Corrective Measures: operation of an upper aquifer recovery well at the downgradient property boundary (TW-2) for hydraulic control.

3). Lower Aquifer Corrective Measures: operation of two lower aquifer recovery wells, one located downgradient of wells GM-68D/GM-75D for lower aquifer source containment and one downgradient of the Site property boundary (DN-13) for hydraulic control.

4). Corrective Measures Groundwater Monitoring: completion of monitoring groundwater quality associated with land-based units, performance monitoring for corrective measures, and the point of compliance wells.

5). Engineering/Institutional Controls: implementation of land and groundwater use restrictions via environmental covenants for the entire facility.

3. Facility Background

This section provides a site description and history, regulatory history, a summary of the RFI/Supplemental RFI activities and findings, a summary of the additional investigations completed subsequent to the RFI/Supplemental RFI, a summary of the IMs completed to date, and a discussion of the revised conceptual site model (CSM). The CSM includes the site characteristics, physical setting, refinements made to the geology, hydrogeology, groundwater flow model, and groundwater chemistry; and results of the off-site well search results.

3.1 Site Description and History

The Site has been used for industrial purposes since the property was acquired in the mid-1920's. The former Moraine Engine and Moraine Assembly facilities occupy approximately 300 acres, while the adjacent former Delphi Thermal Moraine facility occupies approximately 165 acres. The facilities are located in the City of Moraine in Montgomery County in southwestern Ohio. A small portion of the Moraine Assembly facility is located in the City of Kettering. Figure 1 presents the location of each facility, property boundaries, and site features.

Frigidaire (a former division of GM) produced appliances from the late 1920's until 1979. GM announced the shut down of all Frigidaire operations in January 1979. During 1980 and 1981, the majority of the former Frigidaire Plant 2 was converted to the former Moraine Engine facility, and the former Frigidaire Plant 3 and the northeast corner of former Frigidaire Plant 2 were converted to the Moraine Assembly facility. Since 1981, former Moraine Engine operations have included the machining, painting (this operation was discontinued in September 1995), and assembly of diesel truck engines. Operations at the former Moraine Engine facility ceased in the fall of 2000. The plant building has undergone decommissioning and demolition, and the majority of this site has been covered with a parking surface. GM operates a regional haulaway at the location of the former Moraine Engine plant, which is now referred to as the Vehicle Distribution Center.

Since 1981, Moraine Assembly operations included the manufacture, assembly, and painting of small trucks and later sport utility vehicles (SUVs). Currently Chevrolet TrailBlazers, GMC Envoys, and SAAB 9-7x's are produced at this facility.

Former Delphi Thermal Moraine's major operations, which began in 1941, included the machining and assembly of automotive air conditioning compressors, accumulator

dehydrators, and miscellaneous air conditioning valves. Delphi Corporation leased the property from GM from January 1999 through October 2003. Operations at the former Delphi Thermal Moraine Building 14 ceased in September 2003 and the building was decommissioned. As of October 1, 2003, management of the property has reverted to GM and GM remains the property owner. Demolition of Building 14 was completed in 2005. In June 2008, GM announced plans to shut down the Moraine Assembly plant. Closure of the plant will occur prior to or at the end of production of the 2010 model year.

3.2 Regulatory History

This section provides a chronological RCRA regulatory history for the Moraine Facilities.

The former Delphi Thermal Moraine contains North and South Settling Lagoons that are shown on Figure 1. The North Settling Lagoon received industrial wastewater from 1972 to 1979; received non-contact cooling water and storm water runoff from 1980 to 1984; and in 1984 process wastewaters were diverted to the on-site pre-treatment facility. The South Settling Lagoon received industrial wastewater from 1965 to 1979; received dilute acid and alkali rinses from small cleaning and non-cyanodic electroplating processes, water softening sludges, non-contact cooling water, storm water runoff, and fly ash dewatering filtrate from 1980 to 1985; and in 1985 process wastewaters were diverted to the on-site pre-treatment facility. Both lagoons were taken out of service in 1989.

GM filed a RCRA Part A-Application with Ohio EPA for interim status in November 1980. GM began detection monitoring at the North and South Settling Lagoons in February 1981. In 1984, assessment monitoring began for the North Settling Lagoon. The South Settling Lagoon remained in the detection monitoring program. By October 1988, GM expanded the groundwater monitoring assessment plan network for the North Settling Lagoon and expanded the groundwater detection network in the South Settling Lagoon in accordance with an agreed consent order with the State of Ohio. The assessment and detection monitoring programs continued until the lagoon closure activities were completed, as discussed below. Monitoring is now done as part of the RCRA corrective action site-wide groundwater monitoring program.

Delphi Thermal Moraine submitted closure plans for the North and South Settling Lagoons to U.S. EPA and Ohio EPA in November 1985 and November 1989. Closure discussions between GM and Ohio EPA were deferred by mutual agreement to

coordinate ultimate closure requirements with the corrective action requirements from the U.S. EPA Region V (the North and South Settling Lagoons were evaluated as SWMUs in the RFI at Delphi Thermal Moraine). During the summer of 1999, GM met with the Ohio EPA to present and discuss a revised approach for closure of the lagoons. This approach was presented to Ohio EPA in the Lagoon Closure Plan, dated June 2000 (Conestoga-Rovers & Associates, 2000), and approved by Ohio EPA in a letter to GM dated August 24, 2000. Closure activities were initiated in September 2000 and completed in June 2001. GM submitted the Closure Certification Report to Ohio EPA on August 10, 2001 (Conestoga-Rovers & Associates, 2001) and was approved by Ohio EPA in a letter to GM dated June 27, 2002. The Lagoon Post-Closure Plan (Conestoga-Rovers & Associates, 2002) was submitted to the Ohio EPA on December 13, 2002 and was approved by Ohio EPA in a letter to GM dated December 24, 2003.

Delphi Thermal Moraine received an Administrative Order (Docket No. V-W-91R-2) from the U.S. EPA Region V, which became effective on January 30, 1991. The Administrative Order, issued under Section 3008(h) of RCRA, as amended, 42 U.S.C. 6928(h), required Delphi Thermal Moraine to implement a RCRA Corrective Action program at the Moraine facility. GM met these requirements of the Administrative Order through the completion of a two-phased RFI at the Delphi Thermal Moraine facility and by implementing capture zone interim measures. The scope of the interim measures was presented in the Preliminary Interim Measures Work Plan (Geraghty & Miller, Inc. 1994a). The initial Interim Measure was implemented per the Final Interim Measures Design Plans (Geraghty & Miller, Inc. 1995), which was approved by the U.S. EPA on July 31, 1995. This initial, on-going interim measures consist of controlling migration of VOCs in the upper and lower aquifers at the southern property boundary through groundwater extraction at TW-2 and DN-13, respectively (Figure 2). The groundwater recovered by the upper aquifer recovery well TW-2 is treated using an air stripper tower and discharged through GM's NPDES permitted outfall to the Great Miami River. Groundwater is pumped from TW-2 at an average flow rate of approximately 145 gallons per minute (gpm). DN-13 is a lower aquifer well that Montgomery County has been using in a "Pump-to-Waste" Program since March 1990. The interim measure consists of continued pumping of DN-13 at an approximate rate of 1,100 gpm.

The results of the first phase of the RFI, completed in late 1992 and early 1993, at Delphi Thermal Moraine, was submitted to the U.S. EPA in July 1993 (Geraghty & Miller, Inc. 1993a). A second phase of the RFI was completed in 1994. The findings of both phases of the RFI for Delphi Thermal Moraine, including a BRA, were reported to

the U.S. EPA in a 1996 draft RCRA Facility Investigation Final Report (final issue date was April 2000 [ARCADIS Geraghty & Miller, Inc. 2000a and ENVIRON Corporation 2000a]). The draft RFI report determined that there were no unacceptable risks associated with soil/waste present in SWMUs investigated, and therefore, it was concluded that a Corrective Measures Study (CMS) was not necessary for the SWMUs investigated in the RFI at Delphi Thermal Moraine. The U.S. EPA issued comments to GM on the 1996 draft RFI report dated June 11, 1996 and GM responded to these comments on September 11, 1996. The U.S. EPA provided a reply to the comment responses in correspondence to GM dated October 1, 1996. To address the U.S. EPA's issues identified in this correspondence, GM agreed to add the Moraine Engine and Moraine Assembly facilities into the Corrective Action program. In response to the findings of the Preliminary Assessment/Visual Site Inspection (PA/VSI) reports (PRC Environmental Management, Inc. 1991a and b) for the former Moraine Engine and Moraine Assembly facilities, on-going RFI activities at the adjacent former Delphi Thermal Moraine, and the extensive discussions between U.S. EPA and GM, the U.S. EPA issued an Amendment to the Administrative Order (Docket No. VW-R-002-91), effective on April 24, 1997, which included the former Moraine Engine and Moraine Assembly facilities in the Corrective Action program. This Amendment required GM to conduct a supplemental RFI at the two additional facilities.

A multi-phased investigation was completed during the Supplemental RFI, which focused on the Former Oil House Area. The findings of the Supplemental RFI for the former Moraine Engine and Moraine Assembly facilities, including a Supplemental BRA, were reported in a draft Supplemental RFI Report submitted to the U.S. EPA and Ohio EPA in June 1999 (ARCADIS Geraghty & Miller, Inc. 2000b and ENVIRON Corporation 2000b [these reports were finalized and approved by U.S. EPA in April 2000]). The Supplemental RFI Report determined that constituent concentrations in soils at the AOIs at the former Moraine Engine and Moraine Assembly facilities do not pose an unacceptable risk. However, GM recommended and implemented additional interim measures to address VOCs in groundwater associated with the Former Oil House Area (AOI 7). A Primary Groundwater Source Area (AOI 7) Interim Measures Work Plan was submitted to the U.S. EPA and Ohio EPA in June 1999 and was approved by the U.S. EPA in July 1999 (ARCADIS Geraghty & Miller, Inc. 1999). This Work Plan recommended a combination of in-situ technologies to address chlorinated VOCs in shallow groundwater. The recommended in-situ technologies were implemented between September 1999 and May 2000. The results of these interim measures were presented in the IM/CM Report submitted to the U.S. EPA and Ohio EPA in March 2001 (ARCADIS Geraghty & Miller, Inc. 2001).

To provide a basis for evaluating the performance of these interim measures, the Work Plan proposed that a comprehensive site-wide groundwater sampling event for VOCs be conducted to establish a baseline data set. This baseline sampling for VOCs was completed in September 1999. A second site-wide groundwater sampling event was completed between September and October 2000. During this second site-wide event, at the request of U.S. EPA, groundwater samples were analyzed for Appendix IX VOCs by Method 8260 and cis-1,2-dichloroethene (cis-1,2-DCE), semi-volatile organic compounds (SVOCs) and metals to verify that current groundwater conditions were consistent with previous site conditions. The results of the 2000 sampling event confirmed that VOCs were the only constituents of potential concern in groundwater at the Site.

Environmental Indicator (EI) forms were prepared for the three GM Moraine facilities. Form CA 750 Migration of Contaminated Groundwater Under Control was approved by U.S. EPA in March 2001 for the three facilities. The positive determination on this form indicates that the migration of contaminated groundwater has stabilized and that monitoring will be conducted to confirm that contaminated groundwater remains within the original area of contaminated groundwater. Form CA 725 Current Human Exposures Under Control was approved for the Moraine Engine and Moraine Assembly facilities in December 2000 and for Delphi Thermal Moraine in September 2002. The positive determination on these forms indicates that there are no unacceptable human exposures to contamination that can be reasonably expected under current land- and groundwater-use conditions. GM continues to monitor conditions at and near the Site as part of the site-wide monitoring program to confirm that the conclusions of these Environmental Indicators remain valid.

In March 2000, GM submitted to the U.S. EPA a draft Site-Wide Groundwater Monitoring Plan to monitor the effectiveness of the interim measures and monitor groundwater quality upgradient and downgradient of the land-based units, including the closed North and South Settling Lagoons (ARCADIS, Inc. 2002b). GM received approval with comments on this plan from the U.S. EPA, dated June 16, 2000 and June 28, 2000. GM submitted responses to the U.S. EPA's comments on July 28, 2000. The U.S. EPA submitted an additional set of comments to GM on September 15, 2000 and GM submitted responses to the U.S. EPA's comments on November 17, 2000. GM received approval on the Site-Wide Groundwater Monitoring Plan (Appendix A to the Lagoon Post-Closure Plan [Conestoga-Rovers & Associates, 2002]) from Ohio EPA in a letter dated December 24, 2003. GM continues to implement this site-wide groundwater monitoring program and submits annual reports to the U.S. EPA and Ohio EPA by March 1st of each year.

3.3 Evaluation of SWMUs/AOIs

SWMUs identified at the former Delphi Thermal and AOIs identified at the former Moraine Engine and Moraine Assembly were reviewed and evaluated in the DOCC (Geraghty & Miller, Inc. 1991) and Supplemental DOCC (Geraghty & Miller, Inc. 1997a) reports, respectively. Two additional SWMUs were identified in the Interim RFI Report for the former Delphi Thermal (Geraghty & Miller, Inc. 1993a). SWMUs/AOIs were evaluated to determine if the unit constituted a potentially significant source and if further investigation would be warranted. Supporting information on the SWMU/AOI evaluation is presented in Appendix A.

3.3.1 Former Delphi Thermal SWMUs

The following SWMUs were reviewed and those SWMUs retained for further investigation are highlighted with an asterisk (*):

- Landfill L1*,
- Landfill L2*,
- Landfill L3*,
- North Settling Lagoon (retained for further evaluation),
- South Settling Lagoon (retained for further evaluation),
- Waste Pile/Staging Area*,
- Underground Storage Tanks T1, T2, T3, T4*, T5/T6*, T7, T8, T9, T10, T11*,T12* West Tank Farm*, South Tank Farm*,
- Incinerator I-1,
- Drum Storage Area C-1,
- Liquid Waste Burner*, and
- Fill Area*.

After approval of the RFI, the former Delphi Thermal Moraine Building 14 was identified for investigation.

3.3.2 Former Moraine Engine and Moraine Assembly AOIs

The following AOIs were reviewed and those AOIs retained for further investigation are highlighted with an asterisk (*):

- AOI 1 - Former Acid-Alkali Tank for #2 and #4 Anozide Systems,
- AOI 2 - Former Acid-Alkali Tank for #5 Anozide System,
- AOI 3 - Former Acid-Alkali Tank for #6 Anozide System,
- AOI 4 - Former Acid-Alkali Tank for Hand Anodize Process,
- AOI 5 - Former Acid-Alkali Tank for #4 Pickle Process,
- AOI 6 - Former Acid-Alkali Tank for Udylite Etch System,
- AOI 7 - Former Oil House Area*,
- AOI 8 - Former Acid-Alkali Tanks for Plating/Pickling Processes,
- AOI 9 - Former Cyanide Processing Tank,
- AOI 10 - Oil Separator Area,
- AOI 11 - Former Porcelain Manufacturing Area,
- AOI 12 - Former Frigidaire Plant 3 USTs,
- AOI 13 - Buildings 4, 6, and 13*,
- AOI 14 - Former Hazardous Waste Storage Pad,
- AOI 15 - Former Frigidaire Plant 2 Tanks - Three Oil Tanks,

- AOI 16 - Former Frigidaire Plant 2 Tanks - Gasoline Tank,
- AOI 17 - Building 15*,
- AOI 18 - Former Moraine Engine Fuel USTs,
- AOI 19 - Chip Salvage Area,
- AOI 20 - Moraine Engine Tank Farm,
- AOI 21 - High Bay Area Storage Pad,
- AOI 22 - Satellite Accumulation Areas,
- AOI 23 - Wastewater Collection System,
- AOI 24 - Non-Hazardous Waste Storage Pad,
- AOI 25 - Former Paint Shop Sludge Pits,
- AOI 26 - Moraine Assembly Process Waste Collection Systems,
- AOI 27 - Former Hazardous Waste Container Storage Area,
- AOI 28 - Moraine Assembly Tank Farm,
- AOI 29 - Mix Room Storage Tank,
- AOI 30 - Moraine Assembly Flammable Collection/Storage Containment Area,
- AOI 31 - Moraine Assembly West Haulaway Storage Tanks,
- AOI 32 - Moraine Assembly East Haulaway Storage Tank,
- AOI 33 - Moraine Assembly Former Paint Shop Storage Tanks,
- AOI 34 - Excavation Area 1*,

- AOI 35 - Excavation Area 2*, and
- AOI 36 - Former Southwest ASTs*.

After approval of the RFI, the Moraine Facilities box sewer was identified for investigation.

3.4 Summary of RFI/Supplemental RFI Activities

The RFI activities included the characterization of soils, groundwater and ditch sediments at specific SWMUs and AOIs identified at the three facilities. The RFI also included completion of a background soil investigation and development of a groundwater flow model to support the BRA. These RFI activities are discussed in this section. A summary of the SWMUs/AOIs that were investigated during the RFI at all three facilities are presented below, along with an overview of the sampling programs completed during the multi-phased investigations. Supporting information for the RFI/Supplemental RFI is presented in Appendix A.

3.4.1 RFI Background Soil Investigation

In order to evaluate potential releases of inorganic hazardous constituents from SWMUs/AOIs, a background soil investigation was conducted in 1992. To obtain background soil concentrations, 12 borings were drilled to a total depth of 16 ft in an area not known to be associated with current or former manufacturing operations or affected by waste management activities at the Delphi Thermal Moraine facility. Both shallow and deep samples were collected from these borings. Additional information on the background soil investigation is presented in the Soil Background Analytical Results Report (Geraghty & Miller, Inc., 1993b) and the Delphi Thermal Moraine RFI Report (ARCADIS Geraghty & Miller, Inc., 2000b).

3.4.2 Groundwater Flow Model

A three-dimensional steady-state groundwater flow model was developed to support the characterization and assessment of hydrogeologic conditions, the RFI investigations, the BRA, the capture zone corrective measures, and the Corrective Action completion strategy. The model construction and calibration was documented in the 1994 Revised Three-Dimensional Steady-State Flow Model Construction and Calibration Report (Geraghty & Miller, Inc., 1994b).

3.4.3 Summary of Investigations at the Former Delphi Thermal Moraine

During the Delphi Thermal Moraine RFI, three landfills (Landfill L1, L2, and L3), five underground storage tanks (USTs T4, T5/T6, T11, T12), the WPSA, the Liquid Waste Burner, and the Fill Area were investigated. The two surface impoundments (North and South Settling Lagoons) were further evaluated during the RFI using data previously collected for the RCRA closure program. Additional areas of investigation were also addressed during the RFI. These areas included surface water/sediment and the groundwater quality south of Landfill L1. Locations of the SWMUs and additional areas of investigation are shown on Figure 3. Descriptions of the SWMUs and additional areas investigated during the RFI are excerpted from the RFI Report and presented below. Two rounds of groundwater sampling were also conducted during the Delphi Thermal Moraine RFI. The RFI groundwater, soil, surface water/sediment and waste sampling programs were completed between 1992 and 1994.

3.4.3.1 Landfills

Three landfills (Landfills L1, L2, and L3) on the Delphi Thermal site were investigated during the RFI; these landfills are pre-RCRA, unlined disposal areas. Landfill L1 is located at the southern end of the facility and covers an area of approximately 7.8 acres; it was used for the collection and disposal of wastes generated by the previous plant operator, Frigidaire, for more than 20 years. Landfill L2 is located north of Building 14 and east of the wastewater treatment facility, and covers an area of approximately 3.7 acres; it was used for the collection and disposal of waste generated by Frigidaire from 1950 to 1975. Landfill L3 is located immediately northeast of the North Settling Lagoon and northwest of Landfill L2, and covers an area of approximately 1.6 acres; it was used for the collection and disposal of sludge from the adjacent North Settling Lagoon System. An estimated 25,000 cubic yards of sludge were placed in Landfill L3 from 1972 to 1979. During the RFI geophysical surveys were conducted at the landfills to delineate the waste boundary. Surficial soil samples were collected for waste characterization and groundwater samples were collected from monitoring wells in the vicinity of the landfills to characterize groundwater quality.

3.4.3.2 Surface Impoundments

Two surface impoundment SWMUs, the North and South Settling Lagoon systems, were investigated during the RFI. These SWMUs were subsequently closed as required by the Ohio EPA under RCRA closure. The North Settling Lagoon is located

east of Dryden Road, west of the wastewater treatment facility, north of Building 14, and south of Northlawn Avenue. The North Settling Lagoon covers approximately 4.6 acres. The South Settling Lagoon is located east of Interstate 75, west of Dryden Road, north of Sellars Road, and south of East River Road. This lagoon covers an estimated area of 7.9 acres. Details of the operating history for these two SWMUs are provided in the DOCC (Geraghty & Miller, Inc. 1991). Sludge and subsoil samples collected in support of RCRA closure were used for the RFI evaluation. Groundwater samples were collected from monitoring wells in the vicinity of the lagoons to characterize groundwater quality.

As discussed in Section 3.2, the North and South Settling Lagoons were closed under Ohio EPA regulations. The approved Lagoon Post-Closure Plan (Conestoga-Rovers & Associates, 2002) includes the post-closure care requirements.

3.4.3.3 Underground Storage Tanks

The Administrative Order listed 19 underground storage tanks (USTs) to be investigated under the RFI; 15 of the 19 USTs were removed before the RFI. Three of the four remaining USTs (T1 [10,000-gallon tank], T4 [10,000 gallon tank], and T12 [50,000-gallon tank]) were removed during the RFI. UST T11 was used as part of the oily waste collection system associated with the WPSA. USTs T1, T4, and T12 were used to hold a similar waste fluid consisting of wash water or spent detergent solution from a process that used polyester resins or potting compounds. RFI investigative activities were performed at the West Tank Farm, at the South Tank Farm, and at USTs T4, T5/T6, T11, and T12. Soil samples were collected for release determination and characterization and groundwater samples were collected for characterization purposes at the West Tank Farm, South Tank Farm, T11, and T12. Soil samples were collected for release determination at T4, T5, and T6.

3.4.3.4 Waste Pile/Staging Area

The WPSA is located just north of Landfill L1 and east of Building 21. This SWMU consists of a three-sided sludge bunker (90 feet by 30 feet by 5 feet high), a concrete staging area, and drainage system associated with this area. The WPSA covered approximately 2 acres. The sludge bunker and staging area were originally constructed in 1976. This SWMU was used to manage grinding sludge from aluminum, steel, and cast iron machinery operations, steel and aluminum turnings and empty drums. Soil samples were collected for release determination and

characterization and groundwater samples were collected for characterization purposes at the WPSA.

3.4.3.5 Liquid Waste Burner

The Liquid Waste Burner (LWB) was in operation from approximately 1957 to 1970; its purpose was to incinerate spent solvents and oils. The liquids were transferred from on-site locations to the LWB in 55-gallon drums and emptied into two adjacent underground holding tanks for temporary storage. The liquids were then fed to the LWB and incinerated. Surface and subsurface soil samples were collected from the LWB for release determination and characterization.

3.4.3.6 Fill Area

Before the south parking lot was constructed, fill material was used to bring the area up to grade level. The fill material consisted of approximately 75 percent bottom ash (clinkers) from two solid waste incinerators (burned combustible solid waste, such as wood, paper, and cardboard) and approximately 25 percent porcelain sludge from an on-site manufacturing process. Figure 3 shows the location and approximate aerial extent of the fill area (approximately 2.9 acres). Soil samples were collected for waste delineation, release determination and characterization and groundwater samples were collected for characterization purposes at the Fill Area.

3.4.3.7 Additional Areas of Investigation

Soil samples were collected from 12 borings during Phase I in the background area to obtain data concerning background concentrations of metals in soils. Two additional borings were drilled during Phase II of the RFI to collect soil samples for analysis of acetone, which had been detected in the background soil samples collected during Phase I. Surface water/sediment samples were collected to support the risk assessment, to determine background conditions for surface water and sediment, and to determine if further sampling was required. The area south of Landfill L1 was investigated to further define the extent of groundwater contamination in that area by collecting groundwater samples from an existing upper aquifer monitor well, WSU-24, and from a lower aquifer monitor well, GM-20D, that was installed during Phase II of the RFI. Soil samples were collected during the installation of Well GM-20D to determine whether the soil contained hazardous constituents. Figure 3 shows the location of these additional areas of investigation.

3.4.4 Summary of Investigations at the Former Moraine Engine/Moraine Assembly

During the former Moraine Engine and Moraine Assembly Supplemental RFI, investigations were completed at the following six AOIs: AOI 7 - Former Oil House Area, AOI 13 - Buildings 4, 6, and 13, AOI 17 - Building 15, AOI 34 - Excavation Area 1, AOI 35 - Excavation Area 2, and AOI 36 - Former Southwest Above Ground Storage Tanks (ASTs). Locations of the AOIs are shown on Figure 4. Descriptions of the AOIs investigated during the Supplemental RFI are excerpted from the IM/CM Report and are presented below. Groundwater was characterized on a site-wide basis and one round of groundwater sampling was conducted during the former Moraine Engine and Moraine Assembly Supplemental RFI (wells located at former Moraine Engine, Moraine Assembly, and former Delphi Thermal Moraine). Additional groundwater sampling was conducted along with the AOI 7 investigation. The Supplemental RFI groundwater and soil sampling programs were completed between 1997 and 1998.

3.4.4.1 AOI 7 – Former Oil House Area

The Former Oil House (Building 7) was located north of the Moraine Engine Plant 3 (former Frigidaire Plant 2), and was built at least as early as 1949. The Former Oil House Area consisted of the Oil House (Building 7) and an outdoor area that contained USTs, ASTs, and a drum storage area. This AOI was removed from service in 1979 when at least three buildings were demolished and all tanks were removed and either replaced or reused. The Oil House Building 7 and associated outside structures covered a total area of approximately 48,000 square ft.

Virgin paints and chemicals necessary for production at the Frigidaire facilities were stored and mixed in the Oil House, and pumped or transferred to various production areas. Materials were stored in both drums and tanks. Materials were shipped to this area by railroad tank cars and tanker trucks. Virgin chemicals including oils, paints, thinners, solvents, acids, toluene diisocyanate (TDI) and resins were stored inside the Oil House. Alcohols were reclaimed and solvent blending activities were conducted at the Oil House.

The outdoor area just north of the Oil House had seventeen 8,000 to 15,000-gallon ASTs used to store oil, solvents, acids and other production materials, and three 15,000-gallon USTs used to store oil. According to the 1976 Spill Prevention Control and Countermeasure (SPCC) Plan (General Motors Corporation 1976), these tanks had a gravel floor and concrete containment dikes for spill containment. A drummed waste storage area was also located just north of the Oil House and was used to store

drummed waste oils, thinners, alcohols, still bottoms from the Oil House and sludges containing chromium, nickel, and phosphorus.

Additionally, a May 1979 aerial photograph shows an area north of the Oil House was used for temporary storage of equipment, boxes, and drums during the conversion of Frigidaire Plant 2. As stated in the Supplemental DOCC, GM announced the shut down of all Frigidaire operations in January 1979. During 1980 and 1981, the majority of the former Frigidaire Plant 2 was converted to the Moraine Engine facility. A November 1979 aerial photograph showed that Building 7 had been demolished, and did not show evidence of the equipment, boxes, and drums seen in the May 1979 aerial photograph. Copies of both the aerial photographs were included in the October 16, 1998 letter from Delphi Thermal to U.S. EPA, which is presented in the Supplemental RFI Report.

AOI 7 is currently covered with asphalt. As concluded in the Supplemental DOCC, AOI 7 may be a potentially significant source for soil and groundwater contamination, and further investigation was warranted under the Supplemental RFI. Soil samples were collected for release determination and characterization and groundwater samples were collected for characterization purposes at AOI 7.

3.4.4.2 AOI 13 – Former Buildings 4, 6, and 13

Buildings 4, 6, and 13 of the Frigidaire facilities were located south of the Moraine Engine Plant 3. Buildings 4 and 6 (also known as Moraine Engine Plant 4) consisted of approximately 300,000 square ft. Buildings 4 and 6 were constructed in 1917 and 1926, respectively, and the buildings had many previous uses including manufacturing of service parts, chemical storage, storage for oil recovery, and offices. Frigidaire discontinued operations in 1979, and by late 1981 these buildings were unoccupied.

In 1983, GM removed ten polychlorinated biphenyls (PCB)-contaminated electrical transformers from Buildings 4 and 6 and disposed of them off site at a Toxic Substances Control Act (TSCA)-approved facility. Prior to 1985, GM removed asbestos from piping within Buildings 4 and 6 and disposed of this material in an approved off-site facility. In 1990, GM conducted a comprehensive study of the wood floor block in these buildings. The results indicated that PCB's were present in the floor block. The wood floor block was removed, the concrete floor beneath the wood floor block was cleaned and PCB sampling was conducted to confirm removal. Additionally, an area on the south side of Building 4, formerly used for plating, was

impacted by metals (primarily cadmium). Decontamination activities began in 1995 and demolition of Buildings 4 and 6 took place in 1996.

Building 13 (also known as Moraine Engine Plant 5) was built in 1916 by the Cleveland and Lake Erie Railroad Company (C&LE) and was used for railroad maintenance. It covered an area of approximately 60,000 square ft. GM acquired the building in 1941. From 1941 until 1979, the building was used for maintenance purposes and storage. After 1979, part of Building 13 was used as a Hazardous Waste Storage Pad. The concrete storage pad covered an area of 2,400 square ft and had the capacity to store 250 55-gallon drums. It was used for storage of drummed quantities of waste paint thinner and sludges, chlorinated solvents, and non-hazardous waste oil and process fluids prior to removal from the facility. The former Hazardous Waste Storage Pad was clean closed in 1993, and closure was approved by the Ohio EPA. Cleaning and decontamination activities of the remainder of the building began in 1995, and demolition of Building 13 took place in 1996. During demolition, a portion of a UST was found. The partial tank was approximately 5,000 gallons in volume and was determined to previously have contained fuel oil used for heating purposes. The UST was taken out of service prior to 1970. Soil samples were collected from the cavity wall during demolition activities and the results were well below the applicable Bureau of Underground Storage Tank Regulations (BUSTR) standards.

AOI 13 is currently covered with an asphalt parking lot that was constructed in 1998. As concluded in the Supplemental DOCC, there was a potential for AOI 13 to have been a potentially significant source for soil and groundwater contamination, and further investigation was warranted under the Supplemental RFI. Soil samples were collected for release determination and characterization purposes.

3.4.4.3 AOI 17 – Former Building 15

AOI 17 includes Building 15 and a former Frigidaire Plant 2 used-oil UST. Building 15 covered an area of approximately 17,000 square ft, and based on a review of aerial photographs, it was constructed prior to 1949. The building was used for maintenance purposes and included a truck maintenance repair area, an equipment steam booth area and a maintenance spray booth area located in the center of the building. The 900-gallon steel UST located south of Building 13 and north of Building 15 was used to store used oil from garage operations. It is unknown when this tank began operation. The used oil present in the UST at closure contained VOCs (ethylbenzene, tetrachloroethene [PCE], toluene, and xylenes), but no VOCs were detected in the soil

tested during closure activities. It was removed and clean closed under the BUSTR in 1994.

AOI 17 is currently covered with an asphalt parking lot that was constructed in 1998 (Building 15 was demolished and removed as part of the parking lot construction). As concluded in the Supplemental DOCC, there was a potential for AOI 17 to have served as a historical source of chlorinated VOCs detected in monitoring well GM-21, and further investigation was warranted under the Supplemental RFI. Soil samples were collected for release determination and characterization purposes.

3.4.4.4 AOI 34 – Excavation Area 1

AOI 34 was located north of the Moraine Engine Plant 3 and west of Springboro Road, and was identified from a 1956 aerial photograph. The excavation area was approximately 300 ft long by 40 ft wide, with the southern end containing a depression that was possibly filled with liquid. This area was covered with grass at the time the Supplemental DOCC was completed and during the Supplemental RFI sampling (conducted in August 1997). No information was available regarding the types of materials which may have been handled in this area and their potential for releasing hazardous constituents. As concluded in the Supplemental DOCC, no specific basis existed for further investigation at AOI 34; however, a limited investigation to assess the potential presence of contamination was recommended. AOI 34 is currently covered with an asphalt parking lot that was constructed in 1998. Soil samples were collected for release determination and characterization purposes.

3.4.4.5 AOI 35 – Excavation Area 2

AOI 35 was located north of the Moraine Assembly Plant 1 and east of Springboro Road, and was identified from a 1956 aerial photograph. The excavation area was approximately 200 ft long by 150 ft wide. This area was covered by a parking lot at the time the Supplemental DOCC was completed and during the Supplemental RFI sampling (conducted in August 1997). No information was available regarding the types of materials which may have been handled in this area and their potential for releasing hazardous constituents. As concluded in the Supplemental DOCC, no specific basis existed for further investigation at AOI 35; however, a limited investigation to assess the potential presence of contamination was recommended. AOI 35 is currently covered by the parking lot associated with the Moraine Assembly plant. Construction activities began in late 1997 and were completed in 1999. Soil samples were collected for release determination and characterization purposes.

3.4.4.6 AOI 36 – Former Southwest Above Ground Storage Tanks

AOI 36 was located in the southwest corner of the Moraine Engine facility and consisted of four sets of concrete AST saddles. The two southern-most sets of saddles consisted of four larger saddles per tank and were contained in an earthen dike area approximately 50 ft by 70 ft. The two northern-most sets of saddles consisted of two saddles per tank and were contained in a separate 40 ft by 55 ft earthen dike area. These tank saddles and earthen berms were identified during a site walkover in June 1997. A review of aerial photographs indicated that the two southern-most tanks were installed prior to 1949. One tank was installed on the northern-most set of saddles between 1949 and 1956. These three tanks were present in the 1975 aerial photograph, but had been removed prior to the 1990 aerial photograph. There was no evidence that the fourth set of saddles was ever used. Use of these tanks was thought to have ceased prior to the early 1970's; however, the tank saddles and earthen berms were still present during the Supplemental RFI investigation. No information was available regarding the types of materials which may have been handled in this area and their potential for releasing hazardous constituents. AOI 36 is currently covered with an asphalt parking lot that was constructed in 1998. As concluded in the Supplemental DOCC, no specific basis existed for further investigation at AOI 36; however, given the probable use of the area for storage of liquid materials, a limited investigation to determine if a release had occurred was recommended under the Supplemental RFI. Soil samples were collected for release determination and characterization purposes.

3.4.5 Box Sewer

Frigidaire previously owned by GM, conducted operations at the former Moraine Facilities until 1979. The box sewer was used by Frigidaire to convey process water before GM converted Plants 2 and 3 into the Moraine Engine and Moraine Assembly facilities in 1979-80. Prior to and as part of the conversion, all process waste connections to the box sewer were terminated. Subsequently, only storm water runoff from paved areas and roof drains and non-contact cooling water entered the sewer. Flow exiting the box sewer entered a 54-inch diameter storm sewer that flowed west to a storm water retention basin at the former Delphi Thermal Moraine facility, which was part of the Storm Water Management System for the site. The box sewer runs parallel to the east wall of the former Plants 2 and 3 and is approximately 2,300 linear feet (ft) in length, 9 ft in width, and 10 ft high (Figure 4). The top of the box sewer is at grade and the bottom of the box sewer is 10 ft below grade. Operation of the Moraine Engine

plant ceased in the fall of 2000. Plant decommissioning and demolition was completed in early summer of 2001.

