Resource Conservation and Recovery Act Facility Investigation Phase II Report

Volume I of III

General Motors Corporation
NAO Flint Operations Site
ID #MID 005 356 712
Flint, Michigan

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Acronyms

ACGIH	American Conference of Governmental and Industrial Hygienists
ADD	average daily dose
AOI	area of interest
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
ATEC	American Testing and Engineering Corporation Associates
AWQC	ambient water quality criteria
BAF	bioaccumulation factors
BBL	Blasland, Bouck & Lee, Inc.
BCa	Bias-corrected and Accelerated
BEHP	bis(2-ethylhexyl)phthalate
bgs	below ground surface
BTEX	benzene, toluene, ethylbenzene, and xylene
CA 750	Migration of Contaminated Groundwater Under Control
cfs	cubic feet per second
cm/sec	centimeter(s) per second
CRA	Conestoga-Rovers & Associates
CoPCs	chemicals of potential concern
CSM	Conceptual Site Model
cy	cubic yard(s)
DOCC	Description of Current Conditions
DNAPL	dense non-aqueous phase liquid
EI	Environmental Indicator
ERA	Ecological Risk Assessment
ESL	ecological screening levels
FE	Flammability and Explosivity Criteria
FOIA	Freedom of Information Act
FSP	Field Sampling Plan
G&M	Geraghty & Miller
GAI	Groundwater Acute Inhalation Criteria
GCC	Groundwater Contact Criteria
GIS	geographic information system
gpm	gallons per minute
GM	General Motors Corporation
GSI	Groundwater/Surface Water Interface Criteria
HASP	Health and Safety Plan
HEAST	Health Effects Assessment Summary Tables
HI	Hazard Index
HQ	Hazard Quotient
HUD	U.S. Department of Housing and Urban Development
IDC	Industrial Direct Contact Criteria
IDW	Industrial Drinking Water Criteria
IGVIA	Industrial Groundwater Volatilization to Indoor Air Inhalation Criteria
IM	interim measure
IPSIC	Industrial Particulate Soil Inhalation Criteria
IRIS	Integrated Risk Information System

ISVIA	Industrial Soil Volatilization to Indoor Air Inhalation Criteria
IVSIC	Industrial Infinite Source Volatile Soil Inhalation Criteria
LADD	lifetime average daily dose
LNAPL	light non-aqueous phase liquid
MDEQ	Michigan Department of Environmental Quality
mg/kg	milligrams per kilogram
MNFI	Michigan Natural Features Inventory
NAAQs	National Ambient Air Quality Standards
NAO	North American Operations
NCEA	National Center for Environmental Assessment
NEDOCC	Northend Description of Current Conditions
NOAEL	no observed adverse effect level
NPDES	National Pollutant Discharge Elimination System
NRC	National Response Center
NREPA	Natural Resources and Environmental Protection Act (1994 PA 451, as amended)
NTU	Nephelometric turbidity unit
OSHA	Occupational Safety and Health Administration
PA	Public Act
PAL	Project Analyte List
PCBs	polychlorinated biphenyls
PCE	Tetrachloroethene
PEL	Permissible Exposure Limit
PID	photoionization detector
ppm	parts per million
PPRTV	provisional peer reviewed toxicity values
QAPP	Quality Assurance Project Plan
RBC	Risk based criteria
RCRA	Resource Conservation and Recovery Act
RDW	Residential Drinking Water Criteria
RfC	chronic inhalation reference concentrations
RfD	USEPA-derived chronic reference doses
SRfD	USEPA-derived subchronic reference doses
RFI	RCRA Facility Investigation
RME	Reasonable Maximum Exposure
SDG	sample delivery group
SEDOCC	Southend Description of Current Conditions
SF	slope factor
SOCDS	State of the Cities Data Systems
SVOC	semi-volatile organic compound
SMDP	scientific management decision point
TAL	Target Analyte List
TCE	Trichloroethylene
TCL	Target Compound List
TLV	Threshold Limit Value
TPH	total petroleum hydrocarbons
UCL	Upper Confidence Limit
ug/L	micrograms per liter
URF	Unit Risk Factor
USEPA	United States Environmental Protection Agency

USFWS	United States Fish and Wildlife Service
UST	underground storage tank
VOC	volatile organic compound
1,2-DCE	1,2 Dichloroethene

1. Introduction

1.1 General

This *Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Phase II Report* (Phase II Report) presents a summary of RFI activities completed by the General Motors Corporation (GM) for the North American Operations (NAO) Flint Operations Site in Flint, Michigan (the Site). This report supersedes a report of the same title dated March 16, 2004, which was submitted to the United States Environmental Protection Agency (USEPA) on March 30, 2004 to fulfill (in part) conditions set forth under Section VI.1.b of the RCRA Section 3008(h) Administrative Order on Consent (AOC) R8H-5-00-02, effective March 2, 2000 (modified November 8, 2001) for the Site (ID #MID 005 356 712). The March 30, 2004 Report was specifically submitted to fulfill the task of completing a RFI Phase II Report (Complete Investigation of Nature and Extent of Releases and Risk Assessment).

This RFI Phase II Report has been updated to include additional data generated following the March 16, 2004 RFI Phase II Report, through the submittal to USEPA of GM's Migration of Contaminated Groundwater Environmental Indicator (EI) Report (CA 750) on September 23, 2005. This report also addresses USEPA's comments on the March 16, 2004 RFI Phase II Report, contained in the following correspondence:

- USEPA letter received by GM on September 2, 2004; and
- USEPA letter received by GM on February 1, 2005.

These comments were resolved primarily per the following:

- GM letter dated November 19, 2004, that provided responses to USEPA's September 2004 comments;
- GM/USEPA project coordination meeting in Chicago on February 17, 2005 (Minutes dated March 8, 2005);
- GM/USEPA project coordination meeting in Chicago on March 23, 2005 (Minutes dated April 13, 2005); and
- GM/USEPA project coordination meeting in Chicago on September 15, 2005 (Minutes dated September 20, 2005).

RFI Phase II activities were conducted in accordance with the *RCRA Facility Investigation Work Plan* (RFI Work Plan) prepared by Blasland, Bouck & Lee, Inc. (BBL) and submitted to the United States Environmental Protection Agency on May 30, 2001. Supplemental activities, prompted by encountered field conditions, were discussed during biweekly conference calls and quarterly coordination meetings between GM and USEPA. Summaries of each of these discussions are presented in minutes, memoranda, and quarterly progress reports submitted to the USEPA and the Michigan Department of Environmental Quality (MDEQ).

This RFI Phase II Report presents a summary of the procedures, methods, and results of the field investigations conducted between March 9, 2002 and September 23, 2005. The information includes a comparison of the RFI analytical data to generic MDEQ risk-based screening criteria to identify whether a potential release of hazardous waste or hazardous constituents has occurred from each Area of Interest (AOI) identified for further investigation in the RFI Work Plan.

Prior Site information has been presented in the following documents:

- Description of Current Conditions for Areas South of Leith Street (BBL, May 30, 2000) (Southend Description of Current Conditions [SEDOCC]);
- Description of Current Conditions for Areas North of Leith Street (BBL, November 26, 2000) (Northend Description of Current Conditions [NEDOCC]); and
- Resource Conservation and Recovery Act Facility Investigation Phase I Report (BBL, June 28, 2002) (the RFI Phase I Report).

These documents serve as the basis for much of this Phase II Report, and are incorporated by reference herein. As needed, information previously presented in the NEDOCC, SEDOCC, and RFI Phase I Report is referenced, restated, or summarized. This Phase II Report supplements the RFI Phase I Report in that the format and much of the information has been updated. Specifically, Section 4 (Investigation Results and Discussion) of the RFI Phase I Report has been updated, and is superseded by the information presented in Section 4 of this Phase II Report. Information from the RFI Phase I Report that has not changed is simply referenced.

1.2 Report Organization

This Phase II Report is organized as follows:

- Section 1 (Introduction) presents the purpose and organization of the Phase II Report.

- Section 2 (RFI Overview) presents a summary of general conditions at the Site, including a Site description, a summary of investigation activities performed during Phase II of the RFI, and an evaluation of potential interim measures (IMs) identified during Phase II of the RFI. Much of this information has not changed from the RFI Phase I Report, and is not repeated in this Phase II Report.

- Section 3 (Environmental Setting) summarizes the environmental setting of the Site, including information on regional land use and demographics, climate, geology, hydrogeology, and hydrology. Much of this information has not changed from the RFI Phase I Report, and is not repeated in this Phase II Report.

- Section 4 (Investigation Results and Discussion) presents a summary and discussion of the RFI Phase II results for each of the AOIs investigated, including areas where IMs may be proposed. The discussion for each area investigated includes a summary of the scope of the field investigations, a summary and initial screening of the RFI Phase II data, and a discussion of whether the nature and extent of screening criteria exceedences have been determined. This section supersedes similar information presented in the corresponding section of the RFI Phase I Report.

- Section 5 (Summary of AOI and Interim Measures Status) summarizes the current status of each AOI at the Site, identifying AOIs where no releases above generic screening criteria were found, AOIs where releases will likely be evaluated during risk assessment activities, and AOIs for which remedial actions will be evaluated. In addition, this section identifies AOIs that require additional investigation to assess the extent of screening criteria exceedences.

- Section 6 (Human Health Risk Evaluation), prepared by ENVIRON, integrates the results of the data evaluation, exposure assessment, and toxicity assessment to evaluate the potential risks associated with exposure to constituents at the Site.

- Section 7 (Ecological Risk Evaluation) has been prepared by Exponent, and presents a conservative evaluation of potential ecological risks associated with the Site.

- Section 8 presents Conclusions.

- Section 9 presents a list of references used in the preparation of this report.

- Tables cited in the text of the report are found at the end of the text. Figures cited in the text of the report are bound separately.

- Appendix A presents geologic boring logs and monitoring well logs for soil borings advanced and monitoring wells installed during the Phase II RFI (March 10, 2002 to September 23, 2005).

- Appendix B presents a summary of analytical data for soil samples collected during the Phase II RFI (March 10, 2002 to September 23, 2005).

- Appendix C presents a summary of analytical data for groundwater samples collected during the Phase II RFI (March 10, 2002 to September 23, 2005).

- Appendix D presents a summary of analytical data for LNAPL samples collected during the Phase II RFI (March 10, 2002 to September 23, 2005).

- Appendix E contains summaries of the results of data review and data validation for all samples collected and submitted for laboratory analyses during the Phase II RFI. The complete data deliverables provided by SGC Environmental Services, Inc. (formerly CT&E Environmental Services, Inc.) of Lundington, Michigan and Merit Laboratories, Inc. of East Lansing, Michigan, for all RFI samples are stored in BBL's project files and are available upon request.

- Appendix F presents a discussion of the transport and fate of PCBs in storm sewers.

- Appendix G includes calculations supporting the Human Health Evaluation provided by ENVIRON.

- Appendix H includes Ecological Risk Evaluation supporting information provided by Exponent.

- Appendix I presents data collected during investigations of the Site storm sewer systems.

- Appendix J presents the results of air sampling and analysis performed by GM within select areas of Factory 36 and Factory 81.

2. RFI Overview

2.1 Site Description and History

The Site is centered near 902 East Leith Street in Flint, Michigan, in Genesee County (see Figures 2-1, 2-2, and 2-3) and encompasses approximately 452 acres of land. It is generally bounded to the north by Stewart Avenue and Pierson Road, to the south by Harriet Street, to the east by James P. Cole Boulevard and CSX Railroad, and to the west by Industrial Avenue and North Street. Current operations are all conducted in the portion of the property located north of Leith Street that is referred to as the Northend. Building demolition activities are completed in the portion of the property located south of Leith Street that is referred to as the Southend, and in progress in portions of the Northend.

Additional Site description and history information can be found in Section 2 of the RFI Phase I Report.

2.2 Pre-RFI Investigations

Numerous historical investigations were performed at the Site over the years on behalf of GM by various environmental consultants. Several of these investigations involved the assessment of potential soil and groundwater impacts either within various regions of the Site or along its perimeter, while the remaining investigations involved more focused assessments of specific areas where constituents of interest were identified as being potentially released to the environment. Information concerning the pre-RFI activities is summarized in Section 2.2 of the RFI Phase I Report.

2.3 RFI Phase II Activities

During Phase II of the RFI (generally from March 10, 2002 through September 23, 2005), 83 soil borings were advanced and 127 monitoring wells were installed, of which 34 were installed as replacements for wells damaged or destroyed during demolition activities at the Site. These additional soil borings and wells were completed to further delineate the extent of potential releases of hazardous constituents above generic screening criteria at each AOI identified for further investigation during Phase I of the RFI. Tables 2-1 and 2-2 provide comprehensive summaries of the soil borings and monitoring wells installed during Phase I and Phase II of the RFI. Soil boring and monitoring well installation logs for the Phase II investigation program are included in Appendix A.

2.3.1 GIS Database and Site Survey

Data collected during Phase II of the RFI were incorporated into the geographic information system (GIS) database for the Site. Survey data for soil borings and monitoring wells were updated in the GIS database and are shown in Tables 2-1 and 2-3, respectively. More information regarding the development of the GIS is presented in Section 2.3 of the RFI Phase I Report.

2.3.2 RFI Phase II Sampling and Analysis Program

The RFI Phase II sampling program was designed to characterize the presence, nature, and extent of hazardous constituents in soil and groundwater at the Site related to potential releases from the AOIs, beyond that already performed as part of the RFI Phase I activities. Summaries of the soil, water, and light nonaqueous phase liquid (LNAPL) samples collected during the RFI Phase II are included in Tables 2-4, 2-5, and 2-6. Additional data to assess the physical subsurface environment were also collected as part of the Phase II RFI. To identify data gaps and to evaluate the potential migration pathways at the Site, all RFI data were compared with generic screening criteria, as described in Section 4.1.

Protocols for the completion of sampling and analysis activities were presented in the *Field Sampling Plan/Quality Assurance Project Plan* (FSP/QAPP) provided as Appendix C of the RFI Work Plan and in the *Health and Safety Plan* (HASP) provided as Appendix E of the RFI Work Plan.

2.3.2.1 Boring/Well/Piezometer Installation and Sample Collection

Overall, the RFI Work Plan proposed the completion of one or more of the following for each AOI:

- *Soil Borings* – proposed at locations where only soil analytical data were needed. Groundwater quality data were generally available at nearby locations;
- *Surface Soil Samples* – proposed to characterize soils within the 0- to 2-foot depth interval within unpaved areas for purposes of human health risk evaluation;
- *Soil Borings with Grab Groundwater Sample Collection* – proposed at locations where analytical data were needed for soil and groundwater (screening quality), but groundwater elevation data were not needed;
- *Soil Borings/Possible Monitoring Wells* – proposed at locations where LNAPL delineation was needed and wells may have been installed depending on observed subsurface conditions;
- *Monitoring Wells* – proposed at locations where both groundwater quality and groundwater elevation data were needed, in addition to soil data; and
- *Piezometers* – proposed at locations where only groundwater elevation data were needed.

2.3.2.2 Soil Sample Collection

Visual Sample Characterization

At each drilling location, soil samples were collected continuously in 2-foot sections for visual classification and were screened with a photoionization detector (PID). At locations where potential LNAPL presence was of concern, shake tests were completed on samples collected near the water table and at other depth intervals chosen based on PID readings and visual observations.

Analytical Sample Collection

Up to four soil samples were collected for laboratory analysis at each of the boring locations (i.e., monitoring well locations, soil boring locations, and soil boring/grab groundwater sample collection locations) in accordance with the following conventions:

- One soil sample was collected at each location from the ground surface (or immediately beneath pavement) to a depth of 2 feet (e.g., 6- to 24-inch-depth sample below 6 inches of pavement).

- One soil sample was collected from the 8- to 10-foot depth increment (for purposes of human health risk evaluation), provided that this soil interval was not saturated.

- One soil sample was collected from the 2-foot depth increment immediately above the water table (top of the saturated zone).

- One other soil sample may have been collected based on high PID readings (greater than 10 parts per million [ppm]) or visual/olfactory evidence of contamination.

In addition, in some areas soil sampling was completed to target a specific depth interval(s) at "step-out" locations to evaluate the distribution of detected constituents.

Soil samples were analyzed for analytes listed in Table 2 of the FSP/QAPP. These analytes include Target Compound List (TCL) volatile organic compounds (VOCs), TCL semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), a subset of the inorganic constituents present on the Target Analyte List (TAL) (inorganics), and several additional constituents previously detected at the Site that could impact human health. These constituents comprise the Project Analyte List (PAL) presented in Table 2 of the FSP/QAPP and are hereinafter referred to as the PAL constituents.

2.3.2.3 Groundwater Elevation Measurement and Groundwater Sample Collection

Three rounds of groundwater elevation measurements (June 2002, March 2003, and December 2004) were taken Site-wide during Phase II of the RFI to develop current groundwater elevation contour maps. In July- August 2005, groundwater elevation contour maps for four areas (AOI 09, AOI 10, AOI 36, and AOI 84) were updated to support the Environmental Indicators (EI) CA 750 (ENVIRON 2005).

Groundwater elevation measurements were made to the nearest 0.01 feet during as short a duration as possible (generally within a 24-hour period), avoiding periods of rainfall that could change groundwater elevations within a measurement round.

Multiple groundwater sampling events were performed at selected AOIs between 2002 and 2005 at permanent monitoring wells using a peristaltic pump and following low-flow groundwater sampling procedures. At the sampling locations with sufficient yield, specific-capacity testing was also completed during well purging, prior to sample collection.

Groundwater samples were analyzed for PAL constituents, including VOCs, SVOCs, PCBs (total and dissolved), and inorganics (total and dissolved). Note that at some locations where the presence or extent of specific analytes was being investigated, analyses were completed for a portion of the PAL constituents list only.

2.3.2.4 LNAPL Delineation and Sample Collection

LNAPL is present at a number of locations at the Site, and one of the RFI objectives is to define the extent of LNAPL. Flexibility was built into the RFI Work Plan to allow the drilling program to be modified as needed in the field to define LNAPL extent. Observations were made at all Site boring locations to determine if LNAPL was likely to be present. Based on the presence or absence of LNAPL indicators, a decision was made as to the need for a monitoring well at that location. Monitoring wells were installed if needed to:

- Differentiate between two distinct LNAPL types or sources in an area where LNAPL may be commingled;
- Monitor LNAPL thickness to evaluate LNAPL distribution or to monitor the progress of IMs; or
- Verify if LNAPL is present in sufficient quantity to accumulate in a well.

If LNAPL was identified at a boring location, and a monitoring well was not needed based on the above evaluation, the boring was abandoned, and supplemental boring(s) were completed as needed to define LNAPL extent.

An LNAPL sample was collected and analyzed for PAL constituents and physical characteristics if previous data were not available for a particular LNAPL area.

2.4 Interim Measures

As a result of the RFI and previous investigations, LNAPL has been identified beneath various areas of the Site. Although these LNAPL plumes have been demonstrated to be relatively stable, based on several years of routine monitoring, GM has initiated the evaluation of the need for remedial measures at these areas, and has undertaken actions to collect LNAPL in accordance with regulatory requirements. These activities include the installation of LNAPL recovery systems, and in select areas the collection of LNAPL from select individual wells.

Sections 2.4 and 5.4 of the RFI Phase I Report provide a summary of the status of Site-related IMs through the end of June 2002. This information included the following:

- IMs taken out of service;
- IMs currently in service;
- IMs under design; and
- Areas under investigation for which IMs would potentially be warranted.

Based on the additional information gathered since June 2002, covered by this Phase II Report, GM has advanced the design and construction of certain IMs, as well as the assessment of IM needs involving the other various areas under consideration. An update of this information is presented in Section 5.3 of this Phase II Report. Also, LNAPL Monitoring Reports summarizing current information have been submitted to the USEPA and MDEQ periodically since 2003. Wells exhibiting measurable amounts of free product have been monitored on a relatively frequent basis (weekly, bi-weekly, or monthly) in areas across the Site where LNAPL has been identified. Where present at a thickness greater than 0.3 feet, LNAPL has been removed by bailing. This monitoring and removal program was initiated to satisfy both the MDEQ requirement for active source removal, requirements of the AOC, and to complete the Migration of Contaminated Groundwater under Control (CA 750) EI evaluation. In each of the areas with measurable amounts of LNAPL, wells have been identified as

LNAPL wells (wells with historically measurable LNAPL accumulations) and sentinel wells (wells located along the perimeter of each LNAPL plume).

The LNAPL monitoring program was revised, in February 2003 and following the first quarter LNAPL monitoring in March 2003, to reflect current LNAPL levels in Site wells. For example, some wells previously in the monitoring program did not produce sufficient amounts of LNAPL to justify regular bailing. Also, reduction of the LNAPL monitoring frequency was considered appropriate because of soon-to-be-operational IM product recovery systems at Factory 36 and Factory 10, and the improvements to the IM at Factory 05 will provide a more efficient method of LNAPL removal than well bailing.

Additionally, per the MDEQ Natural Resources and Environmental Protection Act (NREPA) of 1994, Public Act (PA) 451, Part 213 (Part 213) underground storage tank (UST) requirements, wells RFI-16-08, RFI-16-10, 20-502, 20-503, 37-RW-North, 37-RW-South, and 31-7 are being monitored either weekly (16-08, RFI-16-10, 20-502, and 20-503) or biweekly (37-RW-North, 37-RW-South, and 31-7) and, if present, product is bailed from these wells.

Figures 2-4 and 2-5 show the locations of IMs (former and current) at the Site. Through 2003, the LNAPL program employed the following monitoring frequency protocol:

- Quarterly monitoring for LNAPL of wells located in areas with active, or anticipated, IMs. These areas included: Factory 05, Building 43 (current IM); Former Tank Farm 37 (current IM); Factory 10 Groundwater Recovery (current IM); Factory 81 (current IM); Building 87/Leith Street Overpass (current IM); Factory 36 – Southeast; Factory 10 Scrapyard; and Factory 05 Recovery Trenches.

- Monthly monitoring for LNAPL of wells located in areas not addressed by active IMs. These areas included: Building 12 Area; Factory 83/84 Area; and the Former Hamilton Avenue Tank Farm.

- Monitoring of wells currently included in the program to comply with MDEQ Part 213 UST requirements (wells RFI-16-08, RFI-16-10, 20-502, 20-503, 37-RW-North, 37-RW-South, and 31-7) on a weekly or biweekly basis, as listed above.

Following 2003, the LNAPL monitoring program was modified in response to observed Site conditions. Modifications included a reduction in the monitoring frequency to a semi-annual schedule, and a reduction in the LNAPL removal frequency to an annual schedule. Table 2-7 presents a summary of data collected during the LNAPL monitoring activities.

Additionally, since June 2002, GM has conducted a storm sewer study in parallel with the RFI activities to assess potential infiltration of LNAPL and groundwater into the Site storm sewer system and to determine potential sources of LNAPL sheens to the Flint River. Figures 2-4 and 2-5 present the locations of the storm sewers. A summary of this study and resulting information is presented in Section 4.7. Section 5.3 provides an overview of mitigation measures planned as result of the study.

3. Environmental Setting

Much of the information regarding the environmental setting (e.g., topography, climate, hydrology, geology, hydrogeology, surface water drainage) of the Site has not changed from what is presented in Section 3 of the RFI Phase I Report. This section only describes those portions of the environmental setting that have been modified or expanded upon, based on data obtained during Phase II of the RFI, including building demolition, Site-specific hydrogeology, groundwater use, land use and demographics.

3.1 Building Demolition

Several buildings, building complexes, and associated structures have been demolished while the RFI has been performed, including three located on the Northend (Buildings 07, the Building 30/30B/30E complex, and the Building 85 complex) (see Figure 2-2) and seventeen located on the Southend (Buildings 01, 02, 03, 04, 08, 09, 10, 12, 16, 17/17A, 23, 28, 29, 40, 44, 84/84B and 94/94A) (see Figure 2-3). Nine additional Northend buildings are currently idled, including Buildings 11, 15, 32, 38, 61/61A, 65, 66/66A/66C/66D, 83/83A, 85 and 97.

3.2 Site-Specific Hydrogeology

As described in the RFI Phase I Report, the hydrogeology of the Site is characterized by a shallow groundwater zone with depth to the water table typically ranging from approximately 6 to 16 feet below ground surface (bgs). Site monitoring wells have been installed within shallow overburden deposits consisting of fill, silty sand, silt, and clay.

Hydraulic conductivity values measured at shallow monitoring wells installed during the RFI in the sandy fill materials and silty sand soil units ranged from approximately 1.3×10^{-2} centimeters per second (cm/sec) to 3.3×10^{-4} cm/sec, based on specific-capacity tests (Table 3-1). Hydraulic conductivity values measured at shallow monitoring wells installed within silt and clay ranged from approximately 3.1×10^{-5} cm/sec to 3.1×10^{-6} cm/sec.

The underlying glacial till unit, at a depth of approximately 5 to 30 feet, has been characterized as an aquitard based on the unit's low hydraulic conductivity and low yield. Based on the analysis of a Shelby tube sample by a geotechnical laboratory, the vertical hydraulic conductivity of this unit is approximately 7.9×10^{-8} cm/sec.

Sitewide groundwater elevations measured in June 2002, March 2003, and December 2004 (Table 3-2) were used to prepare Sitewide groundwater elevation contour maps (Figures 3-1, 3-2, 3-3 and 3-4) and to determine the direction of groundwater flow. Additional, detailed groundwater elevation contours for several areas are shown on Figures 4-4, 4-6, 4-18, and 4-24, representing conditions in July and August 2005. The additional groundwater elevation data were collected in these areas to support the CA 750.

Generally, groundwater flow directions for these dates are similar to those observed previously, with groundwater generally flowing toward the Flint River. In the northernmost portion of the Site (Building 38 and Factory 36 areas), groundwater flows to the north-northeast. A groundwater ridge, or divide, is present in the vicinity of Stewart Avenue. Groundwater to the south of this divide appears to have an east to southeast flow component. Groundwater flows to the east and southeast in the central portion of the Site (Factory 43, Building 20 areas). In the south central and southern portions of the Site, the direction of groundwater flow is primarily

to the east-southeast. Localized fluctuations in the direction of groundwater flow patterns are observed near subsurface structures (e.g., basements) and utilities that intercept shallow groundwater. Such influences can be observed near Buildings 30 and 70 on the north side and near the former Building 09 area on the south side (shown on Figure 4-24) of the Site due to a storm sewer. Other manmade features that affect the direction of groundwater are the Leith Street Overpass and the recovery well system operating in the Building 20 Area. Groundwater flow gradients across the Site typically range from 0.01 to 0.02; however, as illustrated on Figures 3-1 and 3-2, much steeper gradients are present in localized areas of the Site due to the presence of the manmade features discussed above.

Groundwater elevations in several areas of the Site increased between 2001 and 2005. Some of this rise is likely in response to building demolition and the potential change in storm water management resulting from building demolition. Additional reasons for the rise in groundwater levels may be attributed to the removal of basement sumps and dewatering systems and subsequent recharge through former basement structures. For example, water levels measured within the Building 12 Area have risen as much as 4 to 7 feet since Building 12 was razed. Due to the rise in groundwater levels, several well screens no longer straddle the water table, as installed. Additional water table monitoring wells were installed in select demolition areas of the Site to enable continued monitoring of LNAPL thickness. Figures 2-2 and 2-3 illustrate both the locations of demolished buildings, and the wells in which measurable thickness of LNAPL has been detected.

3.3 Groundwater Use

The Saginaw Formation of bedrock, which underlies the unconsolidated glacial drift in the area of the Site at depths reported to be 60 to 80 ft bgs, was historically the primary source of groundwater in the Flint area. Several production wells in the formation were previously used for industrial and public water supply. As alternative sources of drinking water became available, these wells were taken out of service due to the poor quality of the groundwater (high hardness and dissolved solids values). There are no known active production wells in the City that use the overburden or bedrock formations as a source of groundwater (Huffman and Whited, 1993).

Currently, the City of Flint Department of Public Works supplies drinking water to the City of Flint, and Flint Township (MDEQ Website, updated October 2003). The City of Flint Department of Public Works purchases potable water from the City of Detroit, which routes water from a Lake Huron intake to the City of Flint (2002 Water Quality Report, Detroit Water and Sewerage Department). In addition, a City of Flint ordinance prohibits the installation of drinking water wells (Ordinance 9, Code of Ordinances, Chapter 46-25).

3.4 Land Use Demographics

As discussed in Section 2.1, the Site occupies approximately 452 acres located on the north side of the City of Flint and currently consists of four active manufacturing complexes (Factories 05, 10, 36, and 81), with the remainder either demolished or idled. Automobile manufacturing operations began at the Site during the early 20th (1903) century and continue today. Current Site operations, all of which occur on the Northend, include machining of ferrous and nonferrous metals, V-6 engine manufacturing, torque converter manufacturing, transmission components manufacturing, engine assembly, and industrial wastewater treatment. It is expected that industrial use of the Site will continue into the future.

The majority of the Site is located within the Flint Renaissance Zone, which is a designation established by the State of Michigan that allows for the creation of tax exempt zones designed to spur commercial and industrial growth in eleven economically distressed Michigan communities.

Current land use patterns near the Site are discussed below, along with trends in the economy, population, and housing in Flint, the City's plans for revitalization, and the implications of these factors for the future land use at the Site. The information discussed below is taken primarily from the following sources:

- U.S. Department of Housing and Urban Development (HUD) State of the Cities Data Systems (SOCDS) database located on the HUD website (www.socds.huduser.org);
- U.S. Bureau of the Census, Census 2000; and
- The City of Flint website (www.cityofflint.com).

3.4.1 Land Use Patterns

Land use in the City of Flint is divided into 15 districts, which include classes of residential, business, commercial and manufacturing uses as established within the City of Flint Zoning Ordinance (Chapter 50). Figure 3-5 illustrates the zoning districts for the Site and the properties near the Site. The Site is composed of several tax parcels most of which are zoned "G" - Heavy Manufacturing District, which is summarized from the City's Zoning Ordinance as:

"The "G" Heavy Manufacturing District is intended to accommodate those heavy industries which cannot eliminate entirely objectionable features and influences but which, nevertheless, must be provided for somewhere in the City."

Site parcels not zoned "G" include the following:

Northend

The strip of land located east of Andrew Street and north of Stewart Street (currently used for employee parking) is zoned "B" – Two-Family District, which is summarized from the City's Zoning Ordinance as:

"This district allows one and two-family homes on 5,000 square foot lots. Multi-family homes, rest homes, hospitals, and customer parking lots are allowed under special conditions."

Three lots located west of Industrial Avenue and north of Leith Street are zoned "C-1" – Multi-Family Walk-up Apartment District, which is summarized from the City's Zoning Ordinance as:

"This district allows one and two-family homes, walk-up apartment, fraternities and children's institutions outright; and offices clinics, customer parking lots and funeral homes under special conditions."

Southend

The parcel located west of Industrial Avenue, north of Hamilton Avenue and south of Oak Park is zoned "C-1" – Multi-Family Walk-up Apartment District (as described above), and "D-2" - Neighborhood Business District, which is summarized from the City's Zoning Ordinance as:

"It is the purpose of this district to provide principally for convenience goods needs of persons residing in nearby residential areas. Uses permitted outright or conditionally shall be limited to those required to satisfy basic needs for goods and services required daily or frequently."

The parcel located west of Industrial Avenue and south of Hamilton Avenue (Administration Building 1 and associated employee parking lot) is zoned "E" – Heavy Commercial Limited Manufacturing District, which is summarized from the City's Zoning Ordinance as:

"The "E" Heavy Commercial Limited Manufacturing District is intended to accommodate heavy commercial and certain light manufacturing uses which are generally incompatible with uses appropriate in retail business districts, but to not warrant an exclusive industrial classification."

The parcel located west of Industrial Avenue and south of Harriet Street is zoned "A-2" – Single Family Medium Density District, which is summarized from the City's Zoning Ordinance as:

"This district allows single-family detached dwellings on minimum 5,000-square-foot lots. This zone also allows institutional uses such as churches and schools; and two-family dwellings and home occupations under special conditions."

Zoning districts for properties near the Site include: residential districts ("A-2", "B" and "C-1"); business/commercial districts ("D-2", "D-3", "D-5" and "D-6") and manufacturing districts ("E", "F" and "G"). Note that no AOIs are located within those areas of the Site that are zoned for residential and business/commercial use. Other properties located adjacent to the Site also zoned "G" - Heavy Manufacturing District include: PPG Industries, Kasle Steel/Auto Blankers, Universal Systems, Flint Coatings, Flint Police Training Building, Consolidated Freightways, Lockhart Chemicals and the former DuPont Plant, as identified on the Site Plan (Figures 2-2 and 2-3).

3.4.2 Flint Demographics

The City of Flint's economy has historically centered on manufacturing, which peaked during the late 1960's and early 1970's. From 1980 to 1990 (the 1970 census was deemed unreliable by HUD), the percent of jobs in Flint in the manufacturing sector dropped from 52% to 43% based on information summarized in the SOCDS database located on the HUD website. In 1990, the three largest job categories in Flint were the manufacturing industry (employed 43% of working residents), professional services industry (employed 22% of working residents) and the retail trade industry (employed 12% of working residents). Although the manufacturing sector has declined, manufacturing continues to employ the majority of working residents in Flint.

Population has decreased in the City of Flint from approximately 197,000 in 1960 to 125,000 in 2000, which is a decrease of 37%. The following shows Flint's population trend from 1950 to 2000 (HUD, SOCDS).

Year	Population	Change	Percent Change
1950	163,143	0	0
1960	196,940	33,797	17%
1970	193,380	3,560	-2%
1980	159,611	33,769	-17%
1990	140,761	18,850	-12%
2000	124,943	15,818	-11%

Projections for Flint's population from 2000 to 2007 do not anticipate an increase.

The decrease in population resulted in a corresponding decrease in demand for housing in Flint. In 2000, there were approximately 55,310 housing units in Flint, of which 28,679 were owner-occupied (HUD, SOCDS). From 1970 to 2000, the number of owner-occupied residences decreased by approximately 13,500 units, while the number of rentals increased by approximately 1,300 units. Of the 55,310 housing units available in 2000, approximately 12%, or 6,560 units were vacant, which is more than double the vacancy rate in 1970 (HUD, SOCDS).

Of the housing units identified in the 2000 census, only 2% were constructed between 1990 and 2000, and only an additional 11% of the units were constructed between 1970 and 1990. Approximately 18% of the housing units are 30 to 39 years old, with 69% of the units 40 years or older (U.S. Bureau of the Census, Census 2000). Despite the slow rate of housing construction, and the current zoning (most of the Southend is zoned for heavy manufacturing), evaluation of the Southend includes residential and recreational scenarios to allow flexibility for future redevelopment. The results of this evaluation are discussed in Section 6.

4. Investigation Results and Discussion

This section presents a summary of the results of the field investigations completed during the RFI investigation completed through September 23, 2005. Since this section incorporates the results of previous investigations at each of the AOIs at the Site, along with additional information collected since the Phase I Report, prior information presented in the Phase I Report (including many of the conclusions and recommendations for additional investigations) has been superseded. This section represents a complete update to the corresponding Section 4 of the RFI Phase I Report.

The format of this Section will generally follow that of the RFI Phase I Report, except that Section 4.2 of the RFI Phase I Report, which discusses the total vs. dissolved inorganics data, is incorporated by reference herein. Discussions of each AOI follow the format of the Phase I Report, describing the scope, results, and conclusions for each AOI. Section 4.1 describes the MDEQ screening criteria used during this investigation. Section 4.2 presents a discussion of Site-specific background screening values for metals in soil. Section 4.3 presents a discussion of overall data quality. Section 4.4 presents the results of investigations of the 36 AOIs north of Leith Street described in the RFI Work Plan. Section 4.5 presents the results of investigations of the 37 AOIs south of Leith Street described in the RFI Work Plan. Section 4.6 presents the results of investigations of five new AOIs not previously described in the RFI Work Plan.

The results of the field investigations completed during the RFI are discussed in the following subsections by operational areas (Northend and Southend). Each subsection includes a description of the AOI, or area investigated, the scope of the field investigation, a summary of the results, and discussion of the results with respect to whether an exceedence of screening criteria has been identified. A more detailed description of each AOI is provided in the Southend DOCC (BBL, 2000a) and the Northend DOCC (BBL, 2000b). Figures 4-1 through 4-28 present all soil sampling locations and groundwater monitoring well locations, as well as specific Site features that include roads, buildings, fences, and railroads. These figures also present the results of analytical data screened against MDEQ criteria as described in Section 4.1. Note that due to the proximity of multiple AOIs, the AOI association of individual data points may not be obvious based on sampling point location. Tables 2-4, 2-5, and 2-6, which present lists of the soil, groundwater, and LNAPL samples collected during the investigation, also identify the AOI associated with each sample. Analytical results for soil, groundwater, and LNAPL samples collected since the RFI Phase I Report are presented in tables included in Appendices B, C, and D, respectively.

4.1 Generic Michigan Department of Environmental Quality (MDEQ) Screening Criteria

The identification of a potentially significant release at an area is based on comparison of the characterization data collected during the RFI with generic risk-based screening criteria. The approach for evaluating the soil and groundwater data is discussed below.

Surface and subsurface soil and groundwater analytical data were compared to Michigan Part 201 generic screening criteria that the MDEQ has developed under the authority of the Natural Resources and Environmental Protection Act (NREPA) (1994 PA 451, as amended). These screening criteria are presented in MDEQ's Part 201 Rules No. 18 (updated December 10, 2004). The specific screening criteria used for soil and groundwater PAL constituents in this investigation are presented in Tables B-2 and C-3 of Appendices B and C, respectively.

Surface and subsurface soil analytical data were compared to the following generic MDEQ criteria:

- Residential Direct Contact (RDC);
- Residential Soil Volatilization to Indoor Air (RSVIA);
- Residential Infinite Source Volatile Soil Inhalation (RISVSIC);
- Residential Particulate Soil Inhalation (RPSIC):
- Industrial Direct Contact (IDC);
- Industrial Soil Volatilization to Indoor Air (ISVIA);
- Industrial Infinite Source Volatile Soil Inhalation (IISVSIC); and
- Industrial Particulate Soil Inhalation (IPSIC).

Groundwater analytical data were compared to the following generic MDEQ criteria:

- Health-Based Residential Drinking Water Criteria (RDW);
- Residential Groundwater Volatilization to Indoor Air (RGVIA):
- Health-Based Industrial Drinking Water Criteria (IDW);
- Industrial Groundwater Volatilization to Indoor Air (IGVIA);
- Groundwater Contact (GCC);
- Groundwater Acute Inhalation (GAI); and
- Flammability and Explosivity (FE).

Constituents with concentrations exceeding any of these generic MDEQ Residential or Industrial criteria are included on the databox figures (Figures 4-1 through 4-28). Constituent concentrations greater than any of these criteria are identified on the databox figure with the parenthetical abbreviations above. During the field investigation, the generic Industrial criteria were used to evaluate the data from each phase of investigation and to guide the development of sampling plans for the next phase. The concentrations that are higher than these generic Industrial criteria are highlighted on the figures and discussed in Sections 4 and 5.

Groundwater samples were collected from temporary monitoring wells during the RFI to determine the need for permanent monitoring wells in certain areas, and to assist in their placement. The combined data set for the permanent and temporary monitoring wells was compared to the MDEQ criteria listed above and the results are discussed in Sections 4.4 through 4.6.

Note that as a conservative approach to screening Site data, groundwater analytical data collected at Site monitoring wells located within 500 feet of the Flint River were also compared to Groundwater/Surface Water Interface (GSI) Criteria. However, it is not believed that the GSI is accurately reflected by wells located this far from the river, and the criteria were used only as a basis to propose additional monitoring wells.

A similarly conservative approach was also followed with respect to application of the generic MDEQ Residential Drinking Water (RDW) Criteria. For screening purposes, all of the groundwater data, regardless of sampling location, were compared to the RDW to make decisions regarding additional sampling requirements.

Analytical results for the water samples collected from basements, tunnels, and sewers were compared to the generic groundwater criteria.

Determination of the extent of releases and the need for further investigative activities at an AOI or offsite area was based on the distribution of contaminant concentrations exceeding the applicable screening criteria. If soil or groundwater analytical results associated with an AOI exceeded the screening criteria, additional

investigations were completed, as necessary, to provide sufficient information to characterize the nature and extent of constituents potentially of concern. The CA750 Report was completed for the Site in September 2005.

4.2 Site-Specific Background Soil Concentrations

Background soil samples were collected during the RFI to characterize naturally occurring levels of metals in soil at the Site. Consistent with the RFI Work Plan, background soil samples were collected from thirteen locations where no manufacturing or management of production materials or wastes was known to have occurred. The locations where the background soil samples were collected are shown in Figures 2-2, 2-3, and 4-1 through 4-28. At each location, one sample was collected from 0 to 2 ft bgs. Deeper samples, to 14 ft bgs, were collected at three locations (RFI-05-09, RFI-36-01, RFI-55-01) but were not included in the background calculation because these depths were not sampled at all locations. The boring logs for these samples are provided in Appendix A and the analytical data are provided in Appendix B.

The concentrations of metals in the samples from the 0- to 2-foot below ground surface (bgs) interval are the most representative of background exposures to metals in soil because soil from this interval is expected to be encountered by the general population more often than deeper soil. The metal concentrations in background soil from this interval are summarized in Table 4-1, which also includes summary statistics describing the concentration distributions.

The upper confidence limits (UCLs) presented on these tables are nonparametric bootstrap UCLs on the mean (Efron and Tibshirani, 1998) calculated from 4,000 bootstrap replications and at a 0.05 level of significance. Nonparametric bootstrap statistical limits are more reliable than parametric statistical limits because, unlike parametric limits, they do not rely on assumptions about distribution shapes that are often difficult to justify. A concentration of a metal lower than or equal to its upper confidence limit is considered to be within background levels; a concentration higher than its upper confidence limit is considered to be higher than background levels.

Table 4-1 summarizes the upper confidence limit calculations for Site-specific background metals. The detected concentrations of manganese (2100 mg/kg) and zinc (720 mg/kg) from location RFI-BG-10 were suspected to be from a different data population and as a conservative measure were excluded from the upper confidence limit calculations. Table 4-2 presents the estimates of cancer risk and hazard quotient that are associated with these background levels for the soil contact exposure scenarios for routine workers, residents, and recreational users discussed in section 6.3. These background levels of risks are not included in the Site-related risk estimates that are discussed in Section 6.

4.3 Data QA/QC Summary

This section presents a summary of the quality assurance/quality control (QA/QC) procedures performed on analytical data collected since the RFI Phase I report.

Data from 101 sample delivery groups (SDGs) for samples from all environmental media collected between March 2002 and September 2005 were reviewed for quality assurance/quality control compliance with method guidelines and project-specific requirements. Each SDG data package received from the laboratories (CT&E, Inc. of Ludington, Michigan and Merit Laboratories, Inc. of East Lansing, Michigan) was reviewed as outlined in the FSP/QAPP. Specifically included in this review was an evaluation of holding times, calibration requirements (initial and continuing), blank contamination, internal standard recovery, surrogate recovery,

matrix spike and duplicate performance, laboratory control sample recovery, field duplicate and analyte identification, as applicable. Data collected from March 2002 to May 2005 were validated by BBL, and data collected after June 2005 were validated by Conestoga-Rovers & Associates of Waterloo, Canada.

Certain data were qualified as estimated and possibly biased high or low due to minor quality control deviations. A small percentage of the data set was qualified as unreliable based on more significant quality control deviations. Completeness, defined as the percentage of measurements that are judged to be valid or usable to meet the prescribed data quality objectives for this analytical data set, was 99.7%. The completeness percentage is greater than the minimum required usability of 90 percent as specified in the FSP/QAPP. Overall, the data that were not qualified as unreliable were found to be acceptable for use as reported by the laboratory. At times, data were qualified as estimated by the data validator. For a complete explanation of qualified sample results based on the data validator's review of each SDG, refer to Appendix E.

4.4 AOIs North of Leith Street

Results of investigations of 37 AOIs north of Leith Street are detailed below.

4.4.1 AOI 38-1 (Process Waste Sumps, Trenches, and Former Hydraulic Car Lifts)

This AOI is located in the northern portion of Building 38 and consists of several process waste sumps, trenches, and former hydraulic car lifts. To assess potential impacts from hydraulic and waste oil handled in these areas, three soil borings and three monitoring wells were installed within this AOI. Two existing monitoring wells (36-101 and 38-120) were also sampled. The locations of these soil borings and monitoring wells are shown on Figures 4-1 and 4-2.

4.4.1.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	6	19	19	19	19	--	--
Groundwater	5	5	5	5	10 + 1 Be, Tl	5	6 + 1 Tl

Duplicate samples are not included in sample totals.

4.4.1.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 38-1 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Thallium	0.0049	IDW (0.002)
Beryllium	0.034	IDW (0.004)
Lead	0.0065	IDW (0.004)

4.4.1.3 Conclusions

The RFI soil data from AOI 38-1 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 38-1 indicate screening criteria were exceeded for thallium, beryllium, and lead. The concentrations of beryllium and lead in the groundwater did not exceed screening criteria during the latest groundwater sampling event (October 2004). Based on these results, the extent of the exceedences in this area has been delineated; therefore, no additional investigation activities are planned.

4.4.2 AOI 36-1 (Engine Manufacturing and Metal Machining Processes)

This AOI is located in the northern and central portions of Building 36 and is associated with engine manufacturing and metal machining processes. To assess the extent of historical releases of hydraulic oils, cooling/cutting oils/fluids, and/or process waste oils, seven soil borings and 35 monitoring wells were installed in association with this AOI. In addition, existing monitoring wells 36-100, 36-120, and 36-121 were sampled. The locations of these soil borings and monitoring wells are shown on Figures 4-3 and 4-4.

4.4.2.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	42	129 + 9 BTEX	102	81	109 + 6 As + 1 Hg	--	--
Groundwater	27	64	15	15	23 + 11 CN/Hg 1 Cr/Mn/V, and 2 As, 1 Ni	15	22 + 2 As
LNAPL	3	4	4	2	2	--	--

Duplicate samples are not included in sample totals.

4.4.2.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Benzene	240	IISVSIC (45) ISVIA (8.4)
Ethylbenzene	680	IDC (140) ISVIA (140)
Toluene	4,100	IDC (250) IISVSIC (3,300) ISVIA (250)
Xylenes (total)	2,480	IDC, ISVIA (150)
Arsenic	39	IDC (37)
Chromium (total)	410	IPSIC (240)
Manganese	6,730	IPSIC (1,500)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
1,1,1-Trichloroethane	0.95	IDW (0.20)
1,1-Dichloroethene	0.12	IDW (0.007)
1,2-Dichloroethane	0.0093	IDW (0.005)
cis-1,2-Dichloroethene	0.15	IDW (0.070)
Trichloroethene	0.099	IDW (0.005)
Benzene	0.36	IDW (0.005)
Vinyl Chloride	0.198	IDW (0.002)
Arsenic	0.14	IDW (0.050)
Beryllium	0.030	IDW (0.004)
Cadmium	0.021	IDW (0.005)
Chromium (total)	0.22	IDW (0.10)
Lead	0.022	IDW (0.004)
Nickel	0.13	IDW (0.10)
Vanadium	0.21	IDW (0.062)

4.4.2.3 Conclusions

The RFI soil data from AOI 36-1 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The extent of the VOC exceedences in this area has been sufficiently defined for purposes of GM's RFI responsibilities; therefore, no additional investigation activities are planned. Additional delineation of VOCs, chromium, and manganese to the east of AOI 36-1 is not planned, because GM has never owned or controlled the associated property. The property to the east of AOI-36-1 is owned by others.

The RFI groundwater data from AOI 36-1 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The extent of the VOC exceedences has been defined; therefore, no additional investigation activities are planned.

The physical extent of LNAPL in AOI 36-1 has been delineated.

4.4.3 AOI 36-2 (Metal Chip Processing Area)

This AOI is the basement area located along the eastern side of the central portion of Building 36 and is associated with metal chip processing. LNAPL has historically been detected in this area. To assess the extent of dissolved-phase constituents and to further delineate the extent of LNAPL associated with process waste oils, four soil borings and three monitoring wells were installed at this AOI. In addition, existing monitoring wells 36-FP1, 36-FP2, and 36-FP5 were sampled due to previous criteria exceedences. Due to the presence of LNAPL at monitoring well 36-FP4, groundwater samples were collected from monitoring well 36-FP1 (located approximately 150 feet downgradient, to the northeast). The locations of these soil borings and monitoring wells are shown on Figures 4-3 and 4-4.

4.4.3.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	7	11	8	5	4 +3 Cr/Cr(VI) + 1 Hg	--	--
Groundwater	5	15	4	4	6 +2 CN/Hg	4	5
LNAPL	1	1	1	1	1	--	--

Duplicate samples are not included in sample totals.

4.4.3.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Chromium (total)	450	IPSIC (240)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
1,1,1-Trichloroethane	0.24	IDW(0.20)
1,2-Dichloroethane	0.013	IDW(0.005)
Benzene	4.5	IDW (0.005)
Trichloroethene	0.035	IDW(0.005)
Vinyl chloride	0.0081	IDW(0.002)
Arsenic	0.17	IDW(0.050)
Beryllium	0.0090	IDW(0.004)

4.4.3.3 Conclusions

The RFI Phase I soil data from AOI 36-2 indicated that total chromium in soils exceeded screening criteria for hexavalent chromium. An additional sample was collected to determine the concentration of hexavalent versus trivalent chromium. These additional data indicate that hexavalent chromium concentrations in soils at this AOI were less than the screening criterion. Based on these results, no additional investigation activities are planned.

The RFI groundwater data from AOI 36-2 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The physical extent of the exceedence in this area has been delineated; therefore, no additional investigation activities are planned.

The physical extent of LNAPL in this area has been delineated.

4.4.4 AOI 36-3 (Engine Assembly, Waste Oil Collection and Processing, Former USTs)

This AOI is the basement area located beneath the southeastern corner of Building 36 and is associated with a final engine assembly area, main process waste oil collection/processing operations, and several former USTs. To investigate potential releases from this area, one soil boring and five monitoring wells were installed at this AOI. In addition, existing monitoring well 36-FP8 was sampled, and two grab water samples were collected from the basement area. The locations of these soil borings and monitoring wells are shown on Figures 4-3 and 4-4. It should be noted that redundant soil samples were inadvertently collected from adjacent soil borings RFI-36-30 and RFI-36-43, during completion of LNAPL step-out boring installations.

4.4.4.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	5	12	12	9	10	--	--
Groundwater	6	12	5	4	10 +2 CN/Hg	4	6
Basement water	1	2	2	2	1	2	2 + 2 F

Duplicate samples are not included in sample totals.

4.4.4.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 36-3 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C in the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzene	6.0	IDW (0.005)
Ethylbenzene	1.3	IDW (0.70)
Toluene	20	IDW (1.0)
Beryllium	0.0081	IDW (0.004)
Chromium	0.19	IDW (0.10)
Vanadium	0.38	IDW (0.062)

Basement Grab Water Samples

Analytical results for the water samples collected from basements were compared to groundwater criteria. A summary of the constituents detected in the grab water samples (basement samples) that exceeded the groundwater screening criteria is presented below. A summary of analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzene	0.014	IDW(0.005)
1,1-Dichloroethene	0.010	IDW (0.007)
cis-1,2-Dichloroethene	1.0	IDW (0.070)
Trichloroethene	0.36	IDW (0.005)
Tetrachloroethene	0.15	IDW (0.005)
Vinyl chloride	0.14	IDW (0.002)

4.4.4.3 Conclusions

The RFI soil data from AOI 36-3 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 36-3 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The physical extent of the exceedences associated with VOCs and inorganic constituents has been defined; therefore, no additional investigation activities are planned.

These RFI data from the basement grab samples indicate that generic screening criteria for groundwater were exceeded for several VOCs. The VOCs detected in the basement water sample were not detected at concentrations above screening criteria in downgradient groundwater samples from monitoring wells, and are likely the result of residual contaminants on basement floor surfaces. Therefore, no additional investigation activities are planned.

4.4.5 AOI 36-4 (Former Metal Machining and Active Engine Assembly)

This AOI is located in the south-central and southeastern portions of Building 36 and is associated with former "wet" metal machining operations and several active engine assembly operations. To assess potential impacts in these areas, two monitoring wells were installed within this AOI. The locations of these monitoring wells are shown on Figures 4-3 and 4-4.

4.4.5.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	2	5	5	0	5	--	--
Groundwater	2	2	2	2	2 CN/Hg	2	2

Duplicate samples are not included in sample totals.

4.4.5.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 36-4 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the groundwater samples from AOI 36-4 do not exceed the screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.4.5.3 Conclusions

The RFI soil and groundwater data from AOI 36-4 indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities will be performed.

4.4.6 AOI 36-5 (Former UST Farm and Active AST Farm)

This AOI is located immediately south of Building 36 and is associated with a former UST farm and an active contained AST farm. An IM is currently in operation in this location, as described in Section 2.4 of the RFI Phase I Report. To assess the extent of a release associated with cooling, cutting, and process waste oils in this area, two monitoring wells were installed. In addition, four existing monitoring wells (20-100, 20-102, 20-500, and 37-01) were sampled to provide perimeter dissolved-phase groundwater data. Additionally, well 20-500 was reinstalled during this RFI Phase II Investigation to replace the original well which had been destroyed.

Monitoring well 20-505D could not be located during the RFI field activities, and is believed to have been destroyed. Monitoring well 37-1, located nearby, was sampled in September 2001. This well is screened at a

depth of 6-16 feet, which overlaps a portion of the screened interval of monitoring well 20-505D of 14.8-19.8 feet. The locations of these monitoring wells are shown on Figures 4-5 and 4-6.

4.4.6.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	2	5	5	5	5	--	--
Groundwater	7	13	6	6	10 + 3 CN/Hg, 1 Be/Mn/Ni and 1 Mn/Ni	6	8 +1 Mn/Ni
LNAPL	2	2	2	1	1 + 1 CN/Hg	--	--

Duplicate samples are not included in sample totals.

4.4.6.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 36-5 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Trichloroethene	0.044	IDW (0.005)
Vinyl chloride	0.014	IDW (0.002)
Beryllium	0.0069	IDW (0.004)
Manganese	3.7	IDW (2.5)
Nickel	0.17	IDW (0.10)

Duplicate samples are not included in sample totals.

4.4.6.3 Conclusions

The RFI soil data from AOI 36-5 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 36-5 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The physical extent of LNAPL in this area has been defined.

4.4.7 AOI 55-1 (Industrial Wastewater Treatment Facilities)

This AOI is located around the Site's industrial wastewater treatment facilities (Buildings 55, 55A, and 55B) and is associated with process wastewater and waste oil storage facilities, clarifiers, and mixing tanks. To assess the downgradient extent of VOCs previously detected in this area, seven soil borings and six monitoring wells were installed in this area. Six existing monitoring wells (55-1, 55-2, 55-3, 55-4, 55-5, and 20-120) were also sampled due to previously detected VOC concentrations above screening criteria. Based upon results presented in the RFI Phase I Report, it was suspected that exceedences of some screening criteria in groundwater may have been due to onsite migration from offsite sources. Therefore, two monitoring wells were installed upgradient of AOI 55-1 and offsite. The locations of these soil borings and monitoring wells are shown on Figures 4-5 and 4-6.

4.4.7.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	13	27	27	27	27	--	--
Groundwater	12	32	14	11	11 + 9 CN/Hg, 1 Pb, 1 As	10	11

Duplicate samples are not included in sample totals.

4.4.7.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 55-1 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Groundwater Analytical Results

A summary of the constituents detected in the groundwater samples from AOI 55-1 that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
1,2-Dichloropropane	0.14	IDW (0.005)
Benzene	0.018	IDW (0.005)
Trichloroethene	0.107	IDW (0.005)
Vinyl chloride	0.028	IDW (0.002)
bis(2-Chloroethyl)ether	0.026	IDW (0.0083)
Arsenic	0.086	IDW (0.050)
Antimony	0.013	IDW(0.006)
Beryllium	0.61	IDW(0.004)
Cadmium	0.016	IDW(0.005)
Chromium	25.5	IDW(0.10)
Cyanide	1.1	IDW(0.20)
Lead	0.025	IDW (0.004)
Manganese	2.9	IDW (2.5)
Nickel	0.13	IDW(0.10)
Thallium	0.0041	IDW (0.002)

4.4.7.3 Conclusions

The RFI soil data from AOI 55-1 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 55-1 indicate screening criteria were exceeded for several VOCs and inorganic constituents. The exceedences present in the upgradient wells demonstrate that there is an offsite upgradient source, as discussed in Section 5.2.1. The distribution of the various VOCs show the likely influence of degradation processes, and the downgradient extent has been defined. Based on these results, no additional investigation activities are planned.

4.4.8 AOI 10-1 (Manufacturing Operations and Several Tanks)

This AOI consists of the overall area of Building 20, including its basement area, manufacturing operations, external areas, and several tanks. LNAPL has historically been detected in this area, and an IM consisting of a groundwater and LNAPL recovery and treatment system is in operation in this area, as described in Section 2.4 of the RFI Phase I Report and Section 5.3 of this report. To provide additional characterization of this AOI, five soil borings and one monitoring well were installed. Four existing monitoring wells (20-121, 20-144, 20-145, and 43-167) were also sampled. It should be noted that as proposed in a spring 2002 Groundwater Sampling

Event Scope of Work, dated June 6, 2002, monitoring well 20-145 was resampled on June 18, 2002. The results of this sampling were reported to, and discussed with, USEPA, during meetings on March 17-18, 2003, and none of the pertinent generic MDEQ criteria were exceeded. Based on these data, which were not available for inclusion in the RFI Phase I Report, additional data at downgradient monitoring well 20-171 were not needed to complete characterization and meet the groundwater monitoring objectives. The locations of these soil borings and monitoring wells are shown on Figures 4-5 and 4-6.

4.4.8.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	6	9	9	9	9 + 6 Pb	--	--
Groundwater	5	9	3	3	4 + 3 CN/Hg	3	3 + 1Ba
LNAPL	1	1	1	1	1	--	--

Duplicate samples are not included in sample totals.

4.4.8.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Arsenic	40	IDC (37)
Chromium	750	IPSIC(240)
Lead	2,200	IDC (900)
Manganese	3,000	IPSIC (1,500)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
1,1,1-Trichloroethane	0.21	IDW (0.20)
1,1-Dichloroethene	0.013	IDW (0.007)
cis-1,2-Dichloroethene	0.25	IDW (0.070)
Vinyl chloride	0.0032	IDW (0.002)
Barium	33	IDW (2.0)
Lead	0.0088	IDW (0.004)

4.4.8.3 Conclusions

The RFI soil data from AOI 10-1 indicated screening criteria were exceeded for arsenic, chromium, lead, and manganese. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The RFI groundwater data from AOI 10-1 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The physical extent of LNAPL in this area has been defined.

4.4.9 AOI 10-2 (Solid Waste Transfer Area and Former ASTs)

This AOI consists of a solid waste transfer area and former ASTs containing process waste oils and No. 2 fuel oil, and is located east of Building 20 and south of Buildings 22 and 24. The RFI Work Plan included collection of a groundwater sample from existing well 20-104, and completion of boring RFI-10-12 to provide soil sampling data in the vicinity of open-top concrete bunkers that were used to temporarily store construction rubble and debris that sometimes contained residual oil. Monitoring well 20-104 could not be located during the RFI field activities and is presumed to have been destroyed. To provide groundwater quality data for this area, soil boring RFI-10-12 was completed as a monitoring well and sampled. The data collected for this AOI provided the information needed to meet the investigation objectives, as defined in the RFI Work Plan. This change was discussed with USEPA on October 9, 2001. Additionally, numerous step-out wells were installed to fully delineate groundwater contaminants in this area. A total of three soil borings and 15 monitoring wells were installed, including several offsite wells to the east and southeast.

The locations of these soil borings and monitoring wells are shown on Figures 4-5 and 4-6.

4.4.9.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	18	34	26	26	26 + 1 Mn	--	--
Groundwater	15	31	4	4	12 + 3 CN/Hg	4	7 + 1 Mn

Duplicate samples are not included in sample totals.

4.4.9.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Manganese	1,800	IPSIC (1,500)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
1,1,1-Trichloroethane	0.58	IDW (0.20)
1,1-Dichloroethene	0.11	IDW (0.007)
Benzene	0.017	IDW (0.005)
Chloroethane	3.3	IDW (1.7)
cis-1,2-Dichloroethene	0.15	IDW (0.070)
Methylene chloride	0.029	IDW (0.005)
Trichloroethene	0.16	IDW (0.005)
Vinyl chloride	0.060	IDW (0.002)
Arsenic	0.068	IDW (0.050)
Lead	0.0068	IDW (0.004)
Manganese	7.6	IDW (2.5)

4.4.9.3 Conclusions

The RFI soil data from AOI 10-2 indicated screening criteria were exceeded for manganese. The physical extent of the soil exceedences has been defined; therefore, no additional investigation activities are planned.
The RFI groundwater data from AOI 10-2 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The physical extent of the groundwater exceedences has been defined; therefore, no additional investigation activities are planned. However, higher concentrations of select VOCs at wells RFI-10-5 and RFI-10-32, relative to upgradient wells, suggests an offsite source.

4.4.10 AOI 10-3 (Two Process Waste Oil Sumps)

This AOI consists of the basement area of Building 22, including two process waste sumps that collect leaking oil from compressors. Five soil borings and seven monitoring wells were installed to assess upgradient and downgradient conditions associated with releases of hydraulic and process waste oils. Existing monitoring well 20-103N was also sampled to provide current analytical data at locations with prior criteria exceedences. In addition, two existing monitoring wells (20-101 and 20-105) were reinstalled and sampled. The locations of these soil borings and monitoring wells are shown on Figures 4-5 and 4-6.

4.4.10.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	13	17	13	13	16 + 3 Mn	--	--
Groundwater	10	22	6	6	12 +3 CN/Hg, 1 Mn	6	6

Duplicate samples are not included in sample totals.

4.4.10.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Manganese	2,500	IPSIC(1,500)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
1,1,1-Trichloroethane	2.4	IDW(0.20)
1,1-Dichloroethane	12	IDW(2.5)
1,1-Dichloroethene	0.13	IDW(0.007)
1,2-Dichloroethane	0.017	IDW(0.005)
Chloroethane	7.4	IDW(1.7)
Vinyl chloride	0.52	IDW(0.002)
Beryllium	0.0042	IDW(0.004)
Lead	0.0049	IDW(0.004)

4.4.10.3 Conclusions

The RFI soil data from AOI 10-3 indicated that screening criteria were exceeded for manganese. The physical extent of the exceedence has been defined; therefore, no additional investigation activities are planned.

The RFI groundwater data from AOI 10-3 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.4.11 AOI 10-4 (Scrapyard Area)

This AOI consists of the scrapyard area immediately south of Building 20 and was used for scrap material storage, vehicle dismantling, and vehicle equipment storage. LNAPL has historically been detected in this area, as part of the LNAPL area described for AOI 10-1 (Section 4.4.8). One new monitoring well was installed to assess downgradient VOCs and total petroleum hydrocarbons (TPH) associated with process waste, coolings/cuttings, transmission, and hydraulic oils. In addition, five existing monitoring wells (20-504, 20-FP6, 20-FP10, 20-FP11, and 30-100) were sampled to provide groundwater quality data at the existing LNAPL plume perimeter. Well 20-FP-11 was reinstalled during the RFI Phase II Investigation to replace the original well which was destroyed. The locations of these soil borings and monitoring wells are shown on Figures 4-9 and 4-10. An LNAPL and groundwater recovery system is currently operating in the northern portion of this AOI, as described in Section 5.3.

4.4.11.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	1	1	1	1	--	--
Groundwater	7	13	6	6	2+5 CN/Hg, 1 CN	6	6
LNAPL	2	1	1	1	1	--	--

Duplicate samples are not included in sample totals.

4.4.11.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 10-4 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzene	0.0061	IDW(0.005)
Vinyl chloride	0.0023	IDW(0.002)

4.4.11.3 Conclusions

The RFI soil data from AOI 10-4 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 10-4 indicate that screening criteria were exceeded for benzene and vinyl chloride. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The physical extent of LNAPL in this area has been defined.

4.4.12 AOI 05-1 (Former Metal Machining Chip Processing)

This AOI consists of the basement area along the southeast portion of Building 43 and is associated with a former metal machining chip processing operation. An IM is currently in operation in this area, as described in Section 5.3.

Four soil borings and three monitoring wells were installed in this area. In addition, four existing monitoring wells (20-143, 30-120, 43-166, and 43-168) were sampled to provide current groundwater quality data at the LNAPL perimeter. The locations of these soil borings and monitoring wells are shown on Figures 4-7 and 4-8.

4.4.12.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	7	11	11	11	11 + 4 Pb	--	--
Groundwater	5	6	5	5	3 + 5 CN/Hg	5	5
LNAPL	2	2	2	2	--	--	--

Duplicate samples are not included in sample totals.

4.4.12.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Lead	3,100	IDC (900)
Manganese	2,400	IPSIC (1,500)

Groundwater Analytical Results

The concentrations of constituents detected in the monitoring well samples from AOI 05-1 do not exceed the screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

4.4.12.3 Conclusions

The RFI soil data from AOI 05-1 indicate that screening criteria were exceeded for lead and manganese. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

The RFI groundwater data from AOI 05-1 indicate that no screening criteria were exceeded. Based on these results, no further groundwater investigation will be performed.

The physical extent of LNAPL in this area has been defined.

4.4.13 AOI 05-2 (Filtration Room, Oil Room, Below-Grade Vault, and Elevator Pit)

This AOI consists of the east-central portion of Build0ing 43 and is associated with a "Filtration Room," "Oil Room," a below-grade vault, and an elevator pit. Two monitoring wells were installed to assess upgradient and downgradient conditions associated with materials handled in this area. In addition, one existing monitoring well (20-140) was sampled. The locations of these monitoring wells are shown on Figures 4-7 and 4-8.

4.4.13.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	2	5	5	3	5	--	--
Groundwater	3	8	3	3	5 + 3 CN/Hg, 1 Ni	4	3

Duplicate samples are not included in sample totals.

4.4.13.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 05-2 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Trichloroethene	0.095	IDW(0.005)
Vinyl chloride	0.019	IDW(0.002)
Beryllium	0.0056	IDW(0.004)
Nickel	0.21	IDW(0.10)

4.4.13.3 Conclusions

The RFI soil data from AOI 05-2 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 05-2 indicate screening criteria were exceeded for trichloroethene, vinyl chloride, beryllium, and nickel. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.4.14 AOI 05-3 (Building 43 Basement Containing Process Waste Oil Sumps and Drains)

This AOI consists of a basement area in Building 43 beneath transmission component heat treating operations that contains process waste oil sumps and drains. To assess the downgradient extent of VOCs associated with process waste oils, four monitoring wells were installed in this area. In addition, two existing monitoring wells (43-100 and 43-101R) were sampled due to previous criteria exceedences (well 43-101 was reinstalled during this RFI Phase II investigation). The locations of these monitoring wells are shown on Figures 4-7 and 4-8.

4.4.14.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	5	11	11	8	11	--	--
Groundwater	6	11	6	6	3 +5 CN/Hg	6	6

Duplicate samples are not included in sample totals.

4.4.14.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 05-3 do not exceed the applicable screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Trichloroethene	0.029	IDW(0.005)
Arsenic	0.084	IDW(0.050)

4.4.14.3 Conclusions

The RFI soil data from AOI 05-3 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 05-3 indicate screening criteria were exceeded for trichloroethene and arsenic. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.4.15 AOI 05-4 (Metal Forming Operations and Recirculation Trenches and Sumps)

This AOI consists of the "Cold Former Room" and is associated with various metal forming operations and recirculation trenches and sumps. One monitoring well (RFI-05-03) was installed in this area to assess potential releases at this AOI. In addition, one existing monitoring well (43-103) was sampled to provide additional downgradient groundwater quality data. The locations of these monitoring wells are shown on Figures 4-7 and 4-8.

4.4.15.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	3	3	0	3	--	--
Groundwater	2	2	2	2	2 CN/Hg	2	2

Duplicate samples are not included in sample totals.

4.4.15.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 05-4 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the groundwater samples from AOI 05-4 do not exceed the screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.4.15.3 Conclusions

The RFI soil and groundwater data from AOI 05-4 indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities will be performed.

4.4.16 AOI 05-5 (Active Process Machinery, Collection Trenches, and Sumps)

This AOI is in the northern portion of Building 43 and consists of active process machinery, collection trenches, and sumps for both "wet" and "dry" operations. Three monitoring wells and one soil boring were installed within this AOI. One piezometer was installed to provide upgradient groundwater elevation data at this AOI. In addition, existing monitoring well 43-220 was sampled. Monitoring wells 43-120 and RFI-05-11 were not sampled as planned in the RFI Work Plan because monitoring well 43-120 was destroyed and RFI-05-11 was installed but not sampled due to the presence of LNAPL. Monitoring well RFI-05-08R was sampled as a replacement well for monitoring well 43-120. Based on groundwater elevation data RFI-05-08R is representative of offsite upgradient conditions. One piezometer was installed to provide upgradient groundwater elevation data at this AOI. The locations of these soil borings, monitoring wells, and piezometers are shown on Figures 4-7 and 4-8.

4.4.16.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	5	13	13	13	13	--	--
Groundwater	4	5	4	4	4 +3 CN/Hg, 1 Ni	4	4
LNAPL	3	1	1	3	--	--	--

Duplicate samples are not included in sample totals.

4.4.16.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 05-5 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Arsenic	0.070	IDW(0.050)
Nickel	0.22	IDW(0.10)

4.4.16.3 Conclusions

The RFI soil data from AOI 05-5 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 05-5 indicate screening criteria were exceeded for arsenic and nickel. The extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.4.17 AOI-05-6 (Active Process Machinery, Collection Trenches, and Sumps)

This AOI is in the southern portion of Building 43. It consists of active process machinery, collection trenches, and sumps for both "wet" and "dry" operations. Seven soil borings, five monitoring wells, and one piezometer were installed in this area. In addition, four existing monitoring wells (30-140, 43-140, 43-141, and 43-242) were sampled. Monitoring wells RFI-05-13 and RFI-05-14 were not sampled as indicated by the RFI Work Plan due to the presents of LNAPL in the monitoring wells. The locations of these soil borings, monitoring wells, and piezometers are shown on Figures 4-7 and 4-8.

4.4.17.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	11	17	17	17	17 + 4 Pb	--	--
Groundwater	8	20	7	7	5 +6 CN/Hg, 2 Mn	7	7
LNAPL	2	2	2	2	0	--	--

Duplicate samples are not included in sample totals.

4.4.17.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Lead	3,500	IDC(900)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
cis-1,2-Dichloroethene	0.081	IDW(0.070)
Trichloroethene	0.25	IDW(0.005)
Vinyl chloride	0.019	IDW(0.002)
Manganese	3.1	IDW(2.5)

4.4.17.3 Conclusions

The RFI soil data from AOI 05-6 indicate that screening criteria were exceeded for lead. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

The RFI groundwater data from AOI 05-6 indicate that screening criteria were exceeded for several VOCs and manganese. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.4.18 AOI 03-1 (Quenching and Cooling Oil Systems)

This AOI consists of the overall area of the former Factory 03 building complex, including various quenching and cooling oil systems used for various metal forging, quenching, and cooling operations. Past investigations of this area have indicated impacts to underlying soil and groundwater resulting from releases from associated operations. An IM was implemented in this area, as described in Section 2.4 of the RFI Phase I Report. To assess the presence of residual contamination, ten soil borings and five monitoring wells were installed. In addition, seven existing monitoring wells (03-101, 03-109, 13-111, 13-114, 03-02, 70-100, and 70-109) were sampled. The locations of these soil borings and monitoring wells are shown on Figures 4-9 and 4-10.

4.4.18.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	15	11	11	11	11 +10 Mn	--	--
Groundwater	12	18	11	11	2 +11 CN/Hg	11	11
LNAPL	1	1	1	0	0	--	--

Duplicate samples are not included in sample totals.

4.4.18.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Benzo(a)pyrene	15	IDC(8.0)
Manganese	4,700	IPSIC(1,500)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Trichloroethene	0.064	IDW(0.005)
Vinyl chloride	0.0091	IDW(0.002)
Arsenic	0.090	IDW(0.050)
Beryllium	0.043	IDW(0.004)
Selenium	0.19	IDW(0.050)

4.4.18.3 Conclusions

The RFI soil data from AOI 03-1 indicate that screening criteria were exceeded for benzo(a)pyrene and manganese. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The RFI groundwater data from AOI 03-1 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The physical extent of LNAPL in this area has been defined.

4.4.19 AOI 81-1 (Metal Machining, Chip, Cooling, and Cutting Oil Filtration and Processing, a Hydraulic Elevator, Process Waste Sumps and Tanks, a Drum Storage Area, and an Active Hazardous Waste Accumulation Area)

This AOI consists of the basement area beneath the southern and central portions of Building 71B and is associated with three metal machining chip/cooling and cutting oil filtration/processing operations, as well as an inactive hydraulic elevator, several process waste sumps and tanks, a drum storage area, and an active hazardous waste accumulation area. Seven soil borings, two monitoring wells, and two soil boring/temporary wells were installed in this area. The locations of these soil borings and monitoring wells are shown on Figures 4-11 and 4-12.

4.4.19.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	7	8	8	8	8 + 4 Pb	--	--
Groundwater	4	7	3	3	4 +1 CN/Hg	3	4

Duplicate samples are not included in sample totals.

4.4.19.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Lead	69,000	IDC(900) IPSIC(44,000)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Vinyl chloride	0.012	IDW(0.002)
Arsenic	0.091	IDW(0.050)
Lead	0.010	IDW(0.004)

4.4.19.3 Conclusions

The RFI soil data from AOI 81-1 indicate that screening criteria were exceeded for lead. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

The RFI groundwater data from AOI 81-1 indicate that screening criteria were exceeded for vinyl chloride, arsenic, and lead. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.4.20 AOI 81-2 (Active Metal Welding and Machining and Torque Converter Assembly)

This AOI consists of active metal welding and machining, and torque converter assembly operations performed in Buildings 70, 70B, 71, 72, 73, 73A, 73B, and 74. LNAPL was historically detected in an area to the east of Buildings 73, 73A, and 73B. To assess this AOI, 14 soil borings, seven monitoring wells, and two soil boring/temporary wells were installed. In addition, four existing monitoring wells (70-102, 70-160, 70-163, and

70-165) were sampled. The locations of these soil borings and monitoring wells are shown on Figures 4-11 and 4-12.

4.4.20.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	22	25	26	25	26 +2 Cr(VI), 4 Pb/Mn, and 2 As	--	--
Groundwater	11	15	8	8	10 + 6 CN/Hg, 2 Pb	8	8
LNAPL	1	1	1	0	0	--	--

Duplicate samples are not included in sample totals.

4.4.20.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
1,1,1-Trichloroethane	47,000	IDC(460) ISVIA(460) IISVSIC(4,500)
1,1-Dichloroethane	7,000	IDC(890) ISVIA (430) IISVSIC(2,500)
1,1-Dichloroethene	10	ISVIA(0.33) IISVSIC(3.7)
Trichlorotrifluoroethane	64,000	IDC(560) ISVIA(560)
Arsenic	56	IDC(37)
Lead	3,100	IDC(900)
Manganese	1,800	IPSIC(1,500)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Lead	0.055	IDW(0.004)
Manganese	3.2	IDW(2.5)

4.4.20.3 Conclusions

The RFI soil data from AOI 81-2 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned. It should be noted that high concentrations of chlorinated solvent contamination was found at soil boring RFI-81-38 to be associated with fill material used to fill a former process pit structure. Concrete refusal was encountered at this location at a depth of 5 feet below the floor surface, and this location is contained within an active manufacturing area not linked to the contamination found.

The RFI groundwater data from AOI 81-2 indicate that screening criteria were exceeded for lead and manganese. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The physical extent of LNAPL in this area has been defined.

4.4.21 AOI 81-3 (Former Foundry Operations, an Elevator Pit, Metal Machining Areas, and a Forklift Battery Charging Area)

This AOI is the basement area of Building 70 and is associated with former foundry operations, an elevator pit along the west side of Building 70A, areas of "wet" metal machining in eastern portions of Building 73, and a forklift battery charging area in the northwest corner of Building 69. To assess potential releases from this area, two soil borings, one soil boring/temporary well, and five monitoring wells were installed. In addition, existing monitoring well 86-100 was sampled. The locations of these soil borings and monitoring wells are shown on Figures 4-11 and 4-12.

4.4.21.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	7	17	17	17	17 +1 Cr VI	--	--
Groundwater	7	20	5	5	10 +3 CN/Hg	5	9

Duplicate samples are not included in sample totals.

4.4.21.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 81-3 do not exceed the applicable screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Cis-1,2 Dichorethene	0.162	IDW (0.07)
Trichloroethene	0.032	IDW(0.005)
Vinyl chloride	0.065	IDW(0.002)
Barium	2.5	IDW(2.0)
Cadmium	0.0098	IDW(0.005)
Lead	0.047	IDW(0.004)
Manganese	3.3	IDW(2.5)
Nickel	0.24	IDW(0.10)
Zinc	6.0	IDW(5.0)

4.4.21.3 Conclusions

The RFI soil data from AOI 81-3 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 81-3 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.4.22 AOI 81-4 (Air Compressor Operations)

This AOI consists of the basement areas of Buildings 69A and 69B and is associated with facility air compressor operations. Past operations in these basements involved the draining of oils from facility air compressor operations. One monitoring well was installed at this AOI to assess potential releases from this AOI. The location of this monitoring well is shown on Figures 4-11 and 4-12.

4.4.22.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	3	3	3	3	--	--
Groundwater	1	4	1	1	1 CN/Hg	1	1

Duplicate samples are not included in sample totals.

4.4.22.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 81-4 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Tetrachloroethene	0.011	IDW(0.005)

4.4.22.3 Conclusions

The RFI soil data from AOI 81-4 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 81-4 indicate that screening criteria were exceeded for tetrachloroethene. Resampling results confirmed the presence of tetrachloroethene at this location (the most recent sample results indicated a concentration less than the screening criteria); however, the physical extent of the exceedence has been defined. Based on these results, no additional investigation activities are planned.

4.4.23 AOI 81-5 (Existing and Former ASTs)

This AOI consists of a containment area for several existing and former ASTs which contain(ed) diesel fuel and automatic transmission fluid. One soil boring/temporary well was installed at this AOI to assess potential releases from this AOI. The location of this soil boring is shown on Figures 4-13 and 4-14.

4.4.23.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	3	3	3	3	--	--
Groundwater	1	1	1	1	0	1	1

Duplicate samples are not included in sample totals.

4.4.23.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 81-5 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the groundwater sample from AOI 81-5 do not exceed the screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.4.23.3 Conclusions

The RFI soil and groundwater data from AOI 81-5 indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities will be performed.

4.4.24 AOI 21-1 (Former Metal Chip Briquetting Operations and Current Metal Welding and Tool Grinding Operations)

This AOI is the overall area of Building 21 and the area immediately southeast of Building 21 and is associated with former metal chip briquetting operations and current metal welding/tool grinding operations. Three soil boring/temporary wells and one monitoring well were installed to assess the extent of constituents associated with cooling/cutting oils. The locations of these soil borings and monitoring wells are shown on Figures 4-13 and 4-14.

4.4.24.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	4	9	9	9	9	--	--
Groundwater	4	6	5	4	2 + 1 Mn	4	4

Duplicate samples are not included in sample totals.

4.4.24.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 21-1 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Trichloroethene	0.012	IDW(0.005)
Vinyl chloride	0.0032	IDW(0.002)
Pentachlorophenol	0.0021	IDW(0.001)
Manganese	9.2	IDW(2.5)

4.4.24.3 Conclusions

The RFI soil data from AOI 21-1 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 21-1 indicate that screening criteria were exceeded for trichloroethene, vinyl chloride, pentachlorophenol, and manganese. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.4.25 AOI 65-1 (Air Compressor Station and a Main Process Waste Pump Station)

This AOI consists of the overall area of Building 65 and is associated with a facility air compressor station and a main process waste pump station for the Site's industrial wastewater treatment system. One monitoring well was installed to assess potential releases in this area. The location of this monitoring well is shown on Figures 4-15 and 4-16.

4.4.25.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	2	2	2	2	--	--
Groundwater	1	3	1	1	1 +1 CN/Hg	1	1

Duplicate samples are not included in sample totals.

4.4.25.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 65-1 do not exceed the applicable screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Trichloroethene	0.046	IDW(0.005)

4.4.25.3 Conclusions

The RFI soil data from AOI 65-1 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 65-1 indicate that screening criteria were exceeded for trichloroethene. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

4.4.26 AOI 83/84-1 (Former and Existing Machining Operations)

This AOI consists of areas of various former and existing machining operations in Buildings 11 (both "wet" and "dry" operations). One soil boring and two monitoring wells were installed to assess potential releases in this area. The locations of these soil borings and monitoring wells are shown on Figures 4-15 and 4-16.

4.4.26.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	3	6	6	3	6	--	--
Groundwater	2	2	3	2	1 +3 CN/Hg	2	2

Duplicate samples are not included in sample totals.

4.4.26.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 83/84-1 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the groundwater samples from AOI 83/84-1 do not exceed the screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

4.4.26.3 Conclusions

The RFI soil and groundwater data from AOI 83/84-1 indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities will be performed.

4.4.27 AOI 83/84-2 (Former and Existing Machining Operations)

This AOI consists of areas of various former and existing machining operations in Building 32 (including two basements) (both "wet" and "dry" operations). A prior release within this AOI has been documented. In addition, LNAPL was detected in monitoring wells installed in this AOI. To assess this area, 18 soil borings and six monitoring wells were installed. The locations of these soil borings and monitoring wells are shown on Figures 4-15 and 4-16.

LNAPL has also been observed floating on standing water in a tunnel beneath Buildings 32 and 66.

4.4.27.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	24	40	40	37	47 + 6 Pb	--	--
Groundwater	3	5	3	3	4 + 2 CN/Hg, 1 Be	3	3
LNAPL	3	2	2	3	2	--	--

Duplicate samples are not included in sample totals.

4.4.27.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Benzo(a)anthracene	81	IDC (80)
Benzo(a)pyrene	66	IDC (8.0)
Dibenz(a,h)anthracene	17	IDC (8.0)
Arsenic	47	IDC(37)
Chromium	2,400	IPSIC (240)
Lead	6,500	IDC (900)
Manganese	3,500	IPSIC (1,500)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
cis-1,2-Dichloroethene	0.075	IDW(0.070)
Vinyl chloride	0.069	IDW(0.002)
Arsenic	0.10	IDW(0.050)
Beryllium	0.023	IDW(0.004)

4.4.27.3 Conclusions

The RFI soil data from AOI 83/84-2 indicate that screening criteria were exceeded for several PAHs and inorganic constituents. The physical extent of these exceedences has been adequately defined for RFI purposes, given the physical constraints associated with the presence of large manufacturing equipment in the vicinity of this AOI. Therefore, no additional investigation activities are planned.

The RFI groundwater data from AOI 83/84-2 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The physical extent of LNAPL in this area has been defined.

4.4.28 AOI 83/84-3 (Former and Existing Machining Operations)

This AOI consists of areas of various former and existing machining operations in Buildings 66A/66D (both "wet" and "dry" operations). Twelve soil borings, one soil boring/temporary well, and one monitoring well were installed to assess potential exceedences from this area. In addition, existing monitoring well 11-140 was sampled to provide additional upgradient groundwater quality data. The locations of these soil borings and monitoring wells are shown on Figures 4-15 and 4-16.

4.4.28.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	12	2	2	2	2 +14 Pb	--	--
Groundwater	3	3	3	3	2 +2 CN/Hg	3	3

4.4.28.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Lead	42,000	IDC(900)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Beryllium	0.011	IDW(0.004)
Lead	0.017	IDW(0.004)

4.4.28.3 Conclusions

The RFI soil data from AOI 83/84-3 indicate that screening criteria were exceeded for lead. The physical extent of this exceedence has been adequately defined for purposes of the RFI; therefore, no additional investigation activities are planned.

The RFI groundwater data from AOI 83/84-3 indicate that screening criteria were exceeded for beryllium and lead. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.4.29 AOI 83/84-4 (Former Machining Operations and an Inactive Rail Loading Area)

This AOI consists for former "wet" metal machining operations in the central portion of Building 66, including three process oil collection/recirculation sumps, and an inactive rail loading area (including associated sumps along the north side of Building 66C). Two soil borings, one soil boring/temporary well, and eight monitoring wells were installed to assess potential exceedences and the extent of LNAPL in this area. The locations of these soil borings and monitoring wells are shown on Figures 4-15 and 4-16.

4.4.29.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	11	22	22	22	22	--	--
Groundwater	2	2	2	2	1	2	2
LNAPL	2	2	2	3	2	--	--

Duplicate samples are not included in sample totals.

4.4.29.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 83/84-4 do not exceed the applicable screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Arsenic	0.11	IDW(0.050)
Beryllium	0.14	IDW(0.004)
Lead	0.0081	IDW(0.004)

4.4.29.3 Conclusions

The RFI soil data from AOI 83/84-4 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 83/84-4 indicate that screening criteria were exceeded for arsenic, beryllium, and lead. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

LNAPL was detected during installation of monitoring well RFI-83/84-07 and in RFI-85/84-45

4.4.30 AOI 83/84-5 (Former Process Trenches and Pits, and an Inactive Heat Treating Tunnel)

This AOI consists of various inactive or former process trenches and pits and an inactive heat treating tunnel located in Building 66. One soil boring/temporary well was installed to assess potential releases in this area. In addition, existing monitoring well 11-120 was sampled to provide additional upgradient groundwater quality data. The locations of the soil boring and monitoring well are shown on Figures 4-15 and 4-16.

4.4.30.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	2	2	2	2	--	--
Groundwater	2	2	2	2	2 CN/Hg	2	2

Duplicate samples are not included in sample totals.

4.4.30.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 83/84-5 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the groundwater samples from AOI 83/84-5 do not exceed the screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.4.30.3 Conclusions

The RFI soil and groundwater data from AOI 83/84-5 indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities will be performed.

4.4.31 AOI 83/84-6 (Forklift Battery Charging Area and Associated Trench and Pit, and a Drum Storage Area)

This AOI consists of a forklift battery charging area and an associated trench and pit in the central portion of Building 83A and a drum storage area in the southern portion of Building 83 used for metal working fluids and corrosion inhibitors. One soil boring was installed to assess potential exceedences in this area. The location of this soil boring is shown on Figures 4-15 and 4-16.

4.4.31.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	3	3	0	3	--	--

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Groundwater	0	0	0	0	0	0	0

Duplicate samples are not included in sample totals.

4.4.31.2 Results

The concentrations of constituents detected in soil were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in soil samples that exceeded the screening criteria are presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzo(a)pyrene	8.3	IDC (8.0)

4.4.31.3 Conclusions

The RFI soil data from AOI 83/84-6 indicate that screening criteria were exceeded for benzo(a)pyrene. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

4.4.32 AOI 83/84-7 (Underground Storage Tanks)

This AOI consists of Tanks 50 through 58 identified on the 1973 Site Drawing as described in the RFI Phase I Report and Tanks 88-1 through 88-4, and 88-11 identified on the 1991 Site Drawing as described in the RFI Phase I Report. A prior release(s) from these tanks has been documented. One monitoring well was installed to assess the extent of the prior release. In addition, existing monitoring wells 88-2, 88-7, 88-8, and 88-9 were sampled. The locations of these monitoring wells are shown on Figures 4-15 and 4-16.

4.4.32.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	2	2	2	2	--	--
Groundwater	5	13	5	5	2 +5 CN/Hg	5	6

Duplicate samples are not included in sample totals.

4.4.32.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 83/84-7 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzene	0.16	IDW(0.005)
cis-1,2-Dichloroethene	0.088	IDW(0.070)
Methylene Chloride	0.01	IDW(0.005)
Toluene	2.3	IDW(1.0)
Trichloroethene	0.035	IDW(0.005)
Vinyl chloride	0.15	IDW(0.002)

4.4.32.3 Conclusions

The RFI soil data from AOI 83/84-7 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 83/84-7 indicate that screening criteria were exceeded for several VOCs. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.4.33 AOI 85-1 (Elevator Pit and Engine Test Area)

This AOI consists of an elevator pit along the north-central side of Building 85 and is associated with trenches and a basement vault area related to the engine test area in the eastern portion of the building. One soil boring/temporary well and seven monitoring wells were installed to assess potential releases in this area. The locations of these monitoring wells are shown on Figures 4-13 and 4-14.

4.4.33.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	7	20	20	20	20	--	--
Groundwater	8	13	8	8	7 +4 CN/Hg	8	7
LNAPL	1	1	1	1	1	--	--

Duplicate samples are not included in sample totals.

4.4.33.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 85-1 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Tetrachloroethene	0.022	IDW(0.005)
Trichloroethene	0.093	IDW(0.005)
Beryllium	0.007	IDW(0.004)
Selenium	0.080	IDW(0.050)
Vanadium	0.13	IDW(0.062)

4.4.33.3 Conclusions

The RFI soil data from AOI 85-1 indicate that no screening criteria were exceeded. Soil associated with this AOI has been adequately characterized for purposes of the RFI; therefore, no further soil investigation will be performed.

The RFI groundwater data from AOI 85-1 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

LNAPL was detected during installation of temporary well RFI-85-02. A permanent well (RFI-85-02R) was subsequently installed at this location. LNAPL has not been observed in RFI-85-02R during any of the subsequent groundwater sampling events.

4.4.34 AOI 86-1 (Hazardous Waste Drum Accumulation Area, Process Waste Sump and Pump Station, Waste Transport Vehicle Storage Area, and Former USTs)

This AOI is the overall area of Building 86 and areas immediately southeast and west of Building 86, collectively associated with a hazardous waste drum accumulation area, a process waste pumping station, a waste transport vehicle storage area, and a former UST farm.

An IM was formerly operated in this area to address a free product release from the former UST farm, as described in Section 2.4 of the RFI Phase I Report. This system was successful in recovering free-phase LNAPL in this area, hence operation has been discontinued. However, during 2003, LNAPL was observed at two monitoring wells (RFI-86-02 and RFI-86-03) located east of the AOI. Six soil borings, two soil boring/temporary wells, and eleven monitoring wells were installed in this area to assess the extent of constituents associated with gasoline, process waste oils, and other oils. In addition, five existing monitoring wells (86-3, 87-FP2, 87-FP3, 87-FP4, and 87-FP5) were sampled due to historical criteria exceedences. Monitoring wells RFI-02-08 and RFI-86-01R were reinstalled. The locations of these soil borings and monitoring wells are shown on Figures 4-13 and 4-14.

4.4.34.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	18	27	27	27	27 +1 Mn and 8 As	--	--
Groundwater	20	41	15	14	9 +10 CN/Hg	14	14
LNAPL	2	3	3	3	3	--	--

Duplicate samples are not included in sample totals.

4.4.34.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Arsenic	190	IDC(37)
Manganese	3,200	IPSIC(1,500)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
1,1-Dichloroethene	0.027	IDW(0.007)
1,2-Dichloroethane	0.0054	IDW(0.005)
Benzene	0.0079	IDW(0.005)
Chloroethane	14	IDW(1.7)
cis-1,2-Dichloroethene	0.45	IDW(0.070)
Methylene chloride	0.0093	IDW(0.005)
Tetrachloroethene	0.041	IDW(0.005)
Trichloroethene	2.0	IDW(0.005)
Vinyl chloride	0.43	IDW(0.002)
Beryllium	0.0098	IDW(0.004)
Lead	0.010	IDW(0.004)
Manganese	2.8	IDW(2.5)

4.4.34.3 Conclusions

The RFI soil data from AOI 86-1 indicate that screening criteria were exceeded for arsenic and manganese. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The RFI groundwater data from AOI 86-1 indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The physical extent of LNAPL in this area has been defined.

4.4.35 AOI 07-1 (Former Coal Yard)

This AOI consists of a former coal yard immediately north of former Building 07 and several other process facilities along the north side of Building 07. Four soil borings, two soil boring/temporary wells, two monitoring wells, and one replacement monitoring well were installed in this area to assess potential releases. In addition, existing monitoring well 07-02 was sampled to provide upgradient groundwater quality data. The locations of these soil borings and monitoring wells are shown on Figures 4-13 and 4-14.

4.4.35.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	8	14	14	14	14	--	--
Groundwater	5	7	4	4	2 CN/Hg	4	4

Duplicate samples are not included in sample totals.

4.4.35.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 07-1 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Vinyl chloride	0.0033	IDW(0.002)

4.4.35.3 Conclusions

The RFI soil data from AOI 07-1 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 07-1 indicate that screening criteria were exceeded for vinyl chloride. The physical extent of this exceedence has been defined; therefore no additional investigation activities are planned.

4.4.36 AOI 07-2 (Inactive Lime "Slaker House" and Inactive Lime Slurry Tank)

This AOI consists of an inactive lime "Slaker House" and adjacent inactive lime slurry tank adjacent to the southwest corner of former Building 07. One soil boring was installed to assess the extent of constituents associated with caustics and/or other materials in this area. Soil samples collected from RFI-07-05 showed no detected concentrations above the pertinent generic MDEQ criteria. A temporary well was installed at this soil boring location; however, insufficient water accumulated in the well to allow sampling. Groundwater samples were collected downgradient to the south (RFI-86-16R) and west (RFI-86-14) as part of the investigation of AOI-86-1. Based on the absence of soil impacts immediately adjacent to the AOI and downgradient water-quality data, impacts from the AOI were not identified. The location of this soil boring is shown on Figures 4-13 and 4-14.

4.4.36.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	3	3	3	3	--	--
Groundwater	0	0	0	0	0	0	0

Duplicate samples are not included in sample totals.

4.4.36.2 Results

The concentrations of constituents detected in soil were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 07-2 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

4.4.36.3 Conclusions

The RFI soil data from AOI 07-2 indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

4.4.37 AOI 07-3 (Two Elevator Pits and a Bulk Acid AST)

This AOI consists of two elevator pits in the north-central and south-central portions of Building 07 and a bulk acid AST in the southeast corner of Building 07. One soil boring, one soil boring/temporary well, and one monitoring well were installed in this area to assess potential releases. In addition, existing monitoring well 07-01 was sampled to provide upgradient groundwater quality data. The locations of these soil borings and monitoring wells are shown on Figures 4-13 and 4-14.

4.4.37.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	3	8	8	8	8	--	--
Groundwater	3	4	3	3	2 +1 CN/Hg, 1 Be	3	4

Duplicate samples are not included in sample totals.

4.4.37.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 07-3 do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Beryllium	0.016	IDW(0.004)

4.4.37.3 Conclusions

The RFI soil data from AOI 07-3 indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 07-3 indicate screening criteria were exceeded for beryllium. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

4.5 AOIs South of Leith Street

Results of investigations of 37 AOIs south of Leith Street are detailed below.

4.5.1 AOI Group 94-A (Sumps and Trenches in Oil Change Pits and Chemical Storage Areas)

This AOI Group is associated with former Building 94 and relates to sumps and trenches in oil change pits and chemical storage areas. One soil boring/temporary well and one monitoring well were installed to assess potential releases from this area. The location of the soil boring and monitoring well are shown on Figures 4-17 and 4-18.

4.5.1.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	2	4	4	4	4	--	--
Groundwater	2	1	3	1	0	1	1

Duplicate samples are not included in sample totals.

4.5.1.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 94-A do not exceed the applicable screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Groundwater Analytical Results

A summary of the constituent that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Di-n-butylphthalate	0.013	GSI (0.0097)
Cyanide	0.0053	GSI (0.0052)

4.5.1.3 Conclusions

The RFI soil data from AOI 94-A indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 94-A indicate that screening criteria were exceeded for di-n-butylphthalate and cyanide. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

4.5.2 AOI Group 94-B (Process Sump and Trench)

This AOI group is associated with former Building 94 and relates to a sump in the "South Lube Pit" and a trench that discharged to the process wastewater system. One soil boring and five monitoring well were installed in this area to assess potential releases from this area. The location of these soil borings are shown on Figures 4-17 and 4-18.

4.5.2.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	3	9	9	9	9	--	--
Groundwater	5	9	1	1	1	0	0

Duplicate samples are not included in sample totals.

4.5.2.2 Results

The concentrations of constituents detected in soil were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 94-B do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
1,1-Dichloroethene	0.0075	IDW (0.007)
Trichloroethene	0.95	IDW (0.005) GSI (0.029)

4.5.2.3 Conclusions

The RFI soil data from AOI 94-B indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 94-B indicate that screening criteria were exceeded for 1,1-dichloroethene and trichloroethene. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.5.3 AOI Group 94-C (Hydraulic Oil Storage Areas)

This AOI is associated with former Building 94 and relates to sumps, trenches, and hydraulic lift cylinders in hydraulic oil storage areas. Two soil borings/temporary wells were installed to assess potential releases from this area. The locations of these soil borings are shown on Figures 4-17 and 4-18.

4.5.3.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	2	4	4	4	4	--	--
Groundwater	2	2	2	2	0	2	2

Duplicate samples are not included in sample totals.

4.5.3.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 94-C do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituent that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Arsenic	0.052	IDW (0.050)

4.5.3.3 Conclusions

The RFI soil data from AOI 94-C indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 94-C indicate that screening criteria were exceeded for arsenic. The downgradient extent has been defined. Based on these results, no additional investigations are planned.

4.5.4 AOI Group 94-D (Pit for a Cable-Operated Car Elevator)

This AOI is associated with former Building 94A and relates to a pit for a cable-operated car elevator. One monitoring well was installed to assess potential releases from this area. The location of this monitoring well is shown on Figures 4-17 and 4-18.

4.5.4.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	3	3	3	3	--	--
Groundwater	1	1	1	1	1	1	0

Duplicate samples are not included in sample totals.

4.5.4.2 Results

The concentrations of constituents detected in soil were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 94-D do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the groundwater sampled collected from AOI-94-D do not exceed the screening criteria. A summary of groundwater data is presented in Appendix C of this report.

4.5.4.3 Conclusions

The RFI soil and groundwater data from AOI 94-D indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

4.5.5 AOI Group 94-E (Car-Loading Machinery and Hydraulic Oil Observed on Floor)

This AOI Group is associated with former Building 03 and relates to a car-loading device and hydraulic oil on the floor. One soil boring/temporary well was installed to assess potential releases from this area. The location of this soil boring is shown on Figures 4-17 and 4-18.

4.5.5.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	2	2	2	2	--	--
Groundwater	1	1	1	1	0	1	1

Duplicate samples are not included in sample totals.

4.5.5.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 94-E do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 94-E groundwater sample do not exceeded screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.5.5.3 Conclusions

The RFI soil and groundwater data from AOI 94-E indicate that no screening criteria were exceeded. Based on these results, no additional investigations are planned.

4.5.6 AOI Group 84-A (Elevator Pits, Sumps, a Machine Shop, Hydraulic Cylinders, and a Hydraulic Lift)

This AOI Group is associated with former Buildings 84 and 23 and relates to pits for cable-operated elevators, sumps, a machine shop area, hydraulic cylinders, and a hydraulic lift. Two soil boring/temporary wells and one monitoring well were installed to assess potential releases from this area. The locations of these soil borings and monitoring wells is shown on Figures 4-17 and 4-18.

4.5.6.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	3	7	7	7	7	--	--
Groundwater	3	3	4	3	1	3	3

Duplicate samples are not included in sample totals.

4.5.6.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 84-A do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples from AOI 84-A that exceeded the screening criteria area presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Cyanide	0.071	GSI (0.020)
Silver	0.00024	GSI (0.00020)

4.5.6.3 Conclusions

The RFI soil data from AOI 84-A indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

Cyanide and silver were detected above GSI criteria at several of the AOI monitoring wells; however, the recently obtained data for monitoring wells located closer to the river did not show GSI exceedences for those constituents. Therefore, no additional investigation activities are planned.

4.5.7 AOI Group 84-B (Sumps, Floor Drains, a Pit, a Flooded Basement, and a Below Grade Vault)

This AOI Group is associated with former Building 84 and relates to sumps, floor drains, a pit, a basement flooded with water, and a below grade vault. One soil boring/temporary well was installed to assess potential releases from this area. The location of this soil boring is shown on Figures 4-17 and 4-18.

4.5.7.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	3	3	3	3	--	--
Groundwater	1	1	1	1	0	1	1

Duplicate samples are not included in sample totals.

4.5.7.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 84-B do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 84-B groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.5.7.3 Conclusions

The RFI soil and groundwater data from AOI 84-B indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

4.5.8 AOI Group 84-C (Sumps, a Trench, and an Oil/Water Separator Pit)

This AOI Group is associated with former Building 84 and relates to sumps, a trench, and an oil/water separator pit near a car wash. One soil boring/temporary well was installed to assess potential releases from this area. The location of this soil boring is shown on Figures 4-17 and 4-18.

4.5.8.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	3	3	3	3	--	--
Groundwater	1	1	1	1	0	1	1

Duplicate samples are not included in sample totals.

4.5.8.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 84-C do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 84-C groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.5.8.3 Conclusions

The RFI soil and groundwater data from AOI 84-C indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

4.5.9 AOI Group 84-D (Former UST Farm, an AST Farm, and Drum Storage Area)

This AOI Group is associated with former Building 84 and relate to a former UST farm immediately north of former Building 84; a recessed AST farm located north of the UST farm; and a drum storage area. A prior release from this area has been documented. An IM consisting of soil excavation was performed in this area to address the prior release, as described in Section 2.4 of the RFI Phase I Report.

As part of RFI Phase II activities, monitoring well 84-6R (a replacement well for 84-6, which was damaged during demolition activities) was sampled to assess the potential for residual contamination in this area. Based on the results of this resampling, 19 step-out monitoring wells were installed. The locations of these monitoring wells are shown on Figures 4-17 and 4-18.

4.5.9.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	7	17	11	11	11	--	--
Groundwater	21	28	3	3	3+4 CN/Hg, 1 CR total, Ni	3	5

Duplicate samples are not included in sample totals.

4.5.9.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 84-D do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzene	1.44	IDW (0.005)
1,1 Dicholoethene	0.008	IDW (0.007)
Cis 1,2 Dicholoethene	0.332	IDW (0.07)
Tricholoethene	0.258	IDW (0.005)
Vinyl Chloride	0.124	IDW (0.002)
Beryllium	0.26	IDW(0.004)
Chromium	0.45	IDW (0.10)
Nickel	0.91	IDW (0.10)

4.5.9.3 Conclusions

The RFI soil data from AOI 84-D indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 84-D indicate that screening criteria were exceeded for several VOCs and inorganics. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.5.10 AOI Group 17-A (Elevator Pit)

This AOI group is associated with former Building 17 and relates to a pit for a cable-operated elevator. One soil boring/temporary well was installed to assess potential releases from this area. In addition, a monitoring well was installed in this area to assess regional groundwater characteristics at this AOI Group. The location of these soil borings and monitoring wells are shown on Figures 4-17 and 4-18.

4.5.10.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	2	4	4	4	4	--	--
Groundwater	2	3	2	2	2+1 CN/Hg, 1 Sb, Se, Ag	2	3

Duplicate samples are not included in sample totals.

4.5.10.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 17-A do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Selenium	0.011	GSI (0.0050)
Silver	0.00045	GSI (0.00020)

4.5.10.3 Conclusions

The RFI soil data from AOI 17-A indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 17-A indicate that screening criteria were exceeded for selenium and silver. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.5.11 AOI Group 02-A (Process Wastewater Sump)

This AOI group is associated with former Building 02 and relates to a sump for a process wastewater station. One soil boring/temporary well was installed to assess potential releases from this area. The location of this soil boring is shown on Figures 4-19 and 4-20.

4.5.11.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	2	2	2	2	--	--
Groundwater	1	1	1	1	0	1	1

Duplicate samples are not included in sample totals.

4.5.11.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 02-A do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 02-A groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.5.11.3 Conclusions

The RFI soil and groundwater data from AOI 02-A indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

4.5.12 AOI Group 02-B (Elevator Pit)

This AOI group is associated with former Building 02 and relates to a pit for an elevator. One soil boring/temporary well and 11 monitoring wells were installed to assess potential releases from this area and delineated LNAPL. The location of the soil boring and monitoring well are shown on Figures 4-19 and 4-20.

4.5.12.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group (including duplicate samples) are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	9	19	19	19	19	--	--
Groundwater	7	8	1	1	1	1	1
LNAPL	1	1	1	1	1	--	--

Duplicate samples are not included in sample totals.

4.5.12.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 02-B do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C.

Groundwater Analytical Results

A summary of the constituent that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Acetone	47	IDW (2.1)
Manganese	3.0	IDW (2.5)

4.5.12.3 Conclusions

The RFI soil data from AOI 02-B indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 02-B indicate that the screening criteria for acetone and manganese were exceeded. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

LNAPL was detected during the RFI Phase II activities at monitoring well RFI-02-14. The physical extent of this LNAPL has been defined.

4.5.13 AOI Group 02-C (Sump in the Materials Laboratory)

This AOI group is associated with former Building 02 and relates to a sump in the Materials Laboratory. One soil boring/temporary well (RFI-02-03) and three soil borings were installed to assess potential exceedences from this area. The location of these soil borings are shown on Figures 4-19 and 4-20.

4.5.13.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	5	2	2	2	2 + 3 Pb, 1 Cr VI	--	--
Groundwater	1	1	1	1	0	1	1

Duplicate samples are not included in sample totals.

4.5.13.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituent that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Total chromium	390	IPSIC (240)
Lead	2,000	IDC (900)

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 02-C groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.5.13.3 Conclusions

The RFI soil data from AOI 02-C indicate that screening criteria were exceeded for chromium and lead. The physical extent of these releases has been defined; therefore, no additional investigation activities are planned. The 0-2 foot depth interval at RFI-02-03 was resampled for chromium (total) and chromium VI to speciate the chromium (total) concentration at this location. The speciated chromium concentrations did not exceed the valence specific criteria for chromium III or VI.

The RFI groundwater data for AOI 02-C indicate that no screening criteria were exceeded. Based on these results, no further groundwater investigation will be performed.

4.5.14 AOI Group 02-D (Press Machine Pit)

This AOI group is associated with former Building 02, and relates to a pit for a large press machine. One soil boring/temporary well was installed to assess potential exceedences from this area. The location of this soil boring is shown on Figure 4-19 and 4-20.

4.5.14.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	3	3	3	3	--	--
Groundwater	1	1	1	1	0	1	1

Duplicate samples are not included in sample totals.

4.5.14.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 02-D do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 02-D groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.5.14.3 Conclusions

The RFI soil and groundwater data from AOI 02-D indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

4.5.15 AOI Group 02-E (Former UST)

This AOI group is associated with former Building 02 and relates to a former UST. One monitoring well was installed to assess potential releases from this area. The location of this monitoring well is shown on Figures 4-19 and 4-20.

4.5.15.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group (including duplicate samples) are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	2	2	2	2	--	--
Groundwater	1	1	1	1	2	1	1

Duplicate samples are not included in sample totals.

4.5.15.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 02-E do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 02-E groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

4.5.15.3 Conclusions

The RFI soil and groundwater data from AOI 02-E indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

4.5.16 AOI Group 02-F (Hydraulic Oil AST and Pump)

This AOI group is associated with former Building 02 and relates to a hydraulic oil AST and a pump used for the operation of the "Hydraulic Anchor Pac Area." One soil boring and two monitoring wells are installed to assess potential releases from this area. The locations of the soil boring and monitoring wells are shown on Figures 4-19 and 4-20.

4.5.16.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	3	8	8	8	8	--	--
Groundwater	2	2	1	1	4 + 1 Mn	1	2

Duplicate samples are not included in sample totals.

4.5.16.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 02-F do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Groundwater Analytical Results

A summary of the constituent that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Manganese	3.7 J	IDW (2.5)

4.5.16.3 Conclusions

The RFI soil data from AOI 02-F indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 02-F indicate that screening criteria were exceeded for manganese. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

4.5.17 AOI Group 23-A (Process Waste Sumps, Dock Levelers, and Basements Used for Heat Treat Process Water)

This AOI group is associated with former Building 23 and relates to sumps discharging to the process waste system, dock levelers, and basements used for treatment of water used in the heat treat process. Two monitoring wells were installed to assess potential releases from this area. In addition, a grab sample of residual LNAPL and water was collected from the basement area. The locations of these monitoring wells are shown on Figures 4-19 and 4-20.

An abandoned utility tunnel adjacent to former Building 23 was noted to contain an approximately one-inch-thick layer of oil floating on standing water. Removal of this oil has been performed as described in Section 5.3.

4.5.17.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	2	3	3	3	3	--	--
Groundwater	2	2	6	2	1+2 CN/Hg	2	2
LNAPL	1	1	1	1	1 Pb	--	--
Basement Water Grab Samples	1	1	1	1	--	--	--

Duplicate samples are not included in sample totals.

A grab sample was collected from the water contained in the basement of former Building 23 and is included in the count of samples with the groundwater.

4.5.17.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 23-A do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of constituents that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and in Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Pentachlorophenal	0.003	IDW (0.001)

Basement Water Grab Samples Analytical Result

Analytical results for the water samples collected from basements were compared to groundwater criteria. A summary of the constituents detected in the grab water samples (basement samples) that exceeded the groundwater screening criteria is presented below. A summary of analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzo(a)anthracene	0.011	IDW(0.0085) GCC(0.0094)
Benzo(a)pyrene	0.011	IDW(0.0050) GCC(0.0020)
Benzo(b)fluoranthene	0.066	IDW(0.0020) GCC(0.0020)
Benzo(k)fluoranthene	0.0088	IDW(0.0050) GCC(0.0050)
Chrysene	0.010	IDW(0.0050) GCC(0.0050)
Indeno(1,2,3-cd)pyrene	0.017	IDW(0.0020) GCC(0.0020)
Lead	0.0077	IDW(0.004)

4.5.17.3 Conclusions

The RFI soil data from AOI 23-A indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 23-A indicate that screening criteria were exceeded for pentachlorophenol. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The RFI data from the basement grab sample indicate that generic screening criteria for groundwater were exceeded for several SVOCs and lead. The water in the basement is likely the result of precipitation that has accumulated since the building was demolished, and the LNAPL present floating on the surface of this water is likely residual remaining in the basement following building demolition activities. It is not likely that this LNAPL is the result of infiltration into the basement from the surrounding area, since the only known subsurface presence of LNAPL in this area is associated with the former Building 12 area, which is more than 200 feet upgradient. LNAPL has not been observed in soil borings or any temporary monitoring wells located between the Building 12 area and the basement. Also, corresponding groundwater exceedences were not noted in the vicinity of this basement. No additional investigation activities in this area are planned.

4.5.18 AOI Group 29-A (Elevator Pit and Observed Oil Staining)

This AOI group is associated with former Building 29 and relates to a pit for a cable-operated elevator and former work pads with oil staining. One soil boring/temporary well and two soil borings were installed to assess potential releases in this area. The location of these soil borings are shown on Figures 4-19 and 4-20.

4.5.18.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	3	2	2	2	2 + 2 Pb	--	--
Groundwater	1	1	1	1	0	1	1

Duplicate samples are not included in sample totals.

4.5.18.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituent that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Lead	1,500	IDC (900)

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 29-A groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.5.18.3 Conclusions

The RFI soil data from AOI 29-A indicate that screening criteria were exceeded for lead. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

The RFI groundwater data from AOI 29-A indicate that no screening criteria were exceeded. Based on these results, no further groundwater investigation will be performed.

4.5.19 AOI Group 12-A (Press Pits, Sumps, Trenches, Traps, and Floor Staining)

This AOI group is associated with former Building 12 and relates to several press pits and associated sumps, pits, trenches, traps, and floor staining. Three soil borings, six soil boring/temporary wells, and 15 monitoring wells were installed to assess potential releases and delineate LNAPL from this area. In addition, a grab sample of the water in the basement area was collected, and existing monitoring well 04-121 was sampled to provide upgradient groundwater quality. The locations of these soil borings and monitoring wells are shown on Figures 4-19 and 4-20.

4.5.19.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	24	48	48	48	48 +9 Pb	--	--
Groundwater	13	14	14	12	5 + 2 CN/Hg	9	9
LNAPL	2	2	2	2	2	--	--
Basement Water Grab Sample	1	1	1	1	1	--	--

Duplicate samples are not included in sample totals.

4.5.19.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituent that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Chromium	360	IPSIC (260)
Lead	11,000	IDC (900)
Manganese	2,200	IPSIC (1,500)

Groundwater Analytical Results

A summary of the constituents that exceeded the MDEQ Part 201 Industrial Criteria are presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Tetrachloroethene	0.0057	IDW(0.005)
Vinyl Chloride	0.040	IDW (0.002)
Arsenic	0.06	IDW (0.05)
Beryllium	0.27	IDW (0.004)
Cadmium	0.007	IDW (0.005)
Chromium	0.12	IDW (0.1)
Lead	0.059	IDW (0.004)
Nickel	0.12	IDW (0.1)
Thallium	0.004	IDW (0.002)
Vanadium	0.14	IDW(0.062)

Basement Water Grab Sample Analytical Results

Analytical results for the water samples collected from basements were compared to groundwater criteria. A summary of the constituents detected in the grab water samples (basement samples) that exceeded the groundwater screening criteria is presented below. A summary of analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
bis(2-Ethylhexyl)phthalate	0.024	IDW (0.006)
Lead	0.0079	IDW (0.004)

4.5.19.3 Conclusions

The RFI soil data from AOI 12-A indicate that screening criteria were exceeded for chromium, lead, and manganese. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

The RFI groundwater data from AOI 12-A indicate screening criteria were exceeded for tetrachloroethene, vinyl chloride, and lead. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The RFI data from the basement grab sample indicate that generic screening criteria for groundwater were exceeded for bis(2-ethylhexyl)phthalate and lead. The water in the basement was likely the result of precipitation that had accumulated since the building was demolished. Bis(2-ethylhexyl)phthalate criteria were

also exceeded in groundwater samples near this basement, but are likely attributed to sample equipment (tubing) contamination (refer to Section 5.2.3 of the RFI Phase I Report). Lead was not detected at concentrations above screening criteria in downgradient groundwater samples from monitoring wells. The basement area was filled with crushed concrete as part of the building demolition activities, performed subsequent to the sampling of the basement water. No additional investigation activities are planned.

LNAPL was detected during the RFI Phase II activities in this area. The physical extent of this LNAPL has been defined.

4.5.20 AOI Group 12-B (Truck Loading Dock Drain and Sump)

This AOI group is associated with former Building 12 and relates to a drain within a truck loading dock, and leading to a sump that discharged to the process wastewater system. One soil boring, one soil boring/temporary well, and six monitoring wells were installed to assess potential exceedences and delineate LNAPL from this area. The locations of these soil borings and monitoring wells are shown on Figures 4-19 and 4-20.

4.5.20.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	4	10	10	10	10	--	--
Groundwater	2	3	2	2	1+1 CN/Hg	2	2
LNAPL	2	2	2	2	2+1 CN/Hg	--	--

Duplicate samples are not included in sample totals.

4.5.20.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of constituents in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Manganese	1,900	IPSIC (1,500)

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 12-B groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D.

4.5.20.3 Conclusions

The RFI soil and groundwater data from AOI 12-B indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

LNAPL was detected during the RFI Phase II activities in this area. The physical extent of this LNAPL has been defined.

4.5.21 AOI Group 12-C (Sump In Battery Charging Area, Deep Steam Pipe, and a Utility Pit Containing Oil and Water)

This AOI group is associated with former Building 12 and relates to a sump that collected runoff from a battery charging area, a deep steam pipe, and an old utility pit with oil and water present. One soil boring/temporary well was installed to assess potential releases from this area. The location of this soil boring is shown on Figures 4-19 and 4-20.

4.5.21.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	2	2	2	2	--	--
Groundwater	1	1	1	1	0	1	1
LNAPL	1	1	1	1	1	--	--

Duplicate samples are not included in sample totals.

4.5.21.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 12-C do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituent that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Vanadium	0.076	IDW (0.062)

4.5.21.3 Conclusions

The RFI soil data from AOI 12-C indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 12-C indicate that screening criteria were exceeded for vanadium. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

4.5.22 AOI Group 12-D (Abandoned, Flooded Utility Tunnel)

This AOI group is associated with former Building 12 and relates to an abandoned, flooded utility tunnel running north from east of former Building 12, under Division Street, to the former powerhouse area. This is the same tunnel described for AOI Group 23-A (Section 4.5.17). One soil boring/temporary well was installed to assess potential releases from this area. The location of this soil boring is shown on Figures 4-19 and 4-20.

4.5.22.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	2	2	2	2	--	--
Groundwater	1	1	1	1	0	1	1

Duplicate samples are not included in sample totals.

4.5.22.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 12-D do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 12-D groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.5.22.3 Conclusions

The RFI soil and groundwater data from AOI 12-D indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

4.5.23 AOI Group 04-A (Process Waste Room and Waste Pit)

This AOI group is associated with former Building 04 and relates to the "Process Waste Room" and the "Foam Depressor Process Waste Pit 3," both of which discharged to the process wastewater system. One soil boring/temporary well was installed to assess potential releases from this area. The location of this soil boring is shown on Figures 4-21 and 4-22.

4.5.23.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	2	2	2	2	--	--
Groundwater	1	1	1	1	0	1	1

Duplicate samples are not included in sample totals.

4.5.23.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 04-A do not exceed screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
cis-1,2-Dichloroethene	0.13	IDW (0.070)
Trichloroethene	0.059	IDW (0.005)

4.5.23.3 Conclusions

The RFI soil data from AOI 04-A indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 04-A indicate screening criteria were exceeded for cis-1,2-dichloroethene and trichloroethene. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.5.24 AOI Group 04-B (Elevator Pits)

This AOI group is associated with former Building 04 and relates to a pit for a passenger elevator and two pits for freight elevators. Two soil boring/temporary wells were installed to assess potential releases from this area. The location of these soil borings are shown on Figures 4-21 and 4-22.

4.5.24.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	2	5	5	5	5	--	--
Groundwater	2	2	2	2	0	2	2

Duplicate samples are not included in sample totals.

4.5.24.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 04-B do not exceed screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 04-B groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.5.24.3 Conclusions

The RFI soil and groundwater data from AOI 04-B indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

4.5.25 AOI Group 04-C (Elevator Pit)

This AOI group is associated with former Building 04 and relates to a pit for a cable-operated elevator. One soil boring/temporary well was installed to assess potential releases from this area. The location of this soil boring is shown on Figures 4-21 and 4-22.

4.5.25.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	3	3	3	3	--	--
Groundwater	1	1	1	1	0	1	1

Duplicate samples are not included in sample totals.

4.5.25.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 04-C do not exceed screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 04-C groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.5.25.3 Conclusions

The RFI soil and groundwater data from AOI 04-C indicate that no screening criteria were exceeded. Based on these results, no additional activities are planned.

4.5.26 AOI Group 04-D (Former USTs)

This AOI group is associated with former Building 04 and relates to former USTs located immediately south of Building 04. An IM was implemented in this area to address a release of oil, as described in Section 2.4 of the RFI Phase I Report. No additional soil borings or monitoring wells were installed in this area; however, five existing downgradient monitoring wells (04-1, 04-2, 04-3, 04-4, and 04-5) were sampled. The locations of these monitoring wells are shown on Figures 4-21 and 4-22.

4.5.26.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	0	0	0	0	0	--	--
Groundwater	5	7	5	6	6 CN/Hg	5	5

Duplicate samples are not included in sample totals.

4.5.26.2 Results

The concentrations of constituents detected in groundwater were compared with the screening criteria as discussed in Section 4.1.

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 04-D groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

4.5.26.3 Conclusions

The RFI groundwater data from AOI 04-D indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

4.5.27 AOI Group 16-A (Vehicle Fill-Up Station, Automatic Transmission Pump House, and a Gas Pump Station)

This AOI group is associated with former Building 16 and relates to a deep pit that collected fluid runoff of cars in a vehicle fill-up station, an automatic transmission pump house containing a gravity floor drain, and a gas pump station for cars in the finishing stage. One monitoring well was installed to assess potential releases from this area. The location of this monitoring well is shown on Figures 4-21 and 4-22.

4.5.27.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	3	3	3	3	--	--
Groundwater	1	1	1	1	1 CN/Hg	1	1

Duplicate samples are not included in sample totals.

4.5.27.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 16-A do not exceed screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 16-A groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.5.27.3 Conclusions

The RFI and groundwater soil data from AOI 16-A indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

4.5.28 AOI Group 16-B (Elevator Pit)

This AOI group is associated with former Building 16 and relates to pit for a hydraulic elevator. One soil boring/temporary well was installed to assess potential releases from this area. The location of this soil boring is shown on Figures 4-19 and 4-20.

4.5.28.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	3	3	3	3	--	--
Groundwater	1	1	1	1	0	1	1

Duplicate samples are not included in sample totals.

4.5.28.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 16-B do not exceed screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 16-B groundwater sample do not exceed applicable screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.5.28.3 Conclusions

The RFI soil and groundwater data from AOI 16-B indicate that no screening criteria were exceeded. Based on these results, no additional activities are planned.

4.5.29 AOI Group 16-C (Hydraulic Oil, Former AST, and Former USTs)

This AOI group is associated with former Building 16 and relates to hydraulic oil with external AST that was used for hydraulic lift to a Dumpster and former USTs located along the side of former Building 16. Two soil boring/temporary wells and one monitoring were initially installed in this area. Following these initial investigation activities, a confirmed release notice was submitted, detailing a release from USTs 113, 114, and 115. Subsequently, ten soil borings and nine monitoring wells were installed in this area. The locations of these soil borings and monitoring wells are shown on Figures 4-21 and 4-22.

4.5.29.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	13	26	22	22	22	--	--
Groundwater	10	15	10	9	4 + 5 CN/Hg	8	7+2 Pb
LNAPL	4	3	3	3	3	--	--

Duplicate samples are not included in sample totals.

4.5.29.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in soil samples from AOI 16-C do not exceed screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Groundwater Analytical Result

A summary of the constituents that exceeded the MDEQ Part 201 Industrial Criteria are presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzene	0.21	IDW (0.005)
Beryllium	0.044	IDW (0.004)
Selenium	0.18	IDW (0.050)

4.5.29.3 Conclusions

The RFI soil data from AOI 16-C indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

The RFI groundwater data from AOI 16-C indicate that screening criteria were exceeded for benzene, beryllium, and selenium. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

LNAPL was detected in this AOI during investigation activities. This LNAPL was determined to be associated with several USTs identified in this area. A confirmed release was documented for these USTs, and their removal was conducted under Parts 211 and 213 of NREPA. The physical extent of LNAPL in this area has been defined.

4.5.30 AOI Group 16-D (Former UST and Process Wastewater Sump)

This AOI group is associated with former Building 16 and relates to a former UST and a sump that discharged to the process wastewater system. One soil boring/temporary well was installed to assess potential exceedences from this area. The location of this soil boring is shown on Figures 4-19 and 4-20.