In December 2000 and February 2001, prior to sediment removal, the sediment in the box sewer was assessed as part of the site decommissioning activities performed by REALM. The box sewer was sectioned into 27 quadrants and a sediment sample was collected from each quadrant. Sediment samples were analyzed for Toxicity Characteristic Leaching Procedure (TCLP), VOCs, and PCBs in order to characterize the sediment for disposal purposes. REALM conducted the box sewer cleaning between June and July 2001. The average depth of sediment in the box sewer prior to cleaning was 2 ft. Sediments were removed from the box sewer and placed in lined roll-off containers for proper off-site management and disposal. After cleaning, the box sewer was inspected on August 9, 2001. As a result of the inspection, several areas were identified as potential locations where historic releases from the box sewer may have occurred. Soil samples were collected for release determination and characterization purposes.

3.4.6 Waste Pile/Staging Area

As discussed in Section 3.4.3.4, the WPSA was investigated as a SWMU during the former Delphi Thermal Moraine RFI. The RFI objective for this unit was release determination and characterization, and groundwater quality characterization. A total of seven borings were installed in 1992 and 1994 to collect subsurface soil samples. Samples were collected and analyzed for Target Compound List (TCL) VOCs, TCL SVOCs, PCBs, pesticides/herbicides, and Target Analyte List (TAL) metals. Results are presented and discussed in the Delphi Thermal Moraine RFI Report (ARCADIS Geraghty & Miller, Inc. 2000a). The RFI Report concluded that the investigation activities conducted at the WPSA provided sufficient detail to meet the RFI objectives and provide adequate characterization to support the RFI BRA. Based on the data collected during the RFI, it was concluded in the RFI BRA that no further action was warranted for soil at the WPSA (ENVIRON Corporation 2000a), although it was identified as a potential source of metals to groundwater (ENVIRON Corporation 2000b).

In order to address U.S. EPA comments on the Supplemental RFI dated April 2000 (ARCADIS Geraghty & Miller, Inc. 2000b) and the draft Site-Wide Groundwater Monitoring Plan dated March 2000, and continued use of the unit after 1994 until it was taken out of service in 2003, GM agreed to conduct additional investigations at the WPSA. GM submitted a work plan for this additional investigation dated November 30,

2000 (ARCADIS Geraghty & Miller, Inc. 2000c). The U.S. EPA approved this work plan in correspondence dated January 3, 2001. The additional soil and groundwater investigation was conducted in April 2001. The evaluation of soil was completed through the installation of thirteen soil borings. The evaluation of groundwater was completed through the installation of six new monitoring wells upgradient and downgradient of the WPSA, screened in the upper or lower portions of the upper aquifer, and the collection of groundwater samples from 12 temporary well points from the borings installed within the WPSA. The April 2001 investigation was summarized and presented to the U.S. EPA in the Waste Pile/Staging Area Investigation Interim Report (ARCADIS, Inc. 2002c). As presented in this report it was concluded that additional characterization of constituents in soil was needed along the western, southern, and eastern portions of the WPSA. The report also concluded that an additional groundwater sampling event was needed to further characterize the nature and extent of constituents detected in the April 2001 investigation.

The additional recommended characterization was completed in 2002 and 2003. This additional investigation was completed through the installation of fourteen soil borings in August 2002, November 2002, and March 2003. Soil samples from these borings were collected from targeted depths and analyzed for targeted constituents. Re-sampling of groundwater from monitoring wells GM-33 through GM-38 was also completed in August 2002. Based on GM's review and evaluation of the soil sampling conducted in August 2002, November 2002, and March 2003, and the groundwater sampling conducted in August 2002, GM proposed an additional investigation of the WPSA to complete the characterization necessary to determine the nature and extent of constituents in soil (correspondence from GM to U.S. EPA, dated October 3, 2003). These data were needed to support an evaluation of risk under current and reasonably expected future conditions, and to support an evaluation of interim or corrective measures alternatives for this SWMU. In October 2003, three additional borings were installed and soil samples collected for targeted constituents.

3.4.7 Former Building 14

The former Delphi Thermal Moraine conducted their main manufacturing activities in the former Building 14, which was constructed in stages starting with the first structure in 1941 and the last addition completed in 1976 resulting in a total floor space of approximately two million square feet. The former Delphi Thermal Moraine's major operations, which began in 1941, included the machining and assembly of automotive air conditioning compressors, accumulator dehydrators, and miscellaneous air conditioning valves. Operations at the former Delphi Thermal Moraine Building 14

ceased in September 2003 and the building was decommissioned. As of October 1, 2003, management of the building has reverted to GM and GM remains the property owner. Demolition of Building 14 was completed in 2005.

As proposed in GM's July 14, 2004 submittal to U.S. EPA, a supplemental soil and groundwater investigation was conducted at the former Delphi Thermal Moraine Building 14 (former Building 14) in August 2004. The investigation results were presented in the Former Building 14 Investigation Summary Report (ARCADIS, Inc. 2005a).

3.5 Summary of Interim Measures

3.5.1 Capture Zones

Based on a review of potential technologies which could be applied at the GM site to address VOCs in groundwater at the property boundary, hydraulic controls were selected to achieve the interim measures objectives. The capture zone interim measure for the upper aquifer consists of groundwater extraction at the property boundary using well TW-2; treatment through an air stripper tower; and discharge through GM's NPDES permitted outfall to the Great Miami River. Additional system design information is presented in the Preliminary Interim Measures Work Plan (Geraghty & Miller, Inc. 1994a) and the Final Interim Measures Design Plans (Geraghty & Miller, Inc. 1995). Groundwater recovery from TW-2 began on January 31, 1996. During the 12 years of operation (January 31, 1996 through December 31, 2007), the system has recovered and treated a total of 791,655,020 gallons of groundwater at an average flow rate of approximately 145 gpm. The location of recovery well TW-2 is shown on Figure 2.

Well DN-13 is a lower aquifer well that Montgomery County has been using in a Pump-to-Waste Program since March 1990. The capture zone interim measure for the lower aquifer consists of continued pumping of DN-13 at an approximate rate of 1,100 gpm. The location of well DN-13 is shown on Figure 2. As discussed in Sections 2 and 6, the current capture zones in the upper and lower aquifers are part of the final corrective measures.

3.5.2 In-Situ Reactive Zones

Based on a review of potential remedial technologies which could be applied at the GM site to address VOCs in groundwater at and emanating from AOI 7, two remediation

technologies were selected as the most likely to achieve the interim measures objectives. One of these is a chemical (non-biological) oxidation of the contaminants using hydrogen peroxide and the creation of Fenton's reagent; the other is enhanced bioremediation, primarily via the reductive dechlorination process. The system design for these in-situ technologies was presented in the Primary Groundwater Source Area (AOI 7) Interim Measures Work Plan (ARCADIS Geraghty & Miller, Inc. 1999).

The chemical oxidation technology was selected for the AOI 7 primary source area which contains the highest VOC concentrations because this technology provides the greatest potential for rapidly reducing high VOC concentrations. Chemical oxidation as a remedial alternative is based on the introduction of an oxidant, such as hydrogen peroxide (H_2O_2), into the subsurface. The resulting hydroxyl radicals (OH^-), a strong chemical oxidizer, can create an environment which oxidizes organic compounds such as PCE and TCE (and their degradation daughter products 1,2-DCE and vinyl chloride). The reaction is a nearly instantaneous oxidation of these compounds upon contact with the hydroxyl radicals. Fenton's reagent, a combination of hydrogen peroxide and ferrous salts, can be used to cost-effectively create hydroxyl radicals. The in-situ oxidation testing within AOI 7 was conducted in 1999 and 2000. Based on the results of this testing presented in the IM/CM Report, GM concluded that in-situ oxidation is a potentially viable technology at this site and continued implementation should result in the desired reduction of VOC concentrations; however, the radius of influence achieved with this technology was limited and due to the large amounts of chemicals needed, special considerations of safety concerns associated with technology implementation would be required.

The reductive dechlorination of chlorinated VOCs in groundwater can be enhanced by the introduction of a carbon source that stimulates activity of indigenous microorganisms. The high carbon loading triggers a succession of microbial species. Initially, aerobic electron acceptors such as oxygen and nitrate are consumed. Then, the microbial succession leads to a consortium of species that survive by sulfate reduction, methanogenesis and other similar metabolic pathways, supporting the highly reducing conditions necessary for the dechlorination of PCE, TCE, cis-1,2-DCE, and vinyl chloride. This enhanced reductive dechlorination process has been developed at the GM Moraine site through the use of reactive zones for introduction of a degradable carbon source necessary to develop the desired reducing conditions.

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Enhanced reductive dechlorination was implemented in 1999 as a component of the Former Oil House Area corrective measures at three zones: 1) at the southern boundary of the Former Oil House Area (RZ-1); 2) at an intermediate downgradient location south of the Former Oil House Area in the ME well series area (RZ-2 which was operated from 1999 to 2002); and 3) at a downgradient location south of former Delphi Thermal Moraine (RZ-3 West) and the former Moraine Engine plant (RZ-3 East). Using the data obtained from the Supplemental Groundwater Investigation conducted in 2006, RZ-4 was designed and installed to address VOC impacts identified west of RZ-3 West (GM-16). The RZ locations are shown on Figure 2.

- At RZ-1, molasses solution was introduced into the upper aquifer, above the upper clay till. The carbon injection wells are screened across the lower 10 ft of the upper aquifer, which is 4 ft to 12 ft thick. RZ-1 consists of 21 introduction wells, of which 12 wells (RZ-1J through RZ-1U) were added in 2002, to expand RZ-1. Several monthly carbon introductions were completed in existing wells upgradient of GM-23 (OW-1, OW-2, and OW-3) to demonstrate the ability to solubilize and biodegrade the previously adsorbed VOCs in this area.

- Former RZ-2 consisted of four monitoring wells (ME-1 [abandoned], ME-2, ME-4, ME-5 [abandoned]), located along the western edge of the former Moraine Engine Plant 3 building. The RZ-2 wells were screened within the upper 3 ft of the upper aquifer. RZ-2 was operated from 1999 to 2002. Re-establishment of or enhancement to in situ reactive zone RZ-2 is further evaluated as part of this CMP.

- RZ-3 consists of 46 introduction wells, 30 wells in RZ-3 West (RZ-3A through RZ-3DD) and 16 wells in RZ-3 East (RZ-3FF through RZ-3KK, and RZ-3MM through RZ-3VV). At RZ-3, the carbon injection wells were screened from approximately the aquifer surface to a depth of 46 ft to 68 ft bls, allowing carbon introduction through the lower 20 to 30 feet of the upper aquifer. Introduction wells RZ-3RR through RZ-3VV were installed in April 2005 in order to establish a reactive zone further down-gradient and closer to the property boundary. The additional

introduction wells were screened from 34 ft to 54 ft bls. Wells RZ-3MM through RZ-3QQ have not been operated since the installation of RZ-3RR through RZ-3VV in 2005, therefore, of the 16 existing introduction wells in RZ-3 East, only 11 are active. RZ-3 has been reevaluated as part of this CMP.

- RZ-4 consists of 15 introduction wells, 7 wells in RZ-4 West (RZ-4I through RZ-4O) and 8 wells in RZ-4 East (RZ-4A through RZ-4H). These wells were installed in July 2006. The RZ-4 West wells are located in the southeast corner of the closed South Settling Lagoon and the RZ-4 East wells are located north of Landfill L1 and west of the WPSA. At RZ-4, the carbon injection wells were screened from approximately the aquifer surface to a depth of 57 ft to 62 ft bls, allowing carbon introduction through the lower 30 feet of the upper aquifer. RZ-4 has been reevaluated as part of this CMP.

To establish conditions conducive to ERD within reactive zones RZ-1, RZ-2, and RZ-3, a readily degradable carbon source (a dilute solution of molasses and potable water) was periodically delivered into the reactive zone introduction wells during a 6-month period from December 1999 to May 2000. The molasses solution consisted of either a 10-to-1 or 20–to-1 ratio of potable water to feed-grade molasses that was pumped into each RZ well. The initial event, conducted in December 1999, consisted of two consecutive rounds of carbon source introductions in each RZ well. After the initial introduction event, the carbon source solution introductions were scheduled twice per month through May 2000. Due to the success during the first six months of implementing this technology, carbon source introduction activities continued in October, November, and December 2000, and subsequently from June 2001 through December 2007.

Introductions in RZ-1 were modified in the fall of 2003 after review of the previous site-wide groundwater analytical results. Due to the success of RZ-1, GM implemented a reduced carbon loading frequency of one introduction event every other month, and periodically monitored GM-28 to ensure that the necessary reducing conditions were being sustained to promote the dechlorination process. In May 2005, the introduction routine was changed to two injections every quarter to ensure reducing conditions are maintained and sufficient carbon is available to allow for complete degradation of the VOCs. This injection schedule of two per quarter was followed in 2007.

Introductions continued throughout 2007 on a monthly introduction schedule in Reactive Zone RZ-3. Low concentrations of chlorinated VOCs in monitoring wells GM-

21, GM-6, and GM-8, which serve as the downgradient performance monitoring wells for RZ-3, have been maintained in 2007.

Monthly carbon introductions in RZ-4 East began in August 2006. Monitoring Well GM-19S serves as the downgradient performance monitoring well for RZ-4 East. A significant reduction in chlorinated VOC mass has been observed at Monitoring Well GM-19S, demonstrating the effectiveness of ERD in this zone. Reactive Zone RZ-4 West was in operation from August 2006 through August 2007. Operation of RZ-4 West is currently on hold due to observations of moderate levels of dissolved methane in groundwater at performance Monitoring Well GM-64 and field observations which indicate the presence of excess gas build-up at RZ-4 West injection well-heads (likely a mixture of methane and carbon dioxide). These observations indicate the need to assess the issues associated with the continued operation of RZ-4 West. This assessment will be completed prior to continuing operation of RZ-4 West. In November 2005, a more dilute molasses solution (20:1 water to molasses ratio) was used during the introduction event. Previously a 10:1 water to molasses ratio was used in the solution. Adjustments to the introduction procedures were made based upon evaluation of monitoring results and the variability in acceptance rates of the more concentrated solution into the formation. ARCADIS has observed at other sites utilizing ERD technology, that a lower solution concentration of molasses in the injectate is sufficient, and in many cases better, to achieve distribution of carbon in the subsurface. A more dilute molasses solution will reduce fermentation by-products, such as carbon dioxide and organic acids that cause reductions in pH, and in some instances may limit distribution of the carbon solution due to gas building up in soil pore space. By lowering the molasses concentration a reduction in fermentation by-products is achieved, which is shown to improve the delivery of organic carbon to the desired locations. The decreased concentration was coupled with an increase in the volume introduced with the intent of "pushing" the carbon solution further away radially from the introduction wells, where deemed necessary. This modification was made prior to the November 2005 event and as a result, an improvement in the delivery of the carbon solution has been noted.

System operation and performance data are presented in the annual Site-Wide Groundwater Monitoring Report (ARCADIS, Inc. 2008). As discussed in Sections 2 and 6, the enhanced reductive dechlorination reactive zones with some refinements are part of the final corrective measures.

3.5.3 Waste Pile/Staging Area

The primary component of the WPSA interim measures was removal of the impacted soil identified for excavation to reduce source material for the protection of groundwater. The soil removal and site restoration activities were completed in 2005. The performance objective of the WPSA corrective measures was to remove a sufficient volume of source material for the protection of groundwater based on a set soil volume limit determined by an evaluation of the existing borings. This objective was met by completing soil removal and offsite disposal and soil confirmation sampling. In addition, utilizing the results of the soil confirmation sampling determined that soil excavation has resulted in post-interim measures routine worker and maintenance worker direct contact risks that meet U.S. EPA's acceptable risk levels. Another component of the WPSA corrective measures is the maintenance of a paved cover over the WPSA in conjunction with institutional controls to reduce the potential for direct contact exposure to soil. The institutional controls for the WPSA will be incorporated as part of the final corrective measures, as discussed in Sections 2 and 6. Additional information is presented in the Waste Pile/Staging Area Interim Measures Work Plan (ARCADIS, Inc. 2004b) and Waste Pile/Staging Area Interim Measures Report (ARCADIS, Inc. 2006).

3.6 Summary of Supplemental Groundwater Investigation

Based on the results of the site-wide groundwater monitoring program, GM proposed to collect supplemental groundwater data to provide additional information for evaluating the performance of the ongoing corrective measures. This section presents the results of this supplemental data collection which have been used to refine the corrective measures for the Site.

The additional data collection in 2006 focused on the upper aquifer well GM-16 located downgradient of the Site; the southeastern side of the Former Oil House Area; the lower aquifer well GM-41 located south of the Moraine Assembly Paint Building; and the area north and south of Holes Creek. The scope of these supplemental field data collection activities were presented in several work plans that were submitted to the U.S. EPA (BOW Environmental Solutions, Inc. 2005b, 2006a, 2006b). The summary of the supplemental investigations completed in 2006 has been presented in the Corrective Measures Supplemental Groundwater Investigation Report (ARCADIS, Inc. 2007).

Based on the findings from the 2006 supplemental investigations, GM recommended that further investigation be completed to provide additional characterization of groundwater chemistry and flow direction in the vicinity of Holes Creek, south of RZ-1, and in the general area around lower aquifer well GM-41. In addition, GM recommended a detailed water level study in the lower aquifer pumping well DN-13 to further refine the available information on groundwater fluctuations and any potential interconnections between the upper and lower aquifers. On March 16, 2007, GM submitted a work plan to the U.S. EPA (BOW Environmental Solutions, Inc. 2007a) to complete the field work for this phase of the investigation. Boring logs and well construction logs for the supplemental investigation are presented in Appendix B. A summary of the supplemental investigation completed in 2007 and 2008 is presented in Table 1.

In April 2007, well pair GM-65S/D was installed east of the Great Miami River and south of Holes Creek. This well pair was previously identified in the July 2006 work plan as Well G. During drilling, the boring was continuously sampled for lithologic characterization and vertical aquifer sampling was conducted approximately every 10-15 ft after groundwater was encountered to a total depth of 108 ft below land surface (bls). Till was not observed at this drilling location. Based on the groundwater profiling data, one upper aquifer well and one lower aquifer well were installed (GM-65S and GM-65D); the wells were screened from 42 to 52 ft bls and 85 to 95 ft bls, respectively.

Boring/well GM-66 was installed in April 2007 to monitor the performance of the RZ-1 barrier. GM-66 was installed at approximately the same location of former temporary monitoring well BD14-01, which was installed during the 2004 Building 14 investigation (ARCADIS, Inc. 2005a). During drilling, the boring was continuously sampled for lithologic characterization and vertical aquifer sampling was conducted approximately every 10-15 ft after groundwater was encountered to a total depth of 57 ft bls. The upper clay till (36-43 ft bls) and the regional clay till (55 ft bls) were encountered during drilling. Based on the groundwater profiling, one upper aquifer well (GM-66) was installed and screened from 45 to 55 ft bls.

To further characterize groundwater chemistry in the vicinity of lower aquifer monitoring well GM-41, five borings (GM-67 through GM-72) and 8 monitoring wells (GM-67S/D, GM-68S/D, GM-69, GM-70, GM-71, and GM-72) were installed in April 2007. Boring GM-67 (wells GM-67S/D) is located between the Former Oil House Area and wells GM-59/-60/-61, boring GM-68 (wells GM-68S/D) is located between well triplet GM-59/-60/-61 and GM-41, boring/well GM-69 is located southwest of GM-41, boring/well GM-70 is located northeast of GM-41, and boring GM-71/72 (wells GM-71/72) is

located north of GM-41. During drilling, the borings were continuously sampled for lithologic characterization and vertical aquifer sampling was conducted approximately every 10-15 ft after groundwater was encountered to total depth of the borings. Based on the groundwater profiling, upper aquifer wells GM-67S (well screen 44 to 54 ft bls), GM-68S (well screen 39.5 to 49.5 ft bls), GM-71 (well screen 21 to 31 ft bls), GM-72 (well screen 52 to 62 ft bls) and lower aquifer wells GM-68D (well screen 64 to 74 ft bls), GM-69 (well screen 90 to 100 ft bls), GM-70 (well screen 72 to 82 ft bls) were installed. All of the wells installed in April 2007 were sampled in May 2007 for the site-specific VOC parameter list.

As part of the supplemental groundwater investigation a detailed water level study was completed for pumping well DN-13 in March and April 2007 for a period of 42 days. The results and findings from this study are presented in Appendix C. Transducer data was obtained in the area of lower aquifer capture well DN-13 for refinement of the understanding of groundwater flow downgradient of the site and documentation of responses to specific stresses on the aquifer. Data collected and analyzed for the transducer study has improved the understanding of groundwater flow downgradient of the Site. The transducer study findings are presented below:

- All wells show a similar rapid effect to barometric changes and high barometric efficiency;

- Fluctuations in the well used for determination of background conditions, lower aquifer well GM-41, correlate to the effect of production and fire well pumping. Water levels in the background upper aquifer well GM-53 do not show these responses and are not affected by pumping in the lower aquifer for the duration of this study;

- The Great Miami River adjacent to and downgradient of the site, is primarily a losing river. During low river stages, portions of this section of the river can become a gaining reach. There appears to be some degree of hydraulic separation between the River and the upper aquifer groundwater such that groundwater can flow under the River even is situations when the River level is above or below the upper aquifer groundwater level; and

- The DN-13 pumping effects are maintaining capture in the lower aquifer, but response to pumping influences were not observed in the upper aquifer over the 42 day period of this study.

In June 2007, GM submitted a work plan to the U.S. EPA (BOW Environmental Solutions, Inc. 2007b) to provide additional information to refine the current understanding of geology and provide additional characterization of groundwater chemistry in the upper and lower aquifer in the central portion of the Vehicle Distribution Center (formerly Moraine Engine Plant), the Moraine Assembly Plant, and along the eastern site boundary near the Moraine Assembly Paint Building Parking Lot.

In October 2007 lower aquifer boring/well GM-73 was installed beneath the regional clay till (67 ft bls) to a total depth of 120 ft bls. Monitoring well GM-73 was installed adjacent to upper aquifer well pair GM-71/72. During drilling, the boring was continuously sampled for lithologic characterization and vertical aquifer sampling was conducted approximately every 10-15 ft. Based on the groundwater profiling data the screen for GM-73 was installed from 85 to 95 ft bls. GM-73 was sampled in October 2007 for the site-specific VOC parameter list.

Three borings (GM-74 through GM-76) and six monitoring wells (GM-74S/D, GM-75S/D, and GM-76S/D) were installed in July and September 2007. Boring GM-74 (wells GM-74S/D) is located between GM-68S/D and Springboro Pike, boring GM-75 (wells GM-75S/D) is located southwest of the Moraine Assembly Plant, and boring GM-76 (wells GM-76S/D) is located in the southern portion of the Moraine Assembly Plant. During drilling, the borings were continuously sampled for lithologic characterization and vertical aquifer sampling was conducted approximately every 10-15 ft after groundwater was encountered to the total depth of the borings. Based on the groundwater profiling, upper aquifer wells GM-74S (well screen 40 to 50 ft bls), GM-75S (well screen 42 to 52 ft bls), GM-76S (well screen 27 to 37 ft bls) and lower aquifer wells GM-74D (well screen 69 to 79 ft bls), GM-75D (well screen 85 to 95 ft bls), and GM-76D (well screen 70 to 80 ft bls) were installed. All of the wells installed were sampled in September 2007 for the site-specific VOC parameter list.

Boring GM-77 (wells GM-77S/D) was installed east of lower aquifer well GM-58 and west of Northbound Kettering Boulevard. Boring GM-77 was installed to a total depth of 100 ft bls and was continuously sampled for lithologic characterization and vertical aquifer sampling was conducted approximately every 10-15 ft after groundwater was encountered to the total depth of the boring. Based on the groundwater profiling data the screen for upper aquifer monitoring well GM-77S was set from 33 to 43 ft bls and lower aquifer monitoring well GM-77D was set from 75 to 85 ft bls. GM-77S and GM-77D were sampled in September 2007 for the site-specific VOC parameter list.

In October and November 2007 and January 2008, GM submitted work plans to the U.S. EPA (BOW Environmental Solutions, Inc. 2007c, 2007d, and 2008a) to provide additional information to refine the current understanding of the geology and hydrogeology and to provide additional characterization of groundwater chemistry in the upper and lower aquifer. The primary focus of this phase of the supplemental investigation was to assess off-site groundwater quality downgradient and cross-gradient of the Site.

Boring/well GM-78 was installed east of Dryden Road, south of the Site, and east of GM-62. GM-78 was drilled to a total depth of 70 ft bls and was continuously sampled for lithologic characterization and vertical aquifer sampling was conducted approximately every 10-15 ft after groundwater was encountered to the total depth of the boring. Till was not present at GM-78. Based on the groundwater profiling data, GM-78 was set in the upper aquifer from 40 to 50 ft bls. Borings GM-79 and GM-81 were installed west of the Great Miami River and downgradient of well pairs GM-48/51 and GM-49/52. Boring GM-79 was drilled to a total depth of 59 ft bls and boring GM-81 was drilled to a total depth of 90 ft bls. The regional clay till was present at GM-79 at 54 ft bls and was thin at GM-81. During drilling, the borings were continuously sampled for lithologic characterization and vertical aquifer sampling was conducted approximately every 10-15 ft after groundwater was encountered to the total depth of the borings. Based on the groundwater profiling, upper aquifer well GM-79 (well screen 45 to 55 ft bls) and upper aquifer well pair GM-80 (well screen 15 to 25 ft bls) and GM-81 (well screen 50 to 60 ft bls) were installed. Wells GM-78, GM-79, GM-80, and GM-81 were sampled in October 2007 for the site-specific VOC parameter list.

In January and February 2008, three borings (GM-82, GM-83, and GM-84) and four wells (GM-82, GM-83S, GM-83D, and GM-84) were installed. Boring/well GM-82 was installed to provide additional characterization of groundwater chemistry downgradient of well GM-68D. Boring/wells GM-83 and GM-84 were installed to provide additional understanding of hydrogeology and provide additional characterization of groundwater chemistry to the west and east (cross-gradient) of the Site, respectively.

Boring GM-82 was drilled to a total depth of 120 ft bls and was continuously sampled for lithologic characterization and vertical aquifer sampling was conducted approximately every 10-15 ft after groundwater was encountered to the total depth of the boring. Based on the groundwater profiling data, the screen for lower aquifer monitoring well GM-82 was set from 85 to 95 ft bls. Boring GM-83 was installed west of the Site, west of Dryden Road and south of East River Road. Boring GM-84 was installed east of the Site, south of well pair GM-77S/D on Blanchard Avenue. Borings

GM-83 and GM-84 were drilled to a total depth of 120 ft bls and were continuously sampled for lithologic characterization and vertical aquifer sampling was conducted approximately every 10-15 ft after groundwater was encountered to the total depth of the boring. Based on the groundwater profiling data the screen for upper aquifer monitoring well GM-83S (well screen 44 to 54 ft bls) and lower aquifer monitoring wells GM-83D (well screen 110-120 ft bls) and GM-84 (well screen 96.5 to 106.5 ft bls) were installed. Wells GM-82, GM-83S, GM-83D, and GM-84 were sampled in February 2008 for the site-specific VOC parameter list.

In addition to the sampling of the newly installed wells, existing wells GM-26, GM-57, GM-65S, GM-65D, GM-78, HR-7, and HR-16 were sampled in January and February 2008 for the site-specific VOC parameter list to confirm prior sampling downgradient and cross-gradient of the Site.

Analytical data for all the supplemental investigation work is presented on Table 4 (groundwater profiling results) and Table 5 (groundwater analytical results). The boring and well construction logs for all of the borings/wells completed as part of the supplemental investigation are included in Appendix B and well construction details summarized in Table 6.

3.7 Summary of Investigation Findings and Facility Risks

Data collected as part of the RFIs and supplemental investigations were evaluated to determine if the detected concentrations of hazardous constituents pose a potentially significant risk to human health or the environment under current and/or reasonably likely land use and groundwater use at and surrounding the facilities. As summarized below, these risk assessments were conducted as part of the RFI, Supplemental RFI, the Box Sewer Investigation, the WPSA Investigation, and the Building 14 Investigation. Additional information on these risk assessments is provided in Appendix G. More detailed discussions are presented in the final RFI Reports (Volume I [ARCADIS Geraghty & Miller, Inc. 2000a and b] and Volume II [ENVIRON Corporation, 2000a and b]), Box Sewer Investigation Summary Report (ARCADIS, Inc. 2002a), Waste Pile/Staging Area Investigation Summary Report (ARCADIS, Inc. 2004a), Waste Pile/Staging Area Interim Measures Report (ARCADIS, Inc. 2006), Former Building 14 Investigation Summary Report (ARCADIS, Inc. 2005a), and the supplemental groundwater investigation conducted in 2006, 2007, and early 2008.

3.7.1 Summary of RFI and Supplemental RFI Findings

Implementation of the RFI accomplished the media-specific objectives listed below.

Soil

1. Determine if a release of hazardous constituents has occurred from the SWMUs/AOIs.

2. Define the nature and extent of any hazardous constituents released from the SWMUs/AOIs required to support the BRA.

Waste

1. Define the areal extent of waste in the landfills.

2. Characterize shallow soil/waste constituents in landfills at the Site for the BRA by sampling and analysis.

3. Characterize deep waste/soil contamination from hazardous constituents at landfills for the BRA by sampling groundwater immediately downgradient from the units.

Sediment/Surface Water

Provide a characterization of on-site sediment/surface water to be used in the BRA.

Groundwater

1. Collect site-wide data to characterize groundwater with respect to flow direction, occurrence, and concentrations of Appendix IX constituents and cis-1,2-DCE.

2. Collect data further downgradient of the site to characterize groundwater with respect to flow direction, occurrence, and concentrations of Appendix IX VOC constituents and cis-1,2-DCE.

3. Collect data that will support the site-wide BRA.

4. Evaluate site-wide natural attenuation of VOCs.

The sludge present in the closed North and South Settling Lagoons was also evaluated during the RFI. Characterization data collected in support of the preparation of RCRA closure plans for these two SWMUs was utilized in the BRA.

The primary objective of the Baseline and Supplemental BRAs was to address the following questions.

1. Do constituents in soil/waste at any of the SWMUs at Delphi Thermal Moraine pose an unacceptable risk, which warrants corrective measures?

2. Do constituents in soil at any of the AOIs at Moraine Engine or Moraine Assembly pose an unacceptable risk, which warrants corrective measures?

3. Do constituents in groundwater at any of the SWMUs or AOIs at the three GM facilities pose an unacceptable risk, which warrants corrective measures?

Presented below is a discussion of how each of these objectives was achieved during the RFI and a conclusion regarding the need for additional investigative activities.

3.7.1.1 Soil

To accomplish the RFI objectives at the nine SWMUs where soil was considered a medium of potential concern (West Tank Farm, T12, T5/T6, T4, T11, Waste Pile/Staging Area, South Tank Farm, Liquid Waste Burner, and Fill Area), a review of historical data was completed and RFI soil sampling was conducted at Delphi Thermal Moraine. Additionally, an analysis of background soil conditions was completed to provide a basis for evaluating constituent concentrations at SWMUs relative to naturally occurring concentrations of these constituents.

The results obtained from the two rounds of RFI soil sampling at Delphi Thermal Moraine provided the information necessary to complete an evaluation of the presence of any suspected release, as well as sufficient detail on the nature and extent of any release to support an evaluation of risks posed by the SWMUs. Soil analytical results and sampling locations are presented in the RFI Report and Appendix A.

To accomplish the RFI objectives at the Moraine Engine and Moraine Assembly facilities, six AOIs where soil was considered a medium of potential concern (AOIs 7,

13, 17, 34, 35, 36) were investigated, a review of historical data was completed and RFI soil sampling was conducted. The soil sampling results provided information necessary to complete an evaluation of the presence of any suspected release, as well as sufficient detail on the nature and extent of any release to support an evaluation of risks posed by the AOI in the BRA. Soil analytical results and sampling locations are presented in the Supplemental RFI Report and Appendix A.

3.7.1.2 Waste

Waste was considered a potential concern at the three inactive landfills at the Delphi Thermal Moraine facility and the sludge present in the North and South Settling Lagoons. To accomplish the RFI objectives at Landfills L1, L2, and L3, a review of historical data was completed, a geophysical survey was completed, where possible, one round of RFI waste sampling was conducted, and two rounds of groundwater sampling were conducted.

The areal extent of the landfills was adequately delineated during the RFI, through a review of aerial photography and topographical and physical land features, and the geophysical assessment completed at L2 and L3. The verified boundaries of the landfills were then used to develop a random grid to ensure the shallow sampling provided a representative characterization of waste constituents of potential concern in surface materials at these SWMUs. The deep wastes were also characterized through an evaluation of groundwater quality in monitor wells located immediately downgradient of the landfills. Waste analytical results and sampling locations, including the closed North and South Settling Lagoons are presented in the RFI Report and Appendix A.

No supplemental characterization of the closed North and South Settling Lagoons was conducted during the RFI. Rather, sludge characterization data collected in support of the preparation of RCRA closure plans for these two SWMUs was sufficient for use in the RFI BRA.

3.7.1.3 Surface Water/Sediment

Surface water and sediment were considered media of potential concern at Delphi Thermal Moraine due to the presence of the drainage ditch on the north end of the facility. To accomplish the RFI objectives, surface water and sediment samples were collected within the drainage ditch at locations upstream and downstream of the facility.

The results obtained from the RFI sampling provided the information necessary to characterize this media, and no supplemental investigative activity was necessary to support the BRA. Surface water and sediment analytical results and sampling locations are presented in the RFI Report and Appendix A.

A review of the RFI sampling for surface water/sediment, indicated that constituents detected in the downstream surface water and sediment samples were at concentrations similar to upstream concentrations. Additionally, an evaluation of topographical and land-use features between the drainage ditch and the SWMUs at the north end of the facility, and a comparison with constituents detected in these SWMUs, indicated that the concentration of constituents detected in the downstream surface water and sediment samples were likely attributable to either natural background or off-site sources. Based on this evaluation, no further action was proposed for surface water/sediment.

3.7.1.4 Groundwater

To accomplish the RFI objectives for groundwater, two rounds of groundwater sampling were conducted from a well network which consisted of 36 monitoring wells during Phase I and 42 monitoring wells during Phase II at the Delphi Thermal Moraine facility. Additionally, an analysis of background groundwater conditions was completed to provide a basis for evaluating the presence of both naturally and non-naturally occurring constituents coming onto the Delphi Thermal Moraine facility from upgradient sources.