4.5.30.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	1	2	2	2	2	--	--
Groundwater	1	1	1	1	0	1	1

Duplicate samples are not included in sample totals.

4.5.30.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 16-D do not exceed screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 16-D groundwater sample do not exceed screening criteria. A summary of groundwater analytical data is presented in Appendix D.

4.5.30.3 Conclusions

The RFI soil and groundwater data from AOI 16-D indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

4.5.31 AOI Group 40-A (Former UST Farm)

This AOI group is associated with former Building 40 and relates to a former UST farm located between Buildings 02 and 40. A prior release from this area has been documented. One soil boring/temporary well was installed to further assess the downgradient extent of residual contamination in this area. In addition, six existing monitoring wells (40-1, 40-2, 40-3, 40-4, 40-5, and 40-6) were sampled to provide current groundwater quality data. Monitoring well 40-7 was not sampled as planned in the RFI Work Plan, because the well was destroyed during building demolition activities, and the replacement well 40-7R2 exhibited the presence of measurable LNAPL. Nearby and downgradient borings/wells (RFI-40-05 through -09) were sampled to meet the groundwater monitoring objectives for the AOI, as discussed with USEPA on April 4, 2002. Subsequently, seven soil borings, four monitoring wells, and three additional replacement wells were installed in this area. The location of these soil borings and monitoring wells are shown on Figures 4-19, 4-20, 4-21, and 4-22.

4.5.31.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	15	34	37	34	34	--	--
Groundwater	13	23	9	9	10 +6 CN/Hg, 1 As/CN/Pb	8	10
LNAPL	1	1	1	1	1		

Duplicate samples are not included in sample totals.

4.5.31.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of constituents in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of this RFI Phase I Report and Appendix B of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Benzo(a)pyrene	36	IDC(8.0)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzene	5.5	IDW (0.005)
Ethylbenzene	0.80	IDW (0.70)
Arsenic	0.44	IDW (0.050)
Beryllium	0.19	IDW (0.004)
Cyanide	0.44	IDW (0.20)
Lead	0.0064	IDW(0.004)

4.5.31.3 Conclusions

The RFI soil data from AOI 40-A indicate that screening criteria were exceeded for benzo(a)pyrene. The physical extent of this exceedence has been defined; therefore, no additional investigation activities will be performed.

The RFI groundwater data from AOI 40-A indicate that screening criteria were exceeded for several VOCs and inorganic constituents. The physical extent of the exceedences has been defined; therefore, no additional investigation activities are planned.

LNAPL was detected during RFI Phase II investigation activities in this area. The physical extent of LNAPL has been defined.

4.5.32 AOI Group 40-B (Elevator Pit)

This AOI group is associated with former Building 40 and relates to a pit for an elevator. Two monitoring wells were installed to assess potential releases from this area. The locations of the monitoring wells are shown on Figures 4-21 and 4-22.

4.5.32.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	2	4	4	4	4	--	--
Groundwater	2	3	1	1	1 CN/Hg	1	1

Duplicate samples are not included in sample totals.

4.5.32.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 40-B do not exceed screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
cis-1,2-Dichloroethene	0.093	IDW(0.070)
Trichloroethene	0.10	IDW (0.005)
Vinyl chloride	0.0078	IDW(0.002)

4.5.32.3 Conclusions

The RFI soil data from AOI 40-B indicate that no screening criteria were exceeded. Based on these results, no further soil investigation will be performed.

The RFI groundwater data from AOI 40-B indicate screening criteria were exceeded for several VOCs. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

4.5.33 AOI Group 40-C (Elevator Pit)

This AOI group is associated with former Building 40 and relates to a pit for a cable-operated elevator. Two monitoring wells were installed to assess potential releases from this area. The locations of these wells are shown on Figures 4-21 and 4-22.

4.5.33.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	2	4	2	2	2	--	--
Groundwater	2	4	1	1	1+1 CN/Hg	1	1

Duplicate samples are not included in sample totals.

4.5.33.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 40-C do not exceed screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Groundwater Analytical Results

The concentrations of constituents detected in the AOI 40-C groundwater sample that exceeded the screening criteria are presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Trichloroethene	0.12	IDW (0.005)
Vinyl chloride	0.0030	IDW(0.002)
Beryllium	0.0052	IDW(0.004)

4.5.33.3 Conclusions

The RFI soil data from AOI 40-C indicate that no screening criteria were exceeded. Based on these results, no further activities are planned.

The RFI groundwater data from AOI 40-C indicate that screening criteria were exceeded for trichloroethene, vinyl chloride, and beryllium. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.5.34 AOI Group 40-D (Flooded Basement/Tunnel Area)

This AOI group is associated with former Building 40 and relates to a basement/tunnel area flooded with water. A grab sample was collected from the groundwater within the basement/tunnel. One monitoring well was installed to assess potential exceedences from this area. In addition, four existing monitoring wells (40-301, 40-302, 40-304, and 40-305) were sampled, and one existing monitoring well (40-303) was reinstalled and sampled. A grab sample was collected from the water contained in the basement/tunnel connecting former Buildings 16 and 40, and is included in the count of samples. The locations of these monitoring wells are shown on Figures 4-21 and 4-22.

The report titled *Cleanup and Disposal of PCB Remediation Waste, Building 40 Tunnel and Basement* (BBL, 2004) (Building 40 Trench/Basement Remediation Report) describes work completed to investigate the tunnel and presents a plan for remediation. This report was submitted to the USEPA on January 7, 2004, and conditionally approved by USEPA via letter dated September 13, 2005. The basement and tunnel area were filled in accordance with the remediation plan in May 2006. The only remaining actions planned to address this area include the implementation of institutional controls (e.g., deed restriction).

4.5.34.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	2	6	6	6	6	--	--
Groundwater	6	15	5	5	3 + 3 CN/Hg, 2 Be/Pb	5	6 +1 Be/Pb
Basement water	1	1	1	1	1	1	1

Duplicate samples are not included in sample totals.

4.5.34.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from AOI 40-D do not exceed screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of the report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Vinyl chloride	0.0058	IDW (0.002)
Lead	0.0092	IDW (0.004)

Basement Grab Water Samples

Analytical results for the water samples collected from basements were compared to groundwater criteria. Concentrations of constituents detected in the grab water samples (basement samples) do not exceed the groundwater screening criteria. A summary of analytical data is presented in Appendix C of this report.

4.5.34.3 Conclusions

The RFI soil data from AOI 40-D indicate that no screening criteria were exceeded. Based on these results, no further activities are planned.

The RFI groundwater data from AOI 40-D indicate that screening criteria were exceeded for vinyl chloride and lead. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The basement and tunnel area were filled in accordance with the remediation plan in May 2006. The only remaining actions planned to address this area include the implementation of institutional controls (e.g., deed restriction).

4.5.35 AOI Group 44-A (Sumps, Pits, Trenches, Drains, Floor Stains, and ASTs)

This AOI group is associated with former Buildings 44, 04, and 08 and relates to several sumps, pits, trenches, drains, stains, ASTs, and other observed areas. Four soil borings, three soil boring/temporary wells, and three monitoring wells were installed to assess potential releases from this area. In addition, three existing monitoring wells (04-120, 04-140, and 04-160) were sampled to provide current groundwater quality data. During the investigations, monitoring well RFI-44-06 was found to be dry and was reinstalled. The locations of these soil borings and monitoring wells are shown on Figures 4-21 and 4-22.

4.5.35.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	8	16	16	16	16 + 3 Mn	--	--
Groundwater	9	11	9	13	3 + 4 CN/Hg + 1 CN	10	10

Duplicate samples are not included in sample totals.

4.5.35.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituent that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Manganese	5,000	IPSIC (1,500)

Groundwater Analytical Results

A summary of the constituents that exceeded the MDEQ Part 201 Industrial Criteria are presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzo(a)anthracene	0.014	IDW (0.0085) GCC (0.0094)
Benzo(a)pyrene	0.015	IDW (0.005) GCC (0.002)
Benzo(b)fluoranthene	0.016	IDW (0.002) GCC (0.002)
Benzo(g,h,i)perylene	0.0079	IDW (0.005) GCC (0.005)
Benzo(k)fluoranthene	0.014	IDW (0.005) GCC (0.005)
Chrysene	0.016	IDW (0.005) GCC (0.005)
Indeno(1,2,3-cd)pyrene	0.0079	IDW (0.002) GCC (0.002)
Total PCBs	0.0011	IDW (0.0005)
Antimony	0.042	IDW(0.006)
Chromium	0.38	IDW(0.10)
Lead	0.075	IDW(0.004)
Nickel	0.51	IDW(0.10)
Selenium	0.052	IDW (0.050)

4.5.35.3 Conclusions

The RFI soil data from AOI 44-A indicate that screening criteria were exceeded for manganese. Several step-out locations to define the physical extent of this exceedence could not be sampled due to the presence of concrete in those specific depth intervals. Further sampling to further define those conditions is not practical due to the pervasive subsurface concrete.

The RFI groundwater data from AOI 44-A indicate that screening criteria were exceeded for several PAHs, total PCBs, and several inorganics. The physical extent of the exceedences for total PCBs and inorganics has been defined. The physical extent of the exceedences of PAHs was to be investigated by sampling groundwater from monitoring well RFI-44-06; however, this well was dry. Replacement well RFI-44-06R was sampled for SVOCs, and no PAHs were detected. Based on these results, no further investigations are planned for this area.

4.5.36 AOI Group 09-A (Former USTs, Floor Trenches, and Former AST)

This AOI group is related to a floor trench/UST that discharged to the process wastewater system, floor trenches over a holding tank in the "vehicle wash area," a concrete containment for a former AST, and a former UST, all located in or near former Building 09. Twenty-one soil borings, two soil boring/temporary wells, and eight monitoring wells were installed to assess potential screening criteria exceedences in this area. In addition, existing non-GM monitoring wells MW-21, MW-22, MW-23, MW-24, MW-25, and MW-26 were sampled. Monitoring wells RFI-09-01 and RFI-09-04 were reinstalled. The locations of these soil borings and monitoring wells are shown on Figures 4-23 and 4-24.

4.5.36.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	31	23	26	24	18 + 1Ba/Pb, 16 Pb, and 15 Mn	--	--
Groundwater	16	28	4	4	2 + 1 Pb/Mn, 1 Sb/Se, 3 Pb, 2 Pb/Mn, 1 Sb/Se/Pb, and 1 Sb	4	4 + 1 Pb/Mn, 1 Pb
LNAPL	1	1	1	1	1	--	--

Duplicate samples are not included in sample totals.

4.5.36.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/kg)	Screening Criteria Exceeded (concentration)
Benzo(a)pyrene	57	IDC (8.0)
Dibenzo(a,h)anthracene	11	IDC (8.0)
Lead	120,000	IDC (900) IPSIC (44,000)
Manganese	8,300	IPSIC (1,500)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
1,1,1-Trichloroethane	0.258	IDW(0.2)
Trichloroethene	0.184	IDW (0.005)
Vinyl chloride	0.0038	IDW (0.002)
Antimony	0.016	IDW(0.006)
Lead	0.026	IDW (0.004)

4.5.36.3 Conclusions

The RFI soil data from AOI 09-A indicate that screening criteria were exceeded for benzo(a)pyrene, dibenzo(a,h)anthracene, lead, and manganese. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The RFI groundwater data from AOI 09-A indicate that screening criteria were exceeded for 1,1,1-trichlorethane, trichloroethene, vinyl chloride, antimony, and lead. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

4.5.37 AOI Group 09-B (Hamilton Avenue Tank Farm)

This AOI Group is associated with the Former Building 31/Hamilton Avenue Tank Farm. Ten soil borings, one soil boring/temporary well, and 21 monitoring wells were installed to assess potential screening criteria exceedences and to delineate LNAPL in this area. In addition, six existing monitoring wells (31-5, 31-6, 31-8,

MW-22, MW-23, and MW-24) were sampled. The locations of these soil borings and monitoring wells are shown on Figures 4-23 and 4-24.

4.5.37.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	25	47	42	44	40 + 6Ba/Pb,	--	--
Groundwater	28	53	11	12	14 + 5 CNHg, 4 Sb/Se, 1 As/Pb, 1 CN and 2 Ba/Sb/Se	12	13 + 1 Ba/Pb, 1 CN, and 1 Sb/Se
LNAPL	2	2	2	2	2	--	--

Duplicate samples are not included in sample totals.

4.5.37.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

A summary of the constituents detected in soil samples that exceeded the screening criteria is presented below. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzo(a)pyrene	13	IDC(8.0)
Lead	1,200	IDC(900)
Manganese	1,800	IPSIC(1,500)

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzene	1.21	IDW (0.005)
Ethylbenzene	1.0	IDW (0.70)
Methylene chloride	0.0074	IDW (0.005)
Xylenes (Total)	0.053	GSI (0.035)
Total PCBs	0.0017	IDW (0.005)
Antimony	0.0068	IDW (0.006)
Arsenic	0.061	IDW (0.050)
Barium	1.5	GSI (0.82)
Lead	0.0058	IDW (0.004)
Selenium	0.052	IDW (0.050)

Only data collected from within 500 feet of the Flint River is compared to GSI criteria.

4.5.37.3 Conclusions

The RFI soil data from AOI 09-B indicate that screening criteria were exceeded for benzo(a)pyrene, manganese, and lead. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The RFI groundwater data from AOI 09-B indicate that screening criteria were exceeded for several VOCs, total PCBs, and several inorganic constituents. Based on groundwater elevation data collected in July 2005, the groundwater in this area appears to be discharging to the sewer. The physical extent of these exceedences has been defined; therefore, no additional investigation activities are planned.

The physical extent of LNAPL detected in monitoring well 31-7 has been defined; therefore, no additional investigation activities are planned.

4.6 Other AOIs

This section describes additional areas not associated with AOIs previously described in the RFI Work Plan. Four of these areas (the Former Aeration Lagoons Area, the Harriet Street Area, Administration Building Area, and Former Building 94 Employee Parking Lot Area) were initially investigated for the purpose of potential property transfers. Subsequent investigations in these areas were conducted under this RFI. The remaining area (Former Employee Parking Lot Located North of Oak Park) was investigated in 2005 in anticipation of a potential leasing opportunity. The investigation activities associated with these areas are discussed below.

4.6.1 Former Aeration Lagoons Area

This AOI consists of the former Aeration Lagoons and the vacant area immediately south of the former Aeration Lagoons. Six soil borings and three soil boring/temporary wells were installed to assess potential releases in this

area. In addition, four existing monitoring wells (GM-1, GM-4, GM-11, and GM-12) were sampled. The locations of these soil borings and monitoring wells are shown on Figures 4-27 and 4-28.

4.6.1.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	9	14	14	43	14	--	--
Groundwater	7	8	8	4	2	4	8

Duplicate samples are not included in sample totals.

4.6.1.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from the former Aeration Lagoons Area do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report. It should be noted that the initial soil sampling effort performed in this area (locations WL-B1, -B2, B3, -B4/TW1, -B5/TW-2, -B6/TW-3 shown on Figure 4-27) did not initially include the analysis of PCBs. However, samples from multiple depths at each of these initial borings were later collected and analyzed for PCBs (2-foot depth intervals representing the full depth of each boring), after PCBs were identified in drill cuttings from the original borings. Although PCBs were detected in a total of four of these samples, the detected concentrations were all less than 1 ppm, averaging only 0.4 ppm. PCBs were not detected in any of the subsequent RFI soil samples collected within this area (locations RFI-07-12, RFI-07-13, and RFI-07-14 shown on Figure 4-27).

Groundwater Analytical Results

The concentrations of constituents detected in the groundwater samples from the former Aeration Lagoons Area do not exceed the screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.6.1.3 Conclusions

The RFI soil and groundwater data from the former Aeration Lagoons Area indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

4.6.2 Harriet Street Area USTs

This AOI consists of a 2.3-acre fenced, vacant lot at the southwestern corner of Harriet Street and Industrial Avenue. As part of an investigation related to potential property transfer, several USTs were discovered on the property. The activities associated with the investigation, and the removal of the USTs, are described in a document entitled *Underground Storage Tank Closure Report - Harriet Street Property* (BBL, December 2001). Sixteen soil borings, four soil boring/temporary wells, and one monitoring well were installed to assess potential releases from this area. The locations of these soil borings and monitoring wells are shown on Figures 4-25 and 4-26.

4.6.2.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	18	19	15	34	6	--	--
Groundwater	5	5	4	2	0	0	2

Duplicate samples are not included in sample totals.

4.6.2.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from the Harriet Street Property area do not exceed screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzene	0.044	IDW(0.005)

4.6.2.3 Conclusions

The RFI soil data for the Harriet Street Property Area indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

The RFI groundwater data from the Harriet Street Property Area indicate that screening criteria were exceeded for benzene; however, activities related to this exceedence have been conducted as part of the UST removals in the report described above. Based on these results, no additional investigation activities are planned.

4.6.3 Former Administration Building Area (Transformer Yard, Soil Stockpile Area, and Former USTs)

This area consists of the former Administration Building (Building 01), employee parking lot and immediate surroundings. During a review of the property for potential property transfer, three potential areas of concern (PAOC) were identified. PAOC 1 was identified as a transformer yard. PAOC 2 was identified on the basis of a currently disturbed area of soil and historical VOC detections from a soil stockpile; the soil was excavated during underground utility installation activities. Additionally, there is an underground tunnel that connected a gasoline pump on the Administration Building property to the Hamilton Avenue Tank Farm. PAOC 3 was identified because of the presence of a former commercial, non-GM filling station with two gasoline tanks. Because of the potential presence of the two gasoline tanks at PAOC 3, a geophysical survey was completed in November 2001. The geophysical survey identified an anomaly that may be the two underground storage tanks. A test pitting program was implemented to determine the source of the geophysical anomaly and USTs were not found. One soil boring/temporary well and four monitoring wells were installed in this area. The locations of these soil borings and monitoring wells are shown on Figures 4-25 and 4-26.

4.6.3.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	4	11	11	11	11	--	--
Groundwater	4	6	2	2	2	2	2

Duplicate samples are not included in sample totals.

4.6.3.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from the Administration Building Area do not exceed the screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Groundwater Analytical Results

A summary of the constituents detected in groundwater samples that exceeded the screening criteria is presented below. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report and Appendix C of this report.

Constituent Detected Above Screening Criteria	Maximum Concentration Detected (mg/L)	Screening Criteria Exceeded (concentration)
Benzene	0.087	IDW(0.005)

4.6.3.3 Conclusions

The RFI soil data from the Administrative Building area indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

The RFI groundwater data from the Administration Building Area indicate that screening criteria were exceeded for benzene. The physical extent of this exceedence has been defined; therefore, no additional investigation activities are planned.

4.6.4 Former Building 94 Employee Parking Lot

This AOI consists of the former Building 94 Employee Parking Lot. Five soil borings and two soil boring/temporary wells were installed to assess potential releases in this area. In addition, existing monitoring well 94-100 was sampled. The locations of these soil borings and monitoring wells are shown on Figures 4-17 and 4-18.

4.6.4.1 Scope

The number of sampling locations for each medium and the numbers of samples analyzed for each analyte group are as follows:

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	7	14	14	18	9	--	--
Groundwater	2	2+ 1 formaldehyde	2	2	0	2	2

Duplicate samples are not included in sample totals.

4.6.4.2 Results

The concentrations of constituents detected in soil and groundwater were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from the former Building 94 Employee Parking Lot Area do not exceed the applicable screening criteria; however, PCBs were detected at one location at concentrations exceeding residential screening criteria. A summary of soil analytical data is presented in Appendix C of the RFI Phase I Report and Appendix B of this report.

Groundwater Analytical Results

The concentrations of constituents detected in the groundwater samples from the former Building 94 Employee Parking Lot Area do not exceed the applicable screening criteria. A summary of groundwater analytical data is presented in Appendix D of the RFI Phase I Report.

4.6.4.3 Conclusions

The RFI soil and groundwater data from the former Building 94 Employee Parking Lot area indicate that no release exceeding the screening criteria has occurred; however, two additional soil borings (EP 94-02C and EP 94-02D) were installed and sampled for PCBs to delineate the residential criteria exceedence of PCBs. No additional investigation activities are planned.

4.6.5 Former Employee Parking Lot North of Oak Park

This area consists of the former employee parking lot located north of Oak Park and west of the former Building 12. Twelve soil borings were installed to assess potential releases in this area. The location of these soil borings is shown on Figure 4-19.

Media	Locations	VOCs	SVOCs	Total PCBs	Total Inorganics	Dissolved PCBs	Dissolved Inorganics
Soil	12	12	3	0	0	--	--
Groundwater	0	0	0	0	0	0	0

Duplicate samples are not included in sample totals.

4.6.5.1 Results

The concentrations of constituents detected in soil were compared with the screening criteria as discussed in Section 4.1.

Soil Analytical Results

The concentrations of constituents detected in the soil samples from the former Employee Parking Lot North of Oak Park do not exceed the screening criteria. A summary of the soil analytical data is presented in Appendix B of this report.

4.6.5.2 Conclusions

The RFI soil data from the former Employee Parking Lot North of Oak Park indicate that no screening criteria were exceeded. Based on these results, no additional investigation activities are planned.

4.7 Storm Sewer Investigation

The Site operates under the requirements of its National Pollutant Discharge Elimination System (NPDES) permit, which regulates surface water discharges. The Site storm sewer system includes over 20 miles of onsite storm sewers, which provide drainage across the Site and discharges into the nearby Flint River through 17 outfalls (Outfalls 001 through 013, 004A, 005A, 007A, and 100). In addition, these discharges include non-GM drainage flow from other portions of the City of Flint, both upstream and downstream of certain portions of the Site storm sewer system. Under its current NPDES permit, GM is permitted to discharge treated wastewater via Outfall 100 to the Flint River. Figures 2-4 and 2-5 include a general layout and orientation of the storm sewers and outfalls.

Dissolved-phase constituents have been detected at select outfalls (based on analytical testing). Additionally, visible sheens have been observed at Outfalls 002 through 006. Oil sheens are successfully controlled using floating oil booms. Sheens behind the booms are periodically collected using a vacuum truck.

The storm sewer networks associated with Outfalls 002 through 006 and Outfall 011 have been investigated as part of work performed over the past several years. These activities are summarized below, with additional details provided in Appendix I. The remaining Site storm sewer networks, 001, 004A, 005A, 007, 007A, 008, 009, 010, 012, 013, and 100, have not exhibited any Site-related effects warranting investigation.

4.7.1 Scope

In 1996 and 1997, GM conducted a storm sewer investigation that focused on storm sewers tributary to Outfalls 003, 004, and 005. These storm sewers provide drainage for most of the northern portion of the Site (area north of Leith Street). Investigation activities included an initial storm sewer Site reconnaissance, storm sewer sediment sampling, a storm sewer cleaning program, and placement of absorbent booms in select manholes to assess the presence and relative amount of LNAPL. Water samples were analyzed for VOCs, SVOCs, total and dissolved PCBs, and TPH. The results of this investigation along with information from other sources, including RFI activities and ongoing compliance monitoring activities conducted by GM personnel, provided evidence that the observed LNAPL sheens and detected dissolved-phase constituents are potentially from the infiltration of groundwater into the storm sewer.

Additional activities were performed from June through August 2002 on the storm sewer systems associated with Outfalls 002 through 006. These activities, which were performed to provide information to support the selection and design of corrective measures to control the infiltration of impacted groundwater into the storm sewer, included:

- Storm sewer system flow assessment using in-line flow meters at selected manholes to establish baseline hydraulic conditions;
- Sample collection and analysis at selected manholes to evaluate the concentration and mass loading of dissolved-phase constituents;

- Visual inspection of the water surface at sewer manholes to evaluate the presence and distribution of LNAPL;
- Internal inspection of storm sewers by videotaping selected stretches of pipe to observe structural conditions; and
- Groundwater elevation monitoring and comparison with storm sewer invert elevations, to evaluate localized drawdown in and around potentially impacted sections of the storm sewer system.

A focused, smaller-scale investigation was conducted along the system of Outfall 011 to assess potential impacts to the system from an adjacent free- and dissolved-phase BTEX plume (refer to Section 4.5.37 and Figures 4-23, 5-2, and 5-6). Grab samples and instantaneous flow measurements were collected at two locations along this system in the area of potential impact.

4.7.2 Results

The storm sewer flow assessment provided base flows (i.e., flow during dry weather conditions) occurring during the study period (June through August 2002). Base flows ranged from approximately 8 gpm at manhole 3-20 (Outfall 003) to approximately 250 gpm at manhole 5-4 (Outfall 005). In addition to the total system flow, instantaneous flows were measured from selected manholes during sampling events.

In addition to measuring flows, sampling for select parameters was performed at select manholes to provide data for calculating mass loading. Grab samples were collected during two dry weather and one wet weather periods. Grab samples of water from the sewer systems were analyzed for PAL VOCs and PCBs (Outfalls 003, 004, and 005). Constituents, including bromodichloromethane, chloroform, and dibromochloromethane were detected in each of the outfall systems indicating a potable water component. Low levels of VOCs were detected sporadically along each of the outfall systems.

Low levels of PCBs were also detected in some water samples collected from the Outfalls 003 and 004 storm sewers. Exponent EcoSciences of Bellevue, Washington performed, on behalf of GM, an analysis of the significance of the migration pathway and the potential for PCBs to affect the Flint River. A copy of this report is provided as Appendix F.

Video inspection of selected stretches of pipe provided evidence of historical groundwater infiltration in each of the studied outfall systems. Evidence of historical groundwater infiltration into outfall systems 002, 003, 004, and 005 was observed as mineral deposits at pipe joints. Isolated sections of outfall systems 004 and 005 also exhibited gaps or damage in the walls of the pipe.

Piezometers were installed across selected portions of pipe in outfall systems 003, 004, and 005. In each case, the results of the piezometer study indicate the water table is influenced by infiltration into the storm sewer along select sections. The Outfall 004 and 005 systems are situated in and near the Leith Street underpass constructed below the surrounding grade using concrete retaining walls. Hydrogeological data reveal this as an area with a depression in the groundwater table (see Figures 3-1 and 3-2).

No piezometers were installed in the 002 system because groundwater levels observed in existing monitoring wells indicated the sewer to be located above the groundwater table for most of the length of sewer line. However, localized water-level measurements indicate that the water table does intersect the storm sewer immediately upstream of manhole 2-20, providing the potential for infiltration of impacted groundwater in this area into the sewer. This section of sewer was subject to video reconnaissance in March 2005. During the course of these activities, no visual evidence of LNAPL infiltration was observed. While infiltration was

evident in the study area, an oily sheen was not observed. This suggests that significant amounts of LNAPL may not be in contact with the storm sewer in this area. The limits of the plume shown on Figure 5-1 are inferred from observations of LNAPL in local monitoring wells. Therefore, the actual limits of the plume could be more discontinuous (i.e., including gaps without LNAPL). However, water levels in this area have fluctuated over a range of approximately three feet, potentially rising above the top of a portion of the storm sewer in this area. During periods when the water table was near or above the top of the pipe, LNAPL infiltration, if present, would be effectively stopped.

Routine outfall inspections conducted by GM personnel and occasional inspections conducted by BBL staff have occasionally revealed very light sheens at Outfall 002 at the Flint River. However, a substantial drainage area drains to the portion of the storm sewer system downstream of manhole 2-20, including city street catchbasins located offsite of GM property, which provides other possible sources.

4.7.3 Conclusions

The results of the storm sewer investigation activities performed to date indicate that free-phase LNAPL and dissolved-phase constituents are infiltrating into select portions of the sewers associated with Outfalls 002 through 006, and dissolved-phase constituents are infiltrating into select portions of the sewers associated with Outfall 011. Other possible sources include surface runoff, abandoned tunnels and basements, and sources upstream and downstream of the plant. To mitigate potential onsite sources of these constituents, GM has developed, and is implementing various interim measures, which are described in Section 6 of Appendix I of this document.

The potential for PCBs present in the Site storm sewer system to migrate to and adversely impact the Flint River is judged to be low. There does not appear to be any significant historical effect, and the potential for future effects can be expected to be further reduced by ongoing source control measures implemented as part of the RCRA CA (see Appendix F). However, discussions between USEPA and GM concerning the need for further investigation of the Flint River are ongoing, and will continue beyond the submission of this report.

5. Summary of AOI Investigation and Interim Measures

5.1 AOI Investigation Summary

Table 5-1 presents a summary of the RFI activities completed to investigate each AOI, and the analytical data collected.

5.1.1 AOIs Exhibiting No Screening Criteria Exceedences

Among the AOIs investigated during the RFI, the following were found to exhibit no exceedences of industrial screening criteria. This determination was based on a conservative approach in which the highest concentration of each constituent at an AOI was compared with, and did not exceed, generic MDEQ screening criteria for any constituent in soil or groundwater:

Factory 36 Area
- AOI 36-4

Factory 05 Area
- AOI 05-4

Factory 81 Area
- AOI 81-5

Factory 83/84 Area
- AOI 83/84-1
- AOI 83/84-5

Building 07 Area
- AOI 07-2

Buildings 03, 17, 28, 84 and 94 Area
- AOI 94-D
- AOI 94-E
- AOI 84-B
- AOI 84-C

Buildings 02, 12, 23 and 29 Area
- AOI 02-A
- AOI 02-D
- AOI 02-E
- AOI 12-D

Buildings 04, 08, 16, 40 and 44 Area
- AOI 04-B
- AOI 04-C
- AOI 04-D
- AOI 16-A
- AOI 16-B
- AOI 16-D

Former Aeration Lagoons Area

Former Building 94 Employee Parking Lot

5.1.2 AOIs Exhibiting Soil Screening Criteria Exceedences

Among the AOIs investigated during the RFI, the following were found to exhibit exceedences of industrial screening criteria in soil samples. This determination was based on a conservative approach in which the highest concentration of each constituent at an AOI was compared with generic MDEQ screening criteria for any constituent in soil:

Factory 36 Area
- AOI 36-1
- AOI 36-2

Factory 10 Area
- AOI 10-1
- AOI 10-2
- AOI 10-3

Factory 05 Area
- AOI 05-1
- AOI 05-6

Factory 03 Area
- AOI 03-1

Factory 81 Area
- AOI 81-1
- AOI 81-2

Factory 83/84 Area
- AOI 83/84-2
- AOI 83/84-3
- AOI 83/84-6

Building 07, 21, 85, and 86 Area
- AOI 86-1

Buildings 02, 12, 23 and 29 Area
- AOI 02-C
- AOI 29-A
- AOI 12-A
- AOI 12-B

Buildings 04, 08, 16, 40 and 44 Area
- AOI 40-A
- AOI 44-A

Building 09 Area
- AOI 09-A
- AOI 09-B

5.1.3 AOIs Exhibiting Groundwater Screening Criteria Exceedences

Among the AOIs investigated during the RFI, the following were found to exhibit exceedences of industrial screening criteria in groundwater samples. This determination was based on a conservative approach in which the highest concentration of each constituent at an AOI was compared with generic MDEQ screening criteria for any constituent in groundwater:

Building 38 Area
- AOI 38-1

Factory 36 Area
- AOI 36-1
- AOI 36-2
- AOI 36-3
- AOI 36-5

Factory 10 Area
- AOI 10-1
- AOI 10-2
- AOI 10-3
- AOI 10-4
- AOI 55-1

Factory 05 Area
- AOI 05-2
- AOI 05-3
- AOI 05-5
- AOI 05-6

Factory 03 Area
- AOI 03-1

Factory 81 Area
- AOI 81-1
- AOI 81-2
- AOI 81-3
- AOI 81-4

Building 07, 21, 85, and 86 Area
- AOI 21-1
- AOI 85-1
- AOI 86-1
- AOI 07-1
- AOI 07-3

Factory 83/84 Area
- AOI 83/84-2
- AOI 83/84-3
- AOI 83/84-4
- AOI 65-1
- AOI 83/84-7

Buildings 03, 17, 28, 84 and 94 Area
- AOI 94-A
- AOI 94-B
- AOI 94-C
- AOI 84-A
- AOI 84-D

- AOI 17-A

Buildings 02, 12, 23 and 29 Area
- AOI 02-B
- AOI 02-F
- AOI 23-A
- AOI 12-A

Buildings 04, 08, 16, 40 and 44 Area
- AOI 04-A
- AOI 16-C
- AOI 40-A
- AOI 40-B
- AOI 40-C
- AOI 40-D
- AOI 44-A

Building 09 Area
- AOI 09-A
- AOI 09-B

Building 01 Area

Harriet Street Area

5.2 Sitewide Groundwater Quality

Due to the number and location of the Site AOIs, upgradient groundwater quality and the distribution of select constituents have been evaluated on a Sitewide basis, as discussed below.

5.2.1 Upgradient Groundwater Quality

A series of historical and new monitoring wells are located along the upgradient Site perimeter. Upgradient monitoring wells include 04-120, 04-121, 04-140, 11-120, 11-140, 36-120, 38-120, 36-121, 43-141, RFI-05-8R, RFI-55-01, RFI-55-11 and RFI-55-12 (Figures 2-2 and 2-3). The groundwater data for these wells were compared to the generic screening criteria, and no concentrations above criteria were identified with the exception of exceedences noted at monitoring wells RFI-55-11 and RFI-55-12.

RFI Phase II investigation activities included the installation of monitoring wells RFI-55-11 and RFI-55-12 within Stewart Avenue, adjacent to the former Pro-Met property, which is located at the northwest corner of the intersection of Stewart Avenue and Andrews Street. Data obtained through a Freedom of Information Act (FOIA) request indicated that plating operations were conducted at the former Pro-Met property beginning in 1958, and that prior investigations indicated impacts to soil and groundwater by both metals and organic compounds associated with plating operations.

Groundwater samples collected from these two wells indicated concentrations exceeding the Michigan Part 201 Generic Industrial Screening Criteria of the following analytes:

- VOCs: 1,2-dichloropropane, trichloroethene, and vinyl chloride;
- SVOC: bis(2-chloroethyl)ether; and
- Inorganics: antimony, arsenic, beryllium, cadmium, chromium, cyanide, lead, nickel, and thallium.

These analytical results suggest that groundwater flowing to the Site is impacted by a source area located on the former Pro-Met property. Groundwater monitoring data collected downgradient of the former Pro-Met property, at monitoring well 55-4, show the presence of trichloroethene (0.044 mg/L), 1,2-dichloropropane (0.13 mg/L), and bis(2-chloroethyl)ether (0.023 mg/L) at concentrations above the Generic MDEQ Industrial Drinking Water Criteria.

5.2.2 Sitewide Distribution of LNAPL

The estimated extents of LNAPL observed at the Site during 2005 are presented on Figures 5-1 and 5-2 for the Northend and Southend of the Site, respectively, and are shown by yellow shading. LNAPL was observed on the Northend near Buildings 10, 20, 30, 32, 36, 43, 70, 83, and 86. LNAPL was observed on the Southend near the former Buildings 02, 09, 12, 16, and 40.

5.2.3 Sitewide Distribution of Constituents in Groundwater at Concentrations Above Generic Screening Criteria

The distribution of constituents detected in groundwater at concentrations above generic MDEQ screening criteria are presented on Figures 5-1 and 5-2 for the Northend and Southend of the Site, respectively. These figures provide an overview of the areas with VOC, SVOC, and inorganic concentrations in groundwater above generic screening criteria. The distribution of VOCs and SVOCs in groundwater is shown by blue shading and inorganics are shown by green shading (or hatching).

One SVOC constituent (bis(2-ethylhexyl)phalate) detected in groundwater samples collected from temporary wells installed at the Site during May 2001 was found to be caused by the tubing utilized to collect the samples; therefore, the concentrations are not indicative of actual groundwater quality for these sample locations.

Total PCBs had been detected in a groundwater sample collected from one well located on the Southend of the Site during the September 2001 sampling event. The September 2001 groundwater sample collected from monitoring well 31-5, located in the Bldg 09 Area, had a reported PCB concentration of 0.0017 mg/L. PCBs have not detected in groundwater samples collected subsequent to the 2001, including the sample collected from monitoring well 31-5 during the June 2002 sampling event (analytical method detection limit for PCBs was 0.00011 mg/L).

Isoconcentration maps of select chlorinated VOCs were also prepared for the Northend and Southend of the Site (Figures 5-3 and 5-4, respectively) to further illustrate the distribution of these constituents in groundwater at concentrations above IDW criteria. The chlorinated compounds selected for illustration include trichloroethene, cis-1,2-dichloroethene, 1,1,1 trichloroethane, vinyl chloride, and tetrachloroethene. The isoconcentration lines for these compounds along with the associated generic MDEQ IDW criteria for each compound are shown.

Two additional isoconcentration maps for the Northend and Southend of the Site (Figures 5-5 and 5-6, respectively) were prepared to illustrate the distribution of benzene, toluene, ethylbenzene, and xylene (BTEX) constituents in groundwater. Benzene, toluene, and ethylbenzene were detected at concentrations above generic IDW criteria in the Northend of the Site. Benzene and ethylbenzene were detected at concentrations above the generic health-based IDW criteria at the Southend of the site.

A more detailed description of the distribution of the dissolved constituents in groundwater at concentrations exceeding the generic MDEQ screening criteria at the Northend and Southend areas of the Site follows. Additional discussion on the characterization of the extent of releases to groundwater is presented in the CA750 Report (ENVIRON 2005) that was approved by USEPA.

5.2.3.1 Northend Distribution of Constituents in Groundwater

Figure 5-1 identifies 26 areas on the Northend of the Site with inorganics concentrations in groundwater above the generic MDEQ screening criteria. The inorganics detected above the criteria include: antimony, arsenic, barium, beryllium, cadmium, chromium, cobalt, cyanide, lead, manganese, nickel, selenium, thallium, vanadium, and zinc.

Figure 5-3 presents the isoconcentration map of select chlorinated VOCs on the Northend of the Site illustrating the distribution of these constituents in groundwater at concentrations above IDW criteria. Trichloroethene was identified in several areas in the Northend at concentrations ranging to a maximum of 2 mg/L at monitoring well 87-FP3 and vinyl chloride was also identified in several areas with concentrations ranging to a maximum of 0.52 mg/L at monitoring well 20-101R. Cis-1,2-dichloroethene was identified in four areas with concentrations ranging to a maximum of 0.45 mg/L at monitoring well 87-FP3. 1,1,1 Trichloroethane was identified at three locations at concentrations ranging to a maximum of 2.4 mg/L at monitoring well 20-101R. Tetrachloroethene was identified in two areas with concentrations ranging to a maximum of 0.041 mg/L at monitoring well 87-FP3.

Figure 5-5 presents the isoconcentration map of dissolved benzene, toluene, and ethylbenzene in groundwater at concentrations above IDW criteria on the Northend of the Site. Benzene was identified in six areas on the Northend at concentrations ranging to a maximum of 6.0 mg/L at monitoring well RFI-36-43. Toluene and ethylbenzene was identified in one area of the Northend at concentrations of 1.3 mg/L and 20 mg/L, respectively at monitoring well RFI-36-43.

5.2.3.2 Southend Distribution of Constituents in Groundwater

Figure 5-2 identifies 10 areas on the Southend of the Site with inorganics concentrations in groundwater above the generic MDEQ screening criteria. The inorganics detected above the criteria include: antimony, arsenic, beryllium, cadmium, chromium, cobalt, cyanide, lead, manganese, nickel, selenium, thallium, and vanadium.

Figure 5-4 presents the isoconcentration map of select chlorinated VOCs on the Southend of the Site illustrating the distribution of these constituents in groundwater at concentrations above IDW criteria. Trichloroethene was identified in four areas in the Southend at concentrations ranging to a maximum of 0.95 mg/L at monitoring well RFI-94-02R. Vinyl chloride was identified in two areas with concentrations ranging from non-detect to a maximum of 0.124 mg/L at monitoring well RFI-84-08D. Cis-1,2-dichloroethene was identified in two areas with concentrations ranging to a maximum of 0.322 mg/L at monitoring well 84-07S. Tetrachloroethene was identified in one area with a concentration of 0.0057 mg/L at monitoring well RFI-12-03.

Figure 5-6 presents the isoconcentration map of dissolved benzene and ethylbenzene in groundwater at concentrations above IDW criteria on the Southend of the Site. Benzene was identified in seven areas on the Southend at concentrations ranging to a maximum of 5.5 mg/L at monitoring well RFI-40-15. Ethylbenzene was identified in AOI-09B in monitoring well 31-8 at a maximum concentration of 1 mg/L.

5.3 Interim Measures Status Summary

Based on the additional information gathered since June 2002, GM has advanced the design and construction of certain IMs. The following sections provide an update of this information. The status of IMs not discussed in the following sections remains unchanged from that indicated in the RFI Phase I Report. Final remedial action for the Site will be evaluated in the CMP.

As noted in previous sections of this report, various LNAPL plumes have been observed at the Site. Although these LNAPL plumes have been demonstrated to be relatively stable, based on several years of routine monitoring and as shown on Figures 5-3 through 5-6, GM has undertaken actions to collect LNAPL in accordance with regulatory requirements, until final remedial actions are more fully evaluated in the CMP.

These activities are summarized below for select areas.

5.3.1 Factory 10 Scrapyard Area

In 1991, free product was detected on the water table beneath and south of Building 20 within the Factory 10 Area (see Figures 2-4, 4-6, and 5-3). Fractions of this product included both water-soluble and insoluble phases of oil containing PCBs. In May 1997, GM installed a groundwater collection and treatment system designed to collect and treat soluble product and affected groundwater from this area. Treated groundwater is discharged to the Site storm sewer system under a National Pollutant Discharge Elimination System (NPDES) permit. The treatment system is currently operating at a flow rate of up to approximately 20 gallons per minute (gpm).

Subsurface investigations performed in and around the Scrapyard Area south of Factory 10 identified the presence of free product containing PCBs on the surface of groundwater outside the southeastern corner of Factory 10 and in the adjacent scrapyard area to the south, outside the influence of the LNAPL collection system installed in 1997. As a result, a second product recovery system consisting of a recovery trench, four manholes, and pumps for both product recovery and groundwater drawdown has been constructed further downgradient to recover the PCB-containing LNAPL and create hydraulic control at the downgradient plume edge.

The collection trench, sumps, manholes, and product piping of this new IM were installed in January and February 2003. The new recovery trench is composed of two segments: one is approximately 30 feet long and the other is approximately 210 feet long. Both trench segments are approximately 20 feet deep and 1.5 feet wide, and contain a perforated pipe lateral and pea stone backfill. Product and groundwater are pumped from four 4-foot diameter recovery manholes equally spaced along the trench. Collected groundwater and product are treated in the groundwater treatment system in Building 20, because of its PCB handling capability.

GM will continue to operate this system until final remedial action for this area is evaluated in the CMP.

5.3.2 Factory 05 Area Product Recovery Trenches

As described in the RFI Phase I Report, investigations performed in 1994 in response to suspected oil releases in Building 43 (Factory 05 Area) detected LNAPL on the water table along the southeast side of Building 43 (see Figures 2-4 and 4-8). To address the LNAPL, three recovery trenches were installed as IMs in the Building 43 area in early 1995. These recovery trenches are each approximately 14 feet deep, 3 feet wide, 100 feet long, and backfilled with gravel. Product is recovered from these trenches via 30-inch-diameter recovery wells installed

near the midpoint of each recovery trench. Automated belt skimming devices in the recovery wells collect product from the recovery trenches (with approximately 60% groundwater and 40% product) and transfer it to a temporary storage tote. Recovered water is periodically allowed to flow back into the recovery well and the recovered product is later drummed for disposal.

GM will continue to operate this system until final remedial action for this area is evaluated in the CMP.

5.3.3 Factory 36 Area Exterior Product Recovery System

Free product has been detected on the water table immediately downgradient of a basement area in the southeastern portion of the Factory 36 Area (see Figures 2-4 and 4-4). This free product is believed to result from former releases associated with the former chip processing operations performed within this basement area.

A groundwater and LNAPL recovery system has been constructed along the east side of Building 36, and was placed into operation in 2005. The purpose of this IM is to control potential offsite migration of LNAPL and Site-related constituents and to collect free-phase LNAPL. This system consists of three 12-inch diameter wells (installed in 24-inch diameter boreholes) and pumps for both product recovery and groundwater drawdown. The recovery wells are approximately 20 feet deep. Product and groundwater are recovered from the wells via product recovery pump(s) and groundwater submersible pump(s), respectively. Collected fluids are transferred to a new treatment system that is housed in an enclosure located in the area of the wells and ultimately discharged to the Site storm sewer system (Outfall 002) under an NPDES permit.
GM will continue to operate this system until final remedial action for this area is evaluated in the CMP.

5.3.4 Building 12 Area

Evidence of LNAPL was recently discovered in wells located in the northwestern and eastern portions of the former Building 12 (see Figures 2-5 and 4-20). Two stand-alone LNAPL collection systems were installed in July 2003 at wells RFI-12-02 and RFI-12-11D for the purpose of controlling the migration of potential LNAPL in this area. These systems consisted of a pneumatic product skimming pump powered by nitrogen supplied in liquid nitrogen tanks and a battery-powered, solar-charged controller. Collected product was stored in tanks located at each well head. Due to the high viscosity of the LNAPL in this area, these systems failed to collect any reasonable amount of LNAPL. As such, they have been terminated and dismantled. Final remedial action for this area will be evaluated in the CMP.

5.3.5 Building 40 Tunnel

The Building 40 tunnel connected former Building 16 with former Building 40 and was used to transport car parts between the two buildings (see Figures 2-5 and 4-22). The tunnel was constructed in 1920, oriented in an east-west direction, and was approximately 260 feet long by 15 feet wide and 8.5 feet high. The top of the tunnel roof was approximately 8 feet below grade. In the 1980s, the use of this tunnel was discontinued and the tunnel became flooded with water. In 2002, as part of an extensive program of building demolition in the southern portion of the Site, Building 40 (except for its basement, which is now exposed at the ground surface) and Building 16 were demolished along with the surrounding area.

The tunnel, which was located under the former Building 40 basement, was submerged with water, and the water level was approximately 2 feet above the floor of the exposed basement. In 1991, floating oil was observed on the floor of the basement and floating on the surface of the water flooding the tunnel below the basement. PCBs have been detected in samples of this oil, but the results have been variable. The source of this oil is unknown. The basement floor was cleaned in August 1992 using a foam-applied aqueous-based solvent to extract PCBs from the concrete floor and the lower 2 feet of the basement walls. Inspections of the tunnel, performed using a diver, revealed small amounts of oil floating on the surface of the water. Oil observed during the most recent inspection conducted in June 2003 was removed by the diver using absorbent pads and booms.

The report titled *Cleanup and Disposal of PCB Remediation Waste, Building 40 Tunnel and Basement* (BBL, 2004) describes work performed at the Building 40 tunnel and provides the plan for remediation of the tunnel. In May 2006, in accordance with the plan, the basement floor at former Building 40 was broken and allowed to collapse to the floor of the tunnel. Crushed concrete, and other appropriate fill material, were then used to fill the basement and tunnel to the level of the surrounding ground. The water level was monitored during filling activities to avoid flooding of the surrounding area from the displacement of the water with the fill. This approach was consistent with demolition activities conducted Site-wide. The only remaining actions planned to address this area include the implementation of institutional controls (e.g., deed restriction).

5.3.6 Building 32/66 Tunnel Product Recovery

Based on available mapping obtained from GM, the abandoned tunnel system of Buildings 32 and 66 is T-shaped and approximately 8 feet high by 5 feet wide and 450 feet long, with one branch to the west midway down its length and another branch to the east at the northend (see Figures 2-4 and 4-16). This currently inactive tunnel was used for conveying steam and other process fluids about Factory 83/84. The primary access point is located in the basement of Building 32. Other access points exist through the top of the tunnel, but are not suitable for entry. Currently, there is standing water in the tunnel, and patches of LNAPL floating on the water surface.

On October 29, 2002, a sample of water in the tunnel was collected for characterization prior to disposal at the onsite industrial wastewater treatment facility, and was found to contain PCBs (Aroclors 1254 and 1260) at 12.6 ug/L. Given the presence of PCBs in the water, onsite disposal was not an option. It was suspected that this sample may contain some of the LNAPL layer. A sample of the floating LNAPL was subsequently collected and analyzed by SGS Environmental in Ludington, Michigan. This sample did not exhibit the presence of PCBs at a detection limit of 1.0 milligrams per kilogram (mg/kg). Due to these data inconsistencies, further investigation of the tunnel was performed.

A sample of the pipe insulation within the tunnel was collected on December 12, 2002 and was found to contain 15% asbestos. The pipe insulation has deteriorated, and asbestos fibers can be seen commingled with the LNAPL layer.

On September 22, 2003, an investigation of the tunnel was performed to confirm the presence of PCBs. The investigation was halted 128 feet into the tunnel because hanging pieces of concrete were observed, and the integrity of the tunnel ceiling and walls could not be confirmed. There was no obvious source of the LNAPL layer observed during the investigation. Staining on the walls or ceiling was not observed and machinery or equipment typically associated with PCB use was not observed. PCBs have not been detected in the LNAPL samples collected in this investigation, nor were they detected in the LNAPL sample collected on October 29, 2003. The detected concentrations of PCBs in the water and LNAPL are below 50 parts per million (ppm)

However, the concentrations of lead and mercury in the LNAPL were at a level that would cause the LNAPL to be classified as a RCRA hazardous waste if the LNAPL was removed.

Current exposure to the water and LNAPL in the tunnel is unlikely as the tunnel is inactive, its access is restricted, and the only potential exposure pathway is contact with water and LNAPL during potential future building demolition activities. The detected concentrations of contaminants in water samples collected from the tunnel are below MDEQ generic screening criteria. The presence of LNAPL in this tunnel will be further evaluated in the CMP.

5.3.7 Abandoned Utility Tunnel adjacent to Former Building 23

During storm sewer reconnaissance activities, an abandoned utility tunnel was observed to be present along the south side of Leith Street, with a portion also running north-south along Division Street. This tunnel was observed to have an approximate 1-inch thick layer of LNAPL floating on approximately 1.5 to 2 feet of water. The tunnel is approximately 600 feet in length (see Figures 2-5 and 4-20). To address this LNAPL, GM decided to remove it using a vacuum truck. Prior to removing the LNAPL from the tunnel, 5 access holes were constructed through the top of the tunnel spaced equally along its length. The purpose of these access points was to facilitate removal of LNAPL while minimizing the need to enter the tunnel. A pre-cast manhole cover was installed at each access hole.

The LNAPL floating on the water surface has been pumped during five separate mobilizations occurring between October 1 and December 19, 2003. During each event, oil with some water was pumped from the new and existing access points using a vacuum truck. Also, during the last event, a separate pump was used to circulate water from one end of the tunnel to the other to create sufficient flow to move the oil to the access points where it was collected by the vacuum truck. Based on visual observation, most of the oil appears to have been removed. The total amount of oil removed was approximately 900 gallons. This basement and tunnel area will be further evaluated in the CMP.

5.3.8 Storm Sewer IM Activities

GM has developed, and is implementing, a storm sewer mitigation strategy that includes the following:

- Identify suspect areas of the Site storm sewers that may be affecting water quality conditions at the permitted outfalls. This identification is based on: a) previous storm sewer investigation activities, b) recent RFI findings, and c) NPDES monitoring data.

  This element of the mitigation strategy has been completed and is summarized in Appendix I.

- Develop conceptual corrective measures to mitigate potential releases of free- and dissolved-phase constituents into the storm sewer/outfall systems. These controls may include sewer rehabilitation measures to reduce the direct hydraulic connection between areas of impacted groundwater and storm sewers. In combination, these controls will also include supplemental groundwater controls to avoid further migration of impacted groundwater.

  This element of the mitigation strategy is ongoing and is summarized in Appendix I.

- Implement a series of focused investigations to provide design-related information to support the final design of the corrective measures.

  The results of completed investigation activities area presented in Appendix I.

- Develop a final corrective measure design.

  Interim measures are currently being performed to address LNAPL sheens observed at the Flint River outfalls (outfalls 002 through 006). These interim measures are discussed in Appendix I. The final remedy for these outfalls will be evaluated in the CMP.

- Implement the corrective measures.

This element of the mitigation strategy will be undertaken following completion of the final design activities described in the above item. In addition, GM has performed emergency response actions to address recent releases of free-phase material at Outfalls 006 (October 10, 2002) and Outfall 004 (May 10, 2003). These releases were immediately reported to the National Response Center (NRC) of the City of Flint, as well as the Michigan Department of Environmental Quality (MDEQ) and the USEPA, and are described in Appendix I. These releases were mostly contained by floating oil absorbent booms, and the oil was collected using a vacuum truck. Also, on July 20, 2004, the Outfall 006 storm sewer was permanently plugged at GM's property line near the railroad tracks.

6. Human Health Risk Assessment

6.1 Introduction

Section 4 discussed the scope of the RFI field investigation for each AOI that was investigated, and compared the Site characterization data with conservative risk-based screening criteria to identify whether a potentially significant release of hazardous constituents to the environment may have occurred. The human health risk assessment discussed in this section evaluates the potential significance of reasonable maximum exposures to affected environmental media under current and reasonably expected future land use at and around the Site. The methods used in the risk assessment are based on USEPA risk assessment guidance.

The scope of the human health risk assessment is summarized in the conceptual site model (CSM) shown in Table 6-1. The CSM identifies the scenarios for potential human exposure under current and reasonably expected future conditions at and around the Site in terms of the potentially exposed populations, the environmental media to which they could be exposed, and the potential routes of exposure. The CSM was developed based on the Site information and data discussed in Sections 3 and 4, respectively. The scenarios for potential human exposure are further discussed in Section 6.3.

Discussion of the human health risk assessment is organized as follows:

- The preparation of data used in the risk assessment is discussed in Section 6.2, Data Collection and Preparation.
- The scenarios for potential human exposure are discussed in Section 6.3, Exposure Assessment, which also discusses the estimation of exposure concentrations and chemical intakes for each exposure scenario.
- Toxicity information for the chemicals included in the risk assessment is summarized in Section 6.4, Toxicity Assessment.
- The risks for potentially exposed populations identified in Section 6.3 are quantified and their significance is discussed in Section 6.5, Risk Characterization. Uncertainties associated with the risk estimates are also discussed in this section.
- The findings and conclusions of the human health risk assessment are summarized in Section 6.6, Summary and Conclusions.

6.2 Data Collection and Preparation

6.2.1 Data Collection

The objectives of data collection during the RFI and strategies for determining when additional data collection is necessary were described in the RFI Work Plan and the minutes for subsequent meetings and conference calls. The scope of the RFI field investigation and a summary of the data collection activities are discussed in the DOC and summarized in Section 2 of this report. In addition to data collected under the RFI Work Plan and

addenda, soil and groundwater characterization data were collected from four additional areas that were not identified in the RFI Work Plan and were initially investigated for the purpose of potential property transfers as discussed in Section 4.6. These data are also included in the risk assessment. The scope of field investigations and collection of the data for potential property transfers is summarized in Section 4.6.

6.2.2 Data Preparation

Validation of data was performed in accordance with the QAPP in the RFI Work Plan. All soil, groundwater, borehole water, LNAPL, storm sewer water, and basement and tunnel water data discussed in Section 4 were validated. In addition, the following procedures were used to prepare the data to support quantitative risk assessment. These procedures, which are based on USEPA guidance on human health risk assessment (USEPA 1989), are as follows:

- Constituent concentrations qualified as not detected (i.e., U or UJ-qualified data) during data validation are evaluated as non-detects.

- Constituent concentrations qualified as not usable (i.e., R-qualified data) during data validation are not included in the risk assessment.

- Concentrations qualified as estimated (i.e., J-qualified data) are included for quantitative assessment.

- Concentrations in duplicate field samples are averaged to obtain a representative concentration for the sample location. When a constituent was detected in only one sample of a duplicate pair, the average of the detected concentration and one-half the quantitation limit are used in further evaluations.

- Concentrations of chemicals analyzed under multiple methods, for the same sample, are averaged to obtain a representative concentration for the sample location. When a constituent was detected in only one sample of a multiple method pair, the average of the detected concentration and one-half the sample quantitation limit are used in further evaluations.

- Concentrations of metals in soil that are at or below the Site-specific background concentrations discussed in Section 4.2 are considered to be within background levels. Concentrations higher than the background levels are conservatively considered to be Site-related, and are used in the calculation of Site-related risks. As a conservative assumption, all concentrations of organic constituents are assumed to be Site-related. Please note that offsite contamination of organic constituents is suspected north of Factory 36 and in AOIs 10-2 and 55-1, as discussed in Sections 4.4.2.3, 4.4.9.3, and 4.4.7, respectively.

The soil, groundwater, LNAPL, storm sewer water, and basement and tunnel water data are used in the risk assessment. Borehole water data are not used because they were collected primarily to support the field investigation and they do not necessarily represent groundwater quality in the aquifers. No constituent that was detected in soil, groundwater, LNAPL, storm sewer water, or basement and tunnel water is excluded from the risk assessment, except as noted above.

The complete data (including R-qualified data and separate results for each sample of a duplicate pair) are provided in Appendices B through D and I. Summaries of the data validation results are provided in Appendix E.

6.3 Exposure Assessment

This section discusses the potential exposures that are relevant under current and reasonably expected future land use at and around the Site. The exposure setting, potentially exposed populations, and exposure pathways are discussed in Sections 6.3.1 through 6.3.3, respectively.

For the potential exposures discussed in this section, exposure is quantified as a dose, which is defined as follows:

$$Dose = Concentration \cdot Intake$$

The dose for evaluating cancer risk is averaged over a lifetime and is called a lifetime average daily dose (LADD). For evaluating long-term (or chronic) noncancer effects, the dose is averaged over the period of exposure and is called an average daily dose (ADD).

The concentration term in the dose equation refers to the concentration in an environmental medium to which a population is exposed over a specified period. The intake term refers to the intake rate of the contaminated environmental medium, which is a function of the magnitude, frequency, and duration of exposure. The methods for estimating the concentration term are discussed in Section 6.3.4. The exposure factors that are used to quantify the magnitude, frequency, and duration of potential exposures are discussed in Section 6.3.5.

6.3.1 Exposure Setting

The environmental setting at and around the Site, including climate, geology, hydrogeology, land cover, surface water bodies, water supply, and groundwater use, are discussed in the RFI Phase I Report and Section 3 of this report, and not repeated in this section.

6.3.2 Potentially Exposed Populations

Based on the discussion of land use at and around the Site in Section 3, the potentially exposed populations at and around the Site under current and reasonably expected future land use include the following:

Current	Onsite: Northend	Routine Workers
		Maintenance Workers
		Trespassers
	Onsite: Southend	Maintenance Workers
		Trespassers
	Offsite	Routine Workers
		Maintenance Workers
		Recreational Users
	Onsite: Northend	Routine Workers
		Maintenance Workers
		Trespassers

Future	Onsite: Southend	Routine Workers
		Maintenance Workers
		Trespassers
		Redevelopment Construction Workers
		Recreational Users (e.g., parks)
		Residents

The offsite area (areas outside of the current GM property boundary) east of the Site is currently zoned commercial/industrial, with a small strip of land adjacent to the Flint River zoned for residential. As discussed in Section 3.3, the areas east of the Site are expected to remain predominantly for commercial/industrial use. The offsite areas north and west of the Site are zoned residential, business/commercial, or manufacturing. Therefore, potentially exposed offsite populations include routine workers, maintenance workers, and residents, as well as recreational users at the Flint River.

6.3.3 Exposure Pathways

The exposure pathways discussed in this section are summarized in the conceptual site model shown in Table 6-1. Exposure pathways for onsite receptors are discussed in Section 6.3.3.1, and exposure pathways for offsite receptors are discussed in Section 6.3.3.2.

6.3.3.1 Potential Onsite Exposures

Onsite receptors include routine workers, maintenance workers, and trespassers. Potential future onsite receptors at the Southend also include redevelopment workers, recreational users, and residents. The types of potential exposures for each receptor are discussed below.

Routine Workers

The largest receptor population at the Site consists of workers who are engaged in routine manufacturing. Routine workers are engaged in commercial and/or industrial activities that generally take place indoors. During limited time outdoors, workers could contact soil in unpaved areas. Potential routes of exposure to surface soil would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates.

These workers also could be exposed to constituents in the subsurface from soil, groundwater, and LNAPL if the constituents were to volatilize and migrate through cracks in the building foundation into indoor air.

Exposure of routine workers via groundwater use is not evaluated because groundwater is not used as a potable or non-potable water supply at the Site or in the vicinity, and future potable or non-potable use is not reasonably expected, as discussed in Section 3.3.

Maintenance Workers

Currently, workers who are involved with occasional construction or maintenance activities at the Site follow proper health and safety procedures to minimize exposure. However, future workers conducting occasional subsurface construction or maintenance activities could contact surface and subsurface soil in

paved and unpaved areas of the Site. These subsurface activities are expected to be of limited size and duration (e.g., installation or repair of underground utilities, or removal or repair of pavement). Potential routes of exposure to surface and subsurface soil would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates.

Maintenance workers also could be exposed to LNAPL and LNAPL-containing soil in the smear zone at AOIs 02-B, 03-1, 05-1, 05-5, 09-B, 10-1, 10-4, 12-A, 12-B, 12-C,16-C, 23-A, 36-1, 36-2, 36-5, 40-A, 81-2, 83/84-2, 83/84-4, 85-1, and 86-1. Each of these AOIs contains at least one location in which measurable LNAPL has been detected in the past, although the plume does not necessarily cover a large portion of the AOI's area. The most potentially significant routes of exposure to LNAPL are expected to include dermal contact and inhalation of vapor. Potential routes of exposure to LNAPL-containing smear zone soil would include incidental ingestion, dermal contact, and inhalation of vapor.

In excavations that encounter groundwater, which is typically found 6 ft or deeper below ground surface (bgs) at and around the Site, maintenance workers could be exposed to shallow groundwater (utility lines are typically 10 ft bgs at and around the Site). Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of vapor.

In addition, while workers are engaged in building or storm sewer maintenance, they could be exposed to standing water and/or LNAPL in the storm sewers or in areas where basements or tunnels intersect the shallow water table. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of vapor. It should be noted that current workers performing these activities follow proper health and safety procedures to minimize exposure.

Trespassers

Potential exposure of trespassers onsite is possible, although fencing and security personnel control access to the Site. These controls make trespassing unlikely, and would limit the duration of any unauthorized access as well as the types of activities while onsite. While onsite, trespassers could come into contact with soil in unpaved areas. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates.

Trespasser exposures to soil in this risk assessment are evaluated indirectly using exposure estimates for routine workers. This streamlines the risk assessment and is conservative because trespasser exposures to soil would be lower than routine worker exposures to soil (ENVIRON 2003).

Redevelopment Construction Workers

Workers conducting construction activities during future redevelopment at the Southend could be exposed to soil, LNAPL, and groundwater. Potential routes of exposure to these media for the redevelopment workers are the same as for maintenance workers, discussed above.

Recreational Users

Potential exposure of non-residential recreators is possible at portions of the Southend if these areas are developed as parks or athletic fields. These recreational users could come into contact with soil in unpaved areas. Potential routes of exposure to constituents in soil are via incidental ingestion, dermal contact, and inhalation of soil vapor and airborne particulates.

Recreational exposures to soil in this risk assessment are evaluated using exposure estimates for residents. This streamlines the risk assessment and is conservative because recreational exposures to soil would be lower than residential exposures to soil. As discussed later, these conservative risk estimates can be modified with a fraction contact term that is appropriate for recreational users, as necessary (see Section 6.5.2.6).

Residents

Potential exposure of residents is possible at portions of the Southend if these areas are redeveloped for residential use. Potential routes of exposure to soil, LNAPL, and groundwater for these residents are expected to be the same as for routine workers, discussed above.

6.3.3.2 Potential Offsite Exposures

Offsite receptors include routine workers, maintenance workers, recreational users, and residents. The types of potential exposures for each receptor are discussed below.

Routine Workers

Presently, no groundwater plume is beneath any of the offsite buildings; therefore current exposure of offsite routine workers is not possible. Offsite workers could be exposed to constituents in groundwater present underneath offsite buildings in the future if the constituents volatilize and migrate through cracks in building foundations. These potential exposures are conservatively evaluated in this risk assessment by estimating cumulative cancer risk and HI using maximum concentrations in groundwater at the AOIs that are located at the downgradient of the Site where the groundwater has migrated or is likely to migrate offsite.

Exposure of routine workers via groundwater use is not expected because groundwater is not a current or reasonably expected future water supply in the vicinity of the Site.

Maintenance workers

Workers performing construction that extends to groundwater could be exposed to constituents in shallow groundwater in areas where the groundwater is within typical excavation depths. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of vapor. These potential exposures are evaluated in this risk assessment by using exposure estimates for onsite maintenance workers. This streamlines the risk assessment and is conservative because onsite exposures via vapor intrusion are expected to be higher than that for offsite maintenance workers due to higher exposure concentrations onsite as compared to exposure concentrations offsite.

Recreational Users

Recreational users could be exposed to constituents in groundwater via contact with nearby downgradient surface water in the Flint River where groundwater could enter directly and/or enter via onsite storm water sewers that intercept groundwater. Potential routes of exposure would include incidental ingestion, dermal contact, and inhalation of vapor during occasional recreational activities. Recreational users also could be exposed to constituents in groundwater through consumption of fish from the Flint River.

Residents

Presently, exposure of offsite residents is not possible as there are no residential buildings along the downgradient Site boundary west of the Flint River. Offsite residents could be exposed to constituents in groundwater present underneath offsite buildings in the future if the constituents volatilize and migrate through cracks in foundations of potential future buildings. These potential exposures are conservatively evaluated in this risk assessment by estimating cumulative cancer risk and HI using maximum concentrations in groundwater at the AOIs that are located at the downgradient of the Site where the groundwater has migrated or is likely to migrate offsite.

Exposure of future residents via groundwater use is not expected because groundwater is not a current or reasonably expected future water supply in the vicinity of the Site, as discussed in Section 3.3.

Offsite receptors could also be exposed to constituents in soil at the Site via wind erosion and transport offsite. In this risk assessment, potential airborne exposures of offsite receptors are conservatively evaluated using exposure estimates for onsite workers. This approach streamlines the risk assessment and is conservative because airborne exposures offsite are expected to be lower than exposure onsite due to much greater air dispersion between an onsite emission source and offsite receptors as compared to air dispersion directly over an emission source (ENVIRON 2003).

6.3.4 Estimation of Exposure Concentrations

Soil

Reasonable maximum exposures (RME) are conservatively estimated in this risk assessment by first using the maximum detected concentrations at any depth in each area to calculate bounding estimates of cumulative cancer and noncancer risks for each area. If these bounding estimates of RME risks do not exceed USEPA's cumulative cancer and noncancer risk triggers for corrective measures (i.e., cumulative Site-related cancer risk of 10^{-4} and noncancer hazard index (HI) of 1), then further calculations are not necessary.

If a bounding estimate at an area in the Northend exceeds a trigger for corrective measures, then the estimate is refined by calculating upper-bound risks by potential receptor. The maximum soil concentrations from the two feet below ground surface and from the ten feet below ground surface are used for estimating the upper-bound risks for routine workers and maintenance workers, respectively, if necessary.

If a bounding estimate at an area in the Southend exceeds a trigger for corrective measures, then the estimate is refined by calculating point-by-point risks using the maximum concentrations at each location, as discussed in Section 6.4.2. Every chemical detected in soil at the Southend of the Site was included in the point-by-point risk calculations. Since not every chemical was analyzed in a soil sample at a particular location, a surrogate concentration was assigned to the location if the chemical has concentrations at other locations that could contribute significantly to the cumulative cancer and/or noncancer risk estimates for any of the exposure scenarios identified for further evaluation. Appendix G describes the procedure used to select conservative concentrations for the risk calculations for each boring location.

The use of maximum concentrations for many constituents introduces more conservatism than necessary for RME estimates because it assumes constant simultaneous worst-case exposure to many constituents, when the RME generally would not have so many constituents at worst-case concentrations at all times. The uncertainties

associated with the use of such conservative estimates of exposure concentrations in evaluating the significance of potential exposures is discussed in Section 6.5.3.

Other Media

Exposure concentrations for groundwater, basement water, tunnel water, sewer water, and LNAPL are conservatively estimated using the highest detected concentrations in these media at each area to streamline risk calculations. However, as discussed above, the use of maximum concentrations introduces more conservatism than necessary for RME estimates. In addition, the maximum concentrations in unfiltered and filtered water samples (when both were analyzed) are conservatively used to evaluate all exposure routes even though filtered concentrations are more appropriate for calculating risks for the dermal and inhalation exposure routes. The uncertainties associated with the use of such conservative estimates of exposure concentrations in evaluating the significance of potential exposures is discussed in Section 6.5.3.

Currently vinyl chloride has been detected infrequently in groundwater and generally at relatively low concentrations at the Site. PCE, TCE, and/or 1,2-DCE are the predominant contaminants in groundwater in most of these areas. As a sensitivity analysis, potential exposures to these chemicals in groundwater are evaluated for the groundwater plume in the Building 36 area where the concentrations of chlorinated VOCs are among the highest and the degradation of these chemicals to vinyl chloride is likely to occur. The groundwater exposure concentration of vinyl chloride is conservatively estimated by assuming total conversion of the highest concentrations of PCE, TCE, and 1,2-DCE (cis and trans) in the Building 36 plume to vinyl chloride. The results of this sensitivity analysis are discussed in Section 6.5.3.

6.3.4.1 Fate and Transport Models

The following models are used to estimate exposure concentrations for the exposure scenarios discussed in Section 6.3.3. These models are used by USEPA and state regulatory agencies for screening-level analysis. The following are brief descriptions of the models. Further details of these models are provided in Appendix G.

Vapor Intrusion into Buildings

Indoor air concentrations resulting from migration of vapors from soil, groundwater, or LNAPL into a building are estimated using the model described by Johnson and Ettinger (1991), which USEPA recommends for screening-level evaluations (USEPA 2004). The calculations in this risk assessment use default building characteristics recommended by MDEQ (2002) and generic soil properties recommended by USEPA (2004) that are representative of the soil types at the Site. The MDEQ building characteristics are considered conservative for the evaluation of current conditions because the buildings currently at the Site are much larger in size than the commercial building assumed in the MDEQ guidance. A discussion of the model and the input parameters used in the assessment is provided in Appendix G.

Vapor Emission from Exposed Water

The model for estimating vapor emissions from exposed water surfaces, such as excavations that encounter groundwater, is based on mass-transfer coefficients recommended in USEPA guidance (USEPA 1995c). A discussion of the model and the input parameters used in the calculation is provided in Appendix G.

Vapor Emission from Exposed Soil

Vapor emissions from exposed soil are estimated using the Jury model (Jury et al. 1983), based on depletion over time of soil initially contaminated from the surface to an infinite depth. A discussion of the model, adapted by USEPA for screening-level calculations (USEPA 1996), is provided in Appendix G.

Vapor Emission from LNAPL and Smear Zone Soil

Vapor emissions from smear zone soil that may be exposed in excavations are estimated in the same manner as emissions from exposed soil. Vapor emissions from exposed LNAPL that may pool in the bottom of excavations is estimated using Raoult's Law and mass transfer coefficients from the "oil film surface emission model" (USEPA 1987). A discussion of the model and the input parameters used in the calculation is provided in Appendix G.

Air Dispersion

Air concentrations are estimated using USEPA's SCREEN3 air dispersion model (USEPA 1995b). The area-source algorithm in SCREEN3 is used with default and region-specific meteorological parameters to estimate maximum 1-hour concentrations at ground level. The source area for each receptor is as follows: maintenance workers are based on a 15 by 15 foot excavation, routine workers and residents are based on 0.5 acres, and redevelopment workers are conservatively based on 180 acres (i.e., the area of the entire Southend).

For the maintenance worker scenarios, the maximum 1-hour air concentrations are converted to maximum 24-hour average air concentrations using a conservative factor of 0.4 (USEPA 1995b). For the routine worker, redevelopment worker, and resident scenarios, the maximum 1-hour air concentrations are converted to maximum annual average air concentrations using a conservative factor of 0.08 (USEPA 1995). The air concentrations estimated in this approach are conservative (i.e., expected to predict higher concentrations than the actual air concentrations to which receptors would be exposed).

Dust Emission

Emission of respirable soil particulates (PM10) for routine worker and resident exposures to outdoor soil are calculated using the wind-erosion model recommended by USEPA (1996) with USEPA-default soil parameters and Site-specific wind speed (NOAA 2004).

Emission and dispersion modeling were not used to estimate airborne dust concentrations for maintenance/utility and redevelopment construction activities, because such activities are required to ensure that dust levels do not exceed air standards for dust. Specifically, it is expected that dust concentrations will comply with the National Ambient Air Quality Standards (NAAQS). The annual average NAAQS for PM10 (50 ug/m3) is used in the assessment of redevelopment construction worker exposures, and the 24-hour average NAAQS for PM10 (150 ug/m3) is used in the assessment of maintenance/utility worker exposures. It was conservatively assumed that the PM10 concentration would be at these limits every day for the entire assumed periods of exposure.

Steady-State Mass Loading

A mass balance approach was used to estimate the steady-state mass loading to surface water that could result from groundwater and/or storm sewer water entering the Flint River. The mass balance approach

conservatively assumes that constituents do not degrade during migration from the source to the Flint River, and all concentrations measured along sewers are Site-related even though the sewers collect water from offsite sources. A discussion of the modeling approach and the input parameters used in the calculations is provided in Appendix G.

Uncertainties inherent in the models and assumptions used in estimating exposure concentrations are discussed in Section 6.5.3.

6.3.5 Estimation of Intakes

The exposure factors for evaluating the exposure scenarios summarized in the CSM and discussed in Section 6.3.3 are discussed in this section. In this risk assessment, standard default exposure factors recommended by USEPA for estimating reasonable maximum exposures are used where available and appropriate. Where standard default exposure factors are not available or not appropriate for an exposure scenario, the evaluation is conducted using similarly conservative exposure factors that are based on Site-specific considerations and professional judgment.

6.3.5.1 Routine Workers

In this risk assessment, potential exposure of routine workers to soil is conservatively evaluated using the standard default exposure factors that USEPA (1991a) recommends for estimating RME. According to USEPA, the standard default exposure factors are conservative assumptions about the magnitude, frequency, and duration of exposures, which, in combination, are intended to provide estimates of exposures that are higher than actual exposures to a large portion (90% to 99%) of a potentially exposed population.

Soil Ingestion Rate

A soil ingestion rate of 50 mg/day is used for routine workers. USEPA has recommended the use of this value for evaluating high-end routine worker exposures to soil (USEPA 1991a).

Soil Dermal Contact Rate and Absorption

The dermal contact rate is the product of the exposed skin surface area and the soil-to-skin adherence factor. The exposed skin area of 3,300 cm^2 and the soil-to-skin adherence factor of 0.2 mg/cm^2 are the USEPA-recommended skin area and adherence factor for evaluating high-end contact with soil by workers in industrial settings (USEPA 2004b). The absorbed dose from dermal contact with soil is estimated by multiplying the dermal contact rate by USEPA-recommended absorption factors for absorption from soil (USEPA 2004b).

Exposure Frequency and Duration

Routine workers are assumed to be at the Site for 250 days per year for 25 years. This combination of exposure frequency and exposure duration is expected to be conservative for the amount of time that workers are actually in contact with soil, as routine workers spend the majority of their time indoors. USEPA has recommended the use of these values for evaluating high-end routine worker exposures (USEPA 1991a).

Body Weight

The body weight of 70 kg is the standard USEPA-recommended body weight for assessing exposure to adults (USEPA 1989).

Averaging Time

The averaging time for evaluating cancer risk is equal to a lifetime of 70 years, and the averaging time for evaluating noncancer risk is equal to the exposure duration (USEPA 1989).

Although it is recognized that the use of the default exposure factors, rather than Site-specific factors (e.g., the fraction contact term < 1), results in overestimation of RME risks at the Site, this approach streamlines the risk assessment. The assessment is also streamlined because the added conservatism in these risk estimates allows them to be used as conservative estimates for other receptors (e.g., trespassers). In this risk assessment, the risk estimates for routine workers are used to evaluate potential exposures of trespassers to soil because the exposure to these receptors are expected to be lower than those evaluated (ENVIRON 2003).

6.3.5.2 Maintenance Workers

Potential exposure of maintenance workers to soil is evaluated using the risk estimates for routine workers, as discussed in Section 6.3.5.1. The exposure factors used for evaluating potential exposure of constructions workers to groundwater, LNAPL, smear zone soil, storm sewer water, basement water, and tunnel water, during excavations associated with occasional maintenance or construction activities are as follows:

Soil Ingestion Rate

A soil ingestion rate of 200 mg/day is used for workers performing maintenance work that involves excavation into the soil. This rate is lower than the 480 mg/day that is often cited as USEPA's recommended soil ingestion rate for excavation or construction scenarios (USEPA 1991a). However, the 480 mg/day rate is based on an assumption regarding soil adherence to hands that has been shown in USEPA-funded field studies to overestimate (by 3 to 4-fold) soil adherence to hands during various excavation and construction activities. Replacing the earlier soil adherence assumption with soil adherence data from the USEPA-funded studies (USEPA 1997b) would give a soil ingestion rate of approximately 120 mg/kg to 160 mg/kg. Therefore, using a rate of 200 mg/kg is conservative.

Soil Dermal Contact Rate and Absorption

The dermal contact rate is the product of the exposed skin surface area and the soil-to-skin adherence factor. The exposed skin area of 3,300 cm^2 and the soil-to-skin adherence factor of 0.2 mg/cm^2 are the USEPA-recommended skin area and adherence factor for evaluating high-end contact with soil by workers in industrial settings (USEPA 2004b). The absorbed dose from dermal contact with soil is estimated by multiplying the dermal contact rate by USEPA-recommended absorption factors for absorption from soil (USEPA 2004b).

Groundwater Ingestion Rate

A rate of 0.005 L/hour is used for incidental ingestion of groundwater during construction work in excavations that extend into groundwater. This rate is 10% of the rate that USEPA (1989) recommends for

ingestion while swimming, and represents a very conservative estimate of incidental groundwater ingestion that could occur while workers are in an excavation pit.

Groundwater and LNAPL Dermal Contact Rates

The exposed skin surface area of 3,300 cm^2 is based on the USEPA-recommended exposed skin surface area for evaluating high-end contact with soil by workers in industrial settings (USEPA 2004b). Workers are conservatively assumed to be covered with groundwater or LNAPL over this exposed skin surface area for 2 hours per event. The absorbed dose for organic chemicals is estimated using a nonsteady-state approach (USEPA 2004b), which is more conservative than the steady-state approach (USEPA 1989), particularly for hydrophobic chemicals. The permeability coefficient (K_p) for dermal absorption from groundwater and LNAPL are estimated following USEPA guidance (1992, 2004).

Exposure Frequency and Duration

The number of days of construction that involves actual excavation into the water table is assumed to be 50 days, which is assumed to occur at a frequency of 5 days/year for a period of 10 years. This combination of exposure frequency and exposure duration is expected to be conservative for the amount of time that workers are actually in contact with groundwater and LNAPL (as opposed to the total time for maintenance or construction, which typically includes time not associated with excavation). The assumption of 5 days/year can represent the excavation time for a few small repairs per year or one larger repair. The duration of 10 years is more than twice the length of time that workers typically work at one location (USEPA 1997b).

Body Weight

The body weight of 70 kg is the standard USEPA-recommended body weight for assessing exposure to adults (USEPA 1989).

Averaging Time

The averaging time for evaluating cancer risk is equal to a lifetime of 70 years, and the averaging time for evaluating noncancer risk is equal to the exposure duration (USEPA 1989).

6.3.5.3 Redevelopment Construction Workers

The exposure factors used for evaluating potential exposure of redevelopment workers to soil, groundwater, LNAPL, smear zone soil, basement water, and tunnel water, during excavations associated with redevelopment construction activities are the same as those for maintenance workers discussed in Section 6.3.5.2, except as follows:

Exposure Frequency and Duration

Redevelopment construction workers are assumed to contact soil for up to 250 days for 1 year. This combination of exposure frequency and exposure duration is expected to be conservative for the amount of time workers are actually in contact with soil at any one location, as discussed in Appendix G.

The number of days of for redevelopment that involves actual excavation into the water table is assumed to be 5 days for 1 year. The assumption of 5 days can represent the excavation time for a few small excavations or one larger excavation that require workers actually in contact with groundwater and LNAPL (as opposed to the total time for redevelopment, which typically does not involve direct contact with groundwater or LNAPL).

6.3.5.4 Trespassers

Potential exposure of trespassers to soil is evaluated using the risk estimates for routine workers, based on the exposure factors discussed in Section 6.3.5.1.

6.3.5.5 Residents

Soil Ingestion Rate

The standard USEPA-recommended ingestion rates of 100 and 200 mg/day are used for assessing exposure to adults and children, respectively (USEPA 1991a).

Soil Dermal Contact Rate and Absorption

The dermal contact rate is the product of the exposed skin surface area and the soil-to-skin adherence factor. The exposed skin area of 2,800 and 5,700 cm^2 and the soil-to-skin adherence factors of 0.2 and 0.7 mg/cm^2 are the USEPA-recommended skin area and adherence factor for evaluating high-end contact with soil by adults and children, respectively (USEPA 2004b). The absorbed dose from dermal contact with soil is estimated by multiplying the dermal contact rate by USEPA-recommended absorption factors for absorption from soil (USEPA 2004b).

Exposure Frequency and Duration

Residents are assumed to be exposed to soil at the Site for 350 days per year for 30 years (6 years as children and 24 years as adults). This combination of exposure frequency and exposure duration is expected to be conservative for the amount of time that residents would actually in contact with soil. USEPA has recommended the use of these values for evaluating high-end residential exposures (USEPA 1991a).

Body Weight

The body weights of 70 kg and 15 kg are the standard USEPA-recommended body weights for assessing exposure to adults and children, respectively (USEPA 1989).

Averaging Time

The averaging time for evaluating cancer risk is equal to a lifetime of 70 years, and the averaging time for evaluating noncancer risk is equal to the exposure duration (USEPA 1989).

6.3.5.6 Recreational Users

Potential exposure of land recreational users to soil (e.g., park visitors) is evaluated using the risk estimates for residents, based on the exposure factors discussed in Section 6.3.5.5.

Potential exposure of recreational users via contact with surface water and consumption of fish in the Flint River is evaluated by comparing estimated concentrations in surface water with state and federal surface water quality criteria, and MDEQ Part 201 generic residential drinking water criteria for chemicals without surface water quality criteria.

Uncertainties associated with the exposure factors used in estimating chemical intakes are discussed in Section 6.5.3.

6.4 Toxicity Assessment

A toxicity assessment identifies potential adverse health effects that are associated with exposure to chemicals, and the dose-response relationship between exposure and the occurrence of adverse effects. Toxicological information used in the risk assessment is derived from two categories of sources. The toxicity values used in deriving Site-specific soil and groundwater screening criteria, and the associated estimates of cumulative cancer and noncancer risks, were compiled from the following USEPA's hierarchy of sources, updated in December 2003 (USEPA 2003c):

1. Integrated Risk Information System (IRIS)
2. Provisional Peer Reviewed Toxicity Values (PPRTV)
3. Additional USEPA sources

When a toxicity value is not available from the first two sources, other USEPA sources of toxicity values were consulted. Provisional Toxicity Values from the National Center for Environmental Assessment (NCEA) that are not in the PPRTV database are preferred over values from HEAST (Health Effects Assessment Summary Tables; USEPA 1997a) when they represent more recent agency guidance. When a toxicity value was not available from these sources, other USEPA and non-USEPA sources of toxicity values were consulted. The toxicity values used in the risk assessment and their sources are summarized in Appendix G and are discussed below.

6.4.1 Toxicity Values for Carcinogens

USEPA considers chemicals belonging to the following USEPA cancer weight-of-evidence groups as human carcinogens:

Group A:	Known Human Carcinogen: Sufficient evidence of carcinogenicity in humans
Group B1:	Probable Human Carcinogen: Limited evidence of carcinogenicity in humans
Group B2:	Probable Human Carcinogen: Sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans
Group C:	Possible Human Carcinogen: Limited evidence of carcinogenicity in animals and inadequate or lack of evidence in humans

As shown in Appendix G, USEPA has designated some of the constituents as Group B2 or Group C, which means that USEPA acknowledges that there is either inadequate or a lack of evidence that these constituents actually cause cancer in humans. Therefore, evaluating these constituents as human carcinogens in the risk assessment is highly conservative.

USEPA-derived cancer slope factors (SFs) and inhalation unit risk factors (URFs) for the constituents evaluated in the risk assessment and their sources are shown in Appendix G. The oral SFs and URFs represent 95% upper confidence bounds on the probability of getting cancer over a lifetime per unit dose. As recognized by USEPA, there is significant scientific evidence that some of the SFs and URFs may be overly conservative and may ignore the potential existence of threshold doses. Nonetheless, they are used here as conservative assessment tools.

6.4.2 Toxicity Values for Noncarcinogens

Constituents designated by USEPA as belonging to the cancer weight-of-evidence Group D (Not Classifiable as to Human Carcinogenicity) are considered noncarcinogens. Constituents not designated as belonging to any cancer group are potential carcinogens and/or noncarcinogens. USEPA-derived chronic and subchronic reference doses (RfDs and SRfDs, respectively) and chronic and subchronic inhalation reference concentrations (RfCs and SRfCs, respectively) for these constituents and their sources are shown in Appendix G. As discussed in Section 6.3.5.3, the redevelopment construction worker is the only receptor population with subchronic exposure (i.e., the exposure duration is less than 7 years).

The oral reference doses and inhalation reference concentrations represent conservative estimates of the daily exposure to the human population, including sensitive subpopulations (e.g. children), which are likely to be without an appreciable risk of deleterious effects during a lifetime. These toxicity values typically incorporate several safety factors to account for uncertainties in their derivation, which, in combination, often result in overall uncertainty factors of 1,000 or more. Furthermore, for many constituents, there is significant scientific debate about the validity of these toxicity values, and the association of these doses and concentrations to potential adverse health consequences. Nonetheless, these reference doses and reference concentrations are used here as conservative assessment tools.

6.4.3 Extrapolation of Toxicity Values

The USEPA sources of toxicity values listed above do not provide dermal toxicity values for any of the constituents. Therefore, oral toxicity values (i.e., oral SFs, RfDs, and SRfDs) are used as dermal toxicity values in this risk assessment. Adjustments to the oral toxicity values are made in this route-to-route extrapolation based on USEPA guidance (USEPA 2004b).

The USEPA sources of toxicity values listed above do not provide inhalation toxicity values (URFs, RfCs, and SRfCs) for all of the constituents. For a constituent that has no inhalation toxicity values, the oral SF and/or RfD, if available, is converted to an URF and/or RfC using default USEPA assumptions (USEPA 1997a).

Uncertainties introduced by using extrapolated toxicity values are discussed in Section 6.5.3.

6.5 Risk Characterization

The health significance of the potential exposures identified in Section 6.3 is discussed in the following subsections. Section 6.5.1 describes the methods for quantifying cancer risks and noncancer hazard indices. Section 6.5.2 discusses the risk estimates and the significance of potential exposures. Uncertainties in the risk assessment are discussed in Section 6.5.3.

6.5.1 Cancer Risk and Noncancer Hazard Index

The cancer risk associated with potential exposure to a carcinogenic chemical is calculated by multiplying an estimate of the lifetime average daily dose (LADD) for a particular exposure scenario by the cancer slope factor (SF) for the chemical, as follows:

$$Risk = LADD \cdot SF$$

For the inhalation route, the inhalation cancer risk is calculated using the chemical concentration in air (C_{air}) and the URF, as follows:

$$Risk = C_{air} \cdot URF \cdot \frac{EF \cdot ED}{AT}$$

where EF is exposure frequency, ED is exposure duration, and AT is averaging time.

The noncancer hazard quotient (HQ) associated with potential exposure to a noncarcinogenic chemical is calculated by dividing an estimate of the average daily dose (ADD) for a particular exposure scenario by the reference dose (RfD) for the chemical, as follows:

$$HQ = \frac{ADD}{RfD}$$

For the inhalation route, the inhalation HQ is calculated using C_{air} and the RfC, as follows:

$$HQ = \frac{C_{air}}{RfC} \cdot \frac{EF \cdot ED}{AT}$$

The potential cancer risk and noncancer effects that may result from exposure to the combination of constituents at an area are estimated following USEPA guidance (USEPA 1989), as follows:

$$Cumulative\ Risk = \sum_i Risk_i$$

$$Hazard\ Index = \sum_i HQ_i$$

where:

$Risk_i$ = estimated cancer risk for the *i*th constituent

HQ_i = hazard quotient for the *i*th constituent

This approach may result in estimates of cumulative cancer and noncancer risks that are more conservative than necessary. For example, different chemicals may cause different and unrelated health effects, so summing the HQs for their individual effects would overestimate the significance of their combined effects. Nonetheless, this approach is used here as a conservative assessment tool.

The cumulative cancer risk and HI estimates for each receptor population are compared with USEPA's cancer risk limit of 10^{-4} and HI limit of 1, respectively, for determining whether corrective measures are warranted for a particular area of the Site (61 FR 19432, May 1, 1996; USEPA 1991b). The risk estimates and results of the comparison to the USEPA-established limits are discussed in the following sections.

6.5.2 Risk Estimates for Potentially Exposed Populations

6.5.2.1 Onsite Routine Workers

The significance of risks associated with potential exposure of routine workers to onsite soil, groundwater, and LNAPL is discussed below.

Soil

Potential exposure of routine workers to exposed outdoor soil was first evaluated using bounding estimates of RME cumulative cancer and noncancer risks to streamline the risk assessment, as explained in Section 6.3.4. The initial estimates were calculated using maximum Site-related concentrations for all constituents detected in soil at an area. These estimates are considered bounding estimates because the RME risks for an area would be lower if concentrations representative of the area were used instead of maximum concentrations, and if Site-specific exposure factors were used to account for the magnitude, frequency, and duration of exposures appropriate for the area.

The bounding estimates of Site-related cumulative cancer and noncancer risks were compared to USEPA's cancer risk and HI limits of 10^{-4} and 1, respectively. The bounding estimates of Site-related cumulative cancer risk and HI for potential exposure of routine workers to exposed outdoor soil based on the maximum concentrations for all constituents detected in soil are summarized on Table 6-2. The table shows that the risk estimates for the following areas investigated during the RFI do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1:

Northend AOIs

- AOI 03-1 - Quenching and Cooling Oil Systems;
- AOI 05-1 - Former Metal Machining Chip Processing;
- AOI 05-2 - Filtration Room, Oil Room, Below-Grade Vault, and Elevator Pit;
- AOI 05-3 - Building 43 Basement Containing Process Waste Oil Sumps and Drains;
- AOI 05-4 - Metal Forming Operations, Recirculation Trenches and Sumps;
- AOI 05-5 - Active Process Machinery, Collection Trenches, and Sumps;
- AOI 05-6 - Active Process Machinery, Collection Trenches, and Sumps;

- AOI 07-1 - Former Coal Yard;
- AOI 07-2 - Inactive Lime "Slaker House" and Inactive Lime Slurry Tank;
- AOI 07-3 - Two Elevator Pits and a Bulk Acid AST;
- AOI 10-1 - Manufacturing Operations and Several Tanks;
- AOI 10-2 - Solid Waste Transfer Area and Former ASTs;
- AOI 10-3 - Two Process Waste Oil Sumps;
- AOI 10-4 - Scrapyard Area;
- AOI 21-1 - Former Metal Chip Briquetting Operations and Current Metal Welding and Tool Grinding Operations;
- AOI 36-2 - Metal Chip Processing Area;
- AOI 36-3 - Engine Assembly, Waste Oil Collection and Processing, Former USTs;
- AOI 36-4 - Former Metal Machining and Active Engine Assembly;
- AOI 36-5 - Former UST Farm and Active AST Farm;
- AOI 38-1 - Process Waste Sumps, Trenches, and Former Hydraulic Car Lifts;
- AOI 55-1 - Industrial Wastewater Treatment Facilities;
- AOI 65-1 - Air Compressor Station and a Main Process Waste Pump Station;
- AOI 81-1 - Metal Machining, Chip, Cooling, and Cutting Oil Filtration and Processing, Hydraulic Elevator, Process Waste Sumps and Tanks, a Drum Storage Area, and an Active Hazardous Waste Accumulation Area;
- AOI 81-3 - Former Foundry Operations, an Elevator Pit, Metal Machining Areas, and a Forklift Battery Charging Area;
- AOI 81-4 - Air Compressor Operations;
- AOI 81-5 - Existing and Former ASTs;
- AOI 83/84-1 - Former and Existing Machining Operations;
- AOI 83/84-3 - Former and Existing Machining Operations;
- AOI 83/84-4 - Former Machining Operations and an Inactive Rail Loading Area;
- AOI 83/84-5 - Former Process Trenches and Pits, and an Inactive Heat Treating Tunnel;
- AOI 83/84-6 - Forklift Battery Charging Area and Associated Trench and Pit, and a Drum Storage Area;
- AOI 83/84-7 - Underground Storage Tanks;
- AOI 85-1 - Elevator Pit and Engine Test Area;
- AOI 86-1 - Hazardous Waste Drum Accumulation Area, Process Waste Sump and Pump Station, Waste Transport Vehicle Storage Area, and Former USTs; and
- Former Aeration Lagoons Area.

Southend AOIs

- AOI 02-A - Process Waste Sump;
- AOI 02-B - Elevator Pit;
- AOI 02-C - Sump in the Materials Laboratory;
- AOI 02-D - Press Machine Pit;
- AOI 02-E - Former UST;
- AOI 02-F - Hydraulic Oil AST and Pump;
- AOI 04-A - Process Waste Room and Waste Pit;
- AOI 04-B - Elevator Pits;
- AOI 04-C - Elevator Pit;
- AOI 09-B - Hamilton Avenue Tank Farm;

- AOI 12-A - Press Pits, Sumps, Trenches, Traps, and Floor Staining;
- AOI 12-B - Truck Loading Dock Drain and Sump;
- AOI 12-C - Sump in Battery Charging Area, Deep Steam Pipe, and a Utility Pit Containing Oil and Water;
- AOI 12-D - Abandoned, Flooded Utility Tunnel;
- AOI 16-A - Vehicle Fill-Up Station, Automatic Transmission Pump House, and a Gas Pump Station;
- AOI 16-B - Elevator Pit;
- AOI 16-C - Hydraulic Motor, Former AST, and Former USTs;
- AOI 16-D - Former UST and Process Wastewater Sump;
- AOI 17-A - Elevator Pit;
- AOI 23-A - Process Waste Sumps, Dock Levelers, and Basements Used for Heat Treat Process Water;
- AOI 29-A - Elevator Pit and Observed Oil Staining;
- AOI 40-B - Elevator Pit;
- AOI 40-C - Elevator Pit;
- AOI 40-D - Flooded Basement/Tunnel Area;
- AOI 44-A - Sumps, Pits, Trenches, Drains, Floor Stains, and ASTs;
- AOI 84-A - Elevator Pits, Sumps, a Machine Shop, Hydraulic Cylinders, and a Hydraulic Lift;
- AOI 84-B - Sumps, Floor Drains, a Pit, a Flooded Basement, and a Below Grade Vault;
- AOI 84-C - Sumps, a Trench, and an Oil/Water Separator Pit;
- AOI 84-D - Former UST Farm, an AST Farm, and Drum Storage Area;
- AOI 94-A - Sumps and Trenches in Oil Change Pits and Chemical Storage Areas;
- AOI 94-B - Process Sump and Trench;
- AOI 94-C - Hydraulic Oil Storage Areas;
- AOI 94-D - Pit for a Cable-Operated Car Elevator;
- AOI 94-E - Car-Loading Machinery and Hydraulic Oil Observed on Floor;
- Former Administration Building Area (Transformer Yard, Soil Stockpile Area, and Former USTs);
- Former Building 94 Employee Parking Lot;
- Harriet Street Area (USTs); and
- Former Employee Parking (FEP) Lot North of Oak Park.

In addition, the estimates of cancer risk and noncancer HQ associated with background levels of metals in soil (see Section 4.2) are shown in Table 4-2. The estimates of risks associated with background metal concentrations are low relative to the risk limits, and are not included in the Site-related risk estimates shown on Table 6-2.

As shown in Table 6-2, the bounding estimates of Site-related cumulative cancer risk and HI exceed the cancer risk limit and/or the HI limit for the following areas:

Northend AOIs

- AOI 36-1 - Engine Manufacturing and Metal Machining Processes;
- AOI 81-2 - Active Metal Welding and Machining and Torque Converter Assembly; and
- AOI 83/84-2 - Former and Existing Machining Operations.

Southend AOIs

- AOI 09-A - Former USTs, Floor Trenches, and Former AST; and
- AOI 40-A - Former UST Farm.

For areas at the Northend (AOIs 36-1, 81-2, and 83/84-2) where the bounding estimate of cancer risk or HI was higher than the USEPA limits, further calculations were conducted, as shown in Table 6-3. Since routine workers only directly contact surface soil, the exposure concentration in each area was first limited to the maximum concentrations detected in surface (0-2 ft bgs) samples in each AOI. The bounding estimates for routine worker exposure to surface soil do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1 at AOI 36-1 and AOI 83/84-2.

For AOI 81-2, the concentrations of 1,1-dichloroethane, 1,1,1-trichloroethane, 1,1,2-trichloro-1,2,2-trifluoroethane from RFI-81-38 (1-3 foot depth) are high enough that they had to be excluded from the risk calculations in order for the cumulative cancer and noncancer risk estimates to be within the acceptable limits. Table 6-3 shows the risk estimates for AOI 81-2 that exclude these concentrations. These risk estimates do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1. AOI 81-2 is covered by operational building floors. Location RFI-81-38 is included in the Due Care Plan, which has been implemented to ensure that worker activity in this area would follow proper health and safety procedures to prevent unacceptable exposures until soil in this area is addressed.

As an efficient means of providing robust risk-related information that could be used flexibly by GM, USEPA, and any developers for evaluating land reuse options for the Southend areas, risk estimates for routine workers were calculated for each of the soil boring locations within the following three parcels in the Southend, as shown on Figure 6-1:

- Parcel 1 - area bounded by Leith Street, the employee parking lots and the park, Hamilton Avenue, and the CSX property;
- Parcel 2 - area bounded by the GM property boundary, the CSX property, Hamilton Avenue, and James P. Cole Boulevard; and
- Parcel 3 - area bounded by Hamilton Avenue, Industrial Avenue, the GM property boundary, and the CSX property.

The boundaries for these parcels are based on the GM property lines and obvious physical structures (e.g., railroad tracks and major roadways) that represent boundaries (shown on Figure 2-3) between previous Site operations that may have caused soil contamination. Of the remaining parcels at the Southend shown on Figure 6-1, Parcels 4 and 5 were not evaluated during the RFI as no AOIs were identified in these parcels in the Southend DOCC (BBL 2000), and the only soil samples collected were used to characterize background concentrations for metals. Parcels 6, 7, and 8 all have acceptable bounding risks for routine workers (see Table 6-2 and Appendix G).

The estimates of cumulative cancer and noncancer risks for exposure of routine workers to soil at each soil boring locations in Parcels 1, 2, and 3 are shown in Appendix G. These calculations considered all detected constituents, except lead, which was evaluated separately, as discussed below. The soil boring locations with estimates of cumulative cancer risk higher than 10^{-4} or HI higher than 1 are listed on Table 6-4 and also shown on Figure 6-2. Each polygon on Figure 6-1 is a Thiessen polygon of a sampling location, and contains all points which are closer to that sampling location than any other sampling location. It is generated by tessellating the parcel with the perpendicular bisectors of the line segments connecting each sampling location to the nearest sampling locations. A location is considered to not have soil conditions that

warrant corrective measures if its upper-bound cumulative cancer risk and HI estimates do not exceed 10^{-4} or 1, respectively.

The results in Figure 6-2 and Table 6-4 show that there are only 2 boring locations (RFI-09-03 and RFI-40-12) with a potentially significant cumulative cancer risk estimate and no locations with a potentially significant HI estimate for routine worker direct contact. The risk estimates for potential exposure at these areas are then refined using area-weighted risk estimates that are based on logical exposure units. Specifically, area-weighting was accomplished by tessellating a ½-acre exposure unit that is centered around each location. In this approach, each point is assigned the risk estimate of its nearest sampling location, as shown in Appendix G. The area-weighted approach ensures that sampling locations that best represent where workers would likely spend most of their time are not underrepresented in exposure estimates. However, using area-weighted risk estimates to represent exposure of routine workers is still conservative, since they are still based on the default exposure factors, rather than Site-specific factors (e.g., the fraction contact term < 1 for indoor workers). The estimates of cumulative cancer risk and HI for this scenario are summarized in Appendix G, which shows that all areas have estimates that do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1.

USEPA (2003b) and MDEQ (2002) both evaluate the significance of lead exposures using blood lead level as an index of exposure, rather than in terms of cancer risk or noncancer HQ. The MDEQ industrial direct contact criterion of 900 mg/kg for lead has been developed using a blood lead model to be protective of potential exposures to soil lead in industrial settings. As USEPA discussed in a recent rulemaking (40 CFR Part 745, January 5, 2001), the soil lead screening level should be compared with the arithmetic mean concentration of lead within the area where potential exposures are assumed to occur in order to be consistent with the principles underlying the blood lead modeling approaches used in deriving the screening level.

Table 6-5 compares the mean Site-related lead concentrations in surface soil (0-2 feet bgs) and the mean of maximum deep soil concentrations by locations at each AOI with the lead screening criterion of 900 mg/kg. These mean concentrations include all soil lead data collected at an AOI during the RFI. Five AOIs (09-A, 12-A, 81-1, 83/84-2, and 83/84-3) have mean lead concentrations in the deep soil that exceed the screening criterion. The mean lead concentrations in surface soil at AOIs 09-A and 83/84-3 also exceed the screening criterion. However, there is no complete pathway for current exposure of routine workers to surface soil at AOI 83/84-3 as it is covered by building floors.

Evaluation of the Northend AOIs has determined that elevated lead concentrations at a limited number of discrete locations in AOI 81-1 (RFI-81-01, RFI-81-02, RFI-81-36, and RFI-81-37), AOI 83/84-2 (RFI-83/84-14 and RFI-83/84-23), and AOI 83/84-3 (RFI-83/84-05) caused the mean concentration for the AOI to exceed the criterion. These discrete areas are relatively small, as they were delineated to within 200 feet during the RFI. The mean lead concentrations in soil, after removing these locations, are 244, 857, and 831 mg/kg in the deep soil column for AOIs 81-1, 83/84-2, and 83/84-3, respectively, and 756 mg/kg in the shallow soil at AOI 83/84-3, all of which are lower than the screening criterion. The soil from the locations discussed above under existing building floors and has been included as part of the Due Care Plan to ensure that worker activity in these areas follows proper health and safety procedures to prevent unacceptable exposures until soil in these areas is addressed.

Evaluation of soil lead data from all depths at the Southend was performed on a point-by-point basis by categorizing points relative to the screening criterion. The results for samples where the lead concentration is higher than 900 mg/kg are summarized on Table 6-6 and the boring locations exceeding these screening levels are highlighted in Figure 6-5. Eleven boring locations have lead concentrations higher than 900

mg/kg (RFI-02-03, RFI-09-01, RFI-09-02, RFI-09-15, RFI-09-16, RFI-09-18, RFI-09-44, RFI-09-56, RFI-12-02, RFI-12-31, and RFI-29-01). Two other boring locations (RFI-09-01R and RFI-12-35) are also highlighted in Figure 6-5 because lead was not analyzed at these locations, but their assigned surrogate concentrations based on measured lead concentrations from the nearest locations exceed 900 mg/kg. Most of the samples with lead concentrations higher than the industrial screening criterion were collected within the top four feet below ground surface (bgs), as noted in Table 6-6. At RFI-12-02, the maximum lead concentration was detected at a sample depth of 6-8 feet bgs, and the surface sample (0.7-2 feet bgs) had a lead concentration of 5.1 mg/kg, below the lead screening criterion of 900 mg/kg. Therefore, routine worker exposure to lead in soil at RFI-12-02 is not expected to occur.

Routine workers could be exposed to constituents in the subsurface to the extent that such constituents volatilize and migrate through building foundation cracks into indoor air, as discussed in Section 6.3.3.1. Maximum detected concentrations for all constituents at the areas investigated during the RFI are compared to conservative screening criteria derived from appropriate occupational air standards for indoor air inhalation in industrial buildings that are governed by OSHA regulations, and are discussed in Appendix G. As shown in Table 6-7, the sums of the ratios of soil concentrations to the vapor intrusion screening criteria are much less than 1, which are compliant with the OSHA requirements for indoor air inhalation in industrial buildings, in all areas except AOIs 36-1 and 81-2, where the ratio sums are 0.5 and 0.4 respectively. Indoor air sampling was conducted by the facility's industrial hygiene staff in these two areas to further evaluate the potential for vapor intrusion. None of the volatile constituents in soil under these areas was detected in the indoor air samples, as shown in Appendix J. These data show that no vapor intrusion is actually occurring to a measurable degree in these areas.

The vapor intrusion pathway is also evaluated for future commercial/industrial buildings that may not be governed by OSHA regulations. Bounding estimates of cumulative cancer risk and HI were calculated using maximum concentrations of all constituents detected at all the areas investigated during the RFI. Details of the vapor intrusion modeling calculations are provided in Appendix G. The estimates of cumulative cancer risk and HI for this scenario are summarized in Table 6-7, which shows that all areas except AOIs 36-1 and 81-2 have estimates that do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1. As discussed above, the buildings in these areas are currently governed by OSHA regulations, and they are compliant with the OSHA requirements. However, further evaluation is recommended to eliminate the exposure pathway in future buildings (e.g., engineering controls) in these areas if they will not be subject to OSHA regulations.

Since all areas at the Southend have acceptable bounding risk estimates of indoor air exposures to vapors from soil, no point-by-point analysis is needed for this scenario.

Groundwater

Routine workers could be exposed to constituents in groundwater to the extent that such constituents volatilize and can migrate through cracks in building foundations into indoor air, as discussed in Section 6.3.3.1. To evaluate this pathway, the maximum concentrations in groundwater are compared to the conservative screening criteria for indoor air inhalation in industrial buildings that are governed by OSHA regulations and are discussed in Appendix G. As shown in Table 6-7, the sums of the ratios of groundwater concentrations to the vapor intrusion screening criteria are much less than 1, which are compliant with the OSHA requirements for indoor air inhalation in industrial buildings, in all areas.

The vapor intrusion pathway is also evaluated for future commercial/industrial buildings that may not be governed by OSHA regulations. Bounding estimates of cumulative cancer risk and HI were calculated

using maximum concentrations of all constituents detected at the areas investigated during the RFI. Details of the vapor intrusion modeling calculations are provided in Appendix G. The estimates of cumulative cancer risk and HI for this scenario are summarized in Table 6-7, which shows that no area has estimates that exceed the cancer risk limit of 10^{-4} or the HI limit of 1.

LNAPL

As discussed in Section 6.3.3.1, routine workers could be exposed to constituents in the subsurface LNAPL via volatilization and migration through cracks in building foundations into indoor air. This exposure pathway is conservatively evaluated by comparing the indoor air concentrations that are estimated using the vapor intrusion screening-level model discussed in Section 6.3.4.2 with appropriate occupational air standards, as shown in Appendix G. The source vapor concentrations used in the vapor intrusion model are calculated using Raoult's law by assuming that the vapor concentrations are in equilibrium with the LNAPL concentrations. The model parameters used for calculating the indoor air concentrations are the same as those used for the groundwater vapor intrusion modeling calculations. The occupational air standards used are Michigan Occupational Health Standards (MICIS 2001), Permissible Exposure Limits (PELs) established by the OSHA (NIOSH 1997), or Threshold Limit Values (TLVs) recommended by the American Conference of Government Industrial Hygienists (ACGIH 2005). Details of the vapor intrusion modeling calculations as discussed in Appendix G. As shown in Table 6-8, the sums of the estimated indoor air concentrations to the occupational air standards are much less than 1, which is complaint with the OSHA requirements for indoor air inhalation in industrial building.

The vapor intrusion pathway is also evaluated for future commercial/industrial buildings that may not be governed by OSHA regulations. Bounding estimates of cumulative cancer risk and HI were calculated using maximum concentrations of all constituents detected at the areas investigated during the RFI. Details of the vapor intrusion modeling calculations are provided in Appendix G. The estimates of cumulative cancer risk and HI for this scenario are summarized in Table 6-8, which shows that no area has estimates that exceed the cancer risk limit of 10^{-4} or the HI limit of 1, except for AOI 36-1.

6.5.2.2 Onsite Maintenance Workers

The significance of risks associated with potential exposure of maintenance workers to onsite soil, groundwater, LNAPL, storm sewer water, basement water, and tunnel water is discussed below.

Soil

Potential exposure of maintenance workers to soil is evaluated directly using the exposure factors in Section 6.2.5.2. The bounding estimates of Site-related cumulative cancer risk and HI for potential exposure of maintenance workers to exposed outdoor soil based on the maximum concentrations for all constituents detected in soil are summarized on Table 6-2. No onsite areas have estimates that exceed the cancer risk limit of 10^{-4} or the HI limit of 1. Since all areas at the Southend have acceptable bounding risk estimates, no point-by-point analysis is needed for this scenario.

Potential exposure of maintenance workers to lead in soil is evaluated the same way as routine workers. The results are discussed in Section 6.5.2.1, and are not repeated here.

Groundwater

Estimates of risks for potential exposure of maintenance workers to groundwater are calculated in Appendix G. The highest detected constituent concentrations in groundwater are used as the exposure concentrations for all areas. Risks are estimated using the conservatively derived screening criteria for evaluating potential exposure of maintenance workers who might occasionally contact groundwater. The criteria, which are discussed in Appendix G, include potential exposures to groundwater through dermal contact, incidental ingestion, and inhalation of vapors. The bounding estimates of cumulative cancer risk and HI for potential exposure of maintenance workers to onsite groundwater are summarized in Table 6-9, which shows that all onsite areas have estimates that do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1.

LNAPL and Smear Zone Soil

As noted in Section 4, subsurface soil at AOIs 02-B, 03-1, 05-1, 05-5, 09-B, 10-1, 10-4, 12-A, 12-B, 12-C, 16-C, 23-A, 36-1, 36-2, 36-5, 40-A, 81-2, 83/84-2, 83/84-4, 85-1, and 86-1 contains LNAPLs at the water table. LNAPL data were also collected from the storm sewer and Outfall #4 during the RFI. Bounding estimates of cumulative cancer risks and HIs are calculated for potential exposure of maintenance workers during excavation associated with occasional maintenance activities via direct contact with the LNAPLs and/or smear zone soil and inhalation of vapors from exposed LNAPL and/or smear zone soil. The calculations are provided in Appendix G and discussed below.

As shown on Table 6-10, the upper-bound estimates of cumulative cancer risk and HI for each exposure pathway for each LNAPL area do not exceed USEPA's risk limits of 10^{-4} or 1, respectively, except at AOIs 09-B and 36-1. At AOIs 09-B and 36-1, the cancer and noncancer risks for potential exposure of maintenance workers to smear zone soil do not exceed USEPA's risk limits, but the cancer and noncancer risks for potential exposure to LNAPL via inhalation of vapors from the LNAPL exceed USEPA's acceptable limits. These risk estimates assume that maintenance workers do not wear any personal protective equipment during excavations. These AOIs are currently being addressed as part of the Interim Measures as discussed in Section 5.3. Furthermore, the Due Care Plan has been implemented at the Site to ensure that any planned construction activity in all LNAPL areas would follow proper health and safety procedures to minimize exposure.

Storm Sewer Water

As discussed in Section 4, storm sewer water data were collected at several locations across the Site during the RFI. Bounding estimates of cumulative risk and HI for potential exposure of maintenance workers to constituents in storm sewer water are evaluated using the maximum concentrations of chemicals in the storm sewer water samples and the screening criteria for evaluating potential exposure of maintenance workers to groundwater discussed in Appendix G.

Estimates of risks for potential exposure of maintenance workers to storm sewer water are calculated in Appendix G. The highest detected constituent concentrations in storm sewer water are used as the exposure concentrations in the calculations. The bounding estimates of cumulative cancer risk and HI for potential exposure of maintenance workers to storm sewer water are summarized in Table 6-11, which shows that the risk estimates do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1.

Basement and Tunnel Water

As discussed in Section 4, basement and tunnel water was collected from four AOIs at the Site, including AOIs 12-A, 23-A, 36-3, and 40-D. Bounding estimates of cumulative risk and HI for potential exposure of maintenance workers to constituents in basement and tunnel water are evaluated using the maximum

concentrations of chemicals in basement and tunnel water samples and the screening criteria for evaluating potential exposure of maintenance workers to groundwater discussed in Appendix G.

Estimates of risks for potential exposure of maintenance workers to basement and tunnel water are calculated in Appendix G. The highest detected constituent concentrations in basement and tunnel water are used as the exposure concentrations in the calculations. The bounding estimates of cumulative cancer risk and HI for potential exposure of maintenance workers to basement and tunnel water are summarized in Table 6-11, which shows that the risk estimates do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1.

6.5.2.3 Trespassers

Potential exposure of trespassers to soil is evaluated indirectly using exposure estimates for routine workers, as explained in Section 6.3.3. This streamlines the risk assessment and is conservative because trespasser exposures would be lower than routine worker exposures. Therefore, the risk and HI estimates for trespassers are expected to be no higher than the estimates discussed in Section 6.5.2.1.

6.5.2.4 Redevelopment Construction Workers

The significance of risks associated with potential exposure of redevelopment construction workers to soil, groundwater, and LNAPL at the Southend of the Site is discussed below.

Soil

Potential exposure of redevelopment construction workers to soil was first evaluated using bounding estimates of RME cumulative cancer and noncancer risks to streamline the risk assessment, as explained in Section 6.3.4. The initial estimates were calculated using maximum Site-related concentrations for all constituents detected in soil at an area. The bounding estimates of Site-related cumulative cancer and noncancer risks were compared to USEPA's cancer risk and HI limits of 10^{-4} and 1, respectively. The bounding estimates of Site-related cumulative cancer risk and HI for potential exposure of redevelopment construction workers to soil based on the maximum concentrations for all constituents detected in soil are summarized on Table 6-12. The table shows that the risk estimates for the following areas investigated during the RFI do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1:

- AOI 02-A - Process Waste Sump;
- AOI 02-B - Elevator Pit;
- AOI 02-C - Sump in the Materials Laboratory;
- AOI 02-D - Press Machine Pit;
- AOI 02-E - Former UST;
- AOI 02-F - Hydraulic Oil AST and Pump;
- AOI 04-A - Process Waste Room and Waste Pit;
- AOI 04-B - Elevator Pits;
- AOI 04-C - Elevator Pit;
- AOI 12-B - Truck Loading Dock Drain and Sump;
- AOI 12-C - Sump in Battery Charging Area, Deep Steam Pipe, and a Utility Pit Containing Oil and Water;

- AOI 12-D - Abandoned, Flooded Utility Tunnel;
- AOI 16-A - Vehicle Fill-Up Station, Automatic Transmission Pump House, and a Gas Pump Station;
- AOI 16-B - Elevator Pit;
- AOI 16-C - Hydraulic Motor, Former AST, and Former USTs;
- AOI 16-D - Former UST and Process Wastewater Sump;
- AOI 17-A - Elevator Pit;
- AOI 23-A - Process Waste Sumps, Dock Levelers, and Basements Used for Heat Treat Process Water;
- AOI 29-A - Elevator Pit and Observed Oil Staining;
- AOI 40-A - Former UST Farm;
- AOI 40-B - Elevator Pit;
- AOI 40-C - Elevator Pit;
- AOI 40-D - Flooded Basement/Tunnel Area;
- AOI 84-A - Elevator Pits, Sumps, a Machine Shop, Hydraulic Cylinders, and a Hydraulic Lift;
- AOI 84-B - Sumps, Floor Drains, a Pit, a Flooded Basement, and a Below Grade Vault;
- AOI 84-C - Sumps, a Trench, and an Oil/Water Separator Pit;
- AOI 84-D - Former UST Farm, an AST Farm, and Drum Storage Area;
- AOI 94-A - Sumps and Trenches in Oil Change Pits and Chemical Storage Areas;
- AOI 94-B - Process Sump and Trench;
- AOI 94-C - Hydraulic Oil Storage Areas;
- AOI 94-D - Pit for a Cable-Operated Car Elevator;
- AOI 94-E - Car-Loading Machinery and Hydraulic Oil Observed on Floor;
- Former Administration Building Area (Transformer Yard, Soil Stockpile Area, and Former USTs);
- Former Building 94 Employee Parking Lot; and
- Harriet Street Area (USTs).

As shown in Table 6-13, the bounding estimates of Site-related cumulative cancer risk and HI exceed the HI limit for the following areas:

- AOI 09-A - Former USTs, Floor Trenches, and Former AST;
- AOI 09-B - Hamilton Avenue Tank Farm;
- AOI 12-A - Press Pits, Sumps, Trenches, Traps, and Floor Staining; and
- AOI 44-A - Sumps, Pits, Trenches, Drains, Floor Stains, and ASTs.

For areas at the Southend (Parcels 1, 2, and 3) where the bounding estimate of cancer risk or HI was higher than the USEPA limits, further calculations were conducted. As an efficient means of providing robust risk-related information that could be used flexibly by GM, USEPA, and any developers for evaluating land reuse options for the Southend areas, risk estimates for redevelopment construction workers were calculated for each of the soil boring locations within Parcels 1, 2, and 3, using the same approach discussed in Section 6.5.2.1.

The estimates of cumulative cancer and noncancer risks by soil boring locations are shown in Appendix G, and the locations with estimates of cumulative cancer risk higher than 10^{-4} or HI higher than 1 are listed on Table 6-13, and also shown on Figure 6-3. The results show that there is no boring location with the cumulative cancer risk estimate above the risk limit and 6 boring locations (RFI-09-04, RFI-09-24, RFI-09-25, RFI-09-49, RFI-44-05, and RFI-86-01) with potentially significant HI estimates for site redevelopment

workers. The risk estimates for potential exposure at these areas are then refined using area-weighted risk estimates that are based on logical exposure units. Specifically, area-weighting was accomplished by tessellating the exposure unit that is centered around each location. In this approach, each point is assigned the risk estimate of its nearest sampling location, as shown in Appendix G. The total area of each of these exposure areas is less than 3 acres, which is considered reasonable for potential redevelopment construction workers. The area-weighted approach ensures that sampling locations that best represent where workers would likely spend most of their time are not underrepresented in exposure estimates. However, using area-weighted risk estimates to represent exposure of redevelopment construction workers is still conservative, since they are still based on the default exposure factors, rather than Site-specific factors. The estimates of cumulative cancer risk and HI for this scenario are summarized in Appendix G, which shows that all areas have estimates that do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1.

Potential exposure of redevelopment construction worker to lead in soil is evaluated the same was routine workers. The results are discussed in Section 6.5.2.1, and are not repeated here.

Groundwater

Estimates of risks for potential exposure of redevelopment workers to groundwater are calculated in Appendix G. The highest detected constituent concentrations in groundwater are used as the exposure concentrations for all areas. Risks are estimated using the conservatively derived screening criteria for evaluating potential exposure of redevelopment workers who might occasionally contact groundwater. The criteria, which are discussed in Appendix G, include potential exposures to groundwater through dermal contact, incidental ingestion, and inhalation of vapors. The bounding estimates of cumulative cancer risk and HI for potential exposure of redevelopment workers to onsite groundwater are summarized in Table 6-15, which shows that all onsite areas have estimates that do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1.

LNAPL and Smear Zone Soil

As noted in Section 4, subsurface soil at AOIs 09-B, 12-A, 12-B, 16-C, and 23-A contains LNAPLs at the water table at the Southend. Bounding estimates of cumulative cancer risks and HIs are calculated for potential exposure of redevelopment workers during excavation associated with redevelopment construction activities via direct contact with the LNAPLs and/or smear zone soil and inhalation of vapors from exposed LNAPL and/or smear zone soil. The calculations are provided in Appendix G and discussed below.

As shown on Table 6-15, the upper-bound estimates of cumulative cancer risk and HI for each exposure pathway for each LNAPL area do not exceed USEPA's risk limits of 10^{-4} and 1, respectively, except AOI 09-B where the noncancer HI for potential exposure to LNAPL via inhalation of vapors from the LNAPL exceed USEPA's acceptable limit. These estimates of risks assume that redevelopment construction workers do not wear any personal protective equipment during excavations. The Due Care Plan has been implemented at the Site to ensure that any planned construction activity in the LNAPL areas would follow proper health and safety procedures to minimize exposure. This AOI is currently being addressed as part of the Interim Measures as discussed in Section 5.3.

6.5.2.5 Onsite Residents

The significance of risks associated with potential exposure of future residents to soil, groundwater, and LNAPL is discussed below.

Soil

Potential exposure of residents to soil was first evaluated using bounding estimates of RME cumulative cancer and noncancer risks to streamline the risk assessment, as explained in Section 6.3.4. The initial estimates were calculated using maximum Site-related concentrations for all constituents detected in soil at an area. The bounding estimates of Site-related cumulative cancer and noncancer risks were compared to USEPA's cancer risk and HI limits of 10^{-4} and 1, respectively. The bounding estimates of Site-related cumulative cancer risk and HI for potential exposure of residents to soil based on the maximum concentrations for all constituents detected in soil are summarized on Table 6-12. The table shows that the risk estimates for the following areas investigated during the RFI do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1:

- AOI 02-A - Process Waste Sump;
- AOI 02-B - Elevator Pit;
- AOI 02-C - Sump in the Materials Laboratory;
- AOI 02-D - Press Machine Pit;
- AOI 02-E - Former UST;
- AOI 02-F - Hydraulic Oil AST and Pump;
- AOI 04-A - Process Waste Room and Waste Pit;
- AOI 04-B - Elevator Pits;
- AOI 04-C - Elevator Pit;
- AOI 12-B - Truck Loading Dock Drain and Sump;
- AOI 12-C - Sump in Battery Charging Area, Deep Steam Pipe, and a Utility Pit Containing Oil and Water;
- AOI 12-D - Abandoned, Flooded Utility Tunnel;
- AOI 16-A - Vehicle Fill-Up Station, Automatic Transmission Pump House, and a Gas Pump Station;
- AOI 16-B - Elevator Pit;
- AOI 16-C - Hydraulic Motor, Former AST, and Former USTs;
- AOI 16-D - Former UST and Process Wastewater Sump;
- AOI 17-A - Elevator Pit;
- AOI 23-A - Process Waste Sumps, Dock Levelers, and Basements Used for Heat Treat Process Water;
- AOI 29-A - Elevator Pit and Observed Oil Staining;
- AOI 40-B - Elevator Pit;
- AOI 40-C - Elevator Pit;
- AOI 40-D - Flooded Basement/Tunnel Area;
- AOI 44-A - Sumps, Pits, Trenches, Drains, Floor Stains, and ASTs;
- AOI 84-A - Elevator Pits, Sumps, a Machine Shop, Hydraulic Cylinders, and a Hydraulic Lift;
- AOI 84-B - Sumps, Floor Drains, a Pit, a Flooded Basement, and a Below Grade Vault;
- AOI 84-C - Sumps, a Trench, and an Oil/Water Separator Pit;
- AOI 84-D - Former UST Farm, an AST Farm, and Drum Storage Area;
- AOI 94-A - Sumps and Trenches in Oil Change Pits and Chemical Storage Areas;
- AOI 94-B - Process Sump and Trench;
- AOI 94-C - Hydraulic Oil Storage Areas;
- AOI 94-D - Pit for a Cable-Operated Car Elevator;

- AOI 94-E - Car-Loading Machinery and Hydraulic Oil Observed on Floor;
- Former Administration Building Area (Transformer Yard, Soil Stockpile Area, and Former USTs);
- Harriet Street Area (USTs); and
- Former Employee Parking (FEP) Lot North of Oak Park.