The investigative strategies for characterizing site-wide groundwater quality included evaluating groundwater results upgradient and downgradient of each SWMU, evaluating groundwater results upgradient and downgradient of the site, and using the site-specific groundwater flow model to support the BRA by estimating concentrations of constituents which may migrate from the Delphi Thermal Moraine facility. This level of groundwater data and evaluation provided an understanding of the presence of constituents of potential concern beneath and downgradient of Delphi Thermal Moraine. Groundwater analytical results and sampling locations are presented in Appendix A. VOC concentrations at each well sampled in the upper and lower aquifers in 1993/1994 during the RFI are posted on Figures 1-6 and 1-7, respectively, of the IM/CM Report and copied in Appendix A.

To accomplish the RFI objectives for groundwater at the Moraine Engine and Moraine Assembly facilities, site-wide sampling for VOCs, AOI-specific sampling, and

bioattenuation indicator parameter sampling were conducted. In addition, water level measurements were collected and three shallow monitor wells were installed. The RFI concluded that the groundwater objectives had been met and no additional groundwater investigative activities were required to support development of the BRA. Groundwater analytical results and sampling locations are presented in Appendix A. VOC concentrations at each well sampled in the upper and lower aquifers in 1998 during the Supplemental RFI are posted on Figures 1-8 and 1-9, respectively, of the IM/CM Report and copied in Appendix A.

3.7.1.5 Baseline Risk Assessment and Supplemental Baseline Risk Assessment Results

As discussed in Appendix G, a BRA was completed in support of the RFI Final Report for the former Delphi Thermal facility (ENVIRON 2000a) in 1996 and approved in 2000. The purpose of the BRA was to evaluate potential risk to human health and the environment posed by releases of hazardous waste and constituents from the fourteen SWMUs investigated during the RFI). The key conclusions of the BRA were (ENVIRON 2000a):

- For all soil- and air-related pathways, estimates of potential cumulative cancer risk and noncancer effects were estimated to be well below the levels U.S. EPA considers protective of human health.

- Under current groundwater use conditions, with or without interim measures, potential SWMU-related contributions to groundwater were estimated to result in constituent concentrations at points of groundwater use that are lower than maximum contaminant levels (MCLs) or similar risk-based drinking water concentrations for constituents without MCLs (i.e., equivalent drinking water levels (EDWLs)).

- In addition to the human health evaluation, a screening ecological assessment indicated no adverse impact from the SWMUs and no need for a more detailed ecological assessment.

A Supplemental RFI BRA was completed in support of the Supplemental RFI Report for the former Moraine Engine and Moraine Assembly facilities (ENVIRON 2000b). This BRA supplemented the original BRA completed in 1996 as part of the RFI at the Delphi Thermal facility, which adjoined the Moraine Engine and Moraine Assembly facilities. Six AOIs were sampled during the Supplemental RFI. The key conclusions

of the Supplemental RFI BRA for the six AOIs investigated during the Supplemental RFI were (ENVIRON 2000b):

- Constituents in soil at the former Moraine Engine and Moraine Assembly were determined to not pose an unacceptable risk via direct contact or airborne transport to ambient air. Estimates of potential cumulative cancer risk and noncancer hazard index (HI) for potential exposure to constituents in soil at the AOIs via soil- and air-related pathways, assuming reasonable maximum exposures (RME), were determined to be below levels USEPA considers protective of human health.

- Constituents in soil/waste at the SWMUs and AOIs were also determined to not pose an unacceptable risk via groundwater transport under the 10 groundwater use scenarios evaluated. In particular, under the groundwater use conditions at the time, with and without taking into account the interim measures, potential leaching of constituents from soil/waste to groundwater was not predicted to cause concentrations at points of groundwater use to exceed MCLs or EDWLs for constituents without MCLs.

- No unacceptable human exposure were found to have been occurring, however, constituents in groundwater at AOI 7 were determined to have the potential to migrate to the extent that reasonably expected future uses of groundwater in the lower aquifer might be affected. On this basis, GM implemented an IM to address contamination at AOI 7.

3.7.2 Box Sewer Investigation Findings

The box sewer investigation activities were conducted in November 2001 (ARCADIS, Inc. 2002a). The specific objectives of the investigation were to:

- Determine if a significant release of hazardous constituents to soils in the immediate vicinity of the box sewer had occurred; and

- Evaluate the nature and extent of any release identified to support an evaluation of potential risks to current and reasonably expected future receptors using the procedures detailed in the Supplemental RFI BRA (ENVIRON 2000b).

The risk-based assessment of the box sewer investigation data determined that the presence of hazardous constituents in soils do not present a significant risk via the pathways identified under current and reasonably expected future land and groundwater use scenarios. As a result, GM proposed no further action for the box sewer (ARCADIS, Inc. 2002a).

3.7.3 WPSA Investigation Findings

Additional investigation of conditions at the WPSA was conducted in order to address U.S. EPA comments on the Supplemental RFI (ARCADIS, Inc. 2000b) and the draft Site-Wide Groundwater Monitoring Plan (ARCADIS, Inc. 2002b), and to address continued use of the WPSA after completion of the RFI. The specific objectives of the WPSA investigation for soil and groundwater were:

- Determine if a release of hazardous constituents to soils had occurred from the WPSA since the RFI was completed and, if so, evaluate the nature and extent of the release(s) to support an evaluation of the potential risks using procedures detailed in the Supplemental RFI BRA (ENVIRON 2000b); and

- Collect groundwater quality data upgradient and downgradient of the WPSA to characterize groundwater with respect to flow direction and quality to support an evaluation of potential risks using the procedures detailed in the Supplemental RFI BRA (ENVIRON 2000b).

As discussed in Appendix G, the risk-based assessment of the WPSA investigation data determined that the presence of hazardous constituents in soils may pose a potentially significant risk via the certain conditions (ARCADIS, Inc. 2004a):

- No significant current human exposure to constituents in soil at the WPSA was identified as the WPSA was inactive at the time.

- Potentially significant human exposure via direct contact with constituents in soil at some parts of the WPSA may occur in the future if pavement were to be removed and the area were to be redeveloped for commercial/industrial use.

- With the removal of oil impacted soil and soil identified as containing significant constituent concentrations, soil at the WPSA would not be expected to pose a significant risk via direct contact if the area were to be redeveloped for commercial/industrial use.

- Constituents in the WPSA did not appear to have significantly affected groundwater underlying the WPSA. With the removal of soil to address potential future worker exposure risks via soil direct contact, constituents in soil remaining at the WPSA were not expected to significantly affect future groundwater quality. Existing impacts to groundwater observed at the WPSA, attributable to other sources at the Site (e.g., AOI 7), were being addressed as part of site-wide corrective action.

Based on these findings, GM performed a limited soil removal at the WPSA between September 26 and October 4, 2005 and the key conclusions presented in the WPSA Interim Measures Report (ARCADIS, Inc. 2006) were as follows:

- Soil excavation has resulted in post-interim measures routine worker and maintenance worker risks that meet U.S. EPA's acceptable risk levels.

- Nonetheless, the existing pavement that covers the WPSA was to be maintained by GM and institutional controls put in place such that any subsurface activities would be governed by the Site's health and safety requirements, which ensure worker production during such activities.

3.7.4 Former Building 14 Investigation Findings

As part of the Building 14 demolition, GM implemented an investigation of conditions beneath the Building 14 area in August 2004. As discussed in Appendix G, soil and groundwater data collected as part of this investigation were assessed in comparison with risk-based screening values. Based on the risk-based data screening, no soil or groundwater concentrations were identified which would present a significant risk to the receptors and pathways identified under current and reasonably expected future land and groundwater use scenarios (ARCADIS, Inc. 2005).

3.7.5 Supplemental Groundwater Investigation Findings

Following completion of the supplemental groundwater investigation conducted in 2006, 2007, and early 2008, the data were evaluated using risk-based data screening criteria to assess the potential significance of concentrations detected in the new monitoring wells. GM submitted the results of this assessment with the Risk-Based Groundwater Data Screening Summary in May 2008 (BOW Environmental Solutions, Inc. 2008b). The assessment results are also presented in Appendix G.

3.8 Revised Conceptual Site Model

The CSM previously developed for the Site has been revised using the additional data collected during the previously discussed supplemental investigations. The revised CSM includes the site characteristics (historical and current); physical setting, refinements made to the geology, hydrogeology, groundwater flow model, and groundwater chemistry; and results of the off-site well search results. The revised CSM is used to support the updated risk analysis and corrective measures evaluation.

3.8.1 Site Characteristics

3.8.1.1 Local Land Use

Land use surrounding GM facilities is almost entirely industrial and commercial with only a few small areas of residential use. The former Delphi Thermal Moraine facility is the western boundary of the Site and is zoned for general industry. The western portion of the Moraine Assembly facility is located in an area zoned for general industry, while the eastern portion is located in an area zoned for light industry. The former Moraine Engine facility is located in an area zoned for general industry. Areas adjacent to the Site are zoned for general industry, light industry, general business, neighborhood business, and one- and two-family residential uses. The businesses in the surrounding area north of the Site include warehouses, office buildings, light manufacturing and assembly, a gravel pit, cosmetics manufacturing, and dry cleaning. Businesses located east of the Site include an analytical laboratory, a motel, and a television station. The area south of the Site is zoned for general industry, light industry, neighborhood business, general business, and residential uses.

3.8.1.2 Physical Setting

3.8.1.2.1 Topography

The Site is located in the Great Miami River valley and is bounded by bedrock valley walls and various glacial features. The surrounding topography can be seen on the Dayton South Quadrangle and Miamisburg Quadrangle United States Geological Survey (USGS) topographic maps. The valley walls and overlying glacial features,

approximately one mile east and west of the Site exhibit elevations ranging between 900 and 1000 feet mean sea level (msl). Topographically, the Site lies in the valley flats. The Site has little relief with elevations ranging from 725 to 740 feet msl.

3.8.1.2.2 Climate

The climate is continental denoted by geographic location within the interior of a large landmass with hot summers and cold winters (MMU, 2002-2004). Summers are warm and humid with an average July temperature range of 64 F to 84 F. Winters are cold and cloudy with an average January temperature range of 19 F to 33.7 F (NCDC, 2008). Precipitation averages approximately 39 inches per year; based on a 30 year record from 1961-1990 (OSU, 2008). Average precipitation is 3.3 inches per month; January the driest at 2.3 inches and May as the wettest at 4.2 inches. However, extreme variations may occur.

3.8.1.2.3 Surface Water and Drainage Features

Moraine and the surrounding region are in the Great Miami River drainage basin. This river generally flows north to south in the vicinity of the Site and is closest to the Site on the southern end. No major tributaries to the Great Miami River pass through the facilities. The Flood Insurance Rate Map for Moraine shows that the area affected by the 100-year flood does not include the GM facilities (FEMA 1981).

Storm water and non-contact cooling water from the Site are discharged to the Great Miami River via storm water sewers through one of two storm water retention basin systems (SWRBs) at the former Delphi Thermal Moraine facility, under existing NPDES permits. The retention facilities were brought on line during October 1989 and were designed to provide spill containment and solids settling capabilities required to maintain compliance with NPDES permit requirements. The storm water sewers under much of the Moraine Assembly and former Moraine Engine facilities consist of sewer lines historically used by the Frigidaire operations.

The North SWRB system consists of two parallel concrete basins, each having a normal operating capacity of approximately 130,000 gallons. This facility serves the Moraine Assembly facility and the northern portions of the former Delphi Thermal Moraine and former Moraine Engine facilities, which have an associated surface-drainage area of approximately 161 acres. The South SWRB system includes two similar parallel concrete basins with normal operating capacities of approximately 90,000 gallons each. The south facility handles discharges from the former Moraine

Engine facility and the southern portion of the former Delphi Thermal Moraine property, covering an area of approximately 104 acres of surface drainage.

Storm water runoff from areas north of the former Moraine Engine facility, the Moraine Assembly facility, the northern portion of the former Delphi Thermal Moraine facility, and some residential and commercial areas in the City of Moraine (including residential areas east of the Moraine Assembly facility and Springboro Road) flow to former Delphi Thermal's north SWRB via a 66-inch storm line. Storm water runoff at the north wall of the former Moraine Engine facility flows eastward to the northeast corner of the facility, then southward along the east side of the facility, to former Delphi Thermal's south SWRB. Storm water from the former Moraine Engine facility and parking lots are discharged southward toward Blanchard Avenue. The sewers south of the Moraine Assembly facility, starting at the Paint House (south of Stroop Road) join the box sewer at the east side of the former Moraine Engine facility. The City of Moraine joins the system at the southeast corner of the former Moraine Engine facility. These sewers contain flow from the City of Moraine, the former Moraine Engine facility, the Moraine Assembly facility, and former Delphi Thermal Moraine facility join and are collected in the south SWRB.

The south cell of the SWRB system was designed to operate as one basin during normal non-storm flow conditions. The second adjacent basin is used for diversion of normal flow if a spilled material has been isolated in the first basin, as well as for additional retention capacity during storm conditions. The design criteria for sizing of the facilities was a minimum 30-minute retention based on a maximum flow of a 2-inch uniform rain over 24 hours plus normal non-contact cooling water flow. Any flow exceeding the maximum design capacity will bypass the basins by gravity overflow to the associated storm sewer outfall.

Storm water from the East Haulaway and DMAX is discharged into an unnamed drainage ditch located east and south of DMAX, which was assessed during the RFI (ARCADIS Geraghty & Miller, Inc. 2000a). This ditch originates in west Kettering, flows north to south along the east side of DMAX, then east to west along the south side of DMAX. The ditch eventually discharges into the Great Miami River.

3.8.1.3 Source Areas and Site-Specific VOCs

The highest concentrations of VOCs in upper aquifer groundwater across the three facilities is present at AOI 7 (Former Oil House Area) in monitoring well GM-23. At this location, total VOC concentrations were 19,706 micrograms per liter (ug/L) in

March 1998, with estimated concentrations of PCE at 11,200J ug/L, TCE at 3,870J ug/L, cis-1,2-DCE at 3,870J ug/L, and vinyl chloride at 766J ug/L. More recently, total VOC concentrations in GM-23 were 7,792 ug/L in September 2007, with PCE at 280 ug/L, TCE at 82J ug/L, cis-1,2-DCE at 4,700 ug/L and vinyl chloride at 2,600 ug/L. The highest total VOC concentrations in a hydropunch sample were in OH-BH2A where 18,441 ug/L was detected in November 1998, with cis-1,2-DCE at 11,000 ug/L, vinyl chloride at 4,770J, PCE at 1,180J ug/L, TCE at 1,260J ug/L, and 1,1-dichloroethane (1,1-DCA) at 231 ug/L. In general, the area of highest VOC concentration is centered around GM-23, as presented in the Supplemental RFI, which has been included in Appendix A. This area is estimated to be approximately 750 ft in the north/south direction and 350 ft in the east/west direction. Figure 3-12 (Appendix A) presents the distribution of total VOC concentrations in this area. Hydrophobic dye testing of saturated soil samples in the AOI 7 area indicated the potential presence of dense nonaqueous phase liquids (DNAPL). The dye test results are presented on Figure 3-9, which has been included in Appendix A. The calculated total mass of dissolved VOCs within the 1,000 ug/L contour boundary identified on Figure 3-12 (Appendix A), is approximately 95 pounds (or 7 gallons) based on a saturated thickness of 9 ft and a porosity of 0.3.

The concentrations of VOCs in groundwater within AOI 7 are elevated in the portion of the upper aquifer above the upper clay till. VOC concentrations are almost two orders of magnitude lower in upper aquifer groundwater below the upper clay till in hydropunch samples collected during installation of GM-27: 11,525.3 ug/L total VOCs were detected just above the upper clay till compared with 101.5 ug/L just below the upper clay till. As a result, the corrective measure RZ barrier (RZ-1) within AOI 7 focused on the upper portion of the upper aquifer. Downgradient from AOI 7, corrective measures focused on both the upper and lower portions of the upper aquifer, as VOCs have dispersed both horizontally and vertically in the upper aquifer as they have migrated downgradient from AOI 7.

Based on the findings of the RFI and Supplemental RFI investigations, constituents of potential concern for the facilities are limited to chlorinated VOCs in groundwater from historic releases (primarily from AOI 7). As stated in the approved AOI 7 Interim Measures Work Plan (ARCADIS Geraghty & Miller, Inc. 1999), data from the site-wide baseline sampling event completed in September 1999 was evaluated to establish a site-specific parameter list for site-wide groundwater monitoring. This list contains the eight chlorinated VOCs, that U.S. EPA and GM agreed to during the AOI 7 investigation (1,1-dichloroethane (1,1-DCA), 1,1-dichloroethene (1,1-DCE), cis-1,2-DCE, trans-1,2-dichloroethene (trans-1,2-DCE), tetrachloroethene (PCE), 1,1,1-

trichloroethane (1,1,1-TCA), trichloroethene (TCE), vinyl chloride). In addition, as stated in the Supplemental RFI Report, toluene would be added to the site parameter list based on detected concentrations in the AOI 7 area during November 1998. Benzene, toluene, ethylbenzene, and xylenes (BTEX) were all detected during the September 1999 baseline sampling event. While BTEX constituents were not identified as constituents of concern during the RFI, they have been added to the site-specific parameter list in order to monitor the effectiveness of the AOI 7 corrective measures and evaluate the total level of organic carbon at the site. The appropriateness of this site-specific parameter list was verified by the results of the one-time sampling event for VOCs, SVOCs and metals requested by the U.S. EPA in comments dated June 16, 2000 that was completed between September and October 2000.

Refinement of the VOC plume was achieved as a result of the supplemental groundwater investigation completed in 2006, 2007, and early 2008 (Section 3.8.5). Based on the supplemental groundwater investigation data from 2007, the highest VOC concentrations in the lower aquifer were detected in wells GM-68D (PCE at 1,500 ug/L and TCE at 770 ug/L) and GM-75D (PCE at 470 ug/L and TCE at 1,700J ug/L). The highest VOC concentrations in the upper aquifer have previously been delineated at the Former Oil House Area; however, elevated VOC concentrations in the upper aquifer were also detected in wells GM-59 (PCE at 310 ug/L and TCE at 94 ug/L), GM-60 (PCE at 510 ug/L and TCE at 570 ug/L), and GM-75S (PCE at 490 ug/L and TCE at 210 ug/L). The primary source of PCE and TCE in the upper/lower aquifers is likely the Former Oil House Area where releases to the upper aquifer could have migrated to the lower aquifer in this area due to historical groundwater pumping (Section 3.8.1.5). GM also evaluated other potentially significant source areas in the vicinity of wells GM-68 and GM-75. The possible use of solvents during the Frigidaire era at the AOI 26 Moraine Assembly Process Waste Collection Systems (Appendix A) could be a contributing source of PCE and TCE detected in lower aquifer well GM-75D. While not directly observed during the supplemental groundwater investigation, the possibility exists for DNAPL to be trapped in the regional clay till in the areas near wells GM-68 and GM-75, where the till may be serving as a secondary source of VOCs to the lower aquifer. As a result, AOI 26 and the till near wells GM-68 and GM-75 have been incorporated into the risk assessment as potential source areas (Section 4).

The potential source areas evaluated in the risk assessment include the following: AOI 7, AOI 13, AOI 17, AOI 34, AOI 35, AOI 36, Landfill L1, Landfill L2, Landfill L3, Liquid Waste Burner, closed North Settling Lagoon, closed South Settling Lagoon, Fill Area,

South Tank Farm, West Tank Farm, UST T4, UST T5/T6, UST T11, UST T12, GM-75 till, GM-68 till, AOI 26, Waste Pile/Staging Area, and the Box Sewer.

3.8.1.4 Regional Groundwater Use

The Site is located within a glacial buried valley and the hyrdogeologic setting is comprised of an upper and lower aquifer separated by a discontinuous clay-rich aquitard (see to Section 3.8.2). The lower aquifer in the vicinity of the Site has historically been used for public water supply. This Greater Moraine Water System was maintained by the Montgomery County Sanitary Engineering Department and consisted of four (Lamme Road, Dryden North, Dryden Road South, and Miami Shores) well fields that supplied the cities of Moraine, Kettering and Centerville. These well fields were used until 1986, to which all systems were switch to the City of Dayton supply in conjunction with county storage facilities and pump stations. However, Miami Shores was used in the summers of 1987 and 1988 to supplement high demand (Geraghty & Miller, Inc., 1994b). Currently, the Lamme Road well field is abandoned, Dryden South is inactive and Dryden North is inactive except for DN-13 which is maintained by Montgomery County and used by GM as part of the Pump to Waste Program that began in 1990 (3.8.1.5). Miami Shores is inactive, but is maintained by Montgomery County and is the primary backup to the City of Dayton. The closest active well field is approximately two miles to the south, consisting of three wells that supply the City of West Carrollton.

The lower aquifer in the region historically and currently is also used as an industrial water supply. Refer to Section 3.8.1.5 for historical industrial water use on Site and the region; and the Groundwater Model Update 2008 in Appendix D for detailed information for current regional pumping. The Site currently uses two production wells (11A and 12B) that are used for industrial purposes. The Site treats the spent groundwater at its water treatment facility.

The upper aquifer in the vicinity of the Site has been used historically for shallow private well use, but is no longer used as a potable or industrial use. Future development of the upper aquifer as an industrial or potable water source is not expected due to the low sustainability and storage compared to the lower aquifer. Furthermore, the development of public water systems using groundwater as a source is governed by Ohio statute (Chapter 6109 of the Ohio Revised Code), and Ohio EPA regulations and guidelines adopted there under (OAC Chapters 3745-82, OEPA, 1991). Likewise, the installation of private water wells is governed by Ohio Department of Health regulations (OAC Chapter 3701-28).

Historic records indicate that private water wells in the upper and lower aquifers have been installed in the vicinity of the Site. Therefore, GM has conducted several off-site well surveys (including the most current in 2008 – Section 3.8.6) of existing wells to determine use and purpose.

3.8.1.5 Historical Groundwater Flow

Changes in site-wide historical groundwater pumping and resultant flow paths have likely had a significant impact on the spread of VOCs beneath the site. Historically, each of the three facilities has relied on production wells installed in the lower aquifer to provide water to support production activities. While these production wells are screened in the lower aquifer, the pumping affects groundwater movement over time in the upper aquifer, though to a lesser degree. Where thinning of the regional clay till was noted at well pair GM-75S/-75D, historical pumping would likely have affected groundwater movement in the upper aquifer.

Prior to 1978, pumping at the Delphi Thermal Moraine facility was high relative to pumping at the Dryden Road North Well Field (Dryden North). For instance, in 1974 Delphi Thermal Moraine was withdrawing approximately 12 million gallons per day (mgd) compared to the Dryden North Well Field which was pumping approximately 3.7 mgd. This rate of groundwater use was modeled in 1983 during an investigation of Landfill L1 (Geraghty & Miller, Inc. 1983). This modeling effort determined that under these pumping conditions groundwater at the southern end of the facilities would likely flow north toward the plant pumping centers and a hydraulic divide would develop between Landfill L1 and Dryden North. As a result of the GM cone-of-depression, groundwater flow direction beneath areas local to Landfill L1, for example, were south to north, rather than the reverse seen today (current groundwater flow conditions presented in Section 3.8.3). Historically, a flow divide was predicted to be southwest of Landfill L1. By 1981, Delphi Thermal Moraine pumping had decreased to approximately 2 mgd, while Montgomery County pumping remained relatively constant or increased. Under these conditions, the model predicted that contaminants would likely move towards both pumping centers, with the predominant flow to the southwest (flow divide predicted to be directly beneath Landfill L1).

During the latter part of 1986, the three Montgomery County well fields (Dryden North, Dryden Road South Well Field, and Miami Shores Well Field) were shut down, and in January 1987, GM reduced groundwater pumping significantly by discontinuing use of the Delphi Thermal Moraine production wells (although pumping of wells on the GM Eastern Facilities continued). During this brief period in late 1986, between the time

the County wells shutdown and the Delphi Thermal Moraine wells shutdown, a reversal in flow direction under the site would be considered likely as the GM facilities were the major pumping sources in the area.

Dryden South and Miami Shores Well Fields were pumped intermittently during May to August 1987 at approximately 2 mgd, and during June to September 1988 Miami Shores was pumped continuously at approximately 10 mgd. During these time periods, groundwater beneath the GM site would be expected to migrate in a more western to southwestern direction under the influence of County pumping. However, during the remaining periods of the late 1980's when the production wells at the GM Eastern Facilities (Moraine Engine and Moraine Assembly) were the only wells pumping continuously, groundwater on the site would tend to have a more easterly component of flow. In March 1990, the County initiated a Pump-to-Waste program using DN-13 in the Dryden North Well Field. With the on-going groundwater extraction from DN-13 (started in 1990); the initiation of groundwater extraction from the upper aquifer from extraction well TW-2 in January 1996; the shut-down of operations for Delphi Thermal Moraine and Moraine Engine; and Moraine Assembly with the only active production wells (11B and 12A); site-wide groundwater flow since 1990 is generally to the southwest at the site for both the upper and lower aquifers. Also observed, is a more southerly groundwater flow trend for the upper aquifer on site when the river stage is relatively high (approximately 4 feet above median) as shown in upper aquifer potentiometric map in March 2008 (Figure 6). A more typical groundwater flow pattern is represented in the April 2008 event with a southwest flow (Figures 7 and 9).

The effect of the historic pumping from production wells at the Site is that monitor wells currently positioned upgradient of some AOIs and SWMUs may have been hydraulically downgradient of these areas when the GM Moraine facilities were the major pumping center for the area. Further complicating the analysis is the fact that during the period of heavy GM pumping, use of specific plant production wells varied. It is likely this variation accounts for why some monitor wells contain VOCs which are not detected, or are present at low concentrations, within AOIs immediately upgradient of these wells under current groundwater flow conditions.

A secondary effect of the historic groundwater pumping is that it lowered the water table in the upper aquifer beneath the SWMUs and AOIs being evaluated. In response to the termination of pumping by the County in 1986 and at the Delphi Thermal Moraine facility in 1987, water levels have risen approximately 10 ft in the upper aquifer and 5 ft in the lower aquifer (ARCADIS Geraghty & Miller, Inc. 2000b). This

phenomena could mean that VOCs which may have been adsorbed to soils beneath a SWMU or AOI could now be below the water table, or within the capillary fringe, which provides more opportunity for flushing and desorption than would be expected from normal precipitation, especially considering that the majority of the site is covered with buildings or pavement.

Therefore, it is evident that the occurrence and movement of VOCs in groundwater at the site has been greatly influenced by historic pumping, both on-site and off-site. The variation in use of the various pumping centers, and the variation in use of the individual wells within the pumping centers, would cause VOCs in the groundwater to migrate in ways which are difficult to determine, which makes assigning monitor wells to specific SWMUs or AOIs inappropriate in most cases and a site-wide monitoring approach more appropriate.

The occurrence of VOCs in the lower aquifer may be due in part to the effects of historic groundwater pumping and the absence or thinning of the regional clay till in certain areas. The highest concentrations of VOCs in the lower aquifer across the three facilities is present beneath the Vehicle Distribution Center south of AOI 7 (PCE [1,500 ug/L] and TCE [750 ug/L] as monitored by well GM-68D in 2007) and at the northeast corner of Springboro and Stroop Roads at the Moraine Assembly plant southeast of AOI 7 (PCE [470 ug/L] and TCE [1,700J ug/L] as monitored by well GM-75D in 2007). The significance of these concentrations is further evaluated in Section 4 and Appendix G of this CMP.

3.8.2 Geology Refinement

Characterization of site-wide geology has been presented in the following reports: Delphi Thermal Moraine DOCC (Geraghty & Miller, Inc. 1991), Supplemental DOCC (Geraghty & Miller, Inc. 1997a), RFI Final Report (ARCADIS Geraghty & Miller, Inc. 2000a), Supplemental RFI (ARCADIS Geraghty & Miller, 2000b), and the Corrective Measures Supplemental Groundwater Investigation Report (ARCADIS, Inc. 2007). The understanding of site-wide geology has been refined and incorporated into geologic cross-sections shown in Figure 5 and into the Groundwater Flow Model Update (Appendix D).

The Site and surrounding areas lie over the Great Miami River buried valley aquifer, which consists of valley unconsolidated deposits of sand and gravel outwash deposits separated by discontinuous deposits of silt and clay-rich till. An upper and a lower aquifer have been identified in the unconsolidated sand and gravel. These two

aquifers are distinguished by the relation to a relatively continuous clay-rich till referred to as the regional clay till. Where the regional clay till is absent, the upper and lower aquifers are in direct communication and identified by depth only.

The upper aquifer is approximately 30 to 70 ft thick and contains a locally continuous upper clay till layer that in some areas may be in direct contact with the regional clay till. The distribution and thickness of the clay-rich units in the upper aquifer throughout most of the Site is not significant, but the upper clay till is present to the south, west, and southwest of the Former Oil House Area (AOI 7) extending beneath the former Delphi Thermal Moraine Building 14 and influences the lateral and downward movement of the groundwater flow in this area (Appendix D). Geologic cross-sections A-A', B-B', and C-C' (Figure 5) indicates the discontinuous presence of the upper clay till near AOI 7. The presence of other relatively thin clay-rich units in the upper aquifer in other areas of the Site is very local and discontinuous and is not able to be correlated to the upper clay till. Geologic cross-section D-D' indicates thin clay and silt units in the upper aquifer which may or may not be related to the upper clay till. Geologic cross-sections E-E' and F-F' indicate that clay and silt units are generally absent in the upper aquifer.

The upper and lower aquifers are separated throughout most of the Site and surrounding areas by the regional clay till. Where present, the regional clay till varies in thickness from approximately 10 ft to over 50 ft. In general, the regional clay till thins to the south and southwest, and is discontinuous south of the Site, near Holes Creek as seen in cross-section F-F' (Figure 5). Through the additional data collected during the supplemental groundwater investigation, the regional clay till is confirmed to be continuous on-site although thinning of the till is noted in the vicinity of well GM-75. Based on the available data, geologic cross-sections A-A' through E-E' (Figure 5) indicate a continuous regional clay till on-site.

The lower aquifer underlies the regional clay till. The lower aquifer ranges in thickness from a few feet along the valley walls to greater than 200 ft in the central portion of the valley. The thickness of the lower aquifer beneath the Site is not well defined. Most borings/wells, which have been completed as part of the Site's subsurface investigations, have not extended more than 150 ft bls. An underlying till has been encountered at a few of these borings and is present in some production well logs. This underlying till has been encountered at depths ranging from approximately 120 ft to 145 ft bls.

Ordovician shales and limestones of the Richmond Group comprise the dominant bedrock units forming the valleys in the Dayton area. The Richmond Group is overlain by the Silurian Brassfield Formation in upland areas. Prior to the Illinoian and Wisconsin glacial stages, the bedrock valleys were as much as 190 to 225 ft deep (Norris and Spieker, 1966). Beneath the site and surrounding areas, the bedrock units are not considered important sources of groundwater because they have significantly lower transmissivity values relative to the buried valley aquifer. The top of bedrock beneath the site is approximated to be 200 to 250 ft bls (Norris and Spieker, 1966 and ODNR, 1986).

3.8.3 Hydrogeology Refinement

Characterization of the site-wide hydrogeology has been presented in the following reports: Delphi Thermal Moraine DOCC (Geraghty & Miller, Inc. 1991), Supplemental DOCC (Geraghty & Miller, Inc. 1997a), RFI Final Report (ARCADIS Geraghty & Miller, Inc. 2000a), Supplemental RFI (ARCADIS Geraghty & Miller, Inc. 2000b), and the Corrective Measures Supplemental Groundwater Investigation Report (ARCADIS, Inc. 2007). Data collected from the supplemental groundwater investigation presented in Section 3.6 has refined the understanding of the site-wide hydrogeology and is incorporated into the Groundwater Flow Model Update (Appendix D).

The study of hydrogeology at the site is focused on the unconsolidated deposits shallower than 150 ft bls. The upper and lower aquifers are separated throughout most of the study area by the regional clay till that acts as a leaky confining unit or aquitard that transmits water at relatively low rates. Where the regional clay till is absent (south of the Site, near Holes Creek), the upper and lower aquifers are in direct communication.

Recharge to the study area is primarily from flow within the aquifers that includes direct infiltration of precipitation and recharge from perennial streams. The perennial Great Miami River flows generally from north to south through the study area and locally as a source and sink for groundwater. The perennial Holes Creek, located south of the Site, flows generally southeast to northwest and is a minor source of groundwater recharge. A recovery well used for remediation is present in the upper aquifer (TW-2). A pump to waste well to the Great Miami River (DN-13) is in continuous operation in the lower aquifer and has been operational since March 1990. Lower aquifer production and fire wells are also used on Site (Production Wells 11B and 12 A; Fire Wells 1A, 2, and 3).

Average hydraulic gradients are calculated and presented in annual Site-Wide Groundwater Monitoring Reports. Average horizontal gradients in the upper aquifer from 2006 to 2008 have ranged from 0.0004 foot/foot (ft/ft) to 0.0006 ft/ft with flow velocities ranging from 1.46 ft/day to 3.24 ft/day. Average horizontal gradients in the lower aquifer from 2006 to 2008 have ranged from 0.0004 ft/ft to 0.0007 ft/ft with flow velocities ranging from 0.37 ft/day to 0.95 ft/day. Average vertical gradients from 2006 to 2008 between upper and lower aquifer well pair GM-23/GM-39 have ranged from 0.0015 ft/ft downward to 0.0059 ft/ft upward. Vertical gradients vary with time reflecting temporal changes in recharge and discharge. In the vicinity of Holes Creek, where the regional clay till is not present, little to no vertical gradient was measured.

3.8.3.1 Groundwater Elevation Monitoring

Water level measurements were completed on March 5-6, 2008 (Table 2) and April 24-25, 2008 (Table 3). Information gained from the new monitoring wells installed during the supplemental groundwater investigation, stream gages and the City of Moraine monitoring wells west of the Great Miami River, resulted in improved resolution of the groundwater flow conditions near the River. The upper aquifer potentiometric surface maps for March 2008 and April 2008 are shown in Figures 6 and 7, respectively, and the lower aquifer potentiometric surface maps for March 2008 and April 2008 are shown in Figures 8 and 9, respectively. A comparison between the March and April 2008 water levels indicates a significant difference between these two measurements. Precipitation levels were higher than normal before and during the March 5-6, 2008 water level measurement event. The precipitation for March 2008 was 6.31 inches, which is 3.02 inches above the March 2007 precipitation (3.29 inches) (NOAA, 2008). The Great Miami River Dayton Station (USGS 03270500 - approximately 7 river miles north of the site) recorded an average elevation of 728.78 ft msl for the month of March 2008. This average is 1.58 feet higher than the 5 year average (2003-2007) for March 2008 which is 727.20 ft msl. Precipitation levels for April 2008 was 2.74 inches (MCD, 2008), which is 1.29 inches below the April 2007 precipitation (4.03 inches) (NOAA, 2007).

The upper aquifer potentiometric surface on March 5-6, 2008 (Figure 6) shows that flow in the upper aquifer is generally from northeast to southwest on-Site. Flow is away from the Great Miami River southwest of the Site indicating that, at high stage, this section of the Great Miami River was a losing river during the March 5-6, 2008 gaging event. The increase in precipitation in March 2008 resulted in an increased stream level and gradient in the upper aquifer in the vicinity of the Great Miami River (Figure 6). The upper aquifer potentiometric surface on April 24-25, 2008 (Figure 7)

shows that flow in the upper aquifer is generally from northeast to southwest on-site and off-site.

The March 2008 upper aquifer measurements show that the TW-2 water level was lower than the water levels in nearby wells (GM-16, GM-17, 4S, and WSU-24) indicating capture in the vicinity of well TW-2. A comparison of the October 2007 (ARCADIS, Inc. 2008) and March 2008 groundwater flow maps for the upper aquifer indicates a shallower gradient on-Site in 2008. The March 2008 upper aquifer flow patterns are generally consistent on-site with groundwater flow conditions since TW-2 operation was initiated in January 1996. TW-2 was not in operation on April 24-25, 2008 due to maintenance issues.

Upstream of the confluence of Great Miami River and Holes Creek, the updated groundwater flow model (Appendix D) predicts an east/southeasterly component of flow from the Great Miami River towards the Site (i.e., immediately adjacent to the Great Miami River), indicating that the upper aquifer is gaining water from the Great Miami River. Downstream of the confluence area, the Great Miami River still loses water to the upper aquifer, yet gradually switches to gaining water from upper aquifer (i.e., groundwater discharge point) further down-gradient where the Great Miami River bends to the north. To the west of confluence area, the groundwater flow model predicts a west/southwesterly component of flow from the Great Miami River. This supports the observed condition of a component of groundwater flow (and accordingly, contaminant transport) in the upper aquifer that is going beneath the Great Miami River. Based on the MODFLOW volumetric budget for the entire model, the rivers (Great Miami River and Holes Creek) are losing water to the upper aquifer. Groundwater flow in the lower aquifer is unaffected by the Great Miami River.

3.8.3.2 Groundwater Gradients

The average hydraulic gradient of the upper aquifer, calculated from site-wide groundwater elevation measurements in both March 2008 and April 2008 was 0.0005 ft/ft. The groundwater flow velocity for the upper aquifer was calculated using the following equation:

$$V_w = Ki/N_e$$

where

V_w = groundwater flow velocity (feet per day [ft/day])

K = hydraulic conductivity (ft/day)

i = hydraulic gradient (ft/ft)

N_e = effective porosity

Hydraulic characteristics of the upper aquifer were determined by evaluation of data from pumping tests conducted in 1985 and in 1989. The median hydraulic conductivity value estimated from pumping test data was 1,650 ft/day, and effective porosity was assumed to be 0.3 to 0.5. Using hydraulic gradients for March 2008, groundwater flow velocities in the upper aquifer ranged from 1.68 ft/day to 2.80 ft/day and for April 2008 ranged from 1.49 ft/day to 2.49 ft/day. Assuming the most extreme condition (i.e., no retardation or retardation factor [R_d] equal to 0), the rate of VOC migration could equal the rate of groundwater flow. However, soil-VOC interaction does occur, and, therefore, the actual VOC migration rates are slower than that of groundwater flow. Most of the VOCs detected in the upper aquifer at the GM facilities are likely to have a R_d ranging from 2 to 10 (Walton 1985), so the rate of migration of the VOCs in the upper aquifer in March 2008 could be as low as 0.17 ft/day and in April 2008 could be as low as 0.15 ft/day.

During the Supplemental RFI, conducted in August 1998 at the Former Oil House Area, slug tests were conducted on three monitor wells (GM-23, GM-27 and GM-28) to assess aquifer characteristics in this area of the Site. These slug tests determined that hydraulic conductivity in the upper aquifer in this area is lower than the hydraulic conductivity calculated on a site-wide basis. Hydraulic conductivity of the portion of the aquifer above the upper clay till at the Former Oil House Area was determined to be approximately 43 ft/day. Below the upper clay till, the hydraulic conductivity was determined to be 54 ft/day. Using hydraulic gradients from March and April 2008, the groundwater flow velocities in the upper aquifer above the upper clay till ranged from 0.050 ft/day to 0.084 ft/day and 0.032 ft/day to 0.054 ft/day, respectively.

The lower aquifer potentiometric surface on March 5-6, 2008, (Figure 8) and April 24-25, 2008 (Figure 9) shows groundwater flow in the lower aquifer to be generally from northeast to southwest. Production Well 12A was in operation during the March water level measurement event and has approximately 1.7 ft of drawdown compared to surrounding wells GM-73, FW-2 and 11B. County Well DN-13, located south of the former Delphi Thermal facility in the Dryden Road North well field, was in operation during the March and April 2008 water-level elevation measurement events. DN-13 has approximately 57 ft of drawdown in March and approximately 60 ft of drawdown in

April, compared to surrounding wells GM-13, GM-14 and GM-15. The localized cones of depression around Production Well 12A and DN-13 are shown in Figure 8 and around DN-13 in Figure 9.

The only variation in the overall flow conditions across the Site occurred in the southern portion where the direction of flow was southwest in October 2007, southwest to south in March 2008 (which is attributed to the high precipitation and river stage conditions), and southwest in April 2008.

The average hydraulic gradients of the potentiometric surface in the lower aquifer, calculated from groundwater elevation measurements in March 2008 was 0.0004 ft/ft and in April 2008 was 0.0006 ft/ft. Using a hydraulic conductivity of 400 ft/day, assuming a porosity of 0.3 to 0.5, and using the equation presented earlier ($V_w = Ki/N_e$), groundwater flow velocity in the lower aquifer for March 2008 ranged between 0.35 ft/day and 0.58 ft/day and for April 2008 ranged between 0.48 ft/day and 0.80 ft/day. As discussed above, most of the VOCs detected in the lower aquifer groundwater at the Site are likely to have an R_d ranging from 2 to 10 (Walton 1985), so the rate of migration of the VOCs in the lower aquifer in March could be as low as 0.03 ft/day and in April could be as low as 0.05 ft/day.

The water-level measurements collected in March and April 2008 were used to determine the direction and magnitude of vertical gradients between the upper and lower aquifers (Table 7). The vertical gradients were calculated using the following equation:

$$i = h_2\text{-}h_1/d$$

where

h_2 = hydraulic head of lower well A (ft)

h_1 = hydraulic head of upper well B (ft)

d = distance between midpoint of screen for well A and B (ft)

i = vertical gradient

The magnitude and direction of vertical gradients indicate whether the potential exists for groundwater to move from one aquifer to another through a confining unit, and which direction it may move (positive for an upward gradient and negative for a

downward gradient). Calculated vertical gradients ranged from 0.0075 ft/ft upward (W-4-N/HR-14) to 0.0271 ft/ft downward (GM-16/GM-15) for March 2008. Calculated vertical gradients ranged from 0.0033 ft/ft upward (GM-8/GM-7R) to 0.0293 ft/ft downward (GM-16/GM-15) for April 2008.

The well pairs immediately downgradient (south) of the closed North Settling Lagoon (W-3-N/HR-15 and W-4-N/HR-14) had upward vertical gradients for March and downward for April. The vertical gradient at well pair HR-3/HR-13 (side gradient to the closed North Settling Lagoon) was also upward for March and downward for April. Well pairs in the southern portion of the site (GM-18/GM-13, GM-17/GM-11, GM-6/GM-3, and GM-15/GM-16) all had downward vertical gradients for both March and April 2008 likely due to the proximity of these pairs to the lower aquifer pumping well DN-13. Well pairs GM-2/GM-1, 4S/GM-5, and GM-8/GM-7R had upward gradients for March. In April, well pairs GM-2/GM-1 and 4S/GM-5 were downward and GM-8/GM-7R was upward. Downgradient of the Site, the vertical gradient was downward in March and April 2008 in well pair GM-10/GM-9 and in well pair GM-26/MT-69.

At the Former Oil House Area (AOI 7), March 2008 water-level measurements in upper aquifer well pair GM-23/GM-27 (above the upper clay till/beneath the upper clay till) were not used to evaluate the vertical gradient in the upper aquifer that may be due to mounding associated with RZ-1 injections. A vertical gradient was not determined in the upper aquifer across the upper clay till at the Former Oil House Area in March 2008. In the past, this vertical gradient has been consistently upward. Well pair GM-23/GM-39 was not used to evaluate the vertical gradient in the lower aquifer compared to the upper aquifer that may be due to mounding associated with RZ-1 injections. In the past, this vertical gradient has been consistently upward and comparison to well pair GM-67S/67D (upper clay till not present) approximately 675 ft south of GM-23/GM-39 confirms a upward vertical gradient was present across the regional clay till for this area in March 2008. Further downgradient, no vertical gradient was present in upper/lower monitoring well pair GM-68S/GM-68D. For April water-level measurements, the upper aquifer well pair GM-23/GM-27 had an upward vertical gradient across the upper clay till at the Former Oil House Area. Well pair GM-23/GM-39 in April had an upward vertical gradient across both the upper clay till and regional clay till.

Downgradient of the Site near Holes Creek where the till is not present, evaluation of March vertical gradients in well pair GM-65S/GM-65D shows no gradient and a downward vertical gradient for GM-55/GM-56 with a very small magnitude (0.0033 ft/ft). The evaluation of April vertical gradients in well pairs GM-65S/GM-65D and GM-

55/GM-56 show a small magnitude vertical gradient, 0.0004 ft/ft and 0.0015 ft/ft, respectively. This demonstrates that in areas where till is known not to be present, little to no vertical gradients exist.

3.8.4 Groundwater Flow Model Refinement

The Groundwater Flow Model Update (Appendix D) presents a revision of the revised three-dimensional groundwater flow model (Geraghty & Miller, Inc. 1994b). Since 1994, significant additional information has been obtained both at the site and in the surrounding region. These new data provide additional insight to the CSM in the vicinity of the site and consisted of the following: 1) the areal extent and thickness of the clay-rich aquitard; 2) hydrogeologic properties (i.e., aquifer and aquitard hydraulic conductivities); 3) stage elevation measurements of the Great Miami River and Holes Creek via gauging stations; 4) a database of historical quarterly groundwater elevation measurements with corresponding maps to characterize flow conditions; and 5) municipal water supply well records and remediation well information. Therefore, it was deemed necessary to revise the previous 1994 version of the flow model and incorporate the recently acquired hydrogeologic information.

The objectives of the modeling study were to update and enhance the CSM and, correspondingly, refine the numerical groundwater flow model to support the CMP. The activities that have been conducted to achieve this objective include the following: 1) review of existing CSM and recently collected hydrogeologic data from the supplemental groundwater investigation; 2) refine the CSM; 3) update and refine the previous groundwater flow model; and 4) re-calibrate the refined groundwater flow model to recent flow conditions.

The updates/refinements to the previous model included the following:

- Finite-difference grid refinement (horizontally and vertically);
- Minor adjustment to active model domain (i.e., no-flow boundaries) based on the updated topographic information;
- Identification and delineation of the upper clay-till and incorporation into the previous groundwater flow model;
- Revised delineation of the areal extent of the regional clay-rich aquitard;

- Revised recharge distribution;
- Updated river stage elevations and riverbed conductance values (Great Miami River and Holes Creek);
- Updated extraction well data (i.e., municipal water supply well and remediation well locations and pumping rates); and
- Updated observed water elevations (i.e., re-calibration targets).

The refined numerical groundwater flow model was then re-calibrated to current flow conditions and results indicate that the re-calibrated groundwater flow model is able to effectively simulate the current groundwater flow conditions at the site. The re-calibrated model, therefore, is an effective tool that can be used to support a variety of environmental management/remedial strategy decisions for the CMP and corrective measures implementation.

3.8.5 Groundwater Chemistry Refinement

Since completion of the RFI/Supplemental RFI, groundwater at the site has been evaluated for the presence of the site-specific list of VOCs. Site-wide groundwater chemistry for the upper and lower aquifers is evaluated on an annual basis using the existing well network. The evaluation based on the most recent site-wide event is presented in Section 2.2.3 of the Site-Wide Groundwater Monitoring Report for 2007 (ARCADIS, Inc. 2008). Groundwater at the site was further evaluated for the presence of the site-specific list of VOCs in the 2007 and 2008 supplemental investigation in the on-site and off-site areas described in Section 3.6. One of the objectives of the supplemental groundwater investigation was to better define the plume boundary side-gradient and down-gradient and refine the groundwater chemistry within the Site. This objective has been successfully met for the upper and lower aquifers. Table 4 presents the VOC profiling results for wells GM-65 through GM-84. Table 5 presents the VOC groundwater analytical results from the multiple sampling events completed in 2007 and 2008 from the newly installed upper and lower aquifer wells and select existing wells. Supporting data from the supplemental groundwater investigation is presented in Appendix E. The 2007 and 2008 supplemental groundwater investigation data, along with the 2006 supplemental groundwater investigation data and annual groundwater data from 1999 to 2007 are presented on Figures 10 and 11 for the upper and lower aquifers, respectively.

3.8.5.1 Upper Aquifer

To further refine the current understanding of groundwater chemistry in the upper aquifer, additional wells were installed southwest, south, southeast, and east of AOI 7; in off-site locations west and east of the Site; and downgradient of the Site west of the Great Miami River and near Holes Creek. VOC concentrations observed during the sampling of the wells installed in 2007/2008 are discussed in the following paragraphs.

VOC concentrations in the upper aquifer wells installed southwest, south, southeast, and east of AOI 7 are presented below:

- Well GM-66 is located southwest of AOI 7 in the former Building 14. VOCs detected in GM-66 during the May 2007 sampling event included 1,1-DCA (8.3 ug/L), cis-1,2-DCE (84 ug/L), trans-1,2-DCE (3.3 ug/L), TCE (31 ug/L), and vinyl chloride (4.1 ug/L).

- Well GM-67S is located south of AOI 7. Well GM-67S is paired with lower aquifer well GM-67D. VOCs detected in GM-67S during the May 2007 sampling event included 1,1-DCA (2.8J ug/L), cis-1,2-DCE (5.2J ug/L), PCE (1.1J ug/L), and TCE (140 ug/L).

- Wells GM-68S and GM-74S are located southeast of AOI 7. Wells GM-68S and GM-74S are both paired with lower aquifer wells GM-68D and GM-74D, respectively. PCE and TCE were detected in these wells during the May 2007 sampling event at concentrations of 28 ug/L and 78 ug/L, respectively, in GM-68S and during the September 2007 sampling event at concentrations of 140 ug/L and 83 ug/L, respectively, in GM-74S. 1,1,1-TCA was also detected in GM-68S at a concentration of 0.62J ug/L.

- Wells GM-75S and GM-71/GM-72 are located southeast of AOI 7 and east of Springboro Road. PCE and TCE were detected in well GM-75S during the September 2007 sampling event at concentrations of 490 ug/L and 210 ug/L, respectively. Well GM-71 is screened above the upper clay till and well GM-72 is screened below the upper clay till and above the regional clay till. PCE and TCE were detected in well GM-71 at concentrations of 62 ug/L and 11 ug/L and in GM-72 at concentrations of 53 ug/L and 0.66J ug/L, respectively, in May 2007.

- Well GM-76S is located directly east of AOI 7 and within the Moraine Assembly Plant. Well GM-76S is paired with lower aquifer well GM-76D. PCE and TCE

were detected in this well during the September 2007 sampling event at concentrations of 1.2 ug/L and 1.6 ug/L, respectively.

VOC concentrations in upper aquifer wells west and east of the site are presented below:

- Well GM-83S is located west of Dryden Road near Cooper Tire. VOC concentrations in this well were primarily <1 ug/L during the February 2008 sampling event, with the exception of cis-1,2-DCE (2.9 ug/L). Existing wells that are also located on the western side of the site but had not been sampled since 2002 were resampled in January and February 2008. TCE was the only VOC detected in wells HR-16 and HR-7 at concentrations >1 ug/L (1.3 ug/L and 7.3 ug/L, respectively).

- Well GM-77S is located off-site and east of the Moraine Assembly Plant parking lot. GM-77S was paired with lower aquifer well GM-77D. VOCs were not detected in GM-77S during the September 2007 sampling event.

VOC concentrations downgradient of the site west of the Great Miami River and near Holes Creek are presented below:

- Well GM-79 and well pair GM-80/GM-81 are located on the west side of the Great Miami River. VOC concentrations in these wells were primarily <1 ug/L during the October 2007 sampling event. VOC concentrations that were >1 ug/L include the following: cis-1,2-DCE (1.5 ug/L in GM-80) and TCE (1.6 ug/L in GM-79 and 4.0 ug/L in GM-80).

- Well GM-78 is located north of Holes Creek and east of upper aquifer well GM-62. Well GM-78 was sampled in October 2007 and resampled in January 2008. PCE was the only VOC detected in both sampling events at concentrations of 8.9 ug/L and 11 ug/L, respectively, with the exception of a detection of toluene (0.23J ug/L) in October 2007.

- Existing wells GM-57/GM-26 located north of Holes Creek were resampled in January 2008. PCE was the only VOC detected in well pair GM-57/GM-26 at concentrations of 1.9 ug/L/1.2 ug/L, respectively.

- Well GM-65S is located south of Holes Creek and on the east side of the Great Miami River. GM-65S was paired with lower aquifer well GM-65D. Well GM-65S

was sampled in May 2007 and resampled in January 2008. The VOC concentrations >1 ug/L included cis-1,2-DCE (1.7 ug/L and 1.5 ug/L, respectively), PCE (11 ug/L and 13 ug/L, respectively), and TCE (8 ug/L and 7.9 ug/L, respectively).

3.8.5.2 Lower Aquifer

To further refine the current understanding of groundwater chemistry in the lower aquifer, additional wells were installed south, southeast, and east of AOI 7; in off-site locations west and east of the Site; and downgradient of the Site south of Holes Creek. VOC concentrations observed during the sampling of the wells installed in 2007/2008 are discussed in the following paragraphs.

VOC concentrations in the upper aquifer wells installed south, southeast, and east of AOI 7 are presented below:

- Well GM-67D is located south of AOI 7. VOC concentrations that were >1 ug/L during the May 2007 sampling event include the following: 1,1-DCE (3 ug/L), cis-1,2-DCE (23 ug/L), PCE (54 ug/L), and TCE (45 ug/L).

- Wells GM-68D and GM-74D are located southeast of AOI 7. PCE and TCE were detected in GM-68D (1,500 ug/L and 750 ug/L, respectively) during the May 2007 sampling event. PCE and TCE were also detected in GM-74D (250 ug/L and 130 ug/L, respectively) in September 2007. Well GM-82 was installed further downgradient of GM-68D. VOCs detected in GM-82 in February 2008 included 1,1-DCA (2.3 ug/L), cis-1,2-DCE (47 ug/L), PCE (60 ug/L), and TCE (91 ug/L).

- Well GM-69 is located downgradient of GM-41 and south of GM-82. VOCs detected in GM-69 in May 2007 included 1,1-DCA (8.7J ug/L), cis-1,2-DCE (29 ug/L), PCE (6.5J ug/L), and TCE (300 ug/L).

- Wells GM-75D and GM-73 are located southeast of AOI 7 and east of Springboro Road. Cis-1,2-DCE (24J ug/L), PCE (470 ug/L), and TCE (1,700J ug/L) were detected in well GM-75D during the September 2007 sampling event. PCE and TCE were detected in well GM-73 at concentrations of 160 ug/L and 22 ug/L, respectively, during the October 2007 sampling event.

- Well GM-76D is located east of AOI 7 and within the Moraine Assembly Plant. 1,1-DCE (0.3J ug/L), PCE (0.63J ug/L) and TCE (2.7 ug/L) were detected in this well during the September 2007 sampling event.

VOC concentrations in lower aquifer wells west and east of the Site are presented below:

- Well GM-83D is located west of Dryden Road near Cooper Tire. VOC concentrations detected in this well included cis-1,2-DCE (0.28J ug/L) and vinyl chloride (1.5 ug/L) during the February 2008 sampling event.

- Well GM-70 is located on the eastern side of the Moraine Assembly Plant parking lot. VOC concentrations detected in this well included PCE (11 ug/L) and TCE (0.32J ug/L) during the May 2007 sampling event. Existing wells also located within this parking lot were resampled during May 2007. PCE was detected in GM-58 (82 ug/L). PCE (160 ug/L) and TCE (2.9J ug/L) were detected in GM-54. Cis-1,2-DCE (15 ug/L), TCE (170 ug/L), and vinyl chloride (2.4J ug/L) were detected in GM-41.

- Well GM-77D is located off-site and east of the Moraine Assembly Plant parking lot and well GM-70. The only VOC detected in GM-77D during the September 2007 sampling event was PCE (45 ug/L).

- Well GM-84 is located off-site, southeast of the Moraine Assembly Plant parking lot, and south of GM-77D. VOC concentrations detected in this well included toluene (0.57J ug/L) and TCE (5.5 ug/L) during the February 2008 sampling event.

VOC concentrations downgradient of the site south of Holes Creek are presented below:

- Well GM-65D is located south of Holes Creek and on the east side of the Great Miami River. Well GM-65D was sampled in May 2007 and resampled in January 2008. The VOC concentrations >1 ug/L included 1,1-DCA (1.4 ug/L and 0.94J ug/L, respectively), cis-1,2-DCE (1.5 ug/L and 1 ug/L, respectively), and TCE (1.3 ug/L and 1.1 ug/L, respectively).

3.8.5.3 Description of Plume Delineation

Using the baseline groundwater data collected in 1999, the previous understanding of plume delineation in the upper aquifer was the identification of the Former Oil House Area as the primary source of VOCs with a dissolved phase VOC plume generally following the path of groundwater flow toward recovery well TW-2 and off-site to GM-26. With the supplemental groundwater data collected from 2006 to 2008 in the vicinity of upper aquifer well GM-16 and southeast of the Former Oil House Area the previous understanding of the VOC plume boundary has been refined. Collection of the additional groundwater chemistry data and water level measurements from the monitoring wells installed southwest of the Site near the Great Miami River, as well as the DN-13 water level study and updates to the groundwater flow model, have provided a better understanding of the current plume boundary near the river and groundwater flow direction downgradient and off-site. The collection of additional groundwater chemistry data and water level measurements from the monitoring wells installed southeast of the Former Oil House Area has refined the understanding of the plume boundary, which extends further to the southeast. The extended plume to the southeast may be the result of historic groundwater flow paths associated with former on-site pumping centers.

The previous understanding of the extent of VOCs in the lower aquifer was based on the detection of low level VOC concentrations upgradient, on-site and downgradient generally following the path of groundwater flow toward recovery well DN-13 and off-site to MT-69. Historically, higher concentrations of TCE and PCE were detected in samples collected from former on-site production wells. Based on the groundwater sampling results from lower aquifer well GM-41, supplemental groundwater data was collected in 2006 to 2008 in the vicinity of GM-41 and west and east of the Site to refine the previous understanding of the VOC plume boundary in the lower aquifer. PCE and TCE concentrations detected in the shallow portion of the lower aquifer have been defined beneath the Vehicle Distribution Center, southwest and southeast corners of Moraine Assembly, the Paint Building, and the Paint Building parking lot. The extended plume in these areas may be the result of historic groundwater flow paths associated with former pumping centers and thinning or absence of the regional clay till. Contours of total VOC concentrations for the upper and lower aquifers are shown on Figures H-1 and H-2, respectively, in Appendix H.

3.8.6 Off-Site Private Well Survey Results

An off-site private well survey has been recently conducted in five areas to the west (Area 1), southwest (Areas 2 and 5), south (Area 4), southeast (Area 3), and east (Area 3) of the Site. The purpose of conducting this well survey was to obtain updated information from previous surveys and to obtain information from a new area east of the facility. A summary of the off-site well survey is presented in Appendix F and the findings of the well survey are presented in the following paragraphs.

The boundaries for the five areas (Appendix F, Figure 1) were determined by reviewing the site-specific VOC concentrations in the upper and lower aquifers using data that was collected through 2008 and incorporating the off-site areas where the groundwater plume is believed to be present above drinking water criteria (i.e., MCLs or, for constituents without MCLs, risk-based equivalent drinking water levels). A review of the Ohio Department of Natural Resources (ODNR) well log files was conducted for Areas 1 through 5 in December 2007. Well logs for located and unlocated wells were obtained from ODNR and are included in this summary report in Attachments 1 through 5 in Appendix F. A located well is defined as a well that the ODNR has record of a well log and can confirm its location on a map. An unlocated well is defined as a well that the ODNR has record of a well log but cannot confirm its location on a map.

In addition, an internet search of Montgomery County's Real Estate Tax Information System was completed to identify each parcel in each of the five areas and determine the property address/owner, and telephone correspondence with the Montgomery County Water Department and the City of West Carrollton was conducted to confirm public water supply usage to each property address. Site visits were made to confirm property addresses and current property development. If a well was observed during the property drive by but there was no ODNR well log available for that well, it was defined as a "known well" in the summary tables in Attachments 1 through 5 in Appendix F.

Based on the well survey there are two properties located near the Site that use well water, all other properties have public water service provided. GM has worked with these property owners and collected samples from these wells.

- **The Recording Lab -** While no well log was found during a search of records at the ODNR, a known well exists at The Recording Lab, located at 3571/3573 Dryden Road. Field verification confirmed the location of the well at the north end of the building located at the above referenced address. According to Montgomery

County Water Department, this address does not have public water service provided. The well water is used for the restroom facilities and bottled water is used for potable purposes. The Recording Lab's well was sampled in July 2002 and June 2003. Those sampling results are presented in Attachment 1 of Appendix F. VOCs detected in these samples included 1,2-DCA, cis-1,2-DCE, and vinyl chloride. The results for 1,2-DCA and cis-1,2-DCE were below MCLs and the vinyl chloride results (2.4 ug/L) slightly exceeded the MCL.

- **The Upper Deck Tavern** - While no well log was found during a search of records at the ODNR, a known well exists at The Upper Deck Tavern, located at 2651 Blanchard Avenue. According to Montgomery County Water Department, this address has received public water service in the past, but disconnected service in 1996. The Upper Deck Tavern's well was sampled in October 2004. These sampling results are presented in Attachment 3 in Appendix F. VOCs detected in these samples included chloroethane, 1,1-DCA, and cis-1,2-DCE. The results for these VOCs were below drinking water criteria (MCLs and EDWLs). Carbon vessels used for water treatment at the Upper Deck Tavern are operated by the current owner.

GM has also worked with Miller Valentine to collect samples from their well. The Miller Valentine property is located at 4000 Miller Valentine Court which is west of Dryden Road. According to Montgomery County Water Department, this address has public water service. The well on Miller Valentine property is screened in the lower aquifer and is used on a seasonal basis to water the lawn. Miller Valentine's well was sampled in July and August 2002. VOCs detected in these samples included cis-1,2-DCE and vinyl chloride. The results for cis-1,2-DCE and vinyl chloride were below MCLs.

4. Summary of Risk Assessment and Corrective Measures Goals

4.1 Results of Updated Risk Assessment

A supplemental human health risk analysis has been performed in support of this CMP. The purpose of this risk analysis was to supplement the BRA conducted as part of the RFI and documented in the RFI BRA (ENVIRON 2000a), the Supplemental RFI BRA (ENVIRON 2000b), the Box Sewer Investigation (ARCADIS, Inc. 2002a), the Waste Pile Staging Area Investigation (ARCADIS, Inc. 2004a; 2006) and the Building 14 Investigation (ARCADIS, Inc. 2005a). This supplemental risk analysis included:

- An updated evaluation of potential risks evaluated in the RFI baseline risk assessments associated with groundwater use at and surrounding the Facility based on data collected since the completion of the RFI.

- An evaluation of potential soil and groundwater exposure pathways and receptors identified since the completion of the RFI, specifically, exposure of on-site indoor workers to constituents in soil and groundwater via vapor intrusion; exposure of on-site and off-site maintenance workers to constituents in groundwater; exposure of on-site construction workers to constituents in groundwater and soil; and exposure of off-site routine workers and residents to constituents in groundwater via vapor intrusion and nonpotable groundwater use.

The methods used in this updated human health risk evaluation follow the approach described in the approved Supplemental RFI BRA. The evaluation of the additional pathways and receptors are based on USEPA human health risk assessment guidance and are consistent with those that have been and are in use to streamline the evaluation of data collected during RFIs at GM facilities (ENVIRON 2003). Consistent with the approach presented in the RFI, the potential risks were evaluated in comparison with USEPA's acceptable cancer risk range of 10^{-4} to 10^{-6} and noncancer hazard index (HI) of 1 (55 FR 30798, July 27, 1990 and 61 FR 19432, May 1, 1996), assuming no further corrective measures to provide a basis for (1) determining whether additional corrective measures (including institutional controls) are needed, (2) identifying which potential exposure pathways warrant corrective measures, if any, and (3) supporting any recommendations for corrective measures. The details of this supplemental risk analysis are presented in Appendix G.

The conclusions of this supplemental risk analysis are as follows:

Routine Worker Vapor Intrusion Exposure

As shown in Appendix G, the supplemental risk assessment evaluated potential exposure of on- and off-site routine workers to groundwater via vapor intrusion. Cumulative cancer risk and HI estimates were computed for hypothetical routine worker vapor intrusion exposure to groundwater at and downgradient of the Site. Based on recent sampling data from on- and off-site monitoring wells the well-specific exposure estimates did not exceed a cumulative cancer risk limit of 10^{-4} or noncancer HI limit of 1 for any on-site or off-site wells. Therefore current and reasonably expected future exposure of on- or off-site routine workers to groundwater via vapor intrusion is not expected to be significant.

The supplemental risk assessment also evaluated potential exposure of on-site routine workers to soil via vapor intrusion. Upper-bound cumulative cancer risk and HI estimates were computed for routine worker vapor intrusion exposure to soil at the Site using the maximum detected constituent concentrations in each investigated area. None of the on-site investigated areas exhibited upper-bound risk estimates for routine worker soil vapor intrusion exposure exceeding the cumulative cancer risk limit of 10^{-4} or the HI limit of 1, except at the WPSA (on which a building is not currently located) which exhibited an upper bound cumulative cancer risk of $2x10^{-4}$ and noncancer HI of 10. A boring-by-boring risk evaluation was performed for the WPSA to further assess the potential risks associated with this hypothetical exposure scenario. The noncancer HI estimates for exposure to soil at two boring locations (WPSA-BH11 and WPSA-BH12) exceeded the noncancer HI threshold of 1. Cumulative cancer risks for these two borings were below 10^{-4} and all other borings exhibited exposure concentrations resulting in cumulative cancer risks and noncancer HIs below the respective limits. Therefore current exposure of on-site routine workers to soil via vapor intrusion is not expected to be significant in any of the investigated areas, and future exposures are not expected to be significant in any investigated areas with the exception of a portion of the WPSA, if the WPSA were to be developed in the future.

Maintenance Workers Groundwater Contact Exposure

This supplemental risk assessment evaluated potential exposure of maintenance workers via contact with on-and off-site groundwater. Based on the recent sampling data from on- and off-site monitoring wells, well-by-well cumulative cancer risk and noncancer HI estimates were computed for maintenance worker groundwater contact exposure at and downgradient of the Site. None of the cancer risk or noncancer HI estimates for maintenance worker groundwater contact exposure exceed the

cumulative cancer risk limit of 10^{-4} or the HI limit of 1 for any on-site and off-site wells. Therefore, current and reasonably expected future exposure of on- or off-site maintenance workers to groundwater during excavations which encounter groundwater is not expected to be significant.

Construction Workers Contact Exposure

As shown in Appendix G, this supplemental risk assessment evaluated potential exposure of construction workers via contact with on-site groundwater. Potential exposure of construction workers via incidental ingestion, dermal contact, and vapor inhalation during excavation into the water table during redevelopment activities were indirectly evaluated using exposure estimates for maintenance workers. As noted above, none of the well-by-well risk estimates for maintenance worker groundwater contact exposure exceed the cumulative cancer risk limit of 10^{-4} or the HI limit of 1 for any on-site and off-site wells. Therefore current and reasonably expected future exposure of on- or off-site construction worker to groundwater during excavations which encounter groundwater during redevelopment activities is not expected to be significant.

This risk assessment also evaluated potential exposure of construction workers via contact with soil during site redevelopment activities. Landfill L1, North Settling Lagoon, South Settling Lagoon and the WPSA all exhibited exposure concentrations which resulted in upper bound noncancer HI estimates for construction worker exposure to soil which exceed the cumulative noncancer HI limit of 1. However, the North Settling Lagoon and the South Settling Lagoon have been closed in accordance with Ohio Administrative Code rules (Conestoga-Rovers & Associates 2001; 2002), and therefore, these hypothetical risks have been addressed. Further, the redevelopment of Landfill L1 is unlikely, and therefore, was not evaluated further. For the WPSA, the risk estimates indicate that unless engineering controls (e.g., personal protective equipment) and/or institutional controls (e.g., health and safety plan and procedures) are utilized, reasonably expected future exposure of on-site construction workers to soil may be significant in the WPSA area if this area was to undergo redevelopment.

Resident Vapor Intrusion Exposure

As shown in Appendix G, this supplemental risk assessment evaluated potential exposure of off-site residents to groundwater via vapor intrusion. Based on recent data obtained from on- and off-site monitoring wells, well-by-well cancer risk and noncancer

HI estimates for resident groundwater vapor intrusion exposure do not exceed the cumulative cancer risk limit of 10^{-4} or the HI limit of 1 for any on-site and off-site wells. Therefore current and reasonably expected future exposure of off-site residents to groundwater via vapor intrusion is not expected to be significant.

Potable Groundwater Use

As shown in Appendix G, this supplemental risk assessment evaluated current and potential future exposure via groundwater use at points of current and reasonably expected future groundwater use at and downgradient of the Site.

The significance of on- and off-site groundwater concentrations with respect to the potable groundwater exposures was initially assessed by comparing recent groundwater monitoring data from on- and off-site wells with drinking water criteria. This assessment identified both on- and off-site monitoring locations with concentrations exceeding drinking water criteria. Therefore, a direct assessment of current concentrations at nearby water supply wells was conducted.

Current exposures via potable groundwater use at existing water wells adjacent to the Site were evaluated by comparing sampled concentrations to drinking water criteria. The results of this comparison show that wells potentially used for potable purposes at properties adjacent to the Site do not exhibit concentrations exceeding drinking water criteria. However, a number of on-site and off-site groundwater monitoring wells in both the upper and lower aquifers do currently have concentrations greater than drinking water criteria. Therefore, while current off-site potable exposure to groundwater is not expected to be significant, in the event that drinking water wells are installed in off-site areas where concentrations are above drinking water criteria, potable groundwater exposure may be significant.