As shown in Table 6-12, the bounding estimates of Site-related cumulative cancer risk and HI exceed the HI limit for the following areas:

- AOI 09-A - Former USTs, Floor Trenches, and Former AST;
- AOI 09-B - Hamilton Avenue Tank Farm;
- AOI 12-A - Press Pits, Sumps, Trenches, Traps, and Floor Staining;
- AOI 40-A - Former UST Farm; and
- Former Building 94 Employee Parking Lot.

For areas at the Southend (Parcels 1, 2, and 3) where the bounding estimate of cancer risk or HI was higher than the USEPA limits, further calculations were conducted. As an efficient means of providing robust risk-related information that could be used flexibly by GM, USEPA, and any developers for evaluating land reuse options for the Southend areas, risk estimates for residents were calculated for each of the soil boring locations within Parcels 1, 2, and 3, using the same approach discussed in Section 6.5.2.1

The estimates of cumulative cancer and noncancer risks by soil boring locations are shown in Appendix G, and the locations with estimates of cumulative cancer risk higher than 10^{-4} or HI higher than 1 are listed on Table 6-17, and also shown on Figure 6-4. The results show that there are 8 boring locations (RFI-09-03, RFI-09-19, RFI-09-39, RFI-09-45, RFI-09-45R, RFI-40-12, RFI-40-16, and RFI-40-17) with potentially significant cumulative cancer risk estimates, 8 boring locations (RFI-09-02, RFI-09-38, RFI-09-05, RFI-12-31, RFI-12-35, RFI-86-12, EP-02, and EP 94-02A) with potentially significant HI estimates for residents, and 2 locations with both (RFI-86-07 and RFI-86-17).

The risk estimates for potential exposure at these areas are then refined using area-weighted risk estimates that are based on logical exposure units. Specifically, area-weighting was accomplished by tessellating a ½-acre exposure unit that is centered around each location. In this approach, each point is assigned the risk estimate of its nearest sampling location, as shown in Appendix G. The area-weighted approach ensures that sampling locations that best represent where residents would likely spend most of their time are not underrepresented in exposure estimates. The estimates of cumulative cancer risk and HI for this scenario are summarized in Appendix G, which shows that RFI-09-03, RFI-09-05, RFI-09-19, RFI-09-39, RFI-12-31, RFI-12-35, RFI-40-12, RFI-40-16, and RFI-40-17 have estimates that do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1. Further action (e.g. limited excavation, engineering control, or deed restriction) is recommended to eliminate or restrict access to the remaining areas (RFI-09-02, RFI-09-38, RFI-09-45, RFI-09-45R, RFI-86-07, RFI-86-12, RFI-86-17, EP-02, and EP94-02A).

Evaluation of soil lead data from all depths at the Southend was performed on a point-by-point basis by categorizing points relative to the residential screening criterion (400 mg/kg). The results are summarized on Table 6-17 and the boring locations exceeding these screening levels are highlighted in Figure 6-5. Twenty-six boring locations (including four locations with assigned surrogate concentrations) have lead concentrations in surface soil higher than 400 mg/kg. For one location, RFI-40-09, the evaluations for residential exposure to lead is refined based on area-weighted concentrations for the highest detected concentrations of lead. As discussed above, area-weighting was accomplished by tessellating an exposure area of approximately ½ acre (or 22,000 square feet) centered around a location, as shown in Appendix G.

The area-weighted average concentration in the ½ acre around RFI-40-09 is 190 mg/kg, less than the residential screening criterion. Further action (e.g. limited excavation, engineering control, or deed restriction) is recommended to eliminate or restrict residential exposure to the other areas listed on Table 6-17.

Since all areas at the Southend have acceptable bounding risk estimates of indoor air exposures to vapors from soil (shown on Table 6-18), no point-by-point analysis is needed for this scenario.

Groundwater

Residents could be exposed to constituents in groundwater to the extent that such constituents volatilize and can migrate through cracks in building foundations into indoor air, as discussed in Section 6.3.3.1. The vapor intrusion pathway is evaluated for future potential residential buildings at the Southend portion of the Site after redevelopment. Bounding estimates of cumulative cancer risk and HI were calculated using maximum concentrations of all constituents detected at the areas investigated during the RFI. Details of the vapor intrusion modeling calculations are provided in Appendix G. The estimates of cumulative cancer risk and HI for this scenario are summarized in Table 6-19, which shows that no area has estimates that exceed the cancer risk limit of 10^{-4} or the HI limit of 1 for residential buildings.

LNAPL

As discussed in Section 6.3.3.1, residents could be exposed to constituents in the subsurface LNAPL via volatilization and migration through cracks in building foundations into indoor air. The vapor intrusion pathway is evaluated for future potential residential buildings at the Southend of the Site after redevelopment. Bounding estimates of cumulative cancer risk and HI were calculated using maximum concentrations of all constituents detected at the areas investigated during the RFI. Details of the vapor intrusion modeling calculations are provided in Appendix G. The estimates of cumulative cancer risk and HI for this scenario are summarized in Table 6-20, which shows that no area has estimates that exceed the cancer risk limit of 10^{-4} or the HI limit of 1, except for AOI 09-B.

6.5.2.6 Onsite Recreational Users

As discussed in Section 6.3.3.1, potential recreational user exposures to surface soil would be lower than that of residents at the Southend. Therefore, the potential exposures of recreational users are evaluated using the risk estimates for residents discussed in Section 6.5.2.5. The estimates of cumulative cancer and noncancer risk based on maximum concentrations exceed USEPA's limits of 10^{-4} and 1, respectively, at certain locations shown on Table 6-12. Risk estimates for these locations are adjusted using a Site-specific exposure time of 2 hours per day for recreational exposures, and still conservatively assuming the same exposure frequency and duration as residents (i.e., 350 days and 30 years). This assumption is incorporated into the risk calculations using a "fraction contacted" term of 2/16 (or 0.125). For the soil ingestion and dermal contact routes, the daily soil ingestion and dermal contact rates discussed above for residents are considered to apply over the 16 hours when people are awake and have potential for contact with soil or soil-derived household dust. As such, a fraction contacted term of 2/16 (or 0.125) is used to prorate these daily rates to the hourly rate for 2 hours per event. Table 6-20 shows that only 1 location (RFI-09-03) would have unacceptable cumulative cancer risk for recreational users. As shown on Figure 6-4, the area around this location was characterized during the RFI to be less than 200 square feet. Further action (e.g. limited excavation, engineering control, or deed restriction) is recommended to eliminate or restrict potential future recreational user exposure in this area.

6.5.2.7 Offsite Receptors

As discussed in Section 6.3.3.2, potential exposures of offsite routine workers, maintenance workers, and residents to soil and groundwater are evaluated indirectly using the risk estimates for onsite receptors. In addition, potential exposures of recreational users to surface water in the Flint River are evaluated as discussed below.

Soil

As discussed in Section 6.3.3.2, offsite workers and residents may be exposed to constituents in onsite soil via wind dispersion of airborne dust and vapors. Potential exposure of these receptors is evaluated indirectly using exposure estimates for onsite routine workers at the Northend. This approach streamlines the risk assessment and is conservative because airborne exposures offsite are expected to be lower than exposure onsite due to much greater air dispersion between an onsite emission source and offsite receptors as compared to air dispersion directly over an emission source (ENVIRON 2003). It is also conservative because onsite routine worker exposure includes the dermal contact and ingestion exposure routes, which are not relevant for offsite receptors.

The estimates of cumulative cancer risk and HI for onsite routine worker soil contact at the Northend are summarized in Tables 6-2 and 6-3, which show that these estimates do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1.

Groundwater

As discussed in Section 6.3.3.2, potential offsite maintenance worker exposure to groundwater would be lower than that of an onsite maintenance worker. Therefore, the potential exposure of offsite maintenance workers are evaluated using the risk estimates for onsite maintenance workers discussed in Section. 6.5.2.2. The estimates of cumulative cancer risk and HI based on maximum concentrations by AOI are summarized in Table 6-10, which shows that they do not exceed USEPA's cancer risk limit of 10^{-4} or the HI limit of 1.

The vapor intrusion pathway for potential exposure of offsite routine workers to constituents in groundwater migrating offsite is evaluated using the vapor intrusion modeling calculations provided in Appendix G. The evaluation assumes that current and future offsite commercial/industrial buildings are not governed by OSHA regulations, that soil properties and building characteristics offsite are similar to those onsite. The estimates of cumulative cancer risk and HI for this scenario are summarized in Table 6-18 for the Southend AOIs and Table 6-21 for the Northend AOIs, which shows that they do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1.

The vapor intrusion pathway for potential exposure of offsite residents to constituents in groundwater migrating offsite is evaluated using the vapor intrusion modeling calculations provided in Appendix G. The evaluation assumes that soil properties and future offsite residential building characteristics offsite are similar to those assumed onsite. The estimates of cumulative cancer risk and HI for this scenario are summarized in Table 6-18 for the Southend AOIs and Table 6-21 for the Northend AOIs, which shows that they do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1.

Surface Water

As discussed in Section 6.3.3.2, potential offsite recreational users could be exposed to constituents in groundwater and/or storm sewer water via contact with nearby downgradient surface water in the Flint

River. Surface water concentrations are estimated using the mass balance approach discussed in Section 6.3.4 for constituents that exceed the MDEQ GSI criteria in groundwater and/or were detected in the storm sewer water samples. The highest detected constituent concentrations at monitoring wells selected for GSI criteria comparison (discussed in Section 4) are conservatively used as the concentrations in groundwater in the mass loading calculation for the receiving water. The mass loading from the storm sewer outfalls are estimated using data collected for the facility's NPDES permits and at various locations along the sewer networks during the RFI as discussed in Section 4. A discussion of this evaluation is provided in Appendix G.

The estimated surface water concentrations are compared against Michigan Water Quality Standards and Federal Ambient Water Quality Criteria (AWQC) for surface water used as human drinking water sources and MDEQ Part 201 generic residential drinking water criteria for groundwater for chemicals without State or Federal surface water quality standards. Table 6-22 presents the bounding estimates of surface water concentrations resulting from groundwater and storm sewer water discharging to the Flint River. As shown in Table 6-22, none of the constituent concentrations exceed the criteria except PCBs. For PCBs, the MDEQ and Federal surface water quality criteria are at least three orders of magnitude lower than the target detection limit of 0.2 ug/L, and the PCB concentration in the discharge is less than the MDEQ residential drinking water criterion. Therefore, water discharging from groundwater and the sewers into the Flint River is not expected to have significant impact on the water quality of the Flint River (see also Appendix F).

6.5.3 Uncertainty Analysis

6.5.3.1 Exposure Concentrations

As discussed in Section 6.3.4, all exposure concentrations for soil in this risk assessment are based on the highest concentrations detected in soil at each area or location. This approach inflates the cumulative cancer risk and HI estimates since these estimates are based on maximum concentrations. As explained in Section 6.3.4, the use of maximum concentrations for all constituents introduces more conservatism than necessary for RME estimates because it assumes simultaneous worst-case exposure to all constituents constantly, when the RME generally would not have all constituents at worst-case concentrations at all times.

The above discussion regarding soil exposure concentrations also applies to groundwater exposure concentrations for the excavation scenario, since workers would not be expected to contact groundwater with the maximum concentrations of every constituent during every onsite and offsite excavation.

As discussed in Section 6.3.4, the exposure concentration of vinyl chloride in the groundwater plume in the Building 36 area is conservatively estimated by assuming total conversion of PCE, TCE, and 1,2-DCE (cis and trans) to vinyl chloride, as a sensitivity analysis. The assumption that all parent chemicals are completely transformed to vinyl chloride without any vinyl chloride degradation to ethene or ethane is unrealistic. Most chlorinated VOCs, including PCE and TCE, degrade via reductive dechlorination, which occurs under anaerobic conditions. The formation of vinyl chloride from 1,2-DCE and other chlorinated VOCs occurs predominantly under aerobic conditions. However, the transformation of vinyl chloride to ethene or ethane also occurs under aerobic conditions. In fact, the rate of degradation of vinyl chloride to ethene and ethane is often much higher than the rate of vinyl chloride formation, so that relatively little vinyl chloride typically accumulates in groundwater.

According to data compiled in the literature, the typical kinetic rate constants for the formation of vinyl chloride from 1,2-DCE and other chlorinated VOCs range from approximately 1 to 3 per year, while the typical kinetic

rate constant for the degradation of vinyl chloride is at least 10 per year (Suarez and Rifai 1999). This means that groundwater conditions that are conducive to the formation of vinyl chloride would be expected to be even more conducive to degradation of vinyl chloride. Therefore, the assumption of total conversion of PCE, TCE, and 1,2-DCE (cis and trans) to vinyl chloride without vinyl chloride degradation is highly conservative. The estimates of cumulative cancer risk and HI based on total conversion of the highest concentrations of PCE, TCE, and 1,2-DCE to vinyl chloride in the Building 36 plume are slightly higher than those presented in Section 6.5.2.2 but do not exceed 10^{-4} and 1, respectively. It should be noted that this highly conservative approach for vinyl chloride is intended to provide a gross upper-bound of maximum possible exposure in the event that PCE, TCE, and 1,2-DCE undergo some degree of degradation before arriving at potential points of exposure.

For the exposure scenarios that involve vapor intrusion, the use of maximum concentrations for all constituents also overstates the RME risk for individual buildings. This is because not all constituent have their highest concentrations at one location and not every building is located at a maximum concentration. However, these bounding estimates are useful for identifying constituents and exposures pathways for which significant risk is possible, so that risk-based concentration limits for such constituents and pathways can be used to identify specific locations where significant exposures could occur, as demonstrated in Section 6.5.2.1.

Most exposure concentrations that are based on mathematical modeling of constituent transfer from soil or groundwater to air are conservative for the same reasons discussed above, since the model estimates are based on the use of maximum concentrations in soil or groundwater. In addition, the model estimates are conservative because they generally do not account for the reduction of constituent concentrations in the soil or groundwater as constituent transfer from these media. As a result, risk estimates that are based on the sum of risk estimates for multiple media are more conservative than necessary for RME estimates. These include almost all the risk estimates discussed in Section 6.5.

6.5.3.2 Exposure Factors

As discussed in Section 6.3.5, most of the exposure factors used in the risk assessment are high-end (i.e., 90^{th} to 95^{th} percentile) estimates of the magnitude, frequency, and duration of potential exposures. When several such high-end factors are multiplied, the resulting estimates of dose will be higher than the 90^{th} percentile of the distribution of exposures in the potentially exposed population and could be higher than the exposure to the maximally exposed individual, particularly when such exposure factors are combined with exposure concentrations that are based on maximum concentrations.

Also, the use of generic default exposure factors for evaluation of potential exposure of workers to soil is more conservative than necessary for RME estimates, which allow the use of Site-specific considerations (USEPA 1989). For example, the “fraction contacted” terms used in this evaluation assume that routine workers are exposed to soil for an entire work day at each area, but workers at commercial/industrial sites generally spend only a part of the work day at a particular part of the Site.

Maintenance Worker exposure to soil and groundwater, and LNAPL and smear zone soil at the Northend of the Site was also evaluated using a more conservative exposure factor of 45 days for inhalation, at the request of USEPA. The results of this sensitivity analysis are shown in Tables 6-23 and 6-24. This sensitivity analysis shows that the only AOIs where bounding estimates of HI are higher than 1 are AOIs 03-1, 36-1, 81-2, and 83/84-2 for exposure to soil and AOI 36-3 for exposure to groundwater (Table 6-23). For exposure to LNAPL and smear zone soil, this sensitivity analysis, shown in Table 6-24, shows that the only additional AOI where potential risks could exist is AOI 10-4.

6.5.3.3 Extrapolated Toxicity Values

As discussed in Section 6.4.3, the dermal toxicity values used in the risk assessment are oral toxicity values that were extrapolated to the dermal route without chemical-specific judgment regarding whether such extrapolation might be appropriate for a particular chemical. This is a conservative approach to ensure that potential risk via the dermal route is not overlooked. However, some constituents might exhibit different degrees of toxicity for the dermal route relative to the oral route. For such constituents, the extrapolation approach used in the risk evaluation could introduce uncertainty.

The conversion of an oral toxicity value to an inhalation toxicity value generally should be justified by consideration of a number of factors, including point of entry effects, pharmacokinectic data on the chemical's behavior in the different routes of exposure, and differences in the target organs affected. However, as a conservative measure for constituents without any inhalation toxicity values, oral SFs, RfDs, and SRfDs were converted to inhalation URFs, RfCs, and SRfCs in this risk assessment. Use of these extrapolated inhalation toxicity values reduces the potential for underestimating inhalation risks, but could introduce uncertainty.

6.5.3.4 Risk Characterization

The summation of cancer risks and HQs for multiple constituents, as described in Section 6.5.1, is based on USEPA guidance (1989) to assume dose additivity, which means that constituents in a mixture are assumed to have no synergistic or antagonistic interactions and each constituent has the same mode of action and elicits the same health effects. In general, this approach can introduce significant uncertainty. However, the majority of the cumulative cancer risk and HI estimates in this risk assessment are dominated by contributions from no more than a few constituents, so that the cumulative risk estimates are nearly the same as those for the few key constituents.

Conservative estimates of risks are not combined across different media. This would have been more conservative than necessary according to EPA guidance, because an individual is unlikely to face the high-end (and sometimes upper-bound) estimates of risk for each medium at the same time and continuously. In addition, combining the conservative estimates of risk across different routes of exposure and/or different media (e.g., soil and vapor emitted from soil) in many cases "double counts" exposure because the conservative estimates do not account for conservation of mass when estimating multi-route and/or cross-media exposures.

6.6 Summary and Conclusions

The significance of potential exposures to Site-related concentrations of constituents in onsite soil, groundwater, LNAPL, storm sewer water, and basement and tunnel water is evaluated based on conservative estimates of reasonable maximum exposures under current and reasonably expected future land use. The evaluation uses the RFI data that were discussed in Section 4 and methods that are consistent with USEPA risk assessment guidance. The significance of potential exposures is determined by comparing estimates of Site-related cumulative cancer and noncancer risks with a cancer risk limit of 10^{-4} and a HI limit of 1, respectively, which USEPA has established as triggers for corrective measures under RCRA corrective action (USEPA 1991b).

Current operations at the Site are all conducted in the Northend. Building demolition activities are completed in the Southend and are in progress in portions of the Northend. Groundwater that is affected by releases from the

Site extends offsite where current land use is commercial/ industrial. Receptors at the Site and the downgradient areas include the following:

Current	Onsite: Northend	Routine Workers
		Maintenance Workers
		Trespassers
	Onsite: Southend	Maintenance Workers
		Trespassers
	Offsite	Routine Workers
		Maintenance Workers
		Recreational Users
		Residents
Future	Onsite: Northend	Routine Workers
		Maintenance Workers
		Trespassers
	Onsite: Southend	Routine Workers
		Maintenance Workers
		Trespassers
		Redevelopment Construction Workers
		Recreational Users (e.g., parks)
		Residents
	Offsite	Routine Workers
		Maintenance Workers
		Recreational Users (Flint River)
		Residents

The potential exposures evaluated for these receptors are summarized in the conceptual site model shown in Table 6-1. The upper-bound and refined risk estimates by receptor and exposure medium are shown on Tables 6-2 through 6-22. The results of refined point-by-point risk estimates for the Southend (Parcels 1, 2, and 3) are also illustrated on Figure 6-6. Results of the evaluation are summarized below for each receptor population.

Onsite Routine Workers

The risk assessment evaluated potential exposures to outdoor soil at the Site via incidental ingestion, dermal contact, and inhalation of vapors and particulates. The conservative estimates of Site-related cumulative cancer risk and HI for these areas do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1, respectively, and the lead concentration is less than MDEQ Part 201 criterion of 900 mg/kg except for several locations identified in the risk assessment. For the Northend, several VOC concentrations from RFI-81-38 (1-3 foot depth) in AOI 81-2 were excluded from the risk calculations in order for the cumulative cancer and noncancer risk estimates to be within the acceptable limits. In addition, elevated lead concentrations at a limited number of discrete locations in AOI 81-1 (RFI-81-01, RFI-81-02, RFI-81-36, and RFI-81-37), AOI 83/84-2 (RFI-83/84-14 and RFI-83/84-23), and AOI 83/84-3 (RFI-83/84-05) caused the mean concentration for the AOI to exceed the criterion and were excluded in the final evaluation. These locations are included as part of the Due Care Plan and will be addressed in the corrective measure study. For the Southend, the lead concentrations at a number of locations are higher than 900 mg/kg. As shown on Figure 6-6, the area represented by each of these locations is relatively small compared to the area of each parcel.

Exposure via inhalation of soil, groundwater, and LNAPL constituents, assuming that they volatilize and migrate through cracks in building foundations, was also evaluated using conservative vapor intrusion modeling. Soil, groundwater and LNAPL exposures are compliant with OSHA requirements for indoor air inhalation in industrial buildings in all areas.

The vapor intrusion pathway for exposures via inhalation of soil, groundwater, and LNAPL constituents was also evaluated for future commercial/industrial buildings that may not be governed by OSHA regulations. The bounding estimates of Site-related cumulative cancer risk and HI do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1, respectively, in all areas except for exposures to constituents in soil at AOIs 36-1 and 81-2 and exposures to constituents in LNAPL at AOIs 36-1. Further evaluation is recommended to eliminate the exposure pathway in future buildings (e.g., engineering controls) in these areas if they will not be subject to OSHA regulations.

Therefore, constituent concentrations in onsite soil, groundwater, and LNAPL do not pose a significant risk to routine workers, except for the areas identified above to be included as part of the Due Care Plan and addressed by the corrective measure study.

Onsite Maintenance Workers

The risk assessment evaluated the significance of potential exposures to onsite soil during occasional construction/maintenance activities via incidental ingestion, dermal contact, and inhalation of vapors and particulates. The conservative estimates of Site-related cumulative cancer risk and HI for these areas do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1, respectively. Therefore, constituent concentrations in soil do not pose a significant risk to maintenance workers.

The risk assessment also evaluated the significance of potential exposures to constituents in groundwater via incidental ingestion, dermal contact, and vapor inhalation. The conservative estimates of cumulative cancer risk and HI for each of the areas do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1, respectively. Therefore, constituent concentrations in groundwater do not pose a significant risk to maintenance workers.

Potential exposures to smear zone soil and LNAPL during excavations at AOIs where LNAPL is present were evaluated in addition to other soil exposures. The risk assessment evaluated the significance of potential exposures to smear zone soil and LNAPL via incidental ingestion of smear zone soil, dermal contact with smear zone soil and LNAPL, and inhalation of smear zone soil and LNAPL vapors. The estimates of cumulative cancer risk and HI for this scenario also do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1, respectively, except for AOIs 09-B and 36-1. At these areas, the cancer and noncancer risks for potential exposure to LNAPL via inhalation of vapors from the LNAPL exceed USEPA's acceptable limits. These AOIs are currently being addressed as part of the Interim Measures as discussed in Section 5.3. Furthermore, the Due Care Plan has been implemented at the Site to ensure that any planned construction activity in the LNAPL areas would follow proper health and safety procedures to minimize exposure. Therefore, constituent concentrations in the smear zone soil and LNAPL at each of the areas do not pose a significant risk to maintenance workers.

The risk assessment also evaluated the significance of potential exposures to constituents in storm sewer water and basement and tunnel water via incidental ingestion, dermal contact, and vapor inhalation. The conservative estimates of cumulative cancer risk and HI for all areas do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1, respectively. Therefore, constituent concentrations in storm sewer water and basement and tunnel water do not pose a significant risk to maintenance workers.

Trespassers

The risk assessment evaluated the significance of potential exposures of trespassers to onsite soil by using the risk estimates for routine workers, which is a conservative and streamlined approach. Since the constituents in onsite soil do not pose a significant risk to routine workers as noted above, they also does not pose a significant risk to trespassers.

Redevelopment Construction Workers

The risk assessment evaluated the significance of potential exposures to onsite soil during redevelopment construction activities at the Southend of the Site via incidental ingestion, dermal contact, and inhalation of vapors and particulates. The conservative estimates of Site-related cumulative cancer risk and HI for these areas do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1, respectively. Therefore, constituent concentrations in soil do not pose a significant risk to redevelopment construction workers.

The risk assessment also evaluated the significance of potential exposures to constituents in groundwater via incidental ingestion, dermal contact, and vapor inhalation. The conservative estimates of cumulative cancer risk and HI for each of the areas do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1, respectively. Therefore, constituent concentrations in groundwater do not pose a significant risk to redevelopment construction workers.

Potential exposures to smear zone soil and LNAPL during excavations at AOIs where LNAPL is present were evaluated in addition to other soil exposures. The risk assessment evaluated the significance of potential exposures to smear zone soil and LNAPL via incidental ingestion of smear zone soil, dermal contact with smear zone soil and LNAPL, and inhalation of smear zone soil and LNAPL vapors. The estimates of cumulative cancer risk and HI for this scenario do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1, respectively, except AOI 09-B where the noncancer HI for potential exposure to LNAPL via inhalation of vapors exceed USEPA's acceptable limit. This AOI is currently being addressed as part of the Interim Measures as discussed in Section 5.3. Furthermore, the Due Care Plan has been implemented at the Site to ensure that any planned construction activity in the LNAPL areas would follow proper health and safety procedures to minimize exposure. Therefore, constituent concentrations in the smear zone soil and LNAPL at each of the areas do not pose a significant risk to redevelopment construction workers.

Onsite Residents

The risk assessment evaluated potential exposures to outdoor soil at the Southend of the Site via incidental ingestion, dermal contact, and inhalation of vapors and particulates. The conservative estimates of Site-related cumulative cancer risk and HI for these areas do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1, respectively except for the areas around the locations shown on Table 6-16 and Figure 6-6. Residential exposure to lead in soil is acceptable in all areas except those around the locations shown on Table 6-17 and Figure 6-6. Further action (e.g. limited excavation, engineering control, or deed restriction) is recommended to eliminate or restrict potential future residential exposure in these areas.

Exposure via inhalation of soil, groundwater, and LNAPL constituents, assuming that they volatilize and migrate through cracks in building foundations, was also evaluated using conservative vapor intrusion modeling. For inhalation exposure to constituents in soil, groundwater and LNAPL in areas at the Southend of the Site, the conservative estimates of Site-related cumulative cancer risk and HI do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1.

Therefore, constituent concentrations in onsite soil, groundwater, and LNAPL do not pose a significant risk to potential residents, except for the areas identified above.

Onsite Recreational Users

The risk assessment evaluated potential exposures to outdoor soil at the Southend of the Site via incidental ingestion, dermal contact, and inhalation of vapors and particulates. The conservative estimates of Site-related cumulative cancer risk and HI for these locations do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1, respectively, except at RFI-09-03. As shown on Figure 6-4, the area around this location was characterized during the RFI to be less than 200 square feet. Further action is recommended to eliminate or restrict potential future recreational user exposure in this area.

Therefore, constituent concentrations in the soil at each of the areas do not pose a significant risk to recreational users, except at RFI-09-03.

Offsite Routine Workers

The risk assessment evaluated the significance of potential exposures of offsite routine workers to soil by using the risk estimates for onsite routine workers, which is a conservative and streamlined approach. Since the constituents in onsite soil do not pose a significant risk to onsite routine workers as discussed in Section 6.5.2.1, they also do not pose a significant risk to offsite routine workers.

The risk assessment evaluated the significance of potential inhalation exposures of offsite routine workers to constituents in groundwater. The conservative estimates of Site-related cumulative cancer risk and HI do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1, respectively. Therefore, constituent concentrations in groundwater do not pose a significant risk to offsite routine workers.

Offsite Maintenance Workers

The risk assessment evaluated the significance of potential exposures of offsite maintenance workers to groundwater by using the risk estimates for onsite maintenance workers, which is a conservative and streamlined approach. Since the constituents in onsite soil do not pose a significant risk to onsite maintenance workers as discussed in Section 6.5.2.2, they also do not pose a significant risk to offsite maintenance workers.

Offsite Recreational Users

The risk assessment evaluated the significance of potential exposures of recreational users to constituents in groundwater and/or storm sewer water via contact with nearby downgradient surface water in the Flint River. None of the estimated surface water concentrations exceed the criteria except PCBs. However, the MDEQ and federal surface water quality criteria for PCBs are at least three orders of magnitude lower than the target detection limit of 0.2 ug/L, and the PCB concentrations in the discharge are less than the MDEQ residential drinking water criteria. Therefore, water discharging from groundwater and the sewers into the Flint River is not expected to have significant impact on the water quality of the Flint River.

Offsite Residents

The risk assessment evaluated the significance of potential exposures of offsite residents to soil by using the risk estimates for onsite routine workers, which is a conservative and streamlined approach. Since the

constituents in onsite soil do not pose a significant risk to onsite routine workers as discussed in Section 6.5.2.1, they also do not pose a significant risk to offsite residents.

The risk assessment evaluated the significance of potential inhalation exposures of future offsite residents to constituents in groundwater migrating offsite. The conservative estimates of Site-related cumulative cancer risk and HI do not exceed the cancer risk limit of 10^{-4} or the HI limit of 1, respectively. Therefore, constituent concentrations in groundwater do not pose a significant risk to future offsite residents.

7. Ecological Risk Evaluation

This section presents a screening-level ecological risk assessment (ERA) as described by USEPA guidance (USEPA, 1997, 2001). The initial elements of a screening-level ERA are characterization of the environmental setting and contaminants, and identification of complete exposure pathways (USEPA 1997). This document addresses those elements for the Site. A screening-level exposure assessment and risk characterization was also conducted to address risk for receptors with potentially complete exposure pathways.

The objective of a screening-level ERA is to provide a defensible conclusion that negligible ecological risk exists, or that certain contaminants and exposure pathways can be eliminated from further consideration in the ERA process (USEPA 1997). The pathways assessment is a critical step in this process, because it can be used to determine that complete exposure pathways do not exist and could not exist in the future, and therefore, present or future ecological impacts are negligible. For example, many sites are located in highly industrialized areas where there could be few, if any, ecological receptors, or where Site-related impacts might not be distinguishable from non-Site-related impacts (e.g., habitat loss due to development, non-Site-related anthropogenic chemicals such as hydrocarbons associated with highway runoff). The EPA guidance (USEPA 1997) states that a screening-level ERA may conclude that:

- There is adequate information to conclude that ecological risks are negligible, and therefore, no need exists for remediation on the basis of ecological risk;
- The information is not adequate to make a decision at this point, and the ERA process will continue; and
- The information indicates a potential for adverse ecological effects, and a more thorough assessment is warranted.

If a screening assessment supports the first decision (i.e., negligible risk), the ERA process ends there, with appropriate documentation to support the decision.

The process used in this assessment included a Site visit to characterize habitats and identify potential exposure pathways for ecological receptors, and a habitat assessment decision matrix to screen site and habitat characteristics for those areas at or near the Site that may provide terrestrial and aquatic habitats. The matrix approach was used to determine which habitat-bearing areas and pathways would need to be assessed in the ERA process, if any, and to determine the areas where ecological impacts are negligible because complete exposure pathways do not exist. Areas of the Site where there is a likelihood of release and a reasonable potential for complete exposure pathways were carried forward for the screening-level exposure and risk analyses. Areas of the Site where there is minimal potential for complete exposure pathways require no further assessment in the ERA process.

7.1 Habitat Characterization and Pathways Assessment

Habitat assessment is the first task in an ERA. The objective of the habitat assessment in an ERA under RCRA Corrective Action is to identify areas of a facility where potential ecological receptors may be exposed to Site-related constituents. Note that the term “ecological receptor” and other terms of art used in this document are used as defined in existing EPA guidance for ecological risk assessment, including USEPA (1997, 2001). This section presents the results of a habitat characterization and an evaluation of potential pathways of exposure for ecological receptors.

Background information on the Site was obtained from the RFI Phase I Report (BBL, June 28, 2002), the SEDOCC (BBL, May 30 2000), the NEDOCC (BBL, November 26, 2000), and personal communication regarding the wetland determination for the former wastewater aeration lagoons (Marschall 2001 and Horney 2001, included in Appendix H).

7.1.1 Site Visit and Habitat Characterization

Dr. Nicholas Gard, an ecologist with Exponent, visited the Site on June 14, 2001, to conduct the habitat assessment. He was accompanied by Robert Metcalf, of GM Worldwide Facilities Group, and Derek Kaiding, of BBL. The Site visit included a tour by vehicle and foot of most areas of the Site, to observe ecological features that are important in identifying potential exposure pathways for ecological receptors to constituents of potential concern that may be present in environmental media at the facility.

The intent of the habitat assessment was to evaluate, for further consideration in the ERA process, those areas that are identified as containing constituents of potential ecological concern, habitat for ecological receptors, and complete exposure pathways. Areas that have no evidence of a release or do not support habitat for ecological receptors, and thus clearly do not pose any ecological risk, would be eliminated from further ecological assessment.

The Site has been in constant production since the early 1900s. The Site is heavily industrialized, and most of the property consists of buildings that are or were used in the production of automotive components, as well as other associated facilities such as parking areas and demolished building slabs. Some of the factory buildings are no longer used for production purposes and are inactive and unoccupied. The areas around the factory buildings are typically paved or covered with gravel. Small, unmaintained patches of grassy or weedy vegetation are growing at various locations near buildings or parking areas, such as the unpaved area behind Factory 81 Area (refer to Photograph 1, provided in Appendix H). The only wildlife seen in the industrial parts of the Site during the Site visit were common urban bird species, including rock doves (*Columba livia*) and European starlings (*Sturnus vulgaris*). Habitat characteristics of the industrial parts of the Site were not evaluated further.

The Site is bounded primarily by industrial, commercial, and residential developed areas (refer to Figure 2-1). The Flint River and Interstate 475 border the Site to the east. Because of the developed nature of the land bounding the Site, (Figure 1 in Appendix F), there are no areas where potential offsite migration of contaminants is an ecological concern, with the exception of the Flint River, which is discussed in Section 7.1.1.1.

Only a very small portion of the land within the Site is undeveloped or currently undisturbed. Almost all the land within the confines of the Site has been developed, excavated, regraded, filled, or otherwise disturbed as a result of past and current plant operations. Only the wastewater aeration lagoon area and adjacent vacant lot were found to provide habitat for ecological receptors. The vacant lot and the wastewater aeration lagoon area lie at the northwest corner of the intersection of Leith Street and James P. Cole Boulevard (refer to Figure 2-2). The area is bounded on the west and north by industrial properties owned by GM and other companies. To the west of this area is a short-grass verge and Interstate I-475.

Table 7-1 summarizes the status of the areas of ecological interest at the Site and provides the rationale for targeting specific areas for habitat characterization and eliminating others from further investigation in the ERA process. As can be seen from the table, two areas were selected for habitat assessment—the first step in the ecological pathways assessment process—because they potentially provide habitat resources. The areas that were selected for habitat assessment are:

- The vacant lot on the facility that is located at the northwest corner of the intersection of Leith Street and James P. Cole Boulevard (hereafter referred to as the "vacant lot"); and
- The former wastewater aeration lagoon that is adjacent to the vacant lot (hereafter referred to as the "wastewater aeration lagoon").

Other areas of the Site were excluded from further ecological assessment, because they do not provide habitat (i.e., no ecological receptors would be present) and/or no complete exposure pathways are present.

7.1.1.1 Flint River

The Flint River, which flows near portions of the eastern Site boundary, provides ecological habitat for aquatic and riparian flora and fauna. However, previous Site sampling has documented that groundwater discharging to the Flint River does not contain monitored constituents at unacceptable concentrations. Groundwater quality with respect to potential discharges to the Flint River is discussed in the September 2005 CA750 Report. Groundwater quality at the Site is discussed in Section 5.2 and is illustrated on Figures 5-1 through 5-6. Existing sediment and fish data for the Flint River are presented in Appendix F. In addition, in April 2005 MDEQ, accompanied by EPA, conducted sediment sampling in the Flint River at locations upstream, adjacent to, and downstream of the GM facility. The sediment samples were analyzed for inorganics, PCBs, semivolatile organic compounds (SVOCs), and volatile organic compounds (VOCs). Low levels of PCBs, metals, and PAHs were detected. Subsequently, a sediment investigation of the Flint River was undertaken by ARCADIS BBL and Exponent in 2006 on behalf of GM. A screening level ecological risk assessment (SLERA) was conducted to address USEPA concerns regarding potential ecological impacts resulting from stormwater discharges from the facility to the Flint River. This assessment was provided to USEPA as an appendix to the *Flint River Sediment Investigation Report* (ARCADIS BBL 2007).

Storm sewers that drain portions of the GM facility also drain industrial, commercial, and residential areas outside the boundaries of the Site. In addition, numerous storm-sewer outfalls that are unrelated to the Site drain into the Flint River in the vicinity of the Site. Tributary drainages and runoff from industrial, commercial, and residential properties, as well as roads and railroads in the Flint metropolitan area, contribute to the sediment and contaminant load of the Flint River in the vicinity of the GM facility. Thus, there are multiple, indistinguishable sources of contaminants to the river. Consistent with observations in other urban watersheds, this combination of sources is expected to result in low-level concentrations of constituents in sediment such as those seen in the MDEQ and GM Flint River data sets.

7.1.1.2 Vacant Lot

The vacant lot is approximately 12 acres and is almost entirely covered with grass, which was less than 6 in. tall at the time of the Site visit. The vacant lot is mowed 3 or 4 times per year, which limits vegetation growth. Several isolated, tall trees were scattered throughout the field, but there were no stands of trees that would constitute a wooded area. A few clumps of shrubs were also sparsely scattered across the lot. Several gravel roads loop through the vacant lot to provide access to a metering station at the southeast corner of the wastewater aeration lagoon area. The intended future use of this area is for light industrial and/or commercial development. The only wildlife that was seen in the area during the Site visit was a red-tailed hawk (*Buteo jamaicensis*) that was perched at the top of one of the trees. No nest was seen in the trees to suggest that this bird was nesting at that location.

The limited structural diversity of the vacant lot indicates that it is not likely to support a large diversity of wildlife species. The lot is a probable habitat for small rodent species, such as voles, mice, and shrews, although even for these species, habitat quality would be reduced by periodic mowing, which would eliminate cover and reduce food resources. The short-grass field does not offer substantial cover to larger mammals, such as raccoons (*Procyon lotor*), nor would it provide nesting habitat for most birds, other than some ground-nesting species, such as killdeers (*Charadrius vociferous*). The absence of a wooded area precludes habitat for birds and mammals that rely on tree cover for nesting and foraging. However, limited numbers of common urban bird species could nest in the few trees scattered over the vacant lot. A population of small mammals, if it occurs in the vacant lot, could provide some food resources to individuals of higher trophic-level species, particularly avian predators. The presence of the red-tailed hawk in the field suggests that some raptors may use the field to forage for prey. However, given the limited size of the field and its relative isolation from other similar habitats, it is unlikely to support a population of raptors when the home-range size requirements for these large birds are taken into consideration. For a species such as the red-tailed hawk, it is unlikely that even an individual bird would be able to obtain all necessary food resources from an area the size of the vacant lot.

No AOIs were identified related to the vacant lot or other areas north of Leith Street in the RFI Phase I Report (BBL 2002). However, soil samples that were collected as part of the RFI (Figure 4-27) show the presence of some volatile and semi-volatile organic compounds, metals, and low concentrations of PCBs in soil in the vicinity of the vacant lot. Therefore, this area was retained for further evaluation in the ERA.

7.1.1.3 Wastewater Aeration Lagoon Area

The wastewater aeration lagoons are former industrial water bodies that have been inactive since 1988. Since the time of the Site visit in 2001, one of the former lagoons, the west lagoon, was filled in with crushed concrete from the demolition of facility buildings in 2003 (Photograph 2, Appendix H), and therefore, only one lagoon remains today. When in operation, the lagoons' primary function was to reduce the biochemical oxygen demand and chemical oxygen demand of process water in preparation for discharge to the Flint River, and later to the City of Flint sanitary sewer system. Currently, the remaining lagoon is fed only by precipitation and surface-water runoff, and possible future use may be for stormwater retention.

After the lagoons were taken out of service, accumulated sludge material was removed from the lagoons and disposed of offsite in the mid-1990s. Post-removal sampling indicated that these lagoons met required cleanup criteria, and the lagoons were not identified as an AOI in the RFI Phase I Report (BBL 2002). Therefore, it can be assumed that there is no current likelihood of release from the lagoons. Furthermore, there is at present no known hydrologic connection from the existing wastewater aeration lagoon to any non-industrial water body, because discharge was redirected to the City of Flint sanitary sewer system per a sewer use permit executed with the City of Flint.

At the time of the Site visit, the lagoons were about one-third full of water, and the blades of the mechanical aerators were exposed well above the water level (Photograph 3). The banks of the lagoons are steeply sloped and are covered with rocks and cobble about 3–5 in. in diameter. In places, the banks of the lagoons are heavily vegetated with herbaceous weeds and sapling trees (Photograph 4, Appendix H), particularly willows. Weedy vegetation and patches of shrubs cover the area on top of the berms that surround the lagoons.

A request for jurisdictional determination was made to the MDEQ, Land and Water Management Division, in September 2001, for the wastewater aeration lagoons (Marschall 2001, included in Appendix H). The Shiawassee District Office responded that the lagoons and their wetland fringes fall outside the regulatory provisions set forth in Parts 301 and 303 of NREPA (Horney 2001, included in Appendix H). The wetland

determination review documented the dominant plant species associated with the lagoons, including boxelder, cattail, ash, willow, elm, goldenrod, trefoil, and others.

Numerous red-winged blackbirds (*Agelaius phoeniceus*) were observed perched on reeds fringing the aeration lagoons. Although no nests were seen, the nature of the habitat and the behavior of the birds suggest that they may have been breeding at the lagoon. Canada geese (*Branta canadensis*) were seen on the surface of the second lagoon, but this lagoon no longer exists, as noted above. No other wildlife was seen around the lagoons; however, signs of wildlife (raccoon and possibly muskrat) were noted during the wetland determination review (Marschall 2001, pers. comm.). Large numbers of small fish (estimated at 1–3 cm long) were seen in the shallow water at the edge of the lagoons. No attempt was made to look for larger fish within the water or fish that may have been present in deeper portions of the lagoons. Although the presence of forage-size fish indicates a potential food source for fish-eating wildlife, the limited spatial extent of the lagoons suggests that only low numbers of individuals of predatory species would forage at the lagoons. In addition, any predatory species foraging at the lagoon area would probably obtain only a portion of their total diet from this location, given its size in relation to home-range sizes of higher trophic-level species. The presence of much more extensive foraging habitat along the nearby Flint River also suggests that the lagoon area would not be preferred habitat for upper-trophic-level predators.

7.1.2 Special-Concern Species and Sensitive Habitats

USEPA guidance (USEPA 1997) states that sensitive environments and species should be identified as part of a screening-level risk assessment. These environments include habitat known to be used by state or federal designated or proposed endangered or threatened species, critical habitat for endangered or threatened species, national or state river reach designated as Recreational or Scenic, and wetlands.

On November 24, 2003, Exponent contacted the Michigan Natural Features Inventory (MNFI) to request information on any federal- or state-listed endangered, threatened, or special-concern species within the vicinity of the facility. The results of MNFI's review are provided in Appendix H. No unique ecological sites, candidate, or threatened or endangered species were identified in the Site vicinity (MNFI 2003). One special-concern (not legally protected) plant species was identified as occurring within the area defined by the Flint North, Michigan U.S. Geological Survey 7.5-minute topographic quadrangle (on which the Site is located)—twinleaf (*Jeffersonia diphylla*). This plant's habitat—rich, damp, open deciduous forest like that found in floodplains—is not available at the Site.

A request was also submitted to the U.S. Fish and Wildlife Service (FWS) for any available information regarding threatened or endangered species in the vicinity of the facility. The FWS responded that their records do not indicate the presence of any federally listed or proposed threatened and endangered species, candidate species, or critical habitat near the Site. This finding precludes the need for any further action under Section 7 of the Endangered Species Act of 1973, as amended. A copy of the correspondence with the FWS is provided in Appendix H.

7.1.3 Evaluation of Ecological Habitats and Exposure Pathways

A habitat assessment decision matrix (Table 7-2) was developed to screen the Site and habitat characteristics for those areas that provide terrestrial and aquatic habitats—the vacant lot and wastewater aeration lagoons. This matrix was used to determine which habitat-bearing areas and pathways would need to be assessed further in an ERA, if any. Under the matrix approach, the following conditions must be met for an area to be considered

habitat in the context of an ERA at a RCRA Corrective Action site, and for that area to be carried forward for evaluation:

- Surface-water bodies:
  - There is a likelihood of a hazardous constituent release to the water body (as documented or inferred from information in the NEDOCC);
  - The water body is of sufficient size and hydroperiod for use by potential ecological receptors to be a reasonable possibility;
  - The water body is sufficiently accessible that potential ecological receptors realistically may use it; and
  - The water body will continue to support habitat into the foreseeable future.
- Terrestrial habitats:
  - There is a likelihood of a hazardous constituent release to the area (as documented or inferred from information in the NEDOCC);
  - The area is of sufficient size for use by potential ecological receptors to be a reasonable possibility;
  - The area is sufficiently accessible that potential ecological receptors realistically may use it; and
  - The current and likely future use of the area does not fall into one of the three "developed" habitat categories as defined by the matrix (i.e., developed areas [buildings, etc.], paved or graveled areas, or landscaped and intensively maintained areas).

The Site has been developed for industrial use since the early 1900s. Areas that provide potentially suitable habitat for wildlife are limited to the undeveloped vacant lot and the former wastewater aeration lagoons north of Leith Street. Based on observations made during the Site visit, some conclusions can be made regarding the suitability of these undeveloped parts of the Site as habitat for wildlife species. Both areas have characteristics that would make them likely to support at least some wildlife species, but also have characteristics that minimize their ecological habitat value.

Table 7-2 presents the results of the decision matrix for these areas. The only industrial water body present at the Site is the former wastewater aeration lagoon, and no non-industrial (i.e., natural) surface-water features, such as ponds, streams, or marshes, exist onsite. Developed terrestrial areas, such as buildings, paved areas, or landscaped areas, are not evaluated for ecological risk. The only semi-natural field habitat is that of the vacant lot north of Leith Street, and no forest habitats exist onsite. The vacant lot was retained for further evaluation due to the presence of surface soil contaminants.

7.1.4 Identification of Chemicals of Potential Concern

No AOIs were identified related to the vacant lot or other areas north of Leith Street in the RFI Phase I Report (BBL 2002). However, soil samples were collected from various locations within this area as part of the RFI. Chemistry data from these soil samples were screened against sets of available ecological benchmarks and background values to identify chemicals of potential concern (CoPCs) in Table 7-3. Screening was performed

only with data for the surficial soil (0- to 0.5-ft) layer. One sample from the 0- to 2-ft interval, RFI-07-14, was also included in the screening as representative of surficial soil. Only one surface soil sample from the vicinity of the vacant lot was analyzed for inorganics, SVOCs, and VOCs; this sample was from location RFI-07-14, located just east of the Storage Lot (Figure 4-27). Surficial soil samples from six locations within the former aeration lagoon and vacant lot vicinity (WL-B1A, WL-B2A, WL-B3A, WL-B4A, WL-B5A, and WL-B6A; Figure 4-27) were analyzed for PCBs. Results of the data screening are provided in Table 7-3. Detection limits for chemicals that were undetected in the surface soil samples were also screened against ecological benchmarks using one-half the detection limit in Table 7-4. Chemicals with maximum soil concentrations that exceed their ecological benchmark values (and background for inorganics) were retained as CoPCs for the screening-level exposure and risk characterization (Section 7.2).

Maximum concentrations of seven metals (arsenic, cobalt, nickel, selenium, thallium, vanadium, and zinc) exceed EPA Region 5 ecological screening levels (ESLs). Of these, two chemicals (vanadium, and zinc) also exceed one or more other screening values, as does manganese, for which no Region 5 ESL currently exists. However, in the case of both manganese and thallium, benchmark exceedences occur on the basis of estimated metals concentrations, as values for both metals are J-flagged in the one available surficial soil sample. Despite exceeding the Region 5 ESLs, maximum concentrations of arsenic, cobalt, nickel, thallium, and vanadium are below Site-specific and Michigan default background values, while selenium is only slightly higher than background. This indicates that the ESLs for these metals may be overly conservative (i.e., they are lower than Site-specific and regional background concentrations). No semi-volatile organic compounds exceed screening values. Maximum PCB concentrations exceed the EPA Region 5 ESL, which is equivalent to the standard detection limit for PCBs in soils, but not the Oak Ridge National Laboratory benchmark for phytotoxicity. No screening values were available for the detected volatile organic compounds (methyl acetate and methyl cyclohexane). Volatile organic compounds (e.g., methyl cyclohexane) are short-lived compounds once they are released into the environment. Most volatile organic compounds are readily metabolized by ecological receptors, and are therefore generally not bioaccumulative. Uptake by living organisms and accumulation in their tissues are not important fate processes for these chemicals. Therefore, the chemicals that were retained as CoPCs for analysis in the screening-level exposure assessment and risk characterization include the inorganic chemicals that exceeded screening and background values—manganese, selenium, and zinc—and PCBs.

For many undetected chemicals, there is uncertainty whether they could elicit adverse ecological effects as the detection limits for these chemicals exceed ESLs, preventing the ability to screen these chemicals out of further consideration in the ecological risk evaluation process. Therefore, the data for chemicals that were not detected were also screened using one-half the detection limit (Table 7-4). One-half the detection limit for 1,2-dibromo-3-chloropropane; 2,4-dimethylphenol; 2,4-dinitrophenol; 2,6-dinitrotoluene; 2-chloronaphthalene; hexachlorobutadiene; naphthalene; pentachlorophenol; and total PCBs exceeded the soil screening levels. Detection limits for the volatile and semi-volatile constituents ranged from 0.17 to 0.79 mg/kg. Of these chemicals where one-half the detection limit exceeded the ESL, only PCBs are bioaccumulative. Therefore, total PCBs were retained for further analysis, because of their bioaccumulative nature. Detected concentrations of PCBs also exceeded screening levels.

The vacant lot area is not known to have been used for any facility operations, and therefore, the presence of several chemicals at concentrations above screening benchmarks may reflect regional background or anthropogenic sources, especially as most metals occur at concentrations less than, or comparable to, Site-specific and regional background levels.

7.1.5 Results for Vacant Lot

No AOIs were identified for the vacant lot in the RFI Phase I Report (BBL 2002), and there are no releases associated with this area, although several metals and PCBs occur at concentrations that exceed EPA Region 5 ESLs (Table 7-3). The presence of some chemicals at concentrations above screening benchmarks likely reflects regional patterns, especially since concentrations are generally comparable to background levels. The undeveloped vacant lot of the Site does not constitute high-quality habitat for wildlife species, and the intended future use of this area of the Site is light industrial and/or commercial development. Regular mowing on the vacant property of the Site has halted development of the vegetation community in an early successional stage that lacks the structural diversity that is characteristic of oldfield habitats or fields that are in the process of reverting to a mixed wooded/open field habitat. The vacant lot, therefore, also lacks the diversity of wildlife species that occur in the different habitat types found in more natural environments. The Site visit to view this area, though of short duration, did not reveal the presence of many species. Small mammals, which are commonly found in many types of habitats, are likely to be present, although it is doubtful whether they would occur at a density or diversity similar to those that would be found in less disturbed oldfield habitats. A food chain based on small mammals may be supported on this vacant lot, with avian predators occupying the top level in the food chain. However, the limited size of the field (approximately 12 acres), its relative isolation from other natural habitats, and the limited prey base suggest that, at most, several individual birds may derive part of their prey from the location, but that conditions are not appropriate for the maintenance of a population of top-level predators. Exposure at the vacant lot area was therefore assessed for a representative small mammal, the short-tailed shrew, in Section 7.2, Screening-Level Exposure Estimate and Risk Characterization.

7.1.6 Results for Wastewater Aeration Lagoons

From the Site visit, it appears that the standing water in the wastewater aeration lagoon area has created conditions favorable for the use of the area by some aquatic species and emergent vegetation. Standing water, in combination with the relatively dense vegetation that borders the ponds in places, has created favorable conditions for wildlife species that forage in or around pond-like habitats. Thus, a pond-associated ecological community appears to be present in this area. There are potentially complete exposure pathways to higher trophic-level species at the lagoon area, because fish-eating wildlife could forage on fish that were observed in the ponds. However, it is unlikely that substantial numbers of fish-eating birds or mammals would forage at the existing lagoon, given the limited spatial extent of open water habitat. Habitats associated with the nearby Flint River constitute higher quality habitat for aquatic species and aquatic-dependent wildlife. A review of Site history and a Site investigation conducted by Conestoga-Rovers and Associates (Marschall 2001, included in Appendix H) in May 2001 concluded that the lagoons do not meet the jurisdictional criteria used by the State of Michigan for defining a wetland, and they can be closed, filled, or converted to an alternative use without obtaining a permit from the Land and Water Management Division of the MDEQ. In a subsequent review, MDEQ (Horney 2001, included in Appendix H) concurred with this determination.

In 1988, both lagoons were taken offline, and discharge was redirected to the City of Flint sanitary sewer system under a sewer use permit. The sludge in the lagoons was excavated in 1994. Post-removal sampling indicated that the remaining soil met cleanup criteria, and the lagoons were not identified as an AOI in the Phase I RFI Report (BBL 2002). Therefore, there is no likelihood of release, and there are no complete exposure pathways. The west lagoon was filled in 2003 and the east lagoon may be slated for future use for stormwater retention. The following construction activities are planned for converting the former lagoon for stormwater retention use:

- Install a traveling screen in the existing storm sewer to facilitate debris removal from stormwater being diverted to the former lagoon.

- Clear and grub all vegetation (e.g., trees and shrubs) growing along the backs of the existing lagoon.

- Excavate the southeast half of the existing lagoon to create the operating portion of the retention pond (increase depth of existing lagoon at least 2 feet).

- Move material excavated from the operating portion of the retention pond to the northwest half of the existing lagoon, limiting its capacity to collect and retain precipitation.

- Connect discharge sewer line from the existing outlet structure to the existing storm sewer system.

The internal design review is currently underway for these activities. The conversion of the former wastewater aeration lagoon into a stormwater retention pond will eliminate any potential ecological habitat that currently may exist there. Thus, any current exposure pathways at the wastewater aeration lagoon will be eliminated. It is therefore recommended that the wastewater lagoon area not be carried forward for further evaluation in the ERA process.

7.2 Assessment and Measurement Endpoints

USEPA (1997) guidance states "assessment endpoints focus the risk assessment on particular components of the ecosystem that could be adversely affected by contaminants from the site." According to USEPA (1997) guidance, the selection of assessment endpoints depends on:

- The contaminants present and their concentrations

- Mechanisms of toxicity of the contaminants to different groups of organisms

- Ecologically relevant receptor groups that are potentially sensitive or highly exposed to the contaminant and attributes of their natural history

- Potentially complete exposure pathways

Manganese, selenium, zinc and PCBs are CoPCs in soils at the vacant lot. Wildlife may be exposed to these CoPCs in the vacant lot through ingestion of CoPCs accumulated in the tissues of terrestrial plants and soil invertebrates and incidental ingestion of contaminated soils. However, the vacant lot provides minimal habitat for population of birds and mammals and fragmented habitat for animals with large foraging areas, such as hawks and songbirds. Certain small mammals with small foraging areas may find the habitat in the vacant lot suitable for foraging. For example, the short-tailed shrew (*Blarina brevicauda*) is an insectivore with a small home range (<1 hectacre) and inhabits nearly all terrestrial habitats. As an insectivore, the shrew represents a receptor group that is highly exposed to contaminants in soil and soil invertebrates. Also, the short-tailed shrew has high food intake rate as compared to other small mammals and birds. Omnivorous or herbivorous mammals and birds will likely have similar if not lower exposures to chemicals than the shrew. Therefore, the shrew was selected as the mammalian receptor in vacant lot assessment. This species is considered to be a realistic choice as being representative of insectivorous mammals because it is likely to inhabit the area around the Site and be exposed to contaminants in soil and soil invertebrates.

Soil invertebrates and terrestrial plants were not selected as ecological resources for the vacant lot because this area is highly disturbed and as a result it lacks a diverse assemblage of vegetation and soil invertebrates. As discussed in Section 7.1.1.2, regular mowing on the vacant lot has halted development of the vegetation community in an early successional stage. The vacant lot is almost entirely covered with grass, which was less

than 6 in. tall at the time of the Site visit. Several isolated, tall trees were scattered throughout the field, but there were no stands of trees that would constitute a wooded area. While the highly disturbed nature of the vacant lot prevents the development of diverse communities of vegetation and soil invertebrates as ecological resources, populations of certain types of vegetation and soil invertebrates may exist and present an exposure pathway to small mammals; it is this pathway that is evaluated in this ERA.

To summarize, based on the contaminants present, mechanism of toxicity, habitat characteristics, ecologically relevant receptor groups, and potentially complete exposure pathways, the assessment endpoints selected for this ERA are as follows:

- Survival and reproduction of wildlife, as represented by the short-tailed shrew, that use the vacant lot.

The assessment endpoint is selected in accordance with USEPA (1997) guidance. It represents ecologically relevant receptor group that is the most highly exposed to the hazardous constituents, and it also considers the potentially complete exposure pathways at the Site.

The measurement endpoint used to evaluate the assessment endpoint is as follows:

- The total dietary exposure (mean concentrations of CoPCs in soil and soil invertebrates) to the short-tailed shrew, estimated by using simplified food-web models.

7.3 Screening-Level Exposure Estimate and Risk Calculation

Manganese, selenium, zinc, and PCBs were retained as CoPCs after the data screening. Therefore, exposure to these chemicals was assessed in the screening-level exposure estimate and risk calculation. The screening process concludes with a scientific management decision point (SMDP) where it is determined that: (1) ecological threats are negligible; (2) the ecological risk assessment should continue to determine whether a risk exists; or (3) there is a potential for adverse ecological effects, and a more detailed ecological risk assessment, incorporating more Site-specific information, is needed (USEPA 1997).

In the screening-level exposure estimate, the concentrations of hazardous constituents to which ecological receptors are exposed were estimated using a simple food-web model. In the risk calculation, risk was estimated by comparing the exposure estimates from the food-web model to threshold toxicity reference values (TRVs), to develop quantitative risk estimates called hazard quotients (HQs). HQs are the ratio of the measured or predicted exposure concentrations to the TRV,

$$HQ = \frac{IR_{chemical}}{TRV}$$

where:

HQ = hazard quotient (unitless)

$IR_{chemical}$ = ingestion rate of the chemical (mg/kg body weight-day)

TRV = toxicity reference value.

HQs less than 1.0 indicate that the chemical is unlikely to cause adverse ecological effects. HQs above 1.0 indicate some potential for adverse ecological effects but do not necessarily signify unacceptable risk. Other pieces of information, such as sources of uncertainty and Site-specific exposure information, are weighted in the risk evaluation and the interpretation of the ecological significance of HQs. At the conclusion of the risk characterization, a decision is made that either the ecological risk evaluation is adequate to determine that ecological threats are negligible, or the process should continue to a more detailed, baseline ecological risk assessment (USEPA 1997).

7.3.1 Representative Receptor—Short-Tailed Shrew

To quantitatively assess risk to an ecological community or feeding guild, it is necessary to select a representative receptor or receptors. The diversity of potentially exposed species and the lack of fundamental knowledge of the interactions between contaminants and many exposed species preclude assessment of risk to all species. According to USEPA guidance, selection of representative receptors may be based on a number of factors, including the following (USEPA 1997):

- Species that are known to be present at the Site;
- Species that are likely to be highly exposed;
- Species that are typical of the community or guild they represent in their behavior, physiology, or sensitivity to CoPCs; and
- Species for which adequate data exist to allow assessment of exposure and risk.

Risk assessments for representative receptors are therefore interpreted to apply not only to the species assessed, but to other species in the community or guild that are represented. The short-tailed shrew (*Blarina brevicauda*), an insectivorous mammal, was selected as the representative receptor to evaluate ecological risk at the Site.

The short-tailed shrew is a small, insectivorous mammal that occurs throughout the north-central and northeastern United States and portions of southern Canada. Existing studies indicate that short-tailed shrew consume primarily worms, insects, slugs, and snails (Hamilton 1941; Whitaker and Ferraro 1963). Other mammals and plant material have also been detected in these stomach-content studies. Dietary exposure for the short-tailed shrew in this assessment is assumed to be 100 percent earthworms. Exposure parameters for short-tailed shrew are presented in Table 7-5.

Guilday (1957) investigated body weights in wild-caught shrews from Pennsylvania and reported that adult female body weight ranged from 12 to 22.5 g, and mean weights ranged from 15.25 to 17.4 g. The minimum adult female body weight from this study, 12 g, will be used in the model. Shrews appear to have a relatively high consumption rate, given their small body size. Using the allometric equation for insectivorous mammals developed by Nagy (2001) (g dry matter intake per day = $0.373 \times$ g body weight$^{0.622}$), the food ingestion rate for short-tailed was estimated to be 0.0017 kg/day on a dry-weight basis.

No estimates of incidental soil/sediment ingestion were identified in the scientific literature for the short-tailed shrew. Therefore, the estimated soil/sediment ingestion rate of 9.4 percent of the total daily food consumption rate reported for opossum by Beyer and Fries (2003) will be used as a surrogate. This is equivalent to 0.00016 kg soil/day, assuming a food consumption rate of 0.0017 kg dry food/day, as calculated above.

Several investigators have reported home-range size for short-tailed shrew, and the size of their home range depends in part on the density of prey (Blair 1940; Blair 1941; Buckner 1966; Platt 1976). The range of values reported by these authors is 0.027 to 0.59 hectares for adult females. The terrestrial portion of the study area is

approximately 12 acres (4.8 hectares), which is larger than the home range for shrews. Therefore, it was assumed that shrews forage entirely within the assessment area, and the area use factor is 1.

Drinking-water intake was not estimated for shrews, because no surface water is present in the assessment area. This assumes that shrews that are foraging within the assessment area obtain their daily water requirement from sources such as dew and rainfall.

7.3.2 Food-Web Model

A food-web model was used to estimate the dietary exposure of short-tailed shrew to CoPCs in soil at the Site. The food-web modeling approach used is a standard approach that is consistent with EPA's wildlife exposure guidance (U.S. EPA 1993; 61 Fed. Reg. 47552). The food-web model is a tool for estimating dietary exposure as a body-weight-normalized total daily dose. The general structure of the food-web exposure model is described by the equation:

$$IR_{chemical} = \frac{\sum_i \left(C_i \times M_i \times A_i \times F_i\right)}{W}$$

where:

$IR_{chemical}$ = total ingestion rate of chemical from all dietary components (mg/kg-body weight/day)

C_i = concentration of the chemical in a given dietary component and medium (mg/kg dry weight)

M_i = rate of ingestion of an abiotic medium (kg/day dry weight)

A_i = relative gastrointestinal absorption efficiency for the chemical in a given dietary component or medium (fraction)

F_i = fraction of the daily intake of a given dietary component or medium derived from the study area (unitless area-use factor)

W = body weight of receptor species (kg).

For species-specific input parameters, such as body weight, ingestion rate, and area-use factor, there is a range of possible values that can be used. For example, adult body weights for any species are variable and may depend on several factors, including region of the country, habitat, local climate, and the availability of food. Similarly, the feeding behavior of receptor species can vary greatly, depending on geographic location, and habitat type. For the purposes of this risk assessment, single-value point estimates are used for all food-web model exposure parameters (Table 7-5). Drinking-water ingestion was not estimated for short-tailed shrew, because there are no surface-water bodies within the assessment area, and it was assumed that shrews would obtain their daily water requirement from sources such as dew and rainwater.

The model provides an estimated total dietary exposure for hazardous constituents resulting from consumption of food and the incidental ingestion of soil on a mg/kg body-weight-day basis. The exposure estimation conservatively assumes that the entire receptor diet comes from on site (F_i = 1), and that 100% of the chemical

in ingested food is absorbed (A_i = 1). The maximum measured or estimated onsite contaminant concentration was used to estimate exposures.

7.3.3 Bioaccumulation Factors

Because concentrations of CoPCs in biota have not been measured at the Site, they were estimated for risk assessment purposes using published bioaccumulation factors (BAFs). BAFs are quantitative relationships between soil concentrations and biota, and they are derived from empirical measurement. Soil-to-earthworm BAFs were developed to estimate dietary exposure of representative receptors to CoPCs (Table 7-6). Reference BAFs were derived from published sources.

The simplest BAFs are expressed as constant ratios between biota and soil/sediment concentrations. Simple ratio BAFs predict that the relationship between soil chemistry and biological uptake is constant over all concentration levels. In fact, bioaccumulation may be highly dependent on absolute concentration, resulting in a nonlinear uptake factor. When available, nonlinear regression models offer more reliable estimates of uptake potential over a broad range of concentrations. The BAF model that was used is:

$$\log or \ln[biota] = B0 + B1 \times \log or \ln[soil]$$

where:

log *or* ln[*biota*]	=	Base 10 or natural log of the chemical concentration in plant, soil invertebrate, or aquatic prey tissue (dry weight)
*B*0 and *B*1	=	empirically derived, chemical-specific constants
log *or* ln[*soil*]	=	Base 10 or natural log of the chemical concentration in soil (dry weight).

The soil-to-earthworm BAFs were taken from Sample et al. (1998) and are shown in Table 7-6. Earthworm uptake of metals and organic substances is especially nonlinear as a function of soil concentration; therefore, the use of simple ratio BAFs was avoided, and the model described above was employed. Sample et al. (1998) used a limited number studies to develop a soil to earthworm BAF for PCBs. In addition, errors were found in the tabulation of PCB results in the earthworm bioaccumulation database in Sample et al. (1998) when compared to the primary sources. Therefore, a review of available PCB bioaccumulation measurements was performed to develop a nonlinear earthworm biouptake model. This review is presented in Appendix H. The model for dry-weight PCB nonlinear BAF is:

$$6.25 \ (\log[biota] = B0 + B1 * \log[soil])$$

The PCB BAF assumes an average earthworm moisture content of 84% (USEPA 1993).

7.3.4 Toxicity Reference Values

Mammalian TRVs for comparison to estimated dietary exposure to CoPCs were taken directly from the literature or derived from published studies on laboratory animals. The lowest possible threshold, the chronic no-observed-adverse-effect level (NOAEL), was used as a conservative estimate of the adverse-effects threshold. The NOAEL is the highest dose administered during a chronic toxicity study that did not produce adverse toxic

effects. The true effect threshold, under the tested exposure conditions, is somewhere above the NOAEL. At an exposure level equal to the NOAEL, there is no adverse effect. As the concentration increases above the NOAEL, the probability of effect increases.

Because controlled laboratory experiments are rarely conducted with wildlife species, it is typically necessary to derive TRVs by extrapolating data from related laboratory or domestic species to the representative receptors. In this assessment, source studies were selected that considered survival, growth, reproductive and developmental effects, or other critical effects that would indicate overt impacts to individual organisms that may affect population size or stability. Studies incorporating chronic exposure durations, multiple exposure levels, and statistical evaluation of test results were preferentially selected. The mammalian TRVs are summarized in Table 7-7.

7.3.5 Results of Screening-Level Exposure Estimate and Risk Calculation

Table 7-8 provides the results of the short-tailed shrew exposure estimate and risk calculation. HQs were less than 1.0 for all CoPCs, except total PCBs, which had an HQ of 7.8. This indicates that adverse ecological effects from exposure to the CoPCs in soil and prey are unlikely, but there is some potential for risk to shrews from exposure to PCBs.

7.4 Uncertainty Analysis

There are several sources of uncertainty associated with the assumptions in this screening-level ERA. These sources of uncertainty are common to the ERA process in general. There is uncertainty associated with the use of soil screening levels and toxicity reference values, the assumptions made in the selection of exposure parameters, accumulation factors, and TRVs in the food chain model; these are discussed below. The magnitude of uncertainty differs among sources and can vary with CoPC and receptor.

7.4.1 Uncertainties Associated with Ecological Screening Values and Toxicity Reference Values

The primary area of uncertainty for the ERA is associated with conservative ecological screening levels that may lead to an overestimation of risk to ecological receptors. Screening levels and TRVs are significant sources of uncertainty in ecological risk assessments for the following reasons:

- Test conditions may not accurately mimic natural exposure
- Relative sensitivity of the receptor compared to the test species may be unknown
- Identification of the no-effect threshold is imprecise and dependent on selected dose intervals
- Uncertainty factors applied in calculating some screening levels and TRVs are generalized and ignore species-specific sensitivities
- Chronic no-effect thresholds have not been measured for all hazardous constituents and may need to be estimated from low-effect thresholds or acute exposure studies.

Data gaps that exist in this ERA include lack of available screening benchmarks for some chemicals,

particularly some of the VOCs. This is largely because screening benchmarks have been developed for the contaminants that are relatively toxic, bioaccumulate, and are typically detected in the environment. Therefore, the chemicals that could not be assessed because of a data gap are less likely to pose significant risk than those for which adequate toxicity data exist. No screening values were available for the detected volatile organic compounds (methyl acetate and methyl cyclohexane). However, volatile organic compounds are short-lived compounds once they are released into the environment. Most volatile organic compounds are readily metabolized by ecological receptors, and are therefore generally not bioaccumulative. Uptake by living organisms and accumulation in their tissues are not important fate processes for these chemicals. Therefore, there is little uncertainty associated with the lack of screening levels for these chemicals.

There is uncertainty associated particularly with the PCB TRV used for the short-tailed shrew in this evaluation. There have been no controlled laboratory studies of the reproductive effects of PCBs on shrews. Therefore, a reproductive TRV must be extrapolated from a surrogate species (the mink). Shrews are highly exposed to bioaccumulative soil contaminants due to their diet and rapid metabolism, and are known to accumulate high tissue levels of PCBs (USEPA 1993). However, there is evidence that suggests shrews are not especially sensitive to PCBs, and are certainly unlikely to be as sensitive as mink and mice.

Russell (1998) fed white-footed mice and short-tailed shrews a diet containing a range of PCB concentrations and investigated numerous PCB-induced responses including induction of cytochrome P-450 enzymes, body weight, and relative liver weight. Although reproductive endpoints were not included, the study provides some basis to compare the sensitivities of the two species. At food concentrations of 25 ppm, all responses measured in white-footed mice were significantly different than controls. In contrast, with one exception, none of the endpoints were significantly different than controls for short-tailed shrews at concentrations in food up to 214 ppm (certain cytochrome P450 isozymes were significantly induced at 214 ppm). These data suggest that short-tailed shrews are approximately 10 times less sensitive to PCBs than white-footed mice.

Boonstra and Bowman (2003) recently reported healthy and abundant shrew populations in areas with mean PCB concentrations in soil as high as 38 mg/kg. Mean, whole body PCB tissue residues in shrews from this area were found to be as high as 113 mg/kg, with no apparent adverse effect on the population. While not suitable for development of a dietary TRV, this study indicates qualitatively that shrews are relatively tolerant of high PCB exposure and body burdens.

Given this information, a more appropriate study for developing a PCB TRV for the shrew would be a study by Linder et al. (1974). In that study, Linder et al. exposed rats to Aroclor 1254 and 1260 in feed for two generations and evaluated the impacts to reproduction. Reproduction was not affected in rats exposed through two generations at dietary levels of 5 ppm Aroclor 1254 (0.32 mg/kg/day) and 100 ppm Aroclor 1260. While the dietary dose of PCBs predicted for the shrew that forages in the vacant lot (1.06 mg/kg/day) would exceed this alternative TRV for PCBs (0.32 mg/kg/day), the HQ would be two-fold lower than that presented in Table 7-8.

7.4.2 Uncertainty Associated with Elevated Detection Limits

For many undetected chemicals, there is uncertainty whether they could elicit adverse ecological effects as the detection limits for these chemicals exceed soil screening levels, preventing the ability to screen these chemicals out of further consideration in the ecological risk evaluation process. Therefore, the data for chemicals that were not detected were also screened using one-half the detection limit (Table 7-4). One-half the detection limit

for 1,2-dibromo-3-chloropropane; 2,4-dimethylphenol; 2,4-dinitrophenol; 2,6-dinitrotoluene; 2-chloronaphthalene; hexachlorobutadiene; naphthalene; pentachlorophenol; and total PCBs exceeded the soil screening levels. Detection limits for the volatile and semi-volatile constituents ranged from 0.17 to 0.79 mg/kg. Of these chemicals where one-half the detection limit exceeded the soil screening levels, only PCBs are bioaccumulative. Therefore, total PCBs were retained for further analysis, because of their bioaccumulative nature. Detected concentrations of PCBs also exceeded screening levels.

7.4.3 Uncertainty Associated with Bioaccumulation Factors

Concentrations of CoPCs in biota have not been measured at the site and Site-specific soil bioaccumulation tests were not conducted for this assessment. Instead, this assessment used soil-worm BAFs derived from the literature. However, the literature-derived BAFs are recognized as being conservative, thus it is likely that estimating exposure of small mammals to CoPCs in earthworms from the literature-derived BAFs led to an over-estimate, rather than underestimate, of risk.

7.4.4 Uncertainty Associated with the Food Chain Models

There are inherent uncertainties in the use of the food chain model because the model incorporates simplifying assumptions to represent a complex ecological system. For example, food chain models assume that contaminants in food and incidentally ingested soil are completely available to the receptor. This may overestimate risk depending on the fraction of the ingested dose that is available.

The actual diet of the shrew include a larger diversity of food types than are represented in this ERA. This assessment assumes that exposure from consumption of particular prey types can be estimated on the basis of concentrations in particular food items that are representative of the prey type. For example, the food chain model for the shrew assumes that measured concentrations in the earthworms accurately represent concentrations in other soil invertebrates that the shrew may consume. Because earthworms are probably the largest and most abundant soil invertebrates in the vacant lot, estimated concentrations in these species adequately represent concentrations in prey of the shrew. However, earthworms may contain higher lipid content and hence higher levels of lipophilic contaminants, such as PCBs, than other invertebrate prey of the shrew.

There is also uncertainty in the ingestion rates of shrew. However, studies were used that present conservative estimates of quantity of food and soil in the diet (Nagy, 2001; USEPA, 1993; Beyer and Fries (2003) to reduce the likelihood of underestimating risk.

7.5 Conclusions

At the end of the screening-level exposure estimate and risk calculation step, a scientific/management decision point is reached. The weight of evidence is considered, to decide (USEPA 1997):

1. There is adequate information to conclude that ecological risks are negligible, and therefore, there is no need for remediation on the basis of ecological risk;

2. The information is not adequate to make a decision at this point, and the ecological risk assessment process will continue; or

3. The information indicates a potential for adverse ecological effects, and a more thorough assessment is warranted.

There is adequate information to conclude that ecological risks are negligible at the Site. The Site is an active industrial site that has been in continuous operation since the early 1900s. The Site is located in an area of mixed industrial and commercial properties and residential neighborhoods. Almost all the land within the confines of the plant property has been developed, excavated, regraded, filled, or otherwise disturbed as a result of past and current plant operations. Only a very small portion of the land within the Site is undeveloped or undisturbed. No sensitive environments or protected species are known to occur in the Site vicinity. Only the vacant lot and wastewater aeration lagoon area north of Leith Street were found to provide habitat for ecological receptors. These areas were assessed by reviewing existing information (e.g., the NEDOCC) and by habitat characterization and pathways assessment. Soil data were screened for potential ecological effects to identify CoPCs. Manganese, selenium, zinc, and total PCBs were retained as the CoPCs for further evaluation in the screening-level exposure estimate and risk calculation. CoPC exposure was estimated using a food-web model for the short-tailed shrew, as it represents ecologically relevant receptor group that is the most highly exposed to the hazardous constituents, and it also considers the potentially complete exposure pathways at the Site. The results of the risk characterization showed that HQs are less than one for exposure to organic CoPCs in earthworm prey and soil, indicating that adverse ecological effects are unlikely. The HQ for shrew exposure to PCBs is 7.8, and would be 3.3, had a more realistic PCB TRV for shrews been used, as discussed in the Uncertainty Section (Section 7.4.1). HQs above one indicate some potential for adverse ecological effects but do not necessarily signify unacceptable risk. The habitat limitations of the vacant lot likely reduce exposure to a few individual shrews. Therefore, no further ERA is recommended for the vacant lot. In addition, any available habitat is disturbed by periodic mowing and is isolated in a region that is primarily industrial/commercial. Future uses of this portion of the Site are potentially light industrial and/or commercial development.

No further ERA is recommended for the wastewater aeration lagoon area, because one lagoon has been filled and closed, and there is no potential for current release of hazardous constituents from the remaining lagoon, because sludge was removed in 1994 and subsequent soil testing met required cleanup criteria. The lagoon is an industrial water body and is not a natural surface-water feature. Aquatic habitats, if any, are limited and disturbed, and any exposure by piscivorous wildlife is expected to be limited and incidental due to the presence of higher quality habitat associated with the Flint River. Consistent with its use as an industrial water body, potential future use of the remaining lagoon is for stormwater retention. The internal design review is currently underway for construction activities to convert the former lagoon for stormwater retention use. The conversion of the former lagoon into a stormwater retention pond will eliminate any potential ecological habitat that currently may exist there. Thus, any current exposure pathways at the wastewater aeration lagoon will be eliminated.

For these reasons, there is no need for further evaluation or remediation at the Site on the basis of ecological risk.

8. Conclusions

8.1 AOI Investigation Status Summary

Sections 4 and 5 of this report describe the RFI activities completed to investigate each AOI, including a summary of the analytical data collected. Based on the current understanding of Site conditions, sufficient data have been collected to characterize subsurface conditions at all 78 AOIs. Based on the findings of the RFI (including the Human Health Risk Evaluation and the Ecological Risk Evaluation) each AOI was classified into three groups, as discussed in the following subsections.

8.1.1 AOIs Requiring No Further Action

Based on the results of the RFI, 49 of the 79 AOIs investigated were found to require No Further Action. Table 8-1 lists the 49 AOIs determined to require no further action. This determination is based on a conservative approach in which the data were compared to generic MDEQ screening criteria and were also used to complete a human health risk assessment and ecological evaluation. Based on these evaluations, AOIs in this group do not pose a potential threat to human health and the environment.

8.1.2 AOIs That Do Not Contain LNAPL and Require Action Based on the Human Health Risk Evaluation

Of the AOIs that do not contain LNAPL, eight AOIs (02-A, 02-C, 09-A, 29-A, 81-1, 83/84-3, 84-A, and Building 94 Parking Lot) were determined to require further actions based on the results of the Human Health Risk Evaluation (Section 6). Table 8-2 lists the AOIs in this group and provides a summary of the risk evaluation results for each AOI. Final remedial action for these areas will be evaluated in the CMP.

8.1.3 AOIs with LNAPL

As a result of the RFI and previous investigations, LNAPL has been identified beneath various areas of the Site. Table 8-3 presents a summary of the AOIs with LNAPL. Of the 22 AOIs shown in Table 8-3, eight AOIs (02-B, 09-B, 12-A, 12-B, 36-1, 81-2, 83/84-2, and 86-1) require further action based on the Human Health Risk Evaluation due to potential exposure to soil and/or LNAPL. The LNAPL plumes associated with the 22 AOIs listed in Table 8-3 have been demonstrated to be relatively stable based on several years of routine monitoring. As previously summarized, GM has undertaken actions to collect LNAPL as described in previous sections of this report, and/or in the RFI Phase I Report (BBL, 2002). These actions will continue until the final remedial action is more fully evaluated in the CMP.

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TABLE 2-1
SOIL BORING INVENTORY AND COMPLETION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Boring ID	Associated AOI	Completion Date	Michigan State Plane Coordinates		Ground Surface Elevation (feet)	Boring Total Depth (feet below grade)
			Northing	Easting		
RFI-02-01*	02-A	5/9/2001	562286.44	13305746.34	738.77	12
RFI-02-02*	02-B	5/9/2001	562113.94	13305719.46	738.87	16
RFI-02-03*	02-C	5/9/2001	562056.80	13305709.36	738.97	14
RFI-02-09	02-C	9/7/2001	562080.10	13305714.33	738.71	4
RFI-02-10	02-C	9/7/2001	562055.96	13305733.91	738.79	3.5
RFI-02-11	02-C	9/7/2001	562031.95	13305705.47	738.88	4
RFI-02-04*	02-D	5/10/2001	561932.78	13305913.68	739.26	12
RFI-02-06	02-F	5/11/2001	562718.38	13306072.30	738.87	6.6
RFI-03-05	03-1	11/29/2001	565537.60	13306311.75	747.45	2.5
RFI-03-06	03-2	11/29/2001	565432.32	13306270.11	746.28	2.5
RFI-03-07	03-3	11/29/2001	565472.30	13306342.32	746.19	3
RFI-03-08	03-4	11/29/2001	565492.27	13306238.73	747.86	2.5
RFI-03-09	03-5	8/23/2002	565490.62	13306393.44	745.94	2
RFI-03-10	03-6	8/23/2002	565414.88	13306324.81	745.77	1
RFI-03-11	03-7	3/7/2003	565376.44	13306335.88	744.63	2
RFI-03-12	03-8	3/11/2003	565409.50	13306270.90	745.85	2.8
RFI-03-13	03-9	3/11/2003	565556.29	13306338.56	747.32	2.8
RFI-03-14	03-10	3/11/2003	565569.96	13306280.07	748.08	2.8
RFI-04-01*	04-A	6/4/2001	560632.16	13305091.10	738.48	17
RFI-04-02*	04-B	6/4/2001	560976.47	13305033.57	739.73	18
RFI-04-03*	04-B	6/1/2001	561128.38	13305030.47	740.23	19
RFI-04-04*	04-C	6/1/2001	561876.42	13305027.11	742.72	17
RFI-05-22	05-1	11/26/2001	565581.01	13305577.68	748.87	6
RFI-05-23	05-1	11/26/2001	565554.46	13305600.73	747.97	6
RFI-05-24	05-1	11/26/2001	565530.36	13305576.07	749.26	5
RFI-05-25	05-1	11/26/2001	565554.07	13305554.34	749.88	2
RFI-05-15	05-2	9/8/2001	566437.69	13305430.92	754.51	12
RFI-05-09 Geotech	05-6	8/2/2001	565732.06	13304975.79	752.03	18
RFI-05-16	05-6	9/8/2001	566056.82	13305416.35	754.45	16
RFI-05-17	05-6	9/8/2001	565981.14	13305413.33	754.34	16
RFI-05-18	05-6	9/8/2001	565720.18	13305335.06	754.38	14
RFI-05-27	05-6	12/10/2001	565695.95	13305340.39	754.32	2
RFI-05-29	05-6	12/10/2001	565719.88	13305309.76	754.32	9
RFI-05-31	05-6	10/10/2002	565711.07	13305384.55	754.33	4.2
RFI-07-02*	07-1	6/13/2001	563585.94	13306765.13	727.47	19
RFI-07-04*	07-1	6/14/2001	563920.76	13306896.52	733.01	11
RFI-07-09	07-1	6/14/2001	563827.44	13306761.73	729.68	12
RFI-07-10	07-1	3/19/2003	563706.75	13306517.88	731.47	8
RFI-07-11	07-1	3/24/2003	563516.99	13306925.64	726.09	16
RFI-07-05*	07-2	6/14/2001	563195.82	13306478.26	732.73	19
RFI-07-06*	07-3	7/20/2001	563381.88	13306593.09	732.88	15
RFI-07-07*	07-3	7/20/2001	563199.88	13306652.24	732.81	24
RFI-09-01R	09-A	2/26/2003	559608.66	13305518.70	725.50	10
RFI-09-02*	09-A	5/16/2001	559559.10	13305493.87	726.41	10
RFI-09-03*	09-A	5/16/2001	559436.94	13305471.10	726.02	10
RFI-09-03R	09-A	2/26/2003	559441.95	13305466.93	726.01	2.5
RFI-09-15	09-A	9/4/2001	559621.47	13305499.89	726.27	3.9
RFI-09-16	09-A	9/4/2001	559625.65	13305521.07	725.55	3.5
RFI-09-17	09-A	4/9/2003	559585.85	13305560.52	724.23	3
RFI-09-18	09-A	9/4/2001	559534.94	13305489.53	726.04	3.2
RFI-09-19	09-A	9/4/2001	559447.28	13305473.81	726.11	2.5
RFI-09-20	09-A	9/4/2001	559426.31	13305469.68	726.00	2.5
RFI-09-21	09-A	9/4/2001	559436.76	13305461.00	726.15	2.5
RFI-09-22	09-A	9/4/2001	559272.99	13305437.78	725.43	4
RFI-09-23	09-A	9/4/2001	559177.78	13305404.71	725.93	4
RFI-09-24	09-A	9/4/2001	559263.58	13305381.07	726.27	4
RFI-09-25	09-A	9/4/2001	559199.45	13305374.93	726.25	4
RFI-09-26	09-A	9/5/2001	559772.46	13305255.39	730.72	2.7
RFI-09-27	09-A	9/4/2001	559748.69	13305282.44	730.45	3
RFI-09-28	09-A	9/5/2001	559722.39	13305256.90	730.90	2.5
RFI-09-29	09-A	9/5/2001	559749.14	13305231.08	732.62	1.7
RFI-09-33	09-A	8/20/2002	559294.34	13305338.57	726.97	7
RFI-09-34	09-A	8/20/2002	559227.99	13305350.25	726.76	4
RFI-09-35	09-A	8/20/2002	559149.30	13305371.07	726.24	4
RFI-09-37	09-A	10/11/2002	559599.01	13305430.07	726.44	8.5
RFI-09-38	09-A	8/21/2002	559565.27	13305399.60	726.51	5

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RFI PHASE II REPORT
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NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Boring ID	Associated AOI	Completion Date	Michigan State Plane Coordinates		Ground Surface Elevation (feet)	Boring Total Depth (feet below grade)
			Northing	Easting		
RFI-09-39	09-A	8/20/2002	559484.13	13305469.61	---	6
RFI-09-50	09-A	2/26/2003	559635.31	13305524.86	725.40	4.5
RFI-09-51	09-A	4/9/2003	559543.69	13305552.03	724.19	3
RFI-09-05*	09-B	5/16/2001	559748.04	13305255.34	730.99	14
RFI-09-36	09-B	8/20/2002	559650.52	13305502.97	726.06	6
RFI-09-40	09-B	8/15/2002	560106.63	13305325.55	730.05	17
RFI-09-41	09-B	8/16/2002	560099.85	13305360.71	729.59	14
RFI-09-42	09-B	8/16/2002	560090.53	13305393.89	729.03	14
RFI-09-43	09-B	8/16/2002	560081.70	13305443.32	728.46	14
RFI-09-45R	09-B	2/26/2003	560051.37	13305314.69	730.12	2.3
RFI-10-16	10-1	12/11/2001	566698.40	13306445.19	749.38	6
RFI-10-17	10-1	11/30/2001	566671.73	13306423.07	749.64	5
RFI-10-18	10-1	11/30/2001	566674.40	13306469.01	750.08	5.5
RFI-10-19	10-1	11/29/2001	566649.14	13306448.13	750.12	6
RFI-10-27	10-1	1/15/2002	566586.74	13305710.56	---	19
RFI-10-13	10-2	7/24/2001	566239.95	13306551.65	753.01	14
RFI-10-14	10-2	6/27/2001	566265.33	13306671.30	751.94	19
RFI-10-23	10-2	11/30/2001	566259.56	13306721.26	751.11	5
RFI-10-09	10-3	6/18/2001	566604.39	13306790.75	751.52	2
RFI-10-10	10-3	6/18/2001	566600.65	13306716.99	750.84	2
RFI-10-20	10-3	11/29/2001	566550.56	13306574.29	750.21	2
RFI-10-21	10-3	11/29/2001	566540.98	13306627.95	751.26	2
RFI-10-22	10-3	11/29/2001	566478.46	13306574.54	751.08	2
RFI-05-31R	---	3/11/2003	---	---	---	9
RFI-05-32	---	10/10/2002	---	---	---	4.6
RFI-05-33	---	10/11/2002	---	---	---	4.7
RFI-36-52	---	10/10/2002	---	---	---	20.5
RFI-12-01*	12-A	5/15/2001	562634.75	13305120.81	742.52	12
RFI-12-03*	12-A	5/23/2001	562447.58	13305595.85	739.30	14
RFI-12-08*	12-A	5/11/2001	562526.75	13305129.84	742.61	22
RFI-12-10*	12-A	5/25/2001	562490.19	13305534.60	738.84	14
RFI-12-16	12-A	9/10/2001	562526.75	13305465.71	---	10
RFI-12-17	12-A	9/10/2001	562501.75	13305490.71	---	10
RFI-12-18	12-A	9/7/2001	562476.75	13305465.71	---	10
RFI-12-20	12-A	9/11/2001	562526.75	13305009.84	---	5
RFI-12-05*	12-B	5/15/2001	562989.47	13305027.73	742.40	8
RFI-12-37	12-C	4/5/2004	563053.71	13305097.18	--	5
RFI-12-39	12-C	4/5/2004	563076.42	13305054.73	--	17
RFI-12-06*	12-C	5/24/2001	563021.34	13305163.85	742.77	15
RFI-12-29	12-C	7/24/2003	562834.55	13305197.36	---	19
RFI-12-30	12-C	7/24/2003	562913.72	13305194.15	---	13
RFI-12-31	12-C	7/25/2003	563030.38	13305194.91	---	4.2
RFI-12-04*	12-D	5/15/2001	562604.64	13305591.13	739.30	14
RFI-16-02*	16-B	5/15/2001	561752.94	13305488.10	740.11	24
RFI-16-03*	16-C	5/15/2001	560842.32	13305648.93	731.35	12
RFI-16-05*	16-C	5/15/2001	561395.15	13305680.85	734.58	10
RFI-16-13	16-C	12/4/2001	561180.84	13305547.51	---	11
RFI-16-14	16-C	10/31/2001	561182.91	13305628.37	---	12
RFI-16-15	16-C	10/31/2001	561222.74	13305686.69	---	12
RFI-16-16	16-C	10/31/2001	561134.75	13305629.93	---	7.5
RFI-16-17	16-C	10/31/2001	561118.47	13305629.89	---	12
RFI-16-18	16-C	10/31/2001	561097.73	13305660.01	---	7.3
RFI-16-19	16-C	10/31/2001	561098.77	13305668.29	---	10
RFI-16-21	16-C	12/4/2001	561171.85	13305688.77	---	3.5
RFI-16-22	16-C	10/31/2001	561334.30	13305621.89	---	12
RFI-16-23	16-C	10/31/2001	561275.55	13305625.98	---	8
RFI-16-06*	16-D	5/14/2001	561541.01	13305430.88	737.64	12
RFI-17-01*	17-A	5/16/2001	560809.81	13306491.70	721.20	14
RFI-21-01*	21-1	6/25/2001	563862.36	13305829.93	744.46	19
RFI-21-02*	21-1	6/25/2001	563730.77	13305844.54	745.26	13
RFI-21-03*	21-1	6/21/2001	563730.47	13305910.02	744.99	21
RFI-29-01*	29-A	5/15/2001	562975.63	13305297.24	743.25	10
RFI-29-02	29-A	9/5/2001	562982.39	13305315.69	743.52	3
RFI-29-03	29-A	9/5/2001	563002.23	13305295.82	743.16	3
RFI-36-01 Geotech	36-1	8/21/2001	568558.92	13306027.27	756.17	26
RFI-36-25	36-1	3/27/2001	567982.61	13306217.85	---	18

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RFI PHASE II REPORT
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NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Boring ID	Associated AOI	Completion Date	Michigan State Plane Coordinates		Ground Surface Elevation (feet)	Boring Total Depth (feet below grade)
			Northing	Easting		
RFI-36-26	36-1	3/27/2001	568202.05	13306419.06	755.64	18
RFI-36-28	36-1	3/29/2001	568184.49	13306867.00	755.58	22
RFI-36-30	36-1	3/28/2001	567440.66	13306881.86	753.51	16
RFI-36-38	36-1	1/9/2002	567711.49	13306674.10	754.26	16
RFI-36-39	36-1	12/16/2001	567644.21	13306660.64	754.03	16
RFI-36-40	36-1	12/16/2001	567579.52	13306740.58	753.92	16
RFI-36-50	36-1	10/11/2002	568066.07	13307147.79	750.19	20.5
RFI-36-33	36-2	3/29/2001	568537.90	13306391.96	756.53	20
RFI-36-34	36-2	6/28/2001	567467.53	13307029.07	750.26	15
RFI-36-36R	36-2	11/29/2001	567570.92	13307040.51	750.46	3
RFI-36-37	36-2	9/4/2001	567755.54	13307195.18	757.15	24
RFI-36-41	36-2	11/29/2001	567617.88	13307049.37	750.56	3
RFI-36-42	36-2	11/29/2001	567569.09	13307008.78	749.99	3
RFI-38-01	38-1	7/23/2001	569630.30	13307170.15	752.41	22
RFI-38-02	38-1	7/19/2001	569623.43	13306952.69	752.37	19
RFI-38-03	38-1	7/18/2001	569496.24	13306946.60	752.40	21
RFI-40-16	40-A	8/24/2004	561595.58	13305926.02	--	9.5
RFI-40-17	40-A	8/24/2004	561584.97	13305930.41	--	9.5
RFI-40-18	40-A	8/24/2004	561580.58	13305941.02	--	7
RFI-40-19	40-A	12/6/2004	561512.95	13305898.67	735.77	5
RFI-40-21	40-A	12/6/2004	561541.30	13305903.31	735.81	6
RFI-40-22	40-A	--	561564.70	13305892.16	735.82	6
RFI-40-23	40-A	12/17/2004	561501.30	13305914.93	732.32	10
RFI-40-24	40-A	12/17/2004	561478.91	13305910.36	731.96	12
RFI-40-01*	40-A	5/24/2001	561495.56	13305993.17	731.98	10
RFI-40-05	40-A	1/17/2002	561565.67	13305995.90	732.04	16
RFI-40-06*	40-A	1/17/2002	561540.10	13306087.63	732.98	19
RFI-40-08	40-A	1/25/2002	561427.27	13306127.63	729.74	19
RFI-44-01*	44-A	5/17/2001	560810.62	13305509.82	731.26	10
RFI-44-02*	44-A	5/17/2001	560635.41	13305509.87	733.00	14
RFI-44-03*	44-A	5/17/2001	560500.35	13305478.46	733.31	12
RFI-44-06*	44-A	9/5/2001	560789.41	13305531.03	---	15
RFI-44-07	44-A	9/5/2001	560364.77	13305328.55	---	2.7
RFI-44-09	44-A	11/21/2001	560396.29	13305240.55	732.22	2.9
RFI-55-01 Geotech	55-1	8/3/2001	567143.10	13306021.62	751.85	17
RFI-55-03	55-1	7/26/2001	566912.83	13305991.26	754.01	3
RFI-55-04	55-1	7/26/2001	566894.16	13305992.32	753.80	10
RFI-55-05	55-1	7/26/2001	566911.09	13305887.44	753.99	10
RFI-55-06	55-1	7/26/2001	566873.02	13305900.09	753.91	3.5
RFI-81-01	81-1	9/9/2001	564409.43	13305813.97	746.17	7.5
RFI-81-23*	81-1	9/7/2001	564332.58	13305673.56	---	7
RFI-81-24*	81-1	9/7/2001	564474.17	13305683.91	---	7
RFI-81-25	81-1	12/3/2001	564072.88	13305810.69	743.95	10
RFI-81-26	81-1	12/12/2001	564279.94	13305965.97	746.01	2
RFI-81-27	81-1	12/12/2001	564315.17	13305926.24	745.99	2
RFI-81-34	81-1	1/14/2002	564094.95	13305954.34	---	12.5
RFI-81-36	81-1	3/12/2003	564410.68	13305818.63	746.05	10
RFI-81-37	81-1	3/12/2003	564273.29	13305833.75	746.09	10
RFI-81-42	81-1	4/5/2003	564761.87	13306054.78	746.02	2
RFI-81-46	81-2	3/31/2004	564532.60	13306367.15	--	4
RFI-81-48	81-2	4/2/2004	564488.72	13306405.48	--	13
RFI-81-05*	81-2	8/4/2001	564503.21	13306079.71	746.08	17
RFI-81-14	81-2	6/18/2001	564172.29	13306371.96	742.65	2
RFI-81-15	81-2	6/18/2001	564376.99	13306374.25	743.21	2
RFI-81-16	81-2	6/18/2001	564505.52	13306371.16	742.76	2
RFI-81-17	81-2	6/18/2001	564902.11	13306396.48	743.44	2
RFI-81-18	81-2	6/18/2001	564970.54	13306393.35	743.14	2
RFI-81-19	81-2	9/17/2001	565290.66	13306456.90	742.81	2
RFI-81-20*	81-2	8/4/2001	564732.22	13305914.34	745.86	15
RFI-81-28	81-2	12/12/2001	564065.65	13306188.84	745.96	2.5
RFI-81-29	81-2	12/13/2001	564756.52	13305913.82	745.95	1.1
RFI-81-30	81-2	12/13/2001	564706.99	13305912.99	746.02	5.2
RFI-81-31	81-2	12/13/2001	---	---	---	5
RFI-81-32	81-2	12/13/2001	564729.44	13305891.27	746.01	5
RFI-81-38	81-2	3/17/2003	564765.06	13305970.00	---	5

See Notes on Page 5.

TABLE 2-1
SOIL BORING INVENTORY AND COMPLETION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Boring ID	Associated AOI	Completion Date	Michigan State Plane Coordinates		Ground Surface Elevation (feet)	Boring Total Depth (feet below grade)
			Northing	Easting		
RFI-81-39	81-2	3/12/2003	564717.46	13306006.17	746.10	1.5
RFI-81-40	81-2	3/12/2003	564477.54	13306304.69	744.54	2
RFI-81-41	81-2	3/12/2003	564501.49	13306328.40	743.58	2
RFI-81-06*	81-3	8/4/2001	564069.09	13306188.66	745.74	18
RFI-81-07*	81-3	7/27/2001	563842.42	13306209.01	741.31	14
RFI-81-12	81-3	11/21/2001	563504.12	13306421.85	737.38	20
RFI-81-10*	81-5	6/21/2001	563669.29	13306036.80	746.22	24
RFI-83/84-03	83/84-1	1/29/2001	563647.26	13305304.38	745.85	14
RFI-83/84-12	83/84-2	12/17/2001	564079.83	13305401.47	745.80	4.7
RFI-83/84-13*	83/84-2	12/7/2001	564055.89	13305429.74	745.72	7
RFI-83/84-14	83/84-2	12/10/2001	564039.91	13305401.46	745.74	2
RFI-83/84-15	83/84-2	12/10/2001	564051.79	13305369.15	745.72	3
RFI-83/84-21	83/84-2	12/10/2001	564147.11	13305455.07	746.01	10
RFI-83/84-22	83/84-2	12/10/2001	564090.50	13305457.06	745.79	10
RFI-83/84-23	83/84-2	12/10/2001	564119.74	13305478.14	745.93	7.2
RFI-83/84-24	83/84-2	12/10/2001	564119.65	13305431.49	745.94	10
RFI-83/84-25	83/84-2	12/5/2001	564104.84	13305504.31	745.83	20
RFI-83/84-27	83/84-2	12/13/2001	564167.77	13305485.97	741.92	10
RFI-83/84-28	83/84-2	12/13/2001	564058.00	13305551.20	---	8
RFI-83/84-30	83/84-2	9/4/2002	564141.95	13305396.53	---	11.5
RFI-83/84-31	83/84-2	9/4/2002	564125.47	13305408.03	745.88	12
RFI-83/84-32	83/84-2	9/4/2002	564069.74	13305317.91	745.62	2
RFI-83/84-33	83/84-2	9/4/2002	563968.21	13305402.92	745.65	12
RFI-83/84-38	83/84-2	3/12/2003	564179.70	13305484.94	745.97	7
RFI-83/84-39	83/84-2	3/19/2003	564073.26	13305502.69	745.56	10
RFI-83/84-40	83/84-2	3/6/2003	564039.26	13305421.31	745.67	2.5
RFI-83/84-52	83/84-2	4/11/2003	563915.18	13305490.62	745.53	13
RFI-83/84-05*	83/84-3	7/24/2001	563395.78	13305127.82	745.93	12
RFI-83/84-16	83/84-3	12/10/2001	563424.53	13305126.79	745.69	4.8
RFI-83/84-17	83/84-3	12/10/2001	563395.73	13305151.83	745.56	1.4
RFI-83/84-17R	83/84-3	3/6/2003	563395.49	13305137.03	745.65	3
RFI-83/84-18	83/84-3	12/10/2001	563368.86	13305129.14	745.61	4.8
RFI-83/84-19	83/84-3	12/10/2001	563397.98	13305103.94	745.70	3.4
RFI-83/84-34	83/84-3	9/4/2002	563432.42	13305137.10	745.71	6.5
RFI-83/84-35	83/84-3	9/4/2002	563432.41	13305109.19	745.50	11
RFI-83/84-36	83/84-3	9/4/2002	563317.12	13305089.55	745.71	11
RFI-83/84-37	83/84-3	9/4/2002	563308.69	13305123.15	745.62	10
RFI-83/84-41	83/84-3	3/5/2003	563463.66	13305083.26	745.82	2
RFI-83/84-42	83/84-3	3/5/2003	563438.80	13305067.51	745.80	3
RFI-83/84-43	83/84-3	3/5/2003	563418.09	13305096.79	745.63	3.5
RFI-83/84-08*	83/84-4	7/24/2001	564688.86	13305203.22	746.73	20
RFI-83/84-26	83/84-4	12/7/2001	564562.09	13305289.71	---	10
RFI-83/84-47	83/84-4	4/7/2003	564586.82	13305188.34	746.51	17
RFI-83/84-50	83/84-4	4/10/2003	564604.15	13305287.05	742.69	15
RFI-83/84-09*	83/84-5	7/23/2001	564185.83	13305103.89	746.87	19
RFI-83/84-10	83/84-6	1/29/2001	564026.81	13305237.73	745.82	14
RFI-84-01	84-A	5/7/2001	560559.08	13306168.33	727.64	19
RFI-84-02	84-A	5/7/2001	560667.09	13306191.26	727.68	15
RFI-84-03	84-B	5/8/2001	560779.59	13306211.33	727.69	16
RFI-84-04	84-C	5/8/2001	560927.94	13306087.28	727.69	14
RFI-85-02*	85-1	6/22/2001	563389.70	13305984.92	742.91	17
RFI-86-07*	86-1	5/23/2001	563048.28	13306084.50	---	16
RFI-86-08*	86-1	7/20/2001	563359.15	13306188.43	743.54	21
RFI-86-10	86-1	11/21/2001	562997.06	13306180.91	718.05	8.5
RFI-86-11	86-1	11/21/2001	563007.09	13306134.20	737.10	4.7
RFI-86-12R	86-1	11/21/2001	---	---	738.11	4.8
RFI-86-13	86-1	11/21/2001	562971.81	13306119.64	737.00	4.8
RFI-86-17	86-1	3/12/2003	562982.61	13306116.94	737.17	3
RFI-86-18	86-1	3/12/2003	562979.14	13306077.88	737.73	3
RFI-94-01*	94-A	5/16/2001	561145.01	13306640.40	723.54	10
RFI-94-02	94-B	8/30/2001	561350.54	13306860.52	727.66	20
RFI-94-03*	94-C	5/8/2001	561443.72	13306308.88	727.80	8
RFI-94-04*	94-C	5/8/2001	561295.98	13306510.34	727.84	23
RFI-94-06*	94-E	5/9/2001	561700.93	13306020.23	732.95	10
ACSP-B1	Harriet Street	10/26/2000	558992.43	13304971.08	734.50	16
ACSP-B2	Harriet Street	10/26/2000	558993.65	13304688.52	739.40	18

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TABLE 2-1
SOIL BORING INVENTORY AND COMPLETION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Boring ID	Associated AOI	Completion Date	Michigan State Plane Coordinates		Ground Surface Elevation (feet)	Boring Total Depth (feet below grade)
			Northing	Easting		
ACSP-B2C	Harriet Street	5/8/2001	559034.34	13304729.67	---	20
ACSP-B2D	Harriet Street	8/7/2001	558995.83	13304655.26	---	29
ACSP-B2E	Harriet Street	8/20/2001	558972.33	13304685.41	---	26
ACSP-B3	Harriet Street	10/26/2001	559175.52	13304929.30	735.20	18
ACSP-B3D	Harriet Street	8/7/2001	559157.87	13304941.49	---	16
ACSP-B4	Harriet Street	10/26/2001	559132.13	13304849.53	73.8.9	16
ACSP-B5	Harriet Street	10/26/2001	559108.26	13304737.10	733.00	14
ACSP-B6	Harriet Street	10/27/2001	559263.12	13304780.67	735.60	18
RFI-07-12	Aeration Lagoon	3/17/2003	563205.18	13307043.84	728.44	18
RFI-07-13	Aeration Lagoon	3/17/2003	563094.52	13307043.26	728.77	18
RFI-07-14	Aeration Lagoon	3/20/2003	563169.40	13307151.93	728.96	2
BD01-02	Building 1	11/30/2001	560020.05	13304924.35	---	18
BD94-EP-02C	Building 94	8/21/2002	561919.51	13306990.99	---	6
BD94-EP-02D	Building 94	8/21/2002	561903.67	13307016.03	---	6
RFI-BG-01	Background	8/29/2002	560343.49	13304202.51	749.18	2
RFI-BG-02	Background	8/29/2002	561500.58	13304130.74	751.98	2
RFI-BG-03	Background	8/29/2002	562090.48	13304106.13	756.05	2
RFI-BG-04	Background	8/29/2002	562774.61	13304154.65	742.44	2
RFI-BG-05	Background	8/29/2002	564918.08	13304965.81	748.91	2
RFI-BG-06	Background	8/29/2002	566238.13	13304951.72	753.84	2
RFI-BG-07	Background	8/29/2002	567707.07	13305976.56	753.37	2
RFI-BG-08	Background	8/29/2002	568863.93	13306132.72	755.47	2
RFI-BG-09	Background	8/29/2002	568893.99	13306638.87	753.58	2
RFI-BG-10	Background	8/29/2002	569686.56	13306724.35	747.46	2
RFI-EP-94-02A	Employee Park Lot	8/17/2001	561873.01	13306992.79	---	16
RFI-EP-94-02B	Employee Park Lot	8/17/2001	561902.91	13306957.74	---	16
WL-B1	Waste Lagoon	10/27/2000	563149.52	13307141.30	729.70	18
WL-B2	Waste Lagoon	10/27/2000	563336.85	13307067.15	727.70	16
WL-B3	Waste Lagoon	10/30/2000	563741.48	13307013.94	729.50	20
WL-B4	Waste Lagoon	10/30/2000	563499.37	13307445.96	724.90	16
WL-B5	Waste Lagoon	10/30/2000	563121.00	13307582.35	723.10	16
WL-B6	Waste Lagoon	10/31/2000	563815.64	13307691.97	722.40	16

Notes:
1. * = Grab groundwater sample location.
2. '--- = Not Available.
3. Michigan State Plane Coordinates (South Zone 2113) are referenced to the North American Datum (NAD) of 1983.
4. Survey elevations are relative to the North American Vertical Datum (NAVD) of 1988.

TABLE 2-2
MONITORING WELL INVENTORY AND COMPLETION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Date Installed	Boring Depth (feet bgs)	Surface Completion	Well Diameter (inches)	Well Material	Screened Interval (feet bgs)	Unit Screened	Well Status
03-01	3/16/2000	16	Flushmount	2	PVC	5-15	silt, sand, & clay	Destroyed
03-01R	3/28/2004	13	Flushmount	2	PVC	3-13	silt, sand, & clay	Existing
03-02	3/16/2000	16	Flushmount	2	PVC	5-15	silt, sand, & clay	Destroyed by railroad track removal.
03-03	3/17/2000	18	Flushmount	2	PVC	8-18	fill, silt, and clay	Destroyed
03-03R	3/30/2004	15	Flushmount	2	PVC	5-15	fill, silt, and clay	Existing
03-101	---	---	Flushmount	2	PVC	---	---	Destroyed
03-101R	3/29/2004	14	Flushmount	2	PVC	4-14	---	Existing
03-104	5/8/1990	17.5	Flushmount	2	PVC	11-16	sand	Could not locate (3/03)
03-105	5/7/1990	17.5	Flushmount	2	PVC	12-17	clay and sand	Abandoned and decommissioned, replaced by 03-105R
03-105R3	3/30/2004	13	Flushmount	2	PVC	3-13	clay and sand	Existing
03-106	5/8/1990	11	Flushmount	2	PVC	6-11	fill and sand	Could not locate (3/03)
03-109	5/3/1990	15	Flushmount	2	PVC	11-16	silt, sand, & clay	Destroyed by railroad track removal.
03-110	5/3/1990	15	Flushmount	2	PVC	8.5-13.5	silt, sand, & clay	Existing
03-111	5/3/1990	12	Flushmount	2	PVC	5-10	gravel and sand	Destroyed by railroad track removal.
03-112	5/3/1990	12.5	Flushmount	2	PVC	7.5-12.5	sand	No access - paved over
03-113	5/3/1990	17.5	Flushmount	2	PVC	8.5-13.5	sand and fill	Destroyed (4/05).
03-113R	12/4/2003	13	Flushmount	2	PVC	3-13	sand and fill	Destroyed by railroad track removal.
03-114	5/4/1990	16.5	Flushmount	2	PVC	10-15	gravel and sand	Abandoned and decommissioned, replaced by 03-114R
03-114R	3/4/2003	19	Flushmount	2	PVC	7-17	silty sand and silty clay	Existing
04-1	3/8/2000	14	Flushmount	2	PVC	4-14	sand and clay	Existing
04-2	3/8/2000	14	Flushmount	2	PVC	4-14	clay, silt, & gravel	Existing
04-3	3/8/2000	14	Flushmount	2	PVC	4-14	clay, silt, & gravel	Existing
04-4	3/9/2000	14	Flushmount	2	PVC	2.5-12.5	sand, clay & gravel	Existing
04-5	---	---	Flushmount	2	---	---	---	Existing
04-120	9/29/1995	24	---	2	PVC	10-17	silt, sand, & clay	Existing
04-121	9/29/1995	26	---	2	PVC	19-26	silt, sand, & clay	Could not locate (3/03)
04-140	9/29/1995	22	---	2	PVC	15-22	silt, sand, & clay	Existing
04-160	10/10/1995	22	Flushmount	2	PVC	15-22	silt, sand, & clay	Existing
04-302	---	---	Flushmount	2	PVC	---	---	Existing
07-01	3/15/2000	18	Flushmount	2	PVC	8-18	clay and silt	No access - active demo area
07-02	3/15/2000	18	Flushmount	2	PVC	8-18	silt and sand	Existing
11-120	10/4/1995	22	---	---	PVC	7-14	silt, sand, & clay	Existing
11-140	10/4/1995	24	---	---	PVC	11-18	silt, sand, & clay	Existing
20-100	10/23/1991	15	Stick-Up	2	PVC	7.7-12.7	sand	Existing
20-101	10/15/1991	25	Flushmount	2	PVC	15-20	sand and silt	Couldn't locate (3/03); Replaced by 20-101R. Located 6/03, 20-25' North of 20-101R.
20-101R	11/5/2001	19	Flushmount	2	PVC	8 - 18	silt and clay	Existing
20-101RD	8/23/2002	30	Flushmount	2	PVC	20-26	silt and clay	Existing
20-102	10/23/1991	15	Flushmount	2	PVC	10-15	sand and silt	Existing
20-102R	12/4/2003	13	Flushmount	2	PVC	3-13	sand and fill	Existing
20-103N	10/24-25/91	15.5	Flushmount	2	PVC	10.5-15.5	sand and silt	Existing
20-103S	7/21/1992	20	Flushmount	2	PVC	14.3-19.3	sand and silt	Existing
20-104	10/11/1991	20	Stick-Up	2	PVC	7.5-12.5	fill and sand	Could not locate (3/03)
20-105	10/21-22/91	16	Flushmount	2	PVC	11-16	sand	Could not locate (3/03); Replaced by 20-105R
20-105R	11/21/2001	18	Flushmount	2	PVC	7-17	silt	Existing

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Well ID	Date Installed	Boring Depth (feet bgs)	Surface Completion	Well Diameter (inches)	Well Material	Screened Interval (feet bgs)	Unit Screened	Well Status
20-106	12/18/1992	14	---	2	PVC	8-13	---	Could not locate (3/03)
20-107	---	---	---	2	PVC	---	---	No access - under pallet of machine parts; possibly does not exist
20-120	10/16/1991	15	Flushmount	2	PVC	7-12	sand	Existing
20-121	9/27/1991	27.5	Flushmount	2	PVC	11-16	sand	Existing
20-122	10/1/1991	25	Flushmount	2	PVC	11.5-16.5	sand	Existing
20-140	10/2-3/91	22.5	Flushmount	2	PVC	10-15	sand	Existing
20-141	10/10/1991	20	Flushmount	2	PVC	9.4-14.4	sand	Existing
20-142	10/18/1991	20	Flushmount	2	PVC	8.5-13.5	sand	Existing
20-143	10/4/1991	20	Flushmount	2	PVC	8-13	sand	Existing
20-144	10/7/1991	17.5	Flushmount	2	PVC	7.5-12.5	sand	Existing
20-145	10/8/1991	15	Flushmount	2	PVC	8.5-13.5	fill and sand	Existing
20-146	12/17/1992	6	Flushmount	2	PVC	1-6	---	No access - under heavy equipment
20-160	12/17/1992	16	Flushmount	2	PVC	11-16	---	Existing
20-161	10/15/1991	20	Flushmount	2	PVC	14-19	silt, sand, & clay	Destroyed during trench installation
20-162	12/21/1992	13	---	2	PVC	8-13	---	Existing
20-163	12/16/1992	17	Flushmount	2	PVC	10-15	---	Existing
20-163R	3/24/2000	18	Flushmount	4	PVC	8-18	fill, clay, & silty sand	---
20-164	12/16/1992	16	Flushmount	2	PVC	11-16	---	Existing
20-165	12/21/1992	15	Flushmount	2	PVC	10-15	---	Existing
20-167	9/21/1992	22	Flushmount	2	PVC	16-21	sand	No access - under permanent heavy equipment
20-168	9/28/1992	18	Flushmount	2	PVC	13-18	sand	No access - under pallets
20-169	9/29/1992	17	Flushmount	2	PVC	13-18	sand	Existing
20-170	10/22/1991	15	Flushmount	2	PVC	7.8-12.8	fill	Existing
20-171	10/8/1991	15	Flushmount	2	PVC	9-14	sand	Existing
20-500	7/17/1992	18.5	Flushmount	2	PVC	13.1-18.1	fill, sand, & silt	Existing
20-500R	12/3/2003	16	Flushmount	2	PVC	6-16	sand and silt	Existing
20-501	7/23/1992	18	Flushmount	2	PVC	12.9-17.9	silt, sand, & clay	Existing
20-502	7/22/1992	18	Flushmount	2	PVC	9.5-14.5	sand and silt	Existing
20-503	7/22/1992	15.9	Flushmount	2	PVC	10.9-15.9	sand and silt	Existing
20-504	10/19/1995	22	Flushmount	---	PVC	7-14	sand	Destroyed by railroad track removal.
20-505D	7/23/1992	19.8	Flushmount	2	PVC	14.8-19.8	silt and clay	Destroyed (3/03)
20-505S	7/23/1992	14.2	Flushmount	2	PVC	9.2-14.2	sand and silt	Could not locate (3/03)
20-506	7/23/1992	14.9	Flushmount	2	PVC	9.9-14.9	silt, sand, & clay	Existing
20-FP1	8/7/1998	20	Flushmount	2	PVC	6-15.8	fill and sand	Destroyed by railroad track removal.
20-FP2	7/30/1998	20	Flushmount	2	PVC	10-19.8	sand	Existing
20-FP4	7/31/1998	19	Flushmount	2	PVC	6-15.8	fill and sand	Destroyed during trench installation
20-FP4R	12/4/2003	15	Flushmount	2	PVC	5-15	sand	Existing
20-FP5	7/30/1998	17	Flushmount	2	PVC	4-13.8	fill	Could not locate (3/03); believe may be same as 20-144.
20-FP6	7/29/1998	17	Flushmount	2	PVC	10-14.8	sand	Existing
20-FP6R	12/3/2003	15	Flushmount	2	PVC	5-15	silty sand	Existing
20-FP7	7/30/1998	17	Flushmount	2	PVC	4-13.8	fill and sand	Existing
20-FP8	7/30/1998	17	Flushmount	2	PVC	4-13.8	fill, sand, & silt	Existing
20-FP9	8/6/1998	18	Flushmount	2	PVC	4.5-14.3	sand and silt	Abandoned and decommissioned 12/03.
20-FP9R	12/4/2003	15	Flushmount	2	PVC	5-15	sand and silt	Destroyed by railroad track removal.
20-FP10	8/10/1998	16	Flushmount	2	PVC	3.5-13.3	sand	Existing

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Well ID	Date Installed	Boring Depth (feet bgs)	Surface Completion	Well Diameter (inches)	Well Material	Screened Interval (feet bgs)	Unit Screened	Well Status
20-FP11R	5/4/1999	11	Flushmount	2	PVC	3-9.8	sand	Destroyed by railroad track removal.
20-FP12	5/4/1999	11	Flushmount	2	PVC	3-9.8	sand	Existing
30-100	10/9/1991	17.5	Flushmount	2	PVC	10-15	silt, sand, & clay	Existing
30-120	3/9/1993	20	Flushmount	2	PVC	5-20	clay and sand	Existing
30-121	3/9/1993	20	Flushmount	2	PVC	5-20	clay and sand	---
30-140	3/9/1993	18	Flushmount	2	PVC	5-15	silt, sand, & clay	Existing
31-1	6/10/1997	20.5	Stick-Up	2	PVC	15.5-20.5	silt and clay	Existing
31-2	6/10/1997	12	Stick-Up	2	PVC	7-12	silt, sand, & clay	Existing
31-3	6/10/1997	18	Stick-Up	2	PVC	13-18	silt, sand, & clay	Existing
31-4D	6/5/1997	16	Stick-Up	2	PVC	11-16	silty clay	Existing
31-4S	6/10/1997	12	Stick-Up	2	PVC	7-12	silt and clay	Existing
31-5	3/7/2000	14	Flushmount	2	PVC	4-14	clay and sand	Existing
31-6	3/6/2000	14	Flushmount	2	PVC	4-14	clay and sand	Existing
31-7	3/6/2000	16	Flushmount	2	PVC	6-16	silt, sand, & clay	Existing
31-8	3/8/2000	18	Flushmount	2	PVC	5-15	sand and silt	Existing
36-100	10/6/1995	26	Flushmount	2	PVC	9-16	sand	Existing
36-101	10/6/1995	24	Flushmount	2	PVC	11-18	sand and silt	Existing
36-120	10/5/1995	26	Flushmount	2	PVC	11-18	sand	Existing
36-121	10/5/1995	26	Flushmount	2	PVC	13-20	sand	Existing
36-160	10/9/1995	24	Flushmount	2	PVC	10-17	silt, sand, & clay	Existing
36-161	10/9/1995	24	Flushmount	2	PVC	3.5-10.5	sand and silt	No access - covered or destroyed by railroad track removal
36-FP1	8/5/1998	21	Flushmount	2	PVC	8-17.8	sand	Existing
36-FP2	8/5/1998	19	Flushmount	2	PVC	8-17.8	sand	Existing
36-FP3	8/5/1998	19	Flushmount	2	PVC	8-17.8	silt, sand, & clay	Existing
36-FP4	8/3-4/98	23	Flushmount	2	PVC	11.5-21.3	silt, sand, & clay	Existing
36-FP5	8/4/1998	23	Flushmount	2	PVC	11-20.8	silt, sand, & clay	Existing
36-FP6	8/6/1998	20	Flushmount	2	PVC	5-14.8	silt, sand, & clay	Existing
36-FP7	8/7/1998	19	Flushmount	2	PVC	7-16.8	clay and sand	Existing
36-FP8	5/6/1999	14	Flushmount	2	PVC	6-13	sand	Existing
37-01	3/16/2000	16	Flushmount	2	PVC	6-16	sand and silt	Existing
38-120	10/6/1995	26	Flushmount	2	PVC	11-18	sand	Existing
40-1	11/8/1996	8.5	Stick-Up	2	PVC	3.5-8.5	sand	Abandoned and decommissioned (2/13/03), replaced by 40-1R (3/03)
40-01R	2/13/2003	14	Flushmount	2	PVC	6-11	sand	Existing
40-01R2	12/8/2003	10	Flushmount	2	PVC	5-10	silty sand	Existing
40-2	11/8/1996	10.5	Stick-Up	2	PVC	5.5-10.5	clay and sand	Existing
40-3	12/10/1996	17	Stick-Up	2	PVC	12-17	silt, sand, & clay	Existing
40-4	3/9/2000	16	Flushmount	2	PVC	5-15	fill, clay & sand	Existing
40-4R	11/13/2001	25	Flushmount	2	PVC	15-25	sand	Existing
40-5	3/9/2000	14	Flushmount	2	PVC	4-14	fill, clay & sand	Existing
40-6	3/9/2000	14	Flushmount	2	PVC	3-13	fill	Destroyed by demolition activities; abandoned, replaced by 40-6R (3/03)
40-6R	2/14/2003	11	Flushmount	2	PVC	4.5-9.5	silty sand	Existing
40-7	3/10/2000	14	Flushmount	2	PVC	4-14	silt, sand, & clay	Abandoned and decommissioned (2001), replaced by 40-7R2 (3/03)
40-7R	11/20/2001	18.5	Flushmount	2	PVC	8-18	clay and sand	Destroyed by demolition activities; abandoned, replaced by 40-7R2 (3/03)
40-7R2	2/13/2003	24	Flushmount	2	PVC	13-23	silty clay and sand	Existing

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Well ID	Date Installed	Boring Depth (feet bgs)	Surface Completion	Well Diameter (inches)	Well Material	Screened Interval (feet bgs)	Unit Screened	Well Status
40-301	12/16/1993	17	Flushmount	2	PVC	12-17	---	Existing
40-302	12/16/1993	16	Flushmount	2	PVC	11-16	---	Existing
40-303	12/16/1993	13	Flushmount	2	PVC	8-13	---	No access, located in railroad tracks; abandoned and decommissioned, replaced by 40-303R
40-303R	11/12/2001	33	Flushmount	2	PVC	22.5-32.5	silty clay	Existing
40-304	12/16/1993	11	Flushmount	2	PVC	6-11	---	Existing
40-305	12/16/1993	13.5	Flushmount	2	PVC	8.5-13.5	---	Existing
43-100	9/25/1991	22.5	Flushmount	2	PVC	10.5-15.5	sand	Existing
43-101	9/27/1991	20	Flushmount	2	PVC	10.5-15.5	sand	Paved over; Replaced by 43-101R
43-101R	11/8/2001	18	Flushmount	2	PVC	8-18	sand	Existing
43-102	3/8/1993	23	Flushmount	2	PVC	8-23	sand	Existing
43-103	10/5/1995	22	Flushmount	2	PVC	7-14	sand	Existing
43-120	10/3/1995	26	Flushmount	2	PVC	8-15	sand	No access - paved over
43-140	10/10/1995	22	Flushmount	2	PVC	8-15	sand and silt	Existing
43-141	10/4/1995	20	Flushmount	2	PVC	10-17	sand and silt	No access - Destroyed (2003)
43-160	10/1/1991	16	Flushmount	2	PVC	9-14	sand	Existing
43-161	10/3/1991	15	Flushmount	2	PVC	9-14	sand	Existing
43-162	10/3/1991	13.5	Flushmount	2	PVC	8.5-13.5	sand	Existing
43-163	10/16-17/91	17.5	Flushmount	2	PVC	8.5-13.5	sand and silt	Existing
43-164	10/21/1991	15	Flushmount	2	PVC	9.5-14.5	sand	Existing
43-165	3/20/2000	16	Flushmount	2	PVC	6-16	sand, clay & peat	Existing
43-166	3/21/2000	16	Flushmount	2	PVC	5-15	fill and sand	Existing
43-167	3/20/2000	16	Flushmount	2	PVC	5-15	sand	Existing
43-168	3/21/2000	16	Flushmount	2	PVC	5-15	sand and silt	Existing
43-169	3/21/2000	16	Flushmount	2	PVC	5-15	sand	Existing
43-220	5/13/1994	23	Flushmount	2	PVC	11-23	sand	Existing
43-242	5/10/1994	26	Flushmount	2	PVC	12-24	sand	Existing
44-04	5/16/2001	10	---	2	---	2.8-7.8	silt, sand, & clay	---
55-1	5/5/1999	17	Flushmount	2	PVC	9-15.8	sand	Existing
55-2	5/5/1999	17	Flushmount	2	PVC	9-15.8	sand	Existing
55-3	5/5/1999	15	Flushmount	2	PVC	7-13.75	sand and silt	Existing
55-4	5/5/1999	15	Flushmount	2	PVC	7-13.75	sand and silt	Existing
55-5	5/6/1999	18	Flushmount	2	PVC	10-17	sand	Existing
70-100	9/18/1991	27.5	Flushmount	2	PVC	20-25	silt, sand, & clay	Existing
70-101	8/19/1992	15	Flushmount	2	PVC	2-12	sand	Existing
70-102R	12/4/2003	13	Flushmount	2	PVC	3-13	sand	Could not locate (4/05).
70-103	8/19/1992	15	Flushmount	2	PVC	2-12	sand	Existing
70-104	8/19/1992	15	Flushmount	2	PVC	2-12	sand	Well Casing damaged (4/05).
70-105	8/19/1992	20	Flushmount	2	PVC	2-12	sand and silt	Existing
70-106	10/17/1991	12.5	Flushmount	2	PVC	4.5-9.5	silt, sand, & clay	Existing
70-107	9/17/1991	25	Flushmount	2	PVC	15-20	silt, sand, & clay	Existing
70-107R	12/3/2003	13	Flushmount	2	PVC	3-13	silt, clay, & sand	Existing
70-108R	12/8/2003	16	Flushmount	2	PVC	6-16	silt, sand, & clay	Existing
70-109	8/19/1992	15	Flushmount	2	PVC	2-12	sand	Existing
70-160	10/9/1995	22	Flushmount	2	PVC	15-22	clay and sand	Destroyed by railroad track removal.