This supplemental risk assessment also evaluated potential future exposure via municipal well fields identified based upon a review of current and reasonably expected future groundwater use at and downgradient of the Site. Specifically, potential exposures via the groundwater pathway were evaluated for four groundwater use scenarios reflecting current and reasonably expected future use of groundwater without corrective measures[1]. The first ground water modeling scenario (Scenario 1) is

[1] Groundwater use scenarios correspond to modeling scenarios originally defined in the RFI baseline risk assessment (ENVIRON 2000a), as updated based on a recent survey of groundwater use on-site and in the area surrounding the site. Each modeling scenario is defined by (1) a groundwater use scenario; (2) a set of

the baseline groundwater scenario which represents current ground water use conditions as discussed in Section 3.8.1.4. Scenario 1A is a variation on this baseline condition which reflects the potential shutdown of all on-site pumping in the near future. Scenario 2 is the baseline condition with the addition of the Miami Shores well field pumping as an emergency drinking water supply. Scenario 2A is a variation on Scenario 2 which reflects the potential shutdown of all on-site pumping in the near future. Two additional ground water modeling scenarios (Scenarios 6 and 7) are evaluated in which corrective measures pumping is implemented. These scenarios are identical to Scenarios 1 and 2, except that the final corrective measures wells are assumed to be pumping.

This assessment shows that the potential migration of constituents, either as a result of leaching from soil/waste from the SWMUs and AOIs or already in groundwater, was unlikely to affect current groundwater uses as the predicted groundwater concentrations do not exceed drinking water criteria at any currently used well field (i.e., West Carrollton) or on-site industrial well (Scenarios 1/1a). In the unlikely event that the Miami Shores well field is turned on for emergency purposes to supplement the drinking water supply from the City of Dayton via Montgomery County Scenarios 2/2a), the migration of constituents, either leaching from soil/waste from the SWMUs and AOIs or already in groundwater, may result in concentrations at the Miami Shores well field which are greater than drinking water criteria and thus would pose an unacceptable risk.

More specifically, under Scenario 2, the predicted concentrations of PCE, TCE, VC, benzo(a)anthracene, benzo(b)fluoranthene, antimony, cadmium, and chromium at the Miami Shores Well Field exceed drinking water criteria. Under Scenario 2a (same as Scenario 2 assuming Moraine Assembly wells 11B and12A are off), the predicted concentrations of PCE, TCE, benzo(a)anthracene, benzo(b)fluoranthene, antimony, cadmium, and chromium, and manganese at the Miami Shores Well Field exceed drinking water criteria. The primary sources contributing to these hypothetical constituent exposure point concentrations are as follows:

- The primary contributor of the PCE and TCE concentrations is AOI 26 (Moraine Assembly Process Waste Collection System) (GM-75D) and the regional clay till (GM-68D) source zones.

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wells that are expected to be pumping under the groundwater use scenario; and (3) a set of associated groundwater exposure points that are evaluated in the risk assessment.

- The primary contributor of the VC concentration is AOI 7 (Former Oil House Area).

- The primary contributor of benzo(a)anthracene, benzo(b)fluoranthene, antimony, cadmium, and chromium concentrations is the (WPSA).

- The primary contributor of manganese is AOI 13 (Buildings 4, 6, and 13).

With regards to contributions from the WPSA to the Miami Shores Well field, these concentrations are likely overstated. Most significantly, the predicted contributions of benzo(a)anthracene, benzo(b)fluoranthene, antimony, cadmium, and chromium, are not supported by the on-site actual groundwater monitoring data. Benzo(a)anthracene and benzo(b)fluoranthene, were not detected in groundwater samples collected from wells in the WPSA. In addition, the source terms for antimony, cadmium, and chromium that were based on soil leaching to groundwater are significantly higher than the maximum detected groundwater concentrations of these constituents in groundwater at the WPSA. Similarly, for AOI 13, the predicted contributions of manganese from AOI 13 soil concentrations are not supported by groundwater monitoring data in this area. Since 2004, the maximum manganese groundwater concentration observed at the site was 1.7 mg/L (W-4-S, 9/24/2007) which is significantly lower than the predicted manganese concentration of 9.38 mg/L used in the groundwater model.

For the scenarios which reflect the implementation of corrective measures, this assessment shows that the proposed corrective measures pumping (i.e., TW-2, DN-13, and new lower aquifer pumping well near GM-68/GM-75) would be adequate to prevent constituents in soil/waste at the SWMUs and AOIs from migrating to receptor locations at levels of potential concern. More specifically, under Scenario 6, which represents baseline conditions with final corrective measures pumping (i.e., DN-13, TW-2, and new lower aquifer pumping well near GM-68/GM-75) and without at the GM production wells 11B and 12A operating, the predicted groundwater concentrations at the receptor wells do not exceed drinking water criteria. The proposed final corrective measures are presented in Section 6.

Under Scenario 7, which represents baseline conditions with final corrective measures pumping and with pumping of Miami Shores well field as an emergency water supply, the predicted receptor well concentrations do not exceed drinking water criteria with the exception of antimony which is predicted to exceed drinking water criteria at the Miami Shores well field. As discussed above, the primary contributor of antimony concentration at the Miami Shores well field is the WPSA. However the assumptions

on which the predicted antimony concentration is estimated likely overstate the source concentrate on when compared with actual groundwater data at the WPSA.

Nonpotable Water Use

As shown in Appendix G, this supplemental risk assessment evaluated potential exposure of receptors to groundwater via nonpotable groundwater use. Well-by-well estimates of cumulative cancer risk for nonpotable groundwater use exposures exceeded the cumulative cancer risk limit of 10^{-4} at four on-site wells (wells GM-23, OW-2, OW-3 and RW-11). GM-23, OW-2, and OW-3 are within the primary groundwater source area at AOI 7. RW-11 is located in the WPSA. None of the off-site monitoring wells or off-site private wells at adjacent properties exhibit concentrations which would result in cancer risk or noncancer HI estimates for nonpotable groundwater use which exceed the cumulative cancer risk limit of 10^{-4} or the HI limit of 1. Given the limited extent of groundwater with concentrations on-site indicating a potentially significant risk under this conservative exposure scenario, it is unlikely that off-site migration in the future would take place such that significant off-site nonpotable groundwater use exposure would result. Therefore, current and reasonably expected future exposure off-site to groundwater via nonpotable groundwater use is not expected to be significant.

Surface Water Exposure

As shown in Appendix G, this supplemental risk assessment evaluated potential exposure to surface water in the Great Miami River given the potential for constituents to be transported to the River via groundwater in the upper aquifer. The maximum predicted surface water exposure concentration is well below drinking water criteria, which represent a conservative screening criteria for assessing exposure to surface water (i.e., exposures are more likely to be from nondrinking water exposures, such as water contact while swimming). Therefore, current and reasonably expected future exposure to surface water in the River is not expected to be significant.

4.2 Site-Wide Corrective Measures Goals

The goal of the corrective measures for groundwater at this Site is to reduce existing site-related groundwater concentrations to levels that are protective of reasonably expected future uses of groundwater. GM's approach for achieving this goal is through a combination of the corrective measures that achieve plume migration control, reduce existing plume concentrations, and monitor performance of these measures. Once on-

site groundwater concentrations are reduced sufficiently by active corrective measures (pumping and in-situ treatment) to ensure continued protection of reasonably expected groundwater uses, some, or all, of the active measures will be terminated. Groundwater monitoring as described in the Site-Wide Groundwater Monitoring Plan (ARCADIS, Inc. 2002b) will continue to verify that groundwater conditions remain acceptable, and that ultimately, groundwater concentrations at the point of compliance (POC) defined for the upper and lower aquifers (wells are listed below), decline below the appropriate protective levels (i.e., appropriate for the protection of the groundwater resource and its reasonably expected future uses). Data have been and will continue to be acquired during the implementation of the site-wide groundwater monitoring program to evaluate progress towards achieving this goal.

The need for continued operation of the groundwater corrective measures described in the next section will be determined based on achieving and maintaining the following conditions:

1. Upper aquifer: consistent with the criterion stated in the approved RCRA Corrective Action Environmental Indicator (EI) Determination – Migration of Contaminated Groundwater Under Control (CA 750), the condition to be met in the upper aquifer is no migration of VOCs at concentrations exceeding the appropriate protective levels (i.e., appropriate for the protection of the groundwater resource and its reasonably expected future uses as characterized in the RFI) beyond the existing area of contaminated groundwater. Based on the groundwater conditions established during the annual sampling events and supplemental groundwater investigation, the existing wells GM-79, GM-80, GM-65S, GM-26, GM-55, and GM-78 will serve as the POC monitoring points for ensuring that current conditions are maintained or improved.

2. Lower aquifer: consistent with the goal to maintain a usable aquifer, including off-site drinking water use, the condition to be met in the lower aquifer is no VOC concentrations exceeding appropriate protective levels (i.e., appropriate for the protection of the groundwater resource and its reasonably expected future uses as characterized in the RFI) beyond the existing area of contaminated groundwater. Based on the groundwater conditions established during the annual sampling events and supplemental groundwater investigation, the existing wells GM-83D, GM-15, GM-11, GM-20D, and GM-84 will serve as the POC monitoring points for ensuring that these conditions are maintained.

Progress towards achieving these conditions will be evaluated by comparing groundwater quality data from on-site wells to calculated remediation target levels (RTLs) that ensure compliance with these conditions without active corrective measures. As described in Section 2 of the IM/CM Report, RTLs are estimated using the groundwater assessment methods developed in the Supplemental Baseline Risk Assessment (ENVIRON Corporation 2000b), taking into consideration the current pumping conditions at and in the vicinity of the facility. Specifically, the MODFLOW groundwater flow model developed for former Delphi Thermal Moraine (Geraghty & Miller, Inc. 1994b) and the surrounding region (including former Moraine Engine and Moraine Assembly) is used to support the estimation of RTLs that would not be expected to result in exceedances of the above-stated conditions at the designated POCs. Once on-site groundwater concentrations are reduced sufficiently by active measures to be protective of reasonably expected future uses, some or all of the proposed active measures will be terminated. The RTLs currently in use for the annual monitoring program will be updated as part of the corrective measures design plan.

5. Summary of Corrective Measures Options

The identification and screening process of potentially applicable corrective measures technologies for implementation at the Site is presented in this section. This technology identification and screening process was completed in the past to address specific groundwater interim measures described in Section 3.5 (capture zone interim measures and AOI 7 interim measures). The purpose of this section is to identify and comparatively evaluate appropriate remedial technologies, taking the current interim measures into consideration, and determine which technology(s) are best suited to achieve the corrective measures objectives defined below. The retained list of technologies will be assembled into the final corrective measure alternative for the Site, as discussed in Section 6.0.

Site-specific corrective measures objectives were established to evaluate the capability of the corrective measures alternatives to meet the goals presented in Section 4.2. The objectives are based on the RFI, Supplemental RFI, and supplemental investigation results, including the BRA conclusions; Supplemental BRA conclusions; CMP supplemental risk assessment included as Appendix G; requirements of the Administrative Order (as amended); and U.S. EPA guidance (U.S. EPA, 1994). The corrective measures objectives address the VOCs in groundwater, exposure routes and receptors identified in the BRA, Supplemental BRA, CMP supplemental risk assessment, and a media-specific cleanup standard.

The corrective measures objectives for the protection of human health for the upper aquifer are as follows:

1. Control VOC mass in the upper aquifer groundwater above the upper clay till in the primary source area (AOI 7);

2. Limit future migration of VOCs from the primary source area to downgradient portions of the upper aquifer and into the lower aquifer;

3. Address VOCs that have migrated downgradient from the primary source area in order to expedite remediation of the downgradient plume;

4. Prevent the migration of VOCs at concentrations exceeding the MCLs beyond the existing plume boundary; and

5. Continue implementing the final corrective measures until the corrective measures goals and objectives are achieved on-site and MCLs can be met and maintained at the property line POC without active remedial measures.

The corrective measures objectives for the protection of human health for the lower aquifer are as follows:

1. To maintain the lower aquifer as usable groundwater for potential off-site, downgradient drinking water uses,

2. Prevent the migration of VOCs at concentrations exceeding MCLs beyond the existing plume boundary, and

3. To meet and maintain MCLs at the downgradient property line POC without active remedial measures.

5.1 Summary of Alternatives for Groundwater

5.1.1 Upper Aquifer

As discussed in Section 3.8, the upper aquifer at the Site is impacted by chlorinated VOCs resulting from historical activities primarily at AOI 7. The resultant groundwater plume extends to the south/southwest of AOI 7 consistent with observed groundwater flow at the Site and to the southeast of AOI 7consistent with historical pumping centers. ERD and groundwater capture zone corrective measures were implemented at the Site to control migration of chlorinated VOCs to off-site areas. The proposed corrective measures are described further below.

The following corrective measures were considered for selection as a final corrective measure for the upper aquifer groundwater:

- Enhanced Reductive Dechlorination;

- Groundwater Extraction; and

- Monitored Natural Attenuation (MNA).

5.1.1.1 Enhance Reductive Dechlorination

ERD is an engineered bioremediation technique in which chlorinated compounds are degraded under anaerobic conditions through a series of microbiologically-mediated transformations. The reductive dechlorination capacity of native soil bacteria are enhanced through injection of an easily degradable carbohydrate solution (e.g., food-grade molasses) into impacted groundwater.

In the presence of the carbohydrate solution soil bacteria respire naturally-occuring available electron acceptors (oxygen, nitrate, iron, manganese, sulfate, carbon dioxide) and chlorinated ethenes to support respiration. Microbial utilization of these electron acceptors creates electrochemically reducing conditions. By maintaining excess carbohydrate in the groundwater environment, the groundwater environment is driven to anaerobic and strongly reducing conditions, which facilitates complete respiration of chlorinated ethenes to form innocuous endproducts. The zone in which this environment is established becomes an in-situ reactive zone (IRZ).

ERD technology relies on an active delivery method, whereby the organic carbon source is periodically injected under low pressure through permanent injection wells. This process ensures immediate and continued delivery of excess organic carbon to the formation. This allows microbial populations to flourish in a relatively short time frame, resulting in a highly reducing groundwater environment and supporting contaminant degradation at rates sufficient to meet remedial goals. Additional injections, natural dispersion, and advective groundwater transport also help maintain and propagate the IRZ.

Enhanced reductive dechlorination was implemented in 1999 as a component of the Former Oil House Area interim measures at three zones: 1) at the southern boundary of the Former Oil House Area (RZ-1); 2) at an intermediate downgradient location south of the Former Oil House Area in the ME well series area (RZ-2 which was operated from 1999 to 2002); and 3) at a downgradient location south of former Delphi Thermal Moraine (RZ-3 West) and the former Moraine Engine plant (RZ-3 East). Using the data obtained from the Supplemental Groundwater Investigation conducted in 2006, RZ-4 was designed and installed to address VOC impacts identified west of RZ-3 West (GM-16).The current RZ locations are shown on Figure 2.

A dilute molasses carbohydrate solution is introduced to the aquifer on an approximately monthly basis into RZ-1, RZ-3, and RZ-4 introduction points. Reactive zone performance is routinely monitored through the collection of field parameter

measurements, and laboratory analyses of biogeochemical parameters and VOCs, according to the Site-Wide Groundwater Monitoring Plan (ARCADIS, Inc. 2002b). Observations indicating ERD effectiveness for addressing shallow groundwater impacts at the Site are summarized below:

- Reducing conditions favoring ERD within and downgradient of the reactive zones have been established and maintained over time;

- The target compounds (PCE and TCE) have been effectively reduced to daughter products (cis-1,2-DCE and vinyl chloride) and ultimately to end products (ethene and ethane); and

- Vinyl chloride concentrations have been consistently low to non-detect in groundwater samples collected from all downgradient shallow monitoring wells, indicating degradation of cis-1,2-DCE to ethene and ethane without significant vinyl chloride production.

A more thorough discussion of current RZ operational performance can be found in the Site-Wide Groundwater Monitoring Report for 2007 (ARCADIS, Inc. 2008). Implementation of ERD at the Site has achieved the desired reduction of VOC concentrations in shallow groundwater monitored at the RZ performance wells (ARCADIS, Inc. 2008).

5.1.1.2 Groundwater Extraction

Groundwater extraction is primarily used as a containment strategy although some benefit of mass removal can be realized for dissolved contaminants. Groundwater extraction wells can be used to control the migration of groundwater contaminants by altering the hydraulic gradient of the aquifer. Impacted groundwater recovered by the extraction well(s) are treated on site with an on-site water treatment system.

A groundwater extraction interim measure for the upper aquifer has been implemented at the Site and consists of groundwater extraction at the property boundary using well TW-2, groundwater treatment through an air stripper tower; and discharge through GM's NPDES permitted outfall to the Great Miami River. Groundwater recovery from TW-2 began on January 31, 1996. During the 12 years of operation (January 31, 1996 through December 31, 2007), the system has recovered and treated a total of 791,655,020 gallons of groundwater at an average flowrate of 145 gpm. The location of recovery well TW-2 is shown on Figure 2.

The TW-2 capture zone was assessed using the recently-updated site groundwater flow model. The analysis indicated that the TW-2 capture zone is capturing a significant fraction of shallow-zone groundwater and associated groundwater impacts along the southwestern portion of the Site (Appendix H).

5.1.1.3 Monitored Natural Attenuation

Monitored natural attenuation (MNA) is premised on natural processes providing sufficient degradation and/or attenuation of target contaminants to meet remedial goals without active measures. This includes physical (e.g., dilution, dispersion, volatilization), chemical (e.g., hydrolysis, precipitation), as well as biological processes.

Implementation of MNA as a remedy for groundwater impacts involves continued monitoring of VOC concentrations to quantify attenuation rates and, in certain cases, monitoring of other parameters, such as biogeochemical parameters, to define what processes may be responsible for the observed attenuation and to demonstrate transformation of the VOCs. The application of MNA takes advantage of natural processes to attenuate contaminant concentrations.

5.1.2 Lower Aquifer

As discussed in Section 3.8, the lower aquifer at the Site is impacted by chlorinated VOCs, with the most significant concentrations of PCE and TCE occurring at the southwest corner of the Moraine Assembly Plant (well GM-75D) and beneath the Vehicle Distribution Center (well GM-68D). Vertical definition of the VOC profiling indicated that contaminant concentrations in the deep aquifer are greatest immediately below the regional clay till and decrease with depth.

The following corrective measures were considered for selection as a final corrective measure for the lower aquifer:

- Recirculation Enhanced Reductive Dechlorination;
- In-Well Contaminant Stripping;
- Groundwater Extraction; and
- Monitored Natural Attenuation.

5.1.2.1 Recirculation Enhanced Reductive Dechlorination

As discussed above, ERD is an engineered bioremediation technique in which chlorinated compounds are degraded under anaerobic conditions through a series of microbiologically-mediated transformations. The reductive dechlorination capacity of native soil bacteria are enhanced through injection of an easily degradable carbohydrate solution (e.g., food-grade molasses) into impacted groundwater.

ERD has been successfully implemented at the Site to address shallow groundwater impacts. Carbon delivery for ERD implementation in the deep groundwater zone would differ from the ERD implementation in the shallow zone, which consists of monthly carbon substrate injections into RZ injection wells. The higher hydraulic conductivity and groundwater flow velocity in the deep zone would require multiple monthly injections and dense injection well spacing, which would greatly increase system operation and maintenance costs. Due to this constraint, an automated recirculation ERD system was contemplated to address deep groundwater impacts. Groundwater would be recovered from an extraction well, amended with carbon substrate by an automated carbon delivery system, and returned to the aquifer.

5.1.2.2 In-Well Contaminant Stripping

In-well contaminant stripping is an in-situ remediation technology which utilizes a double-screened well. Groundwater is extracted from the lower well screen, pumped vertically within the well, aerated, and discharged to the upper screen. The gas/liquid contacting associated with groundwater aeration facilitates mass transfer of volatile groundwater contaminants from groundwater to process air, which is captured for treatment. This method of treatment eliminates the need for above-grade groundwater treatment.

5.1.2.3 Groundwater Extraction

Groundwater extraction is primarily used as a containment strategy although some benefit of mass removal can be realized for dissolved contaminants. Groundwater extraction wells can be used to control the migration of groundwater contaminants by altering the hydraulic gradient of the aquifer. Impacted groundwater recovered by the extraction well(s) are typically treated on site with an on-site water treatment system or discharged into a sanitary sewer for offsite treatment. An on-site capture zone analysis for the lower aquifer was completed using the recently-updated site groundwater flow model to determine optimum location(s) for recovery well(s) and predicted capture

areas (Appendix H). Well DN-13 is a lower aquifer well that Montgomery County has been using in a Pump-to-Waste Program since March 1990. The capture zone interim measure for the lower aquifer consists of continued pumping of DN-13 at an approximate rate of 1,100 gpm to maintain capture in the lower aquifer downgradient of the Site. The location of well DN-13 is shown on Figure 2.

5.1.2.4 Monitored Natural Attenuation

MNA, described in Section 5.1.1.3 for the upper aquifer, may also be applied in the lower aquifer.

5.2 Site-Wide Groundwater Monitoring

A key component of the final corrective measures will be the site-wide groundwater monitoring program as defined in the Site-Wide Groundwater Monitoring Plan (ARCADIS, Inc. 2002b). This program has been implemented since 1999. The objectives of this program are to:

- Monitor groundwater quality upgradient and downgradient of the closed North and South Settling Lagoons;
- Monitor groundwater quality upgradient and downgradient of Landfills L1, L2, and L3;
- Monitor the effectiveness of and the need for current groundwater capture systems in the upper aquifer and lower aquifer;
- Monitor the effectiveness of corrective measures remediation activities in the reactive zones to address VOCs related to the Former Oil House Area; and
- Monitor an appropriate list of wells once corrective measures objectives have been met to verify that these objectives continue to be met without active measures.

As discussed in the Site-Wide Groundwater Monitoring Plan, an annual report will be prepared and submitted to the U.S. EPA by March 1st of the following year. The annual report will include a discussion of field activities (groundwater sampling, corrective measures, water-level measurements) and a presentation of analytical results. Data evaluation and any recommendations for changes to the corrective

measures, RTLs, or site-wide groundwater monitoring plan will be included in this annual report.

5.3 Engineering/Institutional Controls

Institutional controls are an important component of the final corrective measures to ensure long-term protection of human health and the environment under the current industrial land use. Engineering controls for the WPSA will include the maintenance of a paved cover over the WPSA in conjunction with institutional controls to reduce the potential for direct contact or vapor intrusion exposure to soil. Property deed and land use restrictions placed on the land-based units (Landfills L1, L2, and L3) and the WPSA will prevent non-industrial use of this land and prevent exposure for long-term management of these units.

Property deed restrictions placed on groundwater (upper and lower aquifers) at the Site will prevent its use as a potable/industrial water supply. These controls are in addition to existing state regulations governing development and use of groundwater for a potable water supply and local zoning of the land use at and surrounding the facilities. GM will implement property deed restrictions and groundwater use restrictions through development of an Environmental Covenant.

5.4 Corrective Measure Alternatives Screening

The following factors were used to screen the corrective measures.

- Long-term Reliability and Effectiveness: Considers whether the technology has been used effectively under analogous site conditions, if failure of the technology would have an immediate impact on potential receptors and the useful life span of the alternative.

- Reduction in the Toxicity, Mobility or Volume of Wastes: Considers whether the alternative is capable of eliminating or substantially reducing the potential for the contaminants to cause future environmental damages or risks to human health and the environment.

- Short-term Effectiveness: Short-term effectiveness is relevant where waste characteristics are such that risks to workers, the general public, or to the environment are high and special protective measures are needed.

- Implementability: Considers the administrative activities needed to implement the alternative, the constructability of the remedy, and the availability of materials and specialized services required for remedy implementation and operation.

- Cost: Considers the relative cost of remedies that offer equivalent protection of human health and the environment. Cost estimates include: site preparation, materials, construction, engineering, waste management and disposal, permitting, health and safety measures, and operation and maintenance.

A comparative evaluation of the groundwater corrective measures with respect to the screening criteria is presented on Table 8 for the upper and lower aquifers, respectively. Using the retained corrective measures, the proposed final corrective measures have been assembled and are presented in Section 6. The final corrective measures have been evaluated using general remedy standards and remedy decision factors.

6. Evaluation of Proposed Final Corrective Measures

This CMP serves as a comprehensive document that includes a summary of all RFI, Supplemental RFI, and additional supplemental investigations that have been completed since approval of the RFI and Supplemental RFI Reports. This CMP also includes a summary of the revised groundwater flow model, the off-site private well survey, the revised risk analysis, interim measures completed to date, the revised corrective measures goals, and updated technology identification and screening. Using this information, the final recommended site-wide remedy has been assembled. GM proposes that the combination of ongoing capture zones (TW-2 and DN-13) and in-situ reactive zones (upper aquifer) corrective measures previously described are capable of effectively addressing the VOCs in groundwater at the Site. In addition, GM recommends a corrective measure for a select area in the lower aquifer to limit the further migration of VOCs off-Site. Site-wide groundwater monitoring, and engineering/institutional controls will also be components of the final remedy. The recommended final remedy is protective of human health and the environment by reducing toxicity, mobility, and volume of waste through treatment; will address the short-term and long-term goals for the Site (Section 4.2); will meet the corrective measures objectives (Section 5); and will be cost effective.

The components of the final corrective measures are as follows:

1). Upper Aquifer Reactive Zone Corrective Measures: operation of in-situ remediation barriers in the upper aquifer downgradient and sidegradient of the Former Oil House Area and downgradient of the Moraine Assembly Process Waste Collection Systems (RZ-1, proposed relocated RZ-2, RZ-3, RZ-4) for treatment.

2). Upper Aquifer Capture Zone Corrective Measures: operation of an upper aquifer recovery well at the downgradient property boundary (TW-2) for hydraulic control.

3). Lower Aquifer Corrective Measures: operation of two lower aquifer recovery wells, one located downgradient of wells GM-68D/GM-75D for lower aquifer source containment and one downgradient of the Site property boundary (DN-13) for hydraulic control.

4). Corrective Measures Groundwater Monitoring: completion of monitoring groundwater quality associated with land-based units, performance monitoring for corrective measures, and point of compliance wells.

5). Engineering/Institutional Controls: implementation of land and groundwater use restrictions via environmental covenants for the entire facility.

6.1 Final Remedy Components

Components of the final corrective measures for the upper and lower aquifers are described below and presented conceptually on Figure 12. Site-specific remedial system configurations and operational details presented here are based on the revised site conceptual model and current site operational conditions. While the main components of the upper and lower aquifer remedies (ERD and groundwater extraction) are not anticipated to change over time, adjustments to this operational program are anticipated as part of GM's continual efforts to optimize system operation and effectiveness. The site understanding is refined based on additional data collection, and groundwater conditions improve over time. Any future changes to the final remedy configuration will be made in a manner that will not affect the capacity of the final remedy to achieve the corrective measures objectives presented in Section 5.

6.1.1 Upper Aquifer

The recommended final remedy incorporates ERD and groundwater extraction elements. The current shallow aquifer IRZs zones will be operated as part of the final corrective measures with some modifications to injection well locations and injection procedures. These modifications will be made to optimize system operation for long-term operation. The following modifications are planned:

- To the extent possible the IRZ carbon introduction system will be evaluated for automation to reduce labor costs and improve long-term system sustainability. In the current configuration water must be loaded into a trailer-mounted tank, driven to a molasses storage tank, and then transported to each injection well. Dedicated water and molasses distribution lines will be installed to speed injections, reduce energy consumption, and provide a consistent molasses/water mixture. Some IRZ operations may remain manual (e.g. RZ-3 West) as the capital cost for a small number of remote injection wells outweighs the potential reduction in costs.

- RZ-4 West will be relocated from the west side of Dryden Road to the east side of Dryden to facilitate automation of that IRZ line. This relocation will not alter the effectiveness of RZ-4 West.

- A portion of RZ-3 West will be shut down based on continued long-term operation of pumping well TW-2 (discussed below). TW-2 provides groundwater capture for most groundwater that passes through the RZ-3 West barrier (Appendix H). Discontinuation of injection into redundant RZ-3 West wells will reduce energy and resource consumption and the associated cost. The criteria for injection well shut down and groundwater flow models showing the TW-2 capture zone will be further evaluated prior to the proposed shut down.

- A new IRZ line will be added in the vicinity of monitoring wells GM-59 and GM-60 where elevated VOC concentrations have been observed in the upper aquifer. This IRZ line will prevent future downgradiant migration of upper aquifer VOC-impacted groundwater both in the upper aquifer and into the lower aquifer. The new IRZ line is referred to as proposed RZ-2 as shown conceptually on Figure 12.

Groundwater extraction well TW-2 will be operated as part of the final upper aquifer remedy. Operation of TW-2 will maintain shallow aquifer plume control through capture of shallow groundwater not within the remediation zone of RZ-3. The existing groundwater treatment system will be assessed and the air stripper may be upgraded or replaced to reduce maintenance, labor, and energy consumption. The operation of TW-2 will be re-evaluated at the end of a five years period for continued use need. Groundwater will be treated to comply with applicable discharge permit criteria.

6.1.2 Lower Aquifer

The recommended final remedy for the lower aquifer is hydraulic control and contaminant mass recovery via groundwater extraction. Two lower aquifer groundwater extraction wells will be operated as part of the final remedy; pumping well DN-13 located at the downgradient groundwater plume boundary and a new pumping well to be installed in the vicinity of monitoring well GM-68 where groundwater impacts in the lower aquifer were found to be the greatest during recent supplemental investigation activities. The basis for this final remedy selection are:

- Continued operation of DN-13 will ensure that lower aquifer groundwater impacts will not migrate beyond the existing stable plume footprint and be protective of the groundwater resource at downgradient receptors.

- The pumping well to be installed near GM-68 will recover contaminant mass closer to the greatest observed concentration of VOCs and likely accelerate lower aquifer

plume remediation so that the POC can ultimately be moved to the property boundary.

Groundwater recovered from a future lower aquifer extraction well positioned near GM-68 will be treated using an above grade water treatment system and discharged to the same NPDES-permitted outfall where TW-2 treated water is currently being discharged. Extracted groundwater will be treated to comply with applicable discharge permit criteria or other appropriate options. Hydrogeologic testing will be conducted as necessary to establish an appropriate extraction flow rate and determine extracted groundwater quality to facilitate groundwater treatment system design.

As presented in Sections 5.2 and 5.3, corrective measures groundwater monitoring and engineering/institutional controls, respectively, will be components of the final remedy for the Site. MNA will also be a component of the final remedy once the active measures have ultimately been shut down.

6.2 General Remedy Standards

Overall Protection – The selected final corrective measures described in Section 6.1 is protective of human health through the implementation of active IRZ treatment barriers, hydraulic source area containment, and hydraulic control at the property boundary. These measures will be protective of the off-site downgradient drinking water uses for the lower aquifer. These active measures will prevent the migration of VOCs at concentrations exceeding MCLs beyond the existing plume boundary.

Attainment of Media Cleanup Standards – The selected final corrective measures includes long-term groundwater monitoring to evaluate groundwater quality upgradient and downgradient of land-based units, for performance monitoring of the active remedies, and to evaluate groundwater quality at the POC wells. MCLs will be used for the media cleanup standards at the POC wells.

Controlling the Sources of Releases – The selected final corrective measures includes IRZ treatment barriers and downgradient hydraulic control for the upper aquifer and hydraulic source area containment with aboveground treatment and downgradient hydraulic control for the lower aquifer to reduce or eliminate VOC migration from the identified source areas to downgradient portions of the upper and lower aquifers.

Compliance with Applicable Standards for Waste Management – No wastes will be generated as part of the selected final corrective measures other than related to corrective measures installation which will be managed to comply with all applicable standards.

6.3 Remedy Decision Factors

Long-term Reliability and Effectiveness – The selected final corrective measures contains components that have already been implemented for 9 or more years and have proven to be effective to treat and/or contain VOCs and prevent further migration. The groundwater monitoring data will be used to confirm the long-term reliability and performance effectiveness of the final remedy.

Reduction of Toxicity, Mobility, or Volume of Wastes – The selected final corrective measures contains components to reduce the contaminant toxicity, mobility and volume through treatment (IRZ treatment barriers in the upper aquifer). It also contains components to reduce the mobility and volume of contaminants by preventing contaminant migration (hydraulic containment in the upper and lower aquifers) with aboveground treatment systems.

Short-term Effectiveness – Components of the selected final corrective measures have already been implemented for 9 or more years; therefore, the short-term effectiveness has already been achieved. Additional components of the final remedy discussed in Section 6.1 that are proposed can achieve effectiveness in the short-term timeframe.

Implementation – Components of the selected final corrective measures have already been implemented for 9 or more years. Additionally the proposed components of the final remedy are an expansion of the existing technologies; therefore, they can be easily implemented within site conditions.

Cost – Components of the selected final corrective measures have already been implemented and continued operation of these components will be cost effective. The additional costs will be associated with implementation of the proposed components of the final remedy and continuation of corrective measures groundwater monitoring program.

Based on information currently available, the selected final remedy for the Site provides the most appropriate balance of corrective measures options with respect to the evaluation criteria.

Future reports will be prepared for the final corrective measures that includes design plans for the lower aquifer recovery well and pump and treat system, the design of proposed RZ-2, the redesign of RZ-3 and RZ-4, the revised corrective measures groundwater monitoring program, and the Environmental Covenant.