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70-161	10/19/1995	18	Flushmount	2	PVC	3-10	sand	No access - buried under concrete. This area is used to dump excess concrete at the completion of jobs.
70-162	2/21/1996	14	Flushmount	2	PVC	3.5-13.1	fill and sand	Destroyed by railroad track removal.
70-163	2/21/1996	10	Flushmount	2	PVC	3-9.8	silt, sand, & clay	Existing
70-164	2/21/1996	10	Flushmount	2	PVC	3-9.6	sand	No access - under manhole, unable to open
70-165	2/21/1996	14	Flushmount	2	PVC	5-9.8	fill and sand	Existing
83/84-04	1/29/2001	18	---	1.5	---	11-16	clay	---
83/84-05	7/24/2001	12	---	1	---	6-11	sand and clay	---
83/84-06	9/12/2001	17	---	1	---	7-17	silt, sand, & clay	Existing
83/84-07	7/25-8/1/01	19	---	2	---	8.8-18.8	silt and sand	---
83/84-08	7/24/2001	20	---	1	---	9-19	silt, sand, & clay	---
83/84-09	7/23/2001	19	---	1	---	8-18	silt, sand, & clay	---
84-1	---	---	---	---	---	---	---	Destroyed by demolition activities (6/03); abandoned and decommissioned 12/03.
84-2	---	---	---	---	---	---	---	Destroyed by demolition activities (6/03); remains visible.
84-3	---	---	---	---	---	---	---	Destroyed by demolition activities (6/03); remains visible.
84-4	5/8/2001	14	Flushmount	4	---	9-14	sand and clay	Abandoned and decommissioned 12/03.
84-5	5/24/2001	22	Flushmount	2	---	8-18	silty clay	Destroyed by demolition activities (6/03); remains visible.
84-6	5/21/2001	12	Flushmount	2	---	6.8-11.8	silt, sand, & clay	Destroyed by demolition activities (6/03); remains visible, replaced by 84-6R
84-06R	3/4/2003	25	Flushmount	2	PVC	15-25	clay, silt, & sand	Destroyed by demolition activities (6/03); remains visible.
84-06R2	7/23/2003	26	Flushmount	2	PVC	15-25	clay, silt, & sand	Existing
84-06R2D	7/22/2005	33	Flushmount	2	PVC	27-33		Existing
84-07	3/17/2005	21	Flushmount	2	PVC	10-20	silt, clay, &sand	Existing
84-07D	7/18/2005	40	Flushmount	2	PVC	27-32	sand	Existing
86-1	6/2/1997	9	Stick-Up	2	PVC	4-9	sand and silt	Existing
86-2	6/3/1997	10	Stick-Up	2	PVC	5-10	silt, sand, & clay	Existing
86-3	6/3/1997	19	Stick-Up	2	PVC	14-19	silt, sand, & clay	Existing
86-100	10/10/1995	24	Flushmount	2	PVC	7-14	gravel, sand & silt	Existing
87-FP1	8/4/1998	9	Flushmount	2	PVC	1.5-6.3	gravel and sand	Existing
87-FP2	8/3/1998	19	Flushmount	2	PVC	8-17.8	silt, sand, & clay	Existing
87-FP3	8/3/1998	15	Flushmount	2	PVC	5-14.8	silt, sand, & clay	Existing
87-FP4	8/12/1998	23	Flushmount	2	PVC	11.9-21.7	sand	Existing
87-FP5	8/12/1998	15	Flushmount	2	PVC	4-13.8	sand	Existing
87-FPD2	8/11/1998	38	Flushmount	2	PVC	29-33.8	gravel and sand	Existing
87-FPD3	8/11-12/98	46	Flushmount	2	PVC	41-45.8	gravel, sand & silt	Existing
88-1*	11/6/1996	17	Stick-Up	2	PVC	12-17	silt	No access - destroyed
88-2	11/6/1996	16	Stick-Up	2	PVC	11-16	sand	Destroyed by railroad track removal.
88-3*	11/6/1996	15	Stick-Up	2	PVC	10-15	sand	Destroyed by railroad track removal.
88-4	11/8/1996	12	Stick-Up	2	PVC	7-12	sand	Existing
88-5	6/2/1997	12	Stick-Up	2	PVC	7-12	sand	Existing
88-6	6/2/1997	12	Stick-Up	2	PVC	7-12	sand	Existing
88-7	3/15/2000	18	Flushmount	2	PVC	8-18	silt, sand, & clay	Existing
88-8	3/12/2000	24	Flushmount	2	PVC	12-22	silt, sand, & clay	Existing
88-9	3/14/2000	20	Flushmount	2	PVC	9-19	silt, sand, & clay	Existing
94-100	9/26/1995	20	Flushmount	2	PVC	12-19	silt and clay	Existing

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94-101	10/23/1995	26	Flushmount	2	PVC	7-14	silt, sand, & clay	Could not locate (3/03)
ACSP-B2AR	8/28/2002	33	Flushmount	2	PVC	23-33	silt and clay	Existing
BD01-01	12/3/2001	28	Flushmount	2	PVC	21-26	sand, silty sand	Existing
BD01-02R	8/28/2002	20	Flushmount	2	PVC	10-20	silty sand	Existing
BD01-03	12/3/2001	24	Flushmount	1	PVC	19 - 24	silt and sand	1" temp well, damaged, unable to gauge
BD01-04	4/2/2003	22	Flushmount	2	PVC	11-21	silty clay & sand	Existing
GM-1	9/19/1985	---	Stick-Up	2	PVC	---	---	Existing
GM-2	---	---	Stick-Up	---	PVC	---	---	Existing
GM-3	9/23/1985	38	Stick-Up	2	PVC	36-38	clayey silt	Existing
GM-4	9/23/1985	78	Stick-Up	2	PVC	73-78	sand	Existing
GM-5	---	---	Stick-Up	---	PVC	---	---	Existing
GM-6	---	---	Stick-Up	---	PVC	---	---	Existing
GM-7	---	---	Stick-Up	---	PVC	---	---	Existing
GM-8	---	---	Stick-Up	---	PVC	---	---	Existing
GM-9	7/31/1986	63	Stick-Up	2	PVC	58-63	sand	Existing
GM-10	8/9/1989	39.9	Stick-Up	2	PVC	37.4-39.9	clay	Existing
GM-11	8/10/1989	36.8	Stick-Up	2	PVC	34.3-36.8	clay	Existing
GM-12	8/8/1989	34.5	Stick-Up	2	PVC	32-34.5	sand and clay	Existing
MW-00-FP6	3/23/2000	18	Flushmount	4	PVC	5-15	sand	Existing
MW-00-FP7	3/23/2000	18	Flushmount	4	PVC	5-15	sand	Existing
MW-00-FP8	3/22/2000	18	Flushmount	4	PVC	5-15	sand	Existing
MW-07-01	---	---	Flushmount	---	---	---	---	Existing
MW-07-02	---	---	Flushmount	---	---	---	---	Existing
OW-3D	---	---	Stick-up	---	---	---	---	Existing
OW-3S	---	---	Stick-up	---	---	---	---	Existing
OW-5	---	---	Stick-up	---	---	---	---	Existing
RFI-02-05	5/18/2001	8	Flushmount	2	PVC	2.8 - 7.8	silt, sand, & clay	Existing
RFI-02-07	5/18/2001	12	Flushmount	2	PVC	6.8 - 11.8	clay and sand	No access - under debris
RFI-02-08	5/21/2001	18	Flushmount	2	PVC	3.8 - 13.8	silt, sand, & clay	Abandoned and decommissioned, replaced by RFI-02-08R
RFI-02-08R	---	---	Flushmount	2	PVC	---	---	Existing
RFI-02-12	2/24/2003	15	Flushmount	2	PVC	4-14	gravel, & silty clay	Existing
RFI-02-13	10/16/2002	12.5	Flushmount	2	PVC	2.5-12.5	silt, sand, & clay	Existing
RFI-02-14	3/17/2005	18	Flushmount	2	PVC	8-18	fill, clay, & sand	Existing
RFI-02-15	3/21/2005	18	Flushmount	2	PVC	8-18	sand & clay	Existing
RFI-02-16	3/22/2005	18	Flushmount	2	PVC	8-18	silt, sand, & clay	Existing
RFI-02-17	3/22/2005	18	Flushmount	2	PVC	8-18	silt, sand, & clay	Existing
RFI-02-18	3/22/2005	18	Flushmount	2	PVC	5-15	silt, sand, & clay	Existing
RFI-02-19	3/22/2005	19	Flushmount	2	PVC	7-17	clay and sand	Existing
RFI-02-20	3/23/2005	16	Flushmount	2	PVC	5-15	silt, sand, & clay	Existing
RFI-02-21	3/23/2005	16.7	Flushmount	2	PVC	5-15	silt, sand, & clay	Existing
RFI-02-22	3/23/2005	18	Flushmount	2	PVC	5-15	sandy clay	Existing
RFI-02-23	3/24/2005	18	Flushmount	2	PVC	5-15	silt, sand, & clay	Existing
RFI-02-24	3/24/2005	14	Flushmount	2	PVC	3-13	silt and clay	Existing
RFI-03-01	8/1-2/01	21	Flushmount	2	PVC	9-19	silt, sand, & clay	Could not locate (3/03) - Destroyed
RFI-03-02	6/25/2001	17	Flushmount	2	PVC	5-15	silt, sand, & clay	Existing

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RFI-03-03	6/22/2001	14	Flushmount	2	PVC	2.5-12.5	gravel, silt, & sand	Existing
RFI-03-04	7/23/2001	16	Flushmount	2	PVC	5-15	silt and sand	Existing
RFI-03-15	4/10/2003	17	Flushmount	2	PVC	7-17	silty sand	Existing
RFI-04-04	6/1/2001	17	Flushmount	1	PVC	5-15	silt, sand, & clay	Believed destroyed
RFI-05-01	6/26/2001	17	Flushmount	2	PVC	7-17	silt and sand	Existing
RFI-05-02	1/23/2001	18	Flushmount	1.5	PVC	12-17	sand	Existing
RFI-05-03	6/26/2001	20	Flushmount	2	PVC	8-18	silt and sand	Existing
RFI-05-04	1/24/2001	16	Flushmount	1.5	PVC	10-15	sand and clay	No access - office building built at this location
RFI-05-05	1/23/2001	16	Flushmount	1.5	PVC	10-16	sand	No access - unable to open square cover
RFI-05-06	7/25-26/01	22	Flushmount	2	PVC	10-20	silt	Existing
RFI-05-07	1/24/2001	16	Flushmount	1.5	PVC	11-16	sand	No access - need special wrench to open.
RFI-05-08	6/27/2001	14	Flushmount	1	PVC	4-14	sand and clay	Existing
RFI-05-09	6/27/2001	18	Flushmount	1	PVC	6-16	silt, sand, & clay	Existing
RFI-05-10	1/23/2001	17	Flushmount	1.5	PVC	12-17	sand	Existing
RFI-05-11	1/23/2001	17.5	Flushmount	1.5	PVC	12.5-17.5	sand	No access - well cover fused shut
RFI-05-12	1/24/2001	16	Flushmount	1.5	PVC	11-16	sand	Existing
RFI-05-13	1/22/2001	16	Flushmount	1	PVC	11-16	sand	Existing
RFI-05-14	1/22/2001	17	Flushmount	1.5	PVC	12-17	sand	Existing
RFI-05-19D*	7/23/2001	29	Flushmount	2	PVC	26.5-28.5	silt, sand, & clay	Existing
RFI-05-19DR	11/7/2001	29	Flushmount	2	PVC	20-25	clay	Existing
RFI-05-19S	6/26/2001	17	Flushmount	2	PVC	7-17	silt and sand	Existing
RFI-05-20	6/22/2001	17	Flushmount	2	PVC	5.5-15.5	silt and sand	Existing
RFI-05-21	6/26/2001	18	Flushmount	2	PVC	8-18	silt, sand, & clay	Existing
RFI-05-30	1/10/2002	16	Flushmount	2	PVC	6-16	sand	Existing
RFI-05-EAST	---	---	---	---	---	---	---	Existing
RFI-05-NORTH	---	---	---	---	---	---	---	Existing
RFI-05-SOUTH	---	---	---	---	---	---	---	Existing
RFI-07-01	6/22/2001	12	Flushmount	2	PVC	4-9	silt	---
RFI-07-01R	1/12/2002	10	Flushmount	2	PVC	--	--	No access - active demo area
RFI-07-01R2	7/25/2003	16	Stick-up	2	PVC	6 - 16	silt, silty clay	Existing
RFI-07-03	6/14/2001	10	Flushmount	2	PVC	2-7	clay and silt	Existing
RFI-07-08	7/30/2001	23.5	Flushmount	2	PVC	10-20	sand and clay	Existing
RFI-09-01	5/29/2001	15	Flushmount	2	PVC	2.8 - 12.8	silt	Existing
RFI-09-04	5/30/2001	14	Flushmount	2	PVC	3.3 - 13.3	sand and silt	Abandoned and decommissioned, replaced by RFI-09-04R
RFI-09-04R	---	19	Flushmount	2	PVC	14-19	---	Existing
RFI-09-06	5/30/2001	14	Flushmount	2	PVC	3.5 - 13.5	silt, sand, & clay	Existing
RFI-09-07	5/29/01 - 5/30/01	17	Flushmount	2	PVC	5.3 - 15.3	sand and silt	Existing
RFI-09-08	5/29/2001	15	Flushmount	2	PVC	3.8 - 13.8	silt and clay	Existing
RFI-09-08D	3/3/2005	20	Flushmount	2	PVC	15-20	sand and clay	Existing
RFI-09-09	5/29/2001	16	Flushmount	2	PVC	3.8 - 13.8	silt, sand, & clay	Existing
RFI-09-09D	3/2/2005	22	Flushmount	2	PVC	17-22	sand & clay	Existing
RFI-09-10	5/29/2001	26	Flushmount	2	PVC	3.5 - 13.5	silt, sand, & clay	Existing
RFI-09-11	6/11/2001	24	Flushmount	2	PVC	4 - 14	silt and clay	Existing
RFI-09-11D	3/2/2005	24	Flushmount	2	PVC	17-22	silt, sand, & silty clay	Existing
RFI-09-12	6/11/2001	14	Flushmount	2	PVC	6 - 11	silt, sand, & clay	Existing

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Well ID	Date Installed	Boring Depth (feet bgs)	Surface Completion	Well Diameter (inches)	Well Material	Screened Interval (feet bgs)	Unit Screened	Well Status
RFI-09-13	9/13/2001	18	Stick-up	2	PVC	6-16	sand and clay	Existing
RFI-09-14	9/13/2001	18	Stick-up	2	PVC	6-16	sand and clay	Existing
RFI-09-32	3/4/2002	15	Flushmount	2	PVC	5-15	silt and clay	Existing
RFI-09-36R	8/20/2002	14	Flushmount	2	PVC	4-14	clay, sand, & gravel	Existing
RFI-09-40R	8/26/2002	17	Flushmount	2	PVC	7-17	clay and sand	Existing
RFI-09-44	8/16/2002	15	Flushmount	2	PVC	5-15	silt, sand, & clay	Existing
RFI-09-45	8/20/2002	14	Flushmount	2	PVC	5-15	silt, sand, & clay	Existing
RFI-09-46	8/21/2002	17	Flushmount	2	PVC	5-15	clay, sand, & gravel	Existing
RFI-09-47	8/26/2002	18	Flushmount	2	PVC	6.5-16.5	silt, sand, & clay	Existing
RFI-09-48	4/2/2003	18	Flushmount	2	PVC	8-18	fill & silty sand	Existing
RFI-09-49	2/25/2003	16	Flushmount	2	PVC	10-20	silty clay & sand	Abandoned and decommissioned, replaced by RFI-09-49R
RFI-09-49R	3/4/2003	20	Flushmount	2	PVC	10-20	silty clay & sand	Existing
RFI-09-52	7/25/2003	16	Flushmount	2	PVC	5-15	sand, silty clay	Existing
RFI-09-53	3/3/2005	15	Flushmount	2	PVC	5-15	clay & silt	Existing
RFI-09-54S	3/3/2005	15	Flushmount	2	PVC	3.5-13.5	sand, silt, & clay	Existing
RFI-09-54D	3/3/2005	24	Flushmount	2	PVC	15-20	silt & clay	Existing
RFI-09-55S	3/3/2005	15	Flushmount	2	PVC	5 - 15	silt and sand	Existing
RFI-09-55D	3/3/2005	24	Flushmount	2	PVC	18-23	sand, silt, & clay	Existing
RFI-09-56	7/1/2005	11	Flushmount	2	PVC	3-11	clay and sand	Existing
RFI-09-57	7/1/2005	16	Flushmount	2	PVC	3-13	clayey silt and sand	Existing
RFI-09-58	7/14/2005	16	Flushmount	2	PVC	6-16	clayey silt and sand	Existing
RFI-10-01	7/26/2001	17	Flushmount	2	PVC	6-16	silt, sand, & clay	Existing
RFI-10-02	6/27/2001	19	Flushmount	2	PVC	7-17	silt	Existing
RFI-10-03	6/27/2001	19	Flushmount	2	PVC	8-18	silt and sand	Existing
RFI-10-04	7/19/2001	17	Flushmount	2	PVC	5-15	silt and sand	Could not locate (4/05).
RFI-10-05	8/27/2001	20	Flushmount	2	PVC	9.9-19.9	silt, sand, & clay	Existing
RFI-10-06	7/20/2001	17	Flushmount	2	PVC	7-17	silt and sand	Destroyed by railroad track removal.
RFI-10-07	11/9/2001	17	Flushmount	2	PVC	7-17	sand	Existing
RFI-10-08	6/28/2001	19	Flushmount	2	PVC	8-18	silt and sand	Existing
RFI-10-11	7/19/2001	15	Flushmount	2	PVC	4-14	silt and sand	Existing
RFI-10-12	6/27/2001	19	Flushmount	2	PVC	8-18	silt and sand	Existing
RFI-10-15	8/27/2001	18	Flushmount	2	PVC	7.9-17.9	silt and sand	Existing
RFI-10-24	1/23/2002	18	Stick-up	2	PVC	6-16	silt, sand, & clay	Existing
RFI-10-25	1/23/2001	18	Stick-up	2	PVC	6-16	silt, sand, & clay	Existing
RFI-10-26	1/12/2002	16	Flushmount	2	PVC	5-15	sand	Existing
RFI-10-28	10/14/2002	20	Stick-up	2	PVC	8-18	silt and sand	Existing
RFI-10-29	10/14/2002	22	Stick-up	2	PVC	8-18	silt	Existing
RFI-10-30	3/27/2003	14	Flushmount	2	PVC	4-14	silty sand, clay, & silt	Existing
RFI-10-31	3/27/2003	14	Flushmount	2	PVC	4-14	silty sand and sand	Existing
RFI-10-32	3/18/2005	20	Flushmount	2	PVC	9-19	sand	Existing
RFI-10-33	6/28/2005	18	Stick-up	2	PVC	7-17	sand	Existing
RFI-10-34	6/28/2005	18	Stick-up	2	PVC	7-17	sand	Existing
RFI-10-35	6/28/2005	18	Stick-up	2	PVC	7-17	sand and silty clay	Existing
RFI-10-36	6/28/2005	16	Stick-up	2	PVC	6-16	sand and silty clay	Existing
RFI-12-01R	5/14/2001	12	Flushmount	2	PVC	5-15	silt, sand, & clay	Existing
RFI-12-02	7/25/2001	20	Flushmount	2	PVC	10 - 20	silt and clay	Abandoned and decommissioned, replaced by RFI-12-02R

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Well ID	Date Installed	Boring Depth (feet bgs)	Surface Completion	Well Diameter (inches)	Well Material	Screened Interval (feet bgs)	Unit Screened	Well Status
RFI-12-07	5/10/2001	19.7	Flushmount	2	PVC	13 - 18	silty sand	No access - temporary well; Replaced by RFI-12-07R
RFI-12-07R	---	20.1	Flushmount	2	PVC	10-20	silt, sand, & clay	Existing
RFI-12-07R2	12/1/2003	13	Flushmount	2	PVC	3-13	silty sand	Existing
RFI-12-08R	---	20	Flushmount	2	PVC	10-20	silt, sand, & clay	Existing
RFI-12-09	7/26/2001	18	Flushmount	2	PVC	7 - 17	silt, sand, & clay	Existing
RFI-12-09R	12/2/2003	13	Flushmount	2	PVC	3-13	silty sand	Existing
RFI-12-11D	6/5/01 - 6/6/01	25.1	Flushmount	2*	PVC	18 - 23	silt, sand, & clay	Existing
RFI-12-11S	6/6/2001	14.5	Flushmount	2*	PVC	4.5 - 14.5	silt and clay	Existing
RFI-12-12S	6/6/2001	14.5	Flushmount	2*	PVC	4.3-14.3'	silt and clay	Existing
RFI-12-14	5/22/2001	25	Flushmount	2*	PVC	12.5 - 22.5	sand and clay	Existing
RFI-12-14R	12/2/2003	13	Flushmount	2	PVC	3-13	silty sand	Existing
RFI-12-15	6/8/2001	19	Flushmount	2*	PVC	7.8 - 17.8	fill and clay	Existing
RFI-12-21	11/27/2001	20	Flushmount	2	PVC	9.5-19.5	sand and clay	Existing
RFI-12-22	1/30/2002	23	Flushmount	2	PVC	11-21	---	Existing
RFI-12-22R	12/1/2003	13	Flushmount	2	PVC	3-13	silty sand	Existing
RFI-12-23	2/19/2003	18.5	Flushmount	2	PVC	8-18	silty clay	Existing
RFI-12-24	3/28/2003	15.5	Flushmount	2	PVC	5.5-15.5	silty sand	Existing
RFI-12-25	3/28/2003	19	Flushmount	2	PVC	7-17		Existing
RFI-12-26	3/31/2003	21	Flushmount	2	PVC	10-20	silty clay & silt	Existing
RFI-12-27	7/24/2003	15	Flushmount	2	PVC	4 - 14	sand, silty clay	Existing
RFI-12-28	7/23/2003	21.5	Flushmount	2	PVC	11.5-21.5	silty clay	Existing
RFI-12-32	7/25/2003	14	Flushmount	2	PVC	4 - 14	sand, silty clay	Existing
RFI-12-33	8/28/2003	14	Flushmount	2	PVC	4 - 14	silty sand, silty clay	Existing
RFI-12-34	8/28/2003	16	Flushmount	2	PVC	5 - 15	silty clay, silty sand, sand	Existing
RFI-12-35	8/29/2003	17	Flushmount	2	PVC	4.5 - 14.5	silty clay, concrete	Existing
RFI-12-36	4/1/2004	17	Flushmount	2	PVC	4.5 - 14.5	clay & silt	Existing
RFI-12-38	4/5/2004	11	Flushmount	2	PVC	3 - 8	silt and sand	Existing
RFI-12-41	8/23/2004	12	Flushmount	2	PVC	2-12	sandy silt, sand, & clay	Existing
RFI-16-01	5/31/01 - 6/1/01	14	Flushmount	2	PVC	4 - 14	silt and clay	Existing
RFI-16-04	5/18/2001	12	Flushmount	2	PVC	6.8 - 11.8	silt	Abandoned and decommissioned 12/03.
RFI-16-04R	12/8/2003	16	Flushmount	2	PVC	6-16	silt, sand, & clay	Existing
RFI-16-07	6/6/2001	11.5	Flushmount	2*	PVC	1.4 - 11.4	silt	Existing
RFI-16-08	6/7/2001	13.5	Flushmount	2*	PVC	2.5 - 12.5	silt, sand, & clay	Existing
RFI-16-09	6/7/2001	13	Flushmount	2*	PVC	4.5 - 9.5	silt, sand, & clay	Existing
RFI-16-10	6/8/2001	15	Flushmount	2*	PVC	4 - 14	silt, sand, & clay	Existing
RFI-16-11	6/12/2001	15	Flushmount	2	PVC	5 - 15	silt and clay	Existing
RFI-16-12	1/31/2002	15.1	Flushmount	1	PVC	5-15	silt, sand, & clay	Abandoned and decommissioned, replaced by RFI-16-12R
RFI-16-20	12/4/2001	12	Flushmount	2	PVC	6-11	silt	Existing
RFI-16-24	2/18/2003	22	Flushmount	2	PVC	6-16	silty sand	Existing
RFI-16-25	2/18/2003	18	Flushmount	2	PVC	8-18	silty clay & sand	Existing
RFI-17-02	5/14/2001	14	Flushmount	2	PVC	4 - 14	silt, sand, & clay	Existing
RFI-17-02D	7/14/2005	29	Flushmount	2	PVC	14-24	sand	Existing
RFI-21-04	11/6/2001	19	Flushmount	2	PVC	8-18	silt, sand, & clay	Existing
RFI-23-01	5/22/2001	18	Flushmount	2	PVC	4 - 14	silt, sand, & clay	Destroyed, replaced by RFI-23-01R
RFI-23-01R	2/20/2003	16	Flushmount	2	PVC	4-14	silty clay & silty sand	Existing

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RFI-23-02	5/22/2001	18	Flushmount	2	PVC	3.3 - 13.3	silt and clay	Destroyed, replaced by RFI-23-02R
RFI-23-02R	2/20/2003	15	Flushmount	2	PVC	4-14	silty clay	Existing
RFI-36-01	8/21/2001	26	Flushmount	2	PVC	15.1-25.1	silt, sand, & clay	Existing
RFI-36-02	9/17/2001	23	Flushmount	2	PVC	13-23	silt and sand	Existing
RFI-36-03	12/20/2000	20	Flushmount	1.5	PVC	14.5-19.5	sand	Existing
RFI-36-04	12/19/2000	24	Flushmount	1.5	PVC	18.1-23.1	sand	Existing
RFI-36-05	12/18/2000	22	Flushmount	1.5	PVC	17-22	sand	Existing
RFI-36-06	12/19/2000	21	Flushmount	1.5	PVC	16-21	sand	Existing
RFI-36-07	12/20/2000	20	Flushmount	1.5	PVC	15-20	sand and clay	Existing
RFI-36-08	7/17/2001	17	Flushmount	2	PVC	6-16	silt	Existing
RFI-36-09	7/17/2001	16	Flushmount	2	PVC	6-16	silt and sand	Existing
RFI-36-10	7/18/2001	16	Flushmount	2	PVC	6-16	silt and sand	No access - covered with pallets
RFI-36-11	12/21/2000	18	Flushmount	1.5	PVC	10.9-15.9	sand	Existing
RFI-36-12	12/20/2000	14	Flushmount	1.5	PVC	9.2-14.2	silt and sand	Existing
RFI-36-13	7/27/2001	19	Flushmount	2	PVC	9-19	silt	Existing
RFI-36-14	7/16/2001	18	Flushmount	2	PVC	6-16	silt and sand	Existing
RFI-36-15	12/20/2000	20	Flushmount	1.5	PVC	14.5-19.5	silt and sand	Existing
RFI-36-16	12/19-20/00	24	Flushmount	1.5	PVC	16-21	silt, sand, & clay	Existing
RFI-36-17	8/29/2001	22	Stick-up	2	PVC	12-22	silt and sand	Existing
RFI-36-18	8/30/2001	24	Flushmount	2	PVC	14-24	silt and sand	Existing
RFI-36-19	8/28/2001	22	Flushmount	2	PVC	11.5-21.5	silt and sand	Existing
RFI-36-20	8/28/2001	24	Stick-up	2	PVC	12-22	silt and sand	Existing
RFI-36-21	3/27/2001	19	Flushmount	1.5	PVC	13.5-18.5	silt and sand	Existing
RFI-36-22	3/27/2001	18	Flushmount	1.5	PVC	12-17	silt and sand	Existing
RFI-36-23	3/27/2001	18	Flushmount	1.5	PVC	12-17	silt	Existing
RFI-36-24	3/26/2001	17	Flushmount	1.5	PVC	11-16	silt and sand	Existing
RFI-36-25R	12/15/2001	19.5	Flushmount	2	PVC	9.5-19.5	silt and sand	Existing
RFI-36-27	3/26/2001	22	Flushmount	1.5	PVC	16-22	sand	Existing
RFI-36-29	3/28/2001	16.5	Flushmount	1.5	PVC	11.5-16.5	sand	Couldn't locate (3/03), replaced by RFI-36-29R. Located (6/03)
RFI-36-29R	12/15/2001	22	Flushmount	2	PVC	11-21	sand	Existing
RFI-36-31	3/28/2001	16.5	Flushmount	1.5	PVC	11.5-16.5	silt and sand	Could not locate (3/02)
RFI-36-32	3/28/2001	22.5	Flushmount	1.5	PVC	17.5-22.5	sand	Existing
RFI-36-35	3/27/2001	26	Flushmount	2	PVC	15-25	sand	No access - need special tool to open
RFI-36-36	6/29/2001	16	Flushmount	2	PVC	6-16	silt, sand, & clay	Destroyed in trench installation
RFI-36-43	12/15/2001	21	Flushmount	2	PVC	10-20	silt and sand	Existing
RFI-36-44	1/25/2002	19	Stick-up	2	PVC	9-19	silt and sand	Existing
RFI-36-45	1/24/2002	20	Stick-up	2	PVC	10-20	silt and sand	Existing
RFI-36-46	1/10/2002	20	Flushmount	2	PVC	10-20	sand	Existing
RFI-36-47	10/15/2002	24	Stick-up	2	PVC	10-20	silt and sand	Existing
RFI-36-48	10/15/2002	32	Stick-up	2	PVC	16-26	silt and sand	Existing
RFI-36-49	4/5/2003	25	Flushmount	2	PVC	15-25	silty sand	Existing
RFI-36-51	3/26/2003	20	Flushmount	2	PVC	8-20	silty sand	Existing
RFI-36-53	3/19/2005	25	Flushmount	2	PVC	12-22	sand	Existing
RFI-36-54	7/14/2005	20	Stick-up	2	PVC	10-20	sand	Existing
RFI-36-55	7/1/2005	18	Stick-up	2	PVC	7-17	sand	Existing

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RFI-36-56	7/14/2005	18	Stick-up	2	PVC	7-17	sand	Existing
RFI-38-04	8/22/2001	26	Flushmount	2	PVC	15-25	silt and sand	Existing
RFI-38-05	8/24/2001	26	Flushmount	2	PVC	15-25	silt and sand	Existing
RFI-38-06	8/24/2001	22	Flushmount	2	PVC	12-22	silt and sand	Existing
RFI-40-02	1/25/2002	20.1	Flushmount	2	PVC	10-20	silt and clay	Existing
RFI-40-03	---	---	Flushmount	2	PVC	---	---	Existing
RFI-40-03R	1/30/2002	16	Flushmount	2	PVC	6-16	sand and silt	Existing
RFI-40-04	1/15/2002	33	Flushmount	2	PVC	23-33	silt and sand	Existing
RFI-40-07	1/18-1/22/2001	19	Flushmount	2	PVC	9-19	silt and clay	Existing
RFI-40-09	1/25/2002	19	Flushmount	2	PVC	9-19	silt, sand, & clay	Existing
RFI-40-10	1/30/2002	12	Flushmount	2	PVC	7-12	silt, sand, & clay	Abandoned and decommissioned, replaced by RFI-40-10R
RFI-40-10R	2/24/2003	15	Flushmount	2	PVC	5-15	silty clay	Existing
RFI-40-11	2/17/2003	13	Flushmount	2	PVC	7-12	silty clay	Existing
RFI-40-12	3/24/2003	23	Flushmount	2	PVC	12-22	silty clay & sand	Existing
RFI-40-12R	9/2/2003	21	Flushmount	2	PVC	10.8 - 20.8	---	Existing
RFI-40-13	3/25/2003	19.5	Flushmount	2	PVC	9-19	silty clay & sand	Existing
RFI-40-14	3/25/2003	22	Flushmount	2	PVC	10-20	silty clay & sand	Existing
RFI-40-15	4/3/2003	23	Flushmount	2	PVC	11-23	silt and sand	Existing
RFI-40-20	12/16/2004	12	Flushmount	2	PVC	2-12	silty clay & silty gravel	Existing
RFI-40-25	12/22/2004	16	Flushmount	2	PVC	6-16	clay	Existing
RFI-40-26	12/21/2004	22	Flushmount	2	PVC	10-20	silt and clay	Existing
RFI-40-27	12/21/2004	22	Flushmount	2	PVC	12-22	silt and clay	Existing
RFI-44-04	5/16/2001	10	Flushmount	2	PVC	2.8 - 7.8	silt, sand, & clay	Existing
RFI-44-05	5/16/2001	18	Flushmount	2	PVC	8 - 18	silt and clay	Existing
RFI-44-06R	10/16/2002	24	Flushmount	2	PVC	14-24	silt and clay	Existing
RFI-55-01	8/3/2001	17	Flushmount	2	PVC	6-16	silt, sand, & clay	Existing
RFI-55-02	7/27/2001	20	Flushmount	2	PVC	9-19	silt and sand	Existing
RFI-55-09	6/27/2001	21	Flushmount	1	PVC	9-19	silt and sand	Existing
RFI-55-10	1/23/2002	17	Flushmount	2	PVC	6-16	silt and fine sand	Existing
RFI-55-11	9/12/2003	15	Flushmount	2	PVC	5 - 15	silt, silty clay	Existing
RFI-55-12	9/12/2003	17	Flushmount	2	PVC	5 - 15	silt, silty clay, sand	Existing
RFI-65-01	7/27/2001	15	Flushmount	2	PVC	5-15	silt, sand, & clay	Existing
RFI-81-02	9/9/2001	22	Flushmount	1	PVC	12-22	silt	Existing
RFI-81-03	6/21/2001	22	Flushmount	2	PVC	9-19	silt, sand, & clay	Existing
RFI-81-04	1/25/2001	16	Flushmount	1.5	PVC	9-14	sand	---
RFI-81-08	6/21/2001	18	Flushmount	2	PVC	7-17	clay and silt	Existing
RFI-81-09	6/25/2001	18	Flushmount	2	PVC	11-21	silt and sand	Existing
RFI-81-11	6/20/2001	14	Flushmount	2	PVC	4-14	silt, sand, & clay	Existing
RFI-81-12R	6/15/2001	20	Flushmount	2	PVC	8-18	clay and silt	Existing
RFI-81-13	6/27/2001	18	Flushmount	2	PVC	11-16	clay and silt	Existing
RFI-81-21	9/17/2001	20	Flushmount	1	PVC	9-19	silt and sand	No access - PPG property
RFI-81-22	6/22/2001	14	Flushmount	2	PVC	3-13	silt, sand, & clay	Existing
RFI-81-33	1/18/2002	15	Flushmount	2	PVC	9.1-14.1	silt, sand, & clay	Existing
RFI-81-35	1/22/2002	20	Flushmount	2	PVC	10-20	---	Existing
RFI-81-39R	4/5/2003	17	Flushmount	2	PVC	7-17	silty sand	Existing

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RFI-81-49	8/23/2004	15	Flushmount	2	PVC	3-13	silty sand	Existing
RFI-81-50	3/19/2005	15	Flushmount	2	PVC	3-13	sandy clay & sand	Existing
RFI-81-51	3/17/2005	22	Flushmount	2	PVC	10-20	sand and clay	Existing
RFI-83/84-01	6/18/2001	12	Flushmount	2	PVC	2-12	silt, sand, & clay	Existing
RFI-83/84-02	6/18/2001	14	Flushmount	2	PVC	4-14	silt, sand, & clay	Existing
RFI-83/84-04	1/29/2001	18	Flushmount	1.5	PVC	11-16	sand and clay	Existing
RFI-83/84-06	9/12/2001	17	Flushmount	2	PVC	7-17	silt, sand, & clay	Existing
RFI-83/84-07	8/1/2001	19	Flushmount	2	PVC	8.8-18.8	silt and sand	Existing
RFI-83/84-11	6/25/2001	22	Flushmount	2	PVC	5-15	silt and sand	Existing
RFI-83/84-20	1/28/2002	17	Flushmount	2	PVC	6.9-17	sand and clay	Existing
RFI-83/84-27R	12/13/2001	20	Flushmount	2	PVC	10-20	silt and sand	---
RFI-83/84-29	1/17/2002	19	Flushmount	2	PVC	7-17	silt and sand	Existing
RFI-83/84-44	3/16/2003	19	Flushmount	2	PVC	8-18	silty sand & silt	Existing
RFI-83/84-45	3/10/2003	19	Flushmount	2	PVC	8-18	silty sand & silt	Existing
RFI-83/84-46	3/18/2003	18	Flushmount	2	PVC	8-18	silty sand	Existing
RFI-83/84-48	4/7/2003	17.5	Flushmount	2	PVC	7.5-17.5	silty sand & silt	Existing
RFI-83/84-49	4/9/2003	18	Flushmount	2	PVC	8-18	silty clay & sand	Existing
RFI-83/84-51	4/10/2003	17	Flushmount	2	PVC	7-17	silty sand and silt	Existing
RFI-83/84-53	4/11/2003	17	Flushmount	2	PVC	7-17	silty clay & sand	Existing
RFI-83/84-54	4/11/2003	16	Flushmount	2	PVC	6-16	clay, silty sand, & silt	Existing
RFI-84-03D	7/20/2005	46	Flushmount	2	PVC	38-43	sand	Existing
RFI-84-03I	7/20/2005	33	Flushmount	2	PVC	28-33	sand	Existing
RFI-84-03S	7/20/2005	22	Flushmount	2	PVC	12-22	sand and clay	Existing
RFI-84-04D	7/21/2005	50	Flushmount	2	PVC	42.5-47.5	sand	Existing
RFI-84-04I	7/21/2005	34	Flushmount	2	PVC	29-34	sand	Existing
RFI-84-05	5/24/2001	22	Flushmount	2	PVC	8 - 18	silt and clay	Existing
RFI-84-06	5/21/2001	12	Flushmount	2	PVC	6.8 - 11.8	silt, sand, & clay	Destroyed, replaced by RFI-84-06R
RFI-84-06R	2/21/2003	13	Flushmount	2	PVC	3-13	silty clay & sand	Existing
RFI-84-06RD	7/14/2005	22	Flushmount	2	PVC	15-20	sand	Existing
RFI-84-07	6/30/2005	22	Flushmount	2	PVC	11-21	clayey silt	Existing
RFI-84-07D	7/18/2005	31	Flushmount	2	PVC	24-29	sand	Existing
RFI-84-08D	6/29/2005	36	Flushmount	2	PVC	31-36	sand and silt	Existing
RFI-84-08S	6/29/2005	20	Flushmount	2	PVC	10-20	silty clay & clayey silt	Existing
RFI-84-09D	7/15/2005	34	Flushmount	2	PVC	17.5-27.5	sand	Existing
RFI-84-09S	7/16/2005	15	Flushmount	2	PVC	5-15	sand and clay	Existing
RFI-84-10D	7/17/2005	29	Flushmount	2	PVC	16-26	sand and silt	Existing
RFI-84-10S	7/16/2005	13	Flushmount	2	PVC	3-13	clay and silt	Existing
RFI-84-11	7/15/2005	24	Flushmount	2	PVC	3-13	clay & silt & sand	Existing
RFI-85-02R	12/5/2001	18	Flushmount	2	PVC	6.6-16.6	sand and clay	Existing
RFI-85-03	6/20/2001	17	Flushmount	2	PVC	7-17	silt, sand, & clay	Existing
RFI-85-04	7/30/2001	18	Flushmount	2	PVC	11-16	sand and clay	Abandoned and decommissioned, replaced by RFI-85-04R
RFI-85-04R	12/11/2001	26.5	Flushmount	2	PVC	21.5-26.5	---	Existing
RFI-85-05	7/24/2001	24	Flushmount	2	PVC	19-24	silt, sand, & clay	Existing
RFI-85-06	6/22/2001	19	Flushmount	2	PVC	9-19	silt and sand	Destroyed
RFI-85-07	11/7/2001	21	Flushmount	2	PVC	11-21	silt, sand, & clay	Existing

See Notes on Page 13.

TABLE 2-2
MONITORING WELL INVENTORY AND COMPLETION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Date Installed	Boring Depth (feet bgs)	Surface Completion	Well Diameter (inches)	Well Material	Screened Interval (feet bgs)	Unit Screened	Well Status
RFI-85-08	8/23/2002	20	Flushmount	2	PVC	7.5-17.5	silt, sand, & clay	Destroyed by railroad track removal.
RFI-86-01	5/23/2001	24	Flushmount	2	PVC	9-19	sand and clay	Abandoned and decommissioned, replaced by RFI-86-01R
RFI-86-01R	7/27/2001	27	Flushmount	2	PVC	21-26	silt, sand, & clay	Existing
RFI-86-01D	7/27/2001	27	Flushmount	2	PVC	21-25	silty clay & sand	Existing
RFI-86-02	7/31/2001	17	Flushmount	2	PVC	6.8-16.8	silt and sand	Existing
RFI-86-03	6/20/2001	18	Flushmount	2	PVC	5-15	silt, sand, & clay	Existing
RFI-86-04	7/24/2001	15	Flushmount	2	PVC	5-15	silt, sand, & clay	Existing
RFI-86-05	6/20/2001	19	Flushmount	2	PVC	6-16	silt, sand, & clay	Existing
RFI-86-06D	6/15/2001	26	Flushmount	2	PVC	14.5-24.5	silt, sand, & clay	Existing
RFI-86-06S	6/15/2001	15	Flushmount	2	PVC	9.5-14.5	silt and sand	Existing
RFI-86-08R	1/28/2002	20.5	Flushmount	2	PVC	10.3-20.3	silt, sand, & clay	Existing
RFI-86-12	6/15/2001	20	Flushmount	2	PVC	10-20	silt and clay	Could not locate (3/03)
RFI-86-14	1/9/2002	18	Flushmount	2	PVC	9-17	sand	Existing
RFI-86-15	1/12/2002	25	Flushmount	2	PVC	10-20	gravel, sand, and silt	Existing
RFI-86-16	2/27/2003	18	Flushmount	2	PVC	8-10	silty sand & silty clay	Abandoned and decommissioned, replaced by RFI-86-16R
RFI-86-16R	4/1/2003	26	Flushmount	2	PVC	10-20	silty clay, silt, & sand	Existing
RFI-94-02R	2/21/2003	16	Flushmount	2	PVC	10-15	silty clay & sand	Existing
RFI-94-05	5/9/2001	22.5	Flushmount	2	PVC	5.5-15.5	silt	Existing
RFI-94-07	8/21/2002	16	Flushmount	2	PVC	5-15	silt, sand, & clay	Existing
RFI-94-08	12/1/2003	28	Flushmount	2	PVC	20-25	sandy silt	Existing
RFI-94-09	12/5/2003	19	Flushmount	2	PVC	7-17	silty clay, silt, sand, and gravel	Existing
RFI-94-10	12/5/2003	18	Flushmount	2	PVC	7-17	silt	Existing
RFI-94-11	3/17/2005	18	Flushmount	2	PVC	8-18	clay & silt	Existing
RFI-SS-01	8/27/2002	13	Flushmount	2	PVC	2.5-12.5	silt and sand	No access
RFI-SS-02	8/27/2002	13	Flushmount	2	PVC	2.5-12.5	silt, sand, & gravel	Existing
RFI-SS-03	8/26/2002	19	Flushmount	2	PVC	7-17	silt, sand, & clay	Existing
RFI-SS-04	8/29/2002	18	Flushmount	2	PVC	8-18	silt, sand, & clay	Existing
RFI-SS-05	9/3/2002	18	Flushmount	2	PVC	6-16	silt, sand, & clay	Existing
RFI-SS-06	9/3/2002	18	Flushmount	2	PVC	6-16	silt, sand, & clay	No access
RFI-SS-07	9/3/2002	17	Flushmount	2	PVC	6-16	silt, sand, & clay	No access
RFI-SS-08	8/29/2002	18	Flushmount	2	PVC	8-18	silty sand	No access
RFI-SS-09	8/29/2002	18	Flushmount	2	PVC	8-18	silty sand	No access
RW-1-P1	---	---	Flushmount	---	---	---	---	Existing
RW-1-P2	---	---	Flushmount	---	---	---	---	Existing
RW-3A-P1	---	---	Flushmount	---	---	---	---	Existing
RW-3A-P2	---	---	Flushmount	---	---	---	---	Existing
RW-6-P1	---	---	Flushmount	---	---	---	---	Could not locate (3/03); located (6/03) under portable workspace.
RW-07-P1	---	---	Flushmount	---	---	---	---	Existing

Notes:
1. Monitoring wells are constructed with schedule 40 polyvinyl chloride (PVC).
2. bgs = Below ground surface.
3. --- = Not Available.

TABLE 2-3
MONITORING WELL SURVEY DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Date Installed	Michigan State Plane Coordinates		Measuring Point Elevation (feet)
		Northing	Easting	
03-01	3/16/2000	565078.61	13305944.15	---
03-02	3/16/2000	565101.17	13306071.95	743.24
03-03	3/17/2000	565207.62	13306125.84	747.01
04-1	3/8/2000	560302.52	13305169.03	731.03
04-2	3/8/2000	561381.92	13304135.53	730.37
04-3	3/8/2000	562322.92	13304156.27	730.19
04-4	3/9/2000	560372.46	13304193.21	---
04-5	---	560420.84	13305677.45	730.69
07-01	3/15/2000	563339.97	13306417.00	---
07-02	3/15/2000	563679.71	13306467.04	737.19
03-01R	3/28/2004	565096.55	13305981.59	744.90
03-03R	3/30/2004	565209.04	13306124.73	746.47
03-101	---	565247.34	13305946.79	---
03-101R	3/29/2004	565209.17	13305943.03	747.95
03-104	5/8/1990	565309.37	13305949.93	---
03-105	5/7/1990	565284.02	13305985.53	---
03-105R	4/4/2003	565292.34	13305981.64	748.41
03-105R3	3/30/2004	565312.37	13306004.96	747.76
03-106	5/8/1990	565395.75	13305819.04	---
03-109	5/3/1990	565260.68	13306064.19	747.40
03-110	5/3/1990	565143.24	13305982.96	746.95
03-110R	3/29/2004	565146.03	13305989.28	746.76
03-111	5/3/1990	565079.76	13305883.54	744.70
03-112	5/3/1990	565305.89	13305629.73	747.21
03-113	5/3/1990	565128.85	13306127.73	---
03-113R	12/4/2003	---	---	---
03-114	5/4/1990	565307.41	13306178.27	746.49
03-114R	3/4/2003	565294.11	13306176.13	746.72
04-120	9/29/1995	560346.41	13305245.43	750.52
04-121	9/29/1995	560324.69	13305288.42	752.12
04-140	9/29/1995	560338.99	13305387.44	751.06
04-160	10/10/1995	560302.83	13305208.14	729.13
04-302	---	---	---	---
11-120	10/4/1995	564315.66	13304869.41	747.44
11-140	10/4/1995	563314.95	13304791.74	741.78
20-100	10/23/1991	567048.67	13306931.48	750.80
20-101	10/15/1991	566807.25	13306500.71	752.60
20-101R	11/5/2001	566784.36	13306492.88	751.69
20-101RD	8/23/2002	566775.01	13306492.79	752.26
20-102	10/23/1991	566970.64	13306673.99	752.30
20-102R		566970.55	13306673.94	751.68
20-103N	10/24-25/91	566709.22	13306866.23	752.60
20-103S	7/21/1992	566705.8	13306866.75	751.67
20-104	10/11/1991	566431.2	13306563.39	751.00
20-105	10/21-22/91	566529.56	13306736.31	752.10
20-105R	11/21/2001	566522.57	13306799	751.91
20-106	12/18/1992	---	---	---
20-107	---	566382.5	13306154.59	---
20-120	10/16/1991	566725.67	13306014.75	749.45
20-121	9/27/1991	566631.76	13305710.56	753.25
20-122	10/1/1991	566362.57	13305705.89	752.40
20-140	10/2-3/91	566089.48	13305712.29	752.80
20-141	10/10/1991	565978.63	13305696.34	749.25
20-142	10/18/1991	565891.17	13305724.44	749.60
20-143	10/4/1991	565938.74	13305811.38	749.63
20-144	10/7/1991	565843.36	13305973.98	749.90
20-145	10/8/1991	565924.39	13306028.53	749.34
20-146	12/17/1992	566295.94	13306022.7	---
20-160	12/17/1992	566098.03	13306452.2	752.81
20-161	10/15/1991	565922.66	13306450.76	751.90
20-162	12/21/1992	566111.84	13306323.45	---
20-163	12/16/1992	565886.42	13306265.11	750.44
20-163R	3/24/2000	565886.39	13306265.11	750.58
20-164	12/16/1992	565960.79	13306260.46	751.14
20-165	12/21/1992	565958.83	13306167.1	749.97

See Notes on Page 10.

TABLE 2-3
MONITORING WELL SURVEY DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Date Installed	Michigan State Plane Coordinates		Measuring Point Elevation (feet)
		Northing	Easting	
20-167	9/21/1992	566206.32	13306103.58	755.82
20-168	9/28/1992	566145.82	13306102.27	755.87
20-169	9/29/1992	566038.81	13306166.76	753.38
20-170	10/22/1991	565706.23	13306321.01	748.22
20-171	10/8/1991	565725.06	13306129.53	748.20
20-500	7/17/1992	567040.38	13306830.79	750.63
20-500R	12/3/2003	567032.60	13306825.97	750.77
20-501	7/23/1992	567036.05	13306751.76	752.50
20-502	7/22/1992	566934.26	13306720.42	752.30
20-503	7/22/1992	566887.14	13306692.82	752.60
20-504	10/19/1995	565879.82	13306646.03	749.74
20-505D	7/23/1992	566711.21	13306724.37	755.20
20-505S	7/23/1992	---	---	752.00
20-506	7/23/1992	566842.48	13306800.71	751.35
20-FP1	8/7/1998	565973.21	13306352.35	752.17
20-FP10	8/10/1998	565588.10	13306487.17	747.15
20-FP11	5/4/1999	565476.19	13306435.43	743.97
20-FP11R	8/29/2003	565481.23	13306438.45	744.09
20-FP12	5/4/1999	565365.29	13306360.95	742.51
20-FP2	7/30/1998	566007.96	13306205.12	753.51
20-FP4	7/31/1998	565868.13	13306404.22	751.55
20-FP4R	12/4/2003	565862.61	13306383.38	751.25
20-FP5	7/30/1998	565843.24	13305973.8	748.82
20-FP6	7/29/1998	565625.08	13306250.76	747.91
20-FP6R	12/3/2003	565627.49	13306256.92	747.95
20-FP7	7/30/1998	565601.7	13306351.22	748.53
20-FP8	7/30/1998	565715.28	13306447.42	748.73
20-FP9	8/6/1998	565856.04	13306553.02	749.45
20-FP9R	12/4/2003	565861.24	13306556.66	749.21
30-100	10/9/1991	565563.96	13306143.98	747.24
30-120	3/9/1993	565634.98	13305648.46	747.48
30-121	3/9/1993	565390.7	13305624.46	---
30-140	3/9/1993	565118.39	13305567.65	745.88
31-1	6/10/1997	560096.81	13305052.65	735.19
31-2	6/10/1997	560188.53	13305115.23	733.97
31-3	6/10/1997	560156.09	13305035.18	734.44
31-4D	6/5/1997	560211.78	13305034.66	733.87
31-4S	6/10/1997	560209.27	13305034.48	733.90
31-5	3/7/2000	560009.29	13305071.98	736.12
31-6	3/6/2000	560056.37	13305161.25	734.54
31-7	3/6/2000	560112.01	13305293.65	729.75
31-8	3/8/2000	560203.45	13305288.99	730.26
36-100	10/6/1995	568201.58	13307070.05	750.54
36-101	10/6/1995	568975.79	13307196.72	750.11
36-120	10/5/1995	567947.15	13305983.51	754.47
36-121	10/5/1995	568846.2	13306227.68	753.79
36-160	10/9/1995	567688.98	13307017.37	750.12
36-161	10/9/1995	565610.9	13306644.47	745.46
36-FP1	8/5/1998	567841.14	13307026.45	750.60
36-FP2	8/5/1998	567713.93	13307072.25	750.30
36-FP3	8/5/1998	567643.41	13306998.31	749.41
36-FP4	8/3-4/98	567735.83	13306927.17	753.70
36-FP5	8/4/1998	567700.51	13306901.68	753.84
36-FP6	8/6/1998	567516.31	13306978.28	749.51
36-FP7	8/7/1998	567600.57	13307054.07	750.02
36-FP8	5/6/1999	567378.05	13306975.13	748.83
37-01	3/16/2000	566726.04	13306689.56	750.37
38-120	10/6/1995	569666.45	13306781.02	748.43
40-01R	2/13/2003	561686.65	13305940.66	733.98
40-01R2	12/8/2003	---	---	---
40-1	11/8/1996	561685.16	13305947.21	733.43
40-2	11/8/1996	561729.33	13305680	736.47
40-3	12/10/1996	561814.78	13305675.38	737.01
40-301	12/16/1993	561061.12	13305686.15	732.05
40-302	12/16/1993	561106.16	13305645.54	732.96

See Notes on Page 10.

TABLE 2-3
MONITORING WELL SURVEY DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Date Installed	Michigan State Plane Coordinates		Measuring Point Elevation (feet)
		Northing	Easting	
40-303	12/16/1993	561072.28	13305848.56	729.41
40-303R	11/12/2001	561072.8	13305831.77	730.46
40-304	12/16/1993	561045.59	13305783.15	731.11
40-305	12/16/1993	561131.36	13305833.25	731.24
40-4	3/9/2000	561788.64	13305745.7	738.17
40-4R	11/13/2001	561783.6	13305750.8	737.90
40-5	3/9/2000	561676.44	13305685.05	735.84
40-6	3/9/2000	561671.51	13305817.59	735.53
40-6R	2/14/2003	561665.61	13305811.61	735.33
40-7	3/10/2000	561639.78	13305938.65	733.63
40-7R	11/20/2001	561635.2	13305941.08	733.18
40-7R2	2/13/2003	561643.26	13305921.33	735.73
43-100	9/25/1991	566651.29	13305593.77	753.07
43-101	9/27/1991	566545.1	13305614.04	753.50
43-101R	11/8/2001	566567.49	13305609.22	752.60
43-102	3/8/1993	566341.71	13305599.89	752.63
43-103	10/5/1995	566997.98	13305600.45	752.10
43-120	10/3/1995	566357.4	13304972.02	755.29
43-140	10/10/1995	565296.68	13305323.62	750.14
43-141	10/4/1995	565267.29	13304959.44	752.78
43-160	10/1/1991	566080.06	13305605.44	750.43
43-161	10/3/1991	566000.98	13305604.01	750.19
43-162	10/3/1991	565885.54	13305607.11	749.90
43-163	10/16-17/91	565786.01	13305586.72	749.65
43-164	10/21/1991	565726.48	13305579.64	749.59
43-165	3/20/2000	565632.87	13305570.29	749.41
43-166	3/21/2000	565730.07	13305664.25	747.97
43-167	3/20/2000	565874.52	13305675.47	748.43
43-168	3/21/2000	566020.96	13305686.76	750.10
43-169	3/21/2000	566121.03	13305605.94	750.32
43-220	5/13/1994	566840.93	13305330.34	---
43-242	5/10/1994	565683.66	13305246.09	---
44-04	5/16/2001	---	---	730.08
55-1	5/5/1999	566812.19	13305822.93	753.43
55-2	5/5/1999	566822.45	13306067.51	753.06
55-3	5/5/1999	566904.45	13306083.8	753.52
55-4	5/5/1999	567004.75	13305963.59	753.59
55-5	5/6/1999	566820.33	13305734.56	753.94
70-100	9/18/1991	565124.55	13306238.14	742.36
70-101	8/19/1992	564957.18	13306507.61	742.68
70-102	8/19/1992	564867.72	13306492.68	742.75
70-102R	12/4/2003	564888.56	13306494.43	742.56
70-103	8/19/1992	565008.03	13306463.18	743.78
70-104	8/19/1992	564827.54	13306445.35	743.51
70-105	8/19/1992	564798.51	13306445.57	745.15
70-106	10/17/1991	564994.66	13306406.03	743.60
70-107	9/17/1991	564770.57	13306382.09	742.58
70-107R	12/3/2003	564776.42	13306382.60	742.80
70-108	9/18-19/91	564935.15	13306339.49	744.06
70-108R	12/8/2003	564933.29	13306339.39	743.64
70-109	8/19/1992	565048.89	13306263.63	741.60
70-160	10/9/1995	564240.89	13306415.39	739.41
70-161	10/19/1995	565233.68	13306482	743.85
70-162	2/21/1996	565098.21	13306489.49	743.45
70-163	2/21/1996	564951.22	13306646.04	742.59
70-164	2/21/1996	564836.05	13306567.77	742.37
70-165	2/21/1996	564664.3	13306468.21	741.26
83/84-04	1/29/2001	---	---	745.65
83/84-05	7/24/2001	---	---	745.93
83/84-06	9/12/2001	---	---	745.58
83/84-07	7/25-8/1/01	---	---	746.56
83/84-08	7/24/2001	---	---	746.73
83/84-09	7/23/2001	---	---	746.87
84-06R	3/4/2003	561355.69	13306147.41	720.69
84-06R2	7/23/2003	561317.55	13306145.7	---

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Well ID	Date Installed	Michigan State Plane Coordinates		Measuring Point Elevation (feet)
		Northing	Easting	
84-07	3/17/2005	561141.24	13306252.85	727.53
84-07D	7/18/05	561150.83	13306253.82	727.42
84-1	---	---	---	---
84-2	---	---	---	---
84-3	---	---	---	---
84-4	5/8/2001	561168.99	13306085.98	727.25
84-5	5/24/2001	561180.23	13306047.65	727.87
84-6	5/21/2001	561325.42	13306135.85	726.49
84-6R2	7/23/2003	561317.55	13306145.70	727.02
84-6R2D	7/22/05	561325.90	13306145.66	726.80
86-1	6/2/1997	563482.98	13306082.09	743.20
86-100	10/10/1995	563804	13306240.91	740.05
86-2	6/3/1997	563507.18	13306081.6	742.93
86-3	6/3/1997	563492.81	13306008.58	746.31
87-FP1	8/4/1998	563095.88	13306167.25	715.79
87-FP2	8/3/1998	563235.39	13306112.05	742.24
87-FP3	8/3/1998	563246.33	13306209.86	739.07
87-FP4	8/12/1998	563143.01	13306067.88	742.11
87-FP5	8/12/1998	563169.13	13306154.17	741.01
87-FPD2	8/11/1998	563231.47	13306110.96	742.05
87-FPD3	8/11-12/98	563242.19	13306209.9	739.21
88-1*	11/6/1996	564669.9	13305586.68	741.09
88-2	11/6/1996	564599	13305572.27	741.37
88-3*	11/6/1996	564607.84	13305514.81	---
88-4	11/8/1996	564493.45	13305511.8	741.37
88-5	6/2/1997	564636.17	13305527.85	742.08
88-6	6/2/1997	564473.7	13305523.54	741.60
88-7	3/15/2000	564762.06	13305549.83	742.20
88-8	3/12/2000	564409.16	13305518.63	741.53
88-9	3/14/2000	564485.34	13305453.27	741.86
94-100	9/26/1995	561562.8	13306951.02	720.36
94-101	10/23/1995	562249.76	13307387.39	719.84
ACSP-B2AR	8/28/2002	558982.95	13304696.37	738.66
BD01-01	12/3/2001	559350.12	13304299.07	744.29
BD01-02R	8/28/2002	559972.69	13304944.4	736.67
BD01-03	12/3/2001	559583.56	13304940.9	733.49
BD01-04	4/2/2003	559944.3	13304978.56	736.33
GM-1	9/19/1985	564081.53	13307780.35	724.64
GM-10	8/9/1989	564016.16	13307775.19	725.79
GM-11	8/10/1989	---	---	726.29
GM-12	8/8/1989	564014.4	13307003.38	738.62
GM-2	---	564073.41	13307781.5	725.40
GM-3	9/23/1985	564090.89	13307783.09	725.54
GM-4	9/23/1985	564025	13307001.42	738.12
GM-5	---	563996.66	13307006.1	737.05
GM-6	---	564259.64	13307363.1	734.96
GM-7	---	564145.61	13307003.37	739.81
GM-8	---	564101.4	13307001.42	738.71
GM-9	7/31/1986	563948.35	13307768.62	724.39
MW-00-FP6	3/23/2000	563126.98	13306169.9	740.55
MW-00-FP7	3/23/2000	563133.08	13306134.31	740.73
MW-00-FP8	3/22/2000	563137.71	13306098.97	741.43
MW-07-01	---	---	---	732.41
MW-07-02	---	---	---	736.75
MW-16	---	558829.00	13305727.74	713.53
MW-17	---	558964.41	13305813.58	714.54
MW-18	---	559109.52	13305893.00	714.33
MW-19	---	559302.98	13305927.70	712.00
MW-20	---	559451.54	13305992.37	714.02
MW-21	---	559638.06	13306000.72	716.51
MW-22	---	559839.00	13306007.21	719.37
MW-23	---	560065.17	13305978.49	719.89
MW-24	---	559818.95	13305680.50	724.81
MW-25	---	559449.60	13305592.82	722.38
MW-26	---	559101.29	13305490.72	722.18

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		Northing	Easting	
OW-3D	---	564031.65	13306999.55	736.78
OW-3S	---	564034.89	13306999.39	738.34
OW-5	---	563959.97	13307768.36	725.32
RFI-02-05	5/18/2001	562376.22	13305695.45	738.88
RFI-02-07	5/18/2001	562751.91	13306108.28	735.06
RFI-02-08R	--	562954.02	13306144.19	736.07
RFI-02-12	2/24/2003	562165.1	13306012.64	739.05
RFI-02-13	10/16/2002	562647.31	13306291.7	731.44
RFI-02-14	3/17/2005	562006.86	13305984.84	738.78
RFI-02-15	3/21/2005	561987.19	13305980.58	738.74
RFI-02-16	3/22/2005	562009.16	13305949.25	738.66
RFI-02-17	3/22/2005	562027.15	13305989.60	738.67
RFI-02-18	3/22/2005	561962.48	13305976.37	738.69
RFI-02-19	3/22/2005	562092.14	13306000.99	738.54
RFI-02-20	3/24/2005	562179.23	13305934.52	738.30
RFI-02-21	3/22/2005	562241.53	13305951.09	738.50
RFI-02-22	3/23/2005	561930.36	13306184.46	729.77
RFI-02-23	3/24/2005	561943.41	13305972.67	738.57
RFI-02-24	3/24/2015	562107.08	13306203.88	729.88
RFI-03-01	8/1-2/01	565423.87	13305850.44	748.38
RFI-03-02	6/25/2001	565083.74	13306166.78	742.35
RFI-03-03	6/22/2001	564987.08	13306022.7	742.01
RFI-03-04	7/23/2001	565487.54	13306291.14	746.67
RFI-03-15	4/10/2003	565253.11	13306013.04	747.82
RFI-03-15R	3/3/2004	565246.82	13306012.77	747.54
RFI-04-04	6/1/2001	561876.42	13305027.11	738.44
RFI-05-01	6/26/2001	566149.89	13305626.59	750.38
RFI-05-02	1/23/2001	566274.16	13305499.5	754.10
RFI-05-03	6/26/2001	566807.51	13305620.35	752.43
RFI-05-04	1/24/2001	566788.71	13305470.92	754.32
RFI-05-05	1/23/2001	566595.93	13305461.49	754.34
RFI-05-06	7/25-26/01	566372.86	13305594.28	752.13
RFI-05-07	1/24/2001	566936.95	13305313.34	754.38
RFI-05-08	6/27/2001	566961.76	13304944.03	755.77
RFI-05-08R	--	566964.49	13304955.12	755.78
RFI-05-09	6/27/2001	565732.06	13304975.79	751.65
RFI-05-10	1/23/2001	566430.44	13305462.5	754.21
RFI-05-11	1/23/2001	566348.39	13305496.8	754.42
RFI-05-12	1/24/2001	566218.36	13305286.77	754.03
RFI-05-13	1/22/2001	566012.39	13305522.59	754.16
RFI-05-14	1/22/2001	565710.21	13305445.39	754.12
RFI-05-19D*	7/23/2001	565337.57	13305442.85	749.31
RFI-05-19DR	11/7/2001	565330.81	13305450.8	749.48
RFI-05-19S	6/26/2001	565337.75	13305443.96	749.48
RFI-05-20	6/22/2001	565364.93	13305321.57	750.41
RFI-05-21	6/26/2001	565554.79	13305577.26	748.73
RFI-05-21R	--	565558.00	13305577.13	748.52
RFI-05-30	1/10/2002	565329.79	13305553.38	748.54
RFI-05-EAST	---	---	---	---
RFI-05-NORTH	---	---	---	---
RFI-05-SOUTH	---	---	---	---
RFI-07-01	6/22/2001	563375.77	13306676.46	730.94
RFI-07-01R	1/12/2002	563344.61	13306694.28	736.82
RFI-07-01R2	7/25/2003	563345.01	13306694.36	736.00
RFI-07-03	6/14/2001	563659.33	13306888.58	726.74
RFI-07-08	7/30/2001	563062.19	13306928.48	728.12
RFI-09-01	5/29/2001	559602.42	13305517.7	725.15
RFI-09-04	5/30/2001	559224.65	13305418.05	725.92
RFI-09-04R	---	559227.59	13305409.18	725.95
RFI-09-06	5/30/2001	559901.6	13305367.91	727.66
RFI-09-07	5/29/01 - 5/30/01	559948.49	13305603.85	727.51
RFI-09-08	5/29/2001	560189.77	13305655.95	728.45
RFI-09-08D	3/3/2005	560190.67	13305650.51	728.10
RFI-09-09	5/29/2001	560137.69	13305495.75	728.20
RFI-09-09D	3/2/005	560139.05	13305499.86	728.30

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		Northing	Easting	
RFI-09-10	5/29/2001	559790.25	13305453.37	726.45
RFI-09-11	6/11/2001	560158.58	13305417.44	728.85
RFI-09-11D	3/2/2005	560155.86	13305420.16	728.85
RFI-09-12	6/11/2001	560158.14	13305222.4	729.77
RFI-09-13	9/13/2001	560089.51	13305722.09	725.09
RFI-09-14	9/13/2001	559982.95	13305726.37	724.44
RFI-09-32	---	559552.02	13305628.04	723.85
RFI-09-36R	8/20/2002	559648.03	13305503.13	726.06
RFI-09-40R	8/26/2002	560110.24	13305327.11	729.96
RFI-09-44	8/16/2002	560071.15	13305487.49	728.48
RFI-09-45	8/20/2002	560054.75	13305314.73	730.17
RFI-09-46	8/21/2002	560183.56	13305879.75	723.17
RFI-09-47	8/26/2002	560141.86	13305323.22	730.02
RFI-09-48	4/2/2003	560162.7	13306188.8	719.88
RFI-09-49	2/25/2003	559264.82	13305370.65	726.71
RFI-09-49R	3/4/2003	559265.32	13305366.85	726.80
RFI-09-52	7/25/2003	560207.55	13305420.31	---
RFI-09-52	7/28/2003	560207.59	13305420.38	730.28
RFI-09-53	3/3/2005	559134.15	13305386.28	725.48
RFI-09-54D	3/3/2005	560099.17	13305634.27	728.01
RFI-09-54S	3/3/2005	560095.92	13305632.87	728.05
RFI-09-55D	3/3/2005	560023.87	13305618.76	728.10
RFI-09-55S	3/3/2005	560027.07	13305619.67	728.02
RFI-09-56	6/30/05	559131.15	13305211.90	726.93
RFI-09-57	7/1/05	558990.79	13305341.79	724.90
RFI-09-58	7/13/05	558906.37	13305410.15	723.38
RFI-10-01	7/26/2001	566673.26	13306446.66	749.11
RFI-10-02	6/27/2001	566361.12	13306621.08	750.54
RFI-10-03	6/27/2001	566190.41	13306666.7	751.79
RFI-10-04	7/19/2001	566212.9	13306751.79	750.64
RFI-10-05	8/27/2001	566145.61	13307019.19	751.59
RFI-10-06	7/20/2001	566532.11	13306847.14	752.17
RFI-10-07	11/9/2001	566450.04	13306666.25	751.33
RFI-10-08	6/28/2001	566531.77	13306575.36	750.79
RFI-10-11	7/19/2001	565770.49	13306696.85	746.14
RFI-10-12	6/27/2001	566365.98	13306551.84	750.35
RFI-10-15	8/27/2001	566373.2	13307055.55	751.25
RFI-10-24	1/23/2002	565872.90	13307111.51	751.53
RFI-10-25	1/23/2001	565852.07	13307009.78	753.10
RFI-10-26	1/12/2002	565986.27	13306725.82	---
RFI-10-28	10/14/2002	566589.88	13307066.94	754.69
RFI-10-29	10/14/2002	566262.12	13307227.19	752.40
RFI-10-30	3/27/2003	566049.36	13306798.65	745.55
RFI-10-31	3/27/2003	566451.74	13306875.13	746.85
RFI-10-32	3/18/2005	566055.19	13307084.95	754.61
RFI-10-33	6/28/05	566366.46	13306943.72	755.30
RFI-10-34	6/28/05	566181.71	13307266.59	755.77
RFI-10-35	6/28/05	566023.64	13307256.01	755.69
RFI-10-36	6/28/05	565864.26	13307263.33	752.82
RFI-12-01R	5/14/2001	562633.23	13305135.77	741.98
RFI-12-02	7/25/2001	562501.75	13305465.71	742.41
RFI-12-02R	7/25/2001	562501.77	13305467.52	742.10
RFI-12-07	5/10/2001	562441.23	13305312.07	742.43
RFI-12-07R	(Unknown)	562416.47	13305343.63	742.19
RFI-12-07R2	12/1/2003	562416.31	13305349.66	741.95
RFI-12-08R	---	562527.24	13305117.96	742.08
RFI-12-09	7/26/2001	562968.87	13305074.93	742.68
RFI-12-09R	12/2/2003	562971.94	13305079.59	742.30
RFI-12-09R	7/26/2001	562971.94	13305079.59	742.30
RFI-12-11D	6/5/01 - 6/6/01	562942.46	13305110.91	742.09
RFI-12-11S	6/6/2001	562945.44	13305110.88	742.17
RFI-12-12S	6/6/2001	---	---	---
RFI-12-14	5/22/2001	562852.98	13305089.4	742.15
RFI-12-14R	12/2/2003	562853.10	13305093.89	742.20
RFI-12-15	6/8/2001	562407.81	13305499.84	742.13

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		Northing	Easting	
RFI-12-21	11/27/2001	562467.3	13304973.58	---
RFI-12-22	1/30/2002	562618.64	13305312.82	724.00
RFI-12-22R	12/2/2003	562618.58	13305307.02	742.07
RFI-12-23	2/19/2003	562755.84	13305196.88	742.50
RFI-12-24	3/28/2003	562760.37	13305414.38	742.41
RFI-12-25	3/28/2003	562591.61	13305468.99	742.26
RFI-12-26	3/31/2003	562498.08	13305513	742.39
RFI-12-27	7/24/2003	562465.44	13305565.41	737.91
RFI-12-28	7/23/2003	563048.71	13305097.18	742.63
RFI-12-32	7/28/2003	562472.17	13305621.11	738.61
RFI-12-33	8/28/2003	562850.53	13305203.78	743.66
RFI-12-34	8/28/2003	562812.14	13305285.38	744.02
RFI-12-35	8/29/2003	562980.18	13305201.71	---
RFI-12-35	8/29/2003	562980.18	13305201.71	743.83
RFI-12-36	4/1/2004	563031.42	13305192.71	743.89
RFI-12-38	4/5/2004	563093.33	13305116.21	742.39
RFI-12-40	4/5/2004	563090.68	13305068.01	741.47
RFI-12-41	8/23/2004	563198.99	13305110.70	741.56
RFI-16-01	5/31/01 - 6/1/01	561228.46	13305510.63	736.10
RFI-16-04	5/18/2001	561093.41	13305687.53	732.27
RFI-16-04R	12/8/2003	561059.41	13305678.35	732.12
RFI-16-07	6/6/2001	561118.6	13305644.63	733.26
RFI-16-08	6/7/2001	561183.06	13305663.09	733.24
RFI-16-09	6/7/2001	561223.26	13305657.68	733.39
RFI-16-10	6/8/2001	561230.1	13305627.49	736.09
RFI-16-11	6/12/2001	561276.36	13305579.26	736.49
RFI-16-12	1/31/2002	561130.69	13305740.14	735.58
RFI-16-12R	---	561130.79	13305740.25	735.56
RFI-16-20	12/4/2001	561129.65	13305686.09	---
RFI-16-24	2/18/2003	561325.85	13305577.33	736.68
RFI-16-25	2/18/2003	561274.01	13305532.28	736.50
RFI-17-02	5/14/2001	560485.56	13306346.96	720.27
RFI-17-02D	7/14/05	560488.61	13306350.94	720.36
RFI-21-04	11/6/2001	563671.83	13305910.03	746.10
RFI-23-01	5/22/2001	563013.36	13305476.15	742.19
RFI-23-01R	2/20/2003	563019.15	13305487.16	742.05
RFI-23-02	5/22/2001	562895.87	13305606.46	740.37
RFI-23-02R	2/20/2003	562874.47	13305606.43	740.38
RFI-36-01	8/21/2001	568558.92	13306027.27	756.63
RFI-36-02	9/17/2001	568615.89	13307007.02	751.96
RFI-36-03	12/20/2000	567969.8	13307091.08	751.31
RFI-36-04	12/19/2000	568413.93	13306802.24	756.14
RFI-36-05	12/18/2000	568046.67	13306972.1	755.07
RFI-36-06	12/19/2000	568047.09	13306738.15	755.29
RFI-36-07	12/20/2000	567646.52	13306735.24	753.99
RFI-36-08	7/17/2001	567312.98	13306891.18	749.29
RFI-36-09	7/17/2001	567182.91	13306893.14	750.78
RFI-36-10	7/18/2001	567178.02	13306800.38	750.21
RFI-36-11	12/21/2000	567241	13306735.5	752.89
RFI-36-12	12/20/2000	567422.03	13306396.35	753.52
RFI-36-13	7/27/2001	566953.89	13306632.24	751.81
RFI-36-14	7/16/2001	566905.12	13306892.51	750.00
RFI-36-15	12/20/2000	567876.79	13306374.8	754.47
RFI-36-16	12/19-20/00	567963.9	13306554.15	754.87
RFI-36-17	8/29/2001	568281.97	13307453.17	753.93
RFI-36-18	8/30/2001	567949.67	13307448.28	753.12
RFI-36-19	8/28/2001	567519.98	13307356.55	753.31
RFI-36-20	8/28/2001	567365.48	13307195.23	757.01
RFI-36-21	3/27/2001	567883.06	13306850.34	754.64
RFI-36-22	3/27/2001	567808.88	13306655.18	754.37
RFI-36-23	3/27/2001	567761.27	13306516.24	754.20
RFI-36-24	3/26/2001	567686.05	13306390.25	754.05
RFI-36-25R	12/15/2001	567910.82	13306300.17	754.67
RFI-36-27	3/26/2001	568220.29	13306562.62	755.46
RFI-36-29	3/28/2001	567634.3	13306850.93	753.86

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MONITORING WELL SURVEY DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Date Installed	Michigan State Plane Coordinates		Measuring Point Elevation (feet)
		Northing	Easting	
RFI-36-29R	12/15/2001	567621.36	13306850.62	753.72
RFI-36-31	3/28/2001	567556.16	13306670.89	753.51
RFI-36-32	3/28/2001	568531.05	13306648.95	756.28
RFI-36-35	3/27/2001	568218.55	13307055.34	750.05
RFI-36-36	6/29/2001	567564.86	13307039.45	750.19
RFI-36-43	12/15/2001	567440.01	13306888.25	753.26
RFI-36-44	1/25/2002	568048.47	13307267.54	752.45
RFI-36-45	1/24/2002	568336.98	13307301.33	752.83
RFI-36-46	1/10/2002	568470.07	13307128.61	750.13
RFI-36-47	10/15/2002	568742.76	13307373.15	749.26
RFI-36-48	10/15/2002	568498.69	13307612.44	757.71
RFI-36-49	4/5/2003	568347.09	13306670.44	755.94
RFI-36-51	3/26/2003	568355.31	13307172.85	749.48
RFI-36-53	3/19/2005	568327.50	13307535.01	753.25
RFI-36-54	3/19/05	568514.95	13307769.87	756.98
RFI-36-55	7/14/05	568393.96	13307682.80	750.49
RFI-36-56	7/1/05	568053.65	13307581.90	749.97
RFI-38-04	7/1/2005	569654.09	13307320.08	751.58
RFI-38-05	8/24/2001	569661.75	13307100.13	750.79
RFI-38-06	8/24/2001	569667.01	13306861.61	749.43
RFI-40-01R2	---	561685.96	13305938.96	734.05
RFI-40-02	1/25/2002	561518.29	13305771.2	735.35
RFI-40-03	---	---	---	---
RFI-40-03R	1/30/2002	561334.28	13305776.41	735.33
RFI-40-04	1/15/2002	560909.84	13305890.12	731.89
RFI-40-07	1/18-1/22/2001	561505.4	13306168.5	729.35
RFI-40-09	1/25/2002	561512.8	13306020.21	731.85
RFI-40-10	1/30/2002	561456.68	13305809.94	---
RFI-40-10R	2/24/2003	561463.32	13305814.71	735.63
RFI-40-11	2/17/2003	561242.54	13305911	731.22
RFI-40-12	3/24/2003	561595.58	13305941.02	732.96
RFI-40-12R	9/2/2003	---	---	---
RFI-40-13	3/25/2003	561635.06	13305982.55	732.88
RFI-40-14	3/25/2003	561681.48	13305991.21	732.45
RFI-40-15	4/3/2003	561684.55	13305997.94	732.56
RFI-40-16	8/24/2004	561533.21	13305911.75	735.17
RFI-40-17	8/24/2004	561524.75	13305913.37	734.03
RFI-40-18	8/24/2004	561517.27	13305920.57	731.99
RFI-40-20	12/16/2004	561515.41	13305874.30	738.47
RFI-40-25	12/17/2004	561445.91	13305902.84	734.17
RFI-40-26	12/21/2004	561550.15	13305915.98	738.37
RFI-40-27	12/21/2004	561550.73	13305974.85	731.71
RFI-44-04	5/16/2001	560450.3	13305379.74	731.89
RFI-44-05	5/16/2001	560396.21	13305289.67	731.97
RFI-44-06R	10/16/2002	560786.10	13305531.45	731.52
RFI-55-01	8/3/2001	567143.1	13306021.62	751.85
RFI-55-02	7/27/2001	566939.37	13306185.99	752.88
RFI-55-09	6/27/2001	566762.73	13305786.95	753.75
RFI-55-10	1/23/2002	566960.86	13306353.85	751.86
RFI-55-11	---	567080.45	13305892.38	751.69
RFI-55-12	---	567078.06	13305788.47	752.26
RFI-65-01	7/27/2001	564791.64	13305423.84	742.82
RFI-70-107R	---	564776.26	13306382.59	742.75
RFI-70-108R	---	564933.15	13306339.52	743.54
RFI-81-02	9/9/2001	564271.5	13305806.91	745.92
RFI-81-03	6/21/2001	564182.56	13306289.85	745.70
RFI-81-04	1/25/2001	564801.44	13306136.75	745.83
RFI-81-08	6/21/2001	563966.87	13306353.9	741.43
RFI-81-09	6/25/2001	563857.46	13306001.94	745.89
RFI-81-11	6/20/2001	563897.5	13306339.36	740.34
RFI-81-12R	6/15/2001	563494.2	13306419.8	742.60
RFI-81-13	6/27/2001	564497.9	13306302.47	744.61
RFI-81-21	9/17/2001	565334.47	13306865.57	753.80
RFI-81-22	6/22/2001	564732.56	13306473.82	742.58
RFI-81-33	1/18/2002	563853.43	13306495.59	736.94

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MONITORING WELL SURVEY DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Date Installed	Michigan State Plane Coordinates		Measuring Point Elevation (feet)
		Northing	Easting	
RFI-81-35	1/22/2002	564091.81	13305961.93	743.23
RFI-81-39R	4/5/2003	564716.86	13306055	746.07
RFI-81-43	3/3/2004	564775.99	13306344.92	743.76
RFI-81-45	3/3/2004	564689.18	13306371.71	742.87
RFI-81-47	4/2/2004	564509.21	13306391.39	742.38
RFI-81-49	8/23/2004	564449.41	13306388.80	742.71
RFI-81-50	3/19/2005	564579.18	13306483.09	740.60
RFI-81-51	3/19/2005	564030.08	13306346.07	742.35
RFI-83/84-01	6/18/2001	563161.47	13305595.65	741.34
RFI-83/84-02	6/18/2001	563529.77	13305585.27	741.59
RFI-83/84-04	1/29/2001	564054.84	13305401.58	745.51
RFI-83/84-06	9/12/2001	564119.47	13305455.03	745.58
RFI-83/84-07	8/1/2001	564580.43	13305269.82	746.56
RFI-83/84-11	6/25/2001	564480.05	13305564.35	741.61
RFI-83/84-20	1/28/2002	563395.99	13305127.17	745.24
RFI-83/84-27R	12/13/2001	564167.6	13305485.99	745.84
RFI-83/84-29	1/17/2002	564070.89	13305621.53	---
RFI-83/84-44	3/16/2003	564563.84	13305265.89	746.44
RFI-83/84-45	3/10/2003	564582.4	13305247.72	746.57
RFI-83/84-46	3/18/2003	564643.23	13305188.53	746.65
RFI-83/84-48	4/7/2003	564585.53	13305128.3	746.56
RFI-83/84-49	4/9/2003	564014.65	13305496.46	745.53
RFI-83/84-51	4/10/2003	564605.27	13305339.98	742.68
RFI-83/84-53	4/11/2003	563891.02	13305501.34	745.63
RFI-83/84-54	4/11/2003	564792.77	13305030.85	746.65
RFI-84-03D	7/20/05	560822.40	13306218.90	727.20
RFI-84-03I	7/20/05	560827.64	13306219.64	727.13
RFI-84-03S	7/21/05	560823.79	13306222.82	727.23
RFI-84-04D	7/21/05	560972.35	13306082.38	727.08
RFI-84-04I	7/21/04	560971.64	13306087.83	727.23
RFI-84-05	5/24/2001	561223.46	13306273.39	726.63
RFI-84-06	5/21/2001	560433.88	13306117.84	723.26
RFI-84-06R	2/21/2003	560401.27	13306155.18	728.54
RFI-84-06RD	7/14/05	560405.07	13306158.44	720.18
RFI-84-07D	7/18/05	560988.38	13306251.60	727.52
RFI-84-07S	6/30/05	560993.31	13306252.29	727.12
RFI-84-08D	6/29/05	560845.92	13306312.19	727.43
RFI-84-08S	6/29/05	560846.21	13306316.33	727.22
RFI-84-09D	7/15/05	560507.35	13306505.69	719.27
RFI-84-09S	7/16/05	560512.49	13306498.58	719.43
RFI-84-10D	7/15/05	560663.21	13306429.97	718.64
RFI-84-10S	7/16/05	560667.93	13306426.25	718.70
RFI-84-11	7/15/05	560946.93	13306549.04	721.97
RFI-85-02R	12/5/2001	563389.7	13305984.92	---
RFI-85-03	6/20/2001	563392.64	13305888.89	746.21
RFI-85-04	7/30/2001	563158.23	13305814.74	746.00
RFI-85-04R	12/11/2001	563158.2	13305820.7	745.95
RFI-85-05	7/24/2001	563157.04	13305978.46	745.95
RFI-85-06	6/22/2001	563257.26	13306085.31	742.43
RFI-85-07	11/7/2001	563474.26	13306042.61	745.97
RFI-85-08	8/23/2002	563489.17	13305860.97	747.03
RFI-86-01	5/23/2001	563017.73	13306187.67	735.97
RFI-86-01D	7/27/2001	563015.27	13306187.56	735.50
RFI-86-01R	7/27/2001	563015.25	13306187.49	735.50
RFI-86-02	7/31/2001	563154.66	13306221.18	735.65
RFI-86-03	6/20/2001	563314.58	13306250.9	736.62
RFI-86-04	7/24/2001	563438.32	13306266.08	737.29
RFI-86-05	6/20/2001	563493.09	13306103.53	742.47
RFI-86-06D	6/15/2001	563158.06	13306357.65	737.21
RFI-86-06S	6/15/2001	563158.14	13306355.29	737.32
RFI-86-08R	1/28/2002	563362.30	13306188.31	743.25
RFI-86-12	6/15/2001	563008.59	13306072.15	738.11
RFI-86-14	1/9/2002	563142.15	13306560.92	---
RFI-86-15	1/12/2002	562991.20	13306445.44	718.03
RFI-86-16	2/27/2003	563106.92	13306451.02	731.81

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TABLE 2-3
MONITORING WELL SURVEY DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Date Installed	Michigan State Plane Coordinates		Measuring Point Elevation (feet)
		Northing	Easting	
RFI-86-16R	4/1/2003	563108.50	13306456.28	731.76
RFI-94-02R	2/21/2003	561351.09	13306846.93	727.71
RFI-94-05	5/9/2001	561723.65	13306393.62	727.48
RFI-94-07	8/21/2002	561082.04	13306774.72	720.81
RFI-94-08	12/1/2003	561429.49	13306736.36	727.44
RFI-94-09	12/5/2003	561289.14	13306940.18	719.28
RFI-94-10	12/5/2003	561235.34	13306921.68	719.00
RFI-94-11	3/17/2005	561342.26	13306955.55	719.54
RFI-SS-01	8/27/2002	563064.96	13306161.76	716.07
RFI-SS-02	8/27/2002	563081.23	13306166.88	716.18
RFI-SS-03	8/26/2002	563255.96	13306111.89	742.62
RFI-SS-04	8/29/2002	565341.15	13306218.94	745.79
RFI-SS-05	9/3/2002	565340.85	13306202.93	746.05
RFI-SS-06	9/3/2002	565341.08	13306232.43	745.94
RFI-SS-07	9/3/2002	565343.2494	13306232.23	---
RFI-SS-08	8/29/2002	566223.51	13305595.12	750.98
RFI-SS-09	8/29/2002	566221.5886	13305607.41	---
RW-07-P1	---	565939.56	13306290.34	753.23
RW-1		567623.81	13307056.38	749.92
RW-1-P1	---	566343.29	13305719.77	751.11
RW-1-P2	---	565937.98	13306259.75	751.30
RW-2		567593.80	13307049.69	749.65
RW-3		567572.37	13307046.52	749.46
RW-3A-P1	---	566393.78	13306457.85	750.73
RW-3A-P2	---	566408.24	13306457.5	750.40
RW-6-P1	---	---	---	---
RW-6-P1		566499.27	13306093.73	753.39

Notes:
1. --- = Not Available.
2. Michigan State Plane Coordinates (South Zone 2113) are referenced to the North American Datum (NAD) of 1983.
3. Survey elevations are relative to the North American Vertical Datum (NAVD) of 1988.
MW03-105 and MW03-114R have been abandoned.

TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
02-A	RFI-02-01(1-2)	5/9/2001	X	X	X	X	
02-A	RFI-02-01(8-10)	5/9/2001	X	X	X	X	
02-B	RFI-02-02(0.5-02)	5/9/2001	X	X	X	X	
02-B	RFI-02-02(8-10)	5/9/2001	X	X	X	X	
02-B	RFI-02-12(1.2-3.2)	2/24/2003	X	X	X	X	
02-B	RFI-02-12(7-9)	2/24/2003	X	X	X	X	
02-B	RFI-02-14(2-4)	3/8/2005	X	X	X	X	
02-B	RFI-02-14(8-10)	3/8/2005	X	X	X	X	
02-B	RFI-2-19(1.7-4)	3/22/2005	X	X	X	X	
02-B	RFI-2-19(8-10)	3/22/2005	X	X	X	X	
02-B	RFI-2-20(1.5-3.5)	3/23/2005	X	X	X	X	
02-B	RFI-2-20(8-10)	3/23/2005	X	X	X	X	
02-B	RFI-2-21(1.5-3.5)	3/23/2005	X	X	X	X	
02-B	RFI-2-21(8-10)	3/23/2005	X	X	X	X	
02-B	RFI-2-22(0-3)	3/23/2005	X	X	X	X	
02-B	RFI-2-22(8-10)	3/23/2005	X	X	X	X	
02-B	RFI-2-22(11-13)	3/23/2005	X	X	X	X	
02-B	RFI-2-23(1.7-3.7)	3/24/2005	X	X	X	X	
02-B	RFI-2-23(8-10)	3/24/2005	X	X	X	X	
02-B	RFI-2-24(1.3-3.3)	3/24/2005	X	X	X	X	
02-B	RFI-2-24(8-10)	3/24/2005	X	X	X	X	
02-B	RFI-02-DUP-417	2/24/2003	X	X	X	X	Duplicate of RFI-02-12(7-9)
02-B	Dup1(032305)	3/23/2005	X	X	X	X	Duplicate of RFI-2-22(8-10)
02-C	RFI-02-03(0.9-02)	5/9/2001	X	X	X	X	
02-C	RFI-02-03(8-10)	5/9/2001	X	X	X	X	
02-C	RFI-02-03R(0-2)	3/7/2005				Cr(III, VI, total)	
02-C	RFI-02-09(1.7-3.7)	9/7/2001				Pb	
02-C	RFI-02-10(1.3-3.3)	9/7/2001				Pb	
02-C	RFI-02-11(1.7-3.7)	9/7/2001				Pb	
02-C	Duplicate 1 (030705)	3/7/2005				Cr(III, VI, total)	Duplicate of RFI-02-03R(0-2)
02-D	RFI-02-04(1.1-02)	5/10/2001	X	X	X	X	
02-D	RFI-02-04(6-8)	5/10/2001	X	X	X	X	
02-D	RFI-02-04(8-10)	5/10/2001	X	X	X	X	
02-D	RFI-02-04(6-8)DUP	5/10/2001	X				Duplicate of RFI-02-04(06-08)
02-E	RFI-02-05(0.7-2)	5/18/2001	X	X	X	X	
02-E	RFI-02-05(2-4)	5/18/2001	X	X	X	X	
02-F	RFI-02-06(0.7-2)	5/10/2001	X	X	X	X	
02-F	RFI-02-06(2-4)	5/10/2001	X	X	X	X	
02-F	RFI-02-06(8-10)	5/11/2001	X	X	X	X	
02-F	RFI-02-06(10-12)	5/11/2001	X	X	X	X	
02-F	RFI-02-07(0.9-2)	5/18/2001	X	X	X	X	
02-F	RFI-02-07(4-6)	5/18/2001	X	X	X	X	
02-F	RFI-02-07(6-8)	5/18/2001	X	X	X	X	
02-F	RFI-02-13(0.5-2.5)	10/16/2002	X	X	X	X	
02-F	RFI-02-DUP-05	5/11/2001	X	X	X	X	Duplicate of RFI-02-06(10-12)
02-F	RFI-02-DUP-13	5/18/2001	X	X	X	X	Duplicate of RFI-02-07(04-06)
03-1	RFI-03-01(2-4)	8/2/2001	X	X	X	X	
03-1	RFI-03-01(8-10)	8/2/2001	X	X	X	X	
03-1	RFI-03-01(10-12)	8/2/2001	X	X	X	X	
03-1	RFI-03-02(1-3)	6/25/2001	X	X	X	X	
03-1	RFI-03-02(305)	6/25/2001	X	X	X	X	
03-1	RFI-03-02(5-7)	6/25/2001	X	X	X	X	
03-1	RFI-03-03(0-2)	6/22/2001	X	X	X	X	
03-1	RFI-03-04(0.5-2.5)	7/23/2001	X	X	X	X	
03-1	RFI-03-04(4.5-6.5)	7/23/2001	X	X	X	X	
03-1	RFI-03-05(0.5-2.5)	11/29/2001				Mn	
03-1	RFI-03-06(0.5-2.5)	11/29/2001				Mn	
03-1	RFI-03-07(1-3)	11/29/2001				Mn	
03-1	RFI-03-08(0.5-2.5)	11/29/2001				Mn	
03-1	RFI-03-09(0-2)	8/23/2002				Mn	
03-1	RFI-03-10(0-2)	8/23/2002				Mn	
03-1	RFI-03-11(0-2)	3/7/2003				Mn	
03-1	RFI-03-12(0.8-2.8)	3/11/2003				Mn	
03-1	RFI-03-13(0.8-2.8)	3/11/2003				Mn	
03-1	RFI-03-14(0.8-2.8)	3/11/2003				Mn	
03-1	RFI-03-15(0.9-2.9)	4/10/2003	X	X	X	X	

See Notes on Page 21.

TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI ID	Sample ID	Date Collected	Analyzed Parameters*				Notes
			VOC	SVOC	PCB	Inorg	
03-1	RFI-03-15(6.9-8.9)	4/10/2003	X	X	X	X	
03-1	RFI-03-DUP-33	6/25/2001	X	X	X	X	Duplicate of RFI-03-02(05-07)
03-1	RFI-03-DUP-440	4/10/2003	X	X	X	X	Duplicate of RFI-03-15(6.9-8.9)
04-A	RFI-04-01(1-3)	6/4/2001	X	X	X	X	
04-A	RFI-04-01(9-11)	6/4/2001	X	X	X	X	
04-B	RFI-04-02(0.7-2.7)	6/4/2001	X	X	X	X	
04-B	RFI-04-02(8.7-10.7)	6/4/2001	X	X	X	X	
04-B	RFI-04-03(0.8-2.8)	6/1/2001	X	X	X	X	
04-B	RFI-04-03(7-9)	6/4/2001	X	X	X	X	
04-B	RFI-04-03(9-11)	6/4/2001	X	X	X	X	
04-B	RFI-04-DUP-18	6/4/2001	X	X	X	X	Duplicate of RFI-04-03(7-9)
04-C	RFI-04-04(1.3-2.1)	6/1/2001	X	X	X	X	
04-C	RFI-04-04(3.1-5.1)	6/1/2001	X	X	X	X	
04-C	RFI-04-04(5.1-7.1)	6/1/2001	X	X	X	X	
04-C	RFI-04-DUP-17	6/1/2001	X	X	X	X	Duplicate of RFI-04-04(5.1-7.1)
05-1	RFI-05-13(0-2)	1/26/2001	X	X	X	X	
05-1	RFI-05-13(8-10)	1/22/2001	X	X	X	X	
05-1	RFI-05-13(10-12)	1/22/2001	X	X	X	X	
05-1	RFI-05-14(0-2)	1/26/2001	X	X	X	X	
05-1	RFI-05-14(8-10)	1/22/2001	X	X	X	X	
05-1	RFI-05-14(10-12)	1/22/2001	X	X	X	X	
05-1	RFI-05-21(0-2)	6/26/2001	X	X	X	X	
05-1	RFI-05-21(6-8)	6/26/2001	X	X	X	X	
05-1	RFI-05-22(0.5-2.5)	11/26/2001				Pb	
05-1	RFI-05-22(4-6)	11/26/2001	X	X	X	X	
05-1	RFI-05-23(1.3-3.0)	11/26/2001				Pb	
05-1	RFI-05-23(4-6)	11/26/2001	X	X	X	X	
05-1	RFI-05-24(1-3)	11/26/2001				Pb	
05-1	RFI-05-24(3-5)	11/26/2001				Pb	
05-1	RFI-05-25(0-2)	11/30/2001	X	X	X	X	
05-2	RFI-05-01(1-3)	6/26/2001	X	X	X	X	
05-2	RFI-05-01(7-9)	6/26/2001	X	X	X	X	
05-2	RFI-05-02(0-2)	1/26/2001	X	X	X	X	
05-2	RFI-05-02(8-10)	1/23/2001	X	X		X	
05-2	RFI-05-02(10-12)	1/23/2001	X	X		X	
05-2	RFI-DUP-3	1/23/2001	X	X		X	Duplicate of RFI-05-02(8-10)
05-3	43-101R(0.5-02)	11/5/2001	X	X	X	X	
05-3	43-101R(8-10)	11/5/2001	X	X	X	X	
05-3	RFI-05-03(0.6-2.6)	6/26/2001	X	X	X	X	
05-3	RFI-05-03(8.6-10.6)	6/26/2001	X	X	X	X	
05-3	RFI-05-04(0-2)	1/26/2001	X	X		X	
05-3	RFI-05-04(8-10)	1/24/2001	X	X		X	
05-3	RFI-05-05(0-02)	1/26/2001	X	X		X	
05-3	RFI-05-05(8-10)	1/23/2001	X	X	X	X	
05-3	RFI-05-05(10-12)	1/23/2001	X	X	X	X	
05-3	RFI-05-06(0-2)	7/25/2001	X	X	X	X	
05-3	RFI-05-06(8-10)	7/25/2001	X	X	X	X	
05-4	RFI-05-07(0-2)	1/26/2001	X	X		X	
05-4	RFI-05-07(8-10)	1/24/2001	X	X		X	
05-4	RFI-05-07(10-12)	1/24/2001	X	X		X	
05-5	RFI-05-08(0.7-2.7)	6/27/2001	X	X	X	X	
05-5	RFI-05-08(2.7-4.7)	6/27/2001	X	X	X	X	
05-5	RFI-05-10(0-2)	1/26/2001	X	X	X	X	
05-5	RFI-05-10(8-10)	1/23/2001	X	X	X	X	
05-5	RFI-05-10(10-12)	1/23/2001	X	X	X	X	
05-5	RFI-05-11(0-2)	1/26/2001	X	X	X	X	
05-5	RFI-05-11(8-10)	1/23/2001	X	X	X	X	
05-5	RFI-05-11(10-12)	1/23/2001	X	X	X	X	
05-5	RFI-05-12(0-2)	1/26/2001	X	X	X	X	
05-5	RFI-05-12(8-10)	1/24/2001	X	X	X	X	
05-5	RFI-05-12(10-12)	1/24/2001	X	X	X	X	
05-5	RFI-05-15(0.9-2.9)	9/8/2001	X	X	X	X	
05-5	RFI-05-15(6.9-8.9)	9/8/2001	X	X	X	X	
05-5	RFI-05-DUP-34	6/27/2001	X	X	X	X	Duplicate of RFI-05-08(2.7-4.7)
05-5	RFI-DUP-1	1/23/2001	X	X	X	X	Duplicate of RFI-05-10(10-12)
05-5	RFI-05-DUP-55	9/8/2001	X	X	X	X	Duplicate of RFI-05-15(0.9-2.9)

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TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

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GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI ID	Sample ID	Date Collected	Analyzed Parameters*				Notes
			VOC	SVOC	PCB	Inorg	
05-6	RFI-05-09(0.2-2.2)	6/27/2001	X	X	X	X	
05-6	RFI-05-09(6.2-8.2)	6/27/2001	X	X	X	X	
05-6	RFI-05-16(0.8-2.8)	9/8/2001	X	X	X	X	
05-6	RFI-05-16(8.8-10.8)	9/8/2001	X	X	X	X	
05-6	RFI-05-16(10.8-12.8)	9/8/2001	X	X	X	X	
05-6	RFI-05-17(0.9-2.9)	9/8/2001	X	X	X	X	
05-6	RFI-05-17(8.9-10.9)	9/8/2001	X	X	X	X	
05-6	RFI-05-17(10.9-12.9)	9/8/2001	X	X	X	X	
05-6	RFI-05-18(0.9-2.9)	9/8/2001	X	X	X	X	
05-6	RFI-05-18(6.9-8.9)	9/8/2001	X	X	X	X	
05-6	RFI-05-18(8.9-10.9)	9/8/2001	X	X	X	X	
05-6	RFI-05-19S(0.8-2.8)	6/26/2001	X	X	X	X	
05-6	RFI-05-19S(6.8-8.8)	6/26/2001	X	X	X	X	
05-6	RFI-05-20(0.7-2.7)	6/22/2001	X	X	X	X	
05-6	RFI-05-20(6.7-8.6)	6/22/2001	X	X	X	X	
05-6	RFI-05-26(7-9)	4/12/2002				Pb	
05-6	RFI-05-27(7-9)	12/10/2001				Pb	
05-6	RFI-05-29(7-9)	12/10/2001				Pb	
05-6	RFI-05-30(0-2)	1/10/2002	X	X	X	X	
05-6	RFI-05-30(6-8)	1/10/2002	X	X	X	X	
05-6	RFI-05-31(7-9)	3/11/2003				Pb	
05-6	RFI-05-DUP-56	9/8/2001	X	X	X	X	Duplicate of RFI-05-17(10.9-12.9)
07-1	RFI-07-01(0.3-2.3)	6/13/2001	X	X	X	X	
07-1	RFI-07-01(2.3-4.3)	6/13/2001	X	X	X	X	
07-1	RFI-07-01R(04-06)	7/25/2003	X	X	X	X	
07-1	RFI-07-02(0.8-2.8)	6/13/2001	X	X	X	X	
07-1	RFI-07-02(2.8-4.8)	6/13/2001	X	X	X	X	
07-1	RFI-07-03(0-2)	6/14/2001	X	X	X	X	
07-1	RFI-07-04(0-2)	6/14/2001	X	X	X	X	
07-1	RFI-07-04(04-06)	6/14/2001	X	X	X	X	
07-1	RFI-07-09(0-2)	6/14/2001	X	X	X	X	
07-1	RFI-07-10(0-2)	3/19/2003	X	X	X	X	
07-1	RFI-07-10(6-8)	3/19/2003	X	X	X	X	
07-1	RFI-07-11(0-2)	3/18/2003	X	X	X	X	
07-1	RFI-07-11(8-10)	3/24/2003	X	X	X	X	
07-1	RFI-07-11(12-14)	3/24/2003	X	X	X	X	
07-2	RFI-07-05(1-3)	6/14/2001	X	X	X	X	
07-2	RFI-07-05(5-7)	6/14/2001	X	X	X	X	
07-2	RFI-07-05(9-11)	6/14/2001	X	X	X	X	
07-2	RFI-07-DUP-25	6/14/2001	X	X	X	X	Duplicate of RFI-07-05(05-07)
07-3	RFI-07-06(0.5-2.5)	7/20/2001	X	X	X	X	
07-3	RFI-07-06(6.5-8.5)	7/20/2001	X	X	X	X	
07-3	RFI-07-07(0.5-2.5)	7/20/2001	X	X	X	X	
07-3	RFI-07-07(8.5-10.5)	7/20/2001	X	X	X	X	
07-3	RFI-07-07(14.5-16.5)	7/20/2001	X	X	X	X	
07-3	RFI-07-08(0-2)	7/30/2001	X	X	X	X	
07-3	RFI-07-08(8-10)	7/30/2001	X	X	X	X	
07-3	RFI-07-08(10-12)	7/30/2001	X	X	X	X	
09-A	RFI-09-01(1-3)	5/29/2001	X	X	X	X	
09-A	RFI-09-01R(04-06)	2/26/2003				Pb	
09-A	RFI-09-01R(6-8)	2/26/2003				Pb	
09-A	RFI-09-01R(8-10)	2/26/2003				Pb	
09-A	RFI-09-02(0.4-02)	5/16/2001	X	X	X	X	
09-A	RFI-09-02(2-4)	5/16/2001	X	X	X	X	
09-A	RFI-09-03(0.4-02)	5/16/2001	X	X	X	X	
09-A	RFI-09-03(2-4)	5/16/2001	X	X	X	X	
09-A	RFI-09-03R(0.5-2.5)	2/26/2003		X			
09-A	RFI-09-04(0-2)	5/30/2001	X	X	X	X	
09-A	RFI-09-04(2-4)	5/30/2001	X	X	X	X	
09-A	RFI-09-15(0.5-1.5)	9/4/2001	X	X	X	Pb	
09-A	RFI-09-15(1.9-3.9)	9/4/2001	X	X	X	Pb	
09-A	RFI-09-16(1-3)	9/4/2001			X	Pb	
09-A	RFI-09-17(1-3)	4/9/2003				Pb	
09-A	RFI-09-18(1-3)	9/4/2001			X	Pb	
09-A	RFI-09-19(0.5-2.5)	9/4/2001		X			
09-A	RFI-09-20(0.5-2.5)	9/4/2001		X			

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TABLE 2-4
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			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
09-A	RFI-09-21(0.5-2.5)	9/4/2001		X			
09-A	RFI-09-22(0-2)	9/4/2001				Mn	
09-A	RFI-09-22(2-4)	9/4/2001				Mn	
09-A	RFI-09-23(0-2)	9/4/2001				Mn	
09-A	RFI-09-23(2-4)	9/4/2001	X	X	X	Mn	
09-A	RFI-09-24(0-2)	9/4/2001				Mn	
09-A	RFI-09-24(2-4)	9/4/2001				Mn	
09-A	RFI-09-25(0-2)	9/4/2001				Mn	
09-A	RFI-09-25(2-4)	9/4/2001				Mn	
09-A	RFI-09-33(0.5-2.0)	8/20/2002				Mn	
09-A	RFI-09-33(3-5)	8/20/2002				Mn	
09-A	RFI-09-33(05-6.8)	8/20/2002				Mn	
09-A	RFI-09-34(0-2)	8/20/2002				Mn	
09-A	RFI-09-34(2-4)	8/20/2002				Mn	
09-A	RFI-09-35(0-2)	8/20/2002				Mn	
09-A	RFI-09-35(2-4)	8/20/2002				Mn	
09-A	RFI-09-36R(0.3-2.3)	8/20/2002	X	X	X	X	
09-A	RFI-09-36R(2.3-4.3)	8/20/2002	X	X	X	X	
09-A	RFI-09-37(0.5-2.5)	10/11/2002				Pb	
09-A	RFI-09-37(2.5-4.5)	10/11/2002				Pb	
09-A	RFI-09-38(0.7-2.7)	8/21/2002				Pb	
09-A	RFI-09-38(2.7-4.7)	8/21/2002				Pb	
09-A	RFI-09-39(0.5-2.5)	8/20/2002				Pb	
09-A	RFI-09-39(2.5-4.5)	8/20/2002				Pb	
09-A	RFI-09-49(0-2)	2/25/2003	X	X	X	X	
09-A	RFI-09-49(04-06)	2/25/2003	X	X	X	X	
09-A	RFI-09-50(0.5-2.5)	2/26/2003				Pb	
09-A	RFI-09-50(2.5-4.5)	2/26/2003	X			Pb	
09-A	RFI-09-51(1-3)	4/9/2003				Pb	
09-A	RFI-09-53(0-2)	3/4/2005	X	X	X	X	
09-A	RFI-09-53(8-10)	3/4/2005	X	X	X	X	
09-A	RFI-09-56(0-2)	6/30/2005	X	X	X	X	
09-A	RFI-09-56(2-4)	6/30/2005	X	X	X	X	
09-A	RFI-09-57(0-2)	7/1/2005	X	X	X	X	
09-A	RFI-09-57(4-6)	7/1/2005	X	X	X	X	
09-A	RFI-09-58(0-2)	7/13/2005	X	X	X	X	
09-A	RFI-09-58(8-10)	7/13/2005	X	X	X	X	
09-A	RFI-09-DUP-53	9/4/2001				Mn	Duplicate of RFI-09-24(02-04)
09-A	Dup-RFI-09-57(4-6)	7/1/2005	X	X	X	X	Duplicate of RFI-09-57(4-6)
09-B	RFI-09-05(0.5-02)	5/16/2001	X	X	X	X	
09-B	RFI-09-05(6-8)	5/16/2001	X	X	X	X	
09-B	RFI-09-06(0.5-2.5)	5/30/2001	X	X	X	X	
09-B	RFI-09-06(2.5-4.5)	5/30/2001	X	X	X	X	
09-B	RFI-09-07(1-3)	5/29/2001	X	X	X	X	
09-B	RFI-09-07(3-5)	5/29/2001	X	X	X	X	
09-B	RFI-09-08(1-3)	5/29/2001	X	X	X	X	
09-B	RFI-09-08(5-7)	5/29/2001	X	X	X	X	
09-B	RFI-09-09(0.7-2.7)	5/29/2001	X	X	X	X	
09-B	RFI-09-09(4.7-6.7)	5/29/2001	X	X	X	X	
09-B	RFI-09-10(0.8-02)	6/15/2001	X	X	X	X	
09-B	RFI-09-11(0.5-2.5)	6/11/2001	X	X	X	X	
09-B	RFI-09-11(2.5-4.5)	6/11/2001	X	X	X	X	
09-B	RFI-09-12(0.6-2.6)	6/11/2001	X	X	X	X	
09-B	RFI-09-12(6-8)	6/11/2001	X	X	X	X	
09-B	RFI-09-13(0-2)	9/13/2001	X			Ba, Pb	
09-B	RFI-09-13(04-06)	9/13/2001	X			Ba, Pb	
09-B	RFI-09-13(6-8)	9/13/2001	X			Ba, Pb	
09-B	RFI-09-14(0-2)	9/13/2001	X			Ba, Pb	
09-B	RFI-09-14(2-4)	9/13/2001	X			Ba, Pb	
09-B	RFI-09-14(6-8)	9/13/2001	X			Ba, Pb	
09-B	RFI-09-26(0.7-2.7)	9/5/2001			X		
09-B	RFI-09-27(0.7-2.7)	9/4/2001			X		
09-B	RFI-09-28(0.5-2.5)	9/5/2001	X	X	X		
09-B	RFI-09-29(0.3-1.7)	9/5/2001			X		
09-B	RFI-09-40(0.7-1.9)	8/15/2002	X	X	X	X	
09-B	RFI-09-41(0.7-2.7)	8/16/2002	X	X	X	X	

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TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

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			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
09-B	RFI-09-41(2.7-4.7)	8/16/2002	X	X	X	X	
09-B	RFI-09-41(4.7-6.6)	8/16/2002	X	X	X	X	
09-B	RFI-09-42(0.7-2.7)	8/16/2002	X	X	X	X	
09-B	RFI-09-42(2.7-4.7)	8/16/2002	X	X	X	X	
09-B	RFI-09-42(4.7-6.7)	8/16/2002	X	X	X	X	
09-B	RFI-09-43(0.7-2.7)	8/16/2002	X	X	X	X	
09-B	RFI-09-43(2.7-4.7)	8/16/2002	X	X	X	X	
09-B	RFI-09-43(4.7-6.7)	8/16/2002	X	X	X	X	
09-B	RFI-09-44(0.7-2.7)	8/16/2002	X	X	X	X	
09-B	RFI-09-44(2.7-4.7)	8/16/2002	X	X	X	X	
09-B	RFI-09-45(0.5-2.5)	8/20/2002	X	X	X	X	
09-B	RFI-09-45(2.5-4.5)	8/20/2002	X	X	X	X	
09-B	RFI-09-45R(0.3-2.3)	2/26/2003		X			
09-B	RFI-09-46(00-0.5)	8/21/2002	X	X	X	X	
09-B	RFI-09-46(3-5)	8/21/2002	X	X	X	X	
09-B	RFI-09-46(5-7)	8/21/2002	X	X	X	X	
09-B	RFI-09-47(0.7-2.7)	8/26/2002	X	X	X	X	
09-B	RFI-09-47(2.7-4.7)	8/26/2002	X	X	X	X	
09-B	RFI-09-47(4.7-6.7)	8/26/2002	X	X	X	X	
09-B	RFI-09-48(0.5-2.5)	4/2/2003	X	X	X	X	
09-B	RFI-09-48(8.5-10.5)	4/2/2003	X	X	X	X	
09-B	RFI-09-52(0.5-2.5)	7/28/2003	X	X	X	X	
09-B	RFI-09-52(2.5-4.5)	7/28/2003	X	X	X	X	
09-B	RFI-09-52(4.5-6.5)	7/28/2003	X	X	X	X	
09-B	RFI-09-DUP-13	5/16/2001	X	X	X	X	Duplicate of RFI-09-05(0.5-02)
09-B	RFI-09-DUP-16	5/29/2001	X	X	X	X	Duplicate of RFI-09-07(03-05)
09-B	RFI-09-DUP-22	6/11/2001	X	X	X	X	Duplicate of RFI-09-12(06-08)
09-B	RFI-09-DUP-59	9/13/2001	X			Ba, Pb	Duplicate of RFI-09-14(02-04)
09-B	RFI-09-DUP-411	8/16/2002	X	X	X	X	Duplicate of RFI-09-42(4.7-6.7)
09-B	RFI-09-DUP-412	8/21/2002	X	X	X	X	Duplicate of RFI-09-46(03-05)
09-B	RFI-09-DUP-413	8/26/2002	X	X	X	X	Duplicate of RFI-09-47(2.7-4.7)
10-1	RFI-10-01(0.7-2.5)	7/20/2001	X	X	X	X	
10-1	RFI-10-01(1-3)	7/26/2001	X	X	X	X	
10-1	RFI-10-01(5-7)	7/26/2001	X	X	X	X	
10-1	RFI-10-01(9-11)	7/20/2001	X	X	X	X	
10-1	RFI-10-16(1.9-3.9)	12/11/2001				Pb	
10-1	RFI-10-16(3.9-5.9)	12/11/2001				Pb	
10-1	RFI-10-17(1-3)	11/30/2001				Pb	
10-1	RFI-10-17(3-5)	11/30/2001				Pb	
10-1	RFI-10-18(1.3-3.3)	11/30/2001	X	X	X	X	
10-1	RFI-10-18(3.3-5.3)	11/30/2001	X	X	X	X	
10-1	RFI-10-19(2-4)	11/30/2001				Pb	
10-1	RFI-10-19(04-06)	11/30/2001				Pb	
10-1	RFI-10-27(1-3)	1/15/2002	X	X	X	X	
10-1	RFI-10-27(7-9)	1/15/2002	X	X	X	X	
10-1	RFI-10-27(9-11)	1/15/2002	X	X	X	X	
10-1	RFI-10-Dup-41	7/26/2001	X	X	X	X	Duplicate of RFI-10-01(01-03)
10-2	RFI-10-02(0.8-2.8)	6/27/2001	X	X	X	X	
10-2	RFI-10-02(6.8-8.8)	6/27/2001	X	X	X	X	
10-2	RFI-10-03(0.6-2.6)	6/27/2001	X	X	X	X	
10-2	RFI-10-03(6.6-8.6)	6/27/2001	X	X	X	X	
10-2	RFI-10-04(03-4.7)	7/19/2001	X	X	X	X	
10-2	RFI-10-05(0-2)	8/27/2001	X				
10-2	RFI-10-05(8-10)	8/27/2001	X				
10-2	RFI-10-05(10-12)	8/27/2001	X				
10-2	RFI-10-12(0.8-2.8)	6/27/2001	X	X	X	X	
10-2	RFI-10-12(6.8-8.8)	6/27/2001	X	X	X	X	
10-2	RFI-10-13(0.7-2.7)	7/24/2001	X	X	X	X	
10-2	RFI-10-13(8.7-10.7)	7/24/2001	X	X	X	X	
10-2	RFI-10-14(0.9-2.9)	6/27/2001	X	X	X	X	
10-2	RFI-10-14(6.9-8.9)	6/27/2001	X	X	X	X	
10-2	RFI-10-23(0-2)	11/30/2001				Mn	
10-2	RFI-10-24(0-2)	1/23/2002	X				
10-2	RFI-10-24(6-8)	1/23/2002	X				
10-2	RFI-10-25(0-2)	1/23/2002	X				
10-2	RFI-10-25(6-8)	1/23/2002	X	X	X	X	

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TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
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AOI ID	Sample ID	Date Collected	Analyzed Parameters*				Notes
			VOC	SVOC	PCB	Inorg	
10-2	RFI-10-26(04-06)	1/12/2002	X	X	X	X	
10-2	RFI-10-29(0-2)	10/14/2002	X				
10-2	RFI-10-29(6-8)	10/14/2002	X				
10-2	RFI-10-30(0-2)	3/27/2003	X	X	X	X	
10-2	RFI-10-30(2-4)	3/27/2003	X	X	X	X	
10-2	RFI-10-32(0-2)	3/8/2005	X	X	X	X	
10-2	RFI-10-32(8-10)	3/8/2005	X	X	X	X	
10-2	RFI-10-32(10-12)	3/8/2005	X	X	X	X	
10-2	RFI-10-33(0-2)	6/28/2005	X	X	X	X	
10-2	RFI-10-33(8-10)	6/28/2005	X	X	X	X	
10-2	RFI-10-34(0-2)	6/28/2005	X	X	X	X	
10-2	RFI-10-34(8-10)	6/28/2005	X	X	X	X	
10-2	RFI-10-35(0-2)	6/28/2005	X	X	X	X	
10-2	RFI-10-35(8-10)	6/28/2005	X	X	X	X	
10-2	RFI-10-36(0-2)	6/28/2005	X	X	X	X	
10-2	RFI-10-36(8-10)	6/28/2005	X	X	X	X	
10-2	RFI-10-DUP-51	8/27/2001	X	X	X	X	Duplicate of RFI-10-05(8-10)
10-2	RFI-10-DUP-206	1/23/2002	X				Duplicate of RFI-10-24(06-08)
10-2	RFI-10-DUP-425	3/27/2003	X	X	X	X	Duplicate of RFI-10-30(0-2)
10-3	20-101R(00-1.2)	11/5/2001	X	X	X	X	
10-3	20-101R(7-9)	11/5/2001	X	X	X	X	
10-3	20-105R(1-3)	11/21/2001	X	X	X	X	
10-3	20-105R(7-9)	11/21/2001	X	X	X	X	
10-3	RFI-10-06(04-06)	7/20/2001	X	X	X	X	
10-3	RFI-10-06(6-8)	7/20/2001	X	X	X	X	
10-3	RFI-10-07(1-3)	11/9/2001	X	X	X	X	
10-3	RFI-10-07(7-9)	11/9/2001	X	X	X	X	
10-3	RFI-10-08(0-2)	6/28/2001	X	X	X	X	
10-3	RFI-10-08(6-8)	6/28/2001	X	X	X	X	
10-3	RFI-10-09(0-2)	6/18/2001	X	X	X	X	
10-3	RFI-10-10(0-2)	6/18/2001	X	X	X	X	
10-3	RFI-10-15(0-2)	8/27/2001	X				
10-3	RFI-10-15(8-10)	8/27/2001	X				
10-3	RFI-10-20(0-2)	11/29/2001				Mn	
10-3	RFI-10-21(0-2)	11/29/2001				Mn	
10-3	RFI-10-22(0-2)	11/29/2001				Mn	
10-3	RFI-10-28(0-2)	10/14/2002	X				
10-3	RFI-10-28(8-10)	10/14/2002	X				
10-3	RFI-10-31(1-3)	3/27/2003	X	X	X	X	
10-3	RFI-10-DUP-202	11/21/2001	X	X	X	X	Duplicate of 20-105R(7-9)
10-3	RFI-10-Dup-38	7/20/2001	X	X	X	X	Duplicate of RFI-10-06(06-08)
10-3	RFI-10-DUP-200	11/9/2001	X	X	X	X	Duplicate of RFI-10-07(7-9)
10-3	RFI-10-DUP-203	11/29/2001				Mn	Duplicate of RFI-10-22(0-2)
10-3	RFI-DUP-416	10/14/2002	X				Duplicate of RFI-10-28(8-10)
10-4	RFI-10-11(3-5)	7/19/2001	X	X	X	X	
12-A	RFI-12-01(1.2-02)	5/15/2001	X	X	X	X	
12-A	RFI-12-01(6-8)	5/15/2001	X	X	X	X	
12-A	RFI-12-02(0.7-02)	5/15/2001	X	X	X	X	
12-A	RFI-12-02(6-8)	5/15/2001	X	X	X	X	
12-A	RFI-12-02(8-10)	5/15/2001	X	X	X	X	
12-A	RFI-12-02(14-16)	5/15/2001	X	X	X	X	
12-A	RFI-12-03(0-2)	5/23/2001	X	X	X	X	
12-A	RFI-12-03(04-5.1)	5/23/2001	X	X	X	X	
12-A	RFI-12-07(0.9-02)	5/10/2001	X	X	X	X	
12-A	RFI-12-07(8-10)	5/10/2001	X	X	X	X	
12-A	RFI-12-07(12-14)	5/10/2001	X	X	X	X	
12-A	RFI-12-08(0.9-02)	5/11/2001	X	X	X	X	
12-A	RFI-12-08(6-8)	5/11/2001	X	X	X	X	
12-A	RFI-12-08(8-10)	5/11/2001	X	X	X	X	
12-A	RFI-12-08(16-18)	5/11/2001	X	X	X	X	
12-A	RFI-12-10(04-06)	5/25/2001	X	X	X	X	
12-A	RFI-12-10(6-8)	5/25/2001	X	X	X	X	
12-A	RFI-12-15(1-3)	6/8/2001	X	X	X	X	
12-A	RFI-12-16(1-3)	9/10/2001				Pb	
12-A	RFI-12-16(6-8)	9/10/2001				Pb	
12-A	RFI-12-16(8-10)	9/10/2001				Pb	

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AOI ID	Sample ID	Date Collected	Analyzed Parameters*				Notes
			VOC	SVOC	PCB	Inorg	
12-A	RFI-12-17(1-3)	9/7/2001				Pb	
12-A	RFI-12-17(6-8)	9/10/2001				Pb	
12-A	RFI-12-17(8-10)	9/10/2001				Pb	
12-A	RFI-12-18(1-3)	9/10/2001				Pb	
12-A	RFI-12-18(6-8)	9/10/2001				Pb	
12-A	RFI-12-18(8-10)	9/10/2001				Pb	
12-A	RFI-12-21(1-3)	11/28/2001	X	X	X	X	
12-A	RFI-12-21(9-11)	11/28/2001	X	X	X	X	
12-A	RFI-12-22(1.1-3.1)	1/30/2002	X	X	X	X	
12-A	RFI-12-22(9.1-11.1)	1/30/2002	X	X	X	X	
12-A	RFI-12-22(13.1-15.1)	1/30/2002	X	X	X	X	
12-A	RFI-12-24(1-3)	3/28/2003	X	X	X	X	
12-A	RFI-12-24(5-7)	3/28/2003	X	X	X	X	
12-A	RFI-12-25(1-3)	3/28/2003	X	X	X	X	
12-A	RFI-12-25(7-9)	4/3/2003	X	X	X	X	
12-A	RFI-12-25(11-13)	4/3/2003	X	X	X	X	
12-A	RFI-12-26(1-3)	3/31/2003	X	X	X	X	
12-A	RFI-12-26(6-8)	3/31/2003	X	X	X	X	
12-A	RFI-12-26(9-11)	3/31/2003	X	X	X	X	
12-A	RFI-12-26(11-13)	3/31/2003	X	X	X	X	
12-A	RFI-12-27(1-3)	7/24/2003	X	X	X	X	
12-A	RFI-12-27(3-5)	7/24/2003	X	X	X	X	
12-A	RFI-12-28(1-3)	7/23/2003	X	X	X	X	
12-A	RFI-12-28(8-10)	7/23/2003	X	X	X	X	
12-A	RFI-12-28(11-13)	7/23/2003	X	X	X	X	
12-A	RFI-12-29(0.7-2.7)	7/24/2003	X	X	X	X	
12-A	RFI-12-29(4.7-6.7)	7/24/2003	X	X	X	X	
12-A	RFI-12-30(0.7-2.7)	7/24/2003	X	X	X	X	
12-A	RFI-12-31(0.7-2.7)	7/25/2003	X	X	X	X	
12-A	RFI-12-32(0-2)	7/28/2003	X	X	X	X	
12-A	RFI-12-33(1-2)	8/28/2003	X	X	X	X	
12-A	RFI-12-33(2.5-4.5)	8/28/2003	X	X	X	X	
12-A	RFI-12-34(0.8-2.8)	8/28/2003	X	X	X	X	
12-A	RFI-12-34(2.8-4.8)	8/28/2003	X	X	X	X	
12-A	RFI-12-34(4.8-6.8)	8/28/2003	X	X	X	X	
12-A	RFI-12-35(03-04)	8/29/2003	X	X	X	X	
12-A	RFI-12-DUP-12	5/15/2001	X	X	X	X	Duplicate of RFI-12-02(06-08)
12-A	RFI-12-DUP-11	5/15/2001	X	X	X	X	Duplicate of RFI-12-02(8-10)
12-A	RFI-12-DUP-57	9/10/2001				Pb	Duplicate of RFI-12-16(01-03)
12-A	RFI-12-DUP-443	7/23/2003	X	X	X	X	Duplicate of RFI-12-28(01-03)
12-A	RFI-12-DUP-444	7/28/2003	X	X	X	X	Duplicate of RFI-12-32(0-2)
12-A	RFI-12-DUP-445	8/29/2003	X	X	X	X	Duplicate of RFI-12-35(03-04)
12-B	RFI-12-05(2-4)	5/15/2001	X	X	X	X	
12-B	RFI-12-11D(1.1-3.1)	6/5/2001	X	X	X	X	
12-B	RFI-12-11D(5.1-7.1)	6/5/2001	X	X	X	X	
12-B	RFI-12-14(7-9)	6/7/2001	X	X	X	X	
12-B	RFI-12-14(9-11)	6/7/2001	X	X	X	X	
12-B	RFI-12-23(0.9-1.4)	2/19/2003	X	X	X	X	
12-B	RFI-12-23(2.5-4.5)	2/19/2003	X	X	X	X	
12-B	RFI-12-23(8.5-10.5)	2/19/2003	X	X	X	X	
12-B	RFI-12-23(10.5-12.5)	2/19/2003	X	X	X	X	
12-B	RFI-12-23(12.5-14.5)	2/19/2003	X	X	X	X	
12-C	RFI-12-06(1.2-3.2)	5/24/2001	X	X	X	X	
12-C	RFI-12-06(7.2-9.2)	5/24/2001	X	X	X	X	
12-D	RFI-12-04(0-2)	5/15/2001	X	X	X	X	
12-D	RFI-12-04(8-10)	5/15/2001	X	X	X	X	
16-A	RFI-16-01(1-3)	5/31/2001	X	X	X	X	
16-A	RFI-16-01(5-7)	5/31/2001	X	X	X	X	
16-A	RFI-16-01(8-10)	5/31/2001	X	X	X	X	
16-B	RFI-16-02(0.4-02)	5/14/2001	X	X	X	X	
16-B	RFI-16-02(8-10)	5/14/2001	X	X	X	X	
16-B	RFI-16-02(14-16)	5/15/2001	X	X	X	X	

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TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

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AOI ID	Sample ID	Date Collected	Analyzed Parameters*				Notes
			VOC	SVOC	PCB	Inorg	
16-C	RFI-16-03(0.5-02)	5/15/2001	X	X	X	X	
16-C	RFI-16-03(04-06)	5/15/2001	X	X	X	X	
16-C	RFI-16-04(0.7-02)	5/15/2001	X	X	X	X	
16-C	RFI-16-04(04-06)	5/15/2001	X	X	X	X	
16-C	RFI-16-05(0.5-02)	5/15/2001	X	X	X	X	
16-C	RFI-16-05(2-4)	5/15/2001	X	X	X	X	
16-C	RFI-16-07(0.5-2.5)	6/6/2001	X	X	X	X	
16-C	RFI-16-07(4.5-6.5)	6/6/2001	X	X	X	X	
16-C	RFI-16-08(1.5-3.5)	6/7/2001	X	X	X	X	
16-C	RFI-16-08(7.5-9.5)	6/7/2001	X	X	X	X	
16-C	RFI-16-09(0.7-2.7)	6/7/2001	X	X	X	X	
16-C	RFI-16-09(4.7-6.6)	6/7/2001	X	X	X	X	
16-C	RFI-16-10(1.2-3.2)	6/8/2001	X	X	X	X	
16-C	RFI-16-10(3.2-5.2)	6/8/2001	X	X	X	X	
16-C	RFI-16-11(1-3)	6/12/2001	X	X	X	X	
16-C	RFI-16-11(5-7)	6/12/2001	X	X	X	X	
16-C	RFI-16-12(0.9-2.9)	1/31/2002	X	X	X	X	
16-C	RFI-16-12(8.9-10.9)	1/31/2002	X	X	X	X	
16-C	RFI-16-13(1-3)	12/4/2001	X	X	X	X	
16-C	RFI-16-13(9-11)	12/4/2001	X	X	X	X	
16-C	RFI-16-20(1-3)	12/4/2001	X	X	X	X	
16-C	RFI-16-20(04-06)	12/4/2001	X	X	X	X	
16-C	RFI-16-24(1-3)	2/18/2003	X				
16-C	RFI-16-24(5-7)	2/18/2003	X				
16-C	RFI-16-25(1-3)	2/18/2003	X				
16-C	RFI-16-25(8-10)	2/18/2003	X				
16-C	RFI-16-03(04-06)DUP	5/15/2001	X	X	X	X	Duplicate of RFI-16-03(04-06)
16-C	RFI-16-DUP-19	6/6/2001	X	X	X	X	Duplicate of RFI-16-07(4.5-6.5)
16-C	RFI-16-DUP-20	6/7/2001	X	X	X	X	Duplicate of RFI-16-09(4.7-6.6)
16-D	RFI-16-06(0.7-02)	5/14/2001	X	X	X	X	
16-D	RFI-16-06(04-06)	5/14/2001	X	X	X	X	
16-D	RFI-16-DUP-06	5/14/2001	X	X	X	X	Duplicate of RFI-16-06(04-06)
17-A	RFI-17-01(0.7-02)	5/16/2001	X	X	X	X	
17-A	RFI-17-01(2-4)	5/16/2001	X	X	X	X	
17-A	RFI-17-02(0.3-02)	5/14/2001	X	X	X	X	
17-A	RFI-17-02(04-06)	5/14/2001	X	X	X	X	
21-1	RFI-21-01(0.9-2.9)	6/25/2001	X	X	X	X	
21-1	RFI-21-01(6.9-8.9)	6/25/2001	X	X	X	X	
21-1	RFI-21-02(0.7-2.7)	6/25/2001	X	X	X	X	
21-1	RFI-21-02(6.7-8.7)	6/25/2001	X	X	X	X	
21-1	RFI-21-03(1-3)	6/21/2001	X	X	X	X	
21-1	RFI-21-03(9-11)	6/21/2001	X	X	X	X	
21-1	RFI-21-04(0.7-2.7)	11/6/2001	X	X	X	X	
21-1	RFI-21-04(6.7-8.7)	11/6/2001	X	X	X	X	
21-1	RFI-21-04(10.7-12.7)	11/6/2001	X	X	X	X	
23-A	RFI-23-01(0-2)	5/22/2001	X	X	X	X	
23-A	RFI-23-01(2-4)	5/22/2001	X	X	X	X	
23-A	RFI-23-02(03-3.8)	5/22/2001	X	X	X	X	
29-A	RFI-29-01(0.6-02)	5/15/2001	X	X	X	X	
29-A	RFI-29-01(2-4)	5/15/2001	X	X	X	X	
29-A	RFI-29-02(1-3)	9/5/2001				Pb	
29-A	RFI-29-03(1-3)	9/5/2001				Pb	
36-1	RFI-36-01(0.5-2.5)	8/21/2001	X	X	X	X	
36-1	RFI-36-01(8.5-10.5)	8/21/2001	X	X	X	X	
36-1	RFI-36-01(12.5-14.5)	8/21/2001	X	X	X	X	
36-1	RFI-36-02(1-3)	9/17/2001	X	X	X	X	
36-1	RFI-36-02(7-9)	9/17/2001	X	X	X	X	
36-1	RFI-36-02(9-11)	9/17/2001	X	X	X	X	
36-1	RFI-36-02(13-15)	9/17/2001	X	X	X	X	
36-1	RFI-36-03(0.8-02)	12/20/2000	X	X		X	
36-1	RFI-36-03(8-10)	12/20/2000	X	X		X	
36-1	RFI-36-03(14-16)	12/20/2000	X	X		X	
36-1	RFI-36-04(0.6-02)	12/19/2000	X	X		X	
36-1	RFI-36-04(8-10)	12/19/2000	X	X		X	
36-1	RFI-36-04(18-20)	12/19/2000	X	X		X	
36-1	RFI-36-05(0.8-02)	12/18/2000	X	X		X	

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SOIL SAMPLE COLLECTION SUMMARY

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			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
36-1	RFI-36-05(8-10)	12/18/2000	X	X		X	
36-1	RFI-36-05(16-18)	12/18/2000	X	X		X	
36-1	RFI-36-06(0.7-02)	12/19/2000	X	X		X	
36-1	RFI-36-06(6-8)	12/19/2000	X	X		X	
36-1	RFI-36-06(16-17)	12/19/2000	X	X		X	
36-1	RFI-36-07(0.8-02)	12/20/2000	X	X		X	
36-1	RFI-36-07(8-10)	12/20/2000	X	X		X	
36-1	RFI-36-07(12-14)	12/20/2000	X	X		X	
36-1	RFI-36-15(0.8-02)	12/20/2000	X	X		X	
36-1	RFI-36-15(8-10)	12/20/2000	X	X		X	
36-1	RFI-36-15(14-16)	12/20/2000	X	X		X	
36-1	RFI-36-16(0.9-02)	12/19/2000	X	X		X	
36-1	RFI-36-16(8-10)	12/19/2000	X	X		X	
36-1	RFI-36-16(18-20)	12/19/2000	X	X		X	
36-1	RFI-36-17(0-2)	8/29/2001	X				
36-1	RFI-36-17(8-10)	8/29/2001	X	X	X	Hg	
36-1	RFI-36-17(12-14)	8/29/2001	X				
36-1	RFI-36-18(0-2)	8/30/2001	X				
36-1	RFI-36-18(8-10)	8/30/2001	X				
36-1	RFI-36-18(12-14)	8/30/2001	X				
36-1	RFI-36-21(6-8)	3/28/2001	X	X	X	X	
36-1	RFI-36-21(8-10)	3/28/2001	X	X	X	X	
36-1	RFI-36-21(10-12)	3/28/2001	X	X	X	X	
36-1	RFI-36-21(12-14)	3/28/2001	X	X	X	X	
36-1	RFI-36-22(0-2)	3/27/2001	X	X	X	X	
36-1	RFI-36-22(8-10)	3/27/2001	X	X	X	X	
36-1	RFI-36-22(10-12)	3/27/2001	X	X	X	X	
36-1	RFI-36-23(0-2)	3/27/2001	X	X	X	X	
36-1	RFI-36-23(8-10)	3/27/2001	X	X	X	X	
36-1	RFI-36-23(10-12)	3/27/2001	X	X	X	X	
36-1	RFI-36-24(0-2)	3/26/2001	X	X	X	X	
36-1	RFI-36-24(6-8)	3/26/2001	X	X	X	X	
36-1	RFI-36-24(8-10)	3/26/2001	X	X	X	X	
36-1	RFI-36-24(10-12)	3/26/2001	X	X	X	X	
36-1	RFI-36-25(0-2)	3/27/2001	X	X	X	X	
36-1	RFI-36-25(8-10)	3/27/2001	X	X	X	X	
36-1	RFI-36-25(12-14)	3/27/2001	X	X	X	X	
36-1	RFI-36-25R(1-3)	12/15/2001	X	X	X	X	
36-1	RFI-36-25R(7-9)	12/15/2001	X	X	X	X	
36-1	RFI-36-25R(11-13)	12/15/2001	X	X	X	X	
36-1	RFI-36-26(0-2)	3/27/2001	X	X	X	X	
36-1	RFI-36-26(2-4)	3/27/2001	X	X	X	X	
36-1	RFI-36-26(8-10)	3/27/2001	X	X	X	X	
36-1	RFI-36-26(10-12)	3/27/2001	X	X	X	X	
36-1	RFI-36-27(0-2)	3/26/2001	X	X	X	X	
36-1	RFI-36-27(8-10)	3/26/2001	X	X	X	X	
36-1	RFI-36-27(12-14)	3/26/2001	X	X	X	X	
36-1	RFI-36-27(14-16)	3/26/2001	X	X	X	X	
36-1	RFI-36-28(0-2)	3/29/2001	X	X	X	X	
36-1	RFI-36-28(8-10)	3/29/2001	X	X	X	X	
36-1	RFI-36-28(10-12)	3/29/2001	X	X	X	X	
36-1	RFI-36-28(14-16)	3/29/2001	X	X	X	X	
36-1	RFI-36-29(0-2)	3/28/2001	X	X	X	X	
36-1	RFI-36-29(8-10)	3/28/2001	X	X	X	X	
36-1	RFI-36-29(10-12)	3/28/2001	X	X	X	X	
36-1	RFI-36-30(0-2)	3/28/2001	X	X	X	X	
36-1	RFI-36-30(8-10)	3/28/2001	X	X	X	X	
36-1	RFI-36-30(10-12)	3/28/2001	X	X	X	X	
36-1	RFI-36-31(0-2)	3/28/2001	X	X	X	X	
36-1	RFI-36-31(8-10)	3/28/2001	X	X	X	X	
36-1	RFI-36-31(10-12)	3/28/2001	X	X	X	X	
36-1	RFI-36-32(0-2)	3/28/2001	X	X	X	X	
36-1	RFI-36-32(8-10)	3/28/2001	X	X	X	X	
36-1	RFI-36-32(12-14)	3/28/2001	X	X	X	X	
36-1	RFI-36-32(16-18)	3/28/2001	X	X	X	X	
36-1	RFI-36-33(0-2)	3/29/2001	X	X	X	X	

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TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

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			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
36-1	RFI-36-33(8-10)	3/29/2001	X	X	X	X	
36-1	RFI-36-33(16-18)	3/29/2001	X	X	X	X	
36-1	RFI-36-35(0-2)	3/27/2001	X	X	X	X	
36-1	RFI-36-35(8-10)	3/27/2001	X	X	X	X	
36-1	RFI-36-35(12-14)	3/27/2001	X	X	X	X	
36-1	RFI-36-38(0.5-2.5)	12/16/2001	BTEX				
36-1	RFI-36-38(8.5-10.5)	12/16/2001	BTEX				
36-1	RFI-36-38(10.5-12.5)	12/16/2001	BTEX				
36-1	RFI-36-39(0.5-2.5)	12/16/2001	BTEX				
36-1	RFI-36-39(8.5-10.5)	12/16/2001	BTEX				
36-1	RFI-36-39(10.5-12.5)	12/16/2001	BTEX				
36-1	RFI-36-40(0.5-2.5)	12/16/2001	BTEX				
36-1	RFI-36-40(8.5-10.5)	12/16/2001	BTEX				
36-1	RFI-36-40(12.5-14.5)	12/16/2001	BTEX				
36-1	RFI-36-44(1-3)	1/24/2002	X			As	
36-1	RFI-36-44(7-9)	1/24/2002	X			As	
36-1	RFI-36-44(9-11)	1/24/2002	X			As	
36-1	RFI-36-45(0-2)	1/24/2002	X			As	
36-1	RFI-36-45(8-10)	1/24/2002	X			As	
36-1	RFI-36-45(10-12)	1/24/2002	X			As	
36-1	RFI-36-46(0-2)	1/10/2002	X	X	X	X	
36-1	RFI-36-46(8-10)	1/10/2002	X	X	X	X	
36-1	RFI-36-46(10-12)	1/10/2002	X	X	X	X	
36-1	RFI-36-47(0-2)	10/15/2002	X			X	
36-1	RFI-36-47(8-10)	10/15/2002	X			X	
36-1	RFI-36-47(10-12)	10/15/2002	X			X	
36-1	RFI-36-48(0-2)	10/15/2002	X			X	
36-1	RFI-36-48(6-8)	10/15/2002	X			X	
36-1	RFI-36-48(8-10)	10/15/2002	X			X	
36-1	RFI-36-48(14-16)	10/15/2002	X			X	
36-1	RFI-36-49(1-3)	4/5/2003	X	X	X	X	
36-1	RFI-36-49(7-9)	4/5/2003	X	X	X	X	
36-1	RFI-36-49(17-19)	4/5/2003	X	X	X	X	
36-1	RFI-36-50(2-4)	3/26/2003	X	X	X	X	
36-1	RFI-36-50(8-10)	3/26/2003	X	X	X	X	
36-1	RFI-36-50(10-12)	3/26/2003	X	X	X	X	
36-1	RFI-36-51(0-2)	3/26/2003	X	X	X	X	
36-1	RFI-36-51(8-10)	3/26/2003	X	X	X	X	
36-1	RFI-36-51(10-12)	3/26/2003	X	X	X	X	
36-1	RFI-36-52(0-2)	3/9/2005	X	X	X	X	
36-1	RFI-36-52(8-10)	3/9/2005	X	X	X	X	
36-1	RFI-36-52(12-14)	3/9/2005	X	X	X	X	
36-1	RFI-36-54(0-2)	7/14/2005	X	X	X	X	
36-1	RFI-36-54(8-10)	7/14/2005	X	X	X	X	
36-1	RFI-36-54(14-16)	7/14/2005	X	X	X	X	
36-1	RFI-36-55(0-2)	7/1/2005	X	X	X	X	
36-1	RFI-36-55(8-10)	7/1/2005	X	X	X	X	
36-1	RFI-36-56(0-2)	7/13/2005	X	X	X	X	
36-1	RFI-36-56(6-8)	7/13/2005	X	X	X	X	
36-1	RFI-DUP-01	3/27/2001	X	X	X	X	
36-1	RFI-36-DUP-47	8/21/2001	X	X	X	X	Duplicate of RFI-36-01(8.5-10.5)
36-1	RFI-81-DUP-60	9/17/2001	X				Duplicate of RFI-36-02(09-11)
36-1	RFI-36-DUP-02	12/20/2000	X	X		X	Duplicate of RFI-36-03(14-16)
36-1	RFI-36-DUP1	12/19/2000	X	X		X	Duplicate of RFI-36-04(18-20)
36-1	RFI-36-DUP-52	8/29/2001	X	X	X	X	Duplicate of RFI-36-17(8-10)
36-1	36-22 (10-12)DUP	3/27/2001	X	X	X	X	Duplicate of RFI-36-22(10-12)
36-1	DUP-02	3/26/2001	X	X	X	X	Duplicate of RFI-36-24(10-12)
36-1	DUP-06	3/29/2001	X	X	X	X	Duplicate of RFI-36-28(8-10)
36-1	RFI-DUP-03	3/28/2001	X	X	X	X	Duplicate of RFI-36-29(10-12)
36-1	DUP-05	3/28/2001	X	X	X	X	Duplicate of RFI-36-32(16-18)
36-1	RFI-36-BTEX-DUP-1	12/16/2001	BTEX				Duplicate of RFI-36-38(10.5-12.5)
36-1	RFI-36-DUP-209	1/10/2002	X	X	X	X	Duplicate of RFI-36-46(8-10)
36-1	RFI-36-54(14-16) DUP	7/14/2005	X	X	X	X	Duplicate of RFI-36-54(14-16)

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TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
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NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
36-2	RFI-36-19(0-2)	8/28/2001	X				
36-2	RFI-36-19(8-10)	8/28/2001	X				
36-2	RFI-36-19(10-12)	8/28/2001	X				
36-2	RFI-36-34(0.9-2.9)	6/28/2001	X	X	X	X	
36-2	RFI-36-34(6.9-8.9)	6/28/2001	X	X	X	X	
36-2	RFI-36-36(1-3)	6/29/2001	X	X	X	X	
36-2	RFI-36-36(5-7)	6/29/2001	X	X	X	X	
36-2	RFI-36-36R(1-3)	11/29/2001				Cr(VI,total)	
36-2	RFI-36-37(0-2)	9/4/2001	X	X			
36-2	RFI-36-37(6-8)	9/4/2001	X	X		Hg	
36-2	RFI-36-37(8-10)	9/4/2001	X	X	X		
36-2	RFI-36-37(14-16)	9/4/2001	X	X			
36-2	RFI-36-41(1-3)	11/29/2001				Cr(VI,total)	
36-2	RFI-36-42(0.1-1.5)	11/29/2001				Cr(VI,total)	
36-3	RFI-36-08(1-3)	7/17/2001	X	X	X	X	
36-3	RFI-36-08(6.5-8.5)	7/17/2001	X	X	X	X	
36-3	RFI-36-09(1-3)	7/17/2001	X	X	X	X	
36-3	RFI-36-09(5-7)	7/17/2001	X	X	X	X	
36-3	RFI-36-10(1-3)	7/18/2001	X	X	X	X	
36-3	RFI-36-10(7-9)	7/18/2001	X	X	X	X	
36-3	RFI-36-20(0-2)	8/28/2001	X	X			
36-3	RFI-36-20(8-10)	8/28/2001	X	X		X	
36-3	RFI-36-20(10-12)	8/28/2001	X	X			
36-3	RFI-36-43(0.9-2.9)	12/15/2001	X	X	X	X	
36-3	RFI-36-43(6.9-8.9)	12/15/2001	X	X	X	X	
36-3	RFI-36-43(10.9-12.9)	12/15/2001	X	X	X	X	
36-3	RFI-36-Dup-36	7/17/2001	X	X	X	X	Duplicate of RFI-36-09(05-07)
36-4	RFI-36-11(0.8-02)	12/21/2000	X	X		X	
36-4	RFI-36-11(8-10)	12/21/2000	X	X		X	
36-4	RFI-36-11(10-12)	12/21/2000	X	X		X	
36-4	RFI-36-12(0.8-02)	12/20/2000	X	X		X	
36-4	RFI-36-12(8-10)	12/20/2000	X	X		X	
36-5	RFI-36-13(1-3)	7/27/2001	X	X	X	X	
36-5	RFI-36-13(5-7)	7/27/2001	X	X	X	X	
36-5	RFI-36-13(9-11)	7/27/2001	X	X	X	X	
36-5	RFI-36-14(0-2)	7/16/2001	X	X	X	X	
36-5	RFI-36-14(6-8)	7/16/2001	X	X	X	X	
38-1	RFI-38-01(0.5-2.5)	7/23/2001	X	X	X	X	
38-1	RFI-38-01(8.5-10.5)	7/23/2001	X	X	X	X	
38-1	RFI-38-01(18.5-20.5)	7/23/2001	X	X	X	X	
38-1	RFI-38-02(1-3)	7/19/2001	X	X	X	X	
38-1	RFI-38-02(5-7)	7/19/2001	X	X	X	X	
38-1	RFI-38-02(15-17)	7/19/2001	X	X	X	X	
38-1	RFI-38-03(1-3)	7/18/2001	X	X	X	X	
38-1	RFI-38-03(5-7)	7/18/2001	X	X	X	X	
38-1	RFI-38-03(9-11)	7/18/2001	X	X	X	X	
38-1	RFI-38-03(17-19)	7/18/2001	X	X	X	X	
38-1	RFI-38-04(0.2-2.2)	8/21/2001	X	X	X	X	
38-1	RFI-38-04(8.2-10.2)	8/21/2001	X	X	X	X	
38-1	RFI-38-04(16.2-18.2)	8/21/2001	X	X	X	X	
38-1	RFI-38-05(0.6-2.6)	8/24/2001	X	X	X	X	
38-1	RFI-38-05(8.6-10.6)	8/24/2001	X	X	X	X	
38-1	RFI-38-05(14.6-16.6)	8/24/2001	X	X	X	X	
38-1	RFI-38-06(0.5-2.5)	8/24/2001	X	X	X	X	
38-1	RFI-38-06(8.5-10.5)	8/24/2001	X	X	X	X	
38-1	RFI-38-06(12.5-14.5)	8/24/2001	X	X	X	X	
38-1	RFI-38-Dup-39	7/23/2001	X	X	X	X	Duplicate of RFI-38-01(18.5-20.5)
38-1	RFI-38-Dup-37	7/18/2001	X	X	X	X	Duplicate of RFI-38-03(05-07)
38-1	RFI-38-DUP-49	8/24/2001	X	X	X	X	Duplicate of RFI-38-05(8.6-10.6)
40-A	40-4R(1-3)	11/13/2001	X	X	X	X	
40-A	40-4R(8-10)	11/13/2001	X	X	X	X	
40-A	40-4R(13-15)	11/13/2001	X	X	X	X	
40-A	40-4R(15-17)	11/13/2001	X	X	X	X	
40-A	40-7R(0-2)	11/20/2001	X	X	X	X	
40-A	40-7R(2-4)	11/20/2001	X	X	X	X	
40-A	40-7R(8-10)	11/20/2001	X	X	X	X	

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NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
40-A	40-7R(12-14)	11/20/2001	X	X	X	X	
40-A	RFI-40-01(0.3-2.3)	5/24/2001	X	X	X	X	
40-A	RFI-40-05(0.8-2.8)	1/17/2002	X	X	X	X	
40-A	RFI-40-05(8.8-10.8)	1/17/2002	X	X	X	X	
40-A	RFI-40-05(10.8-12.8)	1/17/2002	X	X	X	X	
40-A	RFI-40-06(1-3)	1/17/2002	X	X	X	X	
40-A	RFI-40-06(9-11)	1/17/2002	X	X	X	X	
40-A	RFI-40-06(11-13)	1/17/2002	X	X	X	X	
40-A	RFI-40-06(15-17)	1/17/2002	X	X	X	X	
40-A	RFI-40-07(0.7-2.7)	1/18/2002	X	X	X	X	
40-A	RFI-40-07(8.7-10.7)	1/18/2002	X	X	X	X	
40-A	RFI-40-08(1-3)	1/24/2002	X	X	X	X	
40-A	RFI-40-08(9-11)	1/24/2002	X	X	X	X	
40-A	RFI-40-08(13-15)	1/25/2002	X	X	X	X	
40-A	RFI-40-09(0.7-2.7)	1/25/2002	X	X	X	X	
40-A	RFI-40-09(8.7-10.7)	1/25/2002	X	X	X	X	
40-A	RFI-40-12(0-2)	3/24/2003	X	X	X	X	
40-A	RFI-40-12(8-10)	3/24/2003	X	X	X	X	
40-A	RFI-40-12(12-14)	3/24/2003	X	X	X	X	
40-A	RFI-40-13(0.5-2.5)	3/25/2003	X	X	X	X	
40-A	RFI-40-13(8.5-10.5)	3/25/2003	X	X	X	X	
40-A	RFI-40-13(12.5-14.5)	3/25/2003	X	X	X	X	
40-A	RFI-40-14(0.5-2.5)	3/25/2003	X	X	X	X	
40-A	RFI-40-14(4.5-6.5)	3/25/2003	X	X	X	X	
40-A	RFI-40-15(2-4)	4/3/2003	X	X	X	X	
40-A	RFI-40-15(8-10)	4/3/2003	X	X	X	X	
40-A	RFI-40-15(14-16)	4/3/2003	X	X	X	X	
40-A	RFI-40-16(0-2)	8/23/2004		X			
40-A	RFI-40-17(0-2)	8/23/2004		X			
40-A	RFI-40-18(0-2)	8/23/2004		X			
40-A	RFI-40-DUP-201	11/13/2001	X	X	X	X	Duplicate of 40-4R(01-03)
40-A	RFI-40-DUP-204	1/18/2002	X	X	X	X	Duplicate of RFI-40-07(0.7-2.7)
40-A	RFI-40-DUP-422	3/25/2003	X	X	X	X	Duplicate of RFI-40-13(8.5-10.5)
40-B	RFI-40-02(0.9-2.9)	1/25/2002	X	X	X	X	
40-B	RFI-40-02(8.9-10.9)	1/25/2002	X	X	X	X	
40-B	RFI-40-10(0.7-2.7)	1/30/2002	X	X	X	X	
40-B	RFI-40-10(4.7-6.7)	1/30/2002	X	X	X	X	
40-C	RFI-40-03(0.7-2.7)	1/30/2002	X	X	X	X	
40-C	RFI-40-03(6.7-8.7)	1/30/2002	X	X	X	X	
40-C	RFI-40-11(0.9-2.9)	2/17/2003	X				
40-C	RFI-40-11(4.9-6.9)	2/17/2003	X				
40-C	RFI-40-DUP-207	1/30/2002	X	X	X	X	Duplicate of RFI-40-03(0.7-2.7)
40-D	40-303R(1-3)	11/12/2001	X	X	X	X	
40-D	40-303R(8-10)	11/12/2001	X	X	X	X	
40-D	40-303R(27-29)	11/12/2001	X	X	X	X	
40-D	RFI-40-04(0.5-2.5)	1/16/2002	X	X	X	X	
40-D	RFI-40-04(8.5-10.5)	1/16/2002	X	X	X	X	
40-D	RFI-40-04(22.5-24.5)	1/16/2002	X	X	X	X	
44-A	RFI-44-01(0.7-02)	5/17/2001	X	X	X	X	
44-A	RFI-44-01(04-06)	5/17/2001	X	X	X	X	
44-A	RFI-44-02(0.7-02)	5/17/2001	X	X	X	X	
44-A	RFI-44-02(2-4)	5/17/2001	X	X	X	X	
44-A	RFI-44-02(04-06)	5/17/2001	X	X	X	X	
44-A	RFI-44-03(0.9-02)	5/17/2001	X	X	X	X	
44-A	RFI-44-03(6-8)	5/17/2001	X	X	X	X	
44-A	RFI-44-04(0.9-02)	5/16/2001	X	X	X	X	
44-A	RFI-44-04(2-4)	5/16/2001	X	X	X	X	
44-A	RFI-44-05(0.9-02)	5/16/2001	X	X	X	X	
44-A	RFI-44-05(2-4)	5/16/2001	X	X	X	X	
44-A	RFI-44-05(8-10)	5/16/2001	X	X	X	X	
44-A	RFI-44-05(10-12)	5/16/2001	X	X	X	X	
44-A	RFI-44-06(1.3-3.3)	9/5/2001	X	X	X	X	
44-A	RFI-44-06(5.3-7.3)	9/5/2001	X	X	X	X	
44-A	RFI-44-06(7.3-9.3)	9/5/2001	X	X	X	X	
44-A	RFI-44-07(0.7-2.7)	9/5/2001				Mn	
44-A	RFI-44-09(0.9-2.9)	11/21/2001				Mn	

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TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
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AOI ID	Sample ID	Date Collected	Analyzed Parameters*				Notes
			VOC	SVOC	PCB	Inorg	
44-A	RFI-44-09(02-3.5)	9/5/2001				Mn	
44-A	RFI-44-DUP-12	5/17/2001	X	X	X	X	Duplicate of RFI-44-01(04-06)
44-A	RFI-44-DUP-14	5/16/2001	X	X	X	X	Duplicate of RFI-44-05(8-10)
55-1	RFI-55-01(1-3)	8/3/2001	X	X	X	X	
55-1	RFI-55-01(5-7)	8/3/2001	X	X	X	X	
55-1	RFI-55-02(1-3)	7/27/2001	X	X	X	X	
55-1	RFI-55-02(8-10)	7/27/2001	X	X	X	X	
55-1	RFI-55-03(0-2)	7/26/2001	X	X	X	X	
55-1	RFI-55-04(0-2)	7/26/2001	X	X	X	X	
55-1	RFI-55-04(6-8)	7/26/2001	X	X	X	X	
55-1	RFI-55-05(0-2)	7/26/2001	X	X	X	X	
55-1	RFI-55-05(8-10)	7/26/2001	X	X	X	X	
55-1	RFI-55-06(0-2)	7/26/2001	X	X	X	X	
55-1	RFI-55-09(1-3)	6/27/2001	X	X	X	X	
55-1	RFI-55-09(9-11)	6/27/2001	X	X	X	X	
55-1	RFI-55-10(1-3)	1/23/2002	X	X	X	X	
55-1	RFI-55-10(7-9)	1/23/2002	X	X	X	X	
55-1	RFI-55-11(1-3)	9/12/2003	X	X	X	X	
55-1	RFI-55-11(3-5)	9/12/2003	X	X	X	X	
55-1	RFI-55-11(5-7)	9/12/2003	X	X	X	X	
55-1	RFI-55-12(1-3)	9/12/2003	X	X	X	X	
55-1	RFI-55-12(3-5)	9/12/2003	X	X	X	X	
55-1	RFI-55-12(5-7)	9/12/2003	X	X	X	X	
55-1	WWTP-1(0-2)	3/15/2001	X	X	X	X	
55-1	WWTP-1(2-4)	3/15/2001	X	X	X	X	
55-1	WWTP-2(0-2)	3/15/2001	X	X	X	X	
55-1	WWTP-2(2-4)	3/15/2001	X	X	X	X	
55-1	WWTP-2(8-10)	3/15/2001	X	X	X	X	
55-1	WWTP-3(0-2)	3/15/2001	X	X	X	X	
55-1	WWTP-3(2-4)	3/15/2001	X	X	X	X	
55-1	RFI-55-Dup-41	7/26/2001	X	X	X	X	Duplicate of RFI-55-04(0-2)
55-1	RFI-55-DUP-35	6/27/2001	X	X	X	X	Duplicate of RFI-55-09(09-11)
55-1	WWTP-DUP	3/15/2001	X	X	X	X	Duplicate of WWTP-2(0-2)
65-1	RFI-65-01(0.7-2.7)	7/27/2001	X	X	X	X	
65-1	RFI-65-01(4.7-6.7)	7/27/2001	X	X	X	X	
81-1	RFI-81-01(2.5-4.5)	9/9/2001	X	X	X	X	
81-1	RFI-81-02(04-06)	9/9/2001	X	X	X	X	
81-1	RFI-81-02(8-10)	9/9/2001	X	X	X	X	
81-1	RFI-81-02(12-14)	9/9/2001	X	X	X	X	
81-1	RFI-81-23(0.9-1.7)	9/7/2001	X	X	X	X	
81-1	RFI-81-25(0.8-2.8)	12/3/2001				Pb	
81-1	RFI-81-25(8-10)	12/3/2001				Pb	
81-1	RFI-81-35(0.8-2.8)	1/22/2002	X	X	X	X	
81-1	RFI-81-35(8-10)	1/22/2002	X	X	X	X	
81-1	RFI-81-35(12-14)	1/22/2002	X	X	X	X	
81-1	RFI-81-36(8-10)	3/12/2003				Pb	
81-1	RFI-81-37(8-10)	3/12/2003				Pb	
81-2	RFI-81-03(0-2)	6/21/2001	X	X	X	X	
81-2	RFI-81-03(8-10)	6/21/2001	X	X	X	X	
81-2	RFI-81-03(10-12)	6/21/2001	X	X	X	X	
81-2	RFI-81-04(8-10)	1/25/2001	X	X		X	
81-2	RFI-81-05(3-5)	8/4/2001	X	X	X	X	
81-2	RFI-81-05(9-11)	8/4/2001	X	X	X	X	
81-2	RFI-81-13(0-2)	8/27/2001	X	X	X	X	
81-2	RFI-81-13(6-8)	8/27/2001	X	X	X	X	
81-2	RFI-81-13(10-12)	8/27/2001		X	X	X	
81-2	RFI-81-13R(0-2)	10/16/2002				Cr(VI,total)	
81-2	RFI-81-14(0-2)	6/18/2001	X	X	X	X	
81-2	RFI-81-15(0-2)	6/18/2001	X	X	X	X	
81-2	RFI-81-16(0-2)	6/18/2001	X	X	X	X	
81-2	RFI-81-17(0-2)	6/18/2001	X	X	X	X	
81-2	RFI-81-18(0-2)	6/18/2001	X	X	X	X	
81-2	RFI-81-19(0-2)	9/17/2001	X	X	X	X	
81-2	RFI-81-20(1-3)	8/4/2001	X	X	X	X	
81-2	RFI-81-20(3-5)	8/4/2001	X	X	X	X	
81-2	RFI-81-20(7-9)	8/4/2001	X	X	X	X	

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TABLE 2-4
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			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
81-2	RFI-81-21(0-2)	9/17/2001	X	X	X	X	
81-2	RFI-81-21(8-10)	9/17/2001	X	X	X	X	
81-2	RFI-81-22(0-2)	6/21/2001	X	X	X	X	
81-2	RFI-81-30(1.2-3.2)	12/13/2001				Pb, Mn	
81-2	RFI-81-30(3.2-5.2)	12/13/2001				Pb, Mn	
81-2	RFI-81-32(1-3)	12/13/2001				Pb, Mn	
81-2	RFI-81-32(3-5)	12/13/2001				Pb, Mn	
81-2	RFI-81-38(1-3)	3/12/2003	X	X	X	X	
81-2	RFI-81-39R(1.7-3.7)	4/5/2003	X	X	X	X	
81-2	RFI-81-39R(7.7-9.7)	4/5/2003	X	X	X	X	
81-2	RFI-81-40(0-2)	3/12/2003				As	
81-2	RFI-81-41(0-2)	3/12/2003				As	
81-2	RFI-81-42(0.7-2.0)	4/5/2003	X	X	X	X	
81-2	RFI-81-50(4-6)	3/9/2005	X	X	X	X	
81-2	RFI-81-Dup-50	8/4/2001	X	X	X	X	Duplicate of RFI-81-05(03-05)
81-2	Duplicate 2 (030905)	3/9/2005	X	X	X	X	Duplicate of RFI-81-50(4-6)
81-3	RFI-81-06(0.8-2.8)	8/4/2001	X	X	X	X	
81-3	RFI-81-06(2.8-4.8)	8/4/2001	X	X	X	X	
81-3	RFI-81-06(8.8-10.8)	8/4/2001	X	X	X	X	
81-3	RFI-81-06(12.8-14.8)	8/4/2001	X	X	X	X	
81-3	RFI-81-07(0.3-2.3)	7/27/2001	X	X	X	X	
81-3	RFI-81-07(4.3-6.3)	7/27/2001	X	X	X	X	
81-3	RFI-81-08(0-2)	6/21/2001	X	X	X	X	
81-3	RFI-81-08(6-8)	6/21/2001	X	X	X	X	
81-3	RFI-81-11(0-2)	6/20/2001	X	X	X	X	
81-3	RFI-81-11(2-4)	6/20/2001	X	X	X	X	
81-3	RFI-81-11(04-06)	6/20/2001	X	X	X	X	
81-3	RFI-81-28(0.5-2.5)	12/12/2001				Cr(VI,total)	
81-3	RFI-81-33(0-2)	1/18/2002	X	X	X	X	
81-3	RFI-81-33(8-10)	1/18/2002	X	X	X	X	
81-3	RFI-81-33(10-12)	1/18/2002	X	X	X	X	
81-3	RFI-81-51(0-2)	3/7/2005	X	X	X	X	
81-3	RFI-81-51(8-10)	3/7/2005	X	X	X	X	
81-3	RFI-81-51(11-13)	3/7/2005	X	X	X	X	
81-3	RFI-81-DUP-28	6/20/2001	X	X	X	X	Duplicate of RFI-81-11(0-2)
81-4	RFI-81-09(0-2)	6/25/2001	X	X	X	X	
81-4	RFI-81-09(8-10)	6/25/2001	X	X	X	X	
81-4	RFI-81-09(10-12)	6/25/2001	X	X	X	X	
81-5	RFI-81-10(0.3-2.3)	6/21/2001	X	X	X	X	
81-5	RFI-81-10(8.3-10.3)	6/21/2001	X	X	X	X	
81-5	RFI-81-10(10.3-12.3)	6/21/2001	X	X	X	X	
83/84-1	RFI-83/84-01(02-3.7)	6/18/2001	X	X	X	X	
83/84-1	RFI-83/84-02(2-4)	6/18/2001	X	X	X	X	
83/84-1	RFI-83/84-02(04-06)	6/18/2001	X	X	X	X	
83/84-1	RFI-83/84-03(0-2)	1/29/2001	X	X		X	
83/84-1	RFI-83/84-03(8-10)	1/29/2001	X	X		X	
83/84-1	RFI-83/84-03(10-12)	1/29/2001	X	X		X	
83/84-1	RFI-83/84-DUP-26	6/18/2001	X	X	X	X	Duplicate of RFI-83/84-02(04-06)
83/84-1	RFI-DUP-5	1/29/2001	X	X		X	Duplicate of RFI-83/84-03(10-12)
83/84-2	RFI-83/84-04(0-2)	1/29/2001	X	X		X	
83/84-2	RFI-83/84-04(8-10)	1/29/2001	X	X		X	
83/84-2	RFI-83/84-04(12-14)	1/29/2001	X	X		X	
83/84-2	RFI-83/84-06(1-3)	9/12/2001	X	X	X	X	
83/84-2	RFI-83/84-06(7-9)	9/12/2001	X	X	X	X	
83/84-2	RFI-83/84-06(9-11)	9/12/2001	X	X	X	X	
83/84-2	RFI-83/84-12(0.7-2.7)	12/7/2001	X	X	X	X	
83/84-2	RFI-83/84-12(2.7-4.7)	12/7/2001	X	X	X	X	
83/84-2	RFI-83/84-13(1.1-3.1)	12/7/2001				Pb	
83/84-2	RFI-83/84-13(3.1-5.1)	12/7/2001				Pb	
83/84-2	RFI-83/84-14(0.8-1.0)	12/10/2001				Pb	
83/84-2	RFI-83/84-15(1.2-3.0)	12/10/2001				Pb	
83/84-2	RFI-83/84-21(0.7-2.7)	12/7/2001	X	X	X	X	
83/84-2	RFI-83/84-21(6.7-8.7)	12/7/2001	X	X	X	X	
83/84-2	RFI-83/84-22(1.1-3.1)	12/7/2001	X	X	X	X	
83/84-2	RFI-83/84-22(3.1-5.1)	12/7/2001	X	X	X	X	
83/84-2	RFI-83/84-22(7.1-9.1)	12/7/2001	X	X	X	X	

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TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

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			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
83/84-2	RFI-83/84-23(1-3)	12/7/2001	X	X	X	X	
83/84-2	RFI-83/84-23(5-7)	12/7/2001	X	X	X	X	
83/84-2	RFI-83/84-24(0.8-2.8)	12/7/2001	X	X	X	X	
83/84-2	RFI-83/84-24(4.8-6.8)	12/7/2001	X	X	X	X	
83/84-2	RFI-83/84-24(6.8-8.8)	12/7/2001	X	X	X	X	
83/84-2	RFI-83/84-25(0.7-2.7)	12/5/2001	X	X	X	X	
83/84-2	RFI-83/84-25(8.7-10.7)	12/5/2001	X	X	X	X	
83/84-2	RFI-83/84-25(10.7-12.7)	12/5/2001	X	X	X	X	
83/84-2	RFI-83/84-27(0.7-2.7)	12/13/2001	X	X	X	X	
83/84-2	RFI-83/84-27(6.7-8.7)	12/13/2001	X	X	X	X	
83/84-2	RFI-83/84-27(8.7-10.7)	12/13/2001	X	X	X	X	
83/84-2	RFI-83/84-28(0.7-2.7)	12/13/2001	X	X	X	X	
83/84-2	RFI-83/84-28(2.7-4.7)	12/13/2001	X	X	X	X	
83/84-2	RFI-83/84-29(1-3)	1/17/2002	X	X	X	X	
83/84-2	RFI-83/84-29(9-11)	1/17/2002	X	X	X	X	
83/84-2	RFI-83/84-30(0.7-2.7)	9/4/2002				X	
83/84-2	RFI-83/84-30(8.7-10.7)	9/4/2002				X	
83/84-2	RFI-83/84-31(1-3)	9/4/2002				X	
83/84-2	RFI-83/84-31(7-9)	9/4/2002				X	
83/84-2	RFI-83/84-32(0.7-1.5)	9/4/2002				X	
83/84-2	RFI-83/84-33(1.2-3.2)	9/4/2002				X	
83/84-2	RFI-83/84-33(7.2-9.2)	9/4/2002				X	
83/84-2	RFI-83/84-38(5-7)	3/12/2003				Pb	
83/84-2	RFI-83/84-39(0.9-2.9)	3/7/2003	X	X	X	X	
83/84-2	RFI-83/84-39(1.1-3.1)	3/19/2003	X	X	X	X	
83/84-2	RFI-83/84-39(5.1-7.1)	3/19/2003	X	X	X	X	
83/84-2	RFI-83/84-40(1.0-2.5)	3/6/2003				Pb	
83/84-2	RFI-83/84-49(0.9-2.9)	4/9/2003	X	X	X	X	
83/84-2	RFI-83/84-49(4.5-6.5)	4/9/2003	X	X	X	X	
83/84-2	RFI-83/84-49(8.5-10.5)	4/9/2003	X	X	X	X	
83/84-2	RFI-83/84-52(0.9-2.9)	4/11/2003	X	X	X	X	
83/84-2	RFI-83/84-52(2.9-4.9)	4/11/2003	X	X	X	X	
83/84-2	RFI-83/84-52(6.9-8.9)	4/11/2003	X	X	X	X	
83/84-2	RFI-83/84-53(0.9-2.9)	4/11/2003	X	X	X	X	
83/84-2	RFI-83/84-53(6.9-8.9)	4/11/2003	X	X	X	X	
83/84-2	RFI-83/84-53(8.9-10.9)	4/11/2003	X	X	X	X	
83/84-2	RFI-83/84-DUP-206	12/7/2001	X	X	X	X	Duplicate of RFI-83/84-23(01-03)
83/84-2	RFI-83/84-DUP-205	12/7/2001	X	X	X	X	Duplicate of RFI-83/84-24(0.8-2.8)
83/84-2	RFI-83/84-DUP-208	12/13/2001	X	X	X	X	Duplicate of RFI-83/84-27(8.7-10.7)
83/84-2	RFI-83/84-DUP-415	9/4/2002				X	Duplicate of RFI-83/84-33(1.2-3.2)
83/84-2	RFI-83/84-DUP-437	4/9/2003	X	X	X	X	Duplicate of RFI-83/84-49(8.5-10.5)
83/84-2	RFI-83/84-DUP-441	4/11/2003	X	X	X	X	Duplicate of RFI-83/84-52(2.9-4.9)
83/84-3	RFI-83/84-05(0.7-2.7)	7/24/2001	X	X	X	X	
83/84-3	RFI-83/84-05(6.7-8.7)	7/24/2001	X	X	X	X	
83/84-3	RFI-83/84-16(0.8-2.8)	12/10/2001				Pb	
83/84-3	RFI-83/84-16(2.8-4.8)	12/10/2001				Pb	
83/84-3	RFI-83/84-17R(1-3)	3/6/2003				Pb	
83/84-3	RFI-83/84-18(0.8-2.8)	12/10/2001				Pb	
83/84-3	RFI-83/84-18(2.8-4.8)	12/10/2001				Pb	
83/84-3	RFI-83/84-19(0.8-2.8)	12/10/2001				Pb	
83/84-3	RFI-83/84-19(2.8-3.4)	12/10/2001				Pb	
83/84-3	RFI-83/84-34(0.7-2.7)	9/4/2002				Pb	
83/84-3	RFI-83/84-35(0.7-2.7)	9/4/2002				Pb	
83/84-3	RFI-83/84-36(0.7-2.7)	9/4/2002				Pb	
83/84-3	RFI-83/84-37(0.7-2.7)	9/4/2002				Pb	
83/84-3	RFI-83/84-41(1-2)	3/5/2003				Pb	
83/84-3	RFI-83/84-42(1-3)	3/5/2003				Pb	
83/84-3	RFI-83/84-43(1.5-3.5)	3/5/2003				Pb	
83/84-3	RFI-83/84-DUP-207	12/10/2001				Pb	Duplicate of RFI-83/84-16(0.8-2.8)

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TABLE 2-4
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			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
83/84-4	RFI-83/84-07(0.9-2.9)	7/25/2001	X	X	X	X	
83/84-4	RFI-83/84-07(8.9-10.9)	7/25/2001	X	X	X	X	
83/84-4	RFI-83/84-08(0.7-2.7)	7/24/2001	X	X	X	X	
83/84-4	RFI-83/84-08(8.7-10.7)	7/24/2001	X	X	X	X	
83/84-4	RFI-83/84-26(0.8-2.8)	12/7/2001	X	X	X	X	
83/84-4	RFI-83/84-26(6.8-8.8)	12/7/2001	X	X	X	X	
83/84-4	RFI-83/84-44(1-3)	3/10/2003	X	X	X	X	
83/84-4	RFI-83/84-44(7-9)	3/10/2003	X	X	X	X	
83/84-4	RFI-83/84-45(0.9-2.9)	3/6/2003	X	X	X	X	
83/84-4	RFI-83/84-45(7.9-9.9)	3/6/2003	X	X	X	X	
83/84-4	RFI-83/84-46(1.5-3.5)	3/18/2003	X	X	X	X	
83/84-4	RFI-83/84-46(7.5-9.5)	3/18/2003	X	X	X	X	
83/84-4	RFI-83/84-46(9.5-11.5)	3/18/2003	X	X	X	X	
83/84-4	RFI-83/84-47(1-3)	4/7/2003	X	X	X	X	
83/84-4	RFI-83/84-47(8-10)	4/7/2003	X	X	X	X	
83/84-4	RFI-83/84-48(1-3)	4/7/2003	X	X	X	X	
83/84-4	RFI-83/84-48(7-9)	4/7/2003	X	X	X	X	
83/84-4	RFI-83/84-50(3-5)	4/10/2003	X	X	X	X	
83/84-4	RFI-83/84-50(5-7)	4/10/2003	X	X	X	X	
83/84-4	RFI-83/84-51(3-5)	4/10/2003	X	X	X	X	
83/84-4	RFI-83/84-51(5-7)	4/10/2003	X	X	X	X	
83/84-4	RFI-83/84-54(0.6-2.6)	4/11/2003	X	X	X	X	
83/84-4	RFI-83/84-DUP-418	3/6/2003	X	X	X	X	Duplicate of RFI-83/84-45(7.9-9.9)
83/84-4	RFI-83/84-DUP-436	4/7/2003	X	X	X	X	Duplicate of RFI-83/84-47(01-03)
83/84-4	RFI-83/84-DUP-438	4/10/2003	X	X	X	X	Duplicate of RFI-83/84-50(05-07)
83/84-4	RFI-83/84-DUP-439	4/10/2003	X	X	X	X	Duplicate of RFI-83/84-51(05-07)
83/84-5	RFI-83/84-09(0.8-2.8)	7/23/2001	X	X	X	X	
83/84-5	RFI-83/84-09(6.8-8.8)	7/23/2001	X	X	X	X	
83/84-6	RFI-83/84-10(0-2)	1/29/2001	X	X		X	
83/84-6	RFI-83/84-10(8-10)	1/29/2001	X	X		X	
83/84-6	RFI-83/84-10(10-12)	1/29/2001	X	X		X	
83/84-6	RFI-DUP4	1/29/2001	X	X		X	Duplicate of RFI-83/84-10(10-12)
83/84-7	RFI-83/84-11(0-2)	6/25/2001	X	X	X	X	
83/84-7	RFI-83/84-11(04-06)	6/25/2001	X	X	X	X	
84-A	RFI-84-01(0.5-02)	5/7/2001	X	X	X	X	
84-A	RFI-84-01(8-10)	5/7/2001	X	X	X	X	
84-A	RFI-84-01(16-17.5)	5/7/2001	X	X	X	X	
84-A	RFI-84-02(0.8-02)	5/7/2001	X	X	X	X	
84-A	RFI-84-02(8-10)	5/7/2001	X	X	X	X	
84-A	RFI-84-06(0.9-02)	5/21/2001	X	X	X	X	
84-A	RFI-84-06(04-06)	5/21/2001	X	X	X	X	
84-B	RFI-84-03(0.8-02)	5/8/2001	X	X	X	X	
84-B	RFI-84-03(8-10)	5/8/2001	X	X	X	X	
84-B	RFI-84-03(12-14)	5/8/2001	X	X	X	X	
84-C	RFI-84-04(0.8-02)	5/8/2001	X	X	X	X	
84-C	RFI-84-04(8-10)	5/8/2001	X	X	X	X	
84-C	RFI-84-04(12-14)	5/8/2001	X	X	X	X	
84-D	84-07(0-2)	3/7/2005	X	X	X	X	
84-D	84-07(8-10)	3/7/2005	X	X	X	X	
84-D	84-07(15-17)	3/7/2005	X	X	X	X	
84-D	RFI-84-05(0.8-2.8)	5/24/2001	X	X	X	X	
84-D	RFI-84-05(6.8-8.8)	5/24/2001	X	X	X	X	
84-D	RFI-84-07(2-4)	6/30/2005	X	X	X	X	
84-D	RFI-84-07(8-10)	6/30/2005	X	X	X	X	
84-D	RFI-84-07(14-16)	6/30/2005	X	X	X	X	
84-D	RFI-84-08(2-3)	6/28/2005	X	X	X	X	
84-D	RFI-84-08(8-10)	6/28/2005	X	X	X	X	
84-D	RFI-84-08(28-30)	6/29/2005	X	X	X	X	
84-D	RFI-84-09S(0.5-2.5)	7/16/2005	X				
84-D	RFI-84-09S(8-10)	7/16/2005	X				
84-D	RFI-84-10S(0.7-2.7)	7/16/2005	X				
84-D	RFI-84-10S(2.7-4.7)	7/16/2005	X				
84-D	RFI-84-11(0.5-2.5)	7/16/2005	X				
84-D	RFI-84-11(3.5-5.5)	7/16/2005	X				
84-D	Dup-1(071605)	7/16/2005	X				Duplicate of RFI-84-11(0.5-2.5)

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TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
85-1	RFI-85-02(1.3-3.3)	6/22/2001	X	X	X	X	
85-1	RFI-85-02(7.3-9.3)	6/22/2001	X	X	X	X	
85-1	RFI-85-02(9.3-11.3)	6/22/2001	X	X	X	X	
85-1	RFI-85-03(1-3)	6/20/2001	X	X	X	X	
85-1	RFI-85-03(5-7)	6/20/2001	X	X	X	X	
85-1	RFI-85-04(0.5-2.5)	7/30/2001	X	X	X	X	
85-1	RFI-85-04(8.5-10.5)	7/30/2001	X	X	X	X	
85-1	RFI-85-04(12.5-14.5)	7/30/2001	X	X	X	X	
85-1	RFI-85-05(1-3)	7/24/2001	X	X	X	X	
85-1	RFI-85-05(5-7)	7/24/2001	X	X	X	X	
85-1	RFI-85-05(9-11)	7/24/2001	X	X	X	X	
85-1	RFI-85-05(17-19)	7/24/2001	X	X	X	X	
85-1	RFI-85-06(0.7-2.7)	6/22/2001	X	X	X	X	
85-1	RFI-85-06(8.7-10.7)	6/22/2001	X	X	X	X	
85-1	RFI-85-06(10.7-12.7)	6/22/2001	X	X	X	X	
85-1	RFI-85-07(0.5-2.5)	11/7/2001	X	X	X	X	
85-1	RFI-85-07(8-10)	11/7/2001	X	X	X	X	
85-1	RFI-85-07(11-13)	11/7/2001	X	X	X	X	
85-1	RFI-85-08(0.5-2.5)	8/22/2002	X	X	X	X	
85-1	RFI-85-08(6.5-8.5)	8/22/2002	X	X	X	X	
85-1	RFI-85-Dup-42	7/30/2001	X	X	X	X	Duplicate of RFI-85-04(8.5-10.5)
85-1	RFI-85-Dup-40	7/24/2001	X	X	X	X	Duplicate of RFI-85-05(01-03)
86-1	RFI-02-08(0.7-02)	5/21/2001	X	X	X	X	
86-1	RFI-02-08(04-06)	5/21/2001	X	X	X	X	
86-1	RFI-86-01(0.5-2.5)	5/23/2001	X	X	X	X	
86-1	RFI-86-01(4.5-6.5)	5/23/2001	X	X	X	X	
86-1	RFI-86-01(8.5-10.5)	5/23/2001	X	X	X	X	
86-1	RFI-86-02(1-3)	7/31/2001	X	X	X	X	
86-1	RFI-86-02(7-9)	7/31/2001	X	X	X	X	
86-1	RFI-86-03(2-4)	6/20/2001	X	X	X	X	
86-1	RFI-86-03(04-06)	6/20/2001	X	X	X	X	
86-1	RFI-86-04(1-3)	7/24/2001	X	X	X	X	
86-1	RFI-86-04(3-5)	7/24/2001	X	X	X	X	
86-1	RFI-86-05(1-3)	6/20/2001	X	X	X	X	
86-1	RFI-86-05(3-5)	6/20/2001	X	X	X	X	
86-1	RFI-86-05(5-7)	6/20/2001	X	X	X	X	
86-1	RFI-86-06D(2-4)	6/15/2001	X	X	X	X	
86-1	RFI-86-06D(6-8)	6/15/2001	X	X	X	X	
86-1	RFI-86-07(0.7-2.7)	5/23/2001	X	X	X	X	
86-1	RFI-86-07(8.7-10.7)	5/23/2001	X	X	X	X	
86-1	RFI-86-08(0.6-2.6)	7/20/2001	X	X	X	X	
86-1	RFI-86-08(8.6-10.6)	7/20/2001	X	X	X	X	
86-1	RFI-86-08(10.6-12.6)	7/20/2001	X	X	X	X	
86-1	RFI-86-10(6.5-8.5)	11/21/2001				Mn	
86-1	RFI-86-11(0.7-2.7)	11/21/2001				As	
86-1	RFI-86-11(2.7-4.7)	11/21/2001				As	
86-1	RFI-86-12(0.8-2.8)	11/21/2001				As	
86-1	RFI-86-12(2.8-4.8)	11/21/2001				As	
86-1	RFI-86-13(0.8-2.8)	11/21/2001				As	
86-1	RFI-86-13(2.8-4.8)	11/21/2001				As	
86-1	RFI-86-14(0.5-2.5)	1/9/2002	X	X	X	X	
86-1	RFI-86-14(4.5-6.5)	1/9/2002	X	X	X	X	
86-1	RFI-86-15(0.3-2.3)	1/14/2002	X	X	X	X	
86-1	RFI-86-16(0.8-2.8)	2/27/2003	X	X	X	X	
86-1	RFI-86-16(7.8-9.8)	2/27/2003	X	X	X	X	
86-1	RFI-86-16(9.8-11.8)	2/27/2003	X	X	X	X	
86-1	RFI-86-17(1-3)	3/12/2003				As	
86-1	RFI-86-18(1-3)	3/12/2003				As	
86-1	RFI-86-DUP-15S	5/23/2001	X	X	X	X	Duplicate of RFI-86-01(8.5-10.5)
86-1	RFI-86-Dup-43	7/31/2001	X	X	X	X	Duplicate of RFI-86-02(7-9)
86-1	RFI-86-DUP-14	5/23/2001	X	X	X	X	Duplicate of RFI-86-07(0.7-2.7)
94-A	RFI-94-01(0.5-02)	5/16/2001	X	X	X	X	
94-A	RFI-94-01(2-4)	5/16/2001	X	X	X	X	
94-A	RFI-94-07(2-4)	8/21/2002	X	X	X	X	
94-A	RFI-94-07(04-06)	8/21/2002	X	X	X	X	

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TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

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NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
94-B	RFI-94-02(0-2)	8/30/2001	X	X	X	X	
94-B	RFI-94-02(8-10)	8/30/2001	X	X	X	X	
94-B	RFI-94-02(12-14)	8/30/2001	X	X	X	X	
94-B	RFI-94-08(04-06)	12/1/2003	X	X	X	X	
94-B	RFI-94-08(8-10)	12/1/2003	X	X	X	X	
94-B	RFI-94-08(21-23)	12/1/2003	X	X	X	X	
94-B	RFI-94-11(1.5-3.5)	3/8/2005	X	X	X	X	
94-B	RFI-94-11(8-10)	3/8/2005	X	X	X	X	
94-B	RFI-94-11(10.5-12.5)	3/8/2005	X	X	X	X	
94-B	DUP-01(120103)	12/1/2003	X	X	X	X	Duplicate of RFI-94-08(8-10)
94-C	RFI-94-03(0.8-02)	5/8/2001	X	X	X	X	
94-C	RFI-94-03(2-4)	5/8/2001	X	X	X	X	
94-C	RFI-94-04(0.4-02)	5/8/2001	X	X	X	X	
94-C	RFI-94-04(8-10)	5/8/2001	X	X	X	X	
94-C	RFI-94-DUP-02	5/8/2001	X	X	X	X	Duplicate of RFI-94-04(0.4-02)
94-D	RFI-94-05(0.5-02)	5/9/2001	X	X	X	X	
94-D	RFI-94-05(8-10)	5/9/2001	X	X	X	X	
94-D	RFI-94-05(18-20)	5/9/2001	X	X	X	X	
94-D	RFI-94 Dup-4	5/9/2001	X	X	X	X	Duplicate of RFI-94-05(18-20)
94-E	RFI-94-06(0.7-02)	5/9/2001	X	X	X	X	
94-E	RFI-94-06(8-10)	5/9/2001	X	X	X	X	
94-E	RFI-94-DUP-03	5/9/2001	X	X	X	X	Duplicate of RFI-94-06(8-10)
Aeration Lagoon	RFI-07-12(0.3-2.3)	3/17/2003	X	X	X	X	
Aeration Lagoon	RFI-07-12(8.3-10.3)	3/17/2003	X	X	X	X	
Aeration Lagoon	RFI-07-12(14.3-16.3)	3/17/2003	X	X	X	X	
Aeration Lagoon	RFI-07-13(0.3-2.3)	3/17/2003	X	X	X	X	
Aeration Lagoon	RFI-07-13(8.3-10.3)	3/17/2003	X	X	X	X	
Aeration Lagoon	RFI-07-13(14.3-16.3)	3/17/2003	X	X	X	X	
Aeration Lagoon	RFI-07-14(0-2)	3/19/2003	X	X	X	X	
Aeration Lagoon	WL-B1 (8-10)	10/27/2000	X			X	
Aeration Lagoon	WL-B1A(00-0.5)	5/14/2001			X		
Aeration Lagoon	WL-B1A(0.5-02)	5/14/2001			X		
Aeration Lagoon	WL-B1A(2-4)	5/14/2001			X		
Aeration Lagoon	WL-B1A(04-06)	5/14/2001			X		
Aeration Lagoon	WL-B1A(6-8)	5/14/2001			X		
Aeration Lagoon	WL-B1A(8-10)	5/14/2001			X		
Aeration Lagoon	WL-B1A(10-12)	5/14/2001			X		
Aeration Lagoon	WL-B1A(12-14)	5/14/2001			X		
Aeration Lagoon	WL-B1A(14-16)	5/14/2001			X		
Aeration Lagoon	WL-B2 (2-4)	10/30/2000	X			X	
Aeration Lagoon	WL-B2A(00-0.5)	5/14/2001			X		
Aeration Lagoon	WL-B2A(0.5-02)	5/14/2001			X		
Aeration Lagoon	WL-B2A(2-4)	5/14/2001			X		
Aeration Lagoon	WL-B2A(04-06)	5/14/2001			X		
Aeration Lagoon	WL-B2A(6-8)	5/14/2001			X		
Aeration Lagoon	WL-B2A(8-10)	5/14/2001			X		
Aeration Lagoon	WL-B3 (10-12)	10/30/2000	X			X	
Aeration Lagoon	WL-B3A(00-0.5)	5/14/2001			X		
Aeration Lagoon	WL-B3A(0.5-02)	5/14/2001			X		
Aeration Lagoon	WL-B3A(04-06)	5/14/2001			X		
Aeration Lagoon	WL-B3A(6-8)	5/14/2001			X		
Aeration Lagoon	WL-B3A(8-10)	5/14/2001			X		
Aeration Lagoon	WL-B4 (2-4)	10/30/2000	X			X	
Aeration Lagoon	WL-B4A(00-0.5)	5/14/2001			X		
Aeration Lagoon	WL-B4A(0.5-02)	5/14/2001			X		
Aeration Lagoon	WL-B5 (10-12)	10/31/2000	X	X		X	
Aeration Lagoon	WL-B5A(00-0.5)	5/14/2001			X		
Aeration Lagoon	WL-B5A(0.5-02)	5/14/2001			X		
Aeration Lagoon	WL-B5A(2-4)	5/14/2001			X		
Aeration Lagoon	WL-B6 (10-12)	10/31/2000	X	X		X	
Aeration Lagoon	WL-B6A(00-0.5)	5/10/2001			X		
Aeration Lagoon	WL-B6A(0-2)	5/10/2001			X		
Aeration Lagoon	WL-B6A(2-4)	5/10/2001			X		
Aeration Lagoon	WL-B6A(04-06)	5/10/2001			X		
Aeration Lagoon	WL-B6A(6-8)	5/10/2001			X		
Aeration Lagoon	WL-B6A(8-10)	5/10/2001			X		

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TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
Aeration Lagoon	RFI-07-DUP-419	3/17/2003	X	X	X	X	Duplicate of RFI-07-12(8.3-10.3)
Aeration Lagoon	WL-B1A-DUP-09	5/14/2001			X		Duplicate of WL-B1A(06-08)
Aeration Lagoon	WL-B2A-DUP-08	5/14/2001			X		Duplicate of WL-B2A(8-10)
Aeration Lagoon	WL-B5A-DUP-07	5/14/2001			X		Duplicate of WL-B5A(00-0.5)
Aeration Lagoon	WL-DUP-01	5/10/2001			X		Duplicate of WL-B6A(8-10)
BD01	BD01-01(0.4-2.4)	12/3/2001	X	X	X	X	
BD01	BD01-01(8.4-10.4)	12/3/2001	X	X	X	X	
BD01	BD01-01(22.4-24.4)	12/3/2001	X	X	X	X	
BD01	BD01-02(0-2)	11/30/2001	X	X	X	X	
BD01	BD01-02(8-10)	11/30/2001	X	X	X	X	
BD01	BD01-02(12-14)	11/30/2001	X	X	X	X	
BD01	BD01-03(0.4-2.4)	12/3/2001	X	X	X	X	
BD01	BD01-03(8.4-10.4)	12/3/2001	X	X	X	X	
BD01	BD01-03(18.4-20.4)	12/3/2001	X	X	X	X	
BD01	BD01-04(0.3-2.3)	4/2/2003	X	X	X	X	
BD01	BD01-04(6.3-8.3)	4/2/2003	X	X	X	X	
BD01	BD01-DUP-204	12/3/2001	X	X	X	X	Duplicate of BD01-01(22.4-24.4)
BD01	BD01-04-DUP-431	4/2/2003	X	X	X	X	Duplicate of BD01-04(6.3-8.3)
BG	RFI-BG-01(0-2)	8/29/2002				X	
BG	RFI-BG-02(0-2)	8/29/2002				X	
BG	RFI-BG-03(0-2)	8/29/2002				X	
BG	RFI-BG-04(0-2)	8/29/2002				X	
BG	RFI-BG-05(0-2)	8/29/2002				X	
BG	RFI-BG-06(0-2)	8/29/2002				X	
BG	RFI-BG-07(0-2)	8/29/2002				X	
BG	RFI-BG-08(0-2)	8/29/2002				X	
BG	RFI-BG-09(0-2)	8/29/2002				X	
BG	RFI-BG-10(0-2)	8/29/2002				X	
BG	RFI-BG-DUP-414	8/29/2002				X	Duplicate of RFI-BG-06(0-2)
Build 94 Parking Lot	BD 94 EP-01(0.5-02)	5/7/2001	X	X	X	X	
Build 94 Parking Lot	BD 94 EP-01(8-10)	5/7/2001	X	X	X	X	
Build 94 Parking Lot	BD 94 EP-01(14-16)	5/7/2001	X	X	X	X	
Build 94 Parking Lot	BD 94 EP-02(0.33-02)	5/7/2001	X	X	X	X	
Build 94 Parking Lot	BD 94 EP-02(8-10)	5/7/2001	X	X	X	X	
Build 94 Parking Lot	BD 94 EP-02(16-18)	5/7/2001	X	X	X	X	
Build 94 Parking Lot	BD 94 EP-03(0.5-02)	5/8/2001	X	X	X	X	
Build 94 Parking Lot	BD 94 EP-03(8-10)	5/8/2001	X	X	X	X	
Build 94 Parking Lot	BD 94 EP-03(16-18)	5/8/2001	X	X	X	X	
Build 94 Parking Lot	EP94-02A(2.5-4.5)	8/17/2001	X	X	X		
Build 94 Parking Lot	EP94-02A(4.5-6.5)	8/17/2001	X	X	X		
Build 94 Parking Lot	EP94-02B(0.5-2.5)	8/17/2001	X	X	X		
Build 94 Parking Lot	EP94-02B(2.5-4.5)	8/17/2001	X	X	X		
Build 94 Parking Lot	EP94-02B(4.5-6.5)	8/17/2001	X	X	X		
Build 94 Parking Lot	RFI-94-EP-02C(0.5-2.5)	8/21/2002			X		
Build 94 Parking Lot	RFI-94-EP-02C(2.5-4.5)	8/21/2002			X		
Build 94 Parking Lot	RFI-94-EP-02D(0.5-2.5)	8/21/2002			X		
Build 94 Parking Lot	RFI-94-EP-02D(2.5-4.5)	8/21/2002			X		
Build 94 Parking Lot	BD 94 EP-DUP-01	5/8/2001	X	X	X	X	Duplicate of BD 94 EP-03(16-18)
FEP	FEP-1(0.5-3.5)	7/25/2005	X	X			
FEP	FEP-10(0.5-3)	7/25/2005	X				
FEP	FEP-11(0.6-3)	7/25/2005	X	X			
FEP	FEP-12(0.8-3)	7/25/2005	X				
FEP	FEP-2(1-3)	7/25/2005	X				
FEP	FEP-3(0.7-3)	7/25/2005	X				
FEP	FEP-4(0.8-3)	7/25/2005	X	X			
FEP	FEP-5(0.7-3)	7/25/2005	X				
FEP	FEP-6(0.9-3)	7/25/2005	X				
FEP	FEP-7(0.9-3)	7/25/2005	X				
FEP	FEP-8(1-3)	7/25/2005	X				
FEP	FEP-9(0.7-3)	7/25/2005	X				
FEP	Dupe-1(072505)	7/25/2005	X				Duplicate of FEP-4(0.8-3)

See Notes on Page 21.

TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

			Analyzed Parameters*				
AOI ID	Sample ID	Date Collected	VOC	SVOC	PCB	Inorg	Notes
Harriet Street	ACSP-B1 (14-16)	10/26/2000	X			X	
Harriet Street	ACSP-B2 (14-16)	10/26/2000	X	X		X	
Harriet Street	ACSP-B2A(0-2)	5/8/2001			X		
Harriet Street	ACSP-B2A(2-4)	5/8/2001			X		
Harriet Street	ACSP-B2A(04-06)	5/8/2001			X		
Harriet Street	ACSP-B2A(6-8)	5/8/2001			X		
Harriet Street	ACSP-B2A(8-10)	5/8/2001			X		
Harriet Street	ACSP-B2A(10-12)	5/9/2001	X	X			
Harriet Street	ACSP-B2B(12-14)	5/9/2001	X	X			
Harriet Street	ACSP-B2C(8-10)	5/10/2001	X	X			
Harriet Street	ACSP-B2D(0-2)	8/17/2001	X	X			
Harriet Street	ACSP-B2D(2-4)	8/17/2001	X	X			
Harriet Street	ACSP-B2D(04-06)	8/17/2001	X	X			
Harriet Street	ACSP-B2D(14-16)	8/17/2001	X	X			
Harriet Street	ACSP-B2D(24-26)	8/17/2001	X	X			
Harriet Street	ACSP-B2E(0-2)	8/20/2001	X	X			
Harriet Street	ACSP-B2-DUP-45	8/20/2001	X	X			
Harriet Street	ACSP-B2E(8-10)	8/20/2001	X	X			
Harriet Street	ACSP-B2E-DUP-46	8/20/2001	X	X			
Harriet Street	ACSP-B2E(22-24)	8/20/2001	X	X			
Harriet Street	ACSP-B3 (10-12	10/26/2000	X	X		X	
Harriet Street	ACSP-B3A(00-0.5)	5/8/2001			X		
Harriet Street	ACSP-B3A(04-06)	5/8/2001			X		
Harriet Street	ACSP-B3A(6-8)	5/8/2001			X		
Harriet Street	ACSP-B3A(10-12)	5/8/2001			X		
Harriet Street	ACSP-B3A(12-14)	5/8/2001			X		
Harriet Street	ACSP-B3D(0-2)	8/17/2001			X		
Harriet Street	ACSP-B3D(5-7)	8/17/2001			X		
Harriet Street	ACSP-B3D(7-9)	8/17/2001			X		
Harriet Street	ACSP-B3D(10-12)	8/17/2001			X		
Harriet Street	ACSP-B3D(12-14)	8/17/2001			X		
Harriet Street	ACSP-B3E(0-2)	8/6/2001			X		
Harriet Street	ACSP-B3E(2-4)	8/6/2001			X		
Harriet Street	ACSP-B3E(04-06)	8/6/2001			X		
Harriet Street	ACSP-B3K(0-2)	8/6/2001			X		
Harriet Street	ACSP-B3K(2-4)	8/6/2001			X		
Harriet Street	ACSP-B3K(04-06)	8/6/2001			X		
Harriet Street	ACSP-B4 (8-10)	10/26/2000	X			X	
Harriet Street	ACSP-B4A(0-2)	5/9/2001			X		
Harriet Street	ACSP-B4A(2-4)	5/9/2001			X		
Harriet Street	ACSP-B4A(04-06)	5/9/2001			X		
Harriet Street	ACSP-B4A(6-8)	5/9/2001			X		
Harriet Street	ACSP-B4A(8-10)	5/9/2001			X		
Harriet Street	ACSP-B4A(10-12)	5/9/2001			X		
Harriet Street	ACSP-B4A(12-14)	5/9/2001			X		
Harriet Street	ACSP-B4B(0-2)	5/9/2001			X		
Harriet Street	ACSP-B4B(2-4)	5/9/2001			X		
Harriet Street	ACSP-B4B(04-06)	5/9/2001			X		
Harriet Street	ACSP-B4B(6-8)	5/9/2001			X		
Harriet Street	ACSP-B4B(8-10)	5/9/2001			X		
Harriet Street	ACSP-B4B(10-12)	5/9/2001			X		
Harriet Street	ACSP-B5 (12-14)	10/27/2000	X			X	
Harriet Street	ACSP-B6 (2-4)	10/27/2000	X			X	
Harriet Street	ACSP-DUP-01	5/8/2001			X		Duplicate of ACSP-B1A(02-04)
Harriet Street	ACSP Dup 1	10/26/2000	X	X		X	Duplicate of ACSP-B2 (14-16)
Harriet Street	ACSP-DUP-02	5/9/2001			X		Duplicate of ACSP-B2A(10-12)
Harriet Street	ACSP-B3D-DUP-44	8/17/2001			X		Duplicate of ACSP-B3D(12-14)
Harriet Street	ACSP-DUP-05	8/6/2001			X		Duplicate of ACSP-B3K(02-04)
Harriet Street	ACSP-DUP-03	5/9/2001			X		Duplicate of ACSP-B4B(02-04)

See Notes on Page 21.

TABLE 2-4
SOIL SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Notes:

1. AOI = Area of interest.
2. VOC = Volatile organic compounds.
3. SVOC = Semivolatile organic compounds.
4. PCB = Polychlorinated biphenyls.
5. Inorg = Inorganic constituents.
6. *Analyses were completed for the VOC, SVOC, PCB, and/or Inorganic suite of constituents included in the QAPP-defined project analyte list.
7. BTEX = Benzene, toluene, ethylbenzene, and xylene.
8. As = Arsenic.
   Cr = Chromium.
   Pb = Lead.
   Mn = Manganese.
   Ba = Barium.

TABLE 2-5
WATER SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Temporary Well	02-A	RFI-02-01(051801)	5/18/2001	X	X	X			X	X	
Monitoring Well	02-B	Dup-1(100504)	10/5/2004	X							Duplicate of RFI-02-12(100504)
Temporary Well	02-B	RFI-02-02(051801)	5/18/2001	X	X	X			X	X	
Monitoring Well	02-B	RFI-02-12(032603)	3/26/2003				X				
Monitoring Well	02-B	RFI-02-12(100504)	10/5/2004	X							
Monitoring Well	02-B	RFI-02-12(022405)	2/24/2005	X							
Monitoring Well	02-B	RFI-02-19(040805)	4/8/2005	X							
Monitoring Well	02-B	RFI-02-20(040505)	4/5/2005	X							
Monitoring Well	02-B	RFI-02-21(040505)	4/5/2005	X							
Monitoring Well	02-B	RFI-02-22(040505)	4/5/2005	X							
Monitoring Well	02-B	RFI-02-24(040505)	4/5/2005	X							
Temporary Well	02-B	RFI-02-DUP-15	5/18/2001	X	X	X			X	X	Duplicate of RFI-02-02(051801)
Temporary Well	02-C	RFI-02-03(051801)	5/18/2001	X	X				X	X	
Temporary Well	02-C	RFI-02-03(052501)	5/25/2001			X					
Temporary Well	02-D	RFI-02-04(051801)	5/18/2001	X	X	X			X	X	
Monitoring Well	02-E	RFI-02-05(091801)	9/18/2001	X	X	X	X		X	X	
Monitoring Well	02-E	RFI-02-05(121602)	12/16/2002				X				
Monitoring Well	02-E	RFI-02-DUP-103	9/18/2001	X	X	X	X		X	X	Duplicate of RFI-02-05(091801)
Monitoring Well	02-F	RFI-02-07(091801)	9/18/2001	X	X	X	X		X	X	
Monitoring Well	02-F	RFI-02-07(062702)	6/27/2002				X			X	
Monitoring Well	02-F	RFI-02-07(032703)	3/27/2003				X				
Monitoring Well	02-F	RFI-02-13(121902)	12/19/2002				X				
Monitoring Well	02-F	RFI-02-13(100704)	10/7/2004	X			Mn				
Monitoring Well	03-1	03-02(092001)	9/20/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	03-1	03-02(061402)	6/14/2002	X							
Monitoring Well	03-1	03-101(092701)	9/27/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	03-1	03-101(062502)	6/25/2002	X							
Monitoring Well	03-1	03-109(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	03-1	03-111(092101)	9/21/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	03-1	03-114(092101)	9/21/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	03-1	03-114R(033103)	3/31/2003	X							
Monitoring Well	03-1	70-100(092401)	9/24/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	03-1	70-100(061302)	6/13/2002	X							
Monitoring Well	03-1	70-100(032703)	3/27/2003	X							
Monitoring Well	03-1	70-109(032603)	3/26/2003	X							
Monitoring Well	03-1	70-109(092401)	9/24/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	03-1	RFI-03-01(091901)	9/19/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	03-1	RFI-03-02(022602)	2/26/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	03-1	RFI-03-02(061302)	6/13/2002	X			X				
Monitoring Well	03-1	RFI-03-03(092101)	9/21/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	03-1	RFI-03-04(061302)	6/13/2002				X				
Monitoring Well	03-1	RFI-03-04(092101)	9/21/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	03-1	RFI-03-DUP-400	6/13/2002	X			X				Duplicate of RFI-03-02(061302)
Temporary Well	04-A	RFI-04-01(061101)	6/11/2001	X	X	X			X	X	
Temporary Well	04-B	RFI-04-02(071601)	7/16/2001	X	X	X			X	X	
Temporary Well	04-B	RFI-04-03(060801)	6/8/2001	X	X	X			X	X	
Temporary Well	04-C	RFI-04-04(060801)	6/8/2001	X	X	X			X	X	
Monitoring Well	04-D	04-04(032703)	3/27/2003			X					
Monitoring Well	04-D	04-1(091401)	9/14/2001	X	X	X			X	X	
Monitoring Well	04-D	04-1(121401)	12/14/2001	BTEX			Pb				
Monitoring Well	04-D	04-2(091701)	9/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	04-D	04-2(121401)	12/14/2001	BTEX			Pb				
Monitoring Well	04-D	04-3(091701)	9/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	04-D	04-4(091701)	9/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	04-D	04-5(091801)	9/18/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	04-D	04-DUP-100	9/17/2001	X	X	X	CN, Hg		X	X	Duplicate of 04-2(091701)
Monitoring Well	05-1	30-120(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-1	43-166(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-1	43-166(061902)	6/19/2002	X			X				
Monitoring Well	05-1	43-167(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-1	43-168(092701)	9/27/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-1	43-168(121702)	12/17/2002				X				
Monitoring Well	05-1	RFI-05-21(032703)	3/27/2003				X				
Monitoring Well	05-1	RFI-05-21(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-1	RFI-05-DUP-107	9/25/2001	X	X	X	CN, Hg		X	X	Duplicate of RFI-05-21(092501)

See Notes on Page 15.

TABLE 2-5
WATER SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Monitoring Well	05-2	20-140(022202)	2/22/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	05-2	20-140(062002)	6/20/2002	X			X				
Monitoring Well	05-2	20-140(033103)	3/31/2003	X			X				
Monitoring Well	05-2	20-140(101104)	10/11/2004	X			Ni				
Monitoring Well	05-2	RFI-05-01(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-2	RFI-05-01(062002)	6/20/2002	X			X				
Monitoring Well	05-2	RFI-05-01(033103)	3/31/2003	X							
Monitoring Well	05-2	RFI-05-02(092001)	9/20/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-2	RFI-05-02(040303)	4/3/2003				X				
Monitoring Well	05-2	RFI-05-DUP-105	9/20/2001	X	X	X	CN, Hg		X	X	Duplicate of RFI-05-02(092001)
Monitoring Well	05-2	RFI-DUP-435	4/3/2003				X				Duplicate of RFI-05-02(040303)
Monitoring Well	05-3	43-100(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-3	43-101R(111501)	11/15/2001	X	X	X	X		X	X	
Monitoring Well	05-3	43-101R(061802)	6/18/2002	X			X				
Monitoring Well	05-3	RFI-05-03(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-3	RFI-05-04(091901)	9/19/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-3	RFI-05-04(062102)	6/21/2002	X							
Monitoring Well	05-3	RFI-05-05(091901)	9/19/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-3	RFI-05-05(062102)	6/21/2002	X							
Monitoring Well	05-3	RFI-05-05(040303)	4/3/2003	X			X				
Monitoring Well	05-3	RFI-05-06(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-3	RFI-05-06(062002)	6/20/2002	X							
Monitoring Well	05-4	43-103(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-4	RFI-05-07(092001)	9/20/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-5	43-220(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-5	RFI-05-08R(032703)	3/27/2003				X				
Monitoring Well	05-5	RFI-05-08R(061202)	6/12/2002	X	X	X	X		X	X	
Monitoring Well	05-5	RFI-05-10(091901)	9/19/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-5	RFI-05-10(040203)	4/2/2003				X				
Monitoring Well	05-5	RFI-05-10(101204)	10/12/2004	X			Ni				
Monitoring Well	05-5	RFI-05-12(092001)	9/20/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-5	RFI-05-12(061402)	6/14/2002				X				
Monitoring Well	05-6	30-140(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-6	30-140(061302)	6/13/2002				X				
Monitoring Well	05-6	30-140(032703)	3/27/2003	X			X				
Monitoring Well	05-6	30-140(100404)	10/4/2004	X			Mn				
Monitoring Well	05-6	43-140(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-6	43-140(061202)	6/12/2002	X							
Monitoring Well	05-6	43-140(040303)	4/3/2003	X							
Monitoring Well	05-6	43-140(101204)	10/12/2004	X							
Monitoring Well	05-6	43-141(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-6	43-242(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-6	RFI-05-19DR(121101)	12/11/2001	X	X	X	X		X	X	
Monitoring Well	05-6	RFI-05-19DR(121802)	12/18/2002	X			X				
Monitoring Well	05-6	RFI-05-19S(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-6	RFI-05-19S(061202)	6/12/2002	X			X				
Monitoring Well	05-6	RFI-05-19S(032803)	3/28/2003	X			X				
Monitoring Well	05-6	RFI-05-20(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	05-6	RFI-05-20(061202)	6/12/2002	X							
Monitoring Well	05-6	RFI-05-20(040303)	4/3/2003	X							
Monitoring Well	05-6	RFI-05-30(021902)	2/19/2002	X							
Monitoring Well	05-6	RFI-05-30(061202)	6/12/2002	X							
Monitoring Well	05-6	RFI-05-30(100404)	10/4/2004	X			Mn				
Monitoring Well	05-6	RFI-DUP-426	3/28/2003	X							Duplicate of RFI-05-19S(032803)
Monitoring Well	07-1	07-02(092001)	9/20/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	07-1	07-02(062002)	6/20/2002	X							
Monitoring Well	07-1	07-02(040203)	4/2/2003	X							
Monitoring Well	07-1	RFI-07-01R(091503)	9/15/2003	X							
Temporary Well	07-1	RFI-07-02(061901)	6/19/2001	X	X	X			X	X	
Monitoring Well	07-1	RFI-07-03(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Temporary Well	07-1	RFI-07-04(061401)	6/14/2001	X	X	X			X	X	
Monitoring Well	07-3	07-01(092001)	9/20/2001	X	X	X	CN, Hg		X	X	
Temporary Well	07-3	RFI-07-07(080101)	8/1/2001	X	X	X			X	X	
Monitoring Well	07-3	RFI-07-08(092001)	9/20/2001	X	X	X	X		X	X	
Monitoring Well	07-3	RFI-07-08(062002)	6/20/2002				X			X	
Monitoring Well	07-3	RFI-07-08(100604)	10/6/2004	X			Be				
Monitoring Well	07-3	RFI-07-DUP-104	9/20/2001	X	X	X	X		X	X	Duplicate of RFI-07-08(092001)
Temporary Well	07-3	RFI-07-DUP-21	8/1/2001	X	X	X			X	X	Duplicate of RFI-07-07(080101)

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WATER SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Monitoring Well	09-A	MW-21(032003)	3/20/2003	X							
Monitoring Well	09-A	MW-25(062602)	6/26/2002	X			Pb, Mn			Pb, Mn	
Monitoring Well	09-A	MW-25(032103)	3/21/2003	X							
Monitoring Well	09-A	MW-25(100504)	10/5/2004	X							
Monitoring Well	09-A	MW-25(022505)	2/25/2005				Pb			Pb	
Monitoring Well	09-A	MW-26(062602)	6/26/2002	X							
Monitoring Well	09-A	MW-26(032403)	3/24/2003	X							
Monitoring Well	09-A	MW-26(100504)	10/5/2004	X							
Monitoring Well	09-A	MW-26(022805)	2/28/2005				Pb			Mn	
Monitoring Well	09-A	RFI-09-01(091401)	9/14/2001	X	X	X			X	X	
Monitoring Well	09-A	RFI-09-01(062402)	6/24/2002	X							
Monitoring Well	09-A	RFI-09-01(032403)	3/24/2003	X							
Temporary Well	09-A	RFI-09-02(053001)	5/30/2001	X	X	X			X	X	
Temporary Well	09-A	RFI-09-03(052901)	5/29/2001	X	X	X			X	X	
Monitoring Well	09-A	RFI-09-04R(112801)	11/28/2001	X	X	X	X		X	X	
Monitoring Well	09-A	RFI-09-04R(062402)	6/24/2002	X							
Monitoring Well	09-A	RFI-09-04R(032403)	3/24/2003	X							
Monitoring Well	09-A	RFI-09-04R(100504)	10/5/2004	X			Pb				
Monitoring Well	09-A	RFI-09-04R(060805)	6/8/2005	X							
Monitoring Well	09-A	RFI-09-32(030602)	3/6/2002	X			Sb				
Monitoring Well	09-A	RFI-09-32(062602)	6/26/2002	X			Sb, Pb, Se				
Monitoring Well	09-A	RFI-09-32(033103)	3/31/2003	X			X				
Monitoring Well	09-A	RFI-09-36R(032403)	3/24/2003	X							
Monitoring Well	09-A	RFI-09-49R(040303)	4/3/2003	X							
Monitoring Well	09-A	RFI-09-49R(100504)	10/5/2004	X			Pb				
Monitoring Well	09-A	RFI-09-53(040705)	4/7/2005	X							
Monitoring Well	09-A	RFI-09-53(060805)	6/8/2005	X							
Monitoring Well	09-A	RFI-09-56(070605)	7/6/2005	X							
Monitoring Well	09-A	RFI-09-57(070605)	7/6/2005	X							
Monitoring Well	09-A	RFI-09-58(072205)	7/22/2005	X							
Monitoring Well	09-A	RFI-09-DUP-113	11/28/2001	X	X	X	X		X	X	Duplicate of RFI-09-04R(112801)
Monitoring Well	09-A	Dupe-1(072205)	7/22/2005	X							Duplicate of RFI-09-58(072205)
Monitoring Well	09-B	31-5(091701)	9/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	09-B	31-5(062102)	6/21/2002			X			X		
Monitoring Well	09-B	31-6(091701)	9/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	09-B	31-6(062102)	6/21/2002	X							
Monitoring Well	09-B	31-8(091701)	9/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	09-B	31-8(062402)	6/24/2002	X			X				
Monitoring Well	09-B	MW-22(022702)	2/27/2002	X							
Monitoring Well	09-B	MW-22(032003)	3/20/2003	X							
Monitoring Well	09-B	MW-22(062502)	6/25/2002				Sb, Se				
Monitoring Well	09-B	MW-23(022702)	2/27/2002	X							
Monitoring Well	09-B	MW-23(032003)	3/20/2003	X							
Monitoring Well	09-B	MW-23(062502)	6/25/2002				Sb, Se				
Monitoring Well	09-B	MW-23(100404)	10/4/2004	X			Ba, Se				
Monitoring Well	09-B	MW-24(022802)	2/28/2002	X							
Monitoring Well	09-B	MW-24(032003)	3/20/2003	X							
Monitoring Well	09-B	MW-24(062602)	6/26/2002				Sb, Se				
Temporary Well	09-B	RFI-09-05(052901)	5/29/2001	X	X	X			X	X	
Monitoring Well	09-B	RFI-09-06(091301)	9/13/2001	X	X	X	X		X	X	
Monitoring Well	09-B	RFI-09-06(062102)	6/21/2002	X							
Monitoring Well	09-B	RFI-09-07(062102)	6/21/2002	X	X	X	X		X	X	
Monitoring Well	09-B	RFI-09-07(100504)	10/5/2004	X							
Monitoring Well	09-B	RFI-09-08(091401)	9/14/2001	X	X	X			X	X	
Monitoring Well	09-B	RFI-09-08(062102)	6/21/2002	X			X				
Monitoring Well	09-B	RFI-09-08(032103)	3/21/2003	X							
Monitoring Well	09-B	RFI-09-08D(040705)	4/7/2005	X							
Monitoring Well	09-B	RFI-09-09(091701)	9/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	09-B	RFI-09-09(062102)	6/21/2002	X			X			X	
Monitoring Well	09-B	RFI-09-09(032103)	3/21/2003	X							
Monitoring Well	09-B	RFI-09-09D(040705)	4/7/2005	X							
Monitoring Well	09-B	RFI-09-10(091301)	9/13/2001	X	X	X	X		X	X	
Monitoring Well	09-B	RFI-09-10(062102)	6/21/2002				X				
Monitoring Well	09-B	RFI-09-11(091701)	9/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	09-B	RFI-09-11(062102)	6/21/2002	X							
Monitoring Well	09-B	RFI-09-11(032103)	3/21/2003	X							
Monitoring Well	09-B	RFI-09-11D(040705)	4/7/2005	X							

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Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Monitoring Well	09-B	RFI-09-12(121301)	12/13/2001	X	X	X	X		X	X	
Monitoring Well	09-B	RFI-09-12(062102)	6/21/2002	X			X			X	
Monitoring Well	09-B	RFI-09-12(032103)	3/21/2003	X			X				
Monitoring Well	09-B	RFI-09-13(100301)	10/3/2001	X						Ba, Pb	
Monitoring Well	09-B	RFI-09-13(062602)	6/26/2002	X			Sb, Se			Sb, Se	
Monitoring Well	09-B	RFI-09-13(032603)	3/26/2003	X							
Monitoring Well	09-B	RFI-09-13(100404)	10/4/2004	X			Ba, Se				
Monitoring Well	09-B	RFI-09-14(100301)	10/3/2001	X						Ba, Se	
Monitoring Well	09-B	RFI-09-14(062602)	6/26/2002				Ba, Sb, Se				
Monitoring Well	09-B	RFI-09-14(033103)	3/31/2003	X							
Monitoring Well	09-B	RFI-09-14(100404)	10/4/2004	X			Ba, Se				
Monitoring Well	09-B	RFI-09-44(032103)	3/21/2003	X			X				
Monitoring Well	09-B	RFI-09-44(100504)	10/5/2004	X			As, Pb				
Monitoring Well	09-B	RFI-09-45(122002)	12/20/2002	X			X				
Monitoring Well	09-B	RFI-09-46(121902)	12/19/2002	X			X				
Monitoring Well	09-B	RFI-09-46(040103)	4/1/2003	X							
Monitoring Well	09-B	RFI-09-46(100504)	10/5/2004	X			Ba, Se				
Monitoring Well	09-B	RFI-09-48(042403)	4/24/2003	X			X				
Monitoring Well	09-B	RFI-09-48(100604)	10/6/2004	X			Sb, Ba, Se				
Monitoring Well	09-B	RFI-09-48(022405)	2/24/2005				CN			CN	
Monitoring Well	09-B	RFI-09-52(091503)	9/15/2003	X							
Monitoring Well	09-B	RFI-09-54D(040805)	4/8/2005	X							
Monitoring Well	09-B	RFI-09-54S(040705)	4/7/2005	X							
Monitoring Well	09-B	RFI-09-55D(040805)	4/8/2005	X							
Monitoring Well	09-B	RFI-09-55S(040805)	4/8/2005	X							
Monitoring Well	09-B	RFI-09-DUP-101	9/17/2001	X	X	X	CN, Hg		X	X	Duplicate of RFI-09-11(091701)
Monitoring Well	09-B	RFI-09-DUP-404	6/24/2002	X			X				Duplicate of 31-8(062402)
Monitoring Well	09-B	DUP-1(121902)	12/19/2002	X			X				Duplicate of RFI-09-46(121902)
Monitoring Well	09-B	Dup3(122002)	12/20/2002	X			X				Duplicate of RFI-09-45(122002)
Monitoring Well	10-1	20-121(092101)	9/21/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	10-1	20-121(061402)	6/14/2002	X			X				
Monitoring Well	10-1	20-121(032603)	3/26/2003	X							
Monitoring Well	10-1	20-143(101204)	10/12/2004	X							
Monitoring Well	10-1	20-144(022202)	2/22/2002	X							
Monitoring Well	10-1	20-144(061802)	6/18/2002	X							
Monitoring Well	10-1	20-145(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	10-1	20-145(061802)	6/18/2002	X			X				
Monitoring Well	10-1	RFI-10-01(092401)	9/24/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	10-1	RFI-10-01(022202)	2/22/2002							Ba	
Monitoring Well	10-1	RFI-10-01(061802)	6/18/2002				X				
Monitoring Well	10-1	RFI-10-01(032603)	3/26/2003				X				
Monitoring Well	10-1	RFI-10-DUP-401	6/14/2002	X			X				Duplicate of 20-121(061402)
Monitoring Well	10-2	Dupe-01(060905)	6/9/2005	X							Duplicate of RFI-10-32(060905)
Monitoring Well	10-2	RFI-10-02(092401)	9/24/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	10-2	RFI-10-02(061802)	6/18/2002	X			X				
Monitoring Well	10-2	RFI-10-02(032703)	3/27/2003	X			X			X	
Monitoring Well	10-2	RFI-10-03(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	10-2	RFI-10-03(061902)	6/19/2002	X			X				
Monitoring Well	10-2	RFI-10-03(032503)	3/25/2003	X			X				
Monitoring Well	10-2	RFI-10-04(092601)	9/26/2001	X	X	X	X		X	X	
Monitoring Well	10-2	RFI-10-04(062102)	6/21/2002	X			X				
Monitoring Well	10-2	RFI-10-04(032603)	3/26/2003				X				
Monitoring Well	10-2	RFI-10-05(032603)	3/26/2003	X			X				
Monitoring Well	10-2	RFI-10-05(062502)	6/25/2002	X							
Monitoring Well	10-2	RFI-10-05(092401)	9/24/2001	X							
Monitoring Well	10-2	RFI-10-12(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	10-2	RFI-10-12(121802)	12/18/2002				X			X	
Monitoring Well	10-2	RFI-10-24(022002)	2/20/2002	X							
Monitoring Well	10-2	RFI-10-24(062502)	6/25/2002	X							
Monitoring Well	10-2	RFI-10-24(032603)	3/26/2003	X							
Monitoring Well	10-2	RFI-10-24(100604)	10/6/2004	X							
Monitoring Well	10-2	RFI-10-25(022002)	2/20/2002	X							
Monitoring Well	10-2	RFI-10-25(032603)	3/26/2003	X							
Monitoring Well	10-2	RFI-10-25(100604)	10/6/2004	X							
Monitoring Well	10-2	RFI-10-26(022102)	2/21/2002	X						Mn	
Monitoring Well	10-2	RFI-10-26(062002)	6/20/2002	X			X				
Monitoring Well	10-2	RFI-10-26(032703)	3/27/2003				X				

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Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Monitoring Well	10-2	RFI-10-29(063005)	6/30/2005	X							
Monitoring Well	10-2	RFI-10-29(121202)	12/12/2002	X							
Monitoring Well	10-2	RFI-10-30(042403)	4/24/2003	X			X				
Monitoring Well	10-2	RFI-10-30(100704)	10/7/2004	X							
Monitoring Well	10-2	RFI-10-32(040405)	4/4/2005	X							
Monitoring Well	10-2	RFI-10-32(060905)	6/9/2005	X							
Monitoring Well	10-2	RFI-10-33(062905)	6/29/2005	X							
Monitoring Well	10-2	RFI-10-34(062905)	6/29/2005	X							
Monitoring Well	10-2	RFI-10-35(062905)	6/29/2005	X							
Monitoring Well	10-2	RFI-10-36(062905)	6/29/2005	X							
Monitoring Well	10-2	RFI-DUP-428	3/27/2003							X	Duplicate of RFI-10-02(032703)
Monitoring Well	10-3	20-101R(111501)	11/15/2001	X	X	X	X		X	X	
Monitoring Well	10-3	20-101R(061902)	6/19/2002	X							
Monitoring Well	10-3	20-101R(101104)	10/11/2004	X							
Monitoring Well	10-3	20-101RD(032703)	3/27/2003	X							
Monitoring Well	10-3	20-101RD(101104)	10/11/2004	X							
Monitoring Well	10-3	20-103N(092101)	9/21/2001	X	X	X	X		X	X	
Monitoring Well	10-3	20-103N(061902)	6/19/2002	X			X				
Monitoring Well	10-3	20-105R(120601)	12/6/2001	X	X	X	X		X	X	
Monitoring Well	10-3	20-105R(061902)	6/19/2002	X			X				
Monitoring Well	10-3	20-105R(032603)	3/26/2003	X			X				
Monitoring Well	10-3	RFI-10-06(092401)	9/24/2001	X	X	X	X		X	X	
Monitoring Well	10-3	RFI-10-06(061902)	6/19/2002	X			X				
Monitoring Well	10-3	RFI-10-06(032603)	3/26/2003	X			X				
Monitoring Well	10-3	RFI-10-07(112001)	11/20/2001	X	X	X	X		X	X	
Monitoring Well	10-3	RFI-10-07(032603)	3/26/2003	X							
Monitoring Well	10-3	RFI-10-08(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	10-3	RFI-10-08(061902)	6/19/2002				X				
Monitoring Well	10-3	RFI-10-15(092401)	9/24/2001	X							
Monitoring Well	10-3	RFI-10-15(100604)	10/6/2004	X							
Monitoring Well	10-3	RFI-10-28(121202)	12/12/2002	X							
Monitoring Well	10-3	RFI-10-28(100604)	10/6/2004	X							
Monitoring Well	10-3	RFI-10-31(042403)	4/24/2003	X			X				
Monitoring Well	10-3	RFI-10-31(100704)	10/7/2004	X							
Monitoring Well	10-3	Dupe-02(100604)	10/6/2004	X							Duplicate of RFI-10-28(100604)
Monitoring Well	10-4	20-504(092101)	9/21/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	10-4	20-FP10(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	10-4	20-FP10(022202)	2/22/2002	X							
Monitoring Well	10-4	20-FP11(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	10-4	20-FP11(061902)	6/19/2002	X							
Monitoring Well	10-4	20-FP6(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	10-4	20-FP6(022002)	2/20/2002	X							
Monitoring Well	10-4	20-FP6(061902)	6/19/2002	X							
Monitoring Well	10-4	20-FP6(032703)	3/27/2003	X							
Monitoring Well	10-4	30-100(092101)	9/21/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	10-4	RFI-10-11(100101)	10/1/2001	X	X	X		X	X	X	
Monitoring Well	10-4	RFI-10-11(100301)	10/3/2001					CN			
Monitoring Well	10-4	RFI-10-11(062102)	6/21/2002	X							
Monitoring Well	10-4	RFI-10-11(032603)	3/26/2003				X				
Monitoring Well	10-4	RFI-10-11(100804)	10/8/2004	X							
Monitoring Well	12-A	04-121(092801)	9/28/2001	X	X	X	CN, Hg		X	X	
Temporary Well	12-A	RFI-12-01(051601)	5/16/2001	X		X			X		
Temporary Well	12-A	RFI-12-01(051701)	5/18/2001		X					X	
Temporary Well	12-A	RFI-12-03(052401)	5/24/2001	X	X	X			X	X	
Temporary Well	12-A	RFI-12-07(051601)	5/16/2001	X	X	X			X	X	
Temporary Well	12-A	RFI-12-08(051601)	5/16/2001	X	X	X			X	X	
Monitoring Well	12-A	RFI-12-10(053101)	5/31/2001	X	X	X			X	X	
Monitoring Well	12-A	RFI-12-15(091801)	9/18/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	12-A	RFI-12-15(121602)	12/16/2002	X							
Monitoring Well	12-A	RFI-12-21(120601)	12/6/2001	X	X	X	X		X	X	
Monitoring Well	12-A	RFI-12-24(040403)	4/4/2003	X	X	X	X				
Monitoring Well	12-A	RFI-12-24(042303)	4/23/2003	X	X	X	X				
Monitoring Well	12-A	RFI-12-24(040605)	4/6/2005		X						
Monitoring Well	12-A	RFI-12-25(042303)	4/23/2003	X	X	X	X				
Monitoring Well	12-A	RFI-12-32(100404)	10/4/2004	X							
Monitoring Well	12-A	RFI-12-33(040705)	4/7/2005		X						
Monitoring Well	12-A	RFI-12-35(091703)	9/17/2003	X		X	X		X	X	
Monitoring Well	12-A	RFI-12-35(101403)	10/14/2003		X						

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Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Temporary Well	12-B	RFI-12-05(051601)	5/16/2001	X	X	X			X	X	
Monitoring Well	12-B	RFI-12-11S(091901)	9/19/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	12-B	RFI-12-11S(062502)	6/25/2002	X			X				
Temporary Well	12-C	RFI-12-06(052501)	5/25/2001	X	X	X			X	X	
Temporary Well	12-D	RFI-12-04(052301)	5/23/2001	X	X	X			X	X	
Monitoring Well	16-A	RFI-16-01(081401)	8/14/2001	X	X	X			X	X	
Monitoring Well	16-A	RFI-16-01(092001)	9/20/2001				CN, Hg				
Temporary Well	16-B	RFI-16-02(051801)	5/18/2001	X	X	X			X	X	
Temporary Well	16-C	RFI-16-03(051701)	5/17/2001	X	X	X			X	X	
Monitoring Well	16-C	RFI-16-04(081001)	8/10/2001	X	X	X			X	X	
Monitoring Well	16-C	RFI-16-04(091801)	9/18/2001				CN, Hg				
Monitoring Well	16-C	RFI-16-04(062502)	6/25/2002	X	X	X	X		X		
Monitoring Well	16-C	RFI-16-05(051701)	5/17/2001	X	X	X			X	X	
Temporary Well	16-C	RFI-16-07(081001)	8/10/2001	X	X	X			X	X	
Temporary Well	16-C	RFI-16-07(091801)	9/18/2001				CN, Hg				
Monitoring Well	16-C	RFI-16-09(081001)	8/10/2001	X	X	X			X	X	
Monitoring Well	16-C	RFI-16-09(091801)	9/18/2001				CN, Hg				
Monitoring Well	16-C	RFI-16-11(081301)	8/13/2001	X	X	X			X	X	
Monitoring Well	16-C	RFI-16-11(091801)	9/18/2001				CN, Hg				
Monitoring Well	16-C	RFI-16-11(062602)	6/26/2002	X							
Monitoring Well	16-C	RFI-16-11(032603)	3/26/2003	X							
Monitoring Well	16-C	RFI-16-12(022802)	2/28/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	16-C	RFI-16-12(062402)	6/24/2002	X			X				
Monitoring Well	16-C	RFI-16-20(121201)	12/12/2001	X	X	X	X		X	X	
Monitoring Well	16-C	RFI-16-20(040902)	4/9/2002	X	X					Pb	
Monitoring Well	16-C	RFI-16-24(040303)	4/3/2003	X							
Monitoring Well	16-C	RFI-16-25(040303)	4/3/2003	X							
Monitoring Well	16-C	RFI-16-DUP-30	8/10/2001	X	X	X			X	X	Duplicate of RFI-16-07(081001)
Monitoring Well	16-C	RFI-16-DUP-406	6/25/2002	X	X	X	X		X		Duplicate of RFI-16-04(062502)
Monitoring Well	16-C	RFI-DUP-434	4/3/2003	X							Duplicate of RFI-16-25(040303)
Temporary Well	16-D	RFI-16-06(051701)	5/17/2001	X	X	X			X	X	
Temporary Well	17-A	RFI-17-01(052201)	5/22/2001	X	X	X			X	X	
Monitoring Well	17-A	RFI-17-02(100301)	10/3/2001	X	X	X	CN, Hg	X	X	X	
Monitoring Well	17-A	RFI-17-02(062502)	6/25/2002				X			X	
Monitoring Well	17-A	RFI-17-02(040203)	4/2/2003				X				
Monitoring Well	17-A	RFI-17-02(100504)	10/5/2004				Sb, Se, Ag				
Monitoring Well	17-A	RFI-17-02(060905)	6/9/2005	X							
Temporary Well	21-1	RFI-21-01(062501)	6/25/2001	X	X	X			X	X	
Temporary Well	21-1	RFI-21-02(062701)	6/27/2001	X	X	X			X	X	
Temporary Well	21-1	RFI-21-03(062101)	6/21/2001	X	X	X			X	X	
Monitoring Well	21-1	RFI-21-04(111901)	11/19/2001	X	X	X	X		X	X	
Monitoring Well	21-1	RFI-21-04(061302)	6/13/2002	X			X				
Monitoring Well	21-1	RFI-21-04(100704)	10/7/2004	X			Mn				
Monitoring Well	21-1	RFI-21-04(040605)	4/6/2005		X						
Monitoring Well	23-A	RFI-23-01(091801)	9/18/2001	X	X	X	CN, Hg		X	x	
Monitoring Well	23-A	RFI-23-01R(100404)	10/4/2004		X		Pb				
Monitoring Well	23-A	RFI-23-01R(040605)	4/6/2005		X						
Monitoring Well	23-A	RFI-23-02(091801)	9/18/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	23-A	RFI-23-02R(100404)	10/4/2004		X		X				
Monitoring Well	23-A	RFI-23-02R(040605)	4/6/2005		X						
Temporary Well	29-A	RFI-29-01(052301)	5/23/2001	X	X	X			X	X	
Monitoring Well	36-1	36-100(092701)	9/27/2001	X	X	X	X		X	X	
Monitoring Well	36-1	36-100(061302)	6/13/2002	X			X				
Monitoring Well	36-1	36-100(032503)	3/25/2003	X			X				
Monitoring Well	36-1	36-100(061005)	6/10/2005	X							
Monitoring Well	36-1	36-120(092701)	9/27/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-1	36-121(092701)	9/27/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-1	RFI-36-02(100401)	10/4/2001	X	X	X	X		X	X	
Monitoring Well	36-1	RFI-36-02(061302)	6/13/2002				X				
Monitoring Well	36-1	RFI-36-02(032503)	3/25/2003				X				
Monitoring Well	36-1	RFI-36-02(101304)	10/13/2004	X			CN, Hg				
Monitoring Well	36-1	RFI-36-03(092701)	9/27/2001	X	X	X	X		X	X	
Monitoring Well	36-1	RFI-36-03(061802)	6/18/2002	X			X				
Monitoring Well	36-1	RFI-36-03(032503)	3/25/2003	X			X				
Monitoring Well	36-1	RFI-36-03(060905)	6/9/2005	X							
Monitoring Well	36-1	RFI-36-04(092801)	9/28/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-1	RFI-36-04(061802)	6/18/2002				X				

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Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Monitoring Well	36-1	RFI-36-04(040203)	4/2/2003				X				
Monitoring Well	36-1	RFI-36-05(092101)	9/21/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-1	RFI-36-05(121602)	12/16/2002	X			X				
Monitoring Well	36-1	RFI-36-05(040203)	4/2/2003	X							
Monitoring Well	36-1	RFI-36-05(061005)	6/10/2005	X							
Monitoring Well	36-1	RFI-36-17(092801)	9/28/2001	X							
Monitoring Well	36-1	RFI-36-17(100704)	10/7/2004	X							
Monitoring Well	36-1	RFI-36-17(022805)	2/28/2005	X							
Monitoring Well	36-1	RFI-36-17(061005)	6/10/2005	X							
Monitoring Well	36-1	RFI-36-18(092801)	9/28/2001	X							
Monitoring Well	36-1	RFI-36-18(100704)	10/7/2004	X							
Monitoring Well	36-1	RFI-36-18(060805)	6/8/2005	X							
Monitoring Well	36-1	RFI-36-23(022002)	2/20/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	36-1	RFI-36-23(061902)	6/19/2002	X			X				
Monitoring Well	36-1	RFI-36-24(100501)	10/5/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-1	RFI-36-24(061902)	6/19/2002	X							
Monitoring Well	36-1	RFI-36-25R(022602)	2/26/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	36-1	RFI-36-25R(061902)	6/19/2002				X				
Monitoring Well	36-1	RFI-36-27(022002)	2/20/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	36-1	RFI-36-29(100301)	10/3/2001	X							
Monitoring Well	36-1	RFI-36-29R(022602)	2/26/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	36-1	RFI-36-29R(062002)	6/20/2002	X			X				
Monitoring Well	36-1	RFI-36-29R(040303)	4/3/2003	X			X			X	
Monitoring Well	36-1	RFI-36-31(100501)	10/5/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-1	RFI-36-32(092801)	9/28/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-1	RFI-36-32(121902)	12/19/2002				X				
Monitoring Well	36-1	RFI-36-32(040203)	4/2/2003				X				
Monitoring Well	36-1	RFI-36-35(061802)	6/18/2002	X			X			X	
Monitoring Well	36-1	RFI-36-35(092701)	9/27/2001	X	X	X	X		X	X	
Monitoring Well	36-1	RFI-36-44(022002)	2/20/2002	X						As	
Monitoring Well	36-1	RFI-36-44(062002)	6/20/2002	X			As				
Monitoring Well	36-1	RFI-36-44(032503)	3/25/2003	X							
Monitoring Well	36-1	RFI-36-44(100704)	10/7/2004	X							
Monitoring Well	36-1	RFI-36-44(060805)	6/8/2005	X							
Monitoring Well	36-1	RFI-36-45(022002)	2/20/2002	X						As	
Monitoring Well	36-1	RFI-36-45(062002)	6/20/2002	X			Cr (total), Mn, V				
Monitoring Well	36-1	RFI-36-45(032503)	3/25/2003	X							
Monitoring Well	36-1	RFI-36-45(061005)	6/10/2005	X							
Monitoring Well	36-1	RFI-36-46(022502)	2/25/2002	X							
Monitoring Well	36-1	RFI-36-46(061702)	6/17/2002	X			X				
Monitoring Well	36-1	RFI-36-46(032503)	3/25/2003	X			X				
Monitoring Well	36-1	RFI-36-46(101104)	10/11/2004	X							
Monitoring Well	36-1	RFI-36-46(060905)	6/9/2005	X							
Monitoring Well	36-1	RFI-36-47(121302)	12/13/2002	X							
Monitoring Well	36-1	RFI-36-47(032503)	3/25/2003	X							
Monitoring Well	36-1	RFI-36-47(061005)	6/10/2005	X							
Monitoring Well	36-1	RFI-36-48(121302)	12/13/2002	X							
Monitoring Well	36-1	RFI-36-48(022805)	2/28/2005	X							
Monitoring Well	36-1	RFI-36-48(061005)	6/10/2005	X							
Monitoring Well	36-1	RFI-36-51(042803)	4/28/2003	X			X				
Monitoring Well	36-1	RFI-36-51(061005)	6/10/2005	X							
Monitoring Well	36-1	RFI-36-53(040405)	4/4/2005	X							
Monitoring Well	36-1	RFI-36-53(061005)	6/10/2005	X							
Monitoring Well	36-1	RFI-36-55(070605)	7/6/2005	X							
Monitoring Well	36-1	RFI-36-56(072105)	7/21/2005	X							
Monitoring Well	36-1	RFI-36-DUP-106	9/21/2001	X	X	X	CN, Hg		X	X	Duplicate of RFI-36-05(092101)
Monitoring Well	36-1	RFI-36-DUP-301	2/26/2002	X	X	X	CN, Hg		X	X	Duplicate of RFI-36-29R(022602)
Monitoring Well	36-1	RFI-36-DUP-402	6/18/2002				X				Duplicate of RFI-36-04(061802)
Monitoring Well	36-1	RFI-36-DUP-403	6/20/2002	X			X				Duplicate of RFI-36-29R(062002)
Monitoring Well	36-1	RFI-DUP-423	3/25/2003	X							Duplicate of RFI-36-45(032503)
Monitoring Well	36-1	Dup-01(022805)	2/28/2005	X							Duplicate of RFI-36-48(022805)
Monitoring Well	36-1	Dupe-02(061005)	6/10/2005	X							Duplicate of RFI-36-45(061005)

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Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Monitoring Well	36-2	36-FP1(092701)	9/27/2001	X	X	X	X		X	X	
Monitoring Well	36-2	36-FP1(061402)	6/14/2002	X			X				
Monitoring Well	36-2	36-FP1(032703)	3/27/2003	X			X				
Monitoring Well	36-2	36-FP1(060905)	6/9/2005	X							
Monitoring Well	36-2	36-FP2(092801)	9/28/2001	X	X	X	X		X	X	
Monitoring Well	36-2	36-FP2(061402)	6/14/2002	X			X			X	
Monitoring Well	36-2	36-FP2(032503)	3/25/2003	X			X				
Monitoring Well	36-2	36-FP5(092801)	9/28/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-2	36-FP5(121602)	12/16/2002	X							
Monitoring Well	36-2	36-FP5(040203)	4/2/2003	X							
Monitoring Well	36-2	RFI-36-19(092801)	9/28/2001	X							
Monitoring Well	36-2	RFI-36-19(100604)	10/6/2004	X							
Monitoring Well	36-2	RFI-36-37(092801)	9/28/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-2	RFI-36-37(062202)	6/22/2002	X							
Monitoring Well	36-2	RFI-36-37(061005)	6/10/2005	X							
Monitoring Well	36-2	RFI-36-DUP-109	9/27/2001	X	X	X	X		X	X	Duplicate of 36-FP1(092701)
Monitoring Well	36-3	36-FP8(092701)	9/27/2001	X	X	X	X		X	X	
Monitoring Well	36-3	36-FP8(061702)	6/17/2002	X			X				
Monitoring Well	36-3	36-FP8(032503)	3/25/2003	X			X				
Monitoring Well	36-3	RFI-36-08(092701)	9/27/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-3	RFI-36-08(061402)	6/14/2002	X							
Monitoring Well	36-3	RFI-36-08(032503)	3/25/2003	X			X				
Monitoring Well	36-3	RFI-36-08(100804)	10/8/2004	X							
Monitoring Well	36-3	RFI-36-09(092701)	9/27/2001	X	X	X	X		X	X	
Monitoring Well	36-3	RFI-36-09(061402)	6/14/2002				X			X	
Monitoring Well	36-3	RFI-36-09(032503)	3/25/2003				X				
Monitoring Well	36-3	RFI-36-10(092801)	9/28/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-3	RFI-36-10(032703)	3/27/2003				X				
Monitoring Well	36-3	RFI-36-20(092801)	9/28/2001	X	X						
Monitoring Well	36-3	RFI-36-20(062202)	6/22/2002				X			X	
Monitoring Well	36-3	RFI-36-20(100604)	10/6/2004	X							
Monitoring Well	36-3	RFI-36-43(022602)	2/26/2002	X							
Monitoring Well	36-3	RFI-DUP-427	3/27/2003				X				Duplicate of RFI-36-10(032703)
Monitoring Well	36-4	RFI-36-11(092101)	9/21/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-4	RFI-36-12(092801)	9/28/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-5	20-100(092101)	9/21/2001	X	X	X	X		X	X	
Monitoring Well	36-5	20-102(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-5	20-102(062102)	6/21/2002	X							
Monitoring Well	36-5	20-102(032703)	3/27/2003	X			X				
Monitoring Well	36-5	20-500(092101)	9/21/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-5	20-500(061402)	6/14/2002	X							
Monitoring Well	36-5	20-500(032603)	3/26/2003	X			X				
Monitoring Well	36-5	37-01(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	36-5	37-01(121802)	12/18/2002				X				
Monitoring Well	36-5	RFI-36-13(062402)	6/24/2002	X			X			X	
Monitoring Well	36-5	RFI-36-13(110901)	11/9/2001	X	X	X	X		X	X	
Monitoring Well	36-5	RFI-36-14(100201)	10/2/2001	X	X	X	X		X	X	
Monitoring Well	36-5	RFI-36-14(100201)	10/2/2001				X		X	X	
Monitoring Well	36-5	RFI-36-14(022002)	2/20/2002				Mn, Ni			Mn, Ni	
Monitoring Well	36-5	RFI-36-14(061702)	6/17/2002	X			X				
Monitoring Well	36-5	RFI-36-14(032503)	3/25/2003				X				
Monitoring Well	36-5	RFI-36-14(101104)	10/11/2004	X			Be, Mn, Ni				
Monitoring Well	36-5	RFI-36-DUP-110	10/2/2001	X	X	X	X			X	Duplicate of RFI-36-14(100201)
Monitoring Well	36-5	RFI-36-DUP-405	6/24/2002	X			X			X	Duplicate of RFI-36-13(062402)
Monitoring Well	36-5	RFI-DUP-424	3/25/2003				X				Duplicate of RFI-36-14(032503)
Monitoring Well	38-1	36-101(061302)	6/13/2002				X				
Monitoring Well	38-1	36-101(092801)	9/28/2001	X	X	X	X		X	X	
Monitoring Well	38-1	38-120(092701)	9/27/2001	X	X	X	X		X	X	
Monitoring Well	38-1	RFI-38-04(092701)	9/27/2001	X	X	X	X		X	X	
Monitoring Well	38-1	RFI-38-04(061302)	6/13/2002				X			X	
Monitoring Well	38-1	RFI-38-04(032503)	3/25/2003				X				
Monitoring Well	38-1	RFI-38-05(092801)	9/28/2001	X	X	X	X		X	X	
Monitoring Well	38-1	RFI-38-06(092801)	9/28/2001	X	X	X	X		X	X	
Monitoring Well	38-1	RFI-38-06(061302)	6/13/2002				X				
Monitoring Well	38-1	RFI-38-06(032503)	3/25/2003				X				
Monitoring Well	38-1	RFI-38-06(101304)	10/13/2004				Be,Tl				
Monitoring Well	38-1	RFI-38-06(022102)	2/21/2002							Tl	
Monitoring Well	38-1	RFI-38-DUP-111	9/28/2001	X	X	X	X		X	X	Duplicate of RFI-38-06(092801)