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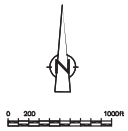

LEGEND

PROPERTY BOUNDARY

RIVER LEVEE

GENERAL MOTORS CORPORATION
MORAINE, OHIO
OH000294.0012

SITE LAYOUT

ARCADIS

FIGURE
1

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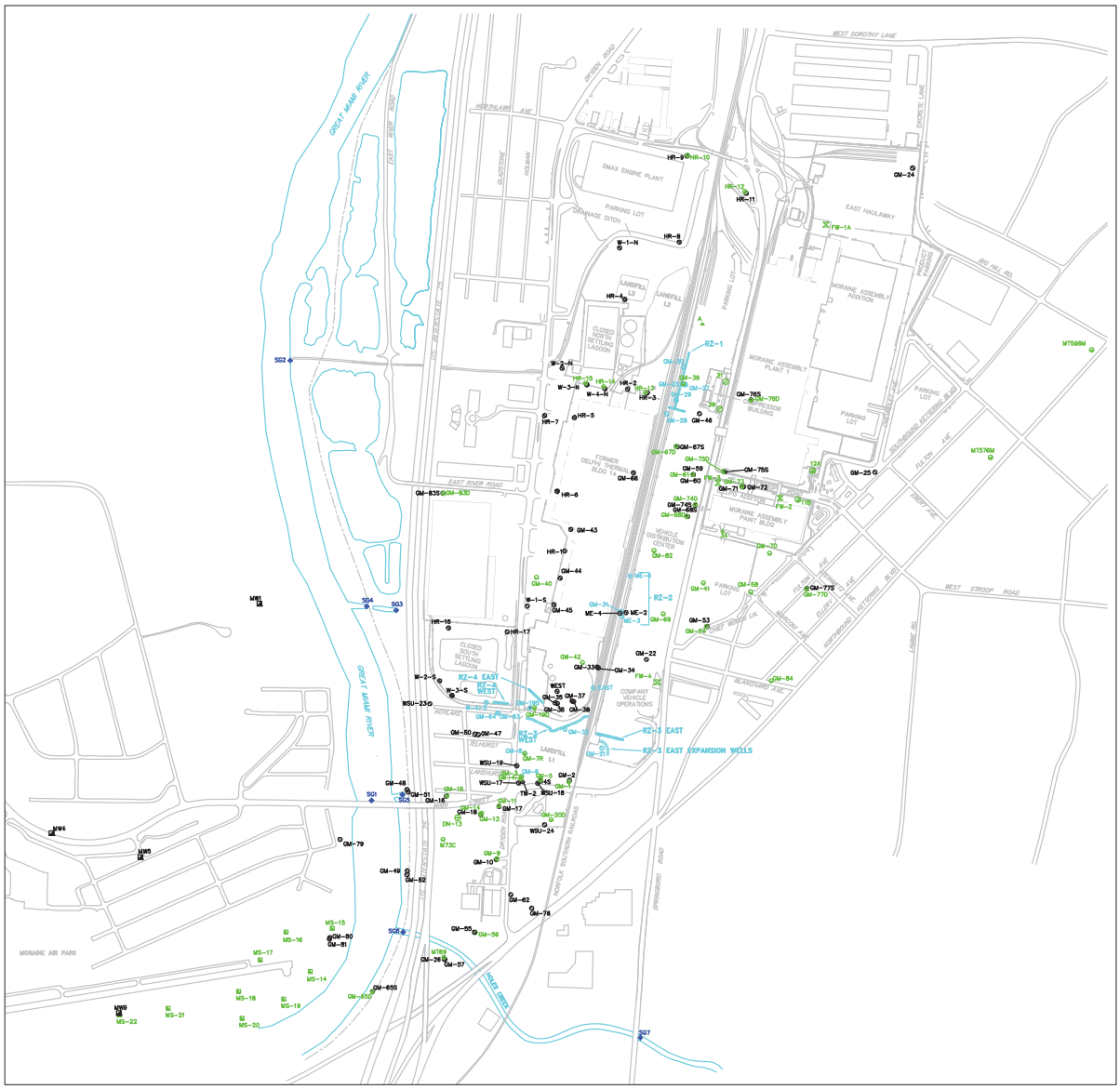

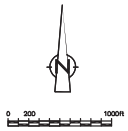

LEGEND

- MONITORING WELL (UPPER AQUIFER)
- RECOVERY WELL (TW-2)
- MONITORING WELL (LOWER AQUIFER)
- CARBON SOURCE INTRODUCTION WELLS, REACTIVE ZONES (RZ-1, RZ-3, AND RZ-4)
- WELL USED FOR PERFORMANCE MONITORING
- FIRE WELL
- PRODUCTION WELL CONVERTED TO MONITORING WELL (31, 39)
- INACTIVE PRODUCTION WELL (31, 39)
- ACTIVE PRODUCTION WELL (11B, 12A)
- MONTGOMERY COUNTY WELL (USED BY GM FOR PUMP TO WASTE PROGRAM)
- MONTGOMERY COUNTY WELL (INACTIVE MIAMI SHORES DAYTON PRIMARY PUBLIC SUPPLY BACKUP)
- STREAM GAUGE
- RIVER LEVEE
- CITY OF MORAINE MONITORING WELL

NOTES:
1. GREEN INDICATES LOWER AQUIFER WELLS.
2. BLACK INDICATES UPPER AQUIFER WELLS.

GENERAL MOTORS CORPORATION
MORAINE, OHIO

UPPER AND LOWER AQUIFER WELL LOCATIONS

ARCADIS

FIGURE 2

CITY:(DUBLIN) DIV/GROUP:(SER2) DB:(R. SMITH) LD:(Opt) PIC:(Opt) PM:(N. GILLOTTI) TM:(T. FORTNER) LYR:(Opt)ON=*;OFF=*REF*
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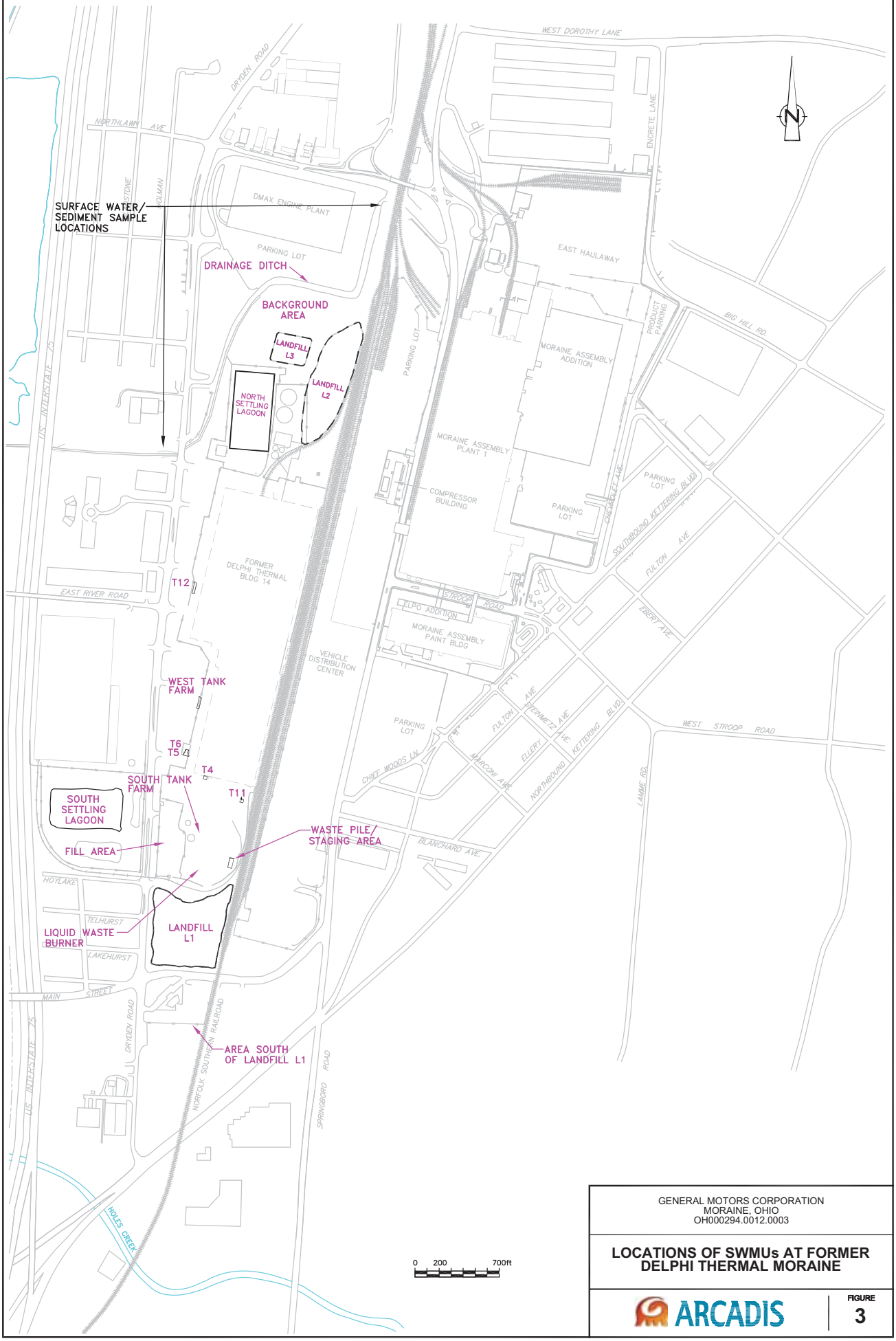

GENERAL MOTORS CORPORATION
MORAINE, OHIO
OH000294.0012.0003

LOCATIONS OF SWMUs AT FORMER DELPHI THERMAL MORAINE

ARCADIS

FIGURE
3

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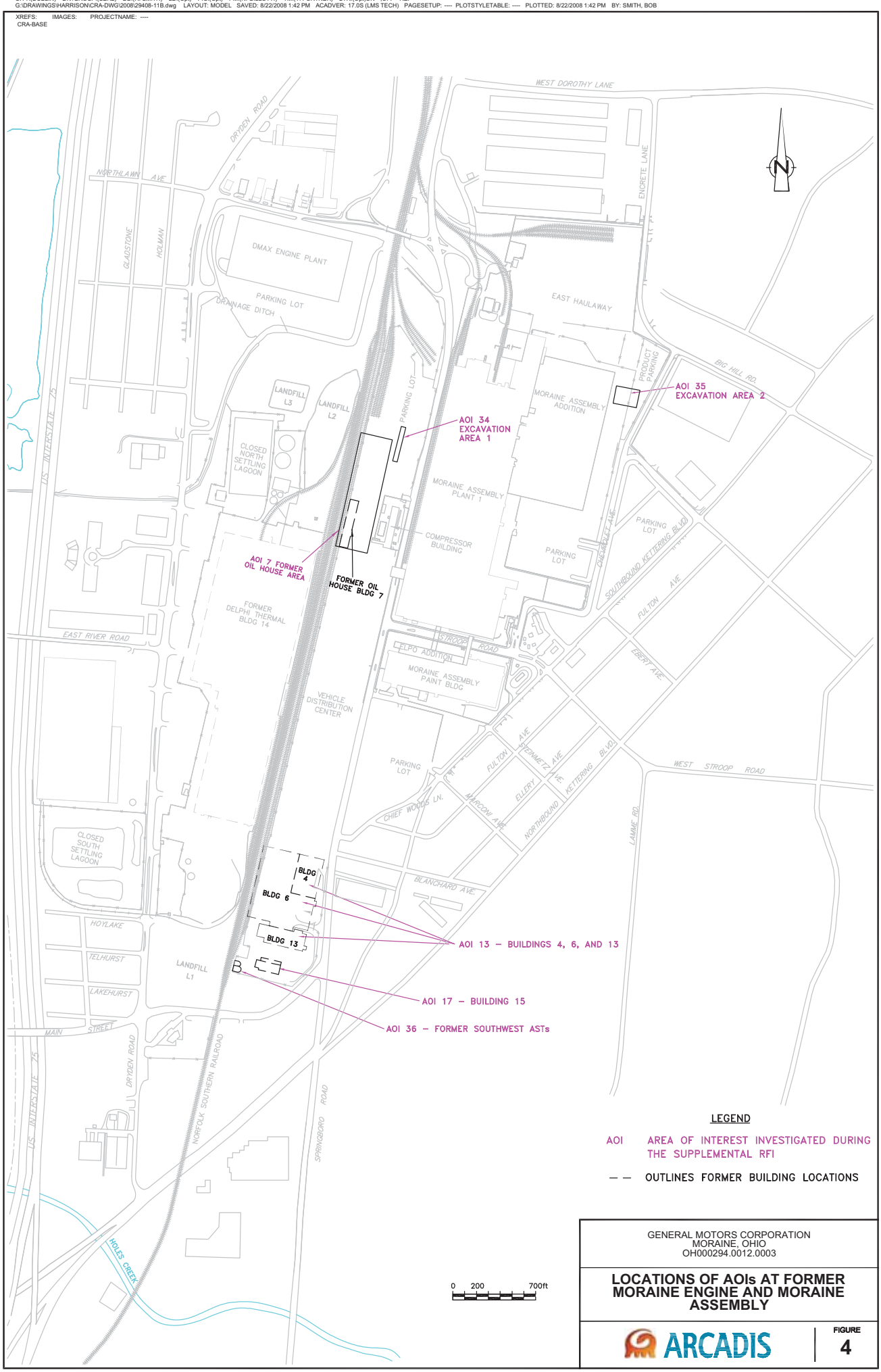


LEGEND

AOI AREA OF INTEREST INVESTIGATED DURING THE SUPPLEMENTAL RFI

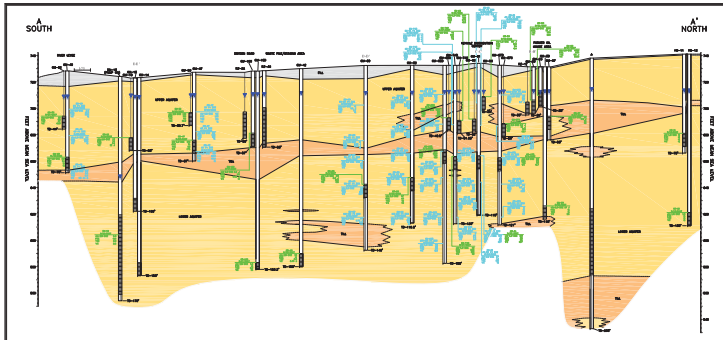
— — OUTLINES FORMER BUILDING LOCATIONS

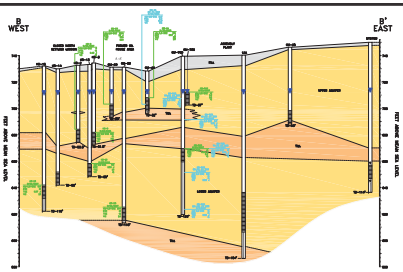
GENERAL MOTORS CORPORATION
MORAINE, OHIO
OH000294.0012.0003

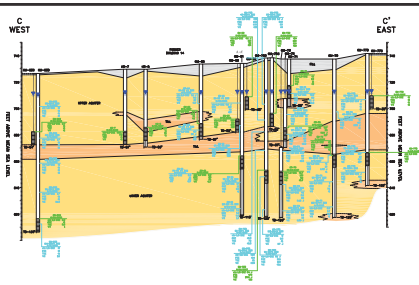
LOCATIONS OF AOIs AT FORMER MORAINE ENGINE AND MORAINE ASSEMBLY

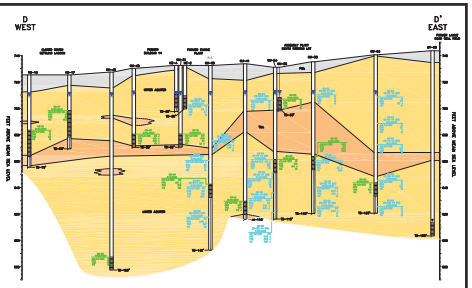
ARCADIS

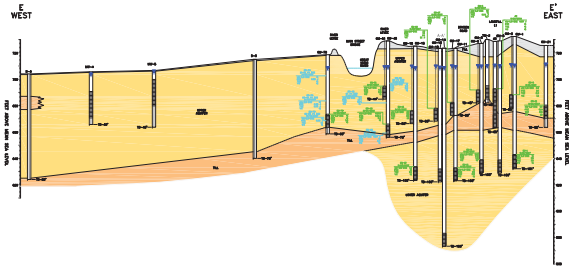
FIGURE 4

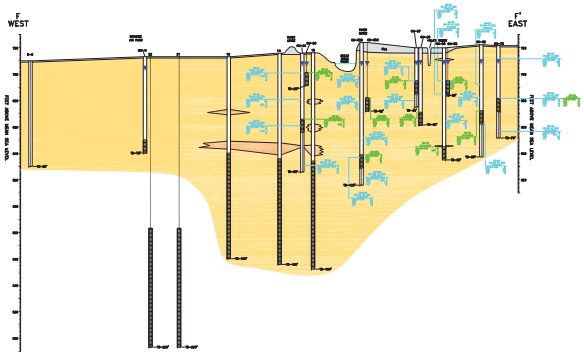


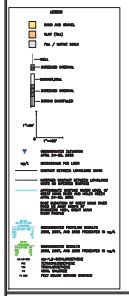


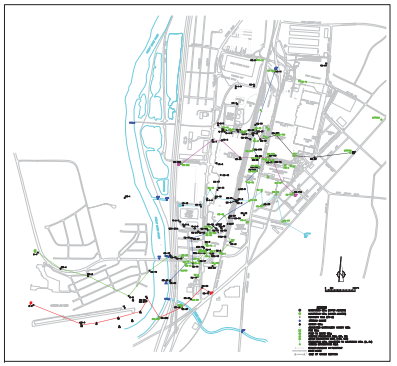










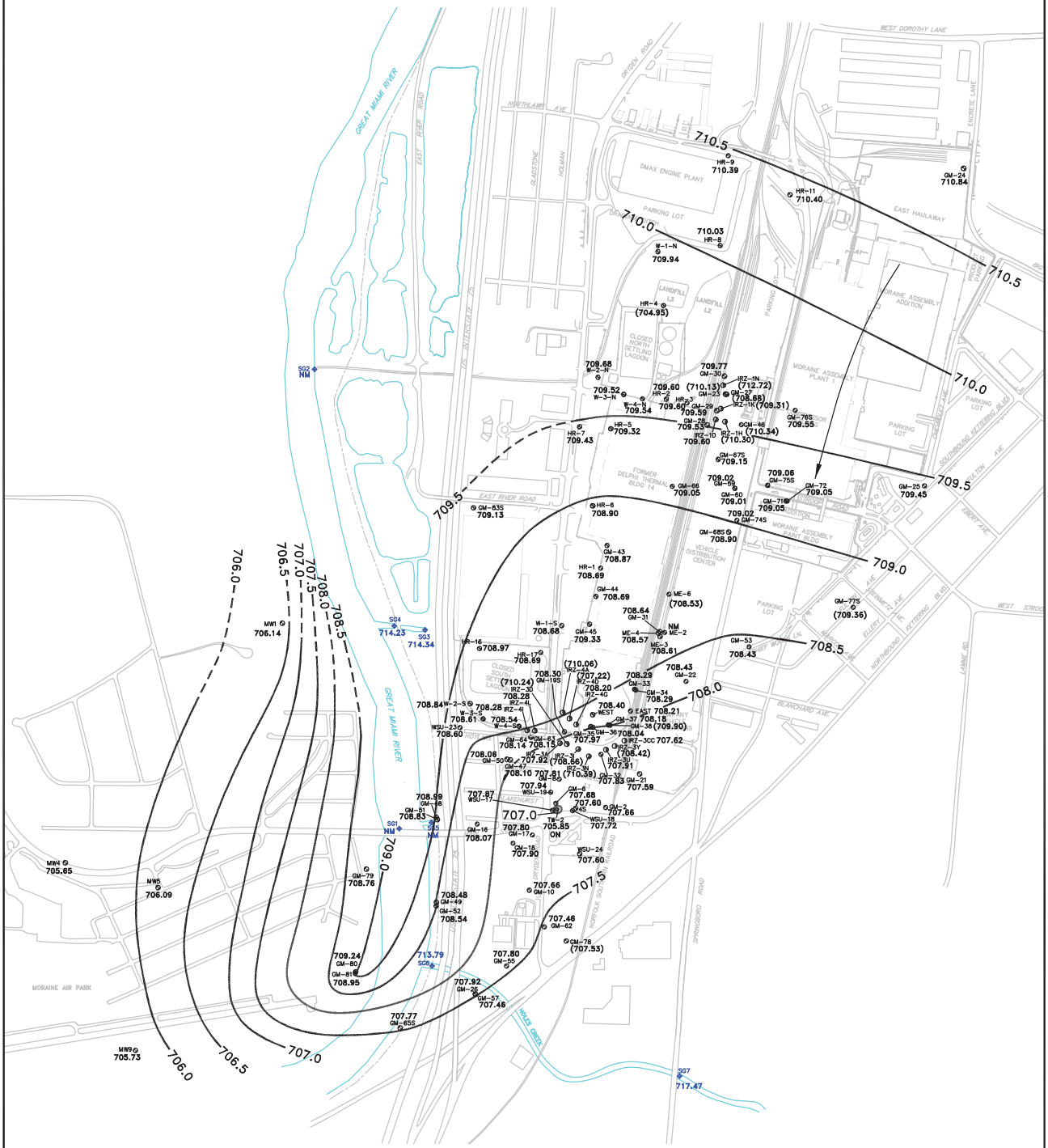


ARCADIS

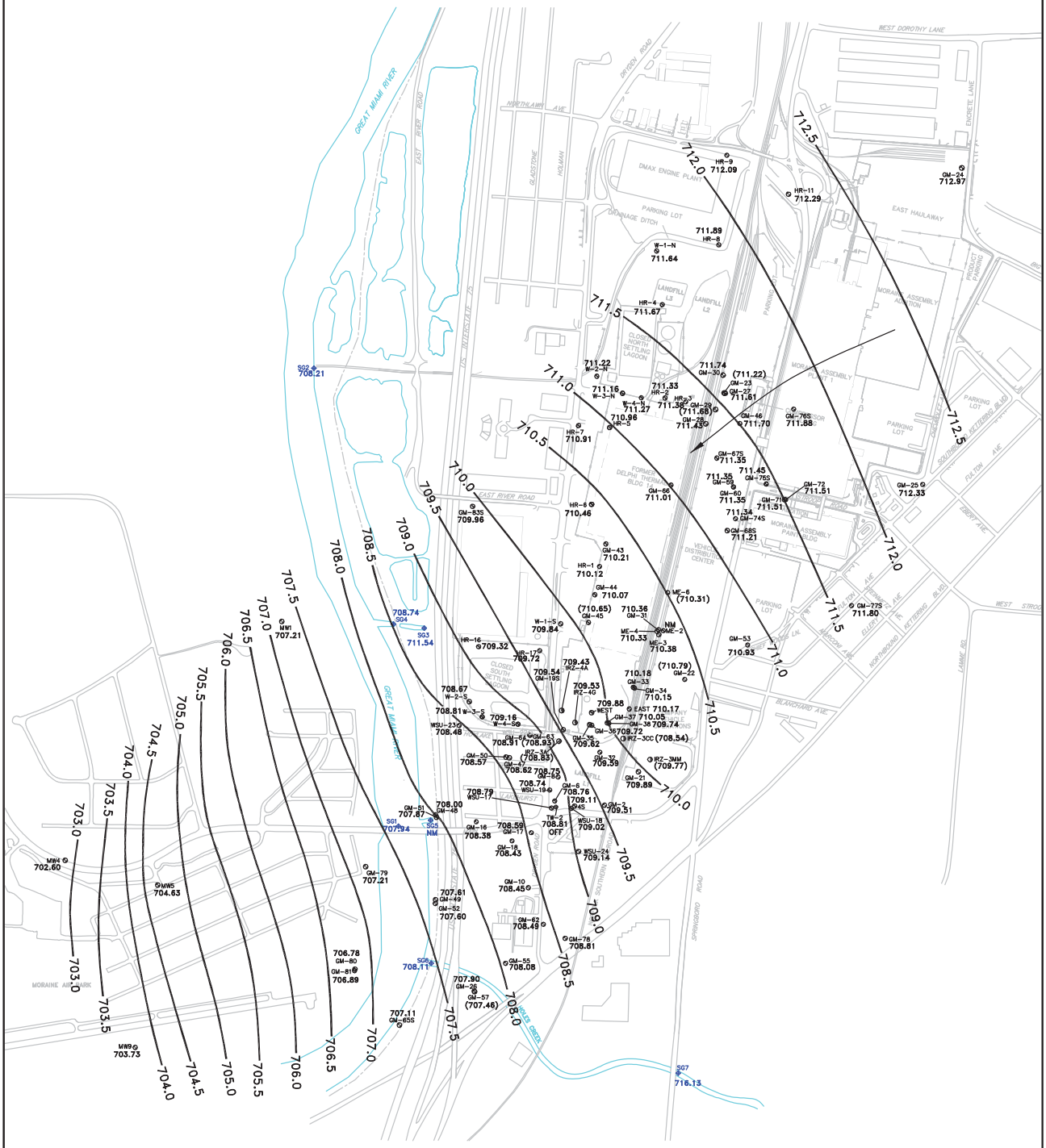
GEOLOGIC CROSS-SECTIONS A-A', B-B', C-C', D-D', E-E' AND F-F'
AND CROSS-SECTION LOCATION MAP
GENERAL MOTORS CORPORATION
MORAINE, OHIO

DRAWN	DATE	PROJECT MANAGER	DRAWING NAME
R. SMITH	8/18/2008	N. GILLOTTI	GM\07\29407CS-ALL
		LEAD DESIGN PROF. J. HUNT	CHECKED T. FORTNER
PROJECT NUMBER			FIGURE NUMBER
OH000294.0012.003			5

CITY:DUBLIN DIV/GROUP:SER2 DB:R. SMITH LD:(Opt) PIC:(Opt) PM:N. GILLOTTI TM:T. FORTNER LYR:(Opt)ON=*;OFF=*REF*
G:\DRAWINGS\HARRISON\CRA-DWG\2008\SH-DP-08.dwg LAYOUT: GW ELEV 0305-0608 SHAL SAVED: 8/22/2008 1:13 PM ACADVER: 17.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ACAD.CTB PLOTTED: 8/22/2008 1:44 PM BY: SMITH, BOB
XREFS: PROJECTNAME: ----
OH294BASE MAP 2008


GREAT MIAMI RIVER
EAST RIVER ROAD
NORTHLAWN AVE.
WEST DOROTHY LANE
EAST HAULAWAY
DMAX ENGINE PLANT
PARKING LOT
LANDFILL L3
LANDFILL L2
CLOSED NORTH SETTLING LAGOON
MORAINE ASSEMBLY PLANT 1
MORAINE ASSEMBLY ADDITION
FORMER DELPHI THERMAL BLDG 14
VEHICLE DISTRIBUTION CENTER
MORAINE ASSEMBLY PLANT ROAD
SOUTHBOUND KETTERING BLVD
NORTHBOUND KETTERING BLVD
SPRINGBORO ROAD
NORFOLK SOUTHERN RAILROAD
MORAINE AIR PARK
HOLES CREEK
710.5
710.0
709.5
709.0
708.5
708.0
707.5
707.0
706.5
706.0
SG2 NM
SG4 714.23
SG3 714.34
SG1 NM
SG5 NM
SG6 713.79
SG7 717.47
MW1 706.14
MW4 705.85
MW5 706.09
MW9 705.73
HR-1 708.69
HR-2 709.60 (710.13)
HR-3 709.59
HR-4 (704.95)
HR-5 709.32
HR-6 708.90
HR-7 709.43
HR-8 710.03
HR-9 710.39
HR-10 709.60
HR-11 710.40
HR-16 708.97
HR-17 708.69
W-1-N 709.94
W-1-S 708.68
W-2-N 709.68
W-2-S 708.84
W-3-N 709.52
W-3-S 708.61
W-4-N 709.54
W-4-S 708.54
GM-21 710.84
GM-22 708.43
GM-25 709.45
GM-28 709.53
GM-29 709.60
GM-30 709.77
GM-31 708.64
GM-33 708.29
GM-34 708.29
GM-36 (709.90)
GM-37 708.18
GM-43 708.87
GM-44 708.69
GM-45 709.33
GM-53 708.45
GM-60 709.01
GM-66 709.05
GM-67S 709.15
GM-68 709.02
GM-68S 708.90
GM-71 709.05
GM-72 709.05
GM-74S 709.02
GM-75S 709.08
GM-76S 709.55
GM-77S (709.36)
GM-78 (707.53)
GM-79 708.76
GM-80 709.24
GM-81 708.95
GM-82 707.46
GM-83S 709.13
GM-85S 707.77
GM-86 (710.34)
GM-87 708.48
GM-88 708.89
GM-90 707.81 (710.39)
GM-91 708.83
GM-92 708.54
GM-93 707.92 (708.56)
GM-94 708.14 708.15
GM-95 708.30
GM-96 708.06
GM-97 707.97
GM-98 708.10
GM-99 707.94
GM-100 708.04
GM-101 707.62
GM-102 708.21
GM-103 708.40
GM-104 708.20
GM-105 708.28
GM-106 (710.24)
GM-107 (710.06)
GM-108 (707.22)
GM-109 (708.42)
GM-110 707.91
GM-111 707.83
GM-112 707.59
GM-113 707.66
GM-114 707.46
GM-115 707.80
GM-116 708.07
GM-117 707.80
GM-118 707.87
GM-119 707.92
GM-120 707.46
GM-121 707.77
GM-122 709.24
GM-123 708.95
GM-124 708.48
GM-125 708.54
GM-126 707.66
GM-127 707.68
GM-128 707.60
GM-129 707.66
GM-130 707.72
GM-131 707.60
GM-132 708.90
GM-133 708.69
GM-134 708.64
GM-135 708.57
GM-136 708.61
GM-137 708.43
GM-138 708.28
GM-139 708.20
GM-140 708.40
GM-141 708.21
GM-142 708.18
GM-143 708.04
GM-144 707.62
GM-145 708.42
GM-146 708.29
GM-147 708.30
GM-148 708.28
GM-149 708.54
GM-150 708.61
GM-151 708.60
GM-152 708.69
GM-153 708.97
GM-154 708.69
GM-155 708.68
GM-156 708.57
GM-157 708.61
GM-158 708.53
GM-159 708.90
GM-160 708.90
GM-161 708.87
GM-162 708.69
GM-163 708.64
GM-164 708.45
GM-165 708.33
GM-166 708.57
GM-167 708.61
GM-168 708.53
GM-169 708.43
GM-170 708.45
GM-171 708.36
GM-172 708.55
GM-173 708.45
GM-174 708.43
GM-175 708.36
GM-176 708.55
GM-177 708.45
GM-178 708.43
GM-179 708.36
GM-180 708.55
GM-181 708.45
GM-182 708.43
GM-183 708.36
GM-184 708.55
GM-185 708.45
GM-186 708.43
GM-187 708.36
GM-188 708.55
GM-189 708.45
GM-190 708.43

CITY:DUBLIN DIV/GROUP:SER2 DB:R. SMITH LD:(Opt) PIC:(Opt) PM:N. GILLOTTI TM:T. FORTNER LYR:(Opt)ON=*;OFF=*REF*
G:\DRAWINGS\HARRISON\CRA-DWG\2008\SH-DP-08.dwg LAYOUT: GW ELEV 0424-2508 SHAL (2) SAVED: 8/22/2008 1:47 PM ACADVER: 17.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ACAD.CTB PLOTTED: 8/22/2008 1:50 PM BY: SMITH, BOB
XREFS: PROJECTNAME: ----
OH294BASE MAP 2008



LEGEND

- MONITORING WELL (UPPER AQUIFER)
- RECOVERY WELL (TW-2)
- 707.94 STREAM GAUGE AND STREAM GAUGE MEASUREMENT; NOT USED FOR CONTOURING
- CARBON INTRODUCTION WELL (OW-4 IS AN OBSERVATION WELL FOR IRZ 1)
- RIVER LEVEE
- 708.81 GROUNDWATER ELEVATION (FEET MSL)
- 706.0 GROUNDWATER CONTOUR (FEET MSL) (DASHED WHERE INFERRED)
- CONE OF DEPRESSION
- ( ) NOT USED FOR CONTOURING
- NM NOT MEASURED, DUE TO FLOODING OR DAMAGED WELL
- FLOW DIRECTION
- ON/OFF INDICATES WHETHER RECOVERY WELL IS IN OPERATION

CONTOUR INTERVAL = 0.5 FOOT

0 200 1000ft

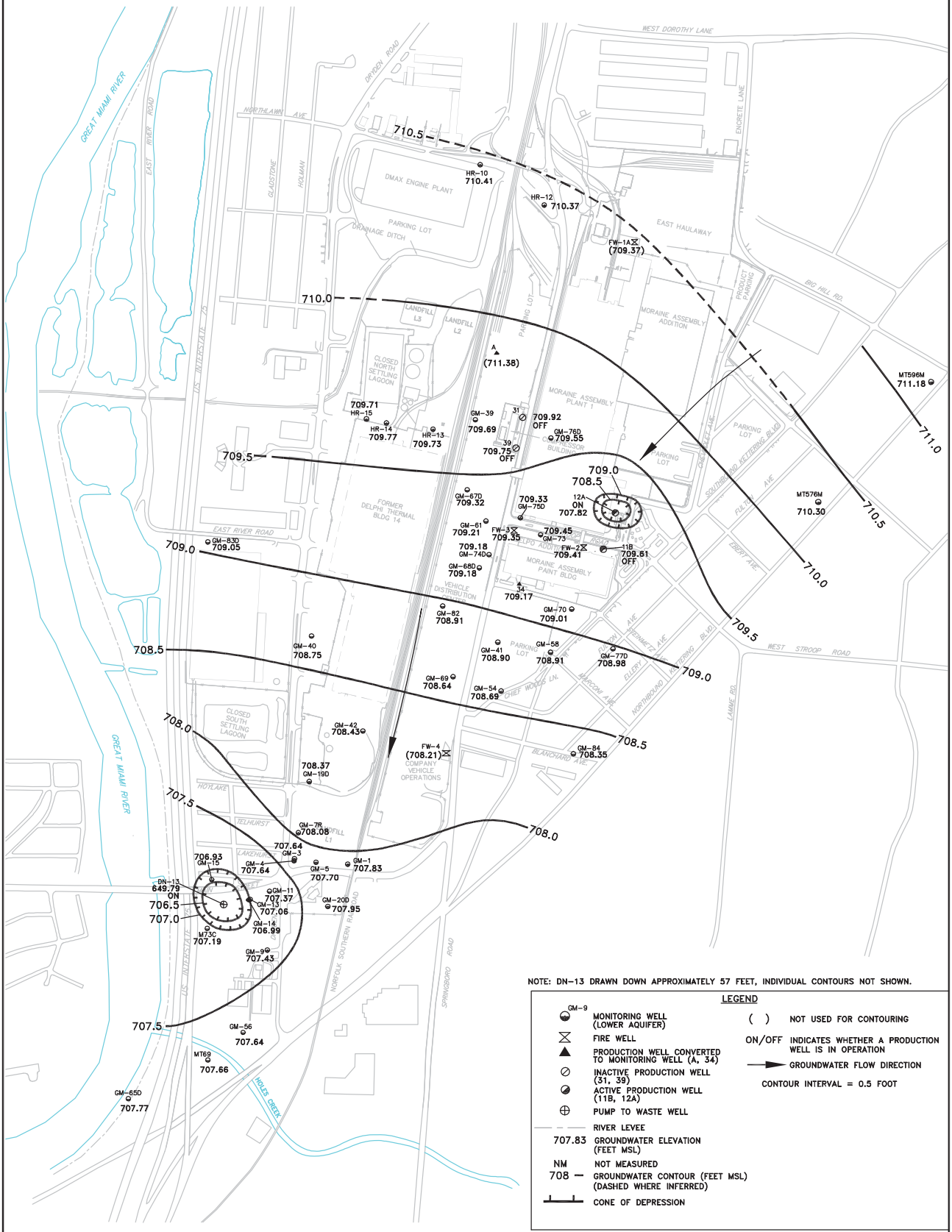
GENERAL MOTORS CORPORATION
MORAINE, OHIO

POTENTIOMETRIC SURFACE (UPPER AQUIFER) ON APRIL 24-25, 2008

ARCADIS

FIGURE 7

CITY:DUBLIN DIV/GROUP:SER2 DB:R. SMITH LD:(Opt) PIC:(Opt) PM:N. GILLOTTI TM:T. FORTNER LYR:(Opt)ON=*;OFF=*REF*
G:\DRAWINGS\HARRISON\CRA-DWG\2008\SH-DP-08.dwg LAYOUT: GW ELEV 0305-0608 DEEP SAVED: 8/22/2008 1:47 PM ACADVER: 17.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ACAD.CTB PLOTTED: 8/22/2008 1:50 PM BY: SMITH, BOB
XREFS: PROJECTNAME: ---
OH294BASE MAP 2008



NOTE: DN-13 DRAWN DOWN APPROXIMATELY 57 FEET, INDIVIDUAL CONTOURS NOT SHOWN.