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Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Monitoring Well	40-A	40-1R(040303)	4/3/2003	X			X				
Monitoring Well	40-A	40-2(092001)	9/20/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	40-A	40-2(121702)	12/17/2002	X							
Monitoring Well	40-A	40-2(032403)	3/24/2003	X							
Monitoring Well	40-A	40-3(091801)	9/18/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	40-A	40-3(121702)	12/17/2002	X			X				
Monitoring Well	40-A	40-3(032403)	3/24/2003	X							
Monitoring Well	40-A	40-4R(112101)	11/21/2001	X	X	X	X		X	X	
Monitoring Well	40-A	40-4R(062402)	6/24/2002	X			X			X	
Monitoring Well	40-A	40-4R(032403)	3/24/2003	X			X				
Monitoring Well	40-A	40-5(091801)	9/18/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	40-A	40-6(091801)	9/18/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	40-A	40-6R(042303)	4/23/2003	X			X				
Monitoring Well	40-A	40-6R(100504)	10/5/2004	X			As, CN, Pb				
Monitoring Well	40-A	DUP-1(091603)	9/16/2003	X		X	X				Duplicate of RFI-40-13(091603)
Temporary Well	40-A	RFI-40-01(052901)	5/29/2001	X	X	X			X	X	
Monitoring Well	40-A	RFI-40-07(022502)	2/25/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	40-A	RFI-40-07(062402)	6/24/2002	X							
Monitoring Well	40-A	RFI-40-09(022602)	2/26/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	40-A	RFI-40-09(032603)	3/26/2003	X							
Monitoring Well	40-A	RFI-40-09(062402)	6/24/2002	X			X			X	
Monitoring Well	40-A	RFI-40-13(091603)	9/16/2003	X		X	X				
Monitoring Well	40-A	RFI-40-13(101303)	10/13/2003		X						
Monitoring Well	40-A	RFI-40-14R(042203)	4/22/2003	X			X				
Monitoring Well	40-A	RFI-40-15(042203)	4/22/2003	X			X				
Monitoring Well	40-A	RFI-DUP-442	4/22/2003	X							Duplicate of RFI-40-14R(042203)
Monitoring Well	40-B	RFI-40-10(022102)	2/21/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	40-B	RFI-40-10(062402)	6/24/2002	X							
Monitoring Well	40-B	RFI-40-10R(042303)	4/24/2003	X							
Monitoring Well	40-C	RFI-40-03(022502)	2/25/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	40-C	RFI-40-03(032703)	3/27/2003	X							
Monitoring Well	40-C	RFI-40-03(062402)	6/24/2002	X			X				
Monitoring Well	40-C	RFI-40-11(040303)	4/3/2003	X							
Monitoring Well	40-D	40-301(091701)	9/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	40-D	40-302(091701)	9/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	40-D	40-303R(120701)	12/7/2001	X	X	X	X		X	X	
Monitoring Well	40-D	40-303R(062402)	6/24/2002	X			X				
Monitoring Well	40-D	40-303R(032703)	3/27/2003	X			X				
Monitoring Well	40-D	40-303R(100504)	10/5/2004	X			Be, Pb			Be, Pb	
Monitoring Well	40-D	40-304(091401)	9/14/2001	X	X	X			X	X	
Monitoring Well	40-D	40-304(121702)	12/17/2002	X							
Monitoring Well	40-D	40-304(032103)	3/21/2003	X							
Monitoring Well	40-D	40-304(100604)	10/6/2004	X			Be, Pb				
Monitoring Well	40-D	40-305(091701)	9/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	40-D	40-305(062402)	6/24/2002	X							
Monitoring Well	40-D	40-305(032103)	3/21/2003	X						X	
Monitoring Well	40-D	40-305(032503)	3/25/2003				X				
Monitoring Well	40-D	RFI-40-04(022502)	2/25/2002	X							
Monitoring Well	40-D	RFI-40-04(121802)	12/18/2002	X							
Monitoring Well	44-A	04-120(091701)	9/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	44-A	04-140(100101)	10/1/2001	X	X	X	CN, Hg	X	X	X	
Monitoring Well	44-A	04-160(092101)	9/21/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	44-A	04-160(062502)	6/25/2002				X			X	
Monitoring Well	44-A	04-160(100404)	10/4/2004	X							
Temporary Well	44-A	RFI-44-01(052201)	5/22/2001	X	X	X			X	X	
Temporary Well	44-A	RFI-44-02(052101)	5/21/2001	X	X	X			X	X	
Temporary Well	44-A	RFI-44-03(052501)	5/25/2001	X	X	X			X	X	
Monitoring Well	44-A	RFI-44-04(091801)	9/18/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	44-A	RFI-44-04(122002)	12/20/2002			X	X		X		
Monitoring Well	44-A	RFI-44-04(040303)	4/3/2003			X					
Monitoring Well	44-A	RFI-44-05(091401)	9/14/2001	X	X	X			X	X	
Monitoring Well	44-A	RFI-44-05(122002)	12/20/2002			X	X		X	X	
Monitoring Well	44-A	RFI-44-05(032403)	3/24/2003			X	X				
Monitoring Well	44-A	RFI-44-05(100504)	10/5/2004	X			Sb, Cr, Pb, Ni,Se				
Monitoring Well	44-A	RFI-44-06R(040103)	4/1/2003	X	X	X					
Monitoring Well	44-A	Dup2(122002)	12/20/2002			X	CN		X		Duplicate of RFI-44-04(122002)
Monitoring Well	44-A	DUP-421	3/24/2003			X					Duplicate of RFI-44-05(032403)

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Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Monitoring Well	55-1	20-120(092101)	9/21/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	55-1	20-120(061702)	6/17/2002	X							
Monitoring Well	55-1	55-1(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	55-1	55-1(061202)	6/12/2002	X							
Monitoring Well	55-1	55-1(032003)	3/20/2003	X							
Monitoring Well	55-1	55-2(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	55-1	55-2(032003)	3/20/2003	X							
Monitoring Well	55-1	55-3(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	55-1	55-3(061202)	6/12/2002				X				
Monitoring Well	55-1	55-3(032103)	3/21/2003				X				
Monitoring Well	55-1	55-3(100804)	10/8/2004	X			As				
Monitoring Well	55-1	55-4(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	55-1	55-4(061202)	6/12/2002	X	X		X				
Monitoring Well	55-1	55-4(032103)	3/21/2003	X			X				
Monitoring Well	55-1	55-4(100804)	10/8/2004	X	X		X				
Monitoring Well	55-1	55-5(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	55-1	55-5(061202)	6/12/2002	X							
Monitoring Well	55-1	55-5(032003)	3/20/2003	X							
Monitoring Well	55-1	55-5(100404)	10/4/2004	X							
Monitoring Well	55-1	RFI-55-01(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	55-1	RFI-55-01(061202)	6/12/2002	X							
Monitoring Well	55-1	RFI-55-01(032603)	3/26/2003	X							
Monitoring Well	55-1	RFI-55-02(092701)	9/27/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	55-1	RFI-55-02(061702)	6/17/2002	X			X			X	
Monitoring Well	55-1	RFI-55-02(032503)	3/25/2003				X				
Monitoring Well	55-1	RFI-55-02(100804)	10/8/2004	X			Pb				
Monitoring Well	55-1	RFI-55-09(092701)	9/27/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	55-1	RFI-55-09(061802)	6/18/2002	X							
Monitoring Well	55-1	RFI-55-09(032603)	3/26/2003	X							
Monitoring Well	55-1	RFI-55-10(022602)	2/26/2002	X							
Monitoring Well	55-1	RFI-55-10(061702)	6/17/2002	X							
Monitoring Well	55-1	RFI-55-11(092603)	9/26/2003	X	X	X	X		X	X	
Monitoring Well	55-1	RFI-55-11(100804)	10/8/2004	X	X		X				
Monitoring Well	55-1	RFI-55-12(092603)	9/26/2003	X	X	X	X				
Monitoring Well	55-1	RFI-55-12(100804)	10/8/2004	X			X				
Monitoring Well	55-1	DUP-420	3/20/2003	X							Duplicate of 55-1(032003)
Monitoring Well	55-1	DUPE-03(100804)	10/8/2004	X			Pb				Duplicate of RFI-55-02(100804)
Monitoring Well	65-1	RFI-65-01(092401)	9/24/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	65-1	RFI-65-01(061302)	6/13/2002	X			X				
Monitoring Well	65-1	RFI-65-01(040103)	4/1/2003	X							
Monitoring Well	81-1	RFI-81-02(101301)	10/13/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	81-1	RFI-81-02(062002)	6/20/2002	X			X			X	
Monitoring Well	81-1	RFI-81-02(040203)	4/2/2003	X			X				
Temporary Well	81-1	RFI-81-23(090701)	9/7/2001	X	X	X			X	X	
Temporary Well	81-1	RFI-81-24(090701)	9/7/2001	X	X	X			X	X	
Monitoring Well	81-1	RFI-81-35(021902)	2/19/2002	X							
Monitoring Well	81-1	RFI-81-35(061802)	6/18/2002	X			X				
Monitoring Well	81-1	RFI-81-35(040103)	4/1/2003				X				
Monitoring Well	81-2	70-102(092701)	9/27/2001	X	X	X	X		X	X	
Monitoring Well	81-2	70-160(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	81-2	70-160(061702)	6/17/2002	X			X			X	
Monitoring Well	81-2	70-160(032803)	3/28/2003				X				
Monitoring Well	81-2	70-163(092801)	9/28/2001	X	X	X	X		X	X	
Monitoring Well	81-2	70-163(062002)	6/20/2002				X			X	
Monitoring Well	81-2	70-163(032803)	3/28/2003				X				
Monitoring Well	81-2	70-165(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	81-2	70-165(062202)	6/22/2002				X			X	
Monitoring Well	81-2	70-165(032803)	3/28/2003				X				
Monitoring Well	81-2	70-165(100704)	10/7/2004	X			Pb				
Monitoring Well	81-2	RFI-81-03(092501)	9/28/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	81-2	RFI-81-03(032703)	3/27/2003				X				
Monitoring Well	81-2	RFI-81-03(022805)	2/28/2005	X							
Temporary Well	81-2	RFI-81-05(091901)	9/19/2001	X	X	X	CN, Hg		X		
Monitoring Well	81-2	RFI-81-13(032703)	3/27/2003				X				
Monitoring Well	81-2	RFI-81-13(092401)	9/24/2001	X	X	X	CN, Hg		X	X	
Temporary Well	81-2	RFI-81-20(091901)	9/19/2001	X	X	X	CN, Hg		X		
Monitoring Well	81-2	RFI-81-21(100401)	10/4/2001	X							

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Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Monitoring Well	81-2	RFI-81-21(100604)	10/6/2004	X							
Monitoring Well	81-2	RFI-81-39R(091703)	9/17/2003	X							
Monitoring Well	81-2	RFI-81-39R(101104)	10/11/2004	X							
Monitoring Well	81-2	RFI-81-50(040405)	4/4/2005				Pb				
Monitoring Well	81-2	RFI-DUP-429	3/28/2003				X				Duplicate of 70-160(032803)
Monitoring Well	81-2	Dupe 02(040405)	4/4/2005				Pb				Duplicate of RFI-81-50(040405)
Monitoring Well	81-3	86-100(092401)	9/24/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	81-3	86-100(061802)	6/18/2002	X			X				
Monitoring Well	81-3	86-100(040103)	4/1/2003	X			X				
Monitoring Well	81-3	86-100(100704)	10/7/2004	X			Ba, Cd, Pb,Ni, Zn				
Temporary Well	81-3	RFI-81-07(072701)	7/27/2001	X	X	X			X	X	
Monitoring Well	81-3	RFI-81-08(022405)	2/24/2005	X							
Monitoring Well	81-3	RFI-81-08(040103)	4/1/2003	X			X				
Monitoring Well	81-3	RFI-81-08(061702)	6/17/2002	X			X			X	
Monitoring Well	81-3	RFI-81-08(092401)	9/24/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	81-3	RFI-81-08(100704)	10/7/2004	X			CN, Hg				
Monitoring Well	81-3	RFI-81-11(092401)	9/24/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	81-3	RFI-81-11(061902)	6/19/2002	X			X			X	
Monitoring Well	81-3	RFI-81-11(040103)	4/1/2003	X			X				
Monitoring Well	81-3	RFI-81-12R(120701)	12/7/2001	X	X	X	X		X	X	
Monitoring Well	81-3	RFI-81-12R(062002)	6/20/2002	X			X			X	
Monitoring Well	81-3	RFI-81-33(021902)	2/19/2002	X							
Monitoring Well	81-3	RFI-81-33(062002)	6/20/2002	X			X			X	
Monitoring Well	81-3	RFI-81-33(040303)	4/3/2003	X			X				
Monitoring Well	81-3	RFI-81-33(100604)	10/6/2004	X			Ba, Cd, Pb, Ni, Zn				
Monitoring Well	81-3	RFI-81-51(040405)	4/4/2005	X							
Monitoring Well	81-3	Dupe 01(040405)	4/4/2005	X							Duplicate of RFI-81-51(040405)
Monitoring Well	81-4	RFI-81-09(092401)	9/24/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	81-4	RFI-81-09(022202)	2/22/2002	X							
Monitoring Well	81-4	RFI-81-09(061802)	6/18/2002	X							
Monitoring Well	81-4	RFI-81-09(040103)	4/1/2003	X							
Temporary Well	81-5	RFI-81-10(062201)	6/22/2001	X	X	X			X	X	
Monitoring Well	83/84-1	RFI-83/84-01(092101)	9/21/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	83/84-1	RFI-83/84-01(040405)	4/4/2005		X						
Monitoring Well	83/84-1	RFI-83/84-02(100101)	10/1/2001	X	X	X	CN, Hg	CN	X	X	
Monitoring Well	83/84-1	RFI-83/84-02(121802)	12/18/2002				X				
Monitoring Well	83/84-1	Dupe 03(040405)	4/4/2005		X						Duplicate of RFI-83/84-01(040405)
Monitoring Well	83/84-2	RFI-83/84-25(121301)	12/13/2001	X	X	X	X		X	X	
Monitoring Well	83/84-2	RFI-83/84-27(022102)	2/21/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	83/84-2	RFI-83/84-27(061802)	6/18/2002				X				
Monitoring Well	83/84-2	RFI-83/84-27(040203)	4/2/2003	X							
Monitoring Well	83/84-2	RFI-83/84-27(100704)	10/7/2004	X			Be				
Monitoring Well	83/84-2	RFI-83/84-29(022102)	2/21/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	83/84-2	RFI-83/84-29(061802)	6/18/2002				X				
Monitoring Well	83/84-2	RFI-83/84-29(040103)	4/1/2003				X				
Monitoring Well	83/84-3	11-140(092801)	9/28/2001	X	X	X	CN, Hg		X	x	
Temporary Well	83/84-3	RFI-83/84-05(073101)	7/31/2001	X	X	X			X	X	
Monitoring Well	83/84-3	RFI-83/84-20(022202)	2/22/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	83/84-3	RFI-83/84-20(040203)	4/2/2003				X				
Monitoring Well	83/84-3	RFI-83/84-20(062002)	6/20/2002				X				
Temporary Well	83/84-4	RFI-83/84-08(073101)	7/31/2001	X	X	X			X	X	
Monitoring Well	83/84-4	RFI-83/84-51(091903)	9/19/2003	X		X	X		X	X	
Monitoring Well	83/84-4	RFI-83/84-51(101403)	10/14/2003		X						
Monitoring Well	83/84-4	RFI-DUP01(101403)	10/14/2003		X						Duplicate of RFI-83/84-
Monitoring Well	83/84-5	11-120(092501)	9/25/2001	X	X	X	CN, Hg		X	X	
Temporary Well	83/84-5	RFI-83/84-09(073101)	7/31/2001	X	X	X			X	X	
Monitoring Well	83/84-5	RFI-83/84-DUP-108	9/25/2001	X	X	X	CN, Hg		X	X	Duplicate of 11-120(092501)
Monitoring Well	83/84-7	88-2(092001)	9/20/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	83/84-7	88-7(061402)	6/14/2002	X			X				
Monitoring Well	83/84-7	88-7(092001)	9/20/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	83/84-7	88-8(040103)	4/1/2003	X							
Monitoring Well	83/84-7	88-8(061302)	6/13/2002	X							
Monitoring Well	83/84-7	88-8(092001)	9/20/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	83/84-7	88-9(040103)	4/1/2003	X							

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Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Monitoring Well	83/84-7	88-9(061402)	6/14/2002	X							
Monitoring Well	83/84-7	88-9(092001)	9/20/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	83/84-7	RFI-83/84-11(040103)	4/1/2003	X							
Monitoring Well	83/84-7	RFI-83/84-11(061902)	6/19/2002	X			X			X	
Monitoring Well	83/84-7	RFI-83/84-11(092401)	9/24/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	83/84-7	RFI-83/84-11(100704)	10/7/2004	X							
Monitoring Well	83/84-7	RFI-DUP-432	4/1/2003	X							Duplicate of 88-9(040103)
Temporary Well	84-A	RFI-84-01(052301)	5/23/2001	X	X	X			X	X	
Temporary Well	84-A	RFI-84-02(052401)	5/24/2001	X	X	X			X	X	
Monitoring Well	84-A	RFI-84-06R(022505)	2/25/2005				CN			CN	
Monitoring Well	84-A	RFI-84-06R(040203)	4/2/2003	X		X			X		
Monitoring Well	84-A	RFI-84-06R(040303)	4/3/2003		X		X				
Monitoring Well	84-A	RFI-84-06R(072205)	7/22/2005	X							
Monitoring Well	84-A	RFI-DUP-433	4/3/2003		X						Duplicate of RFI-84-06R(040303)
Temporary Well	84-B	RFI-84-03(052201)	5/22/2001	X	X	X			X	X	
Temporary Well	84-B	RFI-84-DUP-14	5/22/2001	X	X	X			X	X	Duplicate of RFI-84-03(052201)
Temporary Well	84-C	RFI-84-04(052301)	5/23/2001	X	X	X			X	X	
Monitoring Well	84-D	84-2(101701)	10/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	84-D	84-6(062602)	6/26/2002	X			X			X	
Monitoring Well	84-D	84-6(101701)	10/17/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	84-D	84-6R2(091503)	9/15/2003				X			X	
Monitoring Well	84-D	84-6R2(100504)	10/5/2004	X			Be, Cr(total), Ni				
Monitoring Well	84-D	84-6R2D(072905)	7/29/2005	X							
Monitoring Well	84-D	84-6R2(060905)	6/9/2005	X							
Monitoring Well	84-D	84-07(040505)	4/5/2005	X							
Monitoring Well	84-D	84-7(060805)	6/8/2005	X							
Monitoring Well	84-D	84-7D(072805)	7/28/2005	X							
Monitoring Well	84-D	RFI-17-02D(072905)	7/29/2005	X							
Monitoring Well	84-D	RFI-84-03D(072905)	7/29/2005	X							
Monitoring Well	84-D	RFI-84-03I(072905)	7/29/2005	X							
Monitoring Well	84-D	RFI-84-03S(072905)	7/29/2005	X							
Monitoring Well	84-D	RFI-84-04D(072805)	7/28/2005	X							
Monitoring Well	84-D	RFI-84-04S(072805)	7/28/2005	X							
Monitoring Well	84-D	RFI-84-05(022505)	2/25/2005	X							
Monitoring Well	84-D	RFI-84-05(032403)	3/24/2003	X							
Monitoring Well	84-D	RFI-84-05(060805)	6/8/2005	X							
Monitoring Well	84-D	RFI-84-05(100201)	10/2/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	84-D	RFI-84-05(121702)	12/17/2002	X			X				
Monitoring Well	84-D	RFI-84-06RD(072105)	7/21/2005	X							
Monitoring Well	84-D	RFI-84-7S(070105)	7/1/2005	X							
Monitoring Well	84-D	RFI-84-07D(072805)	7/28/2005	X							
Monitoring Well	84-D	RFI-84-8D(070605)	7/6/2005	X							
Monitoring Well	84-D	RFI-84-8S(072205)	7/22/2005	X							
Monitoring Well	84-D	RFI-84-09D(072205)	7/22/2005	X							
Monitoring Well	84-D	RFI-84-09S(072205)	7/22/2005	X							
Monitoring Well	84-D	RFI-84-10D(072105)	7/21/2005	X							
Monitoring Well	84-D	RFI-84-10S(072205)	7/22/2005	X							
Monitoring Well	84-D	RFI-84-11S(072805)	7/28/2005	X							
Monitoring Well	84-D	RFI-84-DUP-112	10/17/2001	X	X	X	CN, Hg				Duplicate of 84-2(101701)
Monitoring Well	84-D	RFI-84-DUP-112D	10/17/2001						X	X	Duplicate of 84-2D(101701)
Monitoring Well	84-D	Dupe-1(070605)	7/6/2005	X							Duplicate of RFI-84-8(070605)
Monitoring Well	84-D	Dupe-01(072905)	7/29/2005	X							Duplicate of RFI-84-03S(072905)
Temporary Well	85-1	RFI-85-02(062201)	6/22/2001	X	X	X			X	X	
Monitoring Well	85-1	RFI-85-02R(121301)	12/13/2001	X	X	X	X		X	X	
Monitoring Well	85-1	RFI-85-02R(061402)	6/14/2002	X			X				
Monitoring Well	85-1	RFI-85-03(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	85-1	RFI-85-03(061302)	6/13/2002				X				
Monitoring Well	85-1	RFI-85-04R(022802)	2/28/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	85-1	RFI-85-04R(061202)	6/12/2002				X				
Monitoring Well	85-1	RFI-85-05(101801)	10/18/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	85-1	RFI-85-06(092401)	9/24/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	85-1	RFI-85-06(061202)	6/12/2002	X							
Monitoring Well	85-1	RFI-85-06(040203)	4/2/2003	X							
Monitoring Well	85-1	RFI-85-07(111901)	11/19/2001	X	X	X	X		X	X	

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Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Monitoring Well	85-1	RFI-85-07(061202)	6/12/2002	X			X				
Monitoring Well	85-1	RFI-85-07(040203)	4/2/2003	X							
Monitoring Well	85-1	RFI-85-08(121802)	12/18/2002	X	X	X	X		X		
Monitoring Well	86-1	86-3(092601)	9/26/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	86-1	86-3(121902)	12/19/2002				X				
Monitoring Well	86-1	87-FP2(061902)	6/19/2002	X							
Monitoring Well	86-1	87-FP2(092401)	9/24/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	86-1	87-FP3(092701)	9/27/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	86-1	87-FP3(061802)	6/18/2002	X							
Monitoring Well	86-1	87-FP3(040403)	4/4/2003	X							
Monitoring Well	86-1	87-FP4(100604)	10/6/2004	X							
Monitoring Well	86-1	87-FP5(092601)	9/28/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	86-1	87-FP5(061902)	6/19/2002	X							
Monitoring Well	86-1	87-FP5(040303)	4/3/2003	X							
Monitoring Well	86-1	RFI-02-08(091901)	9/19/2001	X	X	X	X		X	X	
Monitoring Well	86-1	RFI-02-08R(040505)	4/4/2005		X						
Monitoring Well	86-1	RFI-02-08R(062502)	6/25/2002	X							
Monitoring Well	86-1	RFI-86-01(092001)	9/20/2001	X	X	X	X		X	X	
Monitoring Well	86-1	RFI-86-01R(062502)	6/25/2002	X			X				
Monitoring Well	86-1	RFI-86-01R(040203)	4/2/2003	X			X				
Monitoring Well	86-1	RFI-86-01R(100704)	10/7/2004	X							
Monitoring Well	86-1	RFI-86-03(061702)	6/17/2002	X			X				
Monitoring Well	86-1	RFI-86-03(092001)	9/20/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	86-1	RFI-86-04(092701)	9/27/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	86-1	RFI-86-04(061702)	6/17/2002	X							
Monitoring Well	86-1	RFI-86-05(040203)	4/2/2003	X							
Monitoring Well	86-1	RFI-86-05(061302)	6/13/2002	X							
Monitoring Well	86-1	RFI-86-05(092701)	9/27/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	86-1	RFI-86-06D(092801)	9/28/2001	X	X	X	X		X	X	
Monitoring Well	86-1	RFI-86-06D(061802)	6/18/2002	X							
Monitoring Well	86-1	RFI-86-06D(040303)	4/3/2003	X							
Monitoring Well	86-1	RFI-86-06S(100201)	10/2/2001	X	X	X	CN, Hg		X	X	
Monitoring Well	86-1	RFI-86-06S(061702)	6/17/2002	X							
Monitoring Well	86-1	RFI-86-06S(040303)	4/3/2003	X							
Temporary Well	86-1	RFI-86-07(052401)	5/24/2001	X	X	X			X	X	
Temporary Well	86-1	RFI-86-08(072001)	7/20/2001	X	X	X			X	X	
Monitoring Well	86-1	RFI-86-08R(022102)	2/21/2002	X	X	X	CN, Hg		X	X	
Monitoring Well	86-1	RFI-86-08R(062002)	6/20/2002	X			X				
Monitoring Well	86-1	RFI-86-08R(121802)	12/18/2002	X			X				
Monitoring Well	86-1	RFI-86-08R(040303)	4/3/2003	X							
Monitoring Well	86-1	RFI-86-14(061702)	6/17/2002	X							
Monitoring Well	86-1	RFI-86-15(021902)	2/19/2002	X							
Monitoring Well	86-1	RFI-86-15(062002)	6/20/2002	X							
Monitoring Well	86-1	RFI-86-15(040303)	4/3/2003	X							
Monitoring Well	86-1	RFI-86-16R(091603)	9/16/2003	X							
Monitoring Well	86-1	RFI-86-16R(100604)	10/6/2004	X							
Monitoring Well	86-1	RFI-86-DUP-15W	5/24/2001	X	X	X			X	X	Duplicate of RFI-86-07(052401)
Monitoring Well	86-1	RFI-86-DUP-300(022102)	2/21/2002	X	X	X	CN, Hg		X	X	Duplicate of RFI-86-08R(022102)
Temporary Well	94-A	RFI-94-01(052201)	5/22/2001	X	X	X			X	X	
Monitoring Well	94-A	RFI-94-07(032403)	3/24/2003		X						
Monitoring Well	94-A	RFI-94-07(121702)	12/17/2002		X						
Monitoring Well	94-B	RFI-94-02R(040303)	4/3/2003			X					
Monitoring Well	94-B	RFI-94-02R(040403)	4/4/2003	X	X		X				
Monitoring Well	94-B	RFI-94-02R(091803)	9/18/2003	X							
Monitoring Well	94-B	RFI-94-02R(100604)	10/6/2004	X							
Monitoring Well	94-B	RFI-94-08(121603)	12/16/2003	X							
Monitoring Well	94-B	RFI-94-09(121503)	12/15/2003	X							
Monitoring Well	94-B	RFI-94-09(022505)	2/25/2005	X							
Monitoring Well	94-B	RFI-94-10(121503)	12/15/2003	X							
Monitoring Well	94-B	RFI-94-10(100804)	10/8/2004	X							
Monitoring Well	94-B	RFI-94-11(040705)	4/7/2005	X							
Temporary Well	94-C	RFI-94-03(052101)	5/21/2001	X	X	X			X	X	
Temporary Well	94-C	RFI-94-04(052201)	5/22/2001	X	X	X			X	X	
Monitoring Well	94-D	RFI-94-05(121702)	12/17/2002	X	X	X	X		X		
Temporary Well	94-E	RFI-94-06(052101)	5/21/2001	X	X	X			X	X	

See Notes on Page 15.

TABLE 2-5
WATER SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Sample Type	AOI ID	Sample ID	Date	Total (unfiltered)*					Dissolved (filtered)*		Notes
				VOC	SVOC	PCB	Inorg	Inorg (ulf)	PCB	Inorg	
Monitoring Well	Aeration Lagoon	GM1	11/8/2000	X		X				X	
Monitoring Well	Aeration Lagoon	GM-1(100604)	10/6/2004	X	X	X	X		X		
Monitoring Well	Aeration Lagoon	GM11	11/8/2000	X		X				X	
Monitoring Well	Aeration Lagoon	GM-11(100604)	10/6/2004	X	X	X	X		X		
Monitoring Well	Aeration Lagoon	GM12	11/8/2000	X		X				X	
Monitoring Well	Aeration Lagoon	GM4	11/8/2000	X		X				X	
Temporary Well	Aeration Lagoon	WL-TW1	10/31/2000	X	X	X				X	
Temporary Well	Aeration Lagoon	WL-TW2	10/31/2000	X	X	X				X	
Temporary Well	Aeration Lagoon	WL-TW3	10/31/2000	X	X	X				X	
Temporary Well	Aeration Lagoon	Dup 2	10/31/2000	X	X	X				X	Duplicate of WL-TW3
Temporary Well	BD01	BD01-02(113001)	11/30/2001	X	X	X	X		X	X	
Monitoring Well	BD01	BD01-02R(121302)	12/13/2002	X							
Monitoring Well	BD01	BD01-02R(040303)	4/3/2003	X							
Monitoring Well	BD01	BD01-02R(100504)	10/5/2004	X							
Monitoring Well	BD01	BD01-03(120501)	12/5/2001	X	X	X	X		X	X	
Monitoring Well	BD01	BD01-04(042403)	4/24/2003	X							
Monitoring Well	Build 94 Parking Lot	BD 94 EP-02(053101)	5/31/2001	X	X	X			X	X	
Monitoring Well	Build 94 Parking Lot	BD 94 EP-03(053101)	5/31/2001	X	X	X			X	X	
Monitoring Well	Build 94 Parking Lot	BD 94 EP-DUP-16	5/31/2001	X	X	X			X	X	Duplicate of BD 94 EP-02(053101)
Monitoring Well	Harriet Street	ACSP-B2A(071601)	7/16/2001	X	X						
Monitoring Well	Harriet Street	ACSP-B2AR(121302)	12/13/2002	X							
Monitoring Well	Harriet Street	ACSP-B2B(071601)	7/16/2001	X	X						
Monitoring Well	Harriet Street	ACSP-TW1	10/27/2000	X	X	X				X	
Monitoring Well	Harriet Street	ACSP-TW3	10/27/2000	X	X	X				X	
Monitoring Well	Harriet Street	ACSP-TW-Dup 1	10/27/2000	X	X	X				X	Duplicate of ACSP-TW1

See Notes on Page 15.

TABLE 2-5
WATER SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Notes:

1. AOI = Area of interest.
2. VOC = Volatile organic compounds.
3. SVOC = Semivolatile organic compounds.
4. PCB = Polychlorinated biphenyls.
5. Inorg = Inorganic constituents.
6. ulf = Ultra-low-flow sampling procedures.
7. * Analyses were completed for the VOC, SVOC, PCB, and/or Inorganic suite of compounds/ constituents included in the QAPP-defined project analyte list.
8. CN = Cyanide.
   Hg = Mercury.
   As = Arsenic.
   Cr = Chromium.
   Mn = Manganese.
   V = Vanadium.
   Ni = Nickel.
   Pb = Lead.
   Ba = Barium.
   Sb = Antimony.
   Se = Selenium.

TABLE 2-6
LNAPL SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI ID	Sample ID	Date Collected	VOC*	SVOC*	PCB*	Inorg*	TPH	Viscosity	Density	Interfacial Tension	Flashpoint	Notes
0-2B	RFI-02-14	3/22/2005	x	x	x	x						
03-1	03-03(022702)NL	2/27/2002	x	x				x	x	x		
05-1	43-162(091702)NL	9/17/2002									x	
05-1	RFI-05-13 OIL	2/6/2001	x	x	x		x	x	x	x		
05-1	RFI-05-14 OIL	2/6/2001	x	x	x		x	x	x	x		
05-5	RFI-05-11 OIL	2/6/2001	x	x	x		x	x	x	x		
05-5	05-East(040103)NL	4/1/2003			x							
05-5	05-North(040103)NL	4/1/2003			x							
05-5	RW-05-EAST(091702)NL	9/17/2002									x	
09-B	RFI-09-47(040203)NL	4/2/2003	x	x	x	x		x	x	x		
09-B	31-7(091702)NL	9/17/2002									x	
09-B	31-7(122002)NL	12/20/2002	x	x	x	x		x	x	x		
10-1	20-162(091702)NL	9/17/2002									x	
10-1	20-162(122002)NL	12/20/2002	x	x	x	x		x	x	x		
10-4	20-FP8(091702)NL	9/17/2002									x	
10-4	20-FP8(122002)NL	12/20/2002	x	x	x	x		x	x	x		
10-4	RW1-P2(091702)NL	9/17/2002									x	
12-A	RFI-12-02(051601)NL	5/16/2001	x	x	x	x		x	x	x		
12-A	RFI-12-22(091503)NL	9/15/2003	x	x	x	x		x	x	x		
12-B	RFI-12-09(061301)NL	6/13/2001	x	x	x	x		x	x	x		
12-B	RFI-12-23(040203)NL	4/2/2003	x	x	x	x		x	x	x		
12-B	RFI-12-23(051903)NL	5/19/2003				Hg, CN						
12-C	RFI-12-38(042104)NL	4/21/2004	x	x	x	x						
16-C	Tank	5/18/2001	x	x	x	x		x	x	x		Tank 113 contents analyzed as an
16-C	RFI-16-04(052901)NL	5/29/2001	x	x	x	x						
16-C	RFI-16-08(091702)NL	9/17/2002									x	
16-C	RFI-16-10(072701)NL	7/27/2001	x	x	x	x		x	x	x		
23-A	Build 23 Basement NE Corner	11/13/2002			x	Pb	x					
36-1	RFI-36-06-OIL	12/21/2000	x	x			x	x	x	x		
36-1	RFI-36-07 OIL	12/21/2000										Physical description only
36-1	RFI-36-15-OIL	12/21/2000	x	x			x	x	x	x		
36-1	RFI-36-16-OIL	12/21/2000	x	x			x	x	x	x		
36-1	RFI-36-07(091702)NL	9/17/2002									x	
36-1	RFI-36-07(011603)NL	1/16/2003	x	x	x	x		x	x	x		
36-1	RFI-36-07(031703)NL	3/17/2003	x	x	x	x		x	x	x		
36-1	RFI-36-16(091702)NL	9/17/2002									x	
36-2	36-FP6(091702)NL	9/17/2002									x	
36-2	36-FP6(122002)NL	12/20/2002	x	x	x	x		x	x	x		
36-5	Tank 37 North(022702)NL	2/27/2002	x	x				x	x	x		
36-5	20-503(091702)NL	9/17/2002									x	
36-5	20-503(040203)NL	4/2/2003	x	x	x	x		x	x	x		
36-5	20-503(051903)NL	5/19/2003				Hg, CN						
40-A	RFI-40-14R	10/6/2004	x	x	x	x						
81-2	70-101(022702)NL	2/27/2002	x	x				x	x	x		
81-2	70-103(091702)NL	9/17/2002									x	
83/84-2	Build 32 Basement	12/12/2002			x							Asbestos
83/84-2	RFI-83/84-06(101601)NL	10/16/2001	x	x	x	x		x	x	x		
83/84-2	RFI-83/84-06(091702)NL	9/17/2002									x	
83/84-2	RFI-83/84-49(061903)	6/19/2003	x	x	x	x		x	x	x		
83/84-4	RFI-83/84-07(092001)NL	9/20/2001	x	x	x	x		x	x	x		
83/84-4	RFI-83/84-07(091702)NL	9/17/2002									x	
83/84-4	RFI-83/84-07(091803)NL	9/18/2003	x	x	x	x		x	x	x		
83/84-4	RFI-83/84-45(061903)	6/19/2003	x	x	x	x		x	x	x		
85-1	RFI-85-02(082101)NL	8/21/2001	x	x	x	x		x	x	x		
86-1	RFI-86-03(122002)NL	12/20/2002	x	x	x	x		x	x	x		
86-1	RFI-86-02(061903)	6/19/2003	x	x	x	x		x	x	x		
86-1	RFI-86-02(091503)	9/15/2003	x	x	x	x		x	x	x		
MISC	Outfall 004(052103)NL	5/21/2003	x	x	x	x		x	x	x		
MISC	MH 6-24	11/13/2002			x	Pb	x					
MISC	Build 23 trench(112002)	11/20/2002			x	Hg, Pb	x					
MISC	32/66 Tunnel-100(091203)NL	9/12/2003			x							
MISC	32/66 Tunnel-50(091203)NL	9/12/2003			x							
MISC	32/66 Tunnel-0(091203)NL	9/12/2003			x							

See Notes on Page 2.

TABLE 2-6
LNAPL SAMPLE COLLECTION SUMMARY

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Notes:

1. AOI = Area of interest.
2. VOC = Volatile organic compounds.
3. SVOC = Semivolatile organic compounds.
4. PCB = Polychlorinated biphenyls.
5. Inorg = Inorganic constituents.
6. TPH = Total petroleum hydrocarbons.
7. *Analyses were completed for the VOC, SVOC, PCB, and/or Inorganic suite of compounds/ constituents included in the QAPP-defined project analyte list.
8. CN = Cyanide.
   Hg = Mercury.
   Pb = Lead.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
BUILDING 16/40 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
40-01R						
6/8/2003	NP	3.69	NP	0.00	6.0 - 11.0	
9/4/2003	NM	NM	NA	0.00		Destroyed by demolition - replacement well scheduled
Total Estimated LNAPL Removed (gallons):				**0.00**		
40-01R2						
12/15/2003	NP	4.46	NP	0.00	5.0 - 10.0	Replacement well
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	4.32	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/1/2005	NM	NM	NM	NM		
Total Estimated LNAPL Removed (gallons):				**0.00**		
40-06R						
6/8/2003	NP	5.27	NP	0.00	4.5 - 9.5	
9/4/2003	NP	5.90	NP	0.00		Added LNAPL well
12/15/2003	NP	4.51	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	5.71	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/1/2004	NM	NM	NM	NM		
Total Estimated LNAPL Removed (gallons):				**0.00**		
40-07R2						
6/8/2003	NP	`	NP	0.00	13.0 - 23.0	
9/4/2003	NP	15.30	NP	0.00		Added LNAPL well
12/15/2003	14.50	14.88	0.38	0.06		
6/23/2004	12.53	14.50	1.97	0.32		
9/20/2004	14.00	14.72	0.72	0.12		
12/1/2004	13.95	14.64	0.69	0.11		
12/22/2005	14.33	14.79	0.46	0.00		
Total Estimated LNAPL Removed (gallons):				**0.61**		
40-302						
3/2/2003	NP	7.18	NP	0.00	11.0 - 16.0	Sentinel wel
6/2/2003	NP	7.05	NP	0.00		
9/4/2003	NP	7.20	NP	0.00		
12/15/2003	NP	6.75	NP	0.00		
3/8/2004	NP	6.58	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	7.21	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/22/2005	NP	7.36	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-16-04						
3/2/2003	NP	9.02	NP	0.00	6.8 - 11.8	Sentinel wel
6/2/2003	NP	8.19	NP	0.00		
9/4/2003	NP	0.00	NP	0.00		Buried under demolition debris - well will be uncovere
12/15/2003	NM	NM	NM	0.00		Well destroyed - replacement well installed (RFI-16-04R)
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-16-04R						
3/8/2004	NP	9.63	NP	0.00	6.0 - 16.0	Replacement well
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	7.80	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/22/2005	NP	7.78	NP	0.00		
Total Estimated LNAPL Removed (gallons):				0.00		
RFI-16-07						
3/2/2003	NP	7.35	NP	0.00	1.4 - 11.4	Sentinel wel
6/2/2003	NP	6.55	NP	0.00		
9/4/2003	NP	6.66	NP	0.00		
12/15/2003	NP	7.72	NP	0.00		
3/8/2004	NP	6.07	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	6.53	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/22/2005	NP	6.79	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
BUILDING 16/40 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-16-08						
3/2/2003	NM	NM	NM	NM	2.5 - 12.5	
4/13/2003	6.63	6.64	0.01	0.00		
6/2/2003	6.69	6.79	0.10	0.00		
6/8/2003	6.24	6.36	0.12	0.02		
9/4/2003	5.81	7.32	1.51	0.24		
12/15/2003	6.58	6.85	0.27	0.00		
3/8/2004	6.10	6.32	0.22	0.04		
5/2/2004	6.04	6.37	0.33	0.05		
5/9/2004	4.92	5.22	0.30	0.05		
6/23/2004	5.86	6.13	0.27	0.09		
9/20/2004	6.61	7.20	0.59	0.10		
12/1/2004	5.92	6.41	0.49	0.08		
12/22/2005	6.94	7.36	0.42	0.00		
Total Estimated LNAPL Removed (gallons):				**0.67**		
RFI-16-09						
3/2/2003	NP	7.89	NP	0.00	4.5 - 9.5	Sentinel wel
6/2/2003	NP	6.19	NP	0.00		
9/4/2003	NP	6.78	NP	0.00		
12/15/2003	NP	5.72	NP	0.00		
3/8/2004	NP	5.28	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	6.03	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/22/2005	NP	6.52	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-16-10						
3/2/2003	10.46	11.40	0.94	0.15	4.0 - 14.0	
4/13/2003	9.52	9.60	0.08	0.01		
6/2/2003	8.94	9.19	0.25	0.00		
6/8/2003	8.41	8.73	0.32	0.05		
9/4/2003	9.34	9.86	0.52	0.08		
12/15/2003	8.97	9.26	0.29	0.00		
3/8/2004	8.04	8.14	0.10	0.00		
5/2/2004	8.70	8.75	0.05	0.08		
5/9/2004	6.61	6.85	0.24	0.03		
6/23/2004	8.02	8.20	0.18	0.00		
9/20/2004	9.20	9.55	0.35	0.06		
12/1/2004	8.05	8.45	0.40	0.06		
12/22/2005	9.39	9.50	0.11	0.00		
Total Estimated LNAPL Removed (gallons):				**0.53**		
RFI-16-20						
3/2/2003	NP	8.43	NP	0.00	6.0 - 11.0	Sentinel wel
6/2/2003	NP	6.64	NP	0.00		
9/4/2003	NP	6.96	NP	0.00		
12/15/2003	NP	5.43	NP	0.00		
3/8/2004	NP	6.46	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	7.10	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/22/2005	NP	7.41	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-40-02R						
9/4/2003	8.54	8.91	0.37	0.06	5.0 - 15.0	
12/15/2003	8.35	8.80	0.45	0.07		
4/19/2004	8.60	9.80	1.20	0.12		
6/23/2004	7.61	8.51	0.90	0.15		
9/20/2004	8.50	9.71	1.21	0.20		
12/1/2004	5.90	9.34	3.44	0.55		
12/22/2005	8.55	9.90	1.35	0.22		
Total Estimated LNAPL Removed (gallons):				**1.37**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
BUILDING 16/40 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-40-12						
6/8/2003	NP	12.94	NP	0.00	12.0 - 22.0	
9/4/2003	NM	NM	NM	0.00		
12/15/2003	NP	12.46	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	11.55	11.56	0.01	0.00		
12/1/2004	NM	NM	NM	NM		
12/1/2005	NM	NM	NM	NM		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-40-13						
6/8/2003	NP	12.00	NP	0.00	9.0 - 19.0	
9/4/2003	NP	11.74	NP	0.00		Added Sentinel wel
12/15/2003	NP	10.8	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	10.80	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/22/2005	NM	NM	NM	NM		Surveyors located but it is within fenced area
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-40-14R						
12/1/2004	10.10	12.43	2.33	0.00		
6/2005	9.26	12.70	3.44	0.00		
12/22/2005	11.14	12.55	1.41	0.23		
Total Estimated LNAPL Removed (gallons):				**0.23**		
RFI-40-20						
1/19/2005	NP	9.00	NP	0.00		Added step-out well installed 12/2004
6/2005	NP	7.71	NP	0.00		
12/22/2005	NP	8.87	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-40-25						
1/29/2005	NP	10.35	NP	0.00		Added step-out well installed 12/2004
6/2005	NP	8.92	NP	0.00		
12/22/2005	NP	9.52	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-40-26						
1/19/2005	NP	16.15	NP	0.00		Added step-out well installed 12/2004
6/2005	14.78	14.81	0.03	0.00		
12/22/2005	16.40	16.45	0.05	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-40-27						
1/19/2005	NP	9.94	NP	0.00		Added step-out well installed 12/2004
6/2005	NP	8.58	NP	0.00		
12/2005	NM	NM	NM	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
BUILDING 87/LEITH STREET AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
87-FP1						
3/2/2003	NP	2.76	NP	0.00	1.5 - 6.3	Sentinel wel
6/2/2003	NP	1.99	NP	0.00		
9/4/2003	NP	1.82	NP	0.00		
12/15/2003	NP	1.86	NP	0.00		
3/8/2004	NP	2.03	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	1.58	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/28/2005	NP	2.13	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
MW-00-FP6						
3/2/2003	NP	16.65	NP	0.00	5.0 - 18.0	Sentinel wel
6/2/2003	NP	16.60	NP	0.00		
9/4/2003	NP	16.59	NP	0.00		
12/15/2003	NP	16.59	NP	0.00		
3/8/2004	NM	NM	NA	0.00		Well covered by demolition debris
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	16.62	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/28/2005	NP	14.99	NP	0.00		Sheen on probe
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-85-02/02R						
3/2/2003	NP	12.64	NP	0.00	6.6 - 16.6	
6/2/2003	NP	11.72	NP	0.00		
9/4/2003	NP	11.92	NP	0.00		
12/15/2003	NP	11.63	NP	0.00		
3/8/2004	NM	NM	NA	0.00		Well covered by demolition debris
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	7.31	7.57	0.26	0.04		
12/1/2004	NM	NM	NM	NM		
12/28/2005	NM	NM	NM	NM		Not located - covered by snow
Total Estimated LNAPL Removed (gallons):				**0.04**		
RFI-86-02						
3/2/2003	8.17	10.56	2.39	0.38	6.8 - 16.8	Sentinel wel
6/2/2003	NP	7.84	NP	0.00		
9/4/2003	7.89	9.19	1.3	0.21		
12/15/2003	7.69	8.14	0.45	0.07		
3/8/2004	7.81	7.82	0.01	0.00		
6/23/2004	NP	6.75	NP	0.00		
9/20/2004	7.44	7.51	0.07	0.00		
12/1/2004	NP	7.09	NP	0.00		
12/28/2005	6.60	6.63	0.03	0.00		
Total Estimated LNAPL Removed (gallons):				**0.66**		
RFI-86-03						
3/2/2003	8.16	8.70	0.54	0.09	5.0 - 15.0	
6/2/2003	NP	7.34	NP	0.00		
9/4/2003	7.51	8.02	0.51	0.08		
12/15/2003	7.28	7.29	0.01	0.00		
3/8/2004	NP	7.24	NP	0.00		
6/23/2004	NP	5.95	NP	0.00		
9/20/2004	6.90	6.95	0.05	0.00		
12/1/2004	6.52	6.55	0.03	0.00		
12/28/2005	NM	NM	NM	NM		Possibly destroyed by RR removal
Total Estimated LNAPL Removed (gallons):				**0.17**		
RFI-86-06D						
3/2/2003	NP	12.97	NP	0.00	14.5 - 24.5	Sentinel wel
6/2/2003	NP	20.09	NP	0.00		
9/4/2003	NP	21.75	NP	0.00		
12/15/2003	NP	15.84	NP	0.00		
3/8/2004	NP	21.16	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	21.75	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/28/2005	NP	22.20	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
BUILDING 87/LEITH STREET AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-86-06S						
3/2/2003	NP	12.34	NP	0.00	9.5 - 14.5	Sentinel wel
6/2/2003	NP	11.99	NP	0.00		
9/4/2003	NP	12.09	NP	0.00		
12/15/2003	NP	16.15	NP	0.00		
3/8/2004	NP	12.01	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	11.81	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/28/2005	NP	11.64	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 05 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
30-120						
3/2/2003	8.26	10.80	2.54	0.41	5.0 - 20.0	Sentinel well - possible LNAPL - well to be rechecked
6/2/2003	NM	NM	NM	0.00		
6/18/2003	NP	6.52	NP	0.00		
9/4/2003	NP	6.74	NP	0.00		
12/15/2003	NP	6.90	NP	0.00		
3/8/2004	NP	6.30	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	7.22	NP	0.00		
12/1/2004	NM	NM	NM	0.00		
12/2/2005	NP	7.02	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.41**		
43-160						
3/2/2003	10.05	10.18	0.13	0.00	9.0 - 14.0	
6/2/2003	0.00	9.50	0.00	0.00		
9/4/2003	9.59	9.61	0.02	0.00		Absorbent sock in well
12/15/2003	9.34	9.39	0.05	0.00		
3/8/2004	9.63	9.73	0.10	0.02		
6/23/2004	9.34	9.40	0.06	0.00		
9/20/2004	9.45	10.01	0.56	0.09		
12/1/2004	9.56	9.70	0.14	0.00		
12/2/2005	9.85	10.34	0.49	0.00		
Total Estimated LNAPL Removed (gallons):				**0.11**		
43-161						
3/2/2003	NP	10.01	NP	0.00	9.0 - 14.0	
6/2/2003	NP	9.39	NP	0.00		
9/4/2003	NP	9.42	NP	0.00		Absorbent sock in well
12/15/2003	NP	9.13	NP	0.00		
3/8/2004	NP	9.53	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	9.31	9.80	0.49	0.09		
12/1/2004	NM	NM	NM	0.00		
12/27/2005	9.51	9.57	0.06	0.00		
Total Estimated LNAPL Removed (gallons):				**0.09**		
43-162						
3/2/2003	9.47	11.99	2.52	0.40	8.5 - 13.5	
6/2/2003	8.85	10.60	1.75	0.28		
9/4/2003	8.94	11.06	2.12	0.34		Well cover missing bolts - to be replaced
12/15/2003	8.63	10.74	2.11	0.34		
3/8/2004	8.98	11.04	2.06	0.34		
6/23/2004	8.51	10.48	1.97	0.32		
9/20/2004	8.76	11.25	2.49	0.40		
12/1/2004	8.83	10.72	1.89	0.30		
12/2/2005	9.30	11.60	2.30	0.37		
Total Estimated LNAPL Removed (gallons):				**3.09**		
43-163						
3/2/2003	9.25	9.75	0.50	0.00	8.5 - 13.5	
6/2/2003	8.45	9.80	1.35	0.22		
9/4/2003	8.62	10.19	1.57	0.25		
12/15/2003	8.15	10.37	2.22	0.36		
3/8/2004	8.36	11.15	2.79	0.45		
6/23/2004	7.96	10.16	2.20	0.34		
9/20/2004	8.25	11.70	3.45	0.56		
12/1/2004	8.80	10.35	1.55	0.25		
12/2/2005	9.11	11.54	2.43	0.40		
Total Estimated LNAPL Removed (gallons):				**2.82**		

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TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 05 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
43-164						
3/2/2003	9.16	10.00	0.84	0.00	9.5 - 14.5	
6/2/2003	8.42	8.78	0.36	0.06		
9/4/2003	8.65	8.73	0.08	0.00		
12/15/2003	8.18	8.50	0.32	0.05		
3/8/2004	8.45	9.37	0.92	0.15		
6/23/2004	7.94	8.04	0.10	0.00		
9/20/2004	8.37	13.83	5.46	0.90		
12/1/2004	8.15	8.55	0.40	0.06		
12/2/2005	9.24	9.86	0.62	0.10		
Total Estimated LNAPL Removed (gallons):				**1.32**		
43-165						
3/2/2003	8.70	11.20	2.50	0.40	6.0 - 16.0	
6/2/2003	7.61	8.58	0.97	0.16		
9/4/2003	7.79	9.98	2.19	0.35		
12/15/2003	7.30	8.03	0.73	0.12		
3/8/2004	7.47	8.02	0.55	0.09		
6/23/2004	6.90	7.45	0.55	0.09		
9/20/2004	7.15	8.20	1.05	0.17		
12/1/2004	7.40	9.48	2.08	0.33		
12/2/2005	7.73	9.96	2.23	0.36		
Total Estimated LNAPL Removed (gallons):				**2.06**		
43-166						
3/2/2003	NP	7.84	NP	0.00	5.0 - 15.0	Sentinel well
6/2/2003	NP	7.05	NP	0.00		
9/4/2003	NP	7.21	NP	0.00		
12/15/2003	NP	6.83	NP	0.00		
3/8/2004	NP	7.05	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	7.00	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/2/2005	NP	7.66	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
43-167						
3/2/2003	NP	8.40	NP	0.00	5.0 - 15.0	Sentinel well
6/2/2003	NP	7.70	NP	0.00		
9/4/2003	NP	7.76	NP	0.00		
12/15/2003	NP	7.50	NP	0.00		
3/8/2004	NP	7.89	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	8.70	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/2/2005	NP	8.09	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
43-168						
3/2/2003	NP	9.98	NP	0.00	5.0 - 15.0	Sentinel well
6/2/2003	NP	9.36	NP	0.00		
9/4/2003	NP	9.43	NP	0.00		
12/15/2003	NP	9.13	NP	0.00		
3/8/2004	NP	9.58	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	9.36	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/2/2005	NP	9.77	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

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TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 05 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
43-169						
3/2/2003	NP	9.91	NP	0.00	5.0 - 15.0	Sentinel well
6/2/2003	NP	9.38	NP	0.00		
9/4/2003	NP	9.46	NP	0.00		
12/15/2003	NP	9.30	NP	0.00		
3/8/2004	NP	9.54	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	9.38	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/2/2005	NP	9.80	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RW-05-East (previously referred to as 43-RW-East)						
3/2/2003	12.89	17.90	5.01	0.80	NA	
6/2/2003	12.55	15.65	3.10	0.50		
9/4/2003	12.59	16.22	3.63	0.58		
12/15/2003	12.57	15.73	3.16	0.51		
3/8/2004	12.73	16.20	3.47	0.56		
6/23/2004	12.48	15.18	2.70	0.44		
9/20/2004	12.55	15.06	2.51	0.40		
12/1/2004	12.55	12.66	0.11	0.50		
12/2/2005	13.68	17.10	3.42	0.56		T.O.C. too deep - levels from surface
Total Estimated LNAPL Removed (gallons):				**4.84**		
RW-05-North (previously referred to as 43-RW-North)						
3/2/2003	12.51	15.40	2.89	0.46	NA	
6/2/2003	12.43	15.15	2.72	0.44		
9/4/2003	12.56	15.40	2.84	0.45		
12/15/2003	12.50	12.70	0.20	0.00		
3/8/2004	12.60	14.20	1.60	0.33		
6/23/2004	NM	NM	NM	0.00		Recovery pump in well for interim measure pumping test, unable to collect depth to water or depth to product
9/20/2004	NM	NM	NM			Recovery well damaged by skilled trades - no measurements taken
12/1/2004	NM	NM	NM	NM		
12/2/2005	13.33	15.80	2.47	0.40		
Total Estimated LNAPL Removed (gallons):				**2.08**		
RW-05-South (previously referred to as 43-RW-South)						
3/2/2003	NP	13.80	NP	0.00	NA	
6/2/2003	NP	13.46	NP	0.00		
9/4/2003	NP	13.57	NP	0.00		
12/15/2003	NP	13.47	NP	0.00		
3/8/2004	NP	13.55	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	13.50	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/2/2005	NP	13.70	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-05-02						
3/2/2003	NP	13.71	NP	0.00	12.0 - 17.0	Sentinel well
6/2/2003	NP	13.32	NP	0.00		
9/4/2003	NP	13.42	NP	0.00		
12/15/2003	NP	13.31	NP	0.00		
3/8/2004	NP	13.45	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	13.35	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/2/2005	NP	13.63	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

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TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 05 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-05-06						
3/2/2003	NP	11.99	NP	0.00	10.0 - 20.0	Sentinel well
6/2/2003	NP	11.67	NP	0.00		
9/4/2003	NP	11.79	NP	0.00		
12/15/2003	NP	11.69	NP	0.00		
3/8/2004	NP	11.78	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	11.77	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/2/2005	NP	11.83	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-05-11						
3/2/2003	NM	NM	NM	0.00	12.5 - 17.5	
6/2/2003	NM	NM	NM	0.00		
9/4/2003	NM	NM	NM	0.00		Well cover scheduled to be repaired
12/15/2003	NM	NM	NM	0.00		Well not repaired, scheduled during shut down
3/8/2004	NM	NM	NM	0.00		Well still not repaired
6/23/2004	NM	NM	NM	0.00		Unable to open well, skilled trades scheduled to replace well cover during GM July shutdown
9/20/2004	13.21	16.15	1.94	0.32		
12/1/2004	13.19	15.80	2.61	0.42		
12/28/2005	13.22	16.35	3.13	0.51		
Total Estimated LNAPL Removed (gallons):				**1.25**		
RFI-05-13						
3/2/2003	13.18	16.35	3.17	0.51	11.0 - 16.0	
6/2/2003	12.68	16.35	3.67	0.59		
9/4/2003	13.00	NM	NA	0.00		Unable to gauge water, due to obstruction in well - obstruction to be removed
12/15/2003	12.62	16.20	3.58	0.57		
3/8/2004	13.45	14.05	0.60	0.10		
4/19/2004	13.45	14.05	0.60	0.10		
6/23/2004	12.48	16.10	3.62	0.59		
9/20/2004	12.74	16.02	3.28	0.56		
12/1/2004	12.72	16.09	3.37	0.54		
12/2/2005	13.11	16.35	3.24	0.53		16.35 depth to bottom
Total Estimated LNAPL Removed (gallons):				**4.09**		
RFI-05-14						
3/2/2003	13.41	15.43	2.02	0.32	12.0 - 17.0	
6/2/2003	12.74	14.71	1.97	0.32		
9/4/2003	13.01	15.67	2.66	0.43		
12/15/2003	12.62	14.50	1.88	0.30		
3/8/2004	13.32	15.13	1.81	0.30		
4/19/2004	13.32	15.13	1.81	0.30		
6/23/2004	12.37	14.32	1.95	0.32		
9/20/2004	12.70	14.69	1.99	0.32		
12/1/2004	12.70	14.57	1.87	0.30		
12/2/2005	13.32	15.22	1.90	0.31		
Total Estimated LNAPL Removed (gallons):				**3.21**		
RFI-05-21						
3/2/2003	NM	NM	NM	NM	8.0 - 18.0	Sentinel well
6/2/2003	NP	7.81	NP	0.00		
9/4/2003	NP	8.08	NP	0.00		
12/15/2003	NP	7.39	NP	0.00		Bentonite heave in well vault
3/8/2004	NP	7.56	NP	0.00		
12/1/2004	NM	NM	NM	NM		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-05-21R						
5/2/2004	NP	7.23	NP	0.00	4.0 - 14.0	Replacement well
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	7.48	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/27/2005	NP	7.75	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

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FORMER TANK FARM 37 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
20-500						
3/2/2003	NP	10.40	NP	0.00	13.1 - 18.1	Sentinel well
6/2/2003	NP	9.33	NP	0.00		
9/4/2003	NP	9.66	NP	0.00		
12/15/2003	NP	8.75	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-500R						
12/15/2003	NP	8.98	NP	0.00	6.0 - 16.0	Supplemental well
3/8/2004	NP	8.78	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004); check replacement well only
9/20/2004	NP	8.61	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/8/2005	NP	9.65	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-502						
3/2/2003	11.22	13.15	1.93	0.31	9.5 - 14.5	
4/13/2003	10.70	12.10	1.40	0.22		
6/2/2003	10.35	12.10	1.75	0.28		
6/8/2003	10.33	12.33	2.00	0.32		
9/4/2003	11.24	12.21	0.97	0.16		
12/15/2003	9.68	11.75	2.07	0.33		
3/8/2004	9.73	11.50	1.77	0.29		
5/2/2004	9.20	11.08	1.88	0.31		
5/9/2004	8.02	10.21	2.19	0.36		
6/23/2004	8.69	11.40	2.71	0.44		
9/20/2004	9.40	12.50	3.10	0.50		
12/1/2004	9.63	11.02	1.39	0.22		
12/28/2005	10.31	11.94	1.63	0.27		
Total Estimated LNAPL Removed (gallons):				**4.01**		
20-503						
3/2/2003	12.22	13.04	0.82	0.13	10.9 - 15.9	
4/13/2003	11.80	12.45	0.65	0.10		
6/2/2003	11.56	12.18	0.62	0.10		
6/8/2003	11.55	12.00	0.45	0.07		
9/4/2003	10.45	11.97	1.52	0.24		
12/15/2003	10.72	12.09	1.37	0.22		
3/8/2004	10.73	11.70	0.97	0.16		
5/2/2004	10.55	11.70	1.15	0.19		
5/9/2004	9.63	10.54	0.91	0.15		
6/23/2004	10.10	11.86	1.76	0.29		
9/20/2004	10.53	12.15	1.62	0.26		
12/1/2004	10.68	11.73	1.05	0.17		
12/28/2005	11.36	12.75	1.39	0.23		
Total Estimated LNAPL Removed (gallons):				**2.32**		
20-506						
3/2/2003	NP	11.73	NP	0.00	9.9 - 14.9	Sentinel well
6/2/2003	NP	10.83	NP	0.00		
9/4/2003	NP	10.78	NP	0.00		
12/15/2003	NP	9.96	NP	0.00		
3/8/2004	NP	9.45	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	9.51	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/8/2005	NP	10.65	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

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GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
37-RW-North						
3/2/2003	12.09	12.1	0.01	0.00	NA	
4/13/2003	11.42	11.43	0.01	0.00		
6/2/2003	10.97	10.98	0.01	0.00		
6/8/2003	10.95	10.96	0.01	0.00		
9/4/2003	11.15	11.16	0.01	0.00		Sheen
12/15/2003	10.26	10.27	0.01	0.00		Sheen
3/8/2004	NP	9.87	NP	0.00		
5/9/2004	NP	9.26	NP	0.00		
6/23/2004	9.22	9.23	0.01	0.00		
9/20/2004	9.91	10.60	0.69	0.11		
12/1/2004	9.80	9.81	0.01	0.00		
12/8/2005	11.02	11.05	0.03	0.00		
Total Estimated LNAPL Removed (gallons):				**0.11**		
37-RW-South						
3/2/2003	13.12	13.13	0.01	0.00	NA	
4/13/2003	13.60	13.61	0.01	0.00		
6/2/2003	13.86	13.86	0.00	0.00		Sheen
6/8/2003	13.85	13.86	0.01	0.00		
9/4/2003	NM	NM	NM	NM		Dry
12/15/2003	10.88	10.89	0.01	0.00		Sheen
3/8/2004	NP	10.54	NP	0.00		
5/9/2004	9.20	9.21	0.01	0.00		
6/23/2004	9.98	9.99	0.01	0.00		
9/20/2004	NP	10.61	NP	0.00		
12/1/2004	NP	9.73	NP	0.00		
12/8/2005	NP	11.54	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-36-13						
3/2/2003	NP	11.65	NP	0.00	9.0 - 19.0	
6/2/2003	NP	10.69	NP	0.00		
9/4/2003	NM	NM	NM	0.00		
12/15/2003	NP	8.10	NP	0.00		
3/8/2004	NP	10.24	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	10.52	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/28/2005	NP	9.93	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-36-14						
3/2/2003	NP	11.32	NP	0.00	6.0 - 16.0	Sentinel well
6/2/2003	NP	8.68	NP	0.00		
9/4/2003	NP	9.11	NP	0.00		
12/15/2003	NP	8.21	NP	0.00		
3/8/2004	NP	7.54	NP	0.00		
6/23/2004	NM	NM	NM	NM		Monitor once per year (Sept. 2004)
9/20/2004	NP	7.52	NP	0.00		
12/1/2004	NM	NM	NM	NM		
12/8/2005	NP	8.87	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

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GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
20-145						
3/2/2003	NP	9.95	NP	0.00	8.5 - 13.5	Sentinel well
6/2/2003	NP	9.34	NP	0.00		
9/4/2003	NP	9.33	NP	0.00		
12/15/2003	NP	9.07	NP	0.00		
3/8/2004	NP	9.28	NP	0.00		
6/23/2004	NP	8.91	NP	0.00		
9/20/2004	NP	9.08	NP	0.00		
12/1/2004	NM	NM	NM	NM		
7/2005	NP	8.83	NP	0.00		
12/6/2005	NP	9.52	NP	0.00		No well cover
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-160						
3/2/2003	NP	0.00	NP	0.00	11.0 - 16.0	Sentinel well - outside
6/2/2003	NP	11.87	NP	0.00		
9/4/2003	NP	12.08	NP	0.00		
12/15/2003	NP	11.70	NP	0.00		
3/8/2004	NP	11.48	NP	0.00		
6/23/2004	NP	11.05	NP	0.00		
9/20/2004	NP	11.23	NP	0.00		
12/1/2004	NM	NM	NM	NM		
7/2005	NP	11.40	NP	0.00		
12/6/2005	12.34	12.35	0.01	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-161						
6/2/2003	NM	NM	NM	0.00	14.0 - 19.0	Unable to locate
9/4/2003	NM	NM	NM	0.00		Unable to locate
12/15/2003	NM	NM	NM	0.00		Unable to locate
3/8/2004	NM	NM	NM	0.00		Unable to locate
6/23/2004	NM	NM	NM	0.00		Unable to locate - possibly destroyed
12/1/2004	NM	NM	NM	0.00		Unable to locate
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-162						
3/2/2003	13.05	13.14	0.09	0.00	8.0 - 13.0	
6/2/2003	12.51	12.74	0.23	0.00		
9/4/2003	12.50	12.71	0.21	0.00		
12/15/2003	12.39	12.60	0.21	0.00		
3/8/2004	12.28	12.42	0.14	0.02		
6/23/2004	11.74	11.80	0.06	0.00		
9/20/2004	11.99	12.19	0.20	0.00		
12/1/2004	12.14	12.72	0.58	0.09		
7/2005	11.90	12.55	0.65	0.00		
12/12/2005	12.60	12.66	0.06	0.00		
Total Estimated LNAPL Removed (gallons):				**0.11**		
20-163						
3/2/2003	10.85	16.03	5.18	0.83	10.0 - 15.0	
6/2/2003	10.14	15.65	5.51	0.88		
9/4/2003	10.33	15.51	5.18	0.83		
12/15/2003	9.86	15.67	5.81	0.93		
3/8/2004	9.68	15.56	5.88	0.96		
6/23/2004	9.48	14.30	4.82	0.79		
9/20/2004	9.60	14.95	5.35	0.87		
12/1/2004	9.54	14.95	5.41	0.87		
7/2005	9.75	14.21	4.46	0.00		
12/13/2005	11.78	14.20	2.42	0.39		
Total Estimated LNAPL Removed (gallons):				**7.35**		

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NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
20-164						
3/2/2003	NP	13.42	NP	0.00	11.0 - 16.0	Well cover broken - to be replaced
6/2/2003	NP	11.34	NP	0.00		
9/4/2003	NP	12.13	NP	0.00		
12/15/2003	NP	12.62	NP	0.00		
3/8/2004	NP	12.90	NP	0.00		
6/23/2004	NP	10.55	NP	0.00		
9/20/2004	NP	11.30	NP	0.00		
12/1/2004	NM	NM	NM	NM		
7/2005	NP	13.00	NP	0.00		
12/13/2005	NP	12.39	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-167						
3/2/2003	NM	NM	NM	NM	16.0 - 21.0	Under permanent shelving inside
6/2/2003	NP	12.86	NP	0.00		
9/4/2003	NP	12.85	NP	0.00		
12/15/2003	NP	12.78	NP	0.00		
3/8/2004	NM	NM	NM	NM		Under permanent shelving inside
6/23/2004	NP	12.63	NP	0.00		
9/20/2004	NP	12.91	NP	0.00		
12/1/2004	NM	NM	NM	NM		
7/2005	12.73	13.46	0.73	0.00		
12/12/2005	NP	13.11	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-168						
3/2/2003	NM	NM	NM	NM	13.0 - 18.0	Under pallets inside
6/2/2003	NM	NM	NM	0.00		Unable to locate
9/4/2003	13.17	13.18	0.01	0.00		
12/15/2003	NM	NM	NM	NM		Steel racks installed and bolted to floor over top of the well
3/8/2004	13.09	13.13	0.04	0.00		
6/23/2004	NM	NM	NM	NM		Well covered with permanent shelving that has been bolted to the floor
9/20/2004	13.12	13.63	0.51	0.08		
12/1/2004	NM	NM	NM	NM		
7/2005	NM	NM	NM	NM		
12/12/2005	13.26	15.01	1.75	0.29		
Total Estimated LNAPL Removed (gallons):				**0.37**		
20-169						
3/2/2003	13.73	13.72	0.01	0.00	13.0 - 18.0	
6/2/2003	NP	13.23	NP	0.00		
9/4/2003	NP	13.24	NP	0.00		
12/15/2003	NP	13.70	NP	0.00		
3/8/2004	NP	13.00	NP	0.00		
6/23/2004	NP	12.75	NP	0.00		
9/20/2004	NP	13.02	NP	0.00		
12/1/2004	NM	NM	NM	NM		
7/2005	NP	12.72	NP	0.00		
12/12/2005	NP	13.78	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-170						
3/2/2003	9.38	9.46	0.08	0.00	7.8 - 12.8	
6/2/2003	NP	7.80	NP	0.00		
9/4/2003	NP	8.45	NP	0.00		
12/15/2003	NP	7.70	NP	0.00		
3/8/2004	NP	6.93	NP	0.00		
6/23/2004	NP	7.25	NP	0.00		
9/20/2004	NP	7.83	NP	0.00		
12/1/2004	NP	7.65	NP	0.00		
7/2005	NP	8.25	NP	0.00		
12/13/2005	9.42	9.44	0.02	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

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Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
20-FP4						
3/2/2003	NM	NM	NM	NM	6.0 - 15.8	Well destroyed by trenching - to be replaced
6/2/2003	NM	NM	NM	0.00		
9/4/2003	NM	NM	NM	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-FP4R						
12/15/2003	9.95	10.38	0.43	0.07	5.0 - 15.0	Replacement well
3/8/2004	9.70	10.21	0.51	0.08		
6/23/2004	9.29	9.49	0.20	0.00		
9/20/2004	9.60	11.00	1.40	0.23		
12/1/2004	7.30	8.64	1.34	0.21		
7/2005	9.26	9.87	0.61	0.00		
12/27/2005	10.04	10.48	0.44	0.00		
Total Estimated LNAPL Removed (gallons):				**0.59**		
20-FP6						
3/2/2003	NP	7.71	NP	0.00	10.0 - 14.8	
6/2/2003	NP	7.71	NP	0.00		
9/4/2003	NP	7.96	NP	0.00		
12/15/2003	NP	7.44	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-FP6R						
12/15/2003	NP	6.69	NP	0.00	5.0 - 15.0	Replacement well
3/8/2004	NP	7.04	NP	0.00		
6/23/2004	NP	6.35	NP	0.00		
9/20/2004	NP	6.96	NP	0.00		
12/1/2004	NP	7.46	NP	0.00		
7/2005	NP	7.32	NP	0.00		
12/8/2005	NP	8.15	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-FP7						
3/2/2003	9.66	9.90	0.24	0.00	4.0 - 13.8	
6/2/2003	8.06	9.07	1.01	0.16		
9/4/2003	8.55	9.54	0.99	0.16		
12/15/2003	7.83	9.43	1.60	0.26		
3/8/2004	7.43	9.20	1.77	0.29		
6/23/2004	7.14	8.95	1.81	0.30		
9/20/2004	7.70	10.45	2.75	0.45		
12/1/2004	7.55	8.77	1.22	0.20		
7/2005	7.82	9.02	1.20	0.00		
12/8/2005	10.14	11.44	1.30	0.21		
Total Estimated LNAPL Removed (gallons):				**2.03**		
20-FP8						
3/2/2003	9.28	9.67	0.39	0.00	4.0 - 13.8	
6/2/2003	NM	NM	NM	0.00		Under mulch pile - to be uncovered
9/4/2003	8.58	10.40	1.82	0.29		
12/15/2003	7.79	9.65	1.86	0.30		
3/8/2004	7.69	8.17	0.48	0.08		
6/23/2004	7.28	8.60	1.32	0.22		
9/20/2004	7.76	10.85	3.09	0.50		
12/1/2004	7.61	8.95	1.34	0.21		
7/1/2005	8.13	9.39	1.26	0.00		
12/8/2005	10.12	11.29	1.17	0.19		
Total Estimated LNAPL Removed (gallons):				**1.79**		
20-FP9						
3/2/2003	NP	10.34	NP	0.00	4.5 - 14.3	
6/2/2003	NM	NM	NM	0.00		Buried - stone pile
9/4/2003	NP	see comment	NP	0.00		Well destroyed IM trenching; PVC well visible but damaged beyond repair - well to be replaced; depth to water is 9.17 and no LNAPL present
Total Estimated LNAPL Removed (gallons):				**0.00**		

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Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
20-FP9R						
12/15/2003	NP	8.61	NP	0.00	5.0 - 15.0	Replacement well
3/8/2004	NP	8.07	NP	0.00		
6/23/2004	NP	7.70	NP	0.00		
9/20/2004	NP	8.20	NP	0.00		
12/1/2004	NM	NM	NM	NM		
7/2005	NM	NM	NM	NM		Buried - stone pile
12/27/2005	NP	9.81	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-FP10						
3/2/2003	NP	8.56	NP	0.00	3.5 - 13.3	
6/2/2003	NP	7.08	NP	0.00		
9/4/2003	NM	NM	NM	0.00		Damaged by railroad track removal, well to be replaced
12/15/2003	NP	6.80	NP	0.00		Riser bent ~1' bgs
3/8/2004	NM	NM	NM	0.00		Well damaged
6/23/2004	NP	6.23	NP	0.00		
9/20/2004	NP	6.76	NP	0.00		
12/1/2004	NM	NM	NM	NM		
7/2005	NP	6.61	NP	0.00		
12/8/2005	NM	NM	NM	NM		Well damaged, bent
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-FP11						
3/2/2003	NP	5.55	NP	0.00	3.0 - 9.8	
6/2/2003	NP	0.00	NP	0.00		Destroyed - replaced by 20-FP11R
Total Estimated LNAPL Removed (gallons):				**0.00**		
20-FP11R						
9/4/2003	NP	4.69	NP	0.00	2.5 - 12.5	20-FP11 destroyed by IM trenching - replacement well installed
12/15/2003	NP	3.75	NP	0.00		
3/8/2004	NP	3.38	NP	0.00		
6/23/2004	NP	3.26	NP	0.00		
9/20/2004	NP	3.85	NP	0.00		
12/1/2004	NM	NM	NM	NM		
7/2005	NP	3.64	NP	0.00		
12/8/2005	NP	4.92	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-03-04						
3/2/2003	NP	8.79	NP	0.00	5.0 - 15.0	Sentinel well
6/2/2003	NP	5.72	NP	0.00		
9/4/2003	NP	6.20	NP	0.00		
12/15/2003	NP	5.73	NP	0.00		
3/8/2004	NP	5.29	NP	0.00		
6/23/2004	NP	5.38	NP	0.00		
9/20/2004	NP	5.97	NP	0.00		
12/1/2004	NM	NM	NM	NM		
7/2005	NP	6.18	NP	0.00		
12/8/2005	NP	7.20	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RW1-P1						
3/2/2003	12.21	12.66	0.45	0.07	NA	Missing well cover - to be replaced
6/2/2003	11.00	11.23	0.23	0.04		
9/4/2003	11.14	11.41	0.27	0.00		
12/15/2003	10.64	10.74	0.10	0.00		
3/8/2004	10.54	10.74	0.20	0.03		
4/19/2004	10.65	12.42	1.77	0.29		
6/23/2004	10.46	10.47	0.01	0.00		
9/20/2004	10.61	10.95	0.34	0.06		
12/1/2004	10.60	10.65	0.05	0.00		
7/2005	10.56	10.72	0.16	0.00		
12/8/2005	11.83	12.44	0.61	0.10		Very thick product; may be stuck on probe
Total Estimated LNAPL Removed (gallons):				**0.59**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 10 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RW1-P2						
3/2/2003	11.49	16.58	5.09	0.81	NA	
6/2/2003	10.54	13.35	2.81	0.45		
9/4/2003	10.60	15.20	4.60	0.74		
12/15/2003	10.70	12.38	1.68	0.27		
3/8/2004	10.65	12.42	1.77	0.29		
6/23/2004	10.65	11.75	1.10	0.18		
9/20/2004	10.65	12.19	1.54	0.25		
12/1/2004	10.59	13.20	2.61	0.42		
7/2005	10.75	12.25	1.50	0.00		
12/8/2005	11.50	16.97	5.47	0.89		Very thick product; may be stuck on probe
Total Estimated LNAPL Removed (gallons):				**4.30**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 36 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
36-160						
3/2/2003	12.53	12.55	0.02	0.00	10.0 - 17.0	Covered
6/2/2003	11.13	11.14	0.01	0.00		
9/4/2003	11.33	11.55	0.22	0.00		
12/15/2003	10.96	10.97	0.01	0.00		
3/8/2004	10.45	10.60	0.15	0.00		
6/23/2004	9.50	10.20	0.70	0.11		
9/20/2004	7.60	9.55	1.95	0.31		
12/1/2004	12.62	14.11	1.49	0.24		
6/2005	7.03	9.63	2.60	0.00		
12/2/2005	8.25	10.68	2.43	0.40		
Total Estimated LNAPL Removed (gallons):				**1.06**		
36-FP2						
3/2/2003	NP	13.31	NP	0.00	8.0 - 17.8	Sentinel well
6/2/2003	NP	12.79	NP	0.00		
9/4/2003	NP	13.09	NP	0.00		
12/15/2003	NP	12.84	NP	0.00		
3/8/2004	NP	12.46	NP	0.00		
6/23/2004	NP	11.56	NP	0.00		
9/20/2004	11.41	12.20	0.79	0.13		
12/1/2004	11.87	13.28	1.41	0.00		
6/2005	11.38	11.93	0.55	0.00		
12/14/2005	12.43	13.72	1.29	0.21		
Total Estimated LNAPL Removed (gallons):				**0.34**		
36-FP3						
3/2/2003	12.02	12.90	0.88	0.14	8.0 - 17.8	
6/2/2003	11.53	12.21	0.68	0.11		
9/4/2003	11.84	12.90	1.06	0.15		
12/15/2003	11.60	12.32	0.72	0.12		
3/8/2004	11.22	12.17	0.95	0.15		
6/23/2004	10.08	11.24	1.16	0.19		
9/20/2004	10.25	11.74	1.49	0.25		
12/1/2004	10.79	11.19	0.40	0.06		
6/2005	10.15	10.16	0.01	0.00		
12/2/2005	11.31	12.19	0.88	0.14		
Total Estimated LNAPL Removed (gallons):				**1.30**		
36-FP4						
3/2/2003	16.38	16.50	0.12	0.00	11.5 - 21.3	
6/2/2003	15.95	15.95	0.00	0.00		Sheen
9/4/2003	15.26	15.28	0.02	0.00		
12/15/2003	NP	16.04	NP	0.00		
3/8/2004	NP	15.68	NP	0.00		
6/23/2004	NP	15.79	NP	0.00		
9/20/2004	NP	14.80	NP	0.00		
12/1/2004	NP	15.20	NP	0.00		
6/2005	NP	14.44	NP	0.00		
12/2/2005	15.61	15.65	0.04	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
36-FP6						
3/2/2003	10.41	12.75	2.34	0.37	5.0 - 14.8	
6/2/2003	8.30	14.04	5.74	0.92		
9/4/2003	9.31	14.22	4.91	0.79		
12/15/2003	8.83	14.35*	5.52	0.88		*Total well depth = 14.35' - no water in well
3/8/2004	8.50	14.35*	5.85	0.95		*Total well depth = 14.35' - no water in well
6/23/2004	7.55	13.30	5.75	0.94		
9/20/2004	7.95	14.35*	6.40	1.04		
12/1/2004	8.66	13.50	4.84	0.77		
6/2005	7.81	14.35*	6.54	0.00		*Total well depth = 14.35' - no water in well
12/2/2005	8.95	13.46	4.51	0.74		
Total Estimated LNAPL Removed (gallons):				**7.40**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 36 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
36-FP7						
3/2/2003	12.80	14.80	2.00	0.32	7.0 - 16.8	
6/2/2003	12.01	17.02	5.01	0.80		
9/4/2003	12.36	16.92	4.56	0.73		
12/15/2003	12.19	15.60	3.41	0.55		
3/8/2004	11.76	15.60	3.84	0.63		
6/23/2004	10.35	17.02	6.67	1.09		
9/20/2004	10.62	15.90	5.28	0.86		
12/1/2004	11.21	15.20	3.99	0.64		
6/2005	10.14	16.46	6.32	0.00		
12/13/2005	12.14	15.75	3.61	0.59		
Total Estimated LNAPL Removed (gallons):				**6.21**		
36-FP8						
3/2/2003	NP	9.48	NP	0.00	6.0 - 13.0	Sentinel well
6/2/2003	5.77	5.78	0.01	0.00		
9/4/2003	NP	8.38	NP	0.00		
12/15/2003	NP	7.80	NP	0.00		
3/8/2004	NP	7.62	NP	0.00		
6/23/2004	NP	6.82	NP	0.00		
9/20/2004	NP	7.39	NP	0.00		
12/1/2004	NM	NM	NM	0.00		
6/2005	NP	6.81	NP	0.00		
12/13/2005	NP	8.23	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-36-04						
3/2/2003	NP	18.64	NP	0.00	18.1 - 23.1	Sentinel well
6/2/2003	NP	18.44	NP	0.00		
9/4/2003	NP	18.77	NP	0.00		
12/15/2003	NP	18.52	NP	0.00		
3/8/2004	NP	18.26	NP	0.00		
6/23/2004	NP	17.53	NP	0.00		
9/20/2004	NP	17.63	NP	0.00		
12/1/2004	NM	NM	NM	NM		
6/2005	NP	17.20	NP	0.00		Sheen
12/2/2005	NP	17.97	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-36-05						
3/2/2003	NP	17.85	NP	0.00	17.0 - 22.0	Sentinel well
6/2/2003	NP	17.43	NP	0.00		
9/4/2003	NP	17.80	NP	0.00		
12/15/2003	NP	17.53	NP	0.00		
3/8/2004	NP	17.17	NP	0.00		
6/23/2004	NP	16.30	NP	0.00		
9/20/2004	NP	16.40	NP	0.00		
12/1/2004	NM	NM	NM	0.00		
6/2005	NP	16.06	NP	0.00		
12/2/2005	NP	17.05	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-36-06						
3/2/2003	17.45	19.30	1.85	0.30	16.0 - 21.0	
6/2/2003	17.23	18.41	1.18	0.19		
9/4/2003	17.47	19.46	1.99	0.32		
1/23/2004	17.27	18.20	0.93	0.00		Asbestos removal action in area, no access to well on 12/15/2003
3/8/2004	16.95	18.20	1.25	0.20		
6/23/2004	NP	16.40	NP	0.00		
9/20/2004	16.21	16.93	0.71	0.12		
12/1/2004	16.60	17.91	1.31	0.00		
6/2005	16.01	16.54	0.53	0.00		
12/2/2005	16.75	18.34	1.59	0.26		
Total Estimated LNAPL Removed (gallons):				**1.38**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 36 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-36-07						
3/2/2003	14.92	16.40	1.48	0.24	15.0 - 20.0	
6/2/2003	NM	NM	NA	0.00		
9/4/2003	NM	NM	NA	0.00		Well cover to be replaced
12/15/2003	NM	NM	NA	0.00		Working with GM Skilled trades to open
3/8/2004	NM	NM	NA	0.00		Cover still damaged
6/23/2004	14.60	16.20	1.60	0.26		
9/20/2004	13.69	15.23	1.54	0.25		
12/1/2004	14.83	16.24	1.41	0.23		
6/2005	14.31	15.76	1.45	0.00		
12/2/2005	NM	NM	NM	NM		Damaged lid - ran over lid / can't open
Total Estimated LNAPL Removed (gallons):				**0.98**		
RFI-36-15						
3/2/2003	14.50	18.91	4.41	0.71	14.5 - 19.5	
6/2/2003	14.18	18.25	4.07	0.65		
9/4/2003	14.57	18.87	4.30	0.69		
12/15/2003	14.22	19.00	4.78	0.76		
3/8/2004	14.28	18.80	4.52	0.74		
6/23/2004	13.56	18.75	5.19	0.85		
9/20/2004	13.60	18.40	4.80	0.78		
12/1/2004	13.85	18.60	4.75	0.76		
6/2005	13.44	18.52	5.08	0.00		
12/2/2005	13.91	18.30	4.39	0.72		
Total Estimated LNAPL Removed (gallons):				**6.66**		
RFI-36-16						
3/2/2003	16.75	20.85	4.10	0.66	16.0 - 21.0	
6/2/2003	16.66	20.80	4.14	0.66		
9/4/2003	16.39	21.05	4.66	0.75		
12/15/2003	15.90	21.00	5.10	0.83		
3/8/2004	15.67	20.85	5.18	0.84		
6/23/2004	14.70	21.12	6.42	1.05		
9/20/2004	14.70	21.00	6.30	1.02		
12/1/2004	15.30	21.04	5.74	0.92		
6/2005	NM	NM	NM	NM		Well sealed, can not open
Total Estimated LNAPL Removed (gallons):				**6.72**		
RFI-36-21						
3/2/2003	17.23	18.46	1.23	0.20	13.5 - 18.5	
6/2/2003	16.85	17.60	0.75	0.12		
9/4/2003	17.23	17.58	0.35	0.10		
12/15/2003	16.95	17.45	0.50	0.08		
3/8/2004	16.40	17.78	1.38	0.22		
6/23/2004	15.60	17.60	2.00	0.33		
9/20/2004	15.62	17.60	1.98	0.32		
12/1/2004	14.15	17.59	3.44	0.55		
6/2005	15.27	17.69	2.42	0.00		
12/2/2005	16.36	17.31	0.95	0.15		
Total Estimated LNAPL Removed (gallons):				**2.07**		
RFI-36-22						
3/2/2003	13.91	16.74	2.83	0.45	12.0 - 17.0	
6/2/2003	13.81	16.76	2.95	0.47		
9/4/2003	14.00	16.77	2.77	0.44		
12/15/2003	13.82	16.77	2.95	0.47		
3/8/2004	15.23	17.00	1.77	0.29		
6/23/2004	13.55	16.90	3.35	0.55		
9/20/2004	13.45	16.90	3.45	0.56		
12/1/2004	13.60	16.80	3.20	0.51		
6/2005	13.42	16.89	3.47	0.00		
12/2/2005	13.62	16.71	3.10	0.51		
Total Estimated LNAPL Removed (gallons):				**4.26**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 36 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-36-23						
9/4/2003	14.58	14.70	0.12	0.00	12.0 - 17.0	Added LNAPL well
12/15/2003	14.49	14.60	0.11	0.00		
4/19/2004	14.24	14.35	0.11	0.00		
6/23/2004	13.80	13.88	0.08	0.00		
9/20/2004	13.65	13.68	0.03	0.00		
12/1/2004	14.00	14.10	0.10	0.00		
6/2005	13.70	13.77	0.07	0.00		
12/2/2005	14.15	14.72	0.57	0.09		
Total Estimated LNAPL Removed (gallons):				**0.09**		
RFI-36-27						
3/2/2003	17.86	19.52	1.66	0.27	16.0 - 22.0	
6/2/2003	17.71	18.64	0.93	0.15		Added LNAPL well
9/4/2003	17.95	19.38	1.43	0.23		
12/15/2003	17.73	18.79	1.06	0.17		
3/8/2004	NM	NM	NA	0.00		Can not open well
4/19/2004	NM	NM	NA	0.00		Can not open well
6/23/2004	NM	NM	NM	NM		Unable to open well, will attempt to have skilled trades replace well cover during GM July shutdown
9/20/2004	16.80	17.96	1.16	0.20		
12/1/2004	17.02	18.25	1.23	0.20		
6/2005	NM	NM	NM	NM		Can not open well
12/2/2005	17.12	18.45	1.33	0.22		
Total Estimated LNAPL Removed (gallons):				**1.43**		
RFI-36-29R						
3/2/2003	NP	15.70	NP	0.00	11.0 - 21.0	Sentinel well
6/2/2003	NP	15.92	NP	0.00		
9/4/2003	NP	16.22	NP	0.00		
12/15/2003	NP	15.36	NP	0.00		
3/8/2004	NP	15.14	NP	0.00		
6/23/2004	NP	14.66	NP	0.00		
9/20/2004	NP	14.25	NP	0.00		
12/1/2004	NM	NM	NM	0.00		
6/2005	14.56	15.42	0.86	0.00		
12/27/2005	15.07	16.07	1.00	0.16		
Total Estimated LNAPL Removed (gallons):				**0.16**		
RFI-36-43						
6/2/2003	NM	NM	NM	0.00	10.0 - 20.0	Added LNAPL well/soil boring
9/4/2003	13.53	14.03	0.50	0.08		
12/15/2003	13.44	13.82	0.38	0.06		
4/19/2004	13.17	13.45	0.28	0.00		
6/23/2004	NM	NM	NM	NM		Unable to access due to engine storage racks, fork truck drivers not available to move racks; will attempt to re-gauge after GM July shutdown
9/20/2004	12.70	12.72	0.02	0.00		
12/1/2004	sheen	13.01	sheen	0.00		
6/2005	NP	12.36	NP	0.00		
12/2/2005	15.53	16.51	0.98	0.16		
Total Estimated LNAPL Removed (gallons):				**0.30**		
RFI-36-49						
4/13/2003	18.29	18.30	0.01	0.00	15.0 - 25.0	
6/2/2003	18.18	18.20	0.02	0.00		
6/8/2003	18.13	18.16	0.03	0.00		
9/4/2003	18.47	19.10	0.63	0.10		Added LNAPL well
12/15/2003	18.10	19.51	1.41	0.23		
4/19/2004	17.85	18.61	0.76	0.12		
6/23/2004	17.29	17.70	0.41	0.08		
9/20/2004	17.09	17.72	0.63	0.10		
12/1/2004	17.99	18.33	0.34	0.09		
6/2005	17.08	17.70	0.62	0.00		
12/2/2005	17.65	18.59	0.94	0.15		
Total Estimated LNAPL Removed (gallons):				**0.87**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 83/84 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-83/84-04						
3/19/2003	10.33	10.49	0.16	0.00	11.0 - 16.0	Add to program
6/2/2003	10.15	10.27	0.12	0.00		
9/4/2003	10.18	NM	NA	0.00		Obstruction at 10.3 bgs
12/15/2003	10.24	10.34	0.10	0.00		
4/19/2004	10.05	10.30	0.25	0.04		
6/23/2004	10.07	10.20	0.13	0.00		
9/20/2004	10.06	10.18	0.12	0.00		
12/1/2004	9.59	9.65	0.06	0.00		
6/2005	NM	NM	NM	NM		No access, health & safety concern
Total Estimated LNAPL Removed (gallons):				**0.04**		
RFI-83/84-06						
3/2/2003	11.11	13.00	1.89	0.30	7.0 - 17.0	
6/2/2003	10.87	12.80	1.93	0.31		
9/4/2003	10.98	12.99	2.01	0.32		
12/15/2003	10.83	12.78	1.95	0.31		
3/8/2004	10.79	12.95	2.16	0.35		
6/23/2004	10.50	12.50	2.00	0.33		
9/20/2004	10.66	12.50	1.84	0.30		
12/1/2004	10.30	12.91	2.61	0.41		
6/2005	NM	NM	NM	NM		No access, health & safety concern
Total Estimated LNAPL Removed (gallons):				**2.63**		
RFI-83/84-07						
3/2/2003	10.87	12.92	2.05	0.33	8.8 - 18.8	
6/2/2003	10.49	10.78	0.29	0.00		
9/4/2003	10.66	12.03	1.37	0.22		
12/15/2003	10.50	11.85	1.35	0.22		
3/8/2004	10.68	11.97	1.29	0.21		
6/23/2004	10.40	11.50	1.10	0.18		
9/20/2004	10.39	11.63	1.24	0.20		
12/1/2004	NP	10.25	NP	0.00		
6/2005	NM	NM	NM	NM		No access, health & safety concern
Total Estimated LNAPL Removed (gallons):				**1.35**		
RFI-83/84-11						
3/2/2003	NP	7.93	NP	0.00	5.0 - 15.0	Well removed from monitoring program
3/8/2004	NP	7.37	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-83/84-26						
4/13/2003	NM	NM	NM	NM	8.0 - 18.0	Sentinel well
6/2/2003	NM	NM	NM	0.00		
9/4/2003	NP	10.76	NP	0.00		
12/15/2003	NP	10.68	NP	0.00		
6/23/2004	NM	NM	NM	NM		Pallets located on well, fork truck driver not available to move pallets
9/20/2004	NP	10.49	NP	0.00		
12/1/2004	NM	NM	NM	NM		
6/2005	NM	NM	NM	NM		No access, health & safety concern
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-83/84-27						
3/2/2003	NP	13.02	NP	0.00	8.0 - 18.0	Sentinel well
6/2/2003	NP	12.88	NP	0.00		
9/4/2003	NP	12.91	NP	0.00		
1/23/2004	NP	12.75	NP	0.00		Unable to gauge in December 2003 due to equipment racks over well.
3/8/2004	NP	12.76	NP	0.00		
6/23/2004	NP	12.64	NP	0.00		
9/20/2004	NP	12.81	NP	0.00		
12/1/2004	NM	NM	NM	NM		
6/2005	NM	NM	NM	NM		No access, health & safety concern
Total Estimated LNAPL Removed (gallons):				**0.00**		

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TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 83/84 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-83/84-44						
4/13/2003	NP	10.70	NP	0.00	8.0 - 18.0	Sentinel well
6/2/2003	NP	10.63	NP	0.00		
6/8/2003	NP	10.60	NP	0.00		
9/4/2003	NP	10.73	NP	0.00		
12/15/2003	NP	10.72	NP	0.00		
6/23/2004	NP	10.52	NP	0.00		
9/20/2004	NP	10.54	NP	0.00		
12/1/2004	NM	NM	NM	NM		
6/2005	NM	NM	NM	NM		No access, health & safety concern
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-83/84-45						
4/13/2003	10.52	11.15	0.63	0.10	8.0 - 18.0	
6/2/2003	10.40	11.19	0.79	0.00		
9/4/2003	10.51	11.55	1.04	0.17		
12/15/2003	10.46	11.59	1.13	0.18		
4/19/2004	10.68	11.84	1.16	0.19		
6/23/2004	10.25	11.35	1.10	0.18		
9/20/2004	10.25	11.35	1.10	0.18		
12/1/2004	10.09	10.99	0.90	0.14		
6/2005	NM	NM	NM	NM		No access, health & safety concern
Total Estimated LNAPL Removed (gallons):				**1.14**		
RFI-83/84-46						
4/13/2003	NP	10.54	NP	0.00	8.0 - 18.0	Sentinel well
6/2/2003	NP	10.45	NP	0.00		
6/8/2003	NP	10.43	NP	0.00		
9/4/2003	NP	10.54	NP	0.00		
12/15/2003	NP	10.56	NP	0.00		
6/23/2004	NP	10.31	NP	0.00		
9/20/2004	NP	10.31	NP	0.00		
12/1/2004	NM	NM	NM	NM		
6/2005	NM	NM	NM	NM		No access, health & safety concern
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-83/84-48						
4/13/2003	NP	10.18	NP	0.00	7.5 - 17.5	Sentinel well
6/2/2003	NP	10.15	NP	0.00		
6/8/2003	NP	10.12	NP	0.00		
9/4/2003	NP	10.03	NP	0.00		
12/15/2003	NP	10.08	NP	0.00		
6/23/2004	NP	9.85	NP	0.00		
9/20/2004	NP	9.88	NP	0.00		
12/1/2004	NM	NM	NM	NM		
6/2005	NM	NM	NM	NM		No access, health & safety concern
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-83/84-49						
4/30/2003	NM	NM	NM	NM	8.0 - 18.0	
6/2/2003	10.25	13.52	3.27	0.52		
9/4/2003	10.30	14.21	3.91	0.63		
12/15/2003	10.14	14.45	4.31	0.69		
4/19/2004	10.20	14.05	3.85	0.63		
6/23/2004	9.90	13.55	3.65	0.59		
9/20/2004	10.03	13.78	3.75	0.61		
12/1/2004	9.75	13.81	4.06	0.65		
6/2005	NM	NM	NM	NM		No access, health & safety concern
Total Estimated LNAPL Removed (gallons):				**4.32**		

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TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 83/84 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-83/84-51						
4/13/2003	NP	6.99	NP	0.00	7.0 - 17.0	Sentinel well
6/2/2003	NP	6.96	NP	0.00		
6/8/2003	NP	6.95	NP	0.00		
9/4/2003	NP	7.08	NP	0.00		
12/15/2003	NP	7.05	NP	0.00		
6/23/2004	NP	6.90	NP	0.00		
9/20/2004	NP	6.87	NP	0.00		
12/1/2004	NM	NM	NM	NM		
6/2005	NM	NM	NM	NM		No access, health & safety concern
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-83/84-53						
4/13/2003	NM	NM	NM	NM	7.0 - 17.0	Sentinel well
6/2/2003	NM	NM	NM	NM		
9/4/2003	NP	10.38	NP	0.00		
12/15/2003	NP	10.30	NP	0.00		
6/23/2004	NP	9.92	NP	0.00		
9/20/2004	NP	10.06	NP	0.00		
12/1/2004	NM	NM	NM	NM		
6/2005	NM	NM	NM	NM		No access, health & safety concern
Total Estimated LNAPL Removed (gallons):				**0.00**		

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TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
HAMILTON AVENUE TANK FARM AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
31-7						
3/2/2003	9.04	9.28	0.24	0.00	6.0 - 16.0	
4/13/2003	7.73	7.90	0.17	0.03		
6/2/2003	7.10	7.30	0.20	0.00		
9/4/2003	7.71	8.15	0.44	0.07		
12/15/2003	6.99	7.74	0.75	0.12		
3/8/2004	6.87	7.65	0.78	0.13		
6/23/2004	6.82	7.66	0.84	0.14		
9/20/2004	7.40	8.38	0.98	0.16		
12/1/2004	4.25	5.15	0.90	0.14		
6/2005	6.96	7.96	1.00	0.00		
12/28/2005	6.32	7.33	1.01	0.16		
Total Estimated LNAPL Removed (gallons):				**0.95**		
31-8						
6/2/2003	NP	7.76	NP	0.00	5.0 - 15.0	Added LNAPL well
9/4/2003	NP	7.88	NP	0.00		Added LNAPL well
12/15/2003	8.02	9.03	1.01	0.16		
6/23/2004	8.31	8.32	0.01	0.00		
9/20/2004	8.33	8.34	0.01	0.00		
12/1/2004	NP	7.48	NP	0.00		
6/2005	NP	7.86	NP	0.00		
12/28/2005	NP	8.24	NP	0.00		Strong Odor
Total Estimated LNAPL Removed (gallons):				**0.16**		
RFI-09-40R						
3/2/2003	9.33	9.66	0.33	0.00	7.0 - 17.0	
6/2/2003	7.34	7.78	0.44	0.07		
9/4/2003	8.02	8.64	0.62	0.10		
12/15/2003	7.40	8.32	0.92	0.15		
3/8/2004	6.94	8.60	1.66	0.27		
6/23/2004	6.36	9.13	2.77	0.45		
9/20/2004	6.97	9.75	2.78	0.45		
12/1/2004	6.98	8.19	1.21	0.19		
6/2005	6.77	9.89	3.12	0.00		
12/28/2005	NP	6.44	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**1.68**		
RFI-09-44						
3/2/2003	NP	9.25	NP	0.00	5.0 - 15.0	Sentinel well
6/2/2003	NP	6.59	NP	0.00		
9/4/2003	NP	7.67	NP	0.00		
12/15/2003	NP	5.95	NP	0.00		
3/8/2004	NP	5.75	NP	0.00		
6/23/2004	NP	5.58	NP	0.00		
9/20/2004	NP	6.38	NP	0.00		
12/1/2004	NM	NM	NM	0.00		
6/2005	NP	6.06	NP	0.00		
12/28/2005	NP	5.63	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-09-45R						
3/2/2003	NP	9.18	NP	0.00	5.0 - 15.0	Sentinel well
6/2/2003	NP	5.82	NP	0.00		
9/4/2003	NP	7.11	NP	0.00		
12/15/2003	NP	5.57	NP	0.00		
3/8/2004	NP	5.07	NP	0.00		
6/23/2004	NP	5.20	NP	0.00		
9/20/2004	NP	6.73	NP	0.00		
12/1/2004	NM	NM	NM	0.00		
6/2005	NM	NM	NM	0.00		Could not locate well
12/28/2005	NP	3.00	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

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TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
HAMILTON AVENUE TANK FARM AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-09-47						
3/2/2003	8.92	9.39	0.47	0.08	6.5 - 16.5	Sentinel well
6/2/2003	7.60	7.90	0.30	0.05		
9/4/2003	7.44	8.98	1.54	0.25		
12/15/2003	6.59	7.67	1.08	0.17		
3/8/2004	6.69	8.38	1.69	0.28		
6/23/2004	6.18	8.86	2.68	0.44		
9/20/2004	7.18	9.10	1.92	0.31		
12/1/2004	NP	6.95	NP	0.00		
6/2005	6.65	9.09	2.44	0.00		
12/28/2005	7.30	8.78	1.48	0.24		
Total Estimated LNAPL Removed (gallons):				**1.81**		
RFI-09-52						
9/4/2003	NP	8.42	NP	0.00	5.0 - 15.0	Added LNAPL well
12/15/2003	NP	7.82	NP	0.00		
6/23/2004	NP	7.70	NP	0.00		
9/20/2004	NP	8.29	NP	0.00		
12/1/2004	NM	NM	NM	0.00		
6/2005	NP	7.94	NP	0.00		
12/28/2005	NP	7.29	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

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TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
BUILDING 12 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-02-05						
3/2/2003	NP	7.04	NP	0.00	2.8 - 7.8	Sentinel well
6/2/2003	NP	3.94	NP	0.00		
9/4/2003	NP	4.33	NP	0.00		
12/15/2003	NP	3.48	NP	0.00		
6/23/2004	NP	2.35	NP	0.00		
9/20/2004	NP	3.96	NP	0.00		
12/1/2004	NP	1.96	NP	0.00		
6/2005	NP	3.02	NP	0.00		
12/22/2005	NP	4.03	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-01R						
3/2/2003	NM	NM	NM	NM	5.0 - 15.0	Sentinel well
6/2/2003	11.40	11.54	0.14	0.00		
6/8/2003	NP	8.59	NP	0.00		
9/4/2003	12.41	12.92	0.51	0.08		
12/15/2003	NP	6.72	NP	0.00		
3/8/2004	5.52	5.56	0.04	0.00		
5/2/2004	5.96	5.97	0.01	0.00		
5/9/2004	4.00	4.01	0.01	0.00		
6/23/2004	4.35	4.37	0.02	0.00		
9/20/2004	5.81	6.00	0.19	0.00		
12/1/2004	4.81	4.84	0.03	0.00		
6/2005	4.71	4.77	0.06	0.00		
12/2/2005	5.78	7.50	1.72	0.28		
Total Estimated LNAPL Removed (gallons):				**0.36**		
RFI-12-02						
6/8/2003	6.00	6.95	0.95	0.15	10.0 - 20.0	
Total Estimated LNAPL Removed (gallons):				**0.15**		
RFI-12-02R						
6/2/2003	7.77	9.60	1.83	0.29	10.0 - 20.0	Added LNAPL well
9/4/2003	8.08	8.15	0.07	0.00		Recovery system set up on well
12/15/2003	5.84	5.96	0.12	0.00		
3/8/2004	10.35	11.85	1.50	0.24		
5/2/2004	5.46	5.50	0.04	0.00		
5/9/2004	1.90	1.91	0.01	0.00		
6/23/2004	5.02	5.04	0.02	0.00		
9/20/2004	NP	5.60	NP	0.00		
12/1/2004	5.10	5.13	0.03	0.00		
6/2005	4.66	5.32	0.66	0.00		
12/22/2005	5.35	5.90	0.55	0.09		Very thick product
Total Estimated LNAPL Removed (gallons):				**0.62**		
RFI-12-07						
6/2/2003	NP	8.71	NP	0.00	10.0 - 20.0	Added Sentinel well
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-07R						
6/8/2003	NP	8.54	NP	0.00	10.0 - 20.0	
9/4/2003	NP	7.80	NP	0.00		Added Sentinel well
12/15/2003	NP	5.32	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-07R2						
12/15/2003	NP	5.10	NP	0.00	3.0 - 13.0	Supplemental well
3/8/2004	NP	4.67	NP	0.00		
5/2/2004	NP	4.40	NP	0.00		
5/9/2004	NP	3.61	NP	0.00		
6/23/2004	NP	3.56	NP	0.00		Check R2 replacement well only
9/20/2004	NP	4.60	NP	0.00		
12/1/2004	NP	3.65	NP	0.00		
6/2005	NP	3.58	NP	0.00		
12/2/2005	NP	3.94	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

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TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
BUILDING 12 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-12-08R						
6/2/2003	11.52	11.53	0.01	0.00	10.0 - 20.0	Added LNAPL well
6/8/2003	11.09	11.11	0.02	0.00		
9/4/2003	9.90	9.92	0.02	0.00		Added LNAPL well
12/15/2003	6.83	6.85	0.02	0.00		
3/8/2004	7.52	7.54	0.02	0.00		
5/2/2004	7.71	7.72	0.01	0.00		
5/9/2004	6.46	6.47	0.01	0.00		
6/23/2004	6.17	6.18	0.01	0.00		
9/20/2004	NP	7.34	NP	0.00		
12/1/2004	6.51	6.55	0.04	0.00		
6/2005	8.03	8.12	0.09	0.00		
12/2/2005	7.41	7.56	0.15	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-09						
6/2/2003	5.42	6.73	1.31	0.00	7.0 - 17.0	Added LNAPL well
6/8/2003	5.23	6.89	1.66	0.27		
9/4/2003	5.56	6.99	1.43	0.23		Added LNAPL Well
12/15/2003	4.65	7.18	2.53	0.40		
Total Estimated LNAPL Removed (gallons):				**0.90**		
RFI-12-09R						
12/15/2003	4.97	4.98	0.01	0.00	3.0 - 13.0	Supplemental well
3/8/2004	NP	4.53	NP	0.00		
5/2/2004	NP	4.61	NP	0.00		
5/9/2004	NP	4.28	NP	0.00		
6/23/2004	4.15	4.16	0.01	0.00		Check replacement well only
9/20/2004	NP	4.71	NP	0.00		
12/1/2004	4.24	4.29	0.05	0.00		
6/2005	4.40	4.44	0.04	0.00		
12/2/2005	4.75	4.79	0.04	0.00		Oil remains on probe into water
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-11D						
3/2/2003	13.59	19.00	5.41	0.87	18.0 - 23.0	
6/2/2003	11.59	12.25	0.66	0.11		
6/8/2003	11.28	11.47	0.19	0.03		
9/4/2003	11.81	11.82	0.01	0.00		Recovery system set up on well
12/15/2003	9.49	10.60	1.11	0.18		
3/8/2004	9.15	9.21	0.06	0.00		
5/2/2004	9.10	9.35	0.25	0.04		
5/9/2004	8.80	8.99	0.19	0.03		
6/23/2004	7.70	8.22	0.52	0.08		
9/20/2004	NP	9.81	NP	0.00		
12/1/2004	8.61	10.47	1.86	0.00		
6/2005	7.21	11.16	3.95	0.00		
12/2/2005	NP	9.18	NP	0.00		Sheen on probe
Total Estimated LNAPL Removed (gallons):				**1.33**		
RFI-12-11S						
3/2/2003	NP	7.05	NP	0.00	4.5 - 14.5	
6/2/2003	NP	6.24	NP	0.00		
6/8/2003	NP	5.87	NP	0.00		
9/4/2003	NP	6.56	NP	0.00		
12/15/2003	NP	5.06	NP	0.00		
3/8/2004	NP	4.59	NP	0.00		
5/2/2004	NP	4.68	NP	0.00		
5/9/2004	NP	4.30	NP	0.00		
6/23/2004	NP	4.17	NP	0.00		
9/20/2004	NP	4.70	NP	0.00		
12/1/2004	NP	4.39	NP	0.00		
6/2005	NP	4.55	NP	0.00		
12/2/2005	NP	4.85	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

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TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
BUILDING 12 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-12-14						
3/2/2003	14.35	14.36	0.01	0.00	12.5 - 22.5	
6/2/2003	NP	8.95	NP	0.00		
6/8/2003	NP	8.77	NP	0.00		
9/4/2003	NP	8.93	NP	0.00		
12/15/2003	NP	5.51	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-14R						
12/15/2003	NP	5.64	NP	0.00	3.0 - 13.0	Supplemental wel
3/8/2004	NP	5.02	NP	0.00		
5/2/2004	NP	5.18	NP	0.00		
5/9/2004	4.75	4.76	0.01	0.00		
6/23/2004	NP	4.46	NP	0.00		Check replacement well only
9/20/2004	NP	5.07	NP	0.00		
12/1/2004	NP	4.92	NP	0.00		
6/2005	NP	4.95	NP	0.00		
12/2/2005	NP	5.40	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-15						
3/2/2003	NP	10.15	NP	0.00	7.8 - 17.8	Sentinel wel
6/2/2003	NP	8.94	NP	0.00		
6/8/2003	NP	8.67	NP	0.00		
9/4/2003	NP	8.77	NP	0.00		
12/15/2003	NP	6.62	NP	0.00		
3/8/2004	NP	6.35	NP	0.00		
5/2/2004	NP	6.24	NP	0.00		
5/9/2004	NP	5.54	NP	0.00		
6/23/2004	NP	5.11	NP	0.00		
9/20/2004	NP	5.98	NP	0.00		
12/1/2004	NP	6.08	NP	0.00		
6/2005	NP	5.45	NP	0.00		
12/22/2005	6.51	6.52	0.01	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-22						
6/2/2003	9.07	9.40	0.33	0.05	11.0 - 21.0	Added LNAPL well
6/8/2003	9.00	9.10	0.10	0.02		
9/4/2003	8.39	8.48	0.09	0.00		Added LNAPL well
12/15/2003	5.64	5.84	0.20	0.00		
Total Estimated LNAPL Removed (gallons):				**0.07**		
RFI-12-22R						
12/15/2003	5.40	5.41	0.01	0.00	3.0 - 13.0	Supplemental wel
3/8/2004	5.04	5.20	0.16	0.00		
5/2/2004	5.49	5.60	0.11	0.00		
5/9/2004	4.42	4.53	0.11	0.00		
6/23/2004	NP	3.80	NP	0.00		Check replacement well only
9/20/2004	NP	4.75	NP	0.00		
12/1/2004	NP	4.10	NP	0.00		
6/2005	NP	3.94	NP	0.00		
12/2/2005	4.64	4.72	0.08	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-23						
4/13/2003	12.68	12.90	0.22	0.04	8.0 - 18.0	
6/2/2003	12.13	12.20	0.07	0.00		Added LNAPL well
6/8/2003	11.35	11.65	0.30	0.05		
9/4/2003	11.86	13.07	1.21	0.19		Added LNAPL well
12/15/2003	9.28	11.05	1.77	0.28		
3/8/2004	9.56	11.36	1.80	0.29		
5/2/2004	9.67	11.03	1.36	0.22		
5/9/2004	8.09	9.21	1.12	0.20		
6/23/2004	8.19	9.47	1.28	0.21		
9/20/2004	NP	11.80	NP	0.00		
12/1/2004	8.78	11.06	2.28	0.36		
6/2005	8.08	10.85	2.77	0.00		
12/2/2005	9.09	9.81	0.72	0.12		
Total Estimated LNAPL Removed (gallons):				**1.96**		

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TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
BUILDING 12 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-12-24						
4/13/2003	NP	6.83	NP	0.00	5.5 - 15.5	
6/2/2003	NP	7.02	NP	0.00		Added Sentinel well
6/8/2003	NP	6.80	NP	0.00		
9/4/2003	NP	7.18	NP	0.00		Added Sentinel well
12/15/2003	NP	4.26	NP	0.00		
3/8/2004	NP	4.54	NP	0.00		
5/2/2004	NP	4.41	NP	0.00		
5/9/2004	NP	3.45	NP	0.00		
6/23/2004	NP	3.67	NP	0.00		
9/20/2004	NP	4.50	NP	0.00		
12/1/2004	NP	3.71	NP	0.00		
6/2005	NP	3.90	NP	0.00		
12/22/2005	NP	4.58	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-25						
4/13/2003	NP	8.07	NP	0.00	7.0 - 17.0	
6/2/2003	NP	8.23	NP	0.00		Added Sentinel well
6/8/2003	NP	7.91	NP	0.00		
9/4/2003	NP	7.56	NP	0.00		Added Sentinel well
12/15/2003	NP	4.85	NP	0.00		
3/8/2004	NP	5.87	NP	0.00		
5/2/2004	NP	4.76	NP	0.00		
5/9/2004	NP	3.65	NP	0.00		
6/23/2004	NP	4.06	NP	0.00		
9/20/2004	NP	4.70	NP	0.00		
12/1/2004	NP	4.38	NP	0.00		
6/2005	NP	4.59	NP	0.00		
12/22/2005	NP	5.14	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-26						
4/13/2003	8.21	8.22	0.01	0.00	10.0 - 20.0	
6/2/2003	7.98	8.03	0.05	0.00		Added LNAPL well
6/8/2003	7.60	7.72	0.12	0.02		
9/4/2003	7.52	7.91	0.39	0.06		Added LNAPL well
12/15/2003	5.43	5.80	0.37	0.06		
3/8/2004	5.11	5.24	0.13	0.02		
5/2/2004	NM	NM	NM	0.00		Well under water
5/9/2004	3.98	4.05	0.07	0.00		
6/23/2004	4.15	4.24	0.09	0.00		
9/20/2004	NP	4.89	NP	0.00		
12/1/2004	4.82	4.93	0.11	0.00		
6/2005	4.21	4.36	0.15	0.00		
12/22/2005	5.20	5.50	0.30	0.00		Very thick product
Total Estimated LNAPL Removed (gallons):				**0.16**		
RFI-12-27						
9/4/2003	NP	4.09	NP	0.00	4.0 -14.0	Added step-out well
12/15/2003	NP	1.23	NP	0.00		
3/8/2004	NP	0.91	NP	0.00		
5/2/2004	NP	0.62	NP	0.00		
5/9/2004	NM	NM	NM	0.00		Well under water
6/23/2004	NP	0.10	NP	0.00		
9/20/2004	NP	0.34	NP	0.00		
12/1/2004	NM	NM	NM	0.00		Well under water
6/2005	NM	NM	NM	0.00		Well under water
12/2/2005	NM	NM	NM	NM		Water overflowing top of casing, well under water, J-plug was loose
Total Estimated LNAPL Removed (gallons):				**0.00**		

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BUILDING 12 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-12-28						
9/4/2003	11.16	11.20	0.04	0.00	11.5 - 21.5	Added step-out well
12/15/2003	11.20	11.26	0.06	0.00		
3/8/2004	5.28	6.31	1.03	0.17		
5/2/2004	9.81	11.75	1.94	0.32		
5/9/2004	9.35	11.60	2.25	0.38		
6/23/2004	8.82	9.10	0.28	0.00		
9/20/2004	NP	12.35	NP	0.00		
12/1/2004	9.61	12.93	3.32	0.53		
6/2005	8.63	13.64	5.01	0.00		
12/2/2005	9.80	10.31	0.51	0.08		
Total Estimated LNAPL Removed (gallons):				**1.48**		
RFI-12-32						
9/4/2003	NP	4.77	NP	0.00	4.0 - 14.0	Added step-out well
12/15/2003	NP	3.38	NP	0.00		
3/8/2004	NP	2.84	NP	0.00		
5/2/2004	NP	2.81	NP	0.00		
5/9/2004	NP	1.23	NP	0.00		
6/23/2004	NP	2.37	NP	0.00		
9/20/2004	NP	3.46	NP	0.00		
12/1/2004	NP	2.41	NP	0.00		
6/2005	NP	3.01	NP	0.00		
12/22/2005	NP	4.79	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-33						
3/8/2004	NP	6.01	NP	0.00	4.0 - 14.0	Added step-out well
5/2/2004	NP	5.74	NP	0.00		
5/9/2004	NP	4.77	NP	0.00		
6/23/2004	NP	5.22	NP	0.00		
9/20/2004	NP	6.10	NP	0.00		
12/1/2004	NP	5.22	NP	0.00		
6/2005	NP	5.46	NP	0.00		
12/2/2005	NP	5.55	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-34						
3/8/2004	NP	6.54	NP	0.00	5.0 - 15.0	Added step-out well
5/2/2004	NP	4.96	NP	0.00		
5/9/2004	NP	5.16	NP	0.00		
6/23/2004	NP	4.33	NP	0.00		
9/20/2004	NP	6.44	NP	0.00		
12/1/2004	NP	5.75	NP	0.00		
6/2005	NP	5.55	NP	0.00		
12/22/2005	NP	6.50	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-35						
5/2/2004	NP	6.40	NP	0.00	4.5 - 14.5	Added step-out well
5/9/2004	NP	4.05	NP	0.00		
6/23/2004	NP	5.69	NP	0.00		
9/20/2004	5.65	5.66	0.01	0.00		
12/1/2004	5.16	5.25	0.09	0.00		
6/2005	5.25	5.30	0.05	0.00		
12/2/2005	5.48	5.95	0.47	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-36						
5/2/2004	NM	NM	NM	0.00	2.0 - 7.0	
6/23/2004	NP	2.22	NP	0.00		
9/20/2004	NP	2.46	NP	0.00		
12/1/2004	NM	NM	NM	0.00		Could not locate well
6/17/2005	NM	NM	NM	0.00		Could not locate well
12/22/2005	NP	2.88	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

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RESULTS OF LNAPL MONITORING PROGRAM
BUILDING 12 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-12-38						
5/2/2004	5.20	5.50	0.30	0.00	3.0 - 8.0	Added step-out well
6/23/2004	5.15	5.73	0.58	0.09		
9/20/2004	5.24	5.88	0.64	0.10		
12/1/2004	5.04	5.60	0.56	0.09		
6/2005	5.28	5.84	0.56	0.00		
12/27/2005	5.50	6.02	0.52	0.08		
Total Estimated LNAPL Removed (gallons):				**0.36**		
RFI-12-40						
5/2/2004	NP	5.28	NP	0.00	3.0 - 8.0	
6/23/2004	NP	5.29	NP	0.00		
9/20/2004	NP	5.52	NP	0.00		
12/1/2004	NP	5.17	NP	0.00		
6/2005	NP	5.32	NP	0.00		
12/27/2005	NP	5.68	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-12-41						
9/20/2004	NP	3.44	NP	0.00	1.5 - 12.0	Added step-out well
12/1/2004	NP	5.76	NP	0.00		
6/2005	NP	3.65	NP	0.00		
12/27/2005	NP	3.92	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

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RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 03 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
03-01						
9/4/2003	5.44	6.49	1.05	0.17	5.0 - 15.0	Added LNAPL well
12/15/2003	NM	NM	NM	0.00		Missing due to demolition
Total Estimated LNAPL Removed (gallons):				0.17		
03-01R						
4/19/2004	NP	4.65	NP	0.00	3.0 - 13.0	Replacement Well
5/2/2004	NP	4.51	NP	0.00		
6/23/2004	NP	4.06	NP	0.00		
9/20/2004	NP	5.36	NP	0.00		
12/1/2004	NP	4.28	NP	0.00		
6/2005	NP	4.12	NP	0.00		
12/8/2005	NP	5.77	NP	0.00		Sheen on probe
Total Estimated LNAPL Removed (gallons):				**0.00**		
03-02						
12/15/2003	NP	3.66	NP	0.00	5.0 - 15.0	Surface completion destroyed
Total Estimated LNAPL Removed (gallons):				**0.00**		
03-03						
3/2/2003	12.55	12.82	0.27	0.00	8.0 - 18.0	
6/2/2003	11.79	11.83	0.04	0.00		
12/15/2003	NM	NM	NM	0.00		Missing due to demolition
Total Estimated LNAPL Removed (gallons):				**0.00**		
03-03R						
4/19/2004	NP	11.32	NP	0.00	5.0 - 15.0	Replacement Well
5/2/2004	10.99	11.04	0.05	0.00		
6/23/2004	10.30	11.31	1.01	0.16		
9/20/2004	11.11	12.66	1.55	0.25		
12/1/2004	10.74	12.49	1.75	0.28		
6/2005	9.86	12.38	2.52	0.00		
12/8/2005	11.2	11.88	0.68	0.11		
Total Estimated LNAPL Removed (gallons):				**0.80**		
03-101						
3/2/2003	NM	NM	NM	NM	NA	LNAPL well
6/2/2003	NM	NM	NM	0.00		Active demolition area
9/4/2003	NM	NM	NM	0.00		Active demolition area, cannot access
12/15/2003	NM	NM	NM	0.00		Missing due to demolition
Total Estimated LNAPL Removed (gallons):				**0.00**		
03-101R						
4/19/2004	NP	8.00	NP	0.00	4.0 - 14.0	Replacement Well
6/23/2004	NP	7.28	NP	0.00		
9/20/2004	NP	8.30	NP	0.00		
12/1/2004	NP	7.50	NP	0.00		
6/2005	NP	7.16	NP	0.00		
12/22/2005	NP	9.35	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
03-105R						
6/8/2003	9.69	9.82	0.13	0.02	9.0 - 19.0	
12/15/2003	NM	NM	NM	0.00		Missing due to demolition
Total Estimated LNAPL Removed (gallons):				**0.02**		
03-105R2						
3/2/2003	NM	NM	NM	0.00	9.0 - 19.0	LNAPL well
6/2/2003	9.72	9.84	0.12	0.00		Added LNAPL well
9/4/2003	NM	NM	NM	0.00		Active demolition area, cannot access
Total Estimated LNAPL Removed (gallons):				**0.00**		
03-105R3						
4/19/2004	NP	9.16	NP	0.00	3.0 - 13.0	Replacement well
5/2/2004	NP	8.49	NP	0.00		
6/23/2004	NP	7.30	NP	0.00		
9/20/2004	NP	9.28	NP	0.00		
12/1/2004	NP	8.16	NP	0.00		
6/2005	NP	5.99	NP	0.00		
12/8/2005	NP	9.28	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

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RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 03 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
03-110						
3/2/2003	NM	NM	NM	0.00	8.5 - 13.5	Sentinel well
6/2/2003	NP	7.75	NP	0.00		Added Sentinel well
9/4/2003	NM	NM	NM	0.00		Active demolition area, cannot access
12/15/2003	NM	NM	NM	0.00		Missing due to demolition
Total Estimated LNAPL Removed (gallons):				0.00		
03-110R						
4/19/2004	NP	6.91	NP	0.00	4.0 - 14.0	Replacement well
5/2/2004	NP	6.55	NP	0.00		
6/23/2004	NP	6.10	NP	0.00		
9/20/2004	NP	7.29	NP	0.00		
12/1/2004	NP	6.44	NP	0.00		
6/2005	NP	6.20	NP	0.00		
12/8/2005	NP	7.82	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
03-113						
3/2/2003	NP	7.46	NP	0.00	8.5 - 13.5	
6/2/2003	NM	NM	NM	0.00		Cannot locate
9/4/2003	NM	NM	NM	0.00		Buried/destroyed by demolition
Total Estimated LNAPL Removed (gallons):				**0.00**		
03-113R						
12/15/2003	NP	4.55	NP	0.00	3.0 - 13.0	Replacement well
3/8/2004	NP	4.30	NP	0.00		
6/23/2004	NP	3.24	NP	0.00		
9/20/2004	NM	NM	NM			Well destroyed by railroad track removal - use well RFI-03-02 as replacement
Total Estimated LNAPL Removed (gallons):				**0.00**		
70-100						
3/2/2003	NP	6.35	NP	0.00	20.0 - 25.0	
6/2/2003	NP	6.39	NP	0.00		
9/4/2003	NP	6.51	NP	0.00		
12/15/2003	NP	6.00	NP	0.00		
3/8/2004	NP	5.78	NP	0.00		
6/23/2004	NP	5.55	NP	0.00		
9/20/2004	NP	5.80	NP	0.00		
12/1/2004	NP	5.66	NP	0.00		
6/2005	NP	5.46	NP	0.00		
12/27/2005	NP	6.11	NP	0		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-03-02						
12/15/2003	NP	6.56	NP	0.00	5.0 - 15.0	
12/1/2004	NP	5.88	NP	0.00		
6/2005	NP	4.83	NP	0.00		
12/27/2005	NM	NM	NM	NM		Tubing stuck in well - could not gauge
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-03-03						
9/4/2003	NP	2.41	NP	0.00	2.5 - 12.5	Added Sentinel well
12/15/2003	NP	1.68	NP	0.00		
6/23/2004	NP	1.40	NP	0.00		
9/20/2004	NP	2.81	NP	0.00		
12/1/2004	NP	1.60	NP	0.00		
6/2005	NP	1.58	NP	0.00		Sheen
12/27/2005	NP	2.00	NP	0		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-03-15						
3/2/2003	NM	NM	NM	NM	7.0 - 17.0	Sentinel well
6/2/2003	NP	10	NP	0.00		Added Sentinel well
6/8/2003	NP	10.01	NP	0.00		
9/4/2003	NM	NM	NM	0.00		Active demolition area, cannot access
12/15/2003	NM	NM	NM	0.00		Missing due to demolition
Total Estimated LNAPL Removed (gallons):				**0.00**		

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RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 03 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-03-15R						
4/19/2004	NP	9.85	NP	0.00	3.0 - 13.0	Replacement well
5/2/2004	9.64	9.65	0.01	0.00		
6/23/2004	NP	8.92	NP	0.00		
9/20/2004	NP	9.90	NP	0.00		
12/1/2004	NP	9.69	NP	0.00		
6/2005	NP	8.96	NP	0.00		
12/8/2005	NM	NM	NM	NM		Not found by surveyors
Total Estimated LNAPL Removed (gallons):				**0.00**		

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RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 81 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
70-101						
3/2/2003	5.62	5.76	0.14	0.00	2.0 -12.0	
6/2/2003	3.89	4.02	0.13	0.00		
9/4/2003	5.19	5.35	0.16	0.00		
12/15/2003	3.60	4.12	0.52	0.08		Absorbent sock present in wel
3/8/2004	3.03	4.05	1.02	0.17		
6/23/2004	3.18	3.27	0.09	0.00		
9/20/2004	3.86	5.17	1.31	0.21		
12/1/2004	3.20	3.56	0.36	0.06		
6/2005	3.74	4.18	0.44	0.06		
12/6/2005	4.27	4.80	0.53	0.09		
Total Estimated LNAPL Removed (gallons):				**0.67**		
70-102/102R						
3/2/2003	NP	5.66	NP	0.00	2.0 - 12.0	
6/2/2003	NP	4.02	NP	0.00		
9/4/2003	NM	NM	NM	0.00		Destroyed by railroad track removal
12/15/2003	NP	3.50	NP	0.00		Replacement well installec
3/8/2004	NP	3.31	NP	0.00		
6/23/2004	NP	4.32	NP	0.00		
9/20/2004	NP	4.10	NP	0.00		
12/1/2004	3.29	3.30	0.01	0.00		
6/2005	3.93	3.95	0.02	0.00		
12/8/2005	4.64	4.65	0.01	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
70-103						
3/2/2003	6.00	7.20	1.20	0.19	2.0 - 12.0	
6/2/2003	4.64	4.67	0.03	0.00		
9/4/2003	5.40	5.60	0.20	0.00		
12/15/2003	4.10	4.22	0.12	0.00		
3/8/2004	3.92	4.58	0.66	0.12		
6/23/2004	3.97	4.17	0.20	0.00		
9/20/2004	5.55	5.56	0.01	0.00		
12/1/2004	3.76	4.32	0.56	0.09		
6/2005	3.80	4.95	1.15	0.09		
12/8/2005	5.03	5.16	0.13	0.00		
Total Estimated LNAPL Removed (gallons):				**0.49**		
70-105						
3/2/2003	NM	NM	NM	NM	2.0 - 12.0	7.56 to ice - well blocked
3/18/2003	NM	NM	NM	NM		
6/2/2003	NP	5.37	NP	0.00		
9/4/2003	NP	6.73	NP	0.00		
12/15/2003	NP	5.18	NP	0.00		
3/8/2004	NP	5.57	NP	0.00		
6/23/2004	NP	4.65	NP	0.00		
9/20/2004	NP	5.95	NP	0.00		
12/1/2004	NP	4.54	NP	0.00		
6/2005	NP	5.34	NP	0.00		Sheen
12/8/2005	NP	5.92	0.00	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
70-106						
3/2/2003	NM	NM	NM	NM	4.5 - 9.5	7.18 to ice - well blocked
3/18/2003	NM	NM	NM	NM		
6/2/2003	NP	5.02	NP	0.00		
9/4/2003	NP	6.47	NP	0.00		
12/15/2003	NP	4.58	NP	0.00		
3/8/2004	NP	5.34	NP	0.00		
6/23/2004	NP	4.41	NP	0.00		
9/20/2004	NP	5.70	NP	0.00		
12/1/2004	NP	4.20	NP	0.00		
6/2005	NP	5.00	NP	0.00		Sheen
12/6/2005	NP	5.63	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 81 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
70-107						
3/2/2003	NP	8.02	NP	0.00	15.0 - 20.0	Sentinel wel
6/2/2003	NP	6.79	NP	0.00		
9/4/2003	NP	7.21	NP	0.00		
12/15/2003	NP	6.64	NP	0.00		
3/8/2004	NP	6.39	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
70-107R						
12/15/2003	4.05	8.01	3.96	0.63	3.0 - 13.0	Supplemental wel
3/8/2004	NM	NM	NM	NM		
6/23/2004	3.75	7.95	4.20	0.68		
9/20/2004	4.70	12.65	7.95	1.30		
12/1/2004	3.69	10.04	6.35	1.02		
6/2005	4.10	8.35	4.25	0.00		
12/6/2005	NP	6.89	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**3.63**		
70-108						
3/2/2003	6.33	7.08	0.75	0.00	10.0 - 15.0	
6/2/2003	4.82	5.55	0.73	0.12		
9/4/2003	NP	5.88	NP	0.00		
12/15/2003	NP	4.70	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.12**		
70-108R						
12/15/2003	NP	4.42	NP	0.00	6.0 - 16.0	Supplemental wel
3/8/2004	NP	3.70	NP	0.00		
6/23/2004	NP	3.62	NP	0.00		Check replacement well only
9/20/2004	NP	4.62	NP	0.00		
12/1/2004	NP	4.12	NP	0.00		
6/2005	NP	4.30	NP	0.00		
12/6/2005	NP	5.06	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
70-163						
3/2/2003	NP	4.63	NP	0.00	3.0 - 9.8	Sentinel wel
6/2/2003	NP	4.09	NP	0.00		
9/4/2003	NP	4.88	NP	0.00		
12/15/2003	NP	3.97	NP	0.00		
3/8/2004	NP	3.53	NP	0.00		
6/23/2004	NP	3.49	NP	0.00		
9/20/2004	NP	4.31	NP	0.00		
12/1/2004	NP	3.94	NP	0.00		
6/2005	NP	4.24	NP	0.00		
12/27/2005	NP	4.47	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
70-164						
3/2/2003	NM	NM	NM	NM	3.0 - 9.6	Sentinel well - off property
6/2/2003	NP	4.16	NP	0.00		
9/4/2003	NP	5.18	NP	0.00		
12/15/2003	NP	3.94	NP	0.00		
3/8/2004	NP	3.72	NP	0.00		
6/23/2004	NP	3.66	NP	0.00		
9/20/2004	NP	4.66	NP	0.00		
12/1/2004	NP	3.97	NP	0.00		
6/2005	NP	4.54	NP	0.00		
12/27/2005	NP	4.83	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
70-165						
3/2/2003	NP	4.71	NP	0.00	5.0 - 9.8	Sentinel wel
6/2/2003	NP	3.63	NP	0.00		
9/4/2003	NP	4.81	NP	0.00		
3/8/2004	NP	3.05	NP	0.00		
6/23/2004	NP	3.19	NP	0.00		
9/20/2004	NP	4.01	NP	0.00		
12/1/2004	NP	3.39	NP	0.00		
6/2005	NP	4.10	NP	0.00		
12/6/2005	NP	4.51	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM
FACTORY 81 AREA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID and Date Measured	Depth to LNAPL (feet bgs)	Depth to Water (feet bgs)	LNAPL Thickness (feet)	Estimated Volume of LNAPL Bailed (gallons)	Screened Interval (feet bgs)	Comments
RFI-81-22						
3/2/2003	NP	6.15	NP	0.00	3.0 - 13.0	
6/2/2003	NP	4.67	NP	0.00		
9/4/2003	NP	5.88	NP	0.00		
12/15/2003	NP	4.38	NP	0.00		
3/8/2004	NP	3.91	NP	0.00		
6/23/2004	NP	4.10	NP	0.00		
9/20/2004	NP	5.05	NP	0.00		
12/1/2004	NP	3.80	NP	0.00		
6/2005	NP	5.17	NP	0.00		Missing well cover
12/6/2005	NP	5.48	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-81-39R						
9/4/2003	NP	9.60	NP	0.00	7.0 - 17.0	
12/15/2003	NP	9.40	NP	0.00		
6/23/2004	NP	9.19	NP	0.00		
9/20/2004	NP	9.40	NP	0.00		
12/1/2004	NP	9.30	NP	0.00		
6/2005	NP	9.27	NP	0.00		
12/2/2005	NP	9.58	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-81-43						
5/2/2004	NP	5.55	NP	0.00	3.0 - 13.0	
6/23/2004	NP	5.24	NP	0.00		
9/20/2004	NP	6.61	NP	0.00		
12/1/2004	NP	4.91	NP	0.00		
6/2005	NP	6.44	NP	0.00		
12/13/2005	NP	6.91	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-81-45						
5/2/2004	NP	4.70	NP	0.00	3.0 - 13.0	
6/23/2004	NP	4.50	NP	0.00		
9/20/2004	NP	11.33	NP	0.00		
12/1/2004	NP	3.88	NP	0.00		
6/2005	NP	5.70	NP	0.00		
12/27/2005	NP	6.18	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-81-47						
5/2/2004	NP	7.00	NP	0.00	3.0 - 13.0	
6/23/2004	NP	6.76	NP	0.00		
9/20/2004	NP	12.90	NP	0.00		
12/1/2004	NP	6.65	NP	0.00		
6/2005	NP	7.81	NP	0.00		
12/13/2005	NP	8.34	NP	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		
RFI-81-49						
9/20/2004	NP	10.42	NP	0.00	3.0 - 13.0	Added step-out well
12/1/2004	NP	10.87	NP	0.00		
6/2005	NP	10.81	NP	0.00		
12/13/2005	10.83	10.85	0.02	0.00		
Total Estimated LNAPL Removed (gallons):				**0.00**		

See Notes on Page 38.