LEGEND

- GM-9 — MONITORING WELL (LOWER AQUIFER)
- FIRE WELL
- PRODUCTION WELL CONVERTED TO MONITORING WELL (A, 34)
- INACTIVE PRODUCTION WELL (31, 39)
- ACTIVE PRODUCTION WELL (11B, 12A)
- PUMP TO WASTE WELL
- RIVER LEVEE
- 707.83 — GROUNDWATER ELEVATION (FEET MSL)
- NM — NOT MEASURED
- 708 — GROUNDWATER CONTOUR (FEET MSL) (DASHED WHERE INFERRED)
- CONE OF DEPRESSION
- ( ) — NOT USED FOR CONTOURING
- ON/OFF — INDICATES WHETHER A PRODUCTION WELL IS IN OPERATION
- GROUNDWATER FLOW DIRECTION
- CONTOUR INTERVAL = 0.5 FOOT

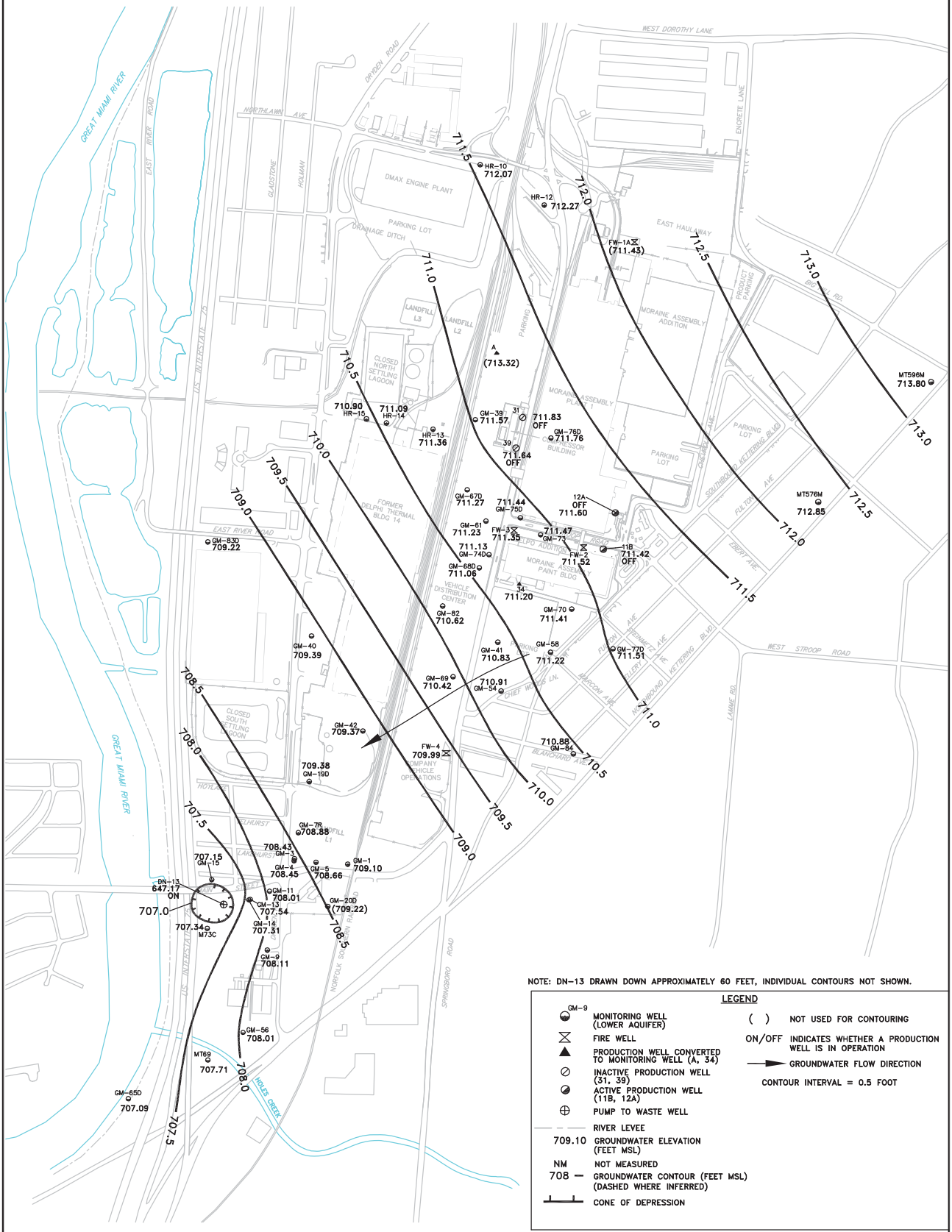
GENERAL MOTORS CORPORATION
MORAINE, OHIO

POTENTIOMETRIC SURFACE (LOWER AQUIFER) ON MARCH 5-6, 2008

ARCADIS

FIGURE 8

CITY:DUBLIN DIV/GROUP:SER2 DB:R. SMITH LD:(Opt) PIC:(Opt) PM:N. GILLOTTI TM:T. FORTNER LYR:(Opt)ON=*;OFF=*REF*
G:\DRAWINGS\HARRISON\CRA-DWG\2008\SH-DP-08.dwg LAYOUT: GW ELEV 0424-2508 DEEP SAVED: 8/22/2008 1:51 PM ACADVER: 17.0S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: ACAD.CTB PLOTTED: 8/22/2008 1:51 PM BY: SMITH, BOB
XREFS: PROJECTNAME: ---
OH294BASE MAP 2008



NOTE: DN-13 DRAWN DOWN APPROXIMATELY 60 FEET, INDIVIDUAL CONTOURS NOT SHOWN.

LEGEND

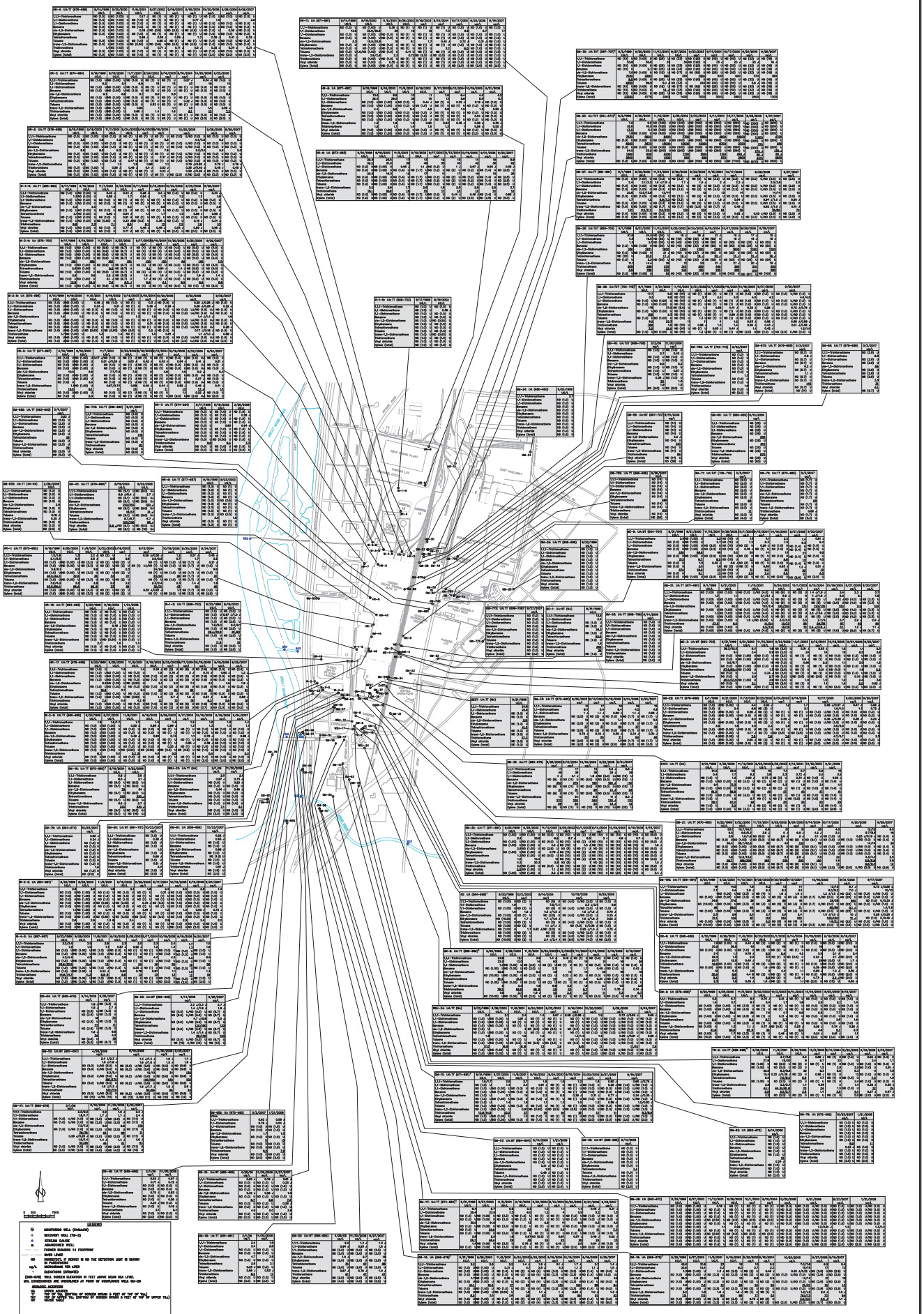
- GM-9 — MONITORING WELL (LOWER AQUIFER)
- FIRE WELL
- PRODUCTION WELL CONVERTED TO MONITORING WELL (A, 34)
- INACTIVE PRODUCTION WELL (31, 39)
- ACTIVE PRODUCTION WELL (11B, 12A)
- PUMP TO WASTE WELL
- RIVER LEVEE
- 709.10 — GROUNDWATER ELEVATION (FEET MSL)
- NM — NOT MEASURED
- 708 — GROUNDWATER CONTOUR (FEET MSL) (DASHED WHERE INFERRED)
- CONE OF DEPRESSION
- ( ) — NOT USED FOR CONTOURING
- ON/OFF — INDICATES WHETHER A PRODUCTION WELL IS IN OPERATION
- GROUNDWATER FLOW DIRECTION
- CONTOUR INTERVAL = 0.5 FOOT

GENERAL MOTORS CORPORATION
MORAINE, OHIO

POTENTIOMETRIC SURFACE (LOWER AQUIFER) ON APRIL 24-25, 2008

ARCADIS

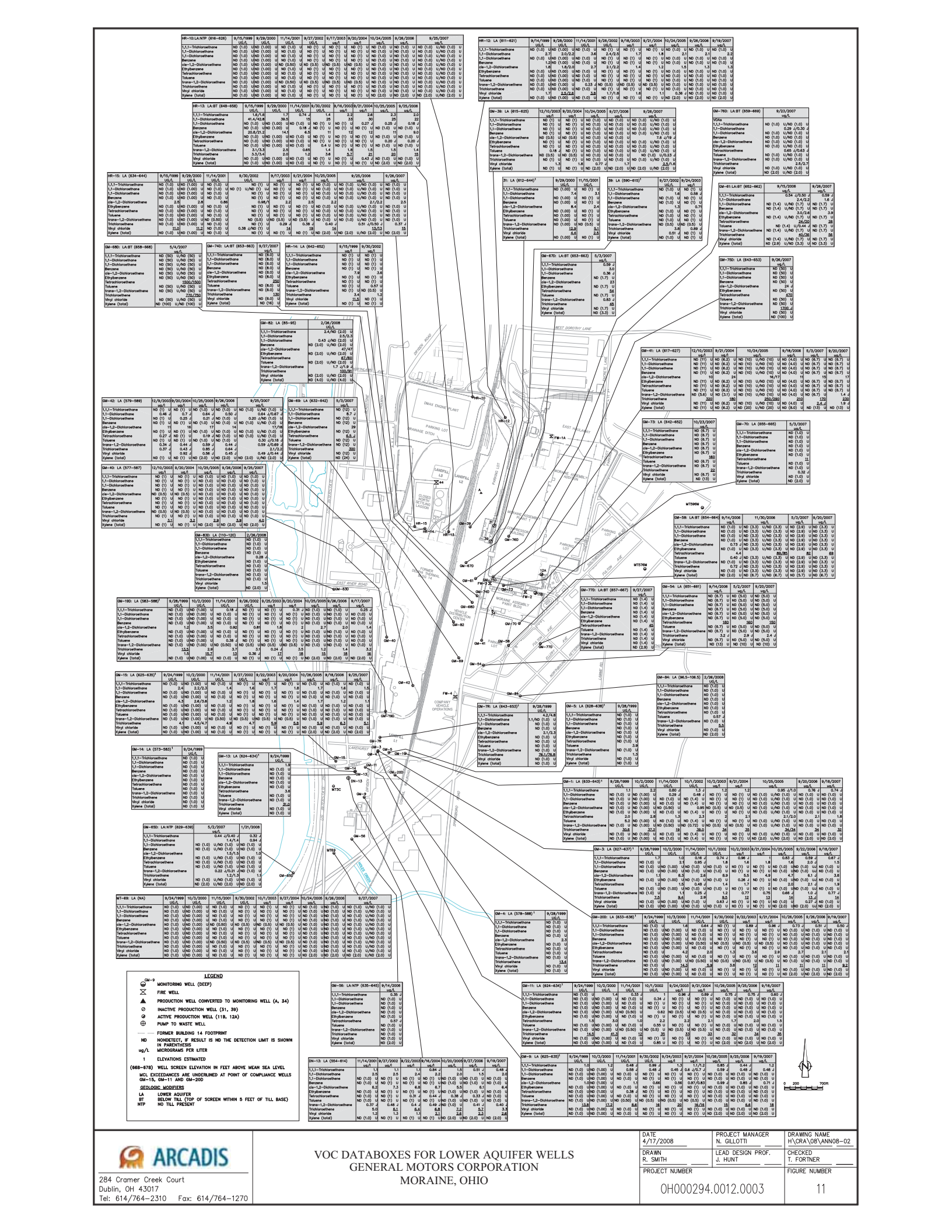
FIGURE 9



VOC DATABOXES FOR UPPER AQUIFER WELLS
GENERAL MOTORS CORPORATION
MORAINE, OHIO

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

DATE 4/17/2008	PROJECT MANAGER N. GILLOTTI	DRAWING NAME H\CRA\08\ANN08-01
DRAWN R. SMITH	LEAD DESIGN PROF. J. HUNT	CHECKED T. FORTNER
PROJECT NUMBER 0H000294.0012.0003		FIGURE NUMBER 10



MR-10 LA: NTP (616–626)

	9/15/1999	9/29/2000	11/14/2001	9/27/2002	9/17/2003	9/30/2004	10/24/2005	9/26/2006	9/25/2007
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
1,1,1-Trichloroethane	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
1,1-Dichloroethane	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
1,1-Dichloroethene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Benzene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
cis-1,2-Dichloroethene	ND (1.0) U	ND (0.50) U	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (0.5) U
Ethylbenzene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Tetrachloroethene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Toluene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
trans-1,2-Dichloroethene	ND (1.0) U	ND (1.00) U	ND (0.50) U	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (0.5) U
Trichloroethene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Vinyl chloride	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Xylene (total)	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (2.0) U	ND (2.0) U

MR-12: LA (611–621)

	9/14/1999	9/28/2000	11/14/2001	9/28/2002	9/18/2003	9/21/2004	10/24/2005	9/28/2006	9/18/2007
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
1,1,1-Trichloroethane	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
1,1-Dichloroethane	2.7	2.0/2.2	3.6	2.4/2.5	1.7	1.8	2.1	2.1	2.2
1,1-Dichloroethene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Benzene	1.2	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
cis-1,2-Dichloroethene	1.8	1.8/2.0	2.7	2.1/2.2	1.4	1.2	1.5	1.3	1.3
Ethylbenzene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Tetrachloroethene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Toluene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
trans-1,2-Dichloroethene	ND (1.0) U	ND (1.00) U	0.23 J	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (1.0) U	ND (1.0) U
Trichloroethene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Vinyl chloride	1.7	2.6/2.8	3.8	1.7/1.8	1.6	1.1	0.36 J	ND (1.0) U	ND (1.0) U
Xylene (total)	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (2.0) U	ND (2.0) U	ND (2.0) U

MR-13: LA: BT (648–656)

	9/15/1999	9/29/2000	11/14/2001	9/30/2002	9/16/2003	9/21/2004	10/25/2005	9/25/2006	9/25/2007
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
1,1,1-Trichloroethane	1.6/1.6	1.7	0.74 J	1.4	2.2	2.6	2.3	2.3	2.0
1,1-Dichloroethane	41.4/42.8	39.5	15	25	33	39	25	30	22
1,1-Dichloroethene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	0.27 J	0.25 J	0.18 J	
Benzene	ND (1.0) U	ND (1.00) U	ND (1.0) U	0.18 J	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
cis-1,2-Dichloroethene	20.8/21.2	14	6.5	11	12	12	11	9.0	
Ethylbenzene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Tetrachloroethene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	0.20 J		0.20 J	
Toluene	ND (1.0) U	ND (1.00) U	ND (1.0) U		0.4 J	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
trans-1,2-Dichloroethene	3.1/3.3	2.5	0.65	1.4	1.8	1.5	1.5	1.4	
Trichloroethene	3.3/3.6	2.0	1.2	3.6	5.7	21	20	15	
Vinyl chloride	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	0.43 J	ND (1.0) U	ND (1.0) U	
Xylene (total)	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (2.0) U	ND (2.0) U	

GM-39: LA (615–625)

	12/10/2003	9/30/2004	10/24/2005	9/27/2006	9/26/2007
	ug/L	ug/L	ug/L	ug/L	ug/L
1,1,1-Trichloroethane	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
1,1-Dichloroethane	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
1,1-Dichloroethene	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Benzene	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
cis-1,2-Dichloroethene	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (1.0) U	ND (1.0) U
Ethylbenzene	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Tetrachloroethene	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Toluene	0.18 J	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
trans-1,2-Dichloroethene	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (1.0) U	ND (1.0) U
Trichloroethene	1.3	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Vinyl chloride	1.3	1.8	2.77 J	1.7	2.5/1.8
Xylene (total)	ND (1.0) U	ND (1) U	ND (2.0) U	ND (2.0) U	ND (2.0) U

MR-760: LA: BT (659–669)

	9/23/2007
	ug/L
VOAs	
1,1,1-Trichloroethane	ND (1.0) U/ND (1.0) U
1,1-Dichloroethane	0.29 J/0.30 J
1,1-Dichloroethene	ND (1.0) U/ND (1.0) U
Benzene	7.6 J/9 J
cis-1,2-Dichloroethene	ND (1.0) U/ND (1.0) U
Ethylbenzene	ND (1.0) U/ND (1.0) U
Tetrachloroethene	0.65 J/0.63 J
Toluene	ND (1.0) U/0.33 J
trans-1,2-Dichloroethene	ND (1.0) U/ND (1.0) U
Trichloroethene	2.5/2.7
Vinyl chloride	ND (1.0) U/ND (1.0) U
Xylene (total)	ND (2.0) U/ND (2.0) U

MR-15: LA (634–644)

	9/15/1999	9/29/2000	11/14/2001	9/30/2002	9/17/2003	9/21/2004	10/25/2005	9/25/2006	9/26/2007
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
1,1,1-Trichloroethane	ND (1.0) U	ND (1.00) U	ND (1.0) U		ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
1,1-Dichloroethane	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U/ND (1) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
1,1-Dichloroethene	ND (1.0) U	ND (1.00) U	ND (1.0) U		ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Benzene	ND (1.0) U	ND (1.00) U	ND (1.0) U		ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
cis-1,2-Dichloroethene	2.5	2.8	0.86		0.48 J	2.2	2.5	2.5	2.5
Ethylbenzene	ND (1.0) U	ND (1.00) U	ND (1.0) U		ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Tetrachloroethene	ND (1.0) U	ND (1.00) U	ND (1.0) U		ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Toluene	ND (1.0) U	ND (1.00) U	ND (1.0) U		ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
trans-1,2-Dichloroethene	ND (1.0) U	ND (1.00) U	ND (0.5) U		ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (1.0) U	ND (1.0) U
Trichloroethene	ND (1.0) U	ND (1.00) U	ND (1.0) U		ND (1) U	0.29 J	0.38 J	0.40 J	0.51 J/0.50 J
Vinyl chloride	11.2	ND (1.00) U	ND (1.0) U	0.38 J/ND (1) U	14	14	15	15	0.37 J
Xylene (total)	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (2.0) U	ND (2.0) U	ND (2.0) U	ND (2.0) U

GM-31: LA (612–644)[1]

	9/28/2000	11/15/2001
	ug/L	ug/L
1,1,1-Trichloroethane	ND (1.00) U	ND (1) U
1,1-Dichloroethane	7.4	6.9
1,1-Dichloroethene	ND (1.00) U	ND (1) U
Benzene	2.1/2.2	2.5
cis-1,2-Dichloroethene	8.4	2.4
Ethylbenzene	ND (1.00) U	ND (1) U
Tetrachloroethene	ND (1.00) U	ND (1) U
Toluene	ND (1.00) U	ND (1) U
trans-1,2-Dichloroethene	ND (1.00) U	ND (0.5) U
Trichloroethene	12.0	5.1
Vinyl chloride	4.4	2.6
Xylene (total)	ND (1.00) U	ND (1) U

GM-39: LA (590–615)[1]

	9/27/2002	9/24/2003
	ug/L	ug/L
1,1,1-Trichloroethane	ND (1.0) U	ND (1) U
1,1-Dichloroethane	1.6	0.58 J
1,1-Dichloroethene	ND (1.0) U	ND (1) U
Benzene	2.1/2.2	2.5
cis-1,2-Dichloroethene	1.3	0.71
Ethylbenzene	ND (1.0) U	ND (1) U
Tetrachloroethene	ND (1.0) U	ND (1) U
Toluene	ND (1.0) U	ND (1) U
trans-1,2-Dichloroethene	ND (0.5) U	ND (0.5) U
Trichloroethene	0.54 J	0.69 J
Vinyl chloride	0.51 J	ND (1) U
Xylene (total)	ND (1.0) U	ND (1) U

GM-41: LA: BT (652–662)

	9/15/2006	9/26/2007
	ug/L	ug/L
1,1,1-Trichloroethane	0.54 J/0.50 J	0.59 J
1,1-Dichloroethane	2.4/2.2	1.6 J
1,1-Dichloroethene	ND (1.4) U/ND (1.7) U	ND (1.7) U
Benzene	ND (1.4) U/ND (1.7) U	ND (1.7) U
cis-1,2-Dichloroethene	3.0/2.6	3.9
Ethylbenzene	ND (1.4) U/ND (1.7) U	ND (1.7) U
Tetrachloroethene	26/22	28
Toluene	ND (1.4) U/ND (1.7) U	ND (1.7) U
trans-1,2-Dichloroethene	ND (1.4) U/ND (1.7) U	ND (1.7) U
Trichloroethene	60/58	56
Vinyl chloride	ND (1.4) U/ND (1.7) U	ND (1.7) U
Xylene (total)	ND (2.8) U/ND (3.3) U	ND (3.3) U

GM-68D: LA: BT (658–668)

	5/4/2007
	ug/L
1,1,1-Trichloroethane	ND (50) U/ND (50) U
1,1-Dichloroethane	ND (50) U/ND (50) U
1,1-Dichloroethene	ND (50) U/ND (50) U
Benzene	ND (50) U/ND (50) U
cis-1,2-Dichloroethene	ND (50) U/ND (50) U
Ethylbenzene	ND (50) U/ND (50) U
Tetrachloroethene	1500/1500
Toluene	ND (50) U/ND (50) U
trans-1,2-Dichloroethene	ND (50) U/ND (50) U
Trichloroethene	270/250
Vinyl chloride	ND (50) U/ND (50) U
Xylene (total)	ND (100) U/ND (100) U

GM-74D: LA: BT (653–663)

	9/27/2007
	ug/L
1,1,1-Trichloroethane	ND (8.0) U
1,1-Dichloroethane	ND (8.0) U
1,1-Dichloroethene	ND (8.0) U
Benzene	ND (8.0) U
cis-1,2-Dichloroethene	ND (8.0) U
Ethylbenzene	ND (8.0) U
Tetrachloroethene	250
Toluene	ND (8.0) U
trans-1,2-Dichloroethene	ND (8.0) U
Trichloroethene	130
Vinyl chloride	ND (8.0) U
Xylene (total)	ND (16) U

HR-16: LA (642–652)

	9/15/1999	9/30/2002
	ug/L	ug/L
1,1,1-Trichloroethane	ND (1) U	ND (1) U
1,1-Dichloroethane	ND (1) U	ND (1) U
1,1-Dichloroethene	ND (1) U	ND (1) U
Benzene	7.9	3.6
cis-1,2-Dichloroethene	ND (1) U	ND (1) U
Ethylbenzene	ND (1) U	ND (1) U
Tetrachloroethene	ND (1) U	ND (1) U
Toluene	ND (1) U	0.57 U
trans-1,2-Dichloroethene	ND (1) U	ND (0.5) U
Trichloroethene	3.4	1.2
Vinyl chloride	1.5	ND (1) U
Xylene (total)	ND (1) U	ND (1) U

GM-670: LA: BT (653–663)

	5/3/2007
	ug/L
1,1,1-Trichloroethane	0.59 J
1,1-Dichloroethane	3.0
1,1-Dichloroethene	0.36 J
Benzene	ND (1.7) U
cis-1,2-Dichloroethene	2.0
Ethylbenzene	ND (1.7) U
Tetrachloroethene	56
Toluene	ND (1.7) U
trans-1,2-Dichloroethene	0.83 J
Trichloroethene	45
Vinyl chloride	ND (1.7) U
Xylene (total)	ND (3.3) U

GM-75D: LA (643–653)

	9/26/2007
	ug/L
1,1,1-Trichloroethane	ND (50) U
1,1-Dichloroethane	ND (50) U
1,1-Dichloroethene	ND (50) U
Benzene	ND (50) U
cis-1,2-Dichloroethene	24 J
Ethylbenzene	ND (50) U
Tetrachloroethene	470
Toluene	ND (50) U
trans-1,2-Dichloroethene	ND (50) U
Trichloroethene	1200 J
Vinyl chloride	ND (50) U
Xylene (total)	ND (100) U

GM-82: LA (85–95)

	2/26/2008
	ug/L
1,1,1-Trichloroethane	2.4/ND (2.0) U
1,1-Dichloroethane	2.5/2.3
1,1-Dichloroethene	0.43 J/ND (2.0) U
Benzene	ND (2.0) U/ND (2.0) U
cis-1,2-Dichloroethene	47/47
Ethylbenzene	ND (2.0) U/ND (2.0) U
Tetrachloroethene	67/66
Toluene	ND (2.0) U/ND (2.0) U
trans-1,2-Dichloroethene	1.7 J/1.9 J
Trichloroethene	100/98
Vinyl chloride	ND (2.0) U/ND (2.0) U
Xylene (total)	ND (4.0) U/ND (4.0) U

GM-41: LA (617–627)

	12/10/2003	9/21/2004	10/24/2005	9/28/2006	8/3/2007	9/20/2007
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
1,1,1-Trichloroethane	ND (11) U	ND (6.2) U	ND (10) U/ND (10) U	ND (4.0) U	ND (6.7) U	ND (6.7) U
1,1-Dichloroethane	ND (11) U	ND (6.2) U	ND (10) U/ND (10) U	ND (4.0) U	ND (6.7) U	ND (6.7) U
1,1-Dichloroethene	ND (11) U	ND (6.2) U	ND (10) U/ND (10) U	ND (4.0) U	ND (6.7) U	ND (6.7) U
Benzene	ND (11) U	ND (6.2) U	ND (10) U/ND (10) U	ND (4.0) U	ND (6.7) U	ND (6.7) U
cis-1,2-Dichloroethene	10	24	16/17	15	15	17
Ethylbenzene	ND (11) U	ND (6.2) U	ND (10) U/ND (10) U	ND (4.0) U	ND (6.7) U	ND (6.7) U
Tetrachloroethene	ND (11) U	ND (6.2) U	ND (10) U/ND (10) U	ND (4.0) U	ND (6.7) U	ND (6.7) U
Toluene	ND (11) U	ND (6.2) U	ND (10) U/ND (10) U	ND (4.0) U	ND (6.7) U	ND (6.7) U
trans-1,2-Dichloroethene	ND (5.6) U	ND (3.1) U	ND (10) U/ND (10) U	ND (4.0) U	ND (6.7) U	1.4 J
Trichloroethene	310	180	250/280	320	180	230
Vinyl chloride	ND (11) U	ND (6.2) U	ND (10) U/ND (10) U	ND (4.0) U	2.4 J	1.9 J
Xylene (total)	ND (11) U	ND (6.2) U	ND (20) U/ND (20) U	ND (8.0) U	ND (13) U	ND (13) U

GM-62: LA (579–589)

	12/9/2003	9/30/2004	10/25/2005	9/26/2006	9/25/2007
	ug/L	ug/L	ug/L	ug/L	ug/L
1,1,1-Trichloroethane	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U/ND (1.0) U
1,1-Dichloroethane	0.46 J	0.7 J	0.64 J	0.50 J	0.64 J/0.67 J
1,1-Dichloroethene	ND (1) U	0.25 J	0.21 J	ND (1.0) U	0.20 J/ND (1.0) U
Benzene	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U/ND (1.0) U
cis-1,2-Dichloroethene	11	16	17	14	17/18
Ethylbenzene	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U/ND (1.0) U
Tetrachloroethene	0.27 J	ND (1) U	0.19 J	ND (1.0) U	ND (1.0) U/ND (1.0) U
Toluene	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	0.30 J/0.18 J
trans-1,2-Dichloroethene	0.34 J	0.44 J	0.59 J	0.44 J	0.59 J/0.69 J
Trichloroethene	0.37 J	0.43 J	0.55 J	0.64 J	1.1 J/1.2 J
Vinyl chloride	1.4	0.92 J	0.56 J	0.45 J	0.49 J/0.44 J
Xylene (total)	ND (1) U	ND (1) U	ND (2.0) U	ND (2.0) U	ND (2.0) U/ND (2.0) U

GM-69: LA (632–642)

	5/3/2007
	ug/L
1,1,1-Trichloroethane	ND (12) U
1,1-Dichloroethane	8.7 J
1,1-Dichloroethene	ND (12) U
Benzene	ND (12) U
cis-1,2-Dichloroethene	29
Ethylbenzene	ND (12) U
Tetrachloroethene	8.5 J
Toluene	ND (12) U
trans-1,2-Dichloroethene	ND (12) U
Trichloroethene	300
Vinyl chloride	ND (12) U
Xylene (total)	ND (24) U

GM-73: LA (642–652)

	10/23/2007
	ug/L
1,1,1-Trichloroethane	ND (6.7) U
1,1-Dichloroethane	ND (6.7) U
1,1-Dichloroethene	ND (6.7) U
Benzene	ND (6.7) U
cis-1,2-Dichloroethene	ND (6.7) U
Ethylbenzene	ND (6.7) U
Tetrachloroethene	160
Toluene	ND (6.7) U
trans-1,2-Dichloroethene	ND (6.7) U
Trichloroethene	72
Vinyl chloride	ND (6.7) U
Xylene (total)	ND (13) U

GM-70: LA (655–665)

	5/3/2007
	ug/L
1,1,1-Trichloroethane	ND (1.0) U
1,1-Dichloroethane	ND (1.0) U
1,1-Dichloroethene	ND (1.0) U
Benzene	ND (1.0) U
cis-1,2-Dichloroethene	ND (1.0) U
Ethylbenzene	ND (1.0) U
Tetrachloroethene	11
Toluene	ND (1.0) U
trans-1,2-Dichloroethene	ND (1.0) U
Trichloroethene	0.32 U
Vinyl chloride	ND (1.0) U
Xylene (total)	ND (2.0) U

GM-40: LA (577–587)

	12/10/2003	9/30/2004	10/25/2005	9/28/2006	9/25/2007
	ug/L	ug/L	ug/L	ug/L	ug/L
1,1,1-Trichloroethane	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
1,1-Dichloroethane	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
1,1-Dichloroethene	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Benzene	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
cis-1,2-Dichloroethene	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (1.0) U	ND (1.0) U
Ethylbenzene	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Tetrachloroethene	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Toluene	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
trans-1,2-Dichloroethene	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (1.0) U	ND (1.0) U
Trichloroethene	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Vinyl chloride	3.1	2.2	2.8	3.0	2.5
Xylene (total)	ND (1) U	ND (1) U	ND (2.0) U	ND (2.0) U	ND (2.0) U

GM-830: LA (110–120)

	2/26/2008
	ug/L
1,1,1-Trichloroethane	ND (1.0) U
1,1-Dichloroethane	ND (1.0) U
1,1-Dichloroethene	ND (1.0) U
Benzene	ND (1.0) U
cis-1,2-Dichloroethene	0.28 J
Ethylbenzene	ND (1.0) U
Tetrachloroethene	ND (1.0) U
Toluene	ND (1.0) U
trans-1,2-Dichloroethene	ND (1.0) U
Trichloroethene	ND (1.0) U
Vinyl chloride	1.5
Xylene (total)	ND (2.0) U

GM-77D: LA: BT (657–667)

	9/27/2007
	ug/L
1,1,1-Trichloroethane	ND (1.4) U
1,1-Dichloroethane	ND (1.4) U
1,1-Dichloroethene	ND (1.4) U
Benzene	ND (1.4) U
cis-1,2-Dichloroethene	ND (1.4) U
Ethylbenzene	ND (1.4) U
Tetrachloroethene	180
Toluene	ND (1.4) U
trans-1,2-Dichloroethene	ND (1.4) U
Trichloroethene	3.2 J
Vinyl chloride	ND (1.4) U
Xylene (total)	ND (2.9) U

GM-54: LA (651–661)

	9/14/2006	5/2/2007	9/20/2007
	ug/L	ug/L	ug/L
1,1,1-Trichloroethane	ND (6.7) U	ND (5.0) U	ND (5.0) U
1,1-Dichloroethane	ND (6.7) U	ND (5.0) U	ND (5.0) U
1,1-Dichloroethene	ND (6.7) U	ND (5.0) U	ND (5.0) U
Benzene	ND (6.7) U	ND (5.0) U	ND (5.0) U
cis-1,2-Dichloroethene	ND (6.7) U	ND (5.0) U	ND (5.0) U
Ethylbenzene	ND (6.7) U	ND (5.0) U	ND (5.0) U
Tetrachloroethene	180	160	150
Toluene	ND (6.7) U	ND (5.0) U	ND (5.0) U
trans-1,2-Dichloroethene	ND (6.7) U	ND (5.0) U	ND (5.0) U
Trichloroethene	3.2 J	2.9 J	2.4 J
Vinyl chloride	ND (6.7) U	ND (5.0) U	ND (5.0) U
Xylene (total)	ND (13) U	ND (10) U	ND (10) U

GM-190: LA (583–588)[1]

	9/28/1999	10/2/2000	11/14/2001	9/26/2002	9/25/2003	9/20/2004	10/25/2005	9/26/2006	9/17/2007
	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
1,1,1-Trichloroethane	ND (1.0) U	ND (1.00) U	ND (1.0) U	0.18 J	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	0.25 J
1,1-Dichloroethane	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
1,1-Dichloroethene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Benzene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
cis-1,2-Dichloroethene	1.2	3.5	0.92	0.89 J	1.8	2.0	1.4	1.4	1.4
Ethylbenzene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Tetrachloroethene	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
Toluene	ND (1.0) U	ND (1.00) U	ND (1.0) U	0.39 J	ND (1) U	ND (1.0) U	ND (1.0) U	ND (1.0) U	ND (1.0) U
trans-1,2-Dichloroethene	ND (1.0) U	ND (1.00) U	ND (0.50) U	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (0.5) U	ND (1.0) U	ND (1.0) U
Trichloroethene	13.5	2.9	3.7	3.1	0.24 J	3.5	1.2	1.4	3.2
Vinyl chloride	1.5	15.7	13	0.36 J	17	15	15	18	16
Xylene (total)	ND (1.0) U	ND (1.00) U	ND (1.0) U	ND (1) U	ND (1) U	ND (2.0) U	ND (2.0) U	ND (2.0) U	ND (2.0) U

GM-84: LA (96.5–106.5)

	2/26/2008
	ug/L
1,1,1-Trichloroethane	ND (1.0) U
1,1-Dichloroethane	ND (1.0) U
1,1-Dichloroethene	ND (1.0) U
cis-1,2-Dichloroethene	ND (1.0) U
Ethylbenzene	ND (1.0) U
Tetrachloroethene	ND (1.0) U
Toluene	0.57 J
trans-1,2-Dichloroethene	ND (1.0) U
Trichloroethene	5.5
Vinyl chloride	ND (1.0) U
Xylene (total)	ND (2.0) U

GM-7R: LA (643–653)[1]

	9/28/1999
	ug/L
1,1,1-Trichloroethane	4.2/4.8
1,1-Dichloroethane	1.1/ND (1.0) U
1,1-Dichloroethene	ND (1.0) U
Benzene	ND (1.0) U
cis-1,2-Dichloroethene	2.1/2.3
Ethylbenzene	ND (1.0) U
Tetrachloroethene	ND (1.0) U
Toluene	ND (1.0) U
trans-1,2-Dichloroethene	ND (1.0) U
Trichloroethene	76.1/78.8
Vinyl chloride	ND (1.0) U
Xylene (total)	ND (1.0) U

GM-5: LA (628–638)[1]

	9/28/1999
	ug/L
1,1,1-Trichloroethane	ND (1.0) U
1,1-Dichloroethane	ND (1.0) U
1,1-Dichloroethene	ND (1.0) U
Benzene	ND (1.0) U
cis-1,2-Dichloroethene	ND (1.0) U
Ethylbenzene	ND (1.0) U
Tetrachloroethene	3.9
Toluene	ND (1.0) U
trans-1,2-Dichloroethene	1.7
Trichloroethene	ND (1.0) U
Vinyl chloride	ND (1.0) U
Xylene (total)	ND (1.0) U

GM-14: LA (573–583)[1]

	9/24/1999
	ug/L
1,1,1-Trichloroethane	ND (1.0) U
1,1-Dichloroethane	ND (1.0) U
1,1-Dichloroethene	ND (1.0) U
Benzene	ND (1.0) U
cis-1,2-Dichloroethene	ND (1.0) U
Ethylbenzene	ND (1.0) U
Tetrachloroethene	ND (1.0) U
Toluene	ND (1.0) U
trans-1,2-Dichloroethene	ND (1.0) U
Trichloroethene	ND (1.0) U
Vinyl chloride	ND (1.0) U
Xylene (total)	ND (1.0) U

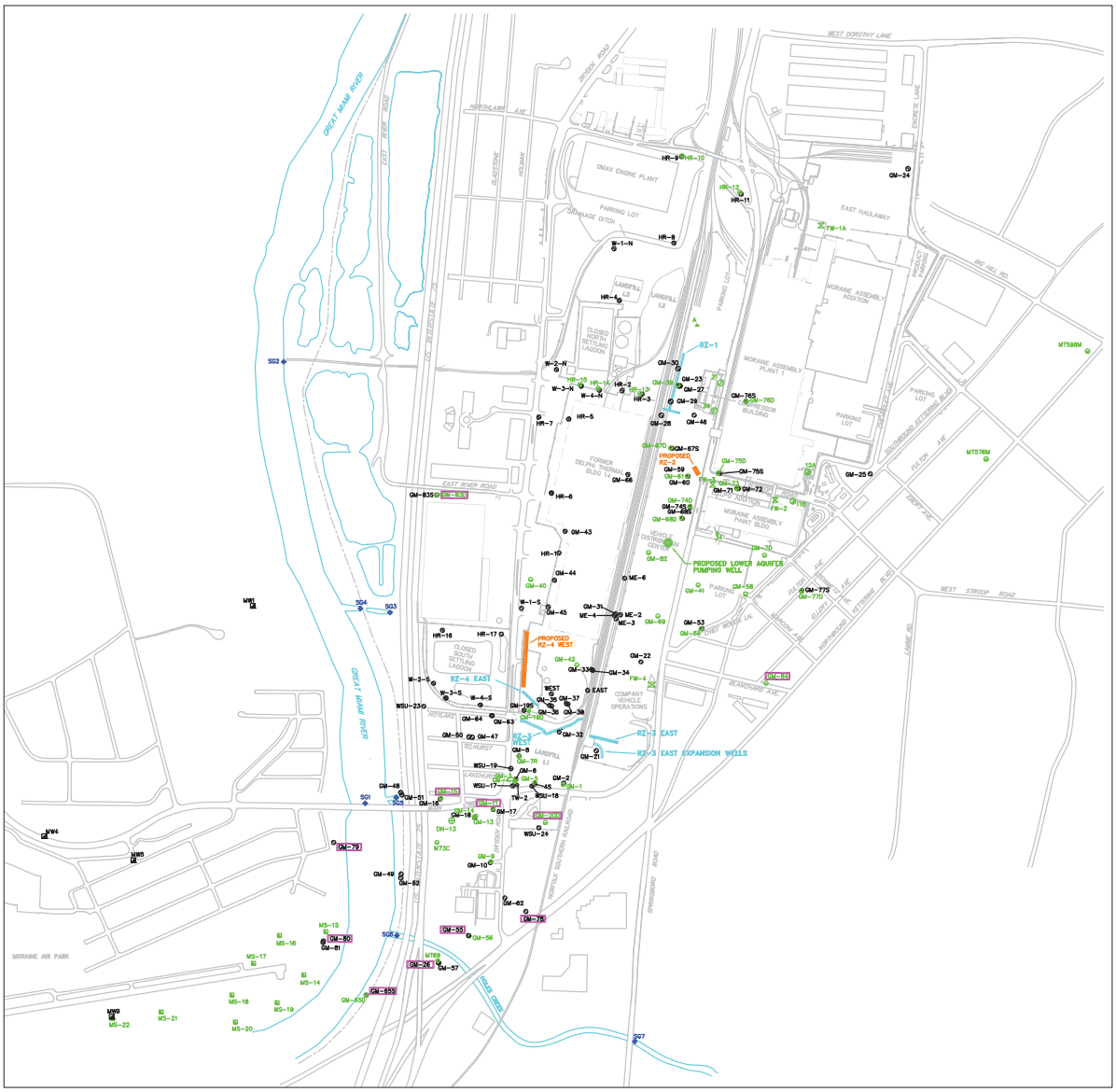
GM-13: LA (624–634)[1]

	9/24/1999
	ug/L
1,1,1-Trichloroethane	1.9
1,1-Dichloroethane	ND (1.0) U
1,1-Dichloroethene	ND (1.0) U
Benzene	ND (1.0) U
cis-1,2-Dichloroethene	ND (1.0) U
Ethylbenzene	ND (1.0) U
Tetrachloroethene	0.57 U
Toluene	ND (1.0) U
trans-1,2-Dichloroethene	ND (1.0) U
Trichloroethene	31.0
Vinyl chloride	ND (1.0) U
Xylene (total)	ND (1.0) U

GM-1: LA (633–643)[1]

| | 9/28/1999 | 10/2/2000 | 11/14/2001 | 10/1/2002 | 10/2/2003 | 9/21/

CITY:DUBLIN DIV/GROUP:SER2 DB:R. SMITH LD:(Opt) PIC:(Opt) PM:N. GILLOTTI TM:T. FORTNER LYR:(Opt)ON=*;OFF=*REF*
G:\DRAWINGS\HARRISON\CRA-DWG\2008\SH-DP-08.dwg LAYOUT: ALL WELLS - FIG 12 SAVED: 8/22/2008 1:51 PM ACADVER: 17.0S (LMS TECH) PAGESETUP: --- PLOTSTYLETABLE: ACAD.CTB PLOTTED: 8/22/2008 1:53 PM BY: SMITH, BOB
XREFS: PROJECTNAME: ---
OH2345BASE MAP 2008



LEGEND

- MONITORING WELL (UPPER AQUIFER)
- RECOVERY WELL (TW-2)
- MONITORING WELL (LOWER AQUIFER)
- CARBON SOURCE INTRODUCTION WELLS, REACTIVE ZONES (RZ-1, RZ-3, AND RZ-4)
- PROPOSED CARBON SOURCE INTRODUCTION WELLS, REACTIVE ZONE (RZ-2 AND RZ-4)
- FIRE WELL
- PRODUCTION WELL CONVERTED TO MONITORING WELL (31, 39)
- INACTIVE PRODUCTION WELL (31, 39)
- ACTIVE PRODUCTION WELL (11B, 12A)
- MONTGOMERY COUNTY WELL (USED BY GM FOR PUMP TO WASTE PROGRAM)
- MONTGOMERY COUNTY WELL (INACTIVE MIAMI SHORES DAYTON PRIMARY PUBLIC SUPPLY BACKUP)
- STREAM GAUGE
- RIVER LEVEE
- CITY OF MORAINE MONITORING WELL
- POINT OF COMPLIANCE MONITORING WELL
- PROPOSED LOWER AQUIFER PUMPING WELL

NOTES:
1. GREEN INDICATES LOWER AQUIFER WELLS.
2. BLACK INDICATES UPPER AQUIFER WELLS.

N

0 300 1000ft

GENERAL MOTORS CORPORATION
MORAINE, OHIO

SITE-WIDE CORRECTIVE MEASURES

ARCADIS

FIGURE
12

APPENDIX H

Qualifications of Environmental Professionals

TODD J. AEBIE, CPG

Senior Project Geologist

sanitary and industrial waste management
hazardous waste management
site assessment
groundwater monitoring

Mr. Aebie is a geologist with more than 18 years of experience in conducting and managing a variety of environmental projects in addition to sampling and analysis, geochemistry, geophysics, and glaciology. He has performed numerous work assessments that require a thorough understanding of Resource Conservation and Recovery Act (RCRA), Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and other pertinent environmental regulations.

Mr. Aebie's field experience includes a variety of sampling techniques and analysis of all types of environmental media and their related chain-of-custody procedures. Experience with landfill construction, oversight, administration, along with construction quality assurance (CQA) for geosynthetics installation. Mr. Aebie also routinely performs the installation, sampling, and monitoring of groundwater at several municipal solid waste landfills.

EDUCATION

B.S., Geology and Mineralogy, The Ohio State University, 1989

REPRESENTATIVE EXPERIENCE

Solid Waste Engineering

- **Phase 2 Design, Construction, and Oversight, Erie County Sanitary Landfill.** Provided office design and construction specifications for the Phase 2 cell construction at the Erie County Sanitary Landfill. Construction inspection included soil/lime mixing and compaction, RSL clay testing and oversight, geosynthetics installation quality assurance/quality control (QA/QC), leachate recirculation piping installation in Subphase 1B, haul road construction, and monitoring well installation for the expansion.
- **Subphase 1B and Phase 3 Capping, Design and Oversight, Erie County Sanitary Landfill.** Provided office design and construction specifications for the Subphase 1B cell construction and Vertical Expansion Phase 3 Capping at the Erie County Sanitary Landfill. Construction inspection included soil/lime mixing and compaction, RSL clay testing and oversight, geosynthetics installation quality assurance/quality control (QA/QC), leachate and methane gas header piping, haul road construction.
- **Phase 1 and 2 Design and Oversight, Erie County Sanitary Landfill, Erie County Ohio.** Provided office design and construction specifications for the Phase 1 and 2 design and construction oversight at the Erie County Sanitary Landfill. Oversight entailed the testing and oversight of a limed amended soil berm (greather than 250,000 cubic yards), construction of

cell Subphase 1A, including RSL placement and testing, leachate piping, associated leachate storage tank farm construction, drainage channels and haul roads.

- **Soil Excavation and Drying Design and Oversight, Erie County Sanitary Landfill, Erie County Ohio.** Provided office design and construction specifications for soil drying and retention basin construction oversight at the Erie County Sanitary Landfill. Provided construction oversight for the excavation and soil drying of over 100,000 cubic yards (cy) of soil in preparation for additional landfill construction. A retention basin was constructed from the areas where the soil was excavated. Soil was excavated and "tracked" by unit, following Ohio Environmental Protection Agency (EPA) regulations on permeability of soils for use in construction of an RSL.
- **Soils Investigation, Erie County Sanitary Landfill, Erie County Ohio.** Completed extensive investigation of soils at the Erie County Landfill. Soils work was completed for future use considerations of the soils for upcoming construction projects. Soils were sampled, logged, and shipped for analysis to a certified soils lab.
- **Geosynthetics CQA, Confidential Client, Ohio.** Served as the project team leader and the health and safety supervisor role for geosynthetics QA for approximately 90 acres of geosynthetics including geomembrane, geosynthetic clay liner (GCL), geocomposite, and geotextile.
- **Annual Operational Report, Erie County Sanitary Landfill, Erie County, Ohio.** Prepared annual operational reports for municipal solid waste facility including groundwater potentiometric mapping and capacity calculations.
- **Landfill Gas Monitoring Plan, City of Westerville Landfill, Westerville, Ohio.** Prepared a Landfill Gas Monitoring Plan for an inactive municipal solid waste landfill located within city limits, complying with Ohio EPA directives. Coordinated records search and collection of facility information related to past operations and construction-related data. Implemented the gas monitoring system and quarterly monitoring along with the final certification report to the regulatory agencies.

Hazardous Waste

- **Corrective Measures Study, CECOS Landfill, Wilmington, Ohio.** Conducted detailed field investigations as part of a corrective measures study for the closure of a RCRA- Toxic Substances Control Act (TSCA)-regulated hazardous waste landfill. Investigation activities included environmental media sampling in soil, sediment, and water for the detection of heavy metals and volatile organic compounds.
- **RCRA Facility Assessments, TruGreen Chemlawn, Moyno, RMI Sodium, Various Site Locations, United States.** Conducted visual site inspections (VSIs) for numerous RCRA facility assessments (RFA). Assessed current manufacturing operations; equipment and vehicle maintenance and cleaning operations; wastewater treatment systems (sanitary sewers, septic systems, and stormwater runoff associated with storage areas); materials storage (above/underground tanks and pipelines); storage areas, waste products, and disposal methods; and well locations and associated uses.
- **Hazardous Waste Remedial Action Program (HAZWRAP) -Related Site Investigations, Air National Guard, Ohio and Indiana.** Conducted site investigation activities following RCRA guidance procedures for HAZWRAP at Air National Guard installations in Ohio and Indiana covering spill areas, leaking underground storage tanks, and waste disposal areas. Supervised extensive drilling operations, well installations, and environmental media sampling.
- **CERCLA-Related Field Activities, Wright-Patterson Air Force Base, Dayton, Ohio.** Directed field activities for a CERCLA site at Wright-Patterson Air Force Base in Ohio. Field

activities for the $5.5- million remedial investigations/feasibility studies (RI/FS) included: soil gas survey, Level B landfill trenching and drilling, rotosonic drilling, groundwater and leachate sampling, leachate gas sampling, surface water and sediment sampling, aquifer slug testing and inspection, and geotechnical evaluation of an existing landfill cap. Coordinated efforts of up to 20 persons in relation to drilling, sampling, and other various activities on a day-to-day basis.

- **Remedial Investigation/Feasibility Study, Schatz Federal Bearing State Superfund Site, Poughkeepsie, New York.** Assisted in the RI/FS for the Schatz Federal Bearing New York State Superfund site in Poughkeepsie, New York, where polychlorinated biphenyls (PCBs), pesticides, heavy metals, and volatile organic compounds were the major contaminants of concern. Provided oversight of rock NXW wire line coring activities and installation of five bedrock and ten overburden wells.
- **PCB Soil Remediation, Confidential Chemical Plant, West Virginia.** Assisted in remediation of PCB-contaminated soil at an active chemical plant. Responsibilities included the coordination and disposal by railroad of more than 2,000 tons of PCB-contaminated material. Additional duties included coordination of excavation activities, daily reporting, and scheduling of excavation activities.
- **RFI/Corrective Measures Study (CMS) Activities for United States Army Toxic and Hazardous Materials Agency (USATHAMA), U.S. Army Depot, Kentucky.** Conducted Level B trenching through abandoned landfills as part of an RFI/CMS for the base closure of a U.S. Army Depot in Kentucky for USATHAMA. More than 3,000 samples from 400 locations were taken from the landfills and storage areas, analyzed, and entered into the USATHAMA Installation Restoration Data Management System (IRDMIS).
- **RFI/CMS Activities for USATHAMA, U.S. Army Post, Kentucky/Tennessee.** Conducted and supervised up to 20 persons daily during extensive drilling operations, including well installation and sampling, as part of an RFI/CMS for a U.S. Army Post in Kentucky/Tennessee for USATHAMA. More than 70 wells, 150 soil borings, and 5,000 samples were collected during the six-month field investigation.
- **Technical Enforcement, USEPA Region 10, Ohio.** Managed all aspects of the Technical Enforcement contract for USEPA Region 10 (TES X program) at the CECOS Landfill, an inactive hazardous waste landfill. Responsibilities included project management, costing, review of RFI, risk assessments, and CMS along with project meetings and other technical and field oversight support on behalf of the USEPA.

Site Assessment

- **Phase I Environmental Site Assessment, Confidential Munitions Manufacturer, Westerville, Ohio.** Conducted Phase I investigative work under the Ohio Voluntary Action Program (VAP) guidance and directives. Work entailed a detailed search for any records from the facility, an extensive detailed and successful search for historic aerial photos of the facility, and an extensive and successful search for former employees of the facility. On the basis of the information gathered in the Phase I, a Work Plan, a detailed Sampling and Analysis Plan, and a Health and Safety Plan were prepared for subsequent field investigations. The work is being conducted for developers who wish to build homes on the property.
- **Dewatering Project, Southerly Wastewater Treatment Plant, City of Columbus, Ohio.** Provided oversight and monitoring of a 1+ million gallon per day dewatering project, allowing construction of final wastewater clarifiers at a city sewage treatment plant. Supervised the dewatering rate and monitoring of wells within the area to ensure that the dewatering process was not impacting nearby drinking water well

- **Geoprobe Soil Boring Sampling, Confidential Industrial Client, Indiana and Michigan.** Conducted numerous Geoprobe soil boring sampling of soils and groundwater during Phase I and Phase II investigations for an industrial client at facilities located in Indiana and Michigan. The investigations were related to the sale of the facilities.
- **Phase I Environmental Site Assessments, Major Cellular Service Provider, West Virginia.** Coordinated and conducted more than 25 Phase I environmental site assessments for a major cellular phone corporation. The site assessments were conducted over a large, two-state area.
- **Pipeline Decontamination and Removal and Abandonment, Rickenbacker Air National Guard Base, Columbus, Ohio.** Cleaning, abandonment, and removal of over five miles of underground jet fuel pipeline at the Rickenbacker Air National Guard Base. Responsibilities included coordination of activities with the Air National Guard and Civilian Air Traffic Controllers, obtaining permits, and health and safety monitoring of up to 15 workers while cleaning, removing or abandoning the pipeline.
- **Research Assistance, National Science Foundation, Antarctica.** Participated in geologic, glaciologic, and geophysics research at the Reckling Moraine in the Antarctic, which was sponsored by the National Science Foundation.
- **Various projects within Ohio, Michigan, Indiana, Vest Virginia and Virginia.** Health and Safety Officer on numerous RCRA, CERCLA, industrial and governmental field jobs.
- **Geologic Mapping, Multiple Clients.** Constructed geologic maps based on field interpretations, utilizing various conventional field equipment.
- **Groundwater Monitoring, Multiple Sanitary Landfills, Ohio.** Ongoing groundwater detection monitoring, sampling, and reporting for several large sanitary landfills per Ohio EPA Solid Waste Regulations (1994).
- **Project Oversight for PCB Soil Removal and Cleanup, Confidential Client, Indiana.** Provided long-term oversight on behalf of the USEPA at a PCB soil removal and cleanup site in Indiana. Oversight consisted of review of waste manifests, air monitoring results, along with review of analytical data.
- **Phase I Environmental Audit, Confidential Municipal Client, Columbus, Ohio.** Assisted in a Phase I environmental audit conducted at a municipality's trash shredder station and trash burning power plant. Provided the audit results, recommendations and costing for additional work to be performed at the facilities.

REGISTRATIONS

Certified Professional Geologist, APIG, Registration #10786

Troxler Certified Radiation Safety Officer

TRAINING

HAZWOPER Training, 1989

NWGA Short Course: Introduction to Ground Water Geochemistry, 1994

AFFILIATIONS

Geological Society of American

National Ground Water Association

PROFESSIONAL HISTORY

LFR, Senior Project Geologist, October 2007 to present

Brown and Caldwell, Senior Geologist, December 2000 to October 2007

Metcalf & Eddy, Inc., Staff Geologist, March 1989 to December 2000

LFR an ARCADIS company

DOUGLAS M. LINDSAY, P.G.

Senior Project Geologist

hydrogeologic investigations
project management
LSP MCP services
soil and groundwater management

Mr. Lindsay has over 12 years of experience involving subsurface and hydrogeologic investigations, contaminated soil and groundwater management, state and federal regulatory compliance, environmental remediation programs, and American Society for Testing and Materials (ASTM) due diligence. Related projects have included the management of extensive state and federal environmental investigations, subsurface soil and groundwater precharacterization programs, asbestos assessments, lead paint screening, radon sampling, and soil, groundwater, and ambient air field screening. Mr. Lindsay has also conducted groundwater elevation surveys, fate and transport modeling, groundwater and surface water sampling, soil sampling, and soil gas sampling.

Mr. Lindsay has supervised and managed numerous projects simultaneously including operation and maintenance (O&M) of groundwater remediation systems, construction project management, contaminated soil and groundwater management, soil vapor extraction systems, dewatering systems, risk assessments, underground storage tank removals, and Massachusetts Contingency Plan (MCP) regulatory reports. Mr. Lindsay is also involved with researching and evaluating environmental liabilities and determining the cost/benefit analysis associated with applicable remedial measures. Mr. Lindsay manages field staff personnel on the completion of multiple projects.

EDUCATION

B.A. Environmental Science, Boston University, 1995

The School for Field Studies, Rainforest Ecology, Belize, Central America

REPRESENTATIVE EXPERIENCE

- **Subsurface Investigation, Soil Management and Regulatory Closure, Worcester, Massachusetts.** LFR was retained by a private developer for the proposed construction of a retail pharmacy on a property formerly occupied by a truck fueling terminal and lumber yard. Mr. Lindsay oversaw the completion of an ASTM Phase I Environmental Site Assessment and Phase II Subsurface Investigation to investigate potential impacts from former gasoline and diesel fuel aboveground and underground storage tanks. A total of 35 soil borings and 6 monitoring wells were completed to evaluate the nature and extent of soil and groundwater contamination. Based on the results of the sampling data, Mr. Lindsay coordinated the removal of 50 cubic yards of petroleum-contaminated soil for off-site recycling. Results of a site-specific risk characterization concluded that a condition of no significant risk existed. Mr.

Lindsay prepared a Class A-2 Response Action Outcome (RAO) in closure report accordance with the MCP.

- **Construction Management, Soil Disposal Coordination and Tank Removal Activities, Kuss Middle School, Fall River, Massachusetts.** LFR was retained by an earthwork contractor to provide construction management activities and soil disposal coordination during excavation activities associated with the construction of a new middle school building. The property was formerly occupied by textile mill buildings and previous soil sampling results identified contaminated urban fill material which required off-site disposal. During soil excavation activities a 1,000-gallon abandoned underground storage tank was discovered. Mr. Lindsay supervised the removal of the tank, arranged for disposal of the tank and associated soil, and prepared a tank closure report in accordance with tank closure guidance and the Massachusetts Contingency Plan. Mr. Lindsay characterized and coordinated the removal of 1,570 tons of urban fill soils to a Massachusetts Unlined Landfill and a soil recycling facility.
- **MCP and US EPA TSCA Site Closure, Hingham Shipyard – East Side Fill Area, Hingham, Massachusetts.** At the request of a private developer, LFR was retained to delineate and remove PCB-contaminated soil from an area proposed for future residential development. Following the submittal of a US EPA-approved Self-Implementing Plan and a MassDEP-approved Release Abatement Measure (RAM) Plan, Mr. Lindsay oversaw a soil precharacterization program designed to select off-site disposal facilities for the PCB soil. Confirmatory soil samples were collected from test pits at 10-foot sampling frequencies to delineate areas of PCBs containing either greater than or less than 50 mg/kg. Discrete soil samples were collected and analyzed for PCBs in the field with a US EPA-conditionally accepted Dexsil L2000 DX screening instrument. In addition, two overburden and two bedrock groundwater monitoring wells were installed and sampled to assess groundwater conditions. Following the removal of 6,910.13 tons of greater than 50 mg/kg PCB soils and 8,240.47 tons of non-hazardous PCB soil, a site-specific risk assessment concluded that remaining PCB concentrations in soil were below the most-stringent residential cleanup criteria. Mr. Lindsay prepared a Completion of Self-Implementing Plan report and a RAM Completion and Class A-2 RAO report.
- **Precharacterization Program, Readville 5 MBTA Yard, Dedham, Massachusetts.** LFR was retained by a developer interested in constructing residential properties on a former 40-acre rail yard. Mr. Lindsay assisted in the development of a soil precharacterization sampling plan in accordance with MassDEP protocol. Mr. Lindsay supervised a total of 250 test pits in GPS-surveyed locations over a two-week period. As part of the management plan, 900 soil samples were field screened in-situ for RCRA 5 metals with an XRF instrument. The depth of fill material was determined at each location and concentrations of arsenic and lead were presented through 3-D visualization software to the client. Construction management and soil remediation alternatives have been presented at public meetings and will be implemented following public and MassDEP comment.
- **Precharacterization Program, JFK School, Waltham, Massachusetts.** Prior to overseeing field activities, Mr. Lindsay prepared a Soil Management Plan, Construction Materials Management Plan, and a worker Health & Safety Plan for construction activities. Following numerous meetings with the client, Mr. Lindsay identified and selected areas to be sampled as part of a large-scale soil characterization program involved with the redevelopment of the JFK Middle School. A total of 25 test pits were excavated in areas proposed for excavation for foundations and subsurface utilities. Soil quantities were calculated and determined to be

either regulated or unregulated materials. In order to meet stringent project deadlines, facility approvals were expedited and materials transported off-site were managed and documented. A total of 4,500 cubic yards of soil was transported to unlined landfills.

- **Underground Storage Tank Closures and Immediate Response Action, Charlestown, Massachusetts.** Prior assessments performed by LFR had identified the potential for historic USTs at a former rubber manufacturing facility. Since the facility was proposed for residential development, Mr. Lindsay supervised the completion of a supplemental subsurface investigation. Following the identification of two 'benzol' USTs through a GPR survey, a closure strategy was implemented to meet client and MassDEP expedited deadlines. Following MassDEP approvals, an immediate response action was undertaken in response to petroleum contamination in the vicinity of the USTs. Mr. Lindsay oversaw the removal and disposal of the USTs and contaminated soil and groundwater in accordance with the MCP. Mr. Lindsay prepared a response action outcome closure report for site closure in accordance with the MCP.
- **Precharacterization Programs, Logan International Airport, East Boston, Massachusetts.** Mr. Lindsay oversaw four separate soil and groundwater precharacterization programs associated with the redevelopment of the Terminal A area. Activities included supervising the advancement of 80 soil borings and test pits, the installation of monitoring wells, and the collection of 200 soil and groundwater samples. Laboratory analysis results were utilized to characterize the soils and select the most appropriate, cost-effective disposal facilities for the soils. Mr. Lindsay was also responsible for managing field staff and prepared comprehensive reports documenting the findings of the investigations. A total of 270,000 tons of soil was characterized, removed, and transported to 23 Massport and MassDEP-approved facilities. Detailed coordination with the client, subcontractors, and state officials was necessary to complete the project in an organized and timely manner. Additional responsibilities included spill management, health and safety oversight, air sampling, and the operation of temporary groundwater treatment systems for isolated jet-A fuel-impacted areas.
- **Soil Disposal Management/Subcontractor Coordination, Former Mystic Station Power Generating Facility, Everett, Massachusetts.** A total of 60,000 tons of No. 6 oil-contaminated soil and 30,000 tons of urban fill material was excavated and removed from the facility throughout the project's demolition phase. Activities included coordination with seven asphalt batching facilities, two landfills, and several transportation companies. Mr. Lindsay also assisted in the pre-characterization of excavated soil to determine proper off-site disposal alternatives. Continuous management of soil volumes and contractor invoices was necessary to expedite the soil removal process and reduce delays to the project.
- **Tidal Study, Former Mystic Station Power Generating Facility, Everett, Massachusetts.** Mr. Lindsay completed a study involving the effect of tidal fluctuation on groundwater elevation in the vicinity of a large soil excavation and two one-million-gallon bulk fuel oil tanks. The tidal data and its effect on groundwater elevation were used to assess the stability of the supporting matrix beneath the bulk oil tanks. The data assisted in the determination of the type of engineering needed to protect the structural integrity of the fuel oil tanks during planned soil excavation located adjacent to the tanks. By including the tidal fluctuation data, excavation in the immediate vicinity of the tanks was conducted without jeopardizing the tanks or causing delays to the project.

- **Multiphase Investigation, Stoughton, Massachusetts.** In order to bring the property into compliance with the MassDEP, Mr. Lindsay completed an MCP Phase I and Tier Classification to address eight areas of concern. Each area of concern was associated with a release of petroleum compounds and lead from the former use of the Site as an asphalt batching facility. Existing soil and groundwater analysis data, soil removal quantities, and previous RAM Plans completed by others were used to delineate the existing areas of contamination and propose remedial alternatives. The primary sources of subsurface impacts were attributed to asphalt fill material, liquid asphalt tanks, buried drums, and a dry well. The property was classified as a Tier II disposal site and response actions were completed under a new RAM Plan which included oxygenate injections, petroleum-contaminated soil removal, and natural attenuation monitoring. A partial RAO closure report was prepared for seven of the eight areas of concern and natural attenuation monitoring of one area is ongoing.
- **PCB Release Abatement, Former Edgar Station, Weymouth, Massachusetts.** Mr. Lindsay delineated the extent and distribution of high concentrations of PCBs impacted soil and groundwater beneath several former transformers at the facility. In accordance with US EPA TSCA regulations, activities included on-site, quantitative PCB field screening of soil, groundwater, and surface wipe samples, supervision of soil excavation, and management of soil transportation to select soil disposal facilities. Several thousand tons of PCB-impacted soil was removed, risk to on-site workers was eliminated, and future project demolition milestones were completed on schedule.
- **Multiphase Investigation and Remedial Operation Status, Sharon, Massachusetts.** Mr. Lindsay conducted a Phase I and a Phase II Comprehensive Site Assessment at a former manufacturing facility. Activities included the calculation of groundwater flow and determining the extent and distribution of chlorinated solvents in groundwater. Mr. Lindsay assisted in source area location, fate and transport – mass flux calculations, and risk assessment. As part of a Phase III study, remedial alternatives were proposed to comply with stringent drinking water standards applicable to the property. Because natural attenuation and monitoring were determined to be the most cost-effective alternatives, a Phase IV Remedy Implementation Plan and Phase V Remedial Operation Status were prepared and submitted to the MassDEP. Semi-annual groundwater monitoring and status reports are generated for client and MassDEP review.
- **Multiphase Investigation, Stoughton, Massachusetts.** Mr. Lindsay completed a Phase I Site Assessment at a former trucking facility. Activities included the review of prior U.S. Environmental Protection Agency (U.S. EPA) CERCLA investigations, identification of an underground storage tank, and completion of a Tier Classification for the property. A Phase II Comprehensive Site Assessment completed by Mr. Lindsay included the installation of several soil borings and monitoring wells and removal of an underground storage tank and impacted soil in order to delineate subsurface impacts. A Method 3 risk characterization was completed utilizing all existing site data and an RAO closure report was completed.
- **RAOs and Activity and Use Limitations (AULs), Cambridge, Massachusetts.** Several subsurface investigations designed to delineate the extent of urban fill material were supervised by Mr. Lindsay on six parcels of industrial land in Cambridge. At each parcel, site-specific risk characterizations followed by the preparation of separate Activity and Use Limitations restrictive of current and future site uses were completed in order to effectively 'close' the parcels under the MCP.

- **Phase I and Phase II Environmental Investigations, Mesa, Arizona.** Mr. Lindsay completed Phase I and Phase II environmental investigations at a dry cleaning facility and oversaw several Geoprobe borings. Based on soil sampling results, a risk characterization was conducted in order to bring the property into compliance with State of Arizona regulations.
- **Corrective Action Plan and Underground Storage Tank Removal, Alexandria, Virginia.** Mr. Lindsay monitored and maintained a groundwater petroleum extraction system for two years at an active trucking facility. After supervising the dismantling of the groundwater extraction system, over 900 tons of petroleum-contaminated soil was removed and the property was closed in accordance with Virginia regulations.

REGISTRATIONS/CERTIFICATIONS

Professional Geologist, New Hampshire, No. 590

Massachusetts Asbestos Inspector Training

Hazardous Materials Transportation Training and Testing – US DOT

OSHA HazWOPER and Emergency Response Training – 40-hour and Annual 8-hour Refreshers

Niton X-Ray Fluorescent Analyzer (XRF) Certified

PROFESSIONAL HISTORY

LFR, Inc., Senior Project Geologist, April 1999 to present

Ransom Environmental Consultants, Inc., Project Geologist, July 1995 to April 1999