TABLE 2-7
RESULTS OF LNAPL MONITORING PROGRAM

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Notes:
1. NA = Not applicable.
2. NM = Not measured.
3. NP = LNAPL not present.
4. bgs = Below ground surface.

TABLE 3-1
HYDRAULIC CONDUCTIVITY DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN
RFI PHASE II REPORT

Well ID	Screened Interval (feet bgs)	Unit Screened	Hydraulic Conductivity	
			(cm/sec)	(ft/day)
03-101	---	---	2.83E-02	8.01E+01
03-109	11-16	silt, sand, & clay	2.93E-04	8.30E-01
03-111	5-10	gravel and sand	1.72E-02	4.86E+01
03-114	10-15	gravel and sand	3.27E-04	9.26E-01
04-3	4-14	clay, silt, & gravel	4.69E-03	1.33E+01
04-4	2.5-12.5	sand, clay & gravel	8.59E-05	2.43E-01
04-120	10-17	silt, sand, & clay	2.56E-06	7.26E-03
04-121	19-26	silt, sand, & clay	9.82E-04	2.78E+00
04-140	15-22	silt, sand, & clay	5.19E-03	1.47E+01
04-160	15-22	silt, sand, & clay	7.52E-04	2.13E+00
20-102	10-15	sand and silt	1.87E-02	5.30E+01
20-103N	10.5-15.5	sand and silt	1.13E-03	3.20E+00
20-120	7-12	sand	6.47E-02	1.83E+02
20-121	11-16	sand	4.73E-03	1.34E+01
20-500	13.1-18.1	fill, sand, & silt	5.31E-03	1.50E+01
20-504	7-14	sand	7.33E-03	2.08E+01
20-FP6	10-14.8	sand	1.99E-04	5.65E-01
20-FP11	3-9.8	sand	2.14E-02	6.06E+01
30-100	10-15	silt, sand, & clay	1.16E-03	3.28E+00
30-120	5-20	clay and sand	1.58E-02	4.47E+01
31-5	4-14	clay and sand	8.13E-05	2.30E-01
31-6	4-14	clay and sand	1.09E-03	3.09E+00
31-8	5-15	sand and silt	1.75E-04	4.96E-01
36-120	11-18	sand	4.65E-02	1.32E+02
36-FP5	11-20.8	silt, sand, & clay	2.20E-02	6.22E+01
37-01	6-16	sand and silt	1.02E-03	2.88E+00
40-2	5.5-10.5	clay and sand	4.34E-05	1.23E-01
40-5	4-14	fill, clay & sand	8.25E-06	2.34E-02
40-6	3-13	fill	6.71E-03	1.90E+01
40-301	12-17	---	6.73E-05	1.91E-01
40-302	11-16	---	4.87E-04	1.38E+00
40-304	6-11	---	4.31E-03	1.22E+01
40-305	8.5-13.5	---	1.31E-04	3.72E-01
43-100	10.5-15.5	sand	3.33E-03	9.44E+00
43-220	11-23	sand	4.49E-03	1.27E+01
43-242	12-24	sand	1.07E-03	3.03E+00
70-100	20-25	silt, sand, & clay	4.49E-05	1.27E-01
70-102	2-12	sand	3.54E-04	1.00E+00
70-109	2-12	sand	1.93E-04	5.47E-01
70-160	15-22	clay and sand	3.93E-04	1.11E+00
70-163	3-9.8	silt, sand, & clay	1.98E-03	5.61E+00
70-165	5-9.8	fill and sand	3.25E-03	9.19E+00
86-3	14-19	silt, sand, & clay	2.67E-04	7.57E-01
86-100	7-14	gravel, sand & silt	3.08E-04	8.74E-01
87-FP2	8-17.8	silt, sand, & clay	5.82E-02	1.65E+02
87-FP3	5-14.8	silt, sand, & clay	4.85E-03	1.37E+01
88-2	11-16	sand	7.61E-06	2.16E-02
88-8	12-22	silt, sand, & clay	1.72E-03	4.87E+00
RFI-02-05	2.8 - 7.8	silt, sand, & clay	3.64E-02	1.03E+02
RFI-02-07	6.8 - 11.8	clay and sand	9.42E-03	2.67E+01
RFI-02-08	3.8 - 13.8	silt, sand, & clay	8.47E-05	2.40E-01
RFI-03-03	2.5-12.5	gravel, silt, & sand	6.84E-04	1.94E+00
RFI-05-03	8-18	silt and sand	6.17E-02	1.75E+02
RFI-05-04	10-15	sand and clay	8.15E-03	2.31E+01
RFI-05-06	10-20	silt	3.19E-02	9.02E+01
RFI-05-07	11-16	sand	1.26E-02	3.56E+01
RFI-05-10	12-17	sand	6.02E-03	1.71E+01
RFI-05-12	11-16	sand	2.16E-03	6.11E+00
RFI-05-19S	7-17	silt and sand	4.43E-02	1.26E+02

See Notes on Page 2.

TABLE 3-1
HYDRAULIC CONDUCTIVITY DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN
RFI PHASE II REPORT

Well ID	Screened Interval (feet bgs)	Unit Screened	Hydraulic Conductivity	
			(cm/sec)	(ft/day)
RFI-05-20	5.5-15.5	silt and sand	2.88E-02	8.15E+01
RFI-07-08	10-20	sand and clay	7.27E-05	2.06E-01
RFI-09-01	2.8 - 12.8	silt	2.03E-04	5.74E-01
RFI-09-06	3.5 - 13.5	silt, sand, & clay	3.11E-03	8.82E+00
RFI-09-08	3.8 - 13.8	silt and clay	4.00E-06	1.13E-02
RFI-09-10	3.5 - 13.5	silt, sand, & clay	2.97E-04	8.42E-01
RFI-09-11	4 - 14	silt and clay	3.35E-04	9.50E-01
RFI-09-13	6-16	sand and clay	2.24E-03	6.34E+00
RFI-09-14	6-16	sand and clay	9.14E-03	2.59E+01
RFI-10-01	6-16	silt, sand, & clay	9.45E-03	2.68E+01
RFI-10-04	5-15	silt and sand	3.37E-03	9.54E+00
RFI-10-05	9.9-19.9	silt, sand, & clay	4.26E-04	1.21E+00
RFI-10-06	7-17	silt and sand	7.51E-03	2.13E+01
RFI-10-08	8-18	silt and sand	1.28E-03	3.64E+00
RFI-10-15	7.9-17.9	silt and sand	3.34E-04	9.46E-01
RFI-12-11S	4.5 - 14.5	silt and clay	7.72E-06	2.19E-02
RFI-16-01	4 - 14	silt and clay	3.00E-05	8.50E-02
RFI-16-04	6.8 - 11.8	silt	8.22E-04	2.33E+00
RFI-16-07	1.4 - 11.4	silt	1.79E-02	5.08E+01
RFI-16-09	4.5 - 9.5	silt, sand, & clay	2.09E-03	5.92E+00
RFI-16-11	5 - 15	silt and clay	8.98E-04	2.54E+00
RFI-17-02	4 - 14	silt, sand, & clay	3.37E-03	9.54E+00
RFI-23-01	4 - 14	silt, sand, & clay	4.33E-04	1.23E+00
RFI-23-02	3.3 - 13.3	silt and clay	9.96E-05	2.82E-01
RFI-36-04	18.1-23.1	sand	1.04E-02	2.94E+01
RFI-36-05	17-22	sand	4.28E-02	1.21E+02
RFI-36-08	6-16	silt	2.50E-03	7.07E+00
RFI-36-09	6-16	silt and sand	1.32E-02	3.74E+01
RFI-36-10	6-16	silt and sand	5.51E-03	1.56E+01
RFI-36-12	9.2-14.2	silt and sand	1.35E-03	3.84E+00
RFI-36-14	6-16	silt and sand	1.44E-03	4.08E+00
RFI-36-20	12-22	silt and sand	6.29E-02	1.78E+02
RFI-36-32	17.5-22.5	sand	1.78E-02	5.04E+01
RFI-36-35	15-25	sand	5.26E-05	1.49E-01
RFI-44-04	2.8 - 7.8	silt, sand, & clay	8.68E-04	2.46E+00
RFI-44-05	8 - 18	silt and clay	3.19E-05	9.04E-02
RFI-55-01	6-16	silt, sand, & clay	3.89E-03	1.10E+01
RFI-65-01	5-15	silt, sand, & clay	5.57E-03	1.58E+01
RFI-81-08	7-17	clay and silt	1.10E-04	3.12E-01
RFI-81-11	4-14	silt, sand, & clay	4.73E-02	1.34E+02
RFI-81-13	11-16	clay and silt	1.87E-03	5.31E+00
RFI-83/84-02	4-14	silt, sand, & clay	5.02E-04	1.42E+00
RFI-84-05	8 - 18	silt and clay	3.09E-06	8.75E-03
RFI-85-06	9-19	silt and sand	6.41E-03	1.82E+01
RFI-86-01	9-19	sand and clay	5.80E-01	1.64E+03
RFI-86-03	5-15	silt, sand, & clay	2.30E-02	6.53E+01
RFI-86-04	5-15	silt, sand, & clay	1.31E-03	3.70E+00
RFI-86-05	6-16	silt, sand, & clay	1.86E-04	5.25E-01
RFI-86-06D	14.5-24.5	silt, sand, & clay	6.57E-06	1.86E-02
RFI-86-06S	9.5-14.5	silt and sand	8.57E-03	2.43E+01

Notes:

1. Hydraulic conductivity data are based on specific capacity tests.
2. cm/sec = centimeters per second.
3. bgs = below ground surface.
4. ft/day = feet per day.
5. --- = Not Available.

TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	April 3-4, 2001					September 10-11, 2001					June 10-11, 2002				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
03-01	744.67	0.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03-01R	744.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03-02	743.24	--	NA	NA	4.28	738.96	NA	NA	0.00	4.15	739.09	NA	NA	0.00	7.02	736.22	NA
03-3	747.01	0.9	11.85	0.96	12.81	734.20	735.06	11.94	0.05	11.99	735.02	735.07	NA	0.00	2.54	744.47	NA
03-3R	746.47	0.9	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03-101	--	0.9	--	--	--	--	--	NA	0.00	10.17	--	NA	--	--	--	--	--
03-101R	747.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03-105	748.16	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	0.30	747.86	NA
03-105R	747.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03-105R2	748.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03-109	747.40	--	NA	0.00	10.21	737.19	NA	NA	0.00	10.43	736.97	NA	NA	0.00	10.72	736.68	NA
03-110	746.95	--	NA	0.00	7.70	739.25	NA	--	--	--	--	--	NA	0.00	8.00	738.95	NA
03-110R	746.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03-111	744.70	--	NA	0.00	4.91	739.79	NA	NA	0.00	5.46	739.24	NA	NA	0.00	6.86	737.84	NA
03-112	747.21	--	NA	0.00	6.02	741.19	NA	--	--	--	--	--	--	--	--	--	--
03-113	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
03-114	746.49	--	NA	0.00	11.98	734.51	NA	NA	0.00	11.94	734.55	NA	--	--	Dry	Dry	NA
03-114R	746.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
04-1	731.03	--	--	--	--	--	--	NA	0.00	4.88	726.15	NA	--	--	--	--	--
04-2	730.37	--	NA	0.00	6.45	723.92	NA	NA	0.00	6.55	723.82	NA	NA	0.00	6.23	724.14	NA
04-3	730.19	--	NA	0.00	7.62	722.57	NA	NA	0.00	7.58	722.61	NA	NA	0.00	3.37	726.82	NA
04-4	--	--	--	--	--	--	--	NA	0.00	7.78		NA	--	--	--	--	--
04-5	730.69	--	NA	0.00	8.43	722.26	NA	NA	0.00	8.64	722.05	NA	--	--	--	--	--
04-6R	735.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
04-120	750.52	--	NA	0.00	10.59	739.93	NA	NA	0.00	11.47	739.05	NA	NA	0.00	10.32	740.20	NA
04-121	752.12	--	NA	0.00	18.99	733.13	NA	NA	0.00	19.44	732.68	NA	NA	0.00	18.50	733.62	NA
04-140	751.06	--	NA	0.00	17.07	733.99	NA	NA	0.00	17.16	733.90	NA	NA	0.00	16.78	734.28	NA
04-160	729.13	--	NA	0.00	14.16	714.97	NA	NA	0.00	14.00	715.13	NA	--	--	--	--	--
07-01	732.41	--	NA	0.00	16.10	716.31	NA	NA	0.00	16.08	716.33	NA	--	--	--	--	--
07-02	727.47	--	NA	0.00	8.40	719.07	NA	NA	0.00	8.93	718.54	NA	--	--	--	--	--
11-120	747.44	--	NA	0.00	9.15	738.29	NA	--	--	--	--	--	NA	0.00	8.86	738.58	NA
11-140	741.78	--	NA	0.00	15.35	726.43	NA	NA	0.00	14.88	726.90	NA	NA	0.00	13.84	727.94	NA
20-100	750.80	--	NA	0.00	8.91	741.89	NA	NA	0.00	9.70	741.10	NA	NA	0.00	8.30	742.50	NA
20-101	752.60	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	11.10	741.50	NA
20-101R	751.69	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	11.44	740.25	NA
20-101RD	752.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
20-102	752.30	--	--	--	--	--	--	NA	0.00	10.52	741.78	NA	--	--	--	--	--
20-102R	751.68	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
20-103N	751.69	--	NA	0.00	9.94	741.75	NA	NA	0.00	11.10	740.59	NA	NA	0.00	9.53	742.16	NA
20-103S	751.67	--	NA	0.00	9.91	741.76	NA	--	--	--	--	--	NA	0.00	9.58	742.09	NA
20-105R	751.91	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	9.65	742.26	NA
20-120	749.45	--	NA	0.00	8.00	741.45	NA	NA	0.00	8.02	741.43	NA	NA	0.00	7.87	741.58	NA
20-121	753.25	--	NA	0.00	11.93	741.32	NA	NA	0.00	11.87	741.38	NA	NA	0.00	11.57	741.68	NA
20-122	752.40	--	NA	0.00	12.34	740.06	NA	NA	0.00	11.97	740.43	NA	NA	0.00	11.32	741.08	NA
20-140	752.80	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	10.73	742.07	NA
20-141	753.25	--	NA	0.00	8.75	744.50	NA	--	--	--	--	--	NA	0.00	8.15	745.10	NA
20-142	749.60	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	9.40	740.20	NA
20-143	749.25	--	NA	0.00	9.36	739.89	NA	--	--	--	--	--	NA	0.00	8.75	740.50	NA
20-144	749.90	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	8.26	741.64	NA
20-145	749.34	--	NA	0.00	9.90	739.44	NA	NA	0.00	9.49	739.85	NA	NA	0.00	9.08	740.26	NA
20-146	--	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	12.69	--	NA
20-160	752.81	0.99	NA	0.00	11.47	741.34	NA	NA	0.00	11.78	741.03	NA	11.12	0.03	11.15	741.66	741.69
20-162	753.48	0.99	12.26	0.45	12.71	740.77	741.22	12.21	0.47	12.68	740.80	741.27	11.87	0.18	12.05	741.43	741.61
20-163	750.44	0.99	NA	0.00	10.32	740.12	NA	--	--	--	--	--	--	--	--	--	--
20-163R	750.58	0.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
20-164	751.14	0.99	12.60	0.01	12.61	738.53	738.54	NA	0.00	9.37	741.77	NA	10.86	0.01	10.87	740.27	740.28
20-165	749.97	--	NA	0.00	12.40	737.57	NA	--	--	--	--	--	NA	0.00	10.78	739.19	NA

See Notes on Page 34.

TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	April 3-4, 2001					September 10-11, 2001					June 10-11, 2002				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
20-167	753.34	0.99	NA	0.00	12.79	740.55	NA	--	--	--	--	--	--	--	--	--	--
20-168	753.44	0.99	NA	0.00	13.41	740.03	NA	13.13	0.01	13.14	740.30	740.31	NA	0.00	20.85	732.59	NA
20-169	753.38	0.99	7.43	5.99	13.42	739.96	745.89	NA	0.00	13.14	740.24	NA	NA	0.00	12.81	740.57	NA
20-170	748.22	0.99	NA	0.00	7.44	740.78	NA	NA	0.00	9.02	739.20	NA	NA	0.00	7.53	740.69	NA
20-171	748.20	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	7.81	740.39	NA
20-500	750.63	--	NA	0.00	8.97	741.66	NA	NA	0.00	9.65	740.98	NA	NA	0.00	8.48	742.15	NA
20-500R	750.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
20-501	750.63	--	NA	0.00	8.75	741.88	NA	--	--	--	--	--	NA	0.00	8.29	742.34	NA
20-502	751.29	0.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
20-503	751.54	0.99	--	--	--	--	--	--	--	--	--	--	11.18	1.39	12.57	738.97	740.35
20-504	749.74	--	NA	0.00	8.59	741.15	NA	NA	0.00	9.41	740.33	NA	NA	0.00	8.34	741.40	NA
20-505D	752.20	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	10.18	742.02	NA
20-505S	750.54	--	NA	0.00	10.46	740.08	NA	--	--	--	--	--	--	--	--	--	--
20-506	751.35	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	9.86	741.49	NA
20-FP-1	752.17	0.99	11.29	0.01	11.30	740.87	740.88	NA	0.00	11.49	740.68	NA	--	--	--	--	--
20-FP-10	747.25	--	NA	0.00	5.58	741.67	NA	NA	0.00	7.60	739.65	NA	NA	0.00	7.72	739.53	NA
20-FP-11	743.97	--	NA	0.00	3.50	740.47	NA	NA	0.00	4.63	739.34	NA	NA	0.00	4.76	739.21	NA
20-FP-11R	744.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
20-FP-12	742.51	--	NA	0.00	2.51	740.00	NA	--	--	--	--	--	NA	0.00	3.85	738.66	NA
20-FP-2	753.51	--	--	--	--	--	--	NA	0.00	9.62	743.89	NA	--	--	--	--	--
20-FP-4R	751.25	0.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
20-FP-5	748.82	--	NA	0.00	7.20	741.62	NA	NA	0.00	8.00	740.82	NA	NA	0.00	7.90	740.92	NA
20-FP-6	747.91	--	NA	0.00	7.75	740.16	NA	NA	0.00	8.69	739.22	NA	NA	0.00	7.47	740.44	NA
20-FP-6R	747.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
20-FP-7	748.53	0.99	8.80	0.35	9.15	739.38	739.73	8.65	0.44	9.09	739.44	739.88	7.62	0.43	8.05	740.48	740.91
20-FP-8	748.73	0.99	7.85	0.69	8.54	740.19	740.87	8.98	0.67	9.65	739.08	739.74	7.57	1.06	8.63	740.10	741.15
20-FP-9	749.45	--	NA	0.00	8.57	740.88	NA	NA	0.00	9.11	740.34	NA	NA	0.00	8.20	741.25	NA
20-FP-10	747.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
30-100	747.24	--	NA	0.00	10.66	736.58	NA	NA	0.00	10.32	736.92	NA	NA	0.00	11.78	735.46	NA
30-120	747.48	--	NA	0.00	6.34	741.14	NA	NA	0.00	6.58	740.90	NA	NA	0.00	7.03	740.45	NA
30-140	745.88	--	NA	0.00	9.04	736.84	NA	NA	0.00	6.28	739.60	NA	NA	0.00	5.68	740.20	NA
31-1	735.19	--	NA	0.00	8.91	726.28	NA	--	--	--	--	--	NA	0.00	7.32	727.87	NA
31-2	733.97	--	NA	0.00	7.51	726.46	NA	--	--	--	--	--	NA	0.00	5.58	728.39	NA
31-3	734.44	--	NA	0.00	8.49	725.95	NA	--	--	--	--	--	--	--	--	--	--
31-4D	733.87	0.92	8.61	0.05	8.66	725.21	725.26	--	--	--	--	--	NA	0.00	5.41	728.46	NA
31-4S	733.90	0.92	7.11	0.02	7.13	726.77	726.79	--	--	--	--	--	NA	0.00	5.15	728.75	NA
31-5	736.12	--	NA	0.00	10.44	725.68	NA	NA	0.00	10.57	725.55	NA	NA	0.00	9.70	726.42	NA
31-6	734.54	--	NA	0.00	8.30	726.24	NA	NA	0.00	8.09	726.45	NA	NA	0.00	7.80	726.74	NA
31-7	729.75	0.75	6.71	3.92	10.63	719.12	722.06	--	--	--	--	--	--	0.00	6.81	722.94	NA
31-8	730.26	--	NA	0.00	8.53	721.73	NA	NA	0.00	8.67	721.59	NA	NA	0.00	8.27	721.99	NA
36 FP1	750.60	--	--	--	--	--	--	NA	0.00	12.52	738.08	NA	NA	0.00	11.72	738.88	NA
36 FP2	750.30	0.9	NA	0.00	12.69	737.61	NA	NA	0.00	12.64	737.66	NA	NA	0.00	11.77	738.53	NA
36 FP3	749.41	0.9	11.55	0.80	12.35	737.06	737.78	--	--	--	--	--	10.57	0.39	10.96	738.45	738.80
36 FP4	753.70	0.9	--	--	--	--	--	--	--	--	--	--	15.13	0.01	15.14	738.56	738.57
36 FP5	753.84	0.9	NA	0.00	16.18	737.66	NA	NA	0.00	16.09	737.75	NA	15.28	0.01	15.29	738.55	738.56
36 FP6	749.51	0.9	9.53	3.77	13.30	736.21	739.60	9.22	3.02	12.24	737.27	739.99	8.00	2.38	10.38	739.13	741.27
36 FP7	750.02	0.9	12.30	3.30	15.60	734.42	737.39	--	--	--	--	--	11.13	2.79	13.92	736.10	738.61
36 FP8	748.83	--	NA	0.00	8.10	740.73	NA	NA	0.00	8.35	740.48	NA	NA	0.00	7.11	741.72	NA
36-100	750.54	--	NA	0.00	13.34	737.20	NA	NA	0.00	13.34	737.20	NA	NA	0.00	12.48	738.06	NA
36-101	750.11	--	NA	0.00	14.11	736.00	NA	NA	0.00	14.33	735.78	NA	NA	0.00	13.27	736.84	NA
36-120	754.47	--	NA	0.00	12.62	741.85	NA	NA	0.00	13.33	741.14	NA	NA	0.00	12.04	742.43	NA
36-121	753.79	--	NA	0.00	17.04	736.75	NA	NA	0.00	16.88	736.91	NA	NA	0.00	16.33	737.46	NA
36-160	750.12	0.9	11.66	5.12	16.78	733.34	737.95	--	--	--	--	--	10.50	0.65	11.15	738.97	739.56
36-161	745.46	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	4.89	--	NA
37-01	750.37	--	NA	0.00	9.33	741.04	NA	NA	0.00	10.85	739.52	NA	NA	0.00	10.08	740.29	NA
38-120	748.43	--	NA	0.00	14.01	734.42	NA	NA	0.00	14.10	734.33	NA	NA	0.00	13.06	735.37	NA
40-1	733.43	--	NA	0.00	4.14	729.29	NA	NA	0.00	3.40	730.03	NA	--	--	--	--	--

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	April 3-4, 2001					September 10-11, 2001					June 10-11, 2002				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
40-1R	733.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
40-1R2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
40-2	736.47	--	NA	0.00	7.38	729.09	NA	NA	0.00	7.88	728.59	NA	--	--	--	--	--
40-3	737.01	--	NA	0.00	18.25	718.76	NA	NA	0.00	18.23	718.78	NA	--	--	--	--	--
40-301	732.05	--	NA	0.00	8.20	723.85	NA	NA	0.00	8.72	723.33	NA	NA	0.00	11.87	720.18	NA
40-302	732.96	--	NA	0.00	7.51	725.45	NA	NA	0.00	7.35	725.61	NA	--	--	--	--	--
40-303	729.41	--	NA	0.00	4.09	725.32	NA	--	--	--	--	--	NA	0.00	3.82	725.59	NA
40-303R	730.41	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	13.50	716.91	NA
40-304	731.11	--	NA	0.00	2.81	728.30	NA	NA	0.00	2.72	728.39	NA	--	--	--	--	--
40-305	731.24	--	NA	0.00	5.02	726.22	NA	NA	0.00	4.31	726.93	NA	NA	0.00	5.04	726.20	NA
40-4	738.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
40-4R	737.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
40-5	735.84	0.92	6.14	0.02	6.16	729.68	729.70	NA	0.00	9.28	726.56	NA	--	--	--	--	--
40-6	735.53	--	NA	0.00	6.45	729.08	NA	NA	0.00	7.17	728.36	NA	--	--	--	--	--
40-6R	735.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
40-07	733.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
40-07R	733.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
40-07R2	735.37	0.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
43-100	753.07	--	NA	0.00	11.84	741.23	NA	NA	0.00	11.63	741.44	NA	NA	0.00	11.28	741.79	NA
43-101R	752.60	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	11.07	741.53	NA
43-102	752.63	--	NA	0.00	10.15	742.48	NA	--	--	--	--	--	NA	0.00	11.63	741.00	NA
43-103	752.10	--	NA	0.00	8.89	743.21	NA	NA	0.00	8.91	743.19	NA	NA	0.00	8.36	743.74	NA
43-140	750.14	--	NA	0.00	9.70	740.44	NA	NA	0.00	9.80	740.34	NA	NA	0.00	9.18	740.96	NA
43-141	752.78	--	NA	0.00	12.30	740.48	NA	NA	0.00	12.60	740.18	NA	NA	0.00	10.27	742.51	NA
43-160	750.43	0.92	9.39	1.95	11.34	739.09	740.88	9.44	0.38	9.82	740.61	740.96	NA	0.00	9.16	741.27	NA
43-161	750.19	0.92	9.28	1.92	11.20	738.99	740.76	9.31	0.25	9.56	740.63	740.86	NA	0.00	8.97	741.22	NA
43-162	749.90	0.92	8.90	2.24	11.14	738.76	740.82	8.81	1.95	10.76	739.14	740.93	8.40	2.05	10.45	739.45	741.34
43-163	749.65	0.92	8.25	3.59	11.84	737.81	741.11	8.60	0.48	9.08	740.57	741.01	8.04	0.67	8.71	740.94	741.56
43-164	749.59	0.92	8.37	0.75	9.12	740.47	741.16	8.56	0.06	8.62	740.97	741.03	8.00	0.11	8.11	741.48	741.58
43-165	749.41	0.92	7.78	5.55	13.33	736.08	741.19	8.26	3.48	11.74	737.67	740.87	7.41	1.22	8.63	740.78	741.90
43-166	747.97	--	NA	0.00	7.15	740.82	NA	NA	0.00	7.10	740.87	NA	NA	0.00	6.54	741.43	NA
43-167	748.43	--	NA	0.00	7.90	740.53	NA	NA	0.00	7.71	740.72	NA	NA	0.00	7.26	741.17	NA
43-168	750.10	--	NA	0.00	9.63	740.47	NA	NA	0.00	9.38	740.72	NA	NA	0.00	9.00	741.10	NA
43-169	750.32	--	NA	0.00	9.56	740.76	NA	NA	0.00	9.39	740.93	NA	NA	0.00	8.99	741.33	NA
43-220	753.95	--	--	--	--	--	--	NA	0.00	11.91	742.04	NA	NA	0.00	11.31	742.64	NA
43-242	753.64	--	NA	0.00	12.28	741.36	NA	NA	0.00	12.54	741.10	NA	NA	0.00	11.99	741.65	NA
55-1	753.43	--	NA	0.00	10.66	742.77	NA	NA	0.00	11.80	741.63	NA	NA	0.00	11.46	741.97	NA
55-2	753.06	--	NA	0.00	11.22	741.84	NA	NA	0.00	11.71	741.35	NA	NA	0.00	10.89	742.17	NA
55-3	753.52	--	NA	0.00	11.44	742.08	NA	NA	0.00	11.39	742.13	NA	NA	0.00	11.08	742.44	NA
55-4	753.59	--	NA	0.00	10.49	743.10	NA	NA	0.00	10.59	743.00	NA	NA	0.00	10.11	743.48	NA
55-5	753.94	--	NA	0.00	12.34	741.60	NA	NA	0.00	12.31	741.63	NA	NA	0.00	11.98	741.96	NA
70-100	742.36	--	NA	0.00	5.86	736.50	NA	NA	0.00	7.52	734.84	NA	NA	0.00	6.02	736.34	NA
70-101	742.68	0.91	3.22	1.58	4.80	737.88	739.32	4.88	0.95	5.83	736.85	737.71	NA	0.00	3.46	739.22	NA
70-102	742.75	--	NA	0.00	3.90	738.85	NA	--	--	--	--	--	NA	0.00	3.72	739.03	NA
70-102R	742.56	0.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
70-103	743.78	0.91	4.09	0.89	4.98	738.80	739.61	5.59	0.43	6.02	737.76	738.15	4.20	0.47	4.67	739.11	739.54
70-104	743.51	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	4.05	739.46	NA
70-105	743.58	--	--	--	--	--	--	NA	0.00	7.04	736.54	NA	NA	0.00	5.12	738.46	NA
70-106	743.60	--	--	--	--	--	--	NA	0.00	6.83	736.77	NA	NA	0.00	4.84	738.76	NA
70-107	742.58	--	NA	0.00	6.86	735.72	NA	NA	0.00	7.45	735.13	NA	NA	0.00	6.55	736.03	NA
70-107R	742.80	0.91	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
70-108	744.06	0.91	4.61	1.64	6.25	737.81	739.30	6.05	0.08	6.13	737.93	738.00	4.43	0.68	5.11	738.95	739.57
70-108R	743.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
70-109	741.60	--	NA	0.00	2.95	738.65	NA	NA	0.00	4.14	737.46	NA	NA	0.00	3.09	738.51	NA
70-160	739.41	--	NA	0.00	9.83	729.58	NA	NA	0.00	9.98	729.43	NA	NA	0.00	9.14	730.27	NA
70-162	743.45	--	NA	0.00	3.67	739.78	NA	--	--	--	--	--	NA	0.00	3.92	739.53	NA
70-163	742.59	--	NA	0.00	3.92	738.67	NA	NA	0.00	5.18	737.41	NA	NA	0.00	3.81	738.78	NA

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TABLE 3-2
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Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	April 3-4, 2001					September 10-11, 2001					June 10-11, 2002				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
70-164	742.37	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	4.00	738.37	NA
70-165	741.26	--	NA	0.00	3.59	737.67	NA	NA	0.00	5.28	735.98	NA	NA	0.00	3.44	737.82	NA
84-1	727.09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
84-3	727.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
84-4	727.25	--	NA	0.00	7.53	719.72	NA	--	--	--	--	--	--	--	--	--	--
84-5	727.87	--	NA	0.00	9.27	718.60	NA	--	--	--	--	--	NA	0.00	7.62	720.25	NA
84-6	726.49	--	NA	0.00	11.78	714.71	NA	--	--	--	--	--	NA	0.00	7.41	719.08	NA
84-6R	720.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
84-6R2	727.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
84-6R2-D	726.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
84-7	727.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
84-7-D	727.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
86-1	743.20	--	NA	0.00	8.93	734.27	NA	--	--	--	--	--	NA	0.00	9.01	734.19	NA
86-100	740.05	--	NA	0.00	6.38	733.67	NA	NA	0.00	17.34	722.71	NA	NA	0.00	5.31	734.74	NA
86-2	742.93	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	8.85	734.08	NA
86-3	746.31	--	--	--	--	--	--	NA	0.00	15.33	730.98	NA	NA	0.00	13.25	733.06	NA
87-FP1	715.79	--	NA	0.00	2.20	713.59	NA	--	--	--	--	--	NA	0.00	1.69	714.10	NA
87-FP2	742.24	--	--	--	--	--	--	NA	0.00	13.34	728.90	NA	NA	0.00	13.82	728.42	NA
87-FP3	739.07	--	NA	0.00	10.49	728.58	NA	NA	0.00	10.83	728.24	NA	NA	0.00	11.38	727.69	NA
87-FP4	742.11	--	NA	0.00	21.04	721.07	NA	--	--	--	--	--	--	--	Dry	Dry	NA
87-FP5	741.01	--	NA	0.00	11.27	729.74	NA	NA	0.00	11.57	729.44	NA	NA	0.00	11.71	729.30	NA
87-FPD2	742.05	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	29.12	712.93	NA
87-FPD3	742.05	--	NA	0.00	13.05	729.00	NA	--	--	--	--	--	NA	0.00	26.18	715.87	NA
88-1	741.09	--	NA	0.00	6.00	735.09	NA	--	--	--	--	--	--	--	--	--	--
88-2	741.37	--	NA	0.00	7.10	734.27	NA	--	--	--	--	--	NA	0.00	6.80	734.57	NA
88-4	741.37	--	NA	0.00	7.33	734.04	NA	--	--	--	--	--	NA	0.00	6.62	734.75	NA
88-5	742.01	--	NA	0.00	7.75	734.26	NA	--	--	--	--	--	NA	0.00	7.10	734.91	NA
88-6	741.60	--	NA	0.00	7.70	733.90	NA	--	--	--	--	--	NA	0.00	6.95	734.65	NA
88-7	742.20	--	NA	0.00	6.35	735.85	NA	--	--	--	--	--	NA	0.00	5.56	736.64	NA
88-8	741.53	--	NA	0.00	7.24	734.29	NA	--	--	--	--	--	NA	0.00	7.44	734.09	NA
88-9	741.86	--	NA	0.00	8.18	733.68	NA	--	--	--	--	--	NA	0.00	6.60	735.26	NA
94-100	720.36	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	7.48	712.88	NA
ACSP-B2AR	738.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BD01-01	744.29	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	25.58	718.71	NA
BD01-02R	736.42	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BD01-03	733.49	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	20.76	712.73	NA
BD01-04	736.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GM-1	724.64	--	NA	0.00	11.42	713.22	NA	--	--	--	--	--	NA	0.00	11.25	713.39	NA
GM-10	725.79	--	NA	0.00	12.55	713.24	NA	--	--	--	--	--	NA	0.00	12.39	713.40	NA
GM-11	730.31	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GM-12	738.62	--	NA	0.00	22.50	716.12	NA	--	--	--	--	--	NA	0.00	24.26	714.36	NA
GM-2	725.40	--	NA	0.00	11.28	714.12	NA	--	--	--	--	--	NA	0.00	10.90	714.50	NA
GM-3	725.54	--	NA	0.00	12.28	713.26	NA	--	--	--	--	--	NA	0.00	12.12	713.42	NA
GM-4	738.12	--	NA	0.00	24.45	713.67	NA	--	--	--	--	--	NA	0.00	20.20	717.92	NA
GM-5	737.05	--	NA	0.00	23.35	713.70	NA	--	--	--	--	--	NA	0.00	8.35	728.70	NA
GM-6	734.96	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	21.19	713.77	NA
GM-7	739.81	--	NA	0.00	25.70	714.11	NA	--	--	--	--	--	NA	0.00	25.53	714.28	NA
GM-8	738.71	--	NA	0.00	22.47	716.24	NA	--	--	--	--	--	NA	0.00	22.06	716.65	NA
GM-9	724.39	--	NA	0.00	11.16	713.23	NA	--	--	--	--	--	NA	0.00	10.97	713.42	NA
MW-00-FP6	740.73	--	NA	0.00	17.51	723.22	NA	--	--	--	--	--	--	--	Dry	Dry	--
MW-00-FP7	740.73	--	NA	0.00	17.51	723.22	NA	--	--	--	--	--	--	--	Dry	Dry	--
MW-00-FP8	741.43	--	NA	0.00	17.69	723.74	NA	--	--	--	--	--	NA	0.00	17.70	723.73	NA
MW-07-01	732.42	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	15.10	717.32	NA
MW-07-02	736.75	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	7.24	729.51	NA
MW-16	713.53	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-17	714.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-18	714.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	April 3-4, 2001					September 10-11, 2001					June 10-11, 2002				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
MW-19	712.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-20	714.02	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	4.51	--	NA
MW-21	716.51	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	3.24	--	NA
MW-22	719.37	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	6.87	--	NA
MW-23	719.89	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	4.95	--	NA
MW-24	724.81	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	4.20	--	NA
MW-25	722.38	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	8.29	--	NA
MW-26	722.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW-3D	736.78	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OW-3S	738.34	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	9.42	728.92	NA
OW-5	725.32	--	NA	0.00	8.56	716.76	NA	--	--	--	--	--	NA	0.00	22.03	703.29	NA
P-1	751.11	0.92	11.30	3.50	14.80	736.31	739.53	10.36	0.65	11.01	740.10	740.70	10.73	0.02	10.75	740.36	740.38
P-2	751.30	0.92	10.89	4.66	15.55	735.75	740.04	9.69	5.51	15.20	736.10	741.17	10.17	1.03	11.20	740.10	741.05
RFI-02-05	738.88	--	--	--	--	--	--	NA	0.00	4.97	733.91	NA	--	--	--	--	--
RFI-02-07	735.06	--	--	--	--	--	--	NA	0.00	6.58	728.48	NA	NA	0.00	21.58	713.48	NA
RFI-02-08	736.06	--	--	--	--	--	--	NA	0.00	8.61	727.45	NA	NA	0.00	21.57	714.49	NA
RFI-02-08R	736.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-02-12	738.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-02-13	731.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-02-14	738.73	0.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-02-15	738.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-02-16	738.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-02-17	738.67	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-02-18	738.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-02-19	738.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-02-20	738.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-02-21	738.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-02-22	729.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-02-23	738.57	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-02-24	729.88	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-03-01	748.38	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	8.38	740.00	NA
RFI-03-02	742.35	--	--	--	--	--	--	NA	0.00	7.41	734.94	NA	NA	0.00	3.93	738.42	NA
RFI-03-03	742.01	--	--	--	--	--	--	NA	0.00	2.45	739.56	NA	NA	0.00	7.90	734.11	NA
RFI-03-04	746.67	--	--	--	--	--	--	NA	0.00	7.63	739.04	NA	NA	0.00	6.69	739.98	NA
RFI-03-15R	747.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-05-01	750.38	--	--	--	--	--	--	NA	0.00	9.72	740.66	NA	NA	0.00	9.33	741.05	NA
RFI-05-02	754.10	--	--	--	--	--	--	NA	0.00	13.28	740.82	NA	NA	0.00	12.93	741.17	NA
RFI-05-03	752.43	--	--	--	--	--	--	NA	0.00	10.63	741.80	NA	NA	0.00	10.41	742.02	NA
RFI-05-04	754.32	--	NA	0.00	11.95	742.37	NA	NA	0.00	12.19	742.13	NA	NA	0.00	11.73	742.59	NA
RFI-05-05	754.34	--	NA	0.00	12.55	741.79	NA	NA	0.00	12.70	741.64	NA	NA	0.00	12.36	741.98	NA
RFI-05-06	752.13	--	--	--	--	--	--	NA	0.00	11.63	740.50	NA	NA	0.00	11.45	740.68	NA
RFI-05-07	754.38	--	NA	0.00	11.44	742.94	NA	NA	0.00	11.85	742.53	NA	NA	0.00	11.14	743.24	NA
RFI-05-08	755.77	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	12.75	743.02	NA
RFI-05-08R	755.78	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	12.80	--	NA
RFI-05-09	751.65	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	9.74	741.91	NA
RFI-05-10	754.21	--	NA	0.00	13.23	740.98	NA	NA	0.00	13.27	740.94	NA	NA	0.00	12.97	741.24	NA
RFI-05-11	754.42	0.92	--	--	--	--	--	13.09	3.21	16.30	738.12	741.07	--	--	--	--	--
RFI-05-12	754.03	--	NA	0.00	13.27	740.76	NA	NA	0.00	12.83	741.20	NA	NA	0.00	12.41	741.62	NA
RFI-05-13	754.16	0.92	12.41	3.84	16.25	737.91	741.44	12.68	0.05	12.73	741.43	741.48	12.33	3.45	15.78	738.38	741.55
RFI-05-14	754.12	0.92	--	--	--	--	--	12.90	2.05	14.95	739.17	741.06	12.28	2.27	14.55	739.57	741.66
RFI-05-19D	749.31	--	--	--	--	--	--	NA	0.00	10.75	738.56	NA	--	--	--	--	--
RFI-05-19DR	749.48	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	13.08	736.40	NA
RFI-05-19S	749.48	--	--	--	--	--	--	NA	0.00	9.39	740.09	NA	NA	0.00	8.71	740.77	NA
RFI-05-20	750.41	--	--	--	--	--	--	NA	0.00	9.90	740.51	NA	NA	0.00	9.29	741.12	NA
RFI-05-21	748.73	--	--	--	--	--	--	NA	0.00	8.06	740.67	NA	NA	0.00	7.39	741.34	NA
RFI-05-30	748.55	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	7.72	--	NA
RFI-05-East	753.59	0.92	--	--	--	--	--	--	--	--	--	--	12.20	2.37	14.57	739.02	741.20

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Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	April 3-4, 2001					September 10-11, 2001					June 10-11, 2002				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-05-North	753.55	0.92	--	--	--	--	--	--	--	--	--	--	12.17	1.72	13.89	739.66	741.24
RFI-05-South	754.08	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	13.11	740.97	NA
RFI-07-01	730.56	--	--	--	--	--	--	NA	0.00	8.54	722.02	NA	NA	0.00	7.23	723.33	NA
RFI-07-01R	736.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-07-01R2	736.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-07-03	726.74	--	--	--	--	--	--	NA	0.00	5.59	721.15	NA	NA	0.00	1.54	725.20	NA
RFI-07-08	728.12	--	--	--	--	--	--	NA	0.00	12.91	715.21	NA	NA	0.00	12.20	715.92	NA
RFI-09-01	725.15	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	5.40	719.75	NA
RFI-09-01R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-04	725.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-04R	725.95	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	15.10	710.85	NA
RFI-09-06	727.66	--	--	--	--	--	--	NA	0.00	6.33	721.33	NA	NA	0.00	5.16	722.50	NA
RFI-09-07	727.51	0.75	--	--	--	--	--	NA	0.00	7.86	719.65	NA	NA	0.00	6.27	721.24	NA
RFI-09-08	728.45	--	--	--	--	--	--	NA	0.00	9.34	719.11	NA	NA	0.00	8.20	720.25	NA
RFI-09-08D	728.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-09	728.20	--	--	--	--	--	--	NA	0.00	6.88	721.32	NA	NA	0.00	5.65	722.55	NA
RFI-09-09D	728.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-10	726.45	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	4.52	721.93	NA
RFI-09-11	728.85	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	6.55	722.30	NA
RFI-09-11D	728.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-12	731.39	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	3.45	727.94	NA
RFI-09-13	725.09	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	7.00	718.09	NA
RFI-09-14	724.44	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	5.36	719.08	NA
RFI-09-32	723.85	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	7.95	--	NA
RFI-09-36R	725.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-40R	729.76	0.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-44	728.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-45	730.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-45R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-46	723.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-47	729.64	0.75	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-49	726.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-49R	726.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-53	725.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-54S	728.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-54D	728.01	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-55S	728.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-55D	728.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-56	726.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-57	724.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-09-58	723.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-10-01	749.11	--	--	--	--	--	--	NA	0.00	8.34	740.77	NA	NA	0.00	7.43	741.68	NA
RFI-10-02	750.54	--	--	--	--	--	--	NA	0.00	8.06	742.48	NA	NA	0.00	7.80	742.74	NA
RFI-10-03	751.79	--	--	--	--	--	--	NA	0.00	10.46	741.33	NA	NA	0.00	9.50	742.29	NA
RFI-10-04	750.64	--	--	--	--	--	--	NA	0.00	9.30	741.34	NA	NA	0.00	8.18	742.46	NA
RFI-10-05	751.57	--	--	--	--	--	--	NA	0.00	10.73	740.84	NA	NA	0.00	9.55	742.02	NA
RFI-10-06	752.17	--	--	--	--	--	--	NA	0.00	11.17	741.00	NA	NA	0.00	9.84	742.33	NA
RFI-10-07	751.33	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	8.89	742.44	NA
RFI-10-08	750.79	--	--	--	--	--	--	NA	0.00	9.57	741.22	NA	NA	0.00	8.42	742.37	NA
RFI-10-11	746.14	--	--	--	--	--	--	NA	0.00	6.11	740.03	NA	NA	0.00	5.04	741.10	NA
RFI-10-12	750.35	--	--	--	--	--	--	NA	0.00	8.70	741.65	NA	NA	0.00	7.68	742.67	NA
RFI-10-15	751.25	--	--	--	--	--	--	NA	0.00	9.97	741.28	NA	NA	0.00	8.81	742.44	NA
RFI-10-24	751.53	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	11.84	--	NA
RFI-10-25	753.10	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	11.67	--	NA
RFI-10-26	749.32	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	7.48	741.84	NA
RFI-10-28	752.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

See Notes on Page 34.

TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	April 3-4, 2001					September 10-11, 2001					June 10-11, 2002				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-10-29	752.40	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-10-30	745.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-10-31	746.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-10-32	754.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-10-33	755.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-10-34	755.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-10-35	755.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-10-36	752.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-01R	741.98	0.93	--	--	--	--	--	--	--	--	--	--	NA	0.00	12.16	729.82	NA
RFI-12-02	742.41	0.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-02R	742.10	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-07R	742.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-07R2	741.95	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-08 (Replaced)	742.08	0.93	--	--	--	--	--	--	--	--	--	--	NA	0.00	12.74	729.34	NA
RFI-12-09	742.68	0.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-09R	741.97	0.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-11D	742.09	0.93	--	--	--	--	--	14.01	0.42	14.43	727.66	728.05	--	--	--	--	--
RFI-12-11S	742.17	--	--	--	--	--	--	NA	0.00	7.07	735.10	NA	--	--	--	--	--
RFI-12-14	742.15	--	--	--	--	--	--	NA	0.00	23.25	718.90	NA	--	--	--	--	--
RFI-12-14R	742.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-15	742.13	--	--	--	--	--	--	NA	0.00	10.15	731.98	NA	--	--	--	--	--
RFI-12-21	741.50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-22	741.99	0.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-22R	742.07	0.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-23	742.21	0.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-24	742.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-25	741.85	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-26	742.04	0.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-28	742.63	0.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-32	738.61	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-33	743.66	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-34	744.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-35	743.83	0.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-36	743.89	0.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-38	742.39	0.93	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-40	741.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-12-41	741.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-16-01	736.10	--	--	--	--	--	--	NA	0.00	9.97	726.13	NA	--	--	--	--	--
RFI-16-04	732.27	--	--	--	--	--	--	NA	0.00	7.82	724.45	NA	--	--	--	--	--
RFI-16-04R	732.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-16-07	733.26	--	--	--	--	--	--	NA	0.00	6.27	726.99	NA	--	--	--	--	--
RFI-16-08	733.24	0.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-16-09	733.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-16-10	736.09	0.86	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-16-11	736.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-16-12	735.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-16-12R	735.56	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-16-20	732.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-16-24	736.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-16-25	736.14	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-17-02	720.27	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	6.32	713.95	NA
RFI-17-02D	720.36	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-21-04	746.10	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	12.03	734.07	NA
RFI-23-01	742.19	--	--	--	--	--	--	NA	0.00	6.76	735.43	NA	NA	0.00	5.72	736.47	NA
RFI-23-01R	741.73	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-23-02	740.37	--	--	--	--	--	--	NA	0.00	6.68	733.69	NA	NA	0.00	5.99	734.38	NA

See Notes on Page 34.

TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	April 3-4, 2001					September 10-11, 2001					June 10-11, 2002				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-23-02R	740.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-36-01	756.63	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	18.68	737.95	NA
RFI-36-02	751.96	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	14.47	737.49	NA
RFI-36-03	751.31	--	NA	0.00	13.03	738.28	NA	NA	0.00	13.63	737.68	NA	NA	0.00	12.74	738.57	NA
RFI-36-04	756.14	0.83	NA	0.00	18.80	737.34	NA	NA	0.00	18.64	737.50	NA	16.76	1.23	17.99	738.15	739.17
RFI-36-05	755.07	0.83	NA	0.00	17.69	737.38	NA	NA	0.00	17.60	737.47	NA	14.10	2.69	16.79	738.28	740.51
RFI-36-06	755.29	0.83	--	--	--	--	--	--	--	--	--	--	NA	0.00	17.21	738.08	NA
RFI-36-07	753.94	0.83	--	--	--	--	--	--	--	--	--	--	NA	0.00	15.73	738.21	NA
RFI-36-08	749.29	0.83	--	--	--	--	--	NA	0.00	9.30	739.99	NA	NA	0.00	8.48	740.81	NA
RFI-36-09	750.78	--	--	--	--	--	--	NA	0.00	10.33	740.45	NA	NA	0.00	9.38	741.40	NA
RFI-36-10	750.21	--	--	--	--	--	--	NA	0.00	9.64	740.57	NA	NA	0.00	8.98	741.23	NA
RFI-36-11	752.89	0.83	NA	0.00	12.55	740.34	NA	NA	0.00	12.59	740.30	NA	NA	0.00	12.16	740.73	NA
RFI-36-12	753.52	0.83	NA	0.00	11.76	741.76	NA	NA	0.00	11.90	741.62	NA	NA	0.00	10.88	742.64	NA
RFI-36-14	750.00	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	7.51	742.49	NA
RFI-36-15	754.47	0.83	14.49	4.58	19.07	735.40	739.20	--	--	--	--	--	13.79	4.69	18.48	735.99	739.88
RFI-36-16	754.87	0.83	--	--	--	--	--	--	--	--	--	--	15.16	6.06	21.22	733.65	738.68
RFI-36-17	753.93	--	--	--	--	--	--	NA	0.00	17.37	736.56	NA	NA	0.00	16.09	737.84	NA
RFI-36-18	753.12	--	--	--	--	--	--	NA	0.00	16.27	736.85	NA	NA	0.00	15.10	738.02	NA
RFI-36-19	753.31	--	--	--	--	--	--	NA	0.00	15.69	737.62	NA	NA	0.00	14.76	738.55	NA
RFI-36-20	757.01	--	--	--	--	--	--	NA	0.00	19.11	737.90	NA	NA	0.00	18.17	738.84	NA
RFI-36-21	754.72	0.83	--	0.00	17.11	737.61	NA	16.90	0.98	17.88	736.84	737.65	16.08	1.55	17.63	737.09	738.38
RFI-36-22	754.28	0.83	--	0.00	15.58	738.70	NA	13.82	2.44	16.26	738.02	740.05	13.64	3.24	16.88	737.40	740.09
RFI-36-23	754.09	0.83	--	--	--	--	--	14.42	2.60	17.02	737.07	739.23	NA	0.00	13.94	740.15	NA
RFI-36-24	753.92	0.83	--	--	--	--	--	13.41	2.48	15.89	738.03	740.09	NA	0.00	12.58	741.34	NA
RFI-36-25R	754.67	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	14.50	740.17	NA
RFI-36-27	755.46	0.83	--	--	--	--	--	--	--	--	--	--	17.29	0.00	17.89	737.57	738.07
RFI-36-29	753.86	0.83	--	--	--	--	--	NA	0.00	15.19	738.67	NA	NA	0.00	14.68	739.18	NA
RFI-36-29R	753.72	0.83	--	--	--	--	--	--	--	--	--	--	NA	0.00	15.08	738.64	NA
RFI-36-31	753.51	0.83	--	--	--	--	--	13.38	2.99	16.37	737.14	739.62	NA	0.00	12.93	740.58	NA
RFI-36-32	756.28	0.83	--	--	--	--	--	18.86	3.74	22.60	733.68	736.78	NA	0.00	18.39	737.89	NA
RFI-36-35	750.05	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	12.22	737.83	NA
RFI-36-36	750.19	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	8.41	741.78	NA
RFI-36-37	757.15	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	18.60	738.55	NA
RFI-36-43	753.26	0.83	--	--	--	--	--	--	--	--	--	--	12.79	0.01	12.80	740.46	740.47
RFI-36-44	752.45	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	14.32	738.13	NA
RFI-36-45	752.83	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	14.85	737.98	NA
RFI-36-46	750.13	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	12.42	737.71	NA
RFI-36-47	749.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-36-48	757.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-36-49	755.71	0.83	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-36-51	749.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-36-53	753.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-36-54	756.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-36-55	750.49	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-36-56	749.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-38-04	751.58	--	--	--	--	--	--	NA	0.00	19.15	732.43	NA	NA	0.00	18.47	733.11	NA
RFI-38-05	750.79	--	--	--	--	--	--	NA	0.00	18.10	732.69	NA	NA	0.00	17.27	733.52	NA
RFI-38-06	749.43	--	--	--	--	--	--	NA	0.00	15.41	734.02	NA	NA	0.00	14.36	735.07	NA
RFI-40-01R	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-01R2	734.05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-02	735.35	0.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-03	735.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-03R	735.33	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-04	728.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-07	729.35	0.92	--	--	--	--	--	--	--	--	--	--	NA	0.00	2.85	726.50	NA
RFI-40-09	731.85	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	12.45	719.40	NA
RFI-40-10R	735.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	April 3-4, 2001					September 10-11, 2001					June 10-11, 2002				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-40-11	730.82	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-12R	743.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-13	731.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-14R	731.93	0.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-16	735.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-17	734.03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-18	731.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-20	738.47	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-25	734.17	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-26	738.37	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-40-27	731.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-44-04	731.89	--	--	--	--	--	--	NA	0.00	6.25	725.64	NA	--	--	--	--	--
RFI-44-05	731.97	--	--	--	--	--	--	NA	0.00	9.61	722.36	NA	--	--	--	--	--
RFI-44-06R	731.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-55-01	751.85	--	--	--	--	--	--	NA	0.00	10.70	741.15	NA	NA	0.00	8.20	743.65	NA
RFI-55-02	752.88	--	--	--	--	--	--	NA	0.00	8.89	743.99	NA	NA	0.00	9.33	743.55	NA
RFI-55-09	753.75	--	--	--	--	--	--	NA	0.00	12.27	741.48	NA	NA	0.00	12.02	741.73	NA
RFI-55-10	751.86	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	10.20	741.66	NA
RFI-55-11	751.69	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-55-12	752.26	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-65-01	742.82	--	--	--	--	--	--	NA	0.00	6.48	736.34	NA	NA	0.00	6.42	736.40	NA
RFI-81-02	745.92	--	--	--	--	--	--	NA	0.00	15.43	730.49	NA	NA	0.00	15.20	730.72	NA
RFI-81-03	745.70	--	--	--	--	--	--	NA	0.00	14.45	731.25	NA	NA	0.00	13.71	731.99	NA
RFI-81-08	741.43	--	--	--	--	--	--	NA	0.00	10.72	730.71	NA	NA	0.00	8.45	732.98	NA
RFI-81-09	745.89	--	--	--	--	--	--	NA	0.00	13.63	732.26	NA	NA	0.00	11.86	734.03	NA
RFI-81-11	740.34	--	--	--	--	--	--	NA	0.00	6.73	733.61	NA	NA	0.00	5.51	734.83	NA
RFI-81-12R	742.60	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	5.49	737.11	NA
RFI-81-13	744.61	--	--	--	--	--	--	NA	0.00	11.75	732.86	NA	NA	0.00	11.17	733.44	NA
RFI-81-21	753.80	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	14.08	739.72	NA
RFI-81-22	742.58	--	--	--	--	--	--	NA	0.00	6.28	736.30	NA	NA	0.00	4.37	738.21	NA
RFI-81-33	736.94	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	5.02	731.92	NA
RFI-81-35	743.23	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	13.86	729.37	NA
RFI-81-39R	745.77	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-81-43	743.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-81-45	742.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-81-47	742.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-81-49	742.71	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-81-50	740.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-81-51	742.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-83/84-01	741.34	--	--	--	--	--	--	NA	0.00	4.55	736.79	NA	NA	0.00	4.18	737.16	NA
RFI-83/84-02	741.59	--	--	--	--	--	--	NA	0.00	6.68	734.91	NA	NA	0.00	5.40	736.19	NA
RFI-83/84-04	745.51	0.89	--	--	--	--	--	--	--	--	--	--	9.92	0.01	9.93	735.58	735.59
RFI-83/84-06	745.58	0.89	--	--	--	--	--	--	--	--	--	--	10.86	1.94	12.80	732.78	734.51
RFI-83/84-07	746.56	0.88	--	--	--	--	--	--	--	--	--	--	10.60	1.50	12.10	734.46	735.78
RFI-83/84-11	741.61	--	--	--	--	--	--	NA	0.00	7.64	733.97	NA	NA	0.00	7.21	734.40	NA
RFI-83/84-20	745.24	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	8.60	736.64	NA
RFI-83/84-25	745.83	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	12.99	732.84	NA
RFI-83/84-27	745.72	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	13.04	732.68	NA
RFI-83/84-27R	745.84	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-83/84-29	742.76	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	13.94	728.82	NA
RFI-83/84-44	746.16	0.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-83/84-45	746.22	0.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-83/84-46	746.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-83/84-48	746.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-83/84-49	745.25	0.89	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-83/84-51	742.39	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-83/84-53	745.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	April 3-4, 2001					September 10-11, 2001					June 10-11, 2002				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-83/84-54	746.41	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-03S	727.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-03I	727.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-03D	727.30	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-04I	727.23	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-04D	727.08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-05	726.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-06R	720.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-06RD	720.18	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-07	727.12	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-07D	727.52	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-08	727.22	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-08D	727.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-09S	719.43	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-09D	719.27	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-10S	718.70	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-10D	718.64	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-84-11S	721.97	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-85-02R	742.91	0.86	--	--	--	--	--	--	--	--	--	--	NA	0.00	10.87	732.04	NA
RFI-85-03	746.21	--	--	--	--	--	--	NA	0.00	14.74	731.47	NA	NA	0.00	13.63	732.58	NA
RFI-85-04	746.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-85-04R	745.95	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	20.40	725.55	NA
RFI-85-05	745.95	--	--	--	--	--	--	NA	0.00	21.80	724.15	NA	NA	0.00	21.62	724.33	NA
RFI-85-06	742.43	0.86	--	--	--	--	--	13.20	0.01	13.21	729.22	729.23	NA	0.00	12.50	729.93	NA
RFI-85-07	745.97	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	14.04	731.93	NA
RFI-85-08	746.74	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-86-01	735.80	--	--	--	--	--	--	NA	0.00	21.89	713.91	NA	--	--	--	--	--
RFI-86-01R	735.51	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	8.99	726.52	NA
RFI-86-01D	735.58	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-86-02	735.65	0.87	--	--	--	--	--	--	--	--	--	--	NA	0.00	8.86	726.79	NA
RFI-86-03	736.62	0.87	--	--	--	--	--	NA	0.00	8.02	728.60	NA	NA	0.00	6.68	729.94	NA
RFI-86-04	737.29	--	--	--	--	--	--	NA	0.00	3.99	733.30	NA	NA	0.00	3.44	733.85	NA
RFI-86-05	742.47	--	--	--	--	--	--	NA	0.00	11.36	731.11	NA	NA	0.00	9.39	733.08	NA
RFI-86-06D	737.21	--	--	--	--	--	--	NA	0.00	17.18	720.03	NA	NA	0.00	11.76	725.45	NA
RFI-86-06S	737.32	--	--	--	--	--	--	NA	0.00	12.31	725.01	NA	NA	0.00	19.90	717.42	NA
RFI-86-08R	743.25	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	11.77	731.48	NA
RFI-86-12	738.11	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-86-14	731.80	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	15.80	716.00	NA
RFI-86-15	718.03	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	4.30	713.73	NA
RFI-86-16	731.51	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-86-16R	731.76	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-94-02R	727.35	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-94-05	727.48	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-94-07	720.32	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-94-08	727.44	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-94-09	719.28	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-94-10	719.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-94-11	719.54	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-SS-01	716.07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-SS-02	716.18	0.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-SS-03	742.62	0.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-SS-04	745.79	0.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-SS-05	746.05	0.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-SS-06	745.94	0.99	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-SS-08	750.98	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RFI-SS-09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RW-1-P1	751.11	0.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	April 3-4, 2001					September 10-11, 2001					June 10-11, 2002				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RW-1-P2	751.30	0.92	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
RW-6-P1	753.39	--	--	--	--	--	--	NA	0.00	12.51	740.88	NA	--	--	--	--	--
RW-7-P1	753.23	--	--	--	--	--	--	NA	0.00	12.69	740.54	NA	NA	0.00	11.96	741.27	NA
RW-3A-P1	750.73	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	8.38	742.35	NA
RW-3A-P2	750.40	--	--	--	--	--	--	--	--	--	--	--	NA	0.00	8.18	742.22	NA
Dort Bridge	722.95	--	--	--	--	--	--	NA	0.00	15.15	707.80	NA	--	--	--	--	--
Fifth Bridge	720.33	--	--	--	--	--	--	NA	0.00	12.65	707.68	NA	--	--	--	--	--
Hamilton Bridge	722.61	--	--	--	--	--	--	NA	0.00	14.90	707.71	NA	--	--	--	--	--
Hamilton Bridge 20	720.09	--	--	--	--	--	--	NA	0.00	14.90	705.19	NA	--	--	--	--	--

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	March 17-18, 2003					December 2004					April 15, 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
03-01	744.67	0.9	5.82	1.70	7.52	737.15	738.68	--	--	--	--	NA	--	--	--	--	NA
03-01R	744.90	--	--	--	--	--	--	NA	0.00	4.28	740.62	NA	--	--	--	--	NA
03-02	743.24	--	NA	0.00	5.21	738.03	NA	--	--	--	--	NA	--	--	--	--	NA
03-3	747.01	0.9	12.44	0.01	12.45	734.56	734.57	--	--	--	--	NA	--	--	--	--	NA
03-3R	746.47	0.9	--	--	--	--	--	10.74	1.75	12.49	733.98	735.56	--	--	--	--	NA
03-101	--	0.9	10.16	0.01	10.17	--	--	--	--	--	--	NA	--	--	--	--	NA
03-101R	747.95	--	--	--	--	--	--	NA	0.00	7.50	740.45	NA	--	--	--	--	NA
03-105	748.16	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
03-105R	747.76	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
03-105R2	748.16	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
03-109	747.40	--	NA	0.00	10.61	736.79	NA	--	--	--	--	NA	--	--	--	--	NA
03-110	746.95	--	NA	0.00	8.69	738.26	NA	NA	0.00	6.44	740.51	NA	--	--	--	--	NA
03-110R	746.76	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
03-111	744.70	--	NA	0.00	5.72	738.98	NA	--	--	--	--	NA	--	--	--	--	NA
03-112	747.21	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
03-113	--	--	NA	0.00	7.46	--	NA	--	--	--	--	NA	--	--	--	--	NA
03-114	746.49	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
03-114R	746.27	--	NA	0.00	12.25	734.02	NA	NA	0.00	11.54	734.73	NA	--	--	--	--	NA
04-1	731.03	--	NA	0.00	3.81	727.22	NA	NA	0.00	3.63	727.40	NA	--	--	--	--	NA
04-2	730.37	--	NA	0.00	6.31	724.06	NA	NA	0.00	5.95	724.42	NA	--	--	--	--	NA
04-3	730.19	--	NA	0.00	7.87	722.32	NA	NA	0.00	6.79	723.40	NA	--	--	--	--	NA
04-4	--	--	NA	0.00	7.85	--	NA	NA	0.00	6.49		NA	--	--	--	--	NA
04-5	730.69	--	NA	0.00	8.21	722.48	NA	NA	0.00	7.83	722.86	NA	--	--	--	--	NA
04-6R	735.00	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
04-120	750.52	--	NA	0.00	12.50	738.02	NA	NA	0.00	17.02	733.50	NA	--	--	--	--	NA
04-121	752.12	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
04-140	751.06	--	--	--	Dry	Dry	--	--	--	--	--	NA	--	--	--	--	NA
04-160	729.13	--	NA	0.00	14.40	714.73	NA	NA	0.00	12.88	716.25	NA	--	--	--	--	NA
07-01	732.41	--	--	--	--	--	--	NA	0.00	15.25	717.16	NA	--	--	--	--	NA
07-02	727.47	--	NA	0.00	8.92	718.55	NA	NA	0.00	6.42	721.05	NA	--	--	--	--	NA
11-120	747.44	--	--	--	--	--	--	NA	0.00	8.91	738.53	NA	--	--	--	--	NA
11-140	741.78	--	--	--	--	--	--	NA	0.00	13.18	728.60	NA	--	--	--	--	NA
20-100	750.80	--	NA	0.00	10.62	740.18	NA	NA	0.00	9.03	741.77	NA	--	--	--	--	NA
20-101	752.60	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
20-101R	751.69	--	NA	0.00	12.19	739.50	NA	--	--	--	--	NA	--	--	--	--	NA
20-101RD	752.13	--	NA	0.00	12.20	739.93	NA	NA	0.00	11.23	740.90	NA	--	--	--	--	NA
20-102	752.30	--	NA	0.00	11.14	741.16	NA	--	--	--	--	NA	--	--	--	--	NA
20-102R	751.68	--	--	--	--	--	--	NA	0.00	9.72	741.96	NA	--	--	--	--	NA
20-103N	751.69	--	NA	0.00	11.75	739.94	NA	NA	0.00	10.10	741.59	NA	--	--	--	--	NA
20-103S	751.67	--	NA	0.00	11.72	739.95	NA	NA	0.00	10.10	741.57	NA	--	--	--	--	NA
20-105R	751.91	--	NA	0.00	11.51	740.40	NA	NA	0.00	10.12	741.79	NA	--	--	--	--	NA
20-120	749.45	--	NA	0.00	8.26	741.19	NA	NA	0.00	8.00	741.45	NA	--	--	--	--	NA
20-121	753.25	--	NA	0.00	11.96	741.29	NA	NA	0.00	11.81	741.44	NA	--	--	--	--	NA
20-122	752.40	--	NA	0.00	12.32	740.08	NA	NA	0.00	11.78	740.62	NA	--	--	--	--	NA
20-140	752.80	--	NA	0.00	11.59	741.21	NA	NA	0.00	11.18	741.62	NA	--	--	--	--	NA
20-141	753.25	--	NA	0.00	9.15	744.10	NA	NA	0.00	8.67	744.58	NA	--	--	--	--	NA
20-142	749.60	--	NA	0.00	8.66	740.94	NA	NA	0.00	8.15	741.45	NA	--	--	--	--	NA
20-143	749.25	--	NA	0.00	9.66	739.59	NA	NA	0.00	9.14	740.11	NA	--	--	--	--	NA
20-144	749.90	--	NA	0.00	9.26	740.64	NA	NA	0.00	8.19	741.71	NA	--	--	--	--	NA
20-145	749.34	--	NA	0.00	9.95	739.39	NA	NA	0.00	9.11	740.23	NA	--	--	--	--	NA
20-146	--	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
20-160	752.81	0.99	NA	0.00	12.73	740.08	NA	NA	0.00	11.52	741.29	NA	--	--	--	--	NA
20-162	753.48	0.99	13.09	0.01	13.10	740.38	740.39	12.14	0.58	12.72	740.76	741.33	--	--	--	--	NA
20-163	750.44	0.99	10.85	5.18	16.03	734.41	739.54	--	--	--	--	NA	--	--	--	--	NA
20-163R	750.58	0.99	--	--	--	--	--	9.54	5.41	14.95	735.63	740.99	--	--	--	--	NA
20-164	751.14	0.99	NA	0.00	12.04	739.10	NA	NA	0.00	10.96	740.18	NA	--	--	--	--	NA
20-165	749.97	--	NA	0.00	11.15	738.82	NA	NA	0.00	10.80	739.17	NA	--	--	--	--	NA

See Notes on Page 34.

TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	March 17-18, 2003					December 2004					April 15, 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
20-167	753.34	0.99	--	--	--	--	--	NA	0.00	12.85	740.49	NA	--	--	--	--	NA
20-168	753.44	0.99	--	--	--	--	--	NA	0.00	13.85	739.59	NA	--	--	--	--	NA
20-169	753.38	0.99	NA	0.00	13.72	739.66	NA	NA	0.00	13.02	740.36	NA	--	--	--	--	NA
20-170	748.22	0.99	9.38	0.08	9.46	738.76	738.84	NA	0.00	7.65	740.57	NA	--	--	--	--	NA
20-171	748.20	--	NA	0.00	8.38	739.82	--	NA	0.00	7.12	741.08	NA	--	--	--	--	NA
20-500	750.63	--	NA	0.00	10.40	740.23	NA	--	--	--	--	NA	--	--	--	--	NA
20-500R	750.77	--	--	--	--	--	--	NA	0.00	9.12	741.65	NA	--	--	--	--	NA
20-501	750.63	--	NA	0.00	8.97	741.66	NA	NA	0.00	8.51	742.12	NA	--	--	--	--	NA
20-502	751.29	0.99	11.20	1.53	12.73	738.56	740.07	9.63	1.39	11.02	740.27	741.65	--	--	--	--	NA
20-503	751.54	0.99	12.25	0.78	13.03	738.51	739.28	10.68	1.05	11.73	739.81	740.85	--	--	--	--	NA
20-504	749.74	--	NA	0.00	10.10	739.64	NA	--	--	--	--	NA	--	--	--	--	NA
20-505D	752.20	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
20-505S	750.54	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
20-506	751.35	--	NA	0.00	12.70	738.65	NA	NA	0.00	9.61	741.74	NA	--	--	--	--	NA
20-FP-1	752.17	0.99	NA	0.00	12.42	739.75	NA	--	--	--	--	NA	--	--	--	--	NA
20-FP-10	747.25	--	NA	0.00	8.11	739.14	NA	--	--	--	--	NA	--	--	--	--	NA
20-FP-11	743.97	--	NA	0.00	5.57	738.40	NA	--	--	--	--	NA	--	--	--	--	NA
20-FP-11R	744.09	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
20-FP-12	742.51	--	NA	0.00	3.41	739.10	NA	--	--	--	--	NA	--	--	--	--	NA
20-FP-2	753.51	--	NA	0.00	13.06	740.45	NA	NA	0.00	12.19	741.32	NA	--	--	--	--	NA
20-FP-4R	751.25	0.99	--	--	--	--	--	7.30	1.34	8.64	742.61	743.94	--	--	--	--	NA
20-FP-5	748.82	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
20-FP-6	747.91	--	NA	0.00	9.42	738.49	NA	--	--	--	--	NA	--	--	--	--	NA
20-FP-6R	747.95	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
20-FP-7	748.53	0.99	9.25	0.01	9.26	739.27	739.28	7.55	1.22	8.77	739.76	740.97	--	--	--	--	NA
20-FP-8	748.73	0.99	9.28	0.39	9.67	739.06	739.45	7.61	1.34	8.95	739.78	741.11	--	--	--	--	NA
20-FP-9	749.45	--	NA	0.00	9.99	739.46	NA	--	--	--	--	NA	--	--	--	--	NA
20-FP-10	747.28	--	--	--	--	--	--	NA	0.00	6.38	740.90	NA	--	--	--	--	NA
30-100	747.24	--	NA	0.00	10.28	736.96	NA	--	--	--	--	NA	--	--	--	--	NA
30-120	747.48	--	NA	0.00	7.08	740.40	NA	NA	0.00	6.10	741.38	NA	--	--	--	--	NA
30-140	745.88	--	NA	0.00	5.80	740.08	NA	NA	0.00	5.38	740.50	NA	--	--	--	--	NA
31-1	735.19	--	NA	0.00	10.22	724.97	NA	NA	0.00	7.11	728.08	NA	--	--	--	--	NA
31-2	733.97	--	NA	0.00	8.50	725.47	NA	NA	0.00	5.84	728.13	NA	--	--	--	--	NA
31-3	734.44	--	NA	0.00	9.56	724.88	NA	NA	0.00	6.90	727.54	NA	--	--	--	--	NA
31-4D	733.87	0.92	NA	0.00	9.06	724.81	NA	NA	0.00	4.94	728.93	NA	--	--	--	--	NA
31-4S	733.90	0.92	NA	0.00	9.07	724.83	NA	NA	0.00	5.28	728.62	NA	--	--	--	--	NA
31-5	736.12	--	NA	0.00	11.30	724.82	NA	NA	0.00	9.65	726.47	NA	--	--	--	--	NA
31-6	734.54	--	NA	0.00	8.56	725.98	NA	NA	0.00	7.55	726.99	NA	--	--	--	--	NA
31-7	729.75	0.75	9.04	0.24	9.28	720.47	720.65	NA	0.00	6.29	723.46	NA	--	--	--	--	NA
31-8	730.26	--	NA	0.00	9.30	720.96	NA	NA	0.00	7.42	722.84	NA	--	--	--	--	NA
36 FP1	750.60	--	--	--	--	--	--	NA	0.00	11.97	738.63	NA	--	--	--	--	NA
36 FP2	750.30	0.9	NA	0.00	13.31	736.99	NA	11.87	1.41	13.28	737.02	738.29	--	--	--	--	NA
36 FP3	749.41	0.9	12.07	0.26	12.33	737.08	737.31	10.79	0.40	11.19	738.22	738.58	--	--	--	--	NA
36 FP4	753.70	0.9	16.41	0.12	16.53	737.17	737.28	NA	0.00	15.20	738.50	NA	--	--	--	--	NA
36 FP5	753.84	0.9	NA	0.00	16.58	737.26	NA	NA	0.00	15.46	738.38	NA	--	--	--	--	NA
36 FP6	749.51	0.9	10.47	2.33	12.80	736.71	738.81	8.66	4.84	13.50	736.01	740.37	--	--	--	--	NA
36 FP7	750.02	0.9	12.85	1.83	14.68	735.34	736.99	11.21	3.99	15.20	734.82	738.41	--	--	--	--	NA
36 FP8	748.83	--	NA	0.00	9.48	739.35	NA	NA	0.00	2.78	746.05	NA	--	--	--	--	NA
36-100	750.54	--	NA	0.00	11.49	739.05	NA	NA	0.00	10.63	739.91	NA	--	--	--	--	NA
36-101	750.11	--	NA	0.00	14.19	735.92	NA	NA	0.00	13.66	736.45	NA	--	--	--	--	NA
36-120	754.47	--	NA	0.00	14.16	740.31	NA	NA	0.00	12.74	741.73	NA	--	--	--	--	NA
36-121	753.79	--	NA	0.00	16.90	736.89	NA	NA	0.00	16.19	737.60	NA	--	--	--	--	NA
36-160	750.12	0.9	12.53	0.02	12.55	737.57	737.59	12.62	1.49	14.11	736.01	737.35	--	--	--	--	NA
36-161	745.46	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
37-01	750.37	--	NA	0.00	12.61	737.76	NA	NA	0.00	9.53	740.84	NA	--	--	--	--	NA
38-120	748.43	--	NA	0.00	13.45	734.98	NA	NA	0.00	13.33	735.10	NA	--	--	--	--	NA
40-1	733.43	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	March 17-18, 2003					December 2004					April 15, 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
40-1R	733.64	--	NA	0.00	5.12	728.52	NA	--	--	--	--	NA	--	--	--	--	NA
40-1R2	--	--	--	--	--	--	--	NA	0.00	2.60		NA	--	--	--	--	NA
40-2	736.47	--	NA	0.00	9.12	727.35	NA	NA	0.00	6.08	730.39	NA	--	--	--	--	NA
40-3	737.01	--	NA	0.00	18.71	718.30	NA	NA	0.00	14.87	722.14	NA	NA	0.00	15.46	721.55	NA
40-301	732.05	--	NA	0.00	8.27	723.78	NA	NA	0.00	7.57	724.48	NA	--	--	--	--	NA
40-302	732.96	--	NA	0.00	7.18	725.78	NA	NA	0.00	6.48	726.48	NA	--	--	--	--	NA
40-303	729.41	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
40-303R	730.41	--	NA	0.00	14.12	--	--	NA	0.00	12.94	717.47	NA	--	--	--	--	NA
40-304	731.11	--	NA	0.00	3.40	727.71	NA	NA	0.00	3.04	728.07	NA	--	--	--	--	NA
40-305	731.24	--	NA	0.00	4.18	727.06	NA	NA	0.00	4.55	726.69	NA	--	--	--	--	NA
40-4	738.17	--	--	--	Dry	Dry	NA	NA	0.00	13.63	724.54	NA	--	--	--	--	NA
40-4R	737.90	--	NA	0.00	19.80	718.10	NA	NA	0.00	15.77	722.13	NA	NA	0.00	16.52	721.38	NA
40-5	735.84	0.92	NA	0.00	11.02	724.82	NA	NA	0.00	4.95	730.89	NA	--	--	--	--	NA
40-6	735.53	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
40-6R	735.00	--	NA	0.00	6.42	--	NA	NA	0.00	4.46	730.54	NA	NA	0.00	5.45	729.55	NA
40-07	733.63	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
40-07R	733.13	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
40-07R2	735.37	0.92	NA	0.00	17.80	717.57	NA	13.95	0.69	14.64	720.73	721.36	--	--	--	--	NA
43-100	753.07	--	NA	0.00	11.95	741.12	NA	NA	0.00	11.40	741.67	NA	--	--	--	--	NA
43-101R	752.60	--	NA	0.00	11.67	740.93	NA	NA	0.00	11.23	741.37	NA	--	--	--	--	NA
43-102	752.63	--	NA	0.00	12.35	740.28	NA	NA	0.00	12.05	740.58	NA	--	--	--	--	NA
43-103	752.10	--	NA	0.00	9.46	742.64	NA	NA	0.00	8.86	743.24	NA	--	--	--	--	NA
43-140	750.14	--	NA	0.00	10.11	740.03	NA	NA	0.00	8.67	741.47	NA	--	--	--	--	NA
43-141	752.78	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
43-160	750.43	0.92	10.04	0.03	10.07	740.36	740.39	9.56	0.14	9.70	740.73	740.86	--	--	--	--	NA
43-161	750.19	0.92	9.99	4.16	14.15	736.04	739.87	9.40	0.01	9.41	740.78	740.79	--	--	--	--	NA
43-162	749.90	0.92	9.42	2.47	11.89	738.01	740.28	8.83	1.89	10.72	739.18	740.92	--	--	--	--	NA
43-163	749.65	0.92	9.11	0.75	9.86	739.79	740.48	8.80	1.55	10.35	739.30	740.73	--	--	--	--	NA
43-164	749.59	0.92	9.00	0.79	9.79	739.80	740.53	8.15	0.40	8.55	741.04	741.41	--	--	--	--	NA
43-165	749.41	0.92	8.88	2.61	11.49	737.92	740.32	7.40	2.08	9.48	739.93	741.84	--	--	--	--	NA
43-166	747.97	--	NA	0.00	7.64	740.33	NA	NA	0.00	6.83	741.14	NA	--	--	--	--	NA
43-167	748.43	--	NA	0.00	8.29	740.14	NA	NA	0.00	7.69	740.74	NA	--	--	--	--	NA
43-168	750.10	--	NA	0.00	9.98	740.12	NA	NA	0.00	9.44	740.66	NA	--	--	--	--	NA
43-169	750.32	--	NA	0.00	9.94	740.38	NA	NA	0.00	9.80	740.52	NA	--	--	--	--	NA
43-220	753.95	--	NA	0.00	12.46	741.49	NA	NA	0.00	11.86	742.09	NA	--	--	--	--	NA
43-242	753.64	--	NA	0.00	13.00	740.64	NA	NA	0.00	12.38	741.26	NA	--	--	--	--	NA
55-1	753.43	--	NA	0.00	11.90	741.53	NA	NA	0.00	11.77	741.66	NA	--	--	--	--	NA
55-2	753.06	--	NA	0.00	11.48	741.58	NA	NA	0.00	10.94	742.12	NA	--	--	--	--	NA
55-3	753.52	--	NA	0.00	11.84	741.68	NA	NA	0.00	11.24	742.28	NA	--	--	--	--	NA
55-4	753.59	--	NA	0.00	11.04	742.55	NA	NA	0.00	10.49	743.10	NA	--	--	--	--	NA
55-5	753.94	--	NA	0.00	12.53	741.41	NA	NA	0.00	12.44	741.50	NA	--	--	--	--	NA
70-100	742.36	--	NA	0.00	6.35	736.01	NA	NA	0.00	5.66	736.70	NA	--	--	--	--	NA
70-101	742.68	0.91	4.74	0.02	4.76	737.92	737.94	3.20	0.36	3.56	739.12	739.45	--	--	--	--	NA
70-102	742.75	--	NA	0.00	5.10	737.65	NA	--	--	--	--	NA	--	--	--	--	NA
70-102R	742.56	0.91	--	--	--	--	--	3.29	0.01	3.30	739.26	739.27	--	--	--	--	NA
70-103	743.78	0.91	5.54	0.03	5.57	738.21	738.24	3.76	0.56	4.32	739.46	739.97	--	--	--	--	NA
70-104	743.51	--	NA	0.00	5.93	737.58	NA	NA	0.00	3.32	740.19	NA	--	--	--	--	NA
70-105	743.58	--	NA	0.00	6.98	736.60	NA	NA	0.00	4.54	739.04	NA	--	--	--	--	NA
70-106	743.60	--	NA	0.00	6.68	736.92	NA	NA	0.00	4.20	739.40	NA	--	--	--	--	NA
70-107	742.58	--	NA	0.00	7.82	734.76	NA	--	--	--	--	NA	--	--	--	--	NA
70-107R	742.80	0.91	--	--	--	--	--	3.69	6.35	10.04	732.76	738.54	--	--	--	--	NA
70-108	744.06	0.91	5.84	0.78	6.62	737.44	738.15	--	--	--	--	NA	--	--	--	--	NA
70-108R	743.64	--	--	--	--	--	--	NA	0.00	4.12	739.52	NA	--	--	--	--	NA
70-109	741.60	--	NA	0.00	4.07	737.53	NA	NA	0.00	3.18	738.42	NA	--	--	--	--	NA
70-160	739.41	--	NA	0.00	10.35	729.06	NA	--	--	--	--	NA	--	--	--	--	NA
70-162	743.45	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
70-163	742.59	--	NA	0.00	4.63	737.96	NA	NA	0.00	3.94	738.65	NA	--	--	--	--	NA

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TABLE 3-2
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Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	March 17-18, 2003					December 2004					April 15, 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
70-164	742.37	--	--	--	--	--	--	NA	0.00	3.97	738.40	NA	--	--	--	--	NA
70-165	741.26	--	NA	0.00	4.71	736.55	NA	NA	0.00	3.39	737.87	NA	--	--	--	--	NA
84-1	727.09	--	NA	0.00	9.84	717.25	NA	--	--	--	--	NA	--	--	--	--	NA
84-3	727.07	--	NA	0.00	9.92	717.15	NA	--	--	--	--	NA	--	--	--	--	NA
84-4	727.25	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
84-5	727.87	--	NA	0.00	9.45	718.42	NA	--	--	--	--	NA	--	--	--	--	NA
84-6	726.49	--	NA	0.00	9.61	716.88	NA	--	--	--	--	NA	--	--	--	--	NA
84-6R	720.32	--	NA	0.00	11.21	709.11	NA	--	--	--	--	NA	--	--	--	--	NA
84-6R2	727.02	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
84-6R2-D	726.80	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
84-7	727.53	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
84-7-D	727.42	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
86-1	743.20	--	NA	0.00	8.95	734.25	NA	NA	0.00	8.69	734.51	NA	--	--	--	--	NA
86-100	740.05	--	--	--	--	--	--	NA	0.00	5.33	734.72	NA	--	--	--	--	NA
86-2	742.93	--	NA	0.00	9.42	733.51	NA	NA	0.00	9.41	733.52	NA	--	--	--	--	NA
86-3	746.31	--	NA	0.00	15.97	730.34	NA	NA	0.00	13.50	732.81	NA	--	--	--	--	NA
87-FP1	715.79	--	NA	0.00	2.68	713.11	NA	NA	0.00	1.78	714.01	NA	--	--	--	--	NA
87-FP2	742.24	--	NA	0.00	13.65	728.59	NA	NA	0.00	12.23	730.01	NA	--	--	--	--	NA
87-FP3	739.07	--	NA	0.00	11.20	727.87	NA	NA	0.00	9.78	729.29	NA	--	--	--	--	NA
87-FP4	742.11	--	NA	0.00	21.32	720.79	NA	NA	0.00	20.71	721.40	NA	--	--	--	--	NA
87-FP5	741.01	--	NA	0.00	12.09	728.92	NA	NA	0.00	10.65	730.36	NA	--	--	--	--	NA
87-FPD2	742.05	--	NA	0.00	29.03	713.02	NA	NA	0.00	28.10	713.95	NA	--	--	--	--	NA
87-FPD3	742.05	--	NA	0.00	25.96	716.09	NA	NA	0.00	25.03	717.02	NA	--	--	--	--	NA
88-1	741.09	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
88-2	741.37	--	NA	0.00	6.97	734.40	NA	--	--	--	--	NA	--	--	--	--	NA
88-4	741.37	--	NA	0.00	7.38	733.99	NA	NA	0.00	6.34	735.03	NA	--	--	--	--	NA
88-5	742.01	--	NA	0.00	6.97	735.04	NA	NA	0.00	6.60	735.41	NA	--	--	--	--	NA
88-6	741.60	--	NA	0.00	7.72	733.88	NA	NA	0.00	6.69	734.91	NA	--	--	--	--	NA
88-7	742.20	--	NA	0.00	6.22	735.98	NA	NA	0.00	4.69	737.51	NA	--	--	--	--	NA
88-8	741.53	--	NA	0.00	8.23	733.30	NA	NA	0.00	7.23	734.30	NA	--	--	--	--	NA
88-9	741.86	--	NA	0.00	7.44	734.42	NA	NA	0.00	6.18	735.68	NA	--	--	--	--	NA
94-100	720.36	--	NA	0.00	8.08	712.28	NA	NA	0.00	7.52	712.84	NA	--	--	--	--	NA
ACSP-B2AR	738.66	--	NA	0.00	27.66	711.00	NA	NA	0.00	26.52	712.14	NA	--	--	--	--	NA
BD01-01	744.29	--	--	--	Dry	Dry	--	NA	0.00	21.20	723.09	NA	--	--	--	--	NA
BD01-02R	736.42	--	NA	0.00	16.85	719.57	NA	NA	0.00	15.76	720.66	NA	--	--	--	--	NA
BD01-03	733.49	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
BD01-04	736.02	--	--	--	--	--	--	NA	0.00	16.64	719.38	NA	--	--	--	--	NA
GM-1	724.64	--	NA	0.00	12.32	712.32	NA	NA	0.00	11.58	713.06	NA	--	--	--	--	NA
GM-10	725.79	--	NA	0.00	13.44	712.35	NA	NA	0.00	12.88	712.91	NA	--	--	--	--	NA
GM-11	730.31	--	NA	0.00	15.94	--	NA	NA	0.00	15.19	715.12	NA	--	--	--	--	NA
GM-12	738.62	--	NA	0.00	24.01	714.61	NA	NA	0.00	21.89	716.73	NA	--	--	--	--	NA
GM-2	725.40	--	NA	0.00	12.96	712.44	NA	NA	0.00	11.38	714.02	NA	--	--	--	--	NA
GM-3	725.54	--	NA	0.00	13.12	712.42	NA	NA	0.00	12.45	713.09	NA	--	--	--	--	NA
GM-4	738.12	--	NA	0.00	25.22	712.90	NA	NA	0.00	24.55	713.57	NA	--	--	--	--	NA
GM-5	737.05	--	NA	0.00	24.14	712.91	NA	NA	0.00	23.47	713.58	NA	--	--	--	--	NA
GM-6	734.96	--	NA	0.00	22.15	712.81	NA	NA	0.00	21.46	713.50	NA	--	--	--	--	NA
GM-7	739.81	--	NA	0.00	26.54	713.27	NA	NA	0.00	25.63	714.18	NA	--	--	--	--	NA
GM-8	738.71	--	NA	0.00	23.92	714.79	NA	NA	0.00	21.92	716.79	NA	--	--	--	--	NA
GM-9	724.39	--	NA	0.00	12.03	712.36	NA	NA	0.00	11.31	713.08	NA	--	--	--	--	NA
MW-00-FP6	740.73	--	NA	0.00	16.65	724.08	NA	NA	0.00	16.61	724.12	NA	--	--	--	--	NA
MW-00-FP7	740.73	--	NA	0.00	14.97	725.76	NA	NA	0.00	15.35	725.38	NA	--	--	--	--	NA
MW-00-FP8	741.43	--	NA	0.00	16.75	724.68	NA	NA	0.00	16.73	724.70	NA	--	--	--	--	NA
MW-07-01	732.42	--	--	--	--	--	--	NA	0.00	15.25	717.17	NA	--	--	--	--	NA
MW-07-02	736.75	--	--	--	--	--	--	NA	0.00	6.42	730.33	NA	--	--	--	--	NA
MW-16	713.53	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
MW-17	714.54	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
MW-18	714.33	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA

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TABLE 3-2
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Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	March 17-18, 2003					December 2004					April 15, 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
MW-19	712.00	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
MW-20	714.02	--	NA	0.00	4.15	--	NA	--	--	--	--	NA	--	--	--	--	NA
MW-21	716.51	--	NA	0.00	2.50	--	NA	--	--	--	--	NA	--	--	--	--	NA
MW-22	719.37	--	NA	0.00	7.24	--	NA	--	--	--	--	NA	--	--	--	--	NA
MW-23	719.89	--	NA	0.00	6.32	--	NA	--	--	--	--	NA	--	--	--	--	NA
MW-24	724.81	--	NA	0.00	5.41	--	NA	--	--	--	--	NA	--	--	--	--	NA
MW-25	722.38	--	NA	0.00	8.88	--	NA	--	--	--	--	NA	--	--	--	--	NA
MW-26	722.18	--	NA	0.00	5.72	--	NA	--	--	--	--	NA	--	--	--	--	NA
OW-3D	736.78	--	--	--	Dry	Dry	--	--	--	Dry	--	NA	--	--	--	--	NA
OW-3S	738.34	--	--	--	Dry	Dry	--	NA	0.00	10.44	727.90	NA	--	--	--	--	NA
OW-5	725.32	--	NA	0.00	11.76	713.56	NA	NA	0.00	8.79	716.53	NA	--	--	--	--	NA
P-1	751.11	0.92	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
P-2	751.30	0.92	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-05	738.88	--	NA	0.00	7.04	731.84	NA	NA	0.00	1.96	736.92	NA	NA	0.00	4.01	734.87	NA
RFI-02-07	735.06	--	NA	0.00	6.80	728.26	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-02-08	736.06	--	NA	0.00	9.05	727.01	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-02-08R	736.07	--	--	--	--	--	--	NA	0.00	5.90	730.17	NA	--	--	--	--	NA
RFI-02-12	738.51	--	NA	0.00	7.47	731.04	NA	NA	0.00	5.07	733.44	NA	NA	0.00	5.84	732.67	NA
RFI-02-13	731.00	--	NA	0.00	3.42	727.58	NA	NA	0.00	0.90	730.10	NA	NA	0.00	2.15	728.85	NA
RFI-02-14	738.73	0.95	--	--	--	--	--	--	--	--	--	NA	3.35	0.70	4.05	734.68	735.35
RFI-02-15	738.74	--	--	--	--	--	--	--	--	--	--	NA	NA	0.00	5.84	732.90	NA
RFI-02-16	738.66	--	--	--	--	--	--	--	--	--	--	NA	NA	0.00	6.10	732.56	NA
RFI-02-17	738.67	--	--	--	--	--	--	--	--	--	--	NA	NA	0.00	5.83	732.84	NA
RFI-02-18	738.69	--	--	--	--	--	--	--	--	--	--	NA	NA	0.00	5.61	733.08	NA
RFI-02-19	738.54	--	--	--	--	--	--	--	--	--	--	NA	NA	0.00	5.88	732.66	NA
RFI-02-20	738.30	--	--	--	--	--	--	--	--	--	--	NA	NA	0.00	4.45	733.85	NA
RFI-02-21	738.50	--	--	--	--	--	--	--	--	--	--	NA	NA	0.00	4.55	733.95	NA
RFI-02-22	729.77	--	--	--	--	--	--	--	--	--	--	NA	NA	0.00	0.75	729.02	NA
RFI-02-23	738.57	--	--	--	--	--	--	--	--	--	--	NA	NA	0.00	5.53	733.04	NA
RFI-02-24	729.88	--	--	--	--	--	--	--	--	--	--	NA	NA	0.00	2.32	727.56	NA
RFI-03-01	748.38	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-03-02	742.35	--	NA	0.00	7.79	734.56	NA	NA	0.00	5.88	736.47	NA	--	--	--	--	NA
RFI-03-03	742.01	--	NA	0.00	2.65	739.36	NA	NA	0.00	1.60	740.41	NA	--	--	--	--	NA
RFI-03-04	746.67	--	NA	0.00	8.26	738.41	NA	NA	0.00	5.81	740.86	NA	--	--	--	--	NA
RFI-03-15R	747.54	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-01	750.38	--	NA	0.00	10.19	740.19	NA	NA	0.00	9.79	740.59	NA	--	--	--	--	NA
RFI-05-02	754.10	--	NA	0.00	13.76	740.34	NA	NA	0.00	13.37	740.73	NA	--	--	--	--	NA
RFI-05-03	752.43	--	NA	0.00	10.92	741.51	NA	NA	0.00	10.63	741.80	NA	--	--	--	--	NA
RFI-05-04	754.32	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-05	754.34	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-06	752.13	--	NA	0.00	11.99	740.14	NA	NA	0.00	11.71	740.42	NA	--	--	--	--	NA
RFI-05-07	754.38	--	--	--	--	--	--	NA	0.00	11.86	742.52	NA	--	--	--	--	NA
RFI-05-08	755.77	--	--	--	--	--	--	NA	0.00	13.42	742.35	NA	--	--	--	--	NA
RFI-05-08R	755.78	--	--	--	Dry	Dry	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-09	751.65	--	NA	0.00	10.77	740.88	NA	NA	0.00	10.07	741.58	NA	--	--	--	--	NA
RFI-05-10	754.21	--	NA	0.00	13.65	740.56	NA	NA	0.00	13.30	740.91	NA	--	--	--	--	NA
RFI-05-11	754.42	0.92	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-12	754.03	--	NA	0.00	13.39	740.64	NA	--	--	12.92	741.11	NA	--	--	--	--	NA
RFI-05-13	754.16	0.92	13.22	3.17	16.39	737.77	740.69	12.72	3.37	16.09	738.07	741.17	--	--	--	--	NA
RFI-05-14	754.12	0.92	13.38	2.81	16.19	737.93	740.52	12.70	1.87	14.57	739.55	741.27	--	--	--	--	NA
RFI-05-19D	749.31	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-19DR	749.48	--	NA	0.00	14.28	735.20	NA	NA	0.00	13.31	736.17	NA	--	--	--	--	NA
RFI-05-19S	749.48	--	NA	0.00	9.28	740.20	NA	NA	0.00	8.55	740.93	NA	--	--	--	--	NA
RFI-05-20	750.41	--	NA	0.00	9.92	740.49	NA	NA	0.00	9.41	741.00	NA	--	--	--	--	NA
RFI-05-21	748.73	--	NA	0.00	8.35	740.38	NA	NA	0.00	7.43	741.30	NA	--	--	--	--	NA
RFI-05-30	748.55	--	--	--	--	--	--	NA	0.00	7.49	741.06	NA	--	--	--	--	NA
RFI-05-East	753.59	0.92	--	--	--	--	--	12.55	3.11	15.66	737.93	740.79	--	--	--	--	NA

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Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	March 17-18, 2003					December 2004					April 15, 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-05-North	753.55	0.92	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-South	754.08	--	--	--	--	--	--	NA	0.00	13.50	740.58	NA	--	--	--	--	NA
RFI-07-01	730.56	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-07-01R	736.11	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-07-01R2	736.00	--	--	--	--	--	--	NA	0.00	13.81	722.19	NA	--	--	--	--	NA
RFI-07-03	726.74	--	NA	0.00	0.72	726.02	NA	NA	0.00	1.33	725.41	NA	--	--	--	--	NA
RFI-07-08	728.12	--	NA	0.00	13.99	714.13	NA	NA	0.00	12.66	715.46	NA	--	--	--	--	NA
RFI-09-01	725.15	--	NA	0.00	8.30	716.85	NA	NA	0.00	5.77	719.38	NA	--	--	--	--	NA
RFI-09-01R	--	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-04	725.92	--	--	--	Dry	Dry	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-04R	725.95	--	NA	0.00	15.76	710.19	NA	NA	0.00	15.18	710.77	NA	--	--	--	--	NA
RFI-09-06	727.66	--	NA	0.00	8.36	719.30	NA	NA	0.00	4.41	723.25	NA	--	--	--	--	NA
RFI-09-07	727.51	0.75	8.24	0.01	8.25	719.26	719.27	NA	0.00	7.53	719.98	NA	--	--	--	--	NA
RFI-09-08	728.45	--	NA	0.00	10.09	718.36	NA	NA	0.00	7.39	721.06	NA	--	--	--	--	NA
RFI-09-08D	728.10	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-09	728.20	--	NA	0.00	8.33	719.87	NA	NA	0.00	5.51	722.69	NA	--	--	--	--	NA
RFI-09-09D	728.30	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-10	726.45	--	NA	0.00	6.71	719.74	NA	NA	0.00	2.55	723.90	NA	--	--	--	--	NA
RFI-09-11	728.85	--	NA	0.00	8.68	720.17	NA	NA	0.00	6.67	722.18	NA	--	--	--	--	NA
RFI-09-11D	728.50	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-12	731.39	--	NA	0.00	5.57	725.82	NA	NA	0.00	3.11	728.28	NA	--	--	--	--	NA
RFI-09-13	725.09	--	NA	0.00	8.48	716.61	NA	NA	0.00	6.16	718.93	NA	--	--	--	--	NA
RFI-09-14	724.44	--	NA	0.00	7.32	717.12	NA	NA	0.00	3.58	720.86	NA	--	--	--	--	NA
RFI-09-32	723.85	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-36R	725.90	--	NA	0.00	9.51	716.39	NA	NA	0.00	7.23	718.67	NA	--	--	--	--	NA
RFI-09-40R	729.76	0.75	9.33	0.33	9.66	720.10	720.35	NA	0.00	7.21	722.55	NA	--	--	--	--	NA
RFI-09-44	728.22	--	NA	0.00	9.25	--	NA	NA	0.00	5.25	722.97	NA	--	--	--	--	NA
RFI-09-45	730.17	--	NA	0.00	9.18	720.99	NA	NA	0.00	2.69	727.48	NA	--	--	--	--	NA
RFI-09-45R	--	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-46	723.07	--	NA	0.00	9.57	713.50	NA	NA	0.00	8.64	714.43	NA	--	--	--	--	NA
RFI-09-47	729.64	0.75	8.92	0.47	9.39	720.25	720.60	NA	0.00	6.95	722.69	NA	--	--	--	--	NA
RFI-09-49	726.56	--	--	--	Dry	Dry	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-49R	726.43	--	--	--	--	--	--	NA	0.00	15.11	711.32	NA	--	--	--	--	NA
RFI-09-52	--	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-53	725.48	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-54S	728.05	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-54D	728.01	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-55S	728.02	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-55D	728.10	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-56	726.93	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-57	724.90	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-58	723.38	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-10-01	749.11	--	NA	0.00	8.49	740.62	NA	NA	0.00	7.34	741.77	NA	--	--	--	--	NA
RFI-10-02	750.54	--	NA	0.00	9.79	740.75	NA	NA	0.00	8.12	742.42	NA	--	--	--	--	NA
RFI-10-03	751.79	--	--	--	--	--	--	NA	0.00	10.25	741.54	NA	--	--	--	--	NA
RFI-10-04	750.64	--	NA	0.00	10.32	740.32	NA	NA	0.00	8.91	741.73	NA	--	--	--	--	NA
RFI-10-05	751.57	--	NA	0.00	11.81	739.76	NA	NA	0.00	10.41	741.16	NA	--	--	--	--	NA
RFI-10-06	752.17	--	NA	0.00	11.69	740.48	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-10-07	751.33	--	NA	0.00	10.51	740.82	NA	NA	0.00	9.41	741.92	NA	--	--	--	--	NA
RFI-10-08	750.79	--	NA	0.00	9.85	740.94	NA	NA	0.00	8.83	741.96	NA	--	--	--	--	NA
RFI-10-11	746.14	--	NA	0.00	6.56	739.58	NA	NA	0.00	5.12	741.02	NA	--	--	--	--	NA
RFI-10-12	750.35	--	--	--	--	--	--	NA	0.00	7.64	742.71	NA	--	--	--	--	NA
RFI-10-15	751.25	--	NA	0.00	11.22	740.03	NA	NA	0.00	9.70	741.55	NA	--	--	--	--	NA
RFI-10-24	751.53	--	NA	0.00	12.43	--	NA	NA	0.00	11.21	740.32	NA	--	--	--	--	NA
RFI-10-25	753.10	--	NA	0.00	15.55	--	NA	NA	0.00	12.68	740.42	NA	--	--	--	--	NA
RFI-10-26	749.32	--	NA	0.00	9.35	739.97	NA	NA	0.00	7.84	741.48	NA	--	--	--	--	NA
RFI-10-28	752.58	--	NA	0.00	14.77	737.81	NA	NA	0.00	13.55	739.03	NA	--	--	--	--	NA

See Notes on Page 34.

TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	March 17-18, 2003					December 2004					April 15, 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-10-29	752.40	--	NA	0.00	15.31	737.09	NA	NA	0.00	13.68	738.72	NA	--	--	--	--	NA
RFI-10-30	745.56	--	--	--	--	--	--	NA	0.00	4.02	741.54	NA	--	--	--	--	NA
RFI-10-31	746.66	--	--	--	--	--	--	NA	0.00	4.41	742.25	NA	--	--	--	--	NA
RFI-10-32	754.61	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-10-33	755.30	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-10-34	755.77	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-10-35	755.69	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-10-36	752.82	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-01R	741.98	0.93	12.25	0.26	12.51	729.47	729.71	4.81	0.03	4.84	737.14	737.17	--	--	--	--	NA
RFI-12-02	742.41	0.93	8.90	3.63	12.53	729.88	733.26	--	--	--	--	NA	--	--	--	--	NA
RFI-12-02R	742.10	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-07R	742.43	--	NA	0.00	8.96	733.47	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-12-07R2	741.95	--	--	--	--	--	--	NA	0.00	3.65	738.30	NA	--	--	--	--	NA
RFI-12-08 (Replaced)	742.08	0.93	15.27	0.52	15.79	726.29	726.77	6.51	0.04	6.55	735.53	735.57	--	--	--	--	NA
RFI-12-09	742.68	0.93	6.15	0.89	7.04	735.64	736.47	--	--	--	--	NA	--	--	--	--	NA
RFI-12-09R	741.97	0.93	--	--	--	--	--	4.24	0.05	4.29	737.68	737.73	--	--	--	--	NA
RFI-12-11D	742.09	0.93	13.32	5.68	19.00	723.09	728.37	8.61	1.86	10.47	731.62	733.35	--	--	--	--	NA
RFI-12-11S	742.17	--	NA	0.00	6.95	735.22	NA	NA	0.00	4.39	737.78	NA	--	--	--	--	NA
RFI-12-14	742.15	--	14.35	0.02	14.37	727.78	#VALUE!	NA	0.00	4.81	737.34	NA	--	--	--	--	NA
RFI-12-14R	742.20	--	--	--	--	--	--	NA	0.00	4.92	737.28	NA	--	--	--	--	NA
RFI-12-15	742.13	--	NA	0.00	10.15	731.98	NA	NA	0.00	6.08	736.05	NA	--	--	--	--	NA
RFI-12-21	741.50	--	--	--	--	--	--	NA	0.00	4.98	736.52	NA	--	--	--	--	NA
RFI-12-22	741.99	0.93	10.55	0.95	11.50	730.49	731.37	--	--	--	--	NA	--	--	--	--	NA
RFI-12-22R	742.07	0.93	--	--	--	--	--	NA	0.00	4.10	737.97	NA	--	--	--	--	NA
RFI-12-23	742.21	0.93	15.25	0.16	15.41	726.80	726.95	8.78	2.28	11.06	731.15	733.27	--	--	--	--	NA
RFI-12-24	742.12	--	--	--	--	--	--	NA	0.00	3.71	738.41	NA	--	--	--	--	NA
RFI-12-25	741.85	--	--	--	--	--	--	NA	0.00	4.38	737.47	NA	--	--	--	--	NA
RFI-12-26	742.04	0.93	--	--	--	--	--	4.82	0.11	4.93	737.11	737.21	--	--	--	--	NA
RFI-12-28	742.63	0.93	--	--	--	--	--	9.61	3.32	12.93	729.70	732.79	--	--	--	--	NA
RFI-12-32	738.61	--	--	--	--	--	--	NA	0.00	2.41	736.20	NA	--	--	--	--	NA
RFI-12-33	743.66	--	--	--	--	--	--	NA	0.00	5.22	738.44	NA	--	--	--	--	NA
RFI-12-34	744.02	--	--	--	--	--	--	NA	0.00	5.75	738.27	NA	--	--	--	--	NA
RFI-12-35	743.83	0.93	--	--	--	--	--	5.16	0.09	5.25	738.58	738.66	--	--	--	--	NA
RFI-12-36	743.89	0.93	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-38	742.39	0.93	--	--	--	--	--	5.04	0.56	5.60	736.79	737.31	--	--	--	--	NA
RFI-12-40	741.47	--	--	--	--	--	--	NA	0.00	5.17	736.30	NA	--	--	--	--	NA
RFI-12-41	741.56	--	--	--	--	--	--	NA	0.00	3.76	737.80	NA	--	--	--	--	NA
RFI-16-01	736.10	--	NA	0.00	9.04	727.06	NA	NA	0.00	7.48	728.62	NA	--	--	--	--	NA
RFI-16-04	732.27	--	NA	0.00	9.02	723.25	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-16-04R	732.12	--	--	--	--	--	--	NA	0.00	7.59	724.53	NA	--	--	--	--	NA
RFI-16-07	733.26	--	NA	0.00	7.35	725.91	NA	NA	0.00	5.94	727.32	NA	--	--	--	--	NA
RFI-16-08	733.24	0.86	--	--	--	--	--	5.92	0.49	6.41	726.83	727.25	--	--	--	--	NA
RFI-16-09	733.39	--	NA	0.00	7.89	725.50	NA	NA	0.00	5.50	727.89	NA	--	--	--	--	NA
RFI-16-10	736.09	0.86	10.08	0.07	10.15	725.94	726.00	8.05	0.40	8.45	727.64	727.98	--	--	--	--	NA
RFI-16-11	736.49	--	NA	0.00	10.30	726.19	NA	NA	0.00	8.75	727.74	NA	--	--	--	--	NA
RFI-16-12	735.58	--	NA	0.00	9.09	726.49	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-16-12R	735.56	--	--	--	--	--	--	NA	0.00	7.52	728.04	NA	--	--	--	--	NA
RFI-16-20	732.35	--	NA	0.00	8.43	723.92	NA	NA	0.00	6.76	725.59	NA	--	--	--	--	NA
RFI-16-24	736.39	--	NA	0.00	10.65	725.74	NA	NA	0.00	8.36	728.03	NA	--	--	--	--	NA
RFI-16-25	736.14	--	NA	0.00	9.38	726.76	NA	NA	0.00	8.14	728.00	NA	--	--	--	--	NA
RFI-17-02	720.27	--	NA	0.00	6.35	713.92	NA	NA	0.00	4.81	715.46	NA	--	--	--	--	NA
RFI-17-02D	720.36	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-21-04	746.10	--	NA	0.00	14.45	731.65	NA	NA	0.00	13.08	733.02	NA	--	--	--	--	NA
RFI-23-01	742.19	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-23-01R	741.73	--	NA	0.00	9.57	732.16	NA	NA	0.00	3.54	738.19	NA	--	--	--	--	NA
RFI-23-02	740.37	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA

See Notes on Page 34.

TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	March 17-18, 2003					December 2004					April 15, 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-23-02R	740.08	--	NA	0.00	6.58	733.50	NA	NA	0.00	3.59	736.49	NA	--	--	--	--	NA
RFI-36-01	756.63	--	NA	0.00	19.35	737.28	NA	NA	0.00	18.50	738.13	NA	--	--	--	--	NA
RFI-36-02	751.96	--	NA	0.00	15.31	736.65	NA	NA	0.00	14.55	737.41	NA	--	--	--	--	NA
RFI-36-03	751.31	--	NA	0.00	14.11	737.20	NA	NA	0.00	13.03	738.28	NA	--	--	--	--	NA
RFI-36-04	756.14	0.83	NA	0.00	18.73	737.41	NA	NA	0.00	17.91	738.23	NA	--	--	--	--	NA
RFI-36-05	755.07	0.83	NA	0.00	17.85	737.22	NA	NA	0.00	16.86	738.21	NA	--	--	--	--	NA
RFI-36-06	755.29	0.83	17.58	1.48	19.06	736.23	737.46	16.60	1.31	17.91	737.38	738.47	--	--	--	--	NA
RFI-36-07	753.94	0.83	14.96	1.62	16.58	737.36	738.70	14.83	1.42	16.25	737.69	738.87	--	--	--	--	NA
RFI-36-08	749.29	0.83	NA	0.00	7.45	741.84	NA	8.97	0.05	9.02	740.27	740.31	--	--	--	--	NA
RFI-36-09	750.78	--	NA	0.00	11.13	739.65	NA	NA	0.00	9.83	740.95	NA	--	--	--	--	NA
RFI-36-10	750.21	--	--	--	--	--	--	NA	0.00	9.05	741.16	NA	--	--	--	--	NA
RFI-36-11	752.89	0.83	NA	0.00	12.91	739.98	NA	NA	0.00	12.25	740.64	NA	--	--	--	--	NA
RFI-36-12	753.52	0.83	NA	0.00	12.32	741.20	NA	NA	0.00	11.43	742.09	NA	--	--	--	--	NA
RFI-36-14	750.00	--	NA	0.00	11.32	738.68	NA	NA	0.00	8.10	741.90	NA	--	--	--	--	NA
RFI-36-15	754.47	0.83	14.56	--	Dry	--	--	13.85	4.75	18.60	735.87	739.81	--	--	--	--	NA
RFI-36-16	754.87	0.83	17.66	3.29	20.95	733.92	736.65	15.30	5.74	21.04	733.83	738.59	--	--	--	--	NA
RFI-36-17	753.93	--	NA	0.00	17.37	736.56	NA	NA	0.00	16.64	737.29	NA	--	--	--	--	NA
RFI-36-18	753.12	--	NA	0.00	16.52	736.60	NA	NA	0.00	15.57	737.55	NA	--	--	--	--	NA
RFI-36-19	753.31	--	NA	0.00	16.48	736.83	NA	NA	0.00	15.20	738.11	NA	--	--	--	--	NA
RFI-36-20	757.01	--	NA	0.00	19.97	737.04	NA	NA	0.00	18.59	738.42	NA	--	--	--	--	NA
RFI-36-21	754.72	0.83	17.39	0.15	17.54	737.18	737.30	14.15	3.44	17.59	737.13	739.99	--	--	--	--	NA
RFI-36-22	754.28	0.83	13.98	2.77	16.75	737.53	739.83	13.60	3.20	16.80	737.48	740.14	--	--	--	--	NA
RFI-36-23	754.09	0.83	14.90	0.05	14.95	739.14	739.18	14.00	0.10	14.10	739.99	740.07	--	--	--	--	NA
RFI-36-24	753.92	0.83	NA	0.00	13.98	739.94	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-36-25R	754.67	--	NA	0.00	15.74	738.93	NA	NA	0.00	14.10	740.57	NA	--	--	--	--	NA
RFI-36-27	755.46	0.83	17.97	1.22	19.19	736.27	737.28	17.02	1.23	18.25	737.21	738.23	--	--	--	--	NA
RFI-36-29	753.86	0.83	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-36-29R	753.72	0.83	NA	0.00	15.92	737.80	NA	NA	0.00	14.64	739.08	NA	--	--	--	--	NA
RFI-36-31	753.51	0.83	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-36-32	756.28	0.83	NA	0.00	18.88	737.40	NA	NA	0.00	18.14	738.14	NA	--	--	--	--	NA
RFI-36-35	750.05	--	--	--	--	--	--	NA	0.00	12.65	737.40	NA	--	--	--	--	NA
RFI-36-36	750.19	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-36-37	757.15	--	NA	0.00	20.12	737.03	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-36-43	753.26	0.83	14.24	0.19	14.43	738.83	738.99	NA	0.00	13.01	740.25	NA	--	--	--	--	NA
RFI-36-44	752.45	--	NA	0.00	15.96	736.49	NA	NA	0.00	14.71	737.74	NA	--	--	--	--	NA
RFI-36-45	752.83	--	NA	0.00	15.64	737.19	NA	NA	0.00	15.23	737.60	NA	--	--	--	--	NA
RFI-36-46	750.13	--	NA	0.00	13.37	736.76	NA	NA	0.00	12.64	737.49	NA	--	--	--	--	NA
RFI-36-47	749.26	--	NA	0.00	15.66	733.60	NA	NA	0.00	15.29	733.97	NA	--	--	--	--	NA
RFI-36-48	757.71	--	NA	0.00	21.93	735.78	NA	NA	0.00	21.19	736.52	NA	--	--	--	--	NA
RFI-36-49	755.71	0.83	--	--	--	--	--	17.79	0.54	18.33	737.38	737.83	--	--	--	--	NA
RFI-36-51	749.23	--	--	--	--	--	--	NA	0.00	11.65	737.58	NA	--	--	--	--	NA
RFI-36-53	753.25	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-36-54	756.98	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-36-55	750.49	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-36-56	749.97	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-38-04	751.58	--	NA	0.00	18.75	732.83	NA	NA	0.00	19.39	732.19	NA	--	--	--	--	NA
RFI-38-05	750.79	--	NA	0.00	17.41	733.38	NA	NA	0.00	17.88	732.91	NA	--	--	--	--	NA
RFI-38-06	749.43	--	NA	0.00	14.67	734.76	NA	NA	0.00	14.69	734.74	NA	--	--	--	--	NA
RFI-40-01R	--	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-01R2	734.05	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-02	735.35	0.92	10.19	0.05	10.24	725.11	725.16	5.90	3.44	9.34	726.01	729.17	--	--	--	--	NA
RFI-40-03	735.33	--	NA	0.00	9.15	726.18	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-40-03R	735.33	--	--	--	--	--	--	NA	0.00	7.53	727.80	NA	--	--	--	--	NA
RFI-40-04	728.15	--	NA	0.00	13.38	714.77	NA	NA	0.00	11.14	717.01	NA	--	--	--	--	NA
RFI-40-07	729.35	0.92	NA	0.00	5.39	723.96	NA	NA	0.00	1.40	727.95	NA	14.61	0.01	14.62	714.73	714.74
RFI-40-09	731.85	--	NA	0.00	14.53	717.32	NA	NA	0.00	11.02	720.83	NA	--	--	--	--	NA
RFI-40-10R	735.17	--	NA	0.00	9.30	725.87	NA	NA	0.00	6.97	728.20	NA	--	--	--	--	NA

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	March 17-18, 2003					December 2004					April 15, 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-40-11	730.82	--	NA	0.00	5.97	724.85	NA	NA	0.00	2.74	728.08	NA	--	--	--	--	NA
RFI-40-12R	743.12	--	--	--	--	--	--	NA	0.00	11.16	731.96	NA	--	--	--	--	NA
RFI-40-13	731.92	--	--	--	--	--	--	NA	0.00	9.68	722.24	NA	NA	0.00	10.13	721.79	NA
RFI-40-14R	731.93	0.92	--	--	--	--	--	10.10	2.33	12.43	719.50	721.64	NA	0.00	4.25	727.68	NA
RFI-40-16	735.17	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-17	734.03	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-18	731.99	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-20	738.47	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-25	734.17	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-26	738.37	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-27	731.71	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-44-04	731.89	--	NA	0.00	3.46	728.43	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-44-05	731.97	--	NA	0.00	8.52	723.45	NA	NA	0.00	7.79	724.18	NA	--	--	--	--	NA
RFI-44-06R	731.52	--	NA	0.00	12.48	--	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-55-01	751.85	--	NA	0.00	9.16	742.69	NA	NA	0.00	8.66	743.19	NA	--	--	--	--	NA
RFI-55-02	752.88	--	NA	0.00	11.04	741.84	NA	NA	0.00	10.37	742.51	NA	--	--	--	--	NA
RFI-55-09	753.75	--	NA	0.00	12.35	741.40	NA	NA	0.00	12.18	741.57	NA	--	--	--	--	NA
RFI-55-10	751.86	--	NA	0.00	10.39	741.47	NA	NA	0.00	9.33	742.53	NA	--	--	--	--	NA
RFI-55-11	751.69	--	--	--	--	--	--	NA	0.00	8.38	743.31	NA	--	--	--	--	NA
RFI-55-12	752.26	--	--	--	--	--	--	NA	0.00	8.70	743.56	NA	--	--	--	--	NA
RFI-65-01	742.82	--	--	--	--	--	--	NA	0.00	5.04	737.78	NA	--	--	--	--	NA
RFI-81-02	745.92	--	NA	0.00	15.57	730.35	NA	NA	0.00	15.23	730.69	NA	--	--	--	--	NA
RFI-81-03	745.70	--	NA	0.00	16.26	729.44	NA	NA	0.00	14.62	731.08	NA	--	--	--	--	NA
RFI-81-08	741.43	--	NA	0.00	11.32	730.11	NA	NA	0.00	8.59	732.84	NA	--	--	--	--	NA
RFI-81-09	745.89	--	NA	0.00	13.97	731.92	NA	NA	0.00	12.31	733.58	NA	--	--	--	--	NA
RFI-81-11	740.34	--	NA	0.00	7.44	732.90	NA	NA	0.00	5.40	734.94	NA	--	--	--	--	NA
RFI-81-12R	742.60	--	--	--	--	--	--	NA	0.00	3.68	738.92	NA	--	--	--	--	NA
RFI-81-13	744.61	--	NA	0.00	12.45	732.16	NA	NA	0.00	11.30	733.31	NA	--	--	--	--	NA
RFI-81-21	753.80	--	--	--	--	--	--	NA	0.00	14.40	739.40	NA	--	--	--	--	NA
RFI-81-22	742.58	--	NA	0.00	5.69	736.89	NA	NA	0.00	3.80	738.78	NA	--	--	--	--	NA
RFI-81-33	736.94	--	NA	0.00	7.44	729.50	NA	NA	0.00	4.19	732.75	NA	--	--	--	--	NA
RFI-81-35	743.23	--	NA	0.00	14.12	729.11	NA	NA	0.00	14.90	728.33	NA	--	--	--	--	NA
RFI-81-39R	745.77	--	--	--	--	--	--	NA	0.00	9.30	736.47	NA	--	--	--	--	NA
RFI-81-43	743.76	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-45	742.87	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-47	742.38	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-49	742.71	--	--	--	--	--	--	NA	0.00	10.87	731.84	NA	--	--	--	--	NA
RFI-81-50	740.60	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-51	742.35	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-01	741.34	--	NA	0.00	5.47	735.87	NA	NA	0.00	4.58	736.76	NA	--	--	--	--	NA
RFI-83/84-02	741.59	--	NA	0.00	5.86	735.73	NA	NA	0.00	5.02	736.57	NA	--	--	--	--	NA
RFI-83/84-04	745.51	0.89	10.33	0.16	10.49	735.02	735.16	9.59	0.06	9.65	735.86	735.91	--	--	--	--	NA
RFI-83/84-06	745.58	0.89	11.03	1.88	12.91	732.67	734.34	10.32	2.59	12.91	732.67	734.98	--	--	--	--	NA
RFI-83/84-07	746.56	0.88	10.81	2.00	12.81	733.75	735.51	NA	0.00	10.25	736.31	NA	--	--	--	--	NA
RFI-83/84-11	741.61	--	NA	0.00	7.93	733.68	NA	NA	0.00	6.79	734.82	NA	--	--	--	--	NA
RFI-83/84-20	745.24	--	NA	0.00	9.05	736.19	NA	NA	0.00	8.36	736.88	NA	--	--	--	--	NA
RFI-83/84-25	745.83	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-27	745.72	--	NA	0.00	12.94	732.78	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-27R	745.84	--	--	--	--	--	--	NA	0.00	12.34	733.50	NA	--	--	--	--	NA
RFI-83/84-29	742.76	--	--	--	--	--	--	NA	0.00	12.73	730.03	NA	--	--	--	--	NA
RFI-83/84-44	746.16	0.89	10.90	0.25	11.15	735.01	735.23	NA	0.00	10.30	735.86	NA	--	--	--	--	NA
RFI-83/84-45	746.22	0.89	NA	0.00	11.03	735.19	NA	10.09	0.90	10.99	735.23	736.03	--	--	--	--	NA
RFI-83/84-46	746.38	--	--	--	--	--	--	NA	0.00	10.13	736.25	NA	--	--	--	--	NA
RFI-83/84-48	746.23	--	--	--	--	--	--	NA	0.00	9.73	736.50	NA	--	--	--	--	NA
RFI-83/84-49	745.25	0.89	--	--	--	--	--	9.75	4.06	13.81	731.44	735.05	--	--	--	--	NA
RFI-83/84-51	742.39	--	--	--	--	--	--	NA	0.00	6.61	735.78	NA	--	--	--	--	NA
RFI-83/84-53	745.32	--	--	--	--	--	--	NA	0.00	9.82	735.50	NA	--	--	--	--	NA

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

			March 17-18, 2003					December 2004					April 15, 2005				
Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-83/84-54	746.41	--	--	--	--	--	--	NA	0.00	7.68	738.73	NA	--	--	--	--	NA
RFI-84-03S	727.23	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-03I	727.13	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-03D	727.30	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-04I	727.23	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-04D	727.08	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-05	726.63	--	NA	0.00	9.00	717.63	NA	NA	0.00	6.79	719.84	NA	--	--	--	--	NA
RFI-84-06R	720.12	--	--	--	--	--	--	NA	0.00	5.82	714.30	NA	--	--	--	--	NA
RFI-84-06RD	720.18	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-07	727.12	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-07D	727.52	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-08	727.22	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-08D	727.43	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-09S	719.43	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-09D	719.27	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-10S	718.70	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-10D	718.64	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-11S	721.97	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-85-02R	742.91	0.86	NA	0.00	12.64	730.27	NA	NA	0.00	10.79	732.12	NA	--	--	--	--	NA
RFI-85-03	746.21	--	NA	0.00	15.30	730.91	NA	NA	0.00	13.74	732.47	NA	--	--	--	--	NA
RFI-85-04	746.00	--	NA	0.00	15.47	730.53	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-85-04R	745.95	--	NA	0.00	20.47	725.48	NA	NA	0.00	14.04	731.91	NA	--	--	--	--	NA
RFI-85-05	745.95	--	NA	0.00	22.29	723.66	NA	NA	0.00	21.08	724.87	NA	--	--	--	--	NA
RFI-85-06	742.43	0.86	NA	0.00	13.73	728.70	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-85-07	745.97	--	NA	0.00	16.03	729.94	NA	NA	0.00	14.34	731.63	NA	--	--	--	--	NA
RFI-85-08	746.74	--	NA	0.00	15.46	731.28	NA	--	--	--	--	NA	--	--	--	--	NA
RFI-86-01	735.80	--	--	--	Dry	Dry	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-01R	735.51	--	NA	0.00	22.63	712.88	NA	NA	0.00	21.67	713.84	NA	--	--	--	--	NA
RFI-86-01D	735.58	--	--	--	--	--	--	NA	0.00	8.50	727.08	NA	--	--	--	--	NA
RFI-86-02	735.65	0.87	8.17	2.39	10.56	725.09	727.17	NA	0.00	7.09	728.56	NA	--	--	--	--	NA
RFI-86-03	736.62	0.87	8.08	0.68	8.76	727.86	728.45	6.52	0.03	6.55	730.07	730.10	--	--	--	--	NA
RFI-86-04	737.29	--	NA	0.00	4.00	733.29	NA	--	--	3.10	734.19	NA	--	--	--	--	NA
RFI-86-05	742.47	--	NA	0.00	12.13	730.34	NA	NA	0.00	10.02	732.45	NA	--	--	--	--	NA
RFI-86-06D	737.21	--	NA	0.00	22.97	714.24	NA	NA	0.00	22.20	715.01	NA	--	--	--	--	NA
RFI-86-06S	737.32	--	NA	0.00	12.34	724.98	NA	NA	0.00	11.56	725.76	NA	--	--	--	--	NA
RFI-86-08R	743.25	--	NA	0.00	13.59	--	NA	NA	0.00	11.68	731.57	NA	--	--	--	--	NA
RFI-86-12	738.11	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-14	731.80	--	--	--	--	--	--	NA	0.00	16.23	715.57	NA	--	--	--	--	NA
RFI-86-15	718.03	--	NA	0.00	5.28	--	NA	NA	0.00	4.25	713.78	NA	--	--	--	--	NA
RFI-86-16	731.51	--	--	--	Dry	Dry	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-16R	731.76	--	--	--	--	--	--	NA	0.00	15.81	715.95	NA	--	--	--	--	NA
RFI-94-02R	727.35	--	NA	0.00	5.60	721.75	NA	NA	0.00	6.77	720.58	NA	--	--	--	--	NA
RFI-94-05	727.48	--	NA	0.00	3.78	723.70	NA	NA	0.00	2.49	724.99	NA	--	--	--	--	NA
RFI-94-07	720.32	--	NA	0.00	4.78	715.54	NA	NA	0.00	3.18	717.14	NA	--	--	--	--	NA
RFI-94-08	727.44	--	--	--	--	--	--	NA	0.00	13.90	713.54	NA	--	--	--	--	NA
RFI-94-09	719.28	--	--	--	--	--	--	NA	0.00	7.47	711.81	NA	--	--	--	--	NA
RFI-94-10	719.00	--	--	--	--	--	--	NA	0.00	6.35	712.65	NA	--	--	--	--	NA
RFI-94-11	719.54	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-SS-01	716.07	--	--	--	--	--	--	NA	0.00	2.02	714.05	NA	--	--	--	--	NA
RFI-SS-02	716.18	0.99	NA	0.00	14.07	--	NA	NA	0.00	2.21	713.97	NA	--	--	--	--	NA
RFI-SS-03	742.62	0.99	NA	0.00	9.15	--	NA	NA	0.00	12.50	730.12	NA	--	--	--	--	NA
RFI-SS-04	745.79	0.99	NA	0.00	9.27	--	NA	NA	0.00	7.83	737.96	NA	--	--	--	--	NA
RFI-SS-05	746.05	0.99	NA	0.00	10.03	--	NA	NA	0.00	8.84	737.21	NA	--	--	--	--	NA
RFI-SS-06	745.94	0.99	--	--	--	--	--	6.98	0.42	7.40	738.54	738.96	--	--	--	--	NA
RFI-SS-08	750.98	--	--	--	--	--	--	NA	0.00	10.35	740.63	NA	--	--	--	--	NA
RFI-SS-09	--	--	--	--	--	--	--	NA	0.00	10.14		NA	--	--	--	--	NA
RW-1-P1	751.11	0.92	12.00	0.44	12.44	738.67	739.07	10.60	0.05	10.65	740.46	740.51	--	--	--	--	NA

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	March 17-18, 2003					December 2004					April 15, 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RW-1-P2	751.30	0.92	11.54	4.66	16.20	735.10	739.39	10.59	2.61	13.20	738.10	740.50	--	--	--	--	NA
RW-6-P1	753.39	--	--	--	--	--	--	--	--	--	--	NA	--	--	--	--	NA
RW-7-P1	753.23	--	--	--	--	--	--	NA	0.00	12.31	740.92	NA	--	--	--	--	NA
RW-3A-P1	750.73	--	NA	0.00	9.40	741.33	NA	NA	0.00	8.80	741.93	NA	--	--	--	--	NA
RW-3A-P2	750.40	--	NA	0.00	8.97	741.43	NA	--	--	--	--	NA	--	--	--	--	NA
Dort Bridge	722.95	--	NA	0.00	15.58	707.37	NA	--	--	--	--	NA	--	--	--	--	NA
Fifth Bridge	720.33	--	NA	0.00	13.17	707.16	NA	--	--	--	--	NA	--	--	--	--	NA
Hamilton Bridge	722.61	--	NA	0.00	15.38	707.23	NA	--	--	--	--	NA	--	--	--	--	NA
Hamilton Bridge 20	720.09	--	NA	0.00	15.38	704.71	NA	--	--	--	--	NA	--	--	--	--	NA

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	June 7, 2005					July 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
03-01	744.67	0.9	--	--	--	--	NA	--	--	--	--	NA
03-01R	744.90	--	--	--	--	--	NA	--	--	--	--	NA
03-02	743.24	--	--	--	--	--	NA	--	--	--	--	NA
03-3	747.01	0.9	--	--	--	--	NA	--	--	--	--	NA
03-3R	746.47	0.9	--	--	--	--	NA	--	--	--	--	NA
03-101	--	0.9	--	--	--	--	NA	--	--	--	--	NA
03-101R	747.95	--	--	--	--	--	NA	--	--	--	--	NA
03-105	748.16	--	--	--	--	--	NA	--	--	--	--	NA
03-105R	747.76	--	--	--	--	--	NA	--	--	--	--	NA
03-105R2	748.16	--	--	--	--	--	NA	--	--	--	--	NA
03-109	747.40	--	--	--	--	--	NA	--	--	--	--	NA
03-110	746.95	--	--	--	--	--	NA	--	--	--	--	NA
03-110R	746.76	--	--	--	--	--	NA	--	--	--	--	NA
03-111	744.70	--	--	--	--	--	NA	--	--	--	--	NA
03-112	747.21	--	--	--	--	--	NA	--	--	--	--	NA
03-113	--	--	--	--	--	--	NA	--	--	--	--	NA
03-114	746.49	--	--	--	--	--	NA	--	--	--	--	NA
03-114R	746.27	--	--	--	--	--	NA	--	--	--	--	NA
04-1	731.03	--	--	--	--	--	NA	--	--	--	--	NA
04-2	730.37	--	--	--	--	--	NA	--	--	--	--	NA
04-3	730.19	--	--	--	--	--	NA	--	--	--	--	NA
04-4	--	--	--	--	--	--	NA	--	--	--	--	NA
04-5	730.69	--	--	--	--	--	NA	--	--	--	--	NA
04-6R	735.00	--	--	--	--	--	NA	--	--	--	--	NA
04-120	750.52	--	--	--	--	--	NA	--	--	--	--	NA
04-121	752.12	--	--	--	--	--	NA	--	--	--	--	NA
04-140	751.06	--	--	--	--	--	NA	--	--	--	--	NA
04-160	729.13	--	--	--	--	--	NA	--	--	--	--	NA
07-01	732.41	--	--	--	--	--	NA	--	--	--	--	NA
07-02	727.47	--	--	--	--	--	NA	--	--	--	--	NA
11-120	747.44	--	--	--	--	--	NA	--	--	--	--	NA
11-140	741.78	--	--	--	--	--	NA	--	--	--	--	NA
20-100	750.80	--	--	--	--	--	NA	NA	0.00	8.74	742.06	NA
20-101	752.60	--	--	--	--	--	NA	--	--	--	--	NA
20-101R	751.69	--	--	--	--	--	NA	NA	0.00	11.42	740.27	NA
20-101RD	752.13	--	--	--	--	--	NA	NA	0.00	11.35	740.78	NA
20-102	752.30	--	--	--	--	--	NA	NA	0.00	9.80	742.50	NA
20-102R	751.68	--	--	--	--	--	NA	--	--	--	--	NA
20-103N	751.69	--	--	--	--	--	NA	NA	0.00	9.95	741.74	NA
20-103S	751.67	--	--	--	--	--	NA	NA	0.00	9.99	741.68	NA
20-105R	751.91	--	--	--	--	--	NA	NA	0.00	10.07	741.84	NA
20-120	749.45	--	--	--	--	--	NA	--	--	--	--	NA
20-121	753.25	--	--	--	--	--	NA	NA	0.00	11.60	741.65	NA
20-122	752.40	--	--	--	--	--	NA	NA	0.00	11.65	740.75	NA
20-140	752.80	--	--	--	--	--	NA	NA	0.00	11.09	741.71	NA
20-141	753.25	--	--	--	--	--	NA	NA	0.00	8.61	744.64	NA
20-142	749.60	--	--	--	--	--	NA	NA	0.00	7.60	742.00	NA
20-143	749.25	--	--	--	--	--	NA	NA	0.00	9.02	740.23	NA
20-144	749.90	--	--	--	--	--	NA	NA	0.00	7.96	741.94	NA
20-145	749.34	--	--	--	--	--	NA	NA	0.00	8.83	740.51	NA
20-146	--	--	--	--	--	--	NA	--	--	--	--	NA
20-160	752.81	0.99	--	--	--	--	NA	NA	0.00	11.40	741.41	NA
20-162	753.48	0.99	--	--	--	--	NA	11.90	0.65	12.55	740.93	741.57
20-163	750.44	0.99	--	--	--	--	NA	--	--	--	--	NA
20-163R	750.58	0.99	--	--	--	--	NA	9.75	4.46	14.21	736.37	740.79
20-164	751.14	0.99	--	--	--	--	NA	NA	0.00	13.00	738.14	NA
20-165	749.97	--	--	--	--	--	NA	--	--	--	--	NA

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	June 7, 2005					July 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
20-167	753.34	0.99	--	--	--	--	NA	12.73	0.73	13.46	739.88	740.60
20-168	753.44	0.99	--	--	--	--	NA	--	--	--	--	NA
20-169	753.38	0.99	--	--	--	--	NA	NA	0.00	12.72	740.66	NA
20-170	748.22	0.99	--	--	--	--	NA	NA	0.00	8.25	739.97	NA
20-171	748.20	--	--	--	--	--	NA	NA	0.00	7.42	740.78	NA
20-500	750.63	--	--	--	--	--	NA	NA	0.00	8.70	741.93	NA
20-500R	750.77	--	--	--	--	--	NA	NA	0.00	8.94	741.83	NA
20-501	750.63	--	--	--	--	--	NA	NA	0.00	9.05	741.58	NA
20-502	751.29	0.99	--	--	--	--	NA	9.45	2.10	11.55	739.74	741.82
20-503	751.54	0.99	--	--	--	--	NA	10.55	0.90	11.45	740.09	740.98
20-504	749.74	--	--	--	--	--	NA	--	--	--	--	NA
20-505D	752.20	--	--	--	--	--	NA	--	--	--	--	NA
20-505S	750.54	--	--	--	--	--	NA	--	--	--	--	NA
20-506	751.35	--	--	--	--	--	NA	NA	0.00	9.56	741.79	NA
20-FP-1	752.17	0.99	--	--	--	--	NA	--	--	--	--	NA
20-FP-10	747.25	--	--	--	--	--	NA	--	--	--	--	NA
20-FP-11	743.97	--	--	--	--	--	NA	--	--	--	--	NA
20-FP-11R	744.09	--	--	--	--	--	NA	--	--	--	--	NA
20-FP-12	742.51	--	--	--	--	--	NA	--	--	--	--	NA
20-FP-2	753.51	--	--	--	--	--	NA	NA	0.00	12.15	741.36	NA
20-FP-4R	751.25	0.99	--	--	--	--	NA	9.29	0.58	9.87	741.38	741.95
20-FP-5	748.82	--	--	--	--	--	NA	--	--	--	--	NA
20-FP-6	747.91	--	--	--	--	--	NA	NA	0.00	7.12	740.79	NA
20-FP-6R	747.95	--	--	--	--	--	NA	NA	0.00	7.32	740.63	NA
20-FP-7	748.53	0.99	--	--	--	--	NA	--	--	--	--	NA
20-FP-8	748.73	0.99	--	--	--	--	NA	8.13	1.26	9.39	739.34	740.59
20-FP-9	749.45	--	--	--	--	--	NA	--	--	--	--	NA
20-FP-10	747.28	--	--	--	--	--	NA	--	--	--	--	NA
30-100	747.24	--	--	--	--	--	NA	--	--	--	--	NA
30-120	747.48	--	--	--	--	--	NA	--	--	--	--	NA
30-140	745.88	--	--	--	--	--	NA	--	--	--	--	NA
31-1	735.19	--	--	--	--	--	NA	NA	0.00	7.92	727.27	NA
31-2	733.97	--	--	--	--	--	NA	NA	0.00	6.43	727.54	NA
31-3	734.44	--	--	--	--	--	NA	NA	0.00	6.75	727.69	NA
31-4D	733.87	0.92	--	--	--	--	NA	6.02	0.01	6.03	727.84	727.85
31-4S	733.90	0.92	--	--	--	--	NA	NA	0.00	5.89	728.01	NA
31-5	736.12	--	--	--	--	--	NA	NA	0.00	10.14	725.98	NA
31-6	734.54	--	--	--	--	--	NA	NA	0.00	7.64	726.90	NA
31-7	729.75	0.75	--	--	--	--	NA	6.96	1.00	7.96	721.79	722.54
31-8	730.26	--	--	--	--	--	NA	NA	0.00	7.86	722.40	NA
36 FP1	750.60	--	NA	0.00	11.15	739.45	NA	NA	0.00	11.43	739.17	NA
36 FP2	750.30	0.9	11.14	0.30	11.44	738.86	739.13	11.38	0.55	11.93	738.37	738.87
36 FP3	749.41	0.9	--	--	--	--	NA	10.15	0.01	10.16	739.25	739.26
36 FP4	753.70	0.9	NA	0.00	14.44	739.26	NA	14.68	0.01	14.69	739.01	739.02
36 FP5	753.84	0.9	NA	0.00	15.57	738.27	NA	NA	0.00	14.85	738.99	NA
36 FP6	749.51	0.9	7.81	7.04	14.85	734.66	741.00	--	--	--	--	NA
36 FP7	750.02	0.9	10.14	6.32	16.46	733.56	739.25	10.46	5.41	15.87	734.15	739.02
36 FP8	748.83	--	--	--	--	--	NA	NA	0.00	6.81	742.02	NA
36-100	750.54	--	--	--	--	--	NA	--	--	--	--	NA
36-101	750.11	--	--	--	--	--	NA	--	--	--	--	NA
36-120	754.47	--	--	--	--	--	NA	NA	0.00	12.57	741.90	NA
36-121	753.79	--	--	--	--	--	NA	NA	0.00	15.80	737.99	NA
36-160	750.12	0.9	7.03	2.60	9.63	740.49	742.83	6.80	2.55	9.35	740.77	743.07
36-161	745.46	--	--	--	--	--	NA	--	--	--	--	NA
37-01	750.37	--	--	--	--	--	NA	NA	0.00	10.00	740.37	NA
38-120	748.43	--	--	--	--	--	NA	--	--	--	--	NA
40-1	733.43	--	--	--	--	--	NA	--	--	--	--	NA

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
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NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	June 7, 2005					July 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
40-1R	733.64	--	--	--	--	--	NA	--	--	--	--	NA
40-1R2	--	--	--	--	--	--	NA	--	--	--	--	NA
40-2	736.47	--	--	--	--	--	NA	--	--	--	--	NA
40-3	737.01	--	--	--	--	--	NA	--	--	--	--	NA
40-301	732.05	--	--	--	--	--	NA	--	--	--	--	NA
40-302	732.96	--	--	--	--	--	NA	--	--	--	--	NA
40-303	729.41	--	--	--	--	--	NA	--	--	--	--	NA
40-303R	730.41	--	--	--	--	--	NA	--	--	--	--	NA
40-304	731.11	--	--	--	--	--	NA	--	--	--	--	NA
40-305	731.24	--	--	--	--	--	NA	--	--	--	--	NA
40-4	738.17	--	--	--	--	--	NA	--	--	--	--	NA
40-4R	737.90	--	--	--	--	--	NA	--	--	--	--	NA
40-5	735.84	0.92	--	--	--	--	NA	--	--	--	--	NA
40-6	735.53	--	--	--	--	--	NA	--	--	--	--	NA
40-6R	735.00	--	--	--	--	--	NA	--	--	--	--	NA
40-07	733.63	--	--	--	--	--	NA	--	--	--	--	NA
40-07R	733.13	--	--	--	--	--	NA	--	--	--	--	NA
40-07R2	735.37	0.92	--	--	--	--	NA	--	--	--	--	NA
43-100	753.07	--	--	--	--	--	NA	--	--	--	--	NA
43-101R	752.60	--	--	--	--	--	NA	--	--	--	--	NA
43-102	752.63	--	--	--	--	--	NA	--	--	--	--	NA
43-103	752.10	--	--	--	--	--	NA	--	--	--	--	NA
43-140	750.14	--	--	--	--	--	NA	--	--	--	--	NA
43-141	752.78	--	--	--	--	--	NA	--	--	--	--	NA
43-160	750.43	0.92	--	--	--	--	NA	--	--	--	--	NA
43-161	750.19	0.92	--	--	--	--	NA	--	--	--	--	NA
43-162	749.90	0.92	--	--	--	--	NA	--	--	--	--	NA
43-163	749.65	0.92	--	--	--	--	NA	--	--	--	--	NA
43-164	749.59	0.92	--	--	--	--	NA	--	--	--	--	NA
43-165	749.41	0.92	--	--	--	--	NA	--	--	--	--	NA
43-166	747.97	--	--	--	--	--	NA	--	--	--	--	NA
43-167	748.43	--	--	--	--	--	NA	--	--	--	--	NA
43-168	750.10	--	--	--	--	--	NA	NA	0.00	9.39	740.71	NA
43-169	750.32	--	--	--	--	--	NA	--	--	--	--	NA
43-220	753.95	--	--	--	--	--	NA	--	--	--	--	NA
43-242	753.64	--	--	--	--	--	NA	--	--	--	--	NA
55-1	753.43	--	--	--	--	--	NA	NA	0.00	11.50	741.93	NA
55-2	753.06	--	--	--	--	--	NA	NA	0.00	10.75	742.31	NA
55-3	753.52	--	--	--	--	--	NA	NA	0.00	11.05	742.47	NA
55-4	753.59	--	--	--	--	--	NA	NA	0.00	10.45	743.14	NA
55-5	753.94	--	--	--	--	--	NA	NA	0.00	12.25	741.69	NA
70-100	742.36	--	--	--	--	--	NA	--	--	--	--	NA
70-101	742.68	0.91	--	--	--	--	NA	--	--	--	--	NA
70-102	742.75	--	--	--	--	--	NA	--	--	--	--	NA
70-102R	742.56	0.91	--	--	--	--	NA	--	--	--	--	NA
70-103	743.78	0.91	--	--	--	--	NA	--	--	--	--	NA
70-104	743.51	--	--	--	--	--	NA	--	--	--	--	NA
70-105	743.58	--	--	--	--	--	NA	--	--	--	--	NA
70-106	743.60	--	--	--	--	--	NA	--	--	--	--	NA
70-107	742.58	--	--	--	--	--	NA	--	--	--	--	NA
70-107R	742.80	0.91	--	--	--	--	NA	--	--	--	--	NA
70-108	744.06	0.91	--	--	--	--	NA	--	--	--	--	NA
70-108R	743.64	--	--	--	--	--	NA	--	--	--	--	NA
70-109	741.60	--	--	--	--	--	NA	--	--	--	--	NA
70-160	739.41	--	--	--	--	--	NA	--	--	--	--	NA
70-162	743.45	--	--	--	--	--	NA	--	--	--	--	NA
70-163	742.59	--	--	--	--	--	NA	--	--	--	--	NA

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

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Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	June 7, 2005					July 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
70-164	742.37	--	--	--	--	--	NA	--	--	--	--	NA
70-165	741.26	--	--	--	--	--	NA	--	--	--	--	NA
84-1	727.09	--	--	--	--	--	NA	--	--	--	--	NA
84-3	727.07	--	--	--	--	--	NA	--	--	--	--	NA
84-4	727.25	--	--	--	--	--	NA	--	--	--	--	NA
84-5	727.87	--	--	--	--	--	NA	--	--	--	--	NA
84-6	726.49	--	--	--	--	--	NA	--	--	--	--	NA
84-6R	720.32	--	--	--	--	--	NA	--	--	--	--	NA
84-6R2	727.02	--	NA	0.00	6.62	720.40	NA	NA	0.00	6.49	720.53	NA
84-6R2-D	726.80	--	--	--	--	--	NA	NA	0.00	5.32	721.48	NA
84-7	727.53	--	NA	0.00	8.54	718.99	NA	NA	0.00	8.32	719.21	NA
84-7-D	727.42	--	--	--	--	--	NA	NA	0.00	8.97	718.45	NA
86-1	743.20	--	--	--	--	--	NA	--	--	--	--	NA
86-100	740.05	--	--	--	--	--	NA	--	--	--	--	NA
86-2	742.93	--	--	--	--	--	NA	--	--	--	--	NA
86-3	746.31	--	--	--	--	--	NA	--	--	--	--	NA
87-FP1	715.79	--	--	--	--	--	NA	--	--	--	--	NA
87-FP2	742.24	--	--	--	--	--	NA	--	--	--	--	NA
87-FP3	739.07	--	--	--	--	--	NA	--	--	--	--	NA
87-FP4	742.11	--	--	--	--	--	NA	--	--	--	--	NA
87-FP5	741.01	--	--	--	--	--	NA	--	--	--	--	NA
87-FPD2	742.05	--	--	--	--	--	NA	--	--	--	--	NA
87-FPD3	742.05	--	--	--	--	--	NA	--	--	--	--	NA
88-1	741.09	--	--	--	--	--	NA	--	--	--	--	NA
88-2	741.37	--	--	--	--	--	NA	--	--	--	--	NA
88-4	741.37	--	--	--	--	--	NA	--	--	--	--	NA
88-5	742.01	--	--	--	--	--	NA	--	--	--	--	NA
88-6	741.60	--	--	--	--	--	NA	--	--	--	--	NA
88-7	742.20	--	--	--	--	--	NA	--	--	--	--	NA
88-8	741.53	--	--	--	--	--	NA	--	--	--	--	NA
88-9	741.86	--	--	--	--	--	NA	--	--	--	--	NA
94-100	720.36	--	--	--	--	--	NA	NA	0.00	4.75	715.61	NA
ACSP-B2AR	738.66	--	NA	0.00	26.23	712.43	NA	--	--	--	--	NA
BD01-01	744.29	--	--	--	--	--	NA	--	--	--	--	NA
BD01-02R	736.42	--	--	--	--	--	NA	--	--	--	--	NA
BD01-03	733.49	--	--	--	21.01	712.48	NA	--	--	--	--	NA
BD01-04	736.02	--	--	--	--	--	NA	--	--	--	--	NA
GM-1	724.64	--	--	--	--	--	NA	--	--	--	--	NA
GM-10	725.79	--	--	--	--	--	NA	--	--	--	--	NA
GM-11	730.31	--	--	--	--	--	NA	--	--	--	--	NA
GM-12	738.62	--	--	--	--	--	NA	--	--	--	--	NA
GM-2	725.40	--	--	--	--	--	NA	--	--	--	--	NA
GM-3	725.54	--	--	--	--	--	NA	--	--	--	--	NA
GM-4	738.12	--	--	--	--	--	NA	--	--	--	--	NA
GM-5	737.05	--	--	--	--	--	NA	--	--	--	--	NA
GM-6	734.96	--	--	--	--	--	NA	--	--	--	--	NA
GM-7	739.81	--	--	--	--	--	NA	--	--	--	--	NA
GM-8	738.71	--	--	--	--	--	NA	--	--	--	--	NA
GM-9	724.39	--	--	--	--	--	NA	--	--	--	--	NA
MW-00-FP6	740.73	--	--	--	--	--	NA	--	--	--	--	NA
MW-00-FP7	740.73	--	--	--	--	--	NA	--	--	--	--	NA
MW-00-FP8	741.43	--	--	--	--	--	NA	--	--	--	--	NA
MW-07-01	732.42	--	--	--	--	--	NA	--	--	--	--	NA
MW-07-02	736.75	--	--	--	--	--	NA	--	--	--	--	NA
MW-16	713.53	--	--	--	--	--	NA	NA	0.00	3.11	710.42	NA
MW-17	714.54	--	--	--	--	--	NA	NA	0.00	3.96	710.58	NA
MW-18	714.33	--	--	--	--	--	NA	NA	0.00	6.09	708.24	NA

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TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	June 7, 2005					July 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
MW-19	712.00	--	--	--	--	--	NA	NA	0.00	2.03	709.97	NA
MW-20	714.02	--	--	--	--	--	NA	NA	0.00	4.90	709.12	NA
MW-21	716.51	--	--	--	--	--	NA	NA	0.00	4.70	711.81	NA
MW-22	719.37	--	--	--	--	--	NA	NA	0.00	7.22	712.15	NA
MW-23	719.89	--	--	--	--	--	NA	NA	0.00	6.43	713.46	NA
MW-24	724.81	--	--	--	--	--	NA	--	--	--	--	NA
MW-25	722.38	--	--	--	--	--	NA	NA	0.00	8.44	713.94	NA
MW-26	722.18	--	--	--	--	--	NA	NA	0.00	4.98	717.20	NA
OW-3D	736.78	--	--	--	--	--	NA	--	--	--	--	NA
OW-3S	738.34	--	--	--	--	--	NA	--	--	--	--	NA
OW-5	725.32	--	--	--	--	--	NA	--	--	--	--	NA
P-1	751.11	0.92	--	--	--	--	NA	--	--	--	--	NA
P-2	751.30	0.92	--	--	--	--	NA	--	--	--	--	NA
RFI-02-05	738.88	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-07	735.06	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-08	736.06	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-08R	736.07	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-12	738.51	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-13	731.00	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-14	738.73	0.95	--	--	--	--	NA	--	--	--	--	NA
RFI-02-15	738.74	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-16	738.66	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-17	738.67	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-18	738.69	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-19	738.54	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-20	738.30	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-21	738.50	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-22	729.77	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-23	738.57	--	--	--	--	--	NA	--	--	--	--	NA
RFI-02-24	729.88	--	--	--	--	--	NA	--	--	--	--	NA
RFI-03-01	748.38	--	--	--	--	--	NA	--	--	--	--	NA
RFI-03-02	742.35	--	--	--	--	--	NA	--	--	--	--	NA
RFI-03-03	742.01	--	--	--	--	--	NA	--	--	--	--	NA
RFI-03-04	746.67	--	--	--	--	--	NA	--	--	--	--	NA
RFI-03-15R	747.54	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-01	750.38	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-02	754.10	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-03	752.43	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-04	754.32	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-05	754.34	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-06	752.13	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-07	754.38	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-08	755.77	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-08R	755.78	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-09	751.65	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-10	754.21	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-11	754.42	0.92	--	--	--	--	NA	--	--	--	--	NA
RFI-05-12	754.03	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-13	754.16	0.92	--	--	--	--	NA	--	--	--	--	NA
RFI-05-14	754.12	0.92	--	--	--	--	NA	--	--	--	--	NA
RFI-05-19D	749.31	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-19DR	749.48	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-19S	749.48	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-20	750.41	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-21	748.73	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-30	748.55	--	--	--	--	--	NA	--	--	--	--	NA
RFI-05-East	753.59	0.92	--	--	--	--	NA	--	--	--	--	NA

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TABLE 3-2
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NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	June 7, 2005					July 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-05-North	753.55	0.92	--	--	--	--	NA	--	--	--	--	NA
RFI-05-South	754.08	--	--	--	--	--	NA	--	--	--	--	NA
RFI-07-01	730.56	--	--	--	--	--	NA	--	--	--	--	NA
RFI-07-01R	736.11	--	--	--	--	--	NA	--	--	--	--	NA
RFI-07-01R2	736.00	--	--	--	--	--	NA	--	--	--	--	NA
RFI-07-03	726.74	--	--	--	--	--	NA	--	--	--	--	NA
RFI-07-08	728.12	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-01	725.15	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-01R	--	--	--	--	7.00		NA	NA	0.00	5.48	--	NA
RFI-09-04	725.92	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-04R	725.95	--	NA	0.00	15.15	710.80	NA	NA	0.00	15.15	710.80	NA
RFI-09-06	727.66	--	--	--	--	--	NA	NA	0.00	5.51	722.15	NA
RFI-09-07	727.51	0.75	--	--	--	--	NA	NA	0.00	7.58	719.93	NA
RFI-09-08	728.45	--	--	--	--	--	NA	NA	0.00	8.88	719.57	NA
RFI-09-08D	728.10	--	--	--	--	--	NA	NA	0.00	8.25	719.85	NA
RFI-09-09	728.20	--	--	--	--	--	NA	NA	0.00	6.16	722.04	NA
RFI-09-09D	728.30	--	--	--	--	--	NA	NA	0.00	7.00	721.30	NA
RFI-09-10	726.45	--	--	--	--	--	NA	NA	0.00	3.06	723.39	NA
RFI-09-11	728.85	--	--	--	--	--	NA	NA	0.00	7.07	721.78	NA
RFI-09-11D	728.50	--	--	--	--	--	NA	NA	0.00	7.04	721.46	NA
RFI-09-12	731.39	--	--	--	--	--	NA	NA	0.00	3.29	728.10	NA
RFI-09-13	725.09	--	--	--	--	--	NA	NA	0.00	7.21	717.88	NA
RFI-09-14	724.44	--	--	--	--	--	NA	NA	0.00	6.40	718.04	NA
RFI-09-32	723.85	--	--	--	--	--	NA	NA	0.00	7.18	716.67	NA
RFI-09-36R	725.90	--	--	--	--	--	NA	NA	0.00	7.22	718.68	NA
RFI-09-40R	729.76	0.75	--	--	--	--	NA	6.77	0.00	9.89	719.87	722.21
RFI-09-44	728.22	--	--	--	--	--	NA	NA	0.00	6.06	722.16	NA
RFI-09-45	730.17	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-45R	--	--	--	--	--	--	NA	NA	0.00	5.97	--	--
RFI-09-46	723.07	--	--	--	--	--	NA	NA	0.00	8.72	714.35	NA
RFI-09-47	729.64	0.75	--	--	--	--	NA	6.65	2.44	9.09	720.55	722.38
RFI-09-49	726.56	--	--	--	--	--	NA	--	--	--	--	NA
RFI-09-49R	726.43	--	NA	0.00	15.07	711.36	NA	NA	0.00	15.09	711.34	NA
RFI-09-52	--	--	--	--	--	--	NA	NA	0.00	7.94	--	--
RFI-09-53	725.48	--	NA	0.00	10.12	715.36	NA	NA	0.00	10.22	715.26	NA
RFI-09-54S	728.05	--	--	--	--	--	NA	NA	0.00	8.12	719.93	NA
RFI-09-54D	728.01	--	--	--	--	--	NA	NA	0.00	8.14	719.87	NA
RFI-09-55S	728.02	--	--	--	--	--	NA	NA	0.00	8.10	719.92	NA
RFI-09-55D	728.10	--	--	--	--	--	NA	NA	0.00	8.25	719.85	NA
RFI-09-56	726.93	--	--	--	--	--	NA	NA	0.00	5.50	721.43	NA
RFI-09-57	724.90	--	--	--	--	--	NA	NA	0.00	6.18	718.72	NA
RFI-09-58	723.38	--	--	--	--	--	NA	NA	0.00	5.48	717.90	NA
RFI-10-01	749.11	--	--	--	--	--	NA	NA	0.00	7.52	741.59	NA
RFI-10-02	750.54	--	--	--	--	--	NA	--	--	--	--	NA
RFI-10-03	751.79	--	--	--	--	--	NA	NA	0.00	9.93	741.86	NA
RFI-10-04	750.64	--	NA	0.00	8.56	742.08	NA	NA	0.00	9.65	740.99	NA
RFI-10-05	751.57	--	--	--	--	--	NA	--	--	--	--	NA
RFI-10-06	752.17	--	--	--	--	--	NA	--	--	--	--	NA
RFI-10-07	751.33	--	--	--	--	--	NA	NA	0.00	9.30	742.03	NA
RFI-10-08	750.79	--	--	--	--	--	NA	NA	0.00	8.78	742.01	NA
RFI-10-11	746.14	--	NA	0.00	5.35	740.79	NA	NA	0.00	5.40	740.74	NA
RFI-10-12	750.35	--	--	--	--	--	NA	--	--	--	--	NA
RFI-10-15	751.25	--	NA	0.00	8.66	742.59	NA	NA	0.00	9.20	742.05	NA
RFI-10-24	751.53	--	NA	0.00	10.27	741.26	NA	NA	0.00	10.94	740.59	NA
RFI-10-25	753.10	--	NA	0.00	11.89	741.21	NA	NA	0.00	12.54	740.56	NA
RFI-10-26	749.32	--	NA	0.00	7.81	741.51	NA	NA	0.00	7.91	741.41	NA
RFI-10-28	752.58	--	NA	0.00	12.35	740.23	NA	NA	0.00	12.92	739.66	NA

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GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	June 7, 2005					July 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-10-29	752.40	--	NA	0.00	14.42	737.98	NA	NA	0.00	13.00	739.40	NA
RFI-10-30	745.56	--	--	--	--	--	NA	NA	0.00	4.00	741.56	NA
RFI-10-31	746.66	--	NA	0.00	4.12	742.54	NA	NA	0.00	4.35	742.31	NA
RFI-10-32	754.61	--	NA	0.00	12.91	741.70	NA	NA	0.00	13.47	741.14	NA
RFI-10-33	755.30	--	--	--	--	--	NA	NA	0.00	13.28	742.02	NA
RFI-10-34	755.77	--	--	--	--	--	NA	NA	0.00	14.75	741.02	NA
RFI-10-35	755.69	--	--	--	--	--	NA	NA	0.00	15.00	740.69	NA
RFI-10-36	752.82	--	--	--	--	--	NA	NA	0.00	12.90	739.92	NA
RFI-12-01R	741.98	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-02	742.41	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-02R	742.10	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-07R	742.43	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-07R2	741.95	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-08 (Replaced)	742.08	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-09	742.68	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-09R	741.97	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-11D	742.09	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-11S	742.17	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-14	742.15	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-14R	742.20	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-15	742.13	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-21	741.50	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-22	741.99	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-22R	742.07	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-23	742.21	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-24	742.12	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-25	741.85	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-26	742.04	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-28	742.63	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-32	738.61	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-33	743.66	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-34	744.02	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-35	743.83	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-36	743.89	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-38	742.39	0.93	--	--	--	--	NA	--	--	--	--	NA
RFI-12-40	741.47	--	--	--	--	--	NA	--	--	--	--	NA
RFI-12-41	741.56	--	--	--	--	--	NA	--	--	--	--	NA
RFI-16-01	736.10	--	--	--	--	--	NA	--	--	--	--	NA
RFI-16-04	732.27	--	--	--	--	--	NA	--	--	--	--	NA
RFI-16-04R	732.12	--	--	--	--	--	NA	--	--	--	--	NA
RFI-16-07	733.26	--	--	--	--	--	NA	--	--	--	--	NA
RFI-16-08	733.24	0.86	--	--	--	--	NA	--	--	--	--	NA
RFI-16-09	733.39	--	--	--	--	--	NA	--	--	--	--	NA
RFI-16-10	736.09	0.86	--	--	--	--	NA	--	--	--	--	NA
RFI-16-11	736.49	--	--	--	--	--	NA	--	--	--	--	NA
RFI-16-12	735.58	--	--	--	--	--	NA	--	--	--	--	NA
RFI-16-12R	735.56	--	--	--	--	--	NA	--	--	--	--	NA
RFI-16-20	732.35	--	--	--	--	--	NA	--	--	--	--	NA
RFI-16-24	736.39	--	--	--	--	--	NA	--	--	--	--	NA
RFI-16-25	736.14	--	--	--	--	--	NA	--	--	--	--	NA
RFI-17-02	720.27	--	NA	0.00	5.02	715.25	NA	NA	0.00	4.91	715.36	NA
RFI-17-02D	720.36	--	--	--	--	--	NA	NA	0.00	4.62	715.74	NA
RFI-21-04	746.10	--	--	--	--	--	NA	--	--	--	--	NA
RFI-23-01	742.19	--	--	--	--	--	NA	--	--	--	--	NA
RFI-23-01R	741.73	--	--	--	--	--	NA	--	--	--	--	NA
RFI-23-02	740.37	--	--	--	--	--	NA	--	--	--	--	NA

See Notes on Page 34.

TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	June 7, 2005					July 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-23-02R	740.08	--	--	--	--	--	NA	--	--	--	--	NA
RFI-36-01	756.63	--	--	--	--	--	NA	--	--	--	--	NA
RFI-36-02	751.96	--	NA	0.00	13.79	738.17	NA	NA	0.00	14.08	737.88	NA
RFI-36-03	751.31	--	NA	0.00	12.11	739.20	NA	NA	0.00	12.53	738.78	NA
RFI-36-04	756.14	0.83	NA	0.00	17.20	738.94	NA	NA	0.00	17.45	738.69	NA
RFI-36-05	755.07	0.83	NA	0.00	16.06	739.01	NA	NA	0.00	16.34	738.73	NA
RFI-36-06	755.29	0.83	16.01	0.53	16.54	738.75	739.19	16.14	1.01	17.15	738.14	738.98
RFI-36-07	753.94	0.83	14.31	1.45	15.76	738.18	739.38	--	--	--	--	NA
RFI-36-08	749.29	0.83	--	--	--	--	NA	8.63	0.01	8.64	740.65	740.66
RFI-36-09	750.78	--	--	--	--	--	NA	NA	0.00	9.59	741.19	NA
RFI-36-10	750.21	--	--	--	--	--	NA	NA	0.00	9.07	741.14	NA
RFI-36-11	752.89	0.83	--	--	--	--	NA	NA	0.00	12.24	740.65	NA
RFI-36-12	753.52	0.83	--	--	--	--	NA	NA	0.00	11.43	742.09	NA
RFI-36-14	750.00	--	--	--	--	--	NA	NA	0.00	7.86	742.14	NA
RFI-36-15	754.47	0.83	--	--	--	--	NA	13.44	5.08	18.52	735.95	740.17
RFI-36-16	754.87	0.83	--	--	--	--	NA	--	--	--	--	NA
RFI-36-17	753.93	--	NA	0.00	15.69	738.24	NA	--	--	--	--	NA
RFI-36-18	753.12	--	NA	0.00	14.57	738.55	NA	NA	0.00	15.06	738.06	NA
RFI-36-19	753.31	--	NA	0.00	14.18	739.13	NA	NA	0.00	14.54	738.77	NA
RFI-36-20	757.01	--	NA	0.00	17.59	739.42	NA	NA	0.00	17.88	739.13	NA
RFI-36-21	754.72	0.83	NA	0.00	17.69	737.03	NA	15.55	1.81	17.36	737.36	738.86
RFI-36-22	754.28	0.83	NA	0.00	16.89	737.39	NA	13.52	3.36	16.88	737.40	740.19
RFI-36-23	754.09	0.83	--	--	--	--	NA	--	--	--	--	NA
RFI-36-24	753.92	0.83	--	--	--	--	NA	--	--	--	--	NA
RFI-36-25R	754.67	--	--	--	--	--	NA	NA	0.00	14.25	740.42	NA
RFI-36-27	755.46	0.83	--	--	--	--	NA	--	--	--	--	NA
RFI-36-29	753.86	0.83	14.02	0.01	14.03	739.83	739.84	14.18	0.01	14.19	739.67	739.68
RFI-36-29R	753.72	0.83	14.35	0.60	14.95	738.77	739.27	14.56	0.86	15.42	738.30	739.01
RFI-36-31	753.51	0.83	--	--	--	--	NA	--	--	--	--	NA
RFI-36-32	756.28	0.83	NA	0.00	17.45	738.83	NA	NA	0.00	17.68	738.60	NA
RFI-36-35	750.05	--	--	--	--	--	NA	NA	0.00	12.18	737.87	NA
RFI-36-36	750.19	--	--	--	--	--	NA	--	--	--	--	NA
RFI-36-37	757.15	--	NA	0.00	17.97	739.18	NA	NA	0.00	18.29	738.86	NA
RFI-36-43	753.26	0.83	--	--	--	--	NA	NA	0.00	12.36	740.90	NA
RFI-36-44	752.45	--	NA	0.00	13.77	738.68	NA	NA	0.00	14.19	738.26	NA
RFI-36-45	752.83	--	NA	0.00	14.35	738.48	NA	NA	0.00	14.75	738.08	NA
RFI-36-46	750.13	--	NA	0.00	11.82	738.31	NA	NA	0.00	12.18	737.95	NA
RFI-36-47	749.26	--	NA	0.00	14.29	734.97	NA	NA	0.00	14.73	734.53	NA
RFI-36-48	757.71	--	NA	0.00	20.27	737.44	NA	NA	0.00	20.74	736.97	NA
RFI-36-49	755.71	0.83	NA	0.00	10.81	744.90	NA	17.08	0.62	17.70	738.01	738.52
RFI-36-51	749.23	--	NA	0.00	15.30	733.93	NA	NA	0.00	11.16	738.07	NA
RFI-36-53	753.25	--	--	--	--	--	NA	NA	0.00	15.80	737.45	NA
RFI-36-54	756.98	--	--	--	--	--	NA	NA	0.00	20.59	736.39	NA
RFI-36-55	750.49	--	--	--	--	--	NA	NA	0.00	13.45	737.04	NA
RFI-36-56	749.97	--	--	--	--	--	NA	NA	0.00	12.39	737.58	NA
RFI-38-04	751.58	--	--	--	--	--	NA	--	--	--	--	NA
RFI-38-05	750.79	--	--	--	--	--	NA	--	--	--	--	NA
RFI-38-06	749.43	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-01R	--	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-01R2	734.05	--	NA	0.00	3.71	730.34	NA	NA	0.00	3.20	730.85	NA
RFI-40-02	735.35	0.92	--	--	--	--	NA	--	--	--	--	NA
RFI-40-03	735.33	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-03R	735.33	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-04	728.15	--	NA	0.00	11.17	716.98	NA	--	--	--	--	NA
RFI-40-07	729.35	0.92	NA	0	2.87	726.48	NA	NA	0	3.75	725.60	NA
RFI-40-09	731.85	--	NA	0.00	10.77	721.08	NA	NA	0.00	10.45	721.40	NA
RFI-40-10R	735.17	--	--	--	--	--	NA	--	--	--	--	NA

See Notes on Page 34.

TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	June 7, 2005					July 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-40-11	730.82	--	NA	0.00	4.45	726.37	NA	--	--	--	--	NA
RFI-40-12R	743.12	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-13	731.92	--	--	--	--	--	NA	NA	0.00	8.84	723.08	NA
RFI-40-14R	731.93	0.92	NA	0.00	3.57	728.36	NA	NA	0.00	3.10	728.83	NA
RFI-40-16	735.17	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-17	734.03	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-18	731.99	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-20	738.47	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-25	734.17	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-26	738.37	--	--	--	--	--	NA	--	--	--	--	NA
RFI-40-27	731.71	--	NA	0.00	9.87	721.84	NA	NA	0.00	8.54	723.17	NA
RFI-44-04	731.89	--	--	--	--	--	NA	--	--	--	--	NA
RFI-44-05	731.97	--	--	--	--	--	NA	--	--	--	--	NA
RFI-44-06R	731.52	--	--	--	--	--	NA	--	--	--	--	NA
RFI-55-01	751.85	--	--	--	--	--	NA	NA	0.00	8.60	743.25	NA
RFI-55-02	752.88	--	--	--	--	--	NA	NA	0.00	10.31	742.57	NA
RFI-55-09	753.75	--	--	--	--	--	NA	NA	0.00	12.00	741.75	NA
RFI-55-10	751.86	--	--	--	--	--	NA	NA	0.00	9.51	742.35	NA
RFI-55-11	751.69	--	--	--	--	--	NA	NA	0.00	8.32	743.37	NA
RFI-55-12	752.26	--	--	--	--	--	NA	NA	0.00	8.75	743.51	NA
RFI-65-01	742.82	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-02	745.92	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-03	745.70	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-08	741.43	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-09	745.89	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-11	740.34	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-12R	742.60	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-13	744.61	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-21	753.80	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-22	742.58	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-33	736.94	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-35	743.23	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-39R	745.77	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-43	743.76	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-45	742.87	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-47	742.38	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-49	742.71	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-50	740.60	--	--	--	--	--	NA	--	--	--	--	NA
RFI-81-51	742.35	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-01	741.34	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-02	741.59	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-04	745.51	0.89	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-06	745.58	0.89	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-07	746.56	0.88	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-11	741.61	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-20	745.24	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-25	745.83	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-27	745.72	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-27R	745.84	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-29	742.76	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-44	746.16	0.89	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-45	746.22	0.89	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-46	746.38	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-48	746.23	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-49	745.25	0.89	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-51	742.39	--	--	--	--	--	NA	--	--	--	--	NA
RFI-83/84-53	745.32	--	--	--	--	--	NA	--	--	--	--	NA

See Notes on Page 34.

TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	June 7, 2005					July 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RFI-83/84-54	746.41	--	--	--	--	--	NA	--	--	--	--	NA
RFI-84-03S	727.23	--	--	--	--	--	NA	NA	0.00	10.09	717.14	NA
RFI-84-03I	727.13	--	--	--	--	--	NA	NA	0.00	9.80	717.33	NA
RFI-84-03D	727.30	--	--	--	--	--	NA	NA	0.00	10.00	717.30	NA
RFI-84-04I	727.23	--	--	--	--	--	NA	NA	0.00	9.80	717.43	NA
RFI-84-04D	727.08	--	--	--	--	--	NA	NA	0.00	9.65	717.43	NA
RFI-84-05	726.63	--	--	--	--	--	NA	NA	0.00	6.78	719.85	NA
RFI-84-06R	720.12	--	NA	0.00	6.03	714.09	NA	NA	0.00	4.65	715.47	NA
RFI-84-06RD	720.18	--	--	--	--	--	NA	NA	0.00	6.72	713.46	NA
RFI-84-07	727.12	--	--	--	--	--	NA	NA	0.00	8.60	718.52	NA
RFI-84-07D	727.52	--	--	--	--	--	NA	NA	0.00	8.62	718.90	NA
RFI-84-08	727.22	--	--	--	--	--	NA	NA	0.00	10.35	716.87	NA
RFI-84-08D	727.43	--	--	--	--	--	NA	NA	0.00	19.05	708.38	NA
RFI-84-09S	719.43	--	--	--	--	--	NA	NA	0.00	4.35	715.08	NA
RFI-84-09D	719.27	--	--	--	--	--	NA	NA	0.00	5.41	713.86	NA
RFI-84-10S	718.70	--	--	--	--	--	NA	NA	0.00	9.55	709.15	NA
RFI-84-10D	718.64	--	--	--	--	--	NA	NA	0.00	8.64	710.00	NA
RFI-84-11S	721.97	--	--	--	--	--	NA	NA	0.00	3.40	718.57	NA
RFI-85-02R	742.91	0.86	--	--	--	--	NA	--	--	--	--	NA
RFI-85-03	746.21	--	--	--	--	--	NA	--	--	--	--	NA
RFI-85-04	746.00	--	--	--	--	--	NA	--	--	--	--	NA
RFI-85-04R	745.95	--	--	--	--	--	NA	--	--	--	--	NA
RFI-85-05	745.95	--	--	--	--	--	NA	--	--	--	--	NA
RFI-85-06	742.43	0.86	--	--	--	--	NA	--	--	--	--	NA
RFI-85-07	745.97	--	--	--	--	--	NA	--	--	--	--	NA
RFI-85-08	746.74	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-01	735.80	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-01R	735.51	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-01D	735.58	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-02	735.65	0.87	--	--	--	--	NA	--	--	--	--	NA
RFI-86-03	736.62	0.87	--	--	--	--	NA	--	--	--	--	NA
RFI-86-04	737.29	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-05	742.47	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-06D	737.21	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-06S	737.32	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-08R	743.25	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-12	738.11	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-14	731.80	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-15	718.03	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-16	731.51	--	--	--	--	--	NA	--	--	--	--	NA
RFI-86-16R	731.76	--	--	--	--	--	NA	--	--	--	--	NA
RFI-94-02R	727.35	--	--	--	--	--	NA	NA	0.00	8.15	719.20	NA
RFI-94-05	727.48	--	NA	0.00	2.90	724.58	NA	NA	0.00	2.73	724.75	NA
RFI-94-07	720.32	--	NA	0.00	4.12	716.20	NA	NA	0.00	4.03	716.29	NA
RFI-94-08	727.44	--	--	--	--	--	NA	NA	0.00	13.73	713.71	NA
RFI-94-09	719.28	--	--	--	--	--	NA	NA	0.00	7.41	711.87	NA
RFI-94-10	719.00	--	--	--	--	--	NA	NA	0.00	6.25	712.75	NA
RFI-94-11	719.54	--	--	--	--	--	NA	NA	0.00	7.63	711.91	NA
RFI-SS-01	716.07	--	--	--	--	--	NA	--	--	--	--	NA
RFI-SS-02	716.18	0.99	--	--	--	--	NA	--	--	--	--	NA
RFI-SS-03	742.62	0.99	--	--	--	--	NA	--	--	--	--	NA
RFI-SS-04	745.79	0.99	--	--	--	--	NA	--	--	--	--	NA
RFI-SS-05	746.05	0.99	--	--	--	--	NA	--	--	--	--	NA
RFI-SS-06	745.94	0.99	--	--	--	--	NA	--	--	--	--	NA
RFI-SS-08	750.98	--	--	--	--	--	NA	--	--	--	--	NA
RFI-SS-09	--	--	--	--	--	--	NA	--	--	--	--	NA
RW-1-P1	751.11	0.92	--	--	--	--	NA	--	--	--	--	NA

See Notes on Page 34.

TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Well ID	Reference Point Elevation (feet)	LNAPL Density (assumed)	June 7, 2005					July 2005				
			Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL	Depth to LNAPL (feet)	LNAPL Thickness (feet)	Depth to Groundwater (feet)	Groundwater Elevation	Groundwater Elevation Corrected for LNAPL
RW-1-P2	751.30	0.92	--	--	--	--	NA	--	--	--	--	NA
RW-6-P1	753.39	--	--	--	--	--	NA	--	--	--	--	NA
RW-7-P1	753.23	--	--	--	--	--	NA	--	--	--	--	NA
RW-3A-P1	750.73	--	--	--	--	--	NA	--	--	--	--	NA
RW-3A-P2	750.40	--	--	--	--	--	NA	--	--	--	--	NA
Dort Bridge	722.95	--	--	--	--	--	NA	--	--	--	--	NA
Fifth Bridge	720.33	--	--	--	--	--	NA	--	--	--	--	NA
Hamilton Bridge	722.61	--	--	--	--	--	NA	--	--	--	--	NA
Hamilton Bridge 20	720.09	--	--	--	--	--	NA	NA	0.00	12.04	708.05	NA

See Notes on Page 34.

TABLE 3-2
GROUNDWATER AND LNAPL ELEVATION DATA

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Notes:
Groundwater elevation relative to the NGVD of 1929.
NAPL density data are based on laboratory analysis of NAPL at select locations and extrapolation of data to nearby well locations.
-- = Not Available.
NA = Not Applicable; NAPL not present.

TABLE 4-1
CALCULATION OF SITE-SPECIFIC BACKGROUND CONCENTRATIONS FOR METALS IN SOIL

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Sample ID	Sb mg/kg	As mg/kg	Ba mg/kg	Be mg/kg	Cd mg/kg	Cr mg/kg	Co mg/kg	Cu mg/kg	Pb mg/kg	Mn mg/kg	Hg mg/kg	Ni mg/kg	Se mg/kg	Ag mg/kg	Tl mg/kg	V mg/kg	Zn mg/kg
RFI-05-09(0.2-2.2)	0.01 UJ	6.1	33 J	0.33 J	0.25 J	56 J	3.6 J	40 J	28 J	440 J	0.008 U	28 J	0.200	0.079 J	0.13 J	12 J	47 J
RFI-36-01(0.5-2.5)	0.01 UJ	5.5	62	0.41	0.29	12	5.2	17	62 J	270	0.040 J	13	0.570 J	0.370	0.11 J	16	94
RFI-55-01(01-03)	0.01 UJ	8.3	53 J	0.65	0.14	16	7.5	13	9	310 J	0.040 J	18	1.300 J	0.062 J	0.17 J	27	45
RFI-BG-01(00-02)	0.03 J	7.2 J	78 J	0.43	0.33 J	17 J	6.7 J	18 J	48 J	410	0.029 J	15 J	0.018 U	0.110 J	0.19 J	24 J	84 J
RFI-BG-02(00-02)		10.0 J	110 J	0.67	0.39 J	22 J	10.0 J	16 J	30 J	610	0.041 J	22 J	0.160 J	0.098 J	0.28 J	36 J	75 J
RFI-BG-03(00-02)	0.01 J	6.3 J	49 J	0.34	0.27 J	14 J	5.7 J	14 J	32 J	360	0.019 J	14 J	0.038 J	0.056 J	0.14 J	25 J	66 J
RFI-BG-04(00-02)		8.7 J	98 J	0.59	0.40 J	19 J	9.0 J	15 J	38 J	510	0.034 J	18 J	0.210 J	0.079 J	0.25 J	31 J	77 J
RFI-BG-05(00-02)	0.04 J	6.8 J	26 J	0.22	0.38 J	14 J	4.7 J	19 J	84 J	360	0.006 J	14 J	0.130 J	0.055 J	0.13 J	14 J	73 J
RFI-BG-06(00-02)	0.06 J	6.5 J	45 J	0.27	0.30 J	37 J	3.8 J	30 J	58 J	340	0.023 J	21 J	0.300 J	0.149 J	0.13 J	11 J	65 J
RFI-BG-07(00-02)	0.11 J	9.9 J	140 J	0.72	0.97 J	35 J	6.3 J	47 J	150 J	610	0.094	20 J	0.310 J	0.230 J	0.25 J	23 J	200 J
RFI-BG-08(00-02)	0.03 J	8.5 J	80 J	0.42	0.34 J	16 J	6.7 J	13 J	30 J	500	0.056 J	14 J	0.039 J	0.094 J	0.15 J	24 J	85 J
RFI-BG-09(00-02)	0.01 J	6.5 J	60 J	0.47	0.33 J	16 J	6.4 J	17 J	45 J	380	0.076	19 J	0.051 J	0.086 J	0.16 J	22 J	87 J
RFI-BG-10(00-02)	0.04 J	5.5 J	150 J	0.89	1.10	47 J	3.8 J	29 J	190 J		0.027 J	17 J	0.120 J	0.260 J	0.10 J	14 J	J
Count	**11**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**12**	**13**	**13**	**13**	**13**	**13**	**13**	**12**
Detected	**8**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**13**	**12**	**12**	**13**	**12**	**13**	**13**	**13**	**12**
Minimum	0.01	5.5	26	0.22	0.14	12	3.6	13	9	270	0.006	13	0.018	0.055	0.10	11	45
Median	0.03	6.8	62	0.43	0.33	17	6.3	17	45	395	0.034	18	0.160	0.094	0.15	23	76
Maximum	0.11	10.0	150	0.89	1.10	56	10.0	47	190	610	0.094	28	1.300	0.370	0.28	36	200
0.95 Bootstrap UCL	**0.09**	**8.1**	**96**	**0.59**	**0.59**	**32**	**7.1**	**29**	**94**	**478**	**0.052**	**20**	**0.519**	**0.188**	**0.20**	**25**	**110**
Site-Specific Background	**0.09**	**8.1**	**96**	**0.59**	**0.59**	**32**	**7.1**	**29**	**94**	**480**	**0.052**	**20**	**0.519**	**0.188**	**0.20**	**25**	**110**
MI State Background		**5.8**	**75**		**1.20**	**18**	**6.8**	**32**	**21**	**440**	**0.130**	**20**	**0.410**	**1.000**			**47**

Notes:

1. Sb = Antimony. Co = Cobalt. Se = Selenium.
   As = Arsenic. Cu = Copper. Ag = Silver.
   Ba = Barium. Pb = Lead. Tl = Thallium.
   Be = Beryllium. Mn = Manganese. V = Vanadium.
   Cd = Cadmium. Hg = Mercury. Zn = Zinc.
   Cr = Chromium Ni = Nickel.
2. Concentrations for nondetects (U-qualified data) are 0.5 times the quantitation limits.
3. Data Qualifiers:
   J = Estimated concentration.
   UJ = Not detected at the quantitation limit (estimated).
4. The manganese concentration of 2,100 mg/kg, from sample RFI-BG-10(00-02), is suspected to be from a different data population and is excluded from UCL calculations.
5. The zinc concentration of 720 mg/kg, from sample RFI-BG-10(00-02), is suspected to be from a different data population and is excluded from UCL calculations.
6. Michigan default background values are included for reference.
7. mg/kg = Milligrams per kilogram.
8. UCL = Upper Confidence Limit.

TABLE 4-2
ESTIMATED RISKS AND HAZARD QUOTIENTS FOR SITE-SPECIFIC BACKGROUND METALS CONCENTRATIONS

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN
RFI PHASE II REPORT

Chemical	CASRN	Carc Class	Site Specific Background (mg/kg)	Routine Worker Soil Contact Cancer Criteria (mg/kg)	Routine Worker Soil Contact Noncancer Criteria (mg/kg)	Routine Worker Soil Contact Risk	Routine Worker Soil Contact HI	Residential Soil Contact Cancer Criteria (mg/kg)	Residential Soil Contact Noncancer Criteria (mg/kg)	Residential Soil Contact Risk	Residential Soil Contact HI	Recreator Soil Contact Risk	Recreator Soil Contact HI
Antimony	7440-36-0		8.6E-02		8.2E+02		1.1E-04		1.1E+02		7.9E-04		9.9E-05
Arsenic	7440-38-2	A	8.1E+00	2.7E+00	4.4E+02	3.0E-06	1.8E-02	3.9E-01	7.5E+01	2.1E-05	1.1E-01	2.6E-06	1.4E-02
Barium	7440-39-3	NC	9.6E+01										
Beryllium	7440-41-7	B1	5.9E-01	2.2E+03	3.7E+03	2.6E-10	1.6E-04	1.3E+03	5.4E+02	4.4E-10	1.1E-03	5.5E-11	1.4E-04
Cadmium	7440-43-9	B1	5.9E-01	3.0E+03	1.3E+03	2.0E-10	4.4E-04	1.8E+03	2.4E+02	3.3E-10	2.4E-03	4.1E-11	3.0E-04
Chromium (total)	7440-47-3		3.2E+01	4.5E+02	5.9E+03	7.1E-08	5.4E-03	2.7E+02	8.2E+02	1.2E-07	3.9E-02	1.5E-08	4.9E-03
Cobalt	7440-48-4	B1	7.1E+00	1.9E+03	2.0E+04	3.7E-09	3.6E-04	1.1E+03	4.6E+03	6.2E-09	1.5E-03	7.7E-10	1.9E-04
Copper	7440-50-8	D	2.8E+01		8.2E+04		3.5E-04		1.1E+04		2.6E-03		3.2E-04
Lead	7439-92-1	B2	9.3E+01										
Manganese	7439-96-5	D	4.8E+02		7.2E+04		6.6E-03		2.5E+04		1.9E-02		2.4E-03
Mercury	7439-97-6	D	5.2E-02		6.7E+01		7.8E-04		3.4E+01		1.5E-03		1.9E-04
Nickel	7440-02-0	A	2.0E+01	2.2E+04		8.9E-10		1.3E+04		1.5E-09		1.9E-10	
Selenium	7782-49-2	D	5.2E-01		1.0E+04		5.1E-05		1.4E+03		3.8E-04		4.7E-05
Silver	7440-22-4	D	1.9E-01		6.7E+03		2.8E-05		1.2E+03		1.5E-04		1.9E-05
Thallium	7440-28-0		2.0E-01		1.4E+02		1.4E-03		1.9E+01		1.0E-02		1.3E-03
Vanadium	7440-62-2		2.5E+01		1.4E+04		1.7E-03		1.9E+03		1.3E-02		1.6E-03
Zinc	7440-66-6	ID	1.1E+02		6.1E+05		1.8E-04		8.2E+04		1.3E-03		1.7E-04
					Sum:	**3E-06**	**4E-02**			**2E-05**	**2E-01**	**3E-06**	**3E-02**

Notes:
Carc Class = EPA Weight-of-Evidence Cancer Classification
The calculation of risk-based criteria is discussed in Section 6.5.
Cancer criteria are calculated at a target cancer risk of 10^{-6}.
Noncancer criteria are calculated at a target hazard index of 1.
Risk estimates for recreators are calculated by prorating the residential risk estimates by 0.125 to account for an exposure time of 2 hours/event, as discussed in section 6.5.2.6.

TABLE 5-1
SUMMARY OF RFI ACTIVITIES AND RESULTS

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI ID	AOI Description	Summary of Primary Materials Managed	RFI Activities (number of samples collected)	Analytical Results Exceeding Part 201 Screening Criteria			
				Soil		Groundwater	
				Constituent (maximum concentration detected, mg/kg)	Screening Criteria (mg/kg)	Constituent (maximum concentration detected, mg/L)	Screening Criteria (mg/L)
Building 38 Area							
38-1	Northern portion of Building 38, including several process waste sumps, trenches, former car lifts, and a former 8,000-gallon fuel oil UST.	Hydraulic oils and process waste oils.	•Installed 6 soil borings (19) •Installed 3 monitoring wells (9) •Sampled 2 existing monitoring wells (3)	No exceedences	--	Beryllium (0.034) Lead (0.0065) Thallium (0.0049)	IDW (0.0040) IDW (0.0040) IDW (0.0020)
Factory 36 Area							
36-1	Northern and central portions of Building 36, involving various active engine manufacturing process, including various "wet" (i.e., use of cutting and/or cooling oils) and "dry" (i.e., no use of cutting and/or cooling oils) metal machining operations. Due to the nature of the operations (i.e., full production), it is difficult to visually assess whether releases have occurred.	Hydraulic oils, cooling/cutting oils, and process waste oils.	•Installed 39 soil borings (129) •Installed 35 monitoring wells (60) •Sampled 3 existing monitoring wells (6) •Reinstalled 2 existing monitoring wells (5) •Collected 8 LNAPL samples	Benzene (240) Ethylbenzene (680) Toluene (4,100) Xylenes (total) (2,480) Arsenic (39) Chromium (410) Manganese (6,730)	IISVSIC(45) ISVIA(8.4) IDC(140) ISVIA(140) IDC(250) IISVSIC(3,300) ISVIA(250) IDC(150) ISVIA(150) IDC (37) IPSIC(240) IPSIC(1,500)	1,1,1-Trichloroethane (0.95) 1,1-Dichloroethene (0.12) 1,2-Dichloroethane (0.0093) cis-1,2-Dichloroethene (0.15) Benzene (0.36) Trichloroethene (0.099) Vinyl chloride (0.198) Arsenic (0.14) Beryllium (0.030) Cadmium (0.021) Chromium (0.22) Lead (0.022) Nickel (0.13) Vanadium (0.21)	IDW(0.20) IDW(0.0070) IDW(0.0050) IDW(0.070) IDW(0.0050) IDW(0.0050) IDW(0.0020) IDW(0.050) IDW(0.0040) IDW(0.0040) IDW(0.10) IDW(0.0040) IDW(0.10) IDW(0.062)
36-2	Basement area located along the east side of the central portion of Building 36, involving a former metal chip processing operation used to separate residual cutting and cooling oils from metal machining chips. Free-floating product is located immediately downgradient of this basement area.	Process waste oils.	•Installed 7 soil borings (14) •Installed 3 monitoring wells (5) •Sampled 3 existing monitoring wells (10) •Collected 2 LNAPL samples	Chromium (450)	IPSIC(240)	1,1,1-Trichloroethane (0.24) 1,2-Dichloroethane (0.0013) Benzene (4.5) Trichloroethene (0.035) Vinyl chloride (0.0081) Arsenic (0.17) Beryllium (0.0090)	IDW(0.0050) IDW(0.0050) IDW(0.0050) IDW(0.0050) IDW(0.0020) IDW(0.0050) IDW(0.0040)
36-3	Basement area located beneath the southeastern corner of Building 36, involving a final engine assembly area, several ancillary, main process waste oil collection/processing operations, and several former USTs. The former USTs ranged in size from 300 to 12,000 gallons, and contained gasoline, diesel fuel, and/or process waste oils. Oil has been historically observed on the floor of the basement at various locations.	Process waste oils.	•Installed 5 soil borings (12) •Installed 5 monitoring wells (13) •Collected 2 grab water samples from basement area •Sampled 1 existing monitoring well (3)	No exceedences	--	Benzene (6.0) Ethylbenzene (1.3) Toluene (20) Beryllium (0.0081) Chromium (0.19) Vanadium (0.38)	IDW(0.0050) IDW(0.070) IDW(1.0) IDW(0.0040) IDW(0.10) IDW(0.062)
36-4	Southcentral and southwestern portions of the Building 36, involving a former "wet" (i.e., use of cutting and/or cooling oils) metal machining operation and several active engine assembly operations. Trenches associated with these operations routinely contain standing oil, and the integrity of such trenches is unknown.	Cooling/cutting oils, and process waste oils.	•Installed 2 soil borings (5) •Installed 2 monitoring wells (2)	No exceedences	--	No exceedences	--

See Notes on Page 13.

TABLE 5-1
SUMMARY OF RFI ACTIVITIES AND RESULTS

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI ID	AOI Description	Summary of Primary Materials Managed	RFI Activities (number of samples collected)	Analytical Results Exceeding Part 201 Screening Criteria			
				Soil		Groundwater	
				Constituent (maximum concentration detected, mg/kg)	Screening Criteria (mg/kg)	Constituent (maximum concentration detected, mg/L)	Screening Criteria (mg/L)
36-5	Area located immediately south of AOI 36-5 involving a former UST farm and active AST farm, as well as a 6' wide x 6' high subsurface tunnel which connected the former UST farm with Building 36. The ASTs and former USTs range(d) in size from 6,000 to 15,000 gallons, and contain(ed) gasoline, motor oil, hydraulic oil, mineral seal oil, naphtha, and various cooling/cutting oils. A prior release(s) from the UST farm in this area has been documented, and floor staining has been observed in the tunnel.	Gasoline, motor oil, hydraulic oils, and solvents.	•Installed 2 soil borings (5) •Installed 2 monitoring wells (8) •Sampled 4 existing monitoring wells (9) •Replaced 1 existing monitoring well (1) •Collected 4 LNAPL samples	No exceedences	--	Trichloroethene (0.044) Vinyl chloride (0.014) Beryllium (0.0069) Manganese (3.7) Nickel (0.17)	IDW(0.0050) IDW(0.0020) IDW(0.0040) IDW(2.5) IDW(0.10)
Buildings 55, 55A, and 55B Area							
55-1	Overall area of the Site's process wastewater treatment facilities, involving various waste oil storage facilities, clarifiers, mixing tanks, etc. Past investigations of this area have indicated impacts to underlying soil and groundwater, presumably resulting from a release(s) from these facilities.	Process waste oils.	•Installed 13 soil borings (27) •Installed 6 monitoring wells (16) •Sampled 6 existing monitoring wells (19)	No exceedences	--	1,2-Dichloropropane (0.14) Benzene (0.018) Trichloroethene (0.107) Vinyl chloride (0.028) bis(2-chloroethyl)ether (0.026) Arsenic (0.086) Antimony (0.013) Beryllium (0.61) Cadmium (0.016) Chromium (8.2) Cyanide (1.1) Lead (0.025) Manganese (2.9) Nickel (0.13) Thallium (0.0041)	IDW(0.0050) IDW(0.0050) IDW(0.0050) IDW(0.0020) IDW(0.0083) IDW(0.050) IDW(0.0060) IDW(0.0040) IDW(0.0050) IDW(0.10) IDW(0.20) IDW(0.0040) IDW(2.5) IDW(0.10) IDW(0.0020)
Factory 10 Area							
10-1	Overall area of Building 20, including its basement areas, manufacturing operations, external areas immediately surrounding the building, and several existing and former ASTs ranging in size from 1,000 to 20,000 gallons. The ASTs contain(ed) various lubricating oils, automatic transmission fluid, solvents, and process waste oils. Past investigations of the Building 20 Area have indicated impacts to underlying soil and groundwater resulting from releases from associated operations.	Hydraulic oils and process waste oils.	•Installed 6 soil borings (15) •Installed 1 monitoring well (3) •Sampled 4 existing monitoring wells (8) •Collected 2 LNAPL samples	Arsenic (40) Chromium (750) Lead (2,200) Manganese (3,000)	IDC (37) IPSIC(240) IDC(900) IPSIC(1,500)	1,1,1-Trichloroethane (0.21) 1,1-Dichloroethene (0.013) cis-1,2-Dichloroethene (0.25) Vinyl chloride (0.0032) Barium (33) Lead (0.0088)	IDW(0.20) IDW(0.0070) IDW(0.070) IDW(0.0020) IDW(2.0) IDW(0.0040)

See Notes on Page 13.

TABLE 5-1
SUMMARY OF RFI ACTIVITIES AND RESULTS

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI ID	AOI Description	Summary of Primary Materials Managed	RFI Activities (number of samples collected)	Analytical Results Exceeding Part 201 Screening Criteria			
				Soil		Groundwater	
				Constituent (maximum concentration detected, mg/kg)	Screening Criteria (mg/kg)	Constituent (maximum concentration detected, mg/L)	Screening Criteria (mg/L)
10-2	Solid waste transfer station located east of Building 20 and south of Buildings 22 and 24. Two 200,000-gallon ASTs containing process waste oils and #2 fuel oil were formerly present in this area. Residual oil draining from solid waste stored in the solid waste transfer station occasionally collects on the concrete pavement of this area, which has numerous cracks and fissures. Residual oil is recovered via a centrally located pit that is routinely emptied.	Process waste oils.	•Installed 18 soil borings (35) •Installed 15 monitoring wells (34)	Manganese (1,800)	IPSIC (1,500)	1,1,1-Trichloroethane (0.58) 1,1-Dichloroethene (0.11) Benzene (0.017) Chloroethane (3.3) cis-1,2-Dichloroethene (0.15) Methylene chloride (0.029) Trichloroethene (0.16) Vinyl chloride (0.060) Arsenic (0.068) Lead (0.0068) Manganese (7.6)	IDW(0.20) IDW(0.0070) IDW(0.0050) IDW(1,0.70) IDW(0.070) IDW(0.0050) IDW(0.0050) IDW(0.0020) IDW(0.050) IDW(0.0040) IDW(2.5)
10-3	Basement area of Building 22, including a 200-gallon AST which contained diesel fuel and two process waste oil sumps which collect oil leaks from compressors via floor drains, and the area immediately north of Building 22 (formerly used to manufacture Liberty Aircraft engines and more recently to store scrap USTs and ASTs following removal).	Hydraulic oils and process waste oils.	•Installed 14 soil borings (20) •Installed 7 monitoring wells (13) •Reinstalled 2 existing monitoring wells (5) •Sampled 1 existing monitoring well (3)	Manganese (2,500)	IPSIC(1,500)	1,1,1-Trichloroethane (2.4) 1,1-Dichloroethane (12) 1,1-Dichloroethene (0.13) 1,2-Dichloroethane (0.017) Chloroethane (7.4) Vinyl chloride (0.280) Beryllium (0.042) Lead (0.0049)	IDW(0.20) IDW(2.5) IDW(0.0070) IDW(0.0050) IDW(1.7) IDW(0.0020) IDW(0.0040) IDW(0.0040)
10-4	Scrapyard area located immediately south of Building 20 used since 1950 for scrap material storage, vehicle dismantling, and vehicle equipment storage. Past investigations of this area have indicated impacts to underlying soil and groundwater resulting from releases from associated operations.	Process waste oils, cooling/cutting oils, and transmission and hydraulic oils.	•Installed 1 soil boring (1) •Installed 1 monitoring well (5) •Sampled 5 existing monitoring wells (10) •Reinstalled 1 existing monitoring wells (1) •Collected 3 LNAPL samples	No exceedences	--	Benzene (0.0061) Vinyl chloride (0.0023)	IDW(0.0050) IDW(0.0020)
Factory 05 Area							
05-1	Basement area located along the southeast portion of Building 43, involving a metal machining chip processing operation and several process wastewater system sumps and tanks. Free-floating product is located immediately adjacent to this basement area.	Cooling/cutting oils, and other process waste oils.	•Installed 7 soil borings (15) •Installed 3 monitoring wells (2) •Sampled 4 existing monitoring wells (6) •Collected 3 LNAPL samples	Lead (3,100) Manganese (2,400)	IDC(900) IPSIC(1,500)	No exceedences	--
05-2	Central east portion of Building 43, involving a "Filtration Room," an "Oil Room," a below-grade vault, and an elevator pit. Over 2 feet of oil material has been noted on occasion within the below-grade vault in this area. The source of this material is unknown; however, it may be associated with the adjacent Oil Room and/or Filtration Room.	Process waste oils.	•Installed 2 soil borings (5) •Installed 2 monitoring wells (5) •Sampled 2 existing monitoring well (4)	No exceedences	--	Trichloroethene (0.095) Vinyl chloride (0.019) Beryllium (0.0056) Nickel (0.21)	IDW(0.0050) IDW(0.0020) IDW(0.0040) IDW(0.10)

See Notes on Page 13.

TABLE 5-1
SUMMARY OF RFI ACTIVITIES AND RESULTS

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI ID	AOI Description	Summary of Primary Materials Managed	RFI Activities (number of samples collected)	Analytical Results Exceeding Part 201 Screening Criteria			
				Soil		Groundwater	
				Constituent (maximum concentration detected, mg/kg)	Screening Criteria (mg/kg)	Constituent (maximum concentration detected, mg/L)	Screening Criteria (mg/L)
05-3	Basement area of Building 43 beneath transmission component heat treating operations, containing a relatively large process waste oil sump, various other smaller sumps and drains, and intermittent pooling of oil on floor surfaces. Several former and existing ASTs and USTs are/were located along the east side of the building adjacent to the basement area. These ASTs and USTs ranged in size from 275 to 12,000 gallons, and contained quench oils, hydraulic oils, lubricating oils, gasoline, and diesel fuel.	Process waste oils.	•Installed 4 soil borings (11) •Installed 4 monitoring wells (8) •Reinstalled 1 existing monitoring well (2) •Sampled 1 existing monitoring well (1)	No exceedences	--	Trichloroethene (0.029) Arsenic (0.084)	IDW(0.0050) IDW(0.050)
05-4	"Cold Former Room," involving various metal forming operations utilizing various process oils and other fluids and recirculation trenches and sumps.	Process waste oils.	•Installed 1 soil boring (3) •Installed 1 monitoring well (1) •Sampled 1 existing monitoring well (1)	No exceedences	--	No exceedences	--
05-5	Northern portion of Building 43, involving various active process machinery, collection trenches, and sumps (both "wet" and "dry" operations). Due to the nature of the operations (i.e., full production), it is difficult to visually assess whether releases have occurred.	Cooling/cutting oils, process waste oils, and solvents.	•Installed 5 soil borings (13) •Installed 5 monitoring wells (7) •Installed 1 piezometer (0) •Reinstalled 1 piezometer (1) •Sampled 1 existing monitoring well (1) •Collected 4 LNAPL samples	No exceedences	--	Arsenic (0.070) Nickel (0.22)	IDW(0.050) IDW(0.10)
05-6	Southern portion of Building 43, involving various active process machinery, collection trenches, and sumps (both "wet" and "dry" operations). Due to the nature of the operations (i.e., full production), it is difficult to visually assess whether releases have occurred. This AOI also includes the area south of Building 43 in the vicinity of Building 99.	Cooling/cutting oils, process waste oils, and solvents.	•Installed 12 soil borings (21) •Installed 4 monitoring wells (11) •Installed 1 piezometer (0) •Reinstalled 1 monitoring well (2) •Sampled 4 existing monitoring wells (8)	Lead (3,500)	IDC(900)	cis-1,2-Dichloroethene (0.081) Trichloroethene (0.26) Vinyl chloride (0.019) Manganese (3.1)	IDW(0.070) IDW(0.0050) IDW(0.0020) IDW(2.5)
Factory 03 Area							
03-1	Overall area of the Factory 03 building complex, including various quenching and cooling oil systems utilized for various metal forging, quenching, and cooling operations, as well as various ancillary process waste sumps, process trenches, elevator pits, and process material storage areas. Past investigations of this area have indicated impacts to underlying soil and groundwater resulting from releases from associated operations.	Hydraulic oils, quench oils, and process waste oils.	•Installed 15 soil borings (21) •Installed 5 monitoring wells (7) •Reinstalled 2 existing monitoring wells (1) •Sampled 7 existing monitoring wells (12) •Collected 1 LNAPL sample	Benzo(a)pyrene (15) Manganese (4,700)	IDC(8.0) IPSIC(1,500)	Trichloroethene (0.064) Vinyl chloride (0.0091) Arsenic (0.090) Beryllium (0.043) Selenium (0.19)	IDW(0.0050) IDW(0.0020) IDW(0.050) IDW(0.0040) IDW(0.050)

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TABLE 5-1
SUMMARY OF RFI ACTIVITIES AND RESULTS

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GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI ID	AOI Description	Summary of Primary Materials Managed	RFI Activities (number of samples collected)	Analytical Results Exceeding Part 201 Screening Criteria			
				Soil		Groundwater	
				Constituent (maximum concentration detected, mg/kg)	Screening Criteria (mg/kg)	Constituent (maximum concentration detected, mg/L)	Screening Criteria (mg/L)
Factory 81 Area							
81-1	Basement area beneath the southern and central portions of Building 71B, involving former foundry operations and three metal machining chip/cooling and cutting oil filtration/processing operations, as well as an inactive hydraulic elevator, several process waste oil sumps and tanks, a drum storage area, and an inactive hazardous waste storage area. Oils intermittently pool throughout the basement area.	Hydraulic oils, cooling/cutting oils, and process waste oils.	•Installed 11 soil borings (12) •Installed 2 monitoring wells (6) •Installed 2 temporary wells (2)	Lead (69,000)	IDC(900) IPSIC(44,000)	Vinyl chloride (0.012) Arsenic (0.091) Lead (0.010)	IDW(0.0020) IDW(0.050) IDW(0.0040)
81-2	Area of active metal welding and machining and torque converter assembly operations performed in Buildings 70, 70B, 71, 72, 73, 73A, 73B, and 74 (both "wet" and "dry" operations), as well as area of former foundry operations performed in northern portion of Building 70 and areas of former "pig iron" and scrap steel storage immediately east of Buildings 70 and 73, respectively. Free-floating product is located immediately adjacent to Building 73.	Hydraulic oils, cooling/cutting oils, process waste oils, and oil-impregnated foundry sand.	•Installed 22 soil borings (33) •Installed 7 monitoring wells (8) •Installed 2 temporary wells (2) •Sampled 4 existing monitoring wells (11) •Reinstalled 1 existing monitoring wells (1) •Collected 2 LNAPL samples	1,1,1-Trichloroethane (47,000)	IDC(460) ISVIA(460)	Lead (0.055) Manganese (3.2)	IDW(0.0040) IDW(2,0.0500)
				1,1-Dichloroethane (7,000)	IDC(890) ISVIA(430) IISVSIC(2,500)		
				1,1-Dichloroethene (10)	ISVIA(0.33) IISVSIC(3.7)		
				Trichlorotrifluoroethane (64,000)	IDC(550) ISVIA(550)		
				Arsenic (56)	IDC(37)		
				Lead (3,100)	IDC(900)		
				Manganese (1,800)	IPSIC(1,500)		
81-2	Area of active metal welding and machining	Hydraulic oils,	•Installed 22 soil borings (33) •Installed 7 monitoring wells (8) •Installed 2 temporary wells (2) •Sampled 4 existing monitoring wells (11) •Reinstalled 1 existing monitoring wells (1) •Collected 2 LNAPL samples	1,1,1-Trichloroethane (47,000)	IDC(460) ISVIA(460)	Lead (0.055) Manganese (3.2)	IDW(0.0040) IDW(2,0.0500)
				1,1-Dichloroethane (7,000)	IDC(890) ISVIA(430) IISVSIC(2,500)		
				1,1-Dichloroethene (10)	ISVIA(0.33) IISVSIC(3.7)		
				Trichlorotrifluoroethane (64,000)	IDC(550) ISVIA(550)		
				Arsenic (56)	IDC(37)		
				Lead (3,100)	IDC(900)		
				Manganese (1,800)	IPSIC(1,500)		
81-3	Basement area of Building 70, involving former foundry operations, as well as an elevator pit along the west side of Building 70A, areas of "wet" metal machining operations in eastern portion of Building 73, and a forklift battery charging area in the northwest portion of Building 69. Floor staining noted within basement area; the integrity of basement floor is unknown.	Hydraulic oils, cooling/cutting oils , process waste oils, and acids.	•Installed 7 soil borings (18) •Installed 5 monitoring wells (13) •Installed 1 temporary well (1) •Reinstalled 1 monitoring well (2) •Sampled 1 existing monitoring well (4)	No exceedences	--	cis -1,2 Dichlorethene (0.162) Trichloroethene (0.032) Vinyl chloride (0.065) Barium (2.5) Cadmium (0.0098) Lead (0.047) Manganese (3.3) Nickel (0.24) Zinc (6.0)	IDW (0.07) IDW(0.0050) IDW(0.0020) IDW(2.0) IDW(0.0050) IDW(0.0040) IDW(2.5) IDW(0.10) IDW(5.0)

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NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI ID	AOI Description	Summary of Primary Materials Managed	RFI Activities (number of samples collected)	Analytical Results Exceeding Part 201 Screening Criteria			
				Soil		Groundwater	
				Constituent (maximum concentration detected, mg/kg)	Screening Criteria (mg/kg)	Constituent (maximum concentration detected, mg/L)	Screening Criteria (mg/L)
81-4	Basement areas of Buildings 69A and 69B, involving facility air compressor operations. Past operations within this basement involved the draining of oils from compressors onto the floor; the integrity of basement floor is unknown.	Compressor oils.	•Installed 1 soil boring (4) •Installed 1 monitoring well (4)	No exceedences	--	Tetrachloroethene (0.011)	IDW(0.0050)
81-5	A containment area for several existing and former ASTs. The ASTs range(d) in size from 2,500 to 20,000 gallons, and contain(ed) diesel fuel and automatic transmission fluid. The concrete secondary containment area associated with these tanks contain standing transmission fluid, and the integrity of this containment is unknown.	Automatic transmission fluids, fuel oils.	•Installed 1 soil boring (3) •Installed 1 temporary well (1)	No exceedences	--	No exceedences	--
Buildings 21 and 97 Area							
21-1	Overall area of Building 21 and area immediately to the southeast of Building 21, involving former metal machining chip briquetting operations and current metal welding and tool grinding operations and heat treatment laboratories. The former briquetting operations purportedly involved the release of oils to soil surfaces in this area.	Cooling/cutting oils.	•Installed 4 soil borings (9) •Installed 1 monitoring well (4) •Installed 3 temporary wells (3)	No exceedences	--	Trichloroethene (0.012) Vinyl chloride (0.0032) Pentachlorophenol (0.0021) Manganese (9.2)	IDW(0.0050) IDW(0.0020) IDW(0.0010) IDW(0.0500)
Building 65 Area							
65-1	Overall area of Building 65, involving a main process waste pump station (Waste Station #5) for the Site's process wastewater treatment system. Oil has been historically observed on the floor of the basement at various locations.	Process waste oils.	•Installed 1 soil boring (2) •Installed 1 monitoring well (3)	No exceedences	--	Trichloroethene (0.046)	IDW(0.0050)
Factory 83/84 Area							
83/84-1	Areas of various former and existing machining operations in Buildings 11, 32 (including two basements), and 66A/66D (both "wet" and "dry" operations). A prior release within Building 32 has been documented.	Hydraulic oils, process waste oils.	•Installed 3 soil borings (6) •Installed 2 monitoring wells (4)	No exceedences	--	No exceedences	--
83/84-2	Areas of various former and existing machining operations in Buildings 11, 32 (including two basements), and 66A/66D (both "wet" and "dry" operations). A prior release within Building 32 has been documented.	Hydraulic oils, process waste oils.	•Installed 24 soil borings (53) •Installed 6 monitoring wells (8) •Collected 4 LNAPL samples	Benzo(a)anthracene (81) Benzo(a)pyrene (66) Dibenz(a,h)anthracene(17) Arsenic (47) Chromium (2,400) Lead (6,500) Manganese (3,500)	IDC(80) IDC(10) IDC(8.0) IDC(37) IPSIC(240) IDC(900) IPSIC(1,500)	cis-1,2-Dichloroethene (0.075) Vinyl chloride (0.069) Arsenic (0.10) Beryllium (0.023)	IDW(0.070) IDW(0.0020) IDW(0.050) IDW(0.0040)

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NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI ID	AOI Description	Summary of Primary Materials Managed	RFI Activities (number of samples collected)	Analytical Results Exceeding Part 201 Screening Criteria			
				Soil		Groundwater	
				Constituent (maximum concentration detected, mg/kg)	Screening Criteria (mg/kg)	Constituent (maximum concentration detected, mg/L)	Screening Criteria (mg/L)
83/84-3	Areas of various former and existing machining operations in Buildings 11, 32 (including two basements), and 66A/66D (both "wet" and "dry" operations). A prior release within Building 32 has been documented.	Hydraulic oils, process waste oils.	•Installed 13 soil borings (16) •Installed 1 monitoring well (3) •Installed 1 temporary well (1) •Sampled 1 existing monitoring well (1)	Lead (42,000)	IDC(900)	Beryllium (0.011) Lead (0.020)	IDW(0.0040) IDW(0.0040)
83/84-4	Former "wet" metal machining operation in central portion of Building 66, including three process oil collection/recirculation sumps, and an inactive rail loading area and associated floor sumps along the north side of Building 66C. The floor of the loading area is saturated with oil, and the associated floor sumps still contain oil (integrity unknown).	Process waste oils.	•Installed 11 soil borings (22) •Installed 1 temporary well (1) •Installed 8 monitoring wells (3) •Collected 4 LNAPL samples	No exceedences	--	Arsenic (0.11) Beryllium (0.14) Lead (0.0081)	IDW(0.050) IDW (0.004) IDW(0.0040)
83/84-5	Various inactive or former process trenches and pits and an inactive heat treating tunnel, all in Building 66. Many of these units still contain various oils and/or other process fluids, and the integrity of these units is unknown.	Process waste oils.	•Installed 1 soil boring (2) •Installed 1 temporary well (1) •Sampled 1 existing monitoring well (1)	No exceedences	--	No exceedences	--
83/84-6	Forklift battery charging area and associated trench and pit in central portion of Building 83A (contain oil) and drum storage area in the southern portion of Building 83 used for metal-working fluids and corrosion inhibitors (floor staining).	Cooling/cutting oils, process waste oils, and battery acid.	•Installed 1 soil boring (3)	Benzo(a)pyrene (8.3)	IDC(8.0)	No samples collected	--
83/84-7	An area of several former USTs ranging in size from 3,000 to 12,000 gallons that contained gasoline, various cooling/cutting oils, quench oils, and lubricating oils. A prior release(s) from these tanks has been documented.	Gasoline, lubricants, quench oil, thinners.	•Installed 1 soil boring (2) •Installed 1 monitoring well (4) •Sampled 4 existing monitoring wells (9)	No exceedences	--	Benzene (0.16) cis-1,2-Dichloroethene (0.088) Toluene (2.3) Trichloroethene (0.035) Vinyl chloride (0.15)	IDW(0.0050) IDW(0.070) IDW(1.0) IDW(0.0050) IDW(0.0020)
Buildings 15, 61, 61A, and 85 Area							
85-1	Elevator pit along the north-central side of Building 85, trenches related to engine test area in the eastern portion of Building 85, and a basement/vault area toward the center of Building 85. The integrity of these units is unknown.	Hydraulic and process waste oils.	•Installed 7 soil borings (20) •Installed 7 monitoring wells (9) •Installed 1 temporary well (1) •Reinstalled 2 monitoring wells (4) •Collected 1 LNAPL sample	No exceedences	--	Tetrachloroethene (0.022) Trichloroethene (0.093) Beryllium (0.0070) Selenium (0.080) Vanadium (0.13)	IDW(0.0050) IDW(0.0050) IDW(0.0040) IDW(0.050) IDW(0.062)

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AOI ID	AOI Description	Summary of Primary Materials Managed	RFI Activities (number of samples collected)	Analytical Results Exceeding Part 201 Screening Criteria			
				Soil		Groundwater	
				Constituent (maximum concentration detected, mg/kg)	Screening Criteria (mg/kg)	Constituent (maximum concentration detected, mg/L)	Screening Criteria (mg/L)
Buildings 86 and 86A Area							
86-1	Overall area of Building 86 and areas immediately southeast and west of Building 86, collectively involving a hazardous waste drum storage area, a process waste oil pump station (integrity unknown), a waste transport vehicle storage area (pavement staining; integrity unknown), a former 6,000-gallon UST containing gasoline, and a former UST farm which contained tanks ranging in size from 2,000 gallons to 12,000 gallons. The former USTs contained diesel fuel, mineral seal, and various cooling/cutting, and lubricating oils.	Gasoline and process waste and other oils.	•Installed 18 soil borings (36) •Installed 11 monitoring wells (19) •Installed 2 temporary wells (2) •Reinstalled 2 monitoring wells (11) •Sampled 5 existing monitoring wells (11) •Collected 3 LNAPL samples	Arsenic (190) Manganese (3,200)	IDC(37) IPSIC(1,500)	1,1-Dichloroethene (0.027) 1,2-Dichloroethane (0.0054) Benzene (0.0079) Chloroethane (14) cis-1,2-Dichloroethene (0.45) Methylene chloride (0.0093) Tetrachloroethene (0.041) Trichloroethene (2.0) Vinyl chloride (0.43) Beryllium (0.0098) Lead (0.010) Manganese (2.8)	IDW(0.0070) IDW(0.0050) IDW(0.0050) IDW(1.7) IDW(0.070) IDW(0.0050) IDW(0.0050) IDW(0.0050) IDW(0.0020) IDW(0.0040) IDW(0.0040) IDW(2.5)
Building 07 Area							
07-1	Former coal yard immediately north of Building 07 (unlined) and several other process facilities (e.g., waste sludge dump station and waste sludge storage tanks) along north side of Building 07 (integrity unknown).	Process waste oils and coal yard residuals.	•Installed 8 soil borings (14) •Installed 2 monitoring wells (1) •Installed 2 temporary wells (2) •Reinstalled 1 monitoring well (1) •Sampled 1 existing monitoring well (3)	No exceedences	--	Vinyl chloride (0.0033)	IDW(0.0020)
07-2	Inactive lime "Slaker House" and adjacent inactive lime slurry tank adjacent to the southwest corner of Building 07 (integrity unknown).	Caustics.	•Installed 1 soil boring (3)	No exceedences	--	No sample collected	--
07-3	Two elevator pits in the northcentral and southcentral portions of Building 07 and bulk sulfuric acid storage area in the southeast corner of Building 07 (integrity unknown).	Hydraulic oils and caustics.	•Installed 3 soil borings (8) •Installed 1 monitoring well (3) •Installed 1 temporary well (2) •Sampled 1 existing monitoring well (1)	No exceedences	--	Beryllium (0.016)	IDW(0.0040)
Buildings 03, 17, 28, 84, and 94 Area							
94-A	Building 94 (southeast) sumps and trenches	Process waste oils	•Installed 2 soil borings (4) •Installed 1 temporary well (1) •Installed 1 monitoring well (2)	No exceedences	--	di-n-Butylphthalate (0.013) Cyanide (0.0053)	GSI(0.0097) GSI(0.0052)
94-B	Building 94 (northeast) sump and trench	Process waste oils and battery acids	•Installed 5 soil borings (9) •Installed 5 monitoring wells (6) •Reinstalled 1 monitoring well (4)	No exceedences	--	1,1-Dichloroethene (0.0075) Trichloroethene (0.95)	IDW(0.0070) IDW(0.0050) GSI(0.20)
94-C	Building 94 (central) sumps, trenches, lifts	Hydraulic oils and process waste oils	•Installed 2 soil borings (4) •Installed 2 temporary wells (2)	No exceedences	--	Arsenic (0.052)	IDW(0.050)
94-D	Building 94A elevator pit	Hydraulic oils	•Installed 1 soil boring (4) •Installed 1 monitoring well (1)	No exceedences	--	No exceedences	--
94-E	Building 03 car loading area	Hydraulic oils	•Installed 1 soil boring (2) •Installed 1 temporary well (1)	No exceedences	--	No exceedences	--

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AOI ID	AOI Description	Summary of Primary Materials Managed	RFI Activities (number of samples collected)	Analytical Results Exceeding Part 201 Screening Criteria			
				Soil		Groundwater	
				Constituent (maximum concentration detected, mg/kg)	Screening Criteria (mg/kg)	Constituent (maximum concentration detected, mg/L)	Screening Criteria (mg/L)
84-A	Building 84 (south) pits, sumps, and lifts	Hydraulic oils, process waste	•Installed 3 soil borings (7) •Installed 1 monitoring well (0) •Installed 2 temporary wells (2) •Reinstalled 1 monitoring well (4)	No exceedences	--	Cyanide (0.071) Silver (0.00024)	GSI(0.020) GSI(0.00020)
84-B	Building 84 (central) pits, sumps, basement	Hydraulic oils and process waste oils	•Installed 1 soil boring (3) •Installed 1 temporary well (2)	No exceedences	--	No exceedences	--
84-C	Building 84 (north) pits, sumps, trenches	Process waste oils, waste	•Installed 1 soil boring (3) •Installed 1 temporary well (1)	No exceedences	--	No exceedences	--
84-D	Former Building 84 Tank Farm	New and waste product gasoline,	•Installed 21 soil boring (23) •Installed 20 monitoring well (26) •Reinstalled 1 monitoring well (2) •Sampled 2 existing monitoring wells (3)	No exceedences	--	Benzene (1.44) 1,1 Dichloerthene (0.008) cis 1,2-Dichloethene (0.332) Trichoroethene (0.258) Vinyl chloride (0.124) Beryllium (0.26) Chromium (0.45) Nickel (0.91)	IDW(0.005) IDW(0.007) IDW(0.07) IDW(0.005) IDW(0.0020) IDW(0.004) IDW(0.10) IDW(0.10)
17-A	Building 17 elevator pit	Hydraulic oils	•Installed 2 soil borings (4) •Installed 1 monitoring well (5) •Installed 1 temporary well (1)	No exceedences	--	Antimony (0.0043) Selenium (0.011) Silver (0.00045)	GSI(0.0050) GSI(0.0050) GSI(0.00020)
Buildings 02, 12, 23, and 29 Area							
02-A	Building 02 sump	Process waste oils	•Installed 1 soil boring (2) •Installed 1 temporary well (1)	No exceedences	--	No exceedences	--
02-B	Building 02 elevator pit	Hydraulic oils	•Installed 2 soil borings (19) •Installed 1 temporary well (1) •Installed 11 monitoring well (9)	No exceedences	--	Acetone (47) Manganese (3.0)	IDW(2.1) IDW(2.5)
02-C	Building 02 sump	Laboratory chemicals	•Installed 4 soil borings (6) •Installed 1 temporary well (2)	Lead (2,000) Chromium (390)	IDC(900) IPSIC(270)	No exceedences	--
02-D	Building 02 machine pit	Hydraulic oils	•Installed 1 soil boring (3) •Installed 1 temporary well (1)	No exceedences	--	No exceedences	--
02-E	Former Tank 66	Gasoline	•Installed 1 soil boring (2) •Installed 1 monitoring well (2)	No exceedences	--	No exceedences	--
02-F	Building 02 hydraulic oil AST	Hydraulic oils	•Installed 3 soil borings (8) •Installed 2 monitoring wells (5)	No exceedences	--	Manganese (3.7)	IDW(2.5)
23-A	Building 23 basement process waste station	Process waste oils	•Installed 2 soil borings (3) •Installed 2 monitoring wells (2) •Reinstalled 2 monitoring wells (4) •Collected 1 grab water sample from the basement area •Collected 1 LNAPL sample from the basement area	No exceedences	--	No exceedences	--
29-A	Elevator pit, floor staining	Hydraulic oils and cooling/cutting oils	•Installed 3 soil borings (4) •Installed 1 temporary well (1)	Lead (1,500)	IDC(900)	No exceedences	--

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				Soil		Groundwater	
				Constituent (maximum concentration detected, mg/kg)	Screening Criteria (mg/kg)	Constituent (maximum concentration detected, mg/L)	Screening Criteria (mg/L)
12-A	Building 12 basement	Process waste oils and hydraulic oils	•Installed 24 soil borings (57) •Installed 6 temporary wells (5) •Installed 15 monitoring wells (11) •Reinstalled 4 monitoring wells (0) •Sampled 1 existing monitoring well (1) •Collected 1 LNAPL sample •Collected 1 grab water sample from the basement area	Chromium (360) Lead (11,000) Manganese (2,200)	IPSIC(260) IDC(900) IPSIC(1,500)	Tetrachloroethene (0.0057) Vinyl chloride (0.040) Arsenic (0.06) Beryllium (0.27) Cadmium (0.067) Chromium (0.12) Lead (0.059) Thallium (0.0036) Vanadium (0.14)	IDW(0.0050) IDW(0.0020) IDW(0.050) IDW(0.004) IDW(0.005) IDW(0.12) IDW(0.002) IDW(0.002) IDW(0.062)
12-B	Building 12 truck well sump	Process waste oils and grease	•Installed 6 soil borings (10) •Installed 1 temporary well (1) •Installed 6 monitoring wells (2) •Collected 3 LNAPL samples	Manganese (1,900)	IPSIC(1,500)	No exceedences	--
12-C	Building 12 fork truck charging area	Process waste oils and battery acids	•Installed 1 soil boring (2) •Installed 1 temporary well (1)	No exceedences	--	Vanadium (0.076)	IDW(0.062)
12-D	Building 12 abandoned utility tunnel	Process waste oils	•Installed 1 soil boring (2) •Installed 1 temporary well (1)	No exceedences	--	No exceedences	--
Buildings 04, 08, 16, 40, and 44 Area							
04-A	Process waste room	Process waste oils and other fluids	•Installed 1 soil boring (2) •Installed 1 temporary well (1)	No exceedences	--	cis-1,2-Dichloroethene (0.13) Trichloroethene (0.059)	IDW(0.070) IDW(0.0050)
04-B	Elevator pits	Hydraulic oils	•Installed 2 soil borings (5) •Installed 2 temporary wells (2)	No exceedences	--	No exceedences	--
04-C	Elevator pit	Hydraulic oils	•Installed 1 soil boring (3) •Installed 1 temporary well (1)	No exceedences	--	No exceedences	--
04-D	Waste thinner tanks	Solvents and thinners	•Sampled 5 existing monitoring wells (7)	No samples collected	--	No exceedences	--
16-A	Fluid filling station	Gasoline, transmission fluid, and other oils	•Installed 1 soil boring (3) •Installed 1 monitoring well (2)	No exceedences	--	No exceedences	--
16-B	Elevator pit	Hydraulic oils	•Installed 1 soil boring (3) •Installed 1 temporary well (1)	No exceedences	--	No exceedences	--
16-C	Former USTs	Fuel, hydraulic, and transmission oils	•Installed 22 soil borings (26) •Installed 10 monitoring wells (16) •Installed 2 temporary wells (2) •Collected 4 LNAPL samples	No exceedences	--	Benzene (0.21) Beryllium (0.044) Selenium (0.18)	IDW(0.0050) IDW(0.0040) IDW(0.050)
16-D	UST and sump	Gasoline, process waste oils	•Installed 1 soil boring (2) •Installed 1 temporary well (1)	No exceedences	--	No exceedences	--
40-A	USTs 67 through 74	Gasoline	•Installed 12 soil borings (37) •Installed 6 monitoring wells (9) •Reinstalled 3 existing monitoring wells (6) •Installed 1 temporary well (1) •Sampled 3 existing monitoring wells (8)	Benzo(a)pyrene (36)	IDC(8.0)	Benzene (5.5) Ethylbenzene (0.80) Arsenic (0.44) Beryllium (0.19) Cyanide (0.44) Lead (0.0064)	IDW(0.0050) IDW(0.70) IDW(0.050) IDW(0.0040) IDW(0.20) IDW(0.0040)

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				Soil		Groundwater	
				Constituent (maximum concentration detected, mg/kg)	Screening Criteria (mg/kg)	Constituent (maximum concentration detected, mg/L)	Screening Criteria (mg/L)
40-B	Elevator pit	Hydraulic oils	•Installed 2 soil borings (4) •Installed 2 monitoring wells (2) •Reinstalled 1 monitoring well (1)	No exceedences	--	cis-1,2-Dichloroethene (0.093) Trichloroethene (0.10) Vinyl chloride (0.0078)	IDW(0.0070) IDW(0.0050) IDW(0.0020)
40-C	Elevator pit	Hydraulic oils	•Installed 2 soil borings (4) •Installed 2 monitoring wells (4)	No exceedences	--	Trichloroethene (0.12) Vinyl chloride (0.0030) Beryllium (0.0052)	IDW(0.0050) IDW(0.0020) IDW(0.0040)
40-D	Building 40 tunnel	Process waste and hydraulic oils	•Installed 2 soil borings (6) •Installed 1 monitoring well (2) •Reinstalled 1 existing monitoring well (4) •Sampled 5 existing monitoring wells (10) •Collected 1 grab water sample from basement/tunnel area	No exceedences	--	Vinyl chloride (0.0058) Lead (0.0092)	IDW(0.0020) IDW(0.0040)
44-A	Building 44	Acids, caustics, hydraulic oils, paints and thinners, solvents, and process waste oils	•Installed 10 soil borings (19) •Installed 3 monitoring wells (7) •Installed 3 temporary wells (3) •Reinstalled 1 monitoring well (1) •Sampled 3 existing monitoring wells (5)	Manganese (5,000)	IPSIC(1,500)	Benzo(a)anthracene (0.014)	IDW(0.0085) GCC(0.0094)
						Benzo(a)pyrene (0.015)	IDW(0.0050) GCC(0.0050)
						Benzo(b)fluoranthene (0.016)	IDW(0.0050) GCC(0.0050)
						Benzo(g,h,i)perylene (0.0079)	IDW(0.0050) GCC(0.0050)
						Benzo(k)fluoranthene (0.014)	IDW(0.0050) GCC(0.0050)
						Chrysene (0.016)	IDW(0.0050) GCC(0.0050)
						Indeno(1,2,3-cd)pyrene (0.0079)	IDW(0.0050) GCC(0.0050)
						Total PCBs (0.0011) Antimony (0.042) Chromium (0.38) Lead (0.075) Nickel (0.51) Selenium (0.052)	IDW(0.00050) IDW(0.0060) IDW(0.10) IDW(0.0040) IDW(0.10) IDW(0.050)
Building 09 Area							
09-A	Building 09 area	Waste oils and other run-off materials from vehicle and equipment maintenance; fuel oils	•Installed 29 soil borings (55) •Installed 8 monitoring wells (11) •Installed 2 temporary wells (2) •Reinstalled 2 monitoring wells (7) •Sampled 3 existing monitoring wells (9) •Collected 1 LNAPL sample	Benzo(a)pyrene (57) Dibenzo(a,h)anthracene (11) Lead (120,000) Manganese (8,300)	IDC(10) IDC(10) IDC(900) IPSIC(44,000) IPSIC(1,500)	Trichloroethene (0.184) Vinyl chloride (0.0038) Antimony (0.016) Lead (0.026)	IDW(0.0050) IDW(0.0020) IDW(0.0060) IDW(0.0040)

See Notes on Page 13.

TABLE 5-1
SUMMARY OF RFI ACTIVITIES AND RESULTS

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI ID	AOI Description	Summary of Primary Materials Managed	RFI Activities (number of samples collected)	Analytical Results Exceeding Part 201 Screening Criteria			
				Soil		Groundwater	
				Constituent (maximum concentration detected, mg/kg)	Screening Criteria (mg/kg)	Constituent (maximum concentration detected, mg/L)	Screening Criteria (mg/L)
09-B	Former Building 31/Hamilton Avenue Tank Farm	Gasoline, solvents, and fuel oils	•Installed 26 soil borings (51) •Installed 21 monitoring wells (44) •Installed 1 temporary well (1) •Sampled 6 existing monitoring wells (16) •Collected 2 LNAPL samples	Benzo(a)pyrene (13) Lead (1,200) Manganese (1,800)	IDC(8.0) IDC(900) IPSIC(1,500)	Benzene (1.21) Ethylbenzene (1.0) Methylene chloride (0.0074) Xylenes (total) (1.7) Total PCBs (0.0017) Antimony (0.0068) Arsenic (0.061) Barium (1.5) Lead (0.0058) Selenium (0.052)	IDW(0.0050) IDW(0.70) IDW(0.0050) GSI(0.035) IDW(0.00050) IDW(0.0060) IDW(0.0050) GSI(0.82) IDW(0.0040) IDW(0.050)
Aeration Lagoons Area							
WL	Former Aeration Lagoons Area		•Installed 15 soil borings (57) •Installed 3 temporary wells (4) •Sampled 4 existing monitoring wells (6)	No exceedences	--	No exceedences	--
Building 01 Area							
ACSP	Harriet Street Property Area		•Installed 19 soil borings (68) •Installed 3 temporary wells (4) •Installed 1 monitoring well (1) •Reinstalled 1 monitoring well (1)	No exceedences	--	Benzene (0.044)	IDW(0.0050)
BD01	Building 01 (Administration Building) Area		•Installed 4 soil borings (11) •Installed 1 temporary well (1) •Installed 3 monitoring wells (3) •Reinstalled 1 monitoring well (3)	No exceedences	--	Benzene (0.087)	IDW(0.0050)
Building 94 Employee Parking Lot Area							
EP	Building 94 Employee Parking Lot		•Installed 7 soil borings (18) •Installed 2 temporary wells (2) •Sampled 1 existing monitoring well (1)	No exceedences	--	No exceedences	--
Background Samples							
BG	Surface soil samples collected to determine Site background concentrations of metals		•Installed 10 soil borings (10)	Manganese (2,100)	IPSIC(1,500)	No sample collected	--

See Notes on Page 13.

TABLE 5-1
SUMMARY OF RFI ACTIVITIES, RESULTS, AND INVESTIGATION STATUS

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Notes:

1. mg/kg = milligrams per kilogram.
2. mg/L = milligrams per liter.
3. Michigan Part 201 Screening Criteria (December 2002)
   GCC = Groundwater Contact Criteria.
   GSI = Groundwater/Surface Water Interface Criteria.
   IDC = Industrial Direct Contact Criteria.
   IDW = Industrial Drinking Water Criteria.
   IPSIC = Industrial Particulate Soil Inhalation Criteria.
   IISVSIC = In Infinite Source Volatile Soil Inhalation Criteria.
   ISVIA = Industrial Soil Volatilization to Indoor Air Inhalation Criteria.

TABLE 6-1
CONCEPTUAL SITE MODEL - SCENARIOS FOR POTENTIAL HUMAN EXPOSURE

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Exposure Area	Receptor Population	Exposure Medium	Exposure Route	Scenario Timeframe		Comments
				Current	Future	
Onsite AOIs involving active operations	Routine Workers	surface soil	ingestion and dermal contact	Yes	Yes	Potential exposures are evaluated at areas without pavement and areas where pavement might be removed.
			inhalation of airborne particulates and vapors	Yes	Yes	
		subsurface soil	inhalation of soil vapors	Yes	Yes	Potential exposures via vapor intrusion through cracks in building foundations into indoor air are evaluated.
		groundwater	inhalation of groundwater vapors	Yes	Yes	
		LNAPL (including residual soil)	inhalation of LNAPL and residual soil vapors	Yes	Yes	
	Maintenance Workers	surface and subsurface soil	ingestion and dermal contact	Yes	Yes	Potential exposures for excavation up to 10 ft below surface are evaluated.
			inhalation of airborne particulates and vapors	Yes	Yes	
		groundwater	ingestion, dermal contact, and inhalation of vapors	Yes	Yes	Potential exposures are evaluated for construction and maintenance activities in the flooded basement/tunnel areas (AOI 36-3) in the storm water sewer, and where groundwater is shallow.
		LNAPL (including residual soil)	ingestion (residual soil only), dermal contact, and inhalation of vapors	Yes	Yes	Potential exposures for excavation up to 10 ft below surface are evaluated.
	Trespassers	surface soil	ingestion and dermal contact	Yes	Yes	Potential exposures are evaluated at areas without pavement and areas where pavement might be removed.
			inhalation of airborne particulates and vapors	Yes	Yes	
Onsite AOIs that are demolished and/or are planned for redevelopment.	Maintenance Workers	surface and subsurface soil	ingestion and dermal contact	Yes	Yes	Potential exposures for excavation up to 10 ft below surface are evaluated.
			inhalation of airborne particulates and vapors	Yes	Yes	
		groundwater	ingestion, dermal contact, and inhalation of vapors	Yes	Yes	Potential exposures are evaluated for construction and maintenance activities in the flooded basement/tunnel areas (AOIs 12-A, 23-A, 40-D), in the storm water sewer, and where groundwater is shallow.
		LNAPL (including residual soil)	ingestion (residual soil only), dermal contact, and inhalation of vapors	Yes	Yes	Potential exposures for excavation up to 10 ft below surface are evaluated.
	Trespassers	surface soil	ingestion and dermal contact	Yes	Yes	Potential exposures are evaluated at areas without pavement and areas where pavement might be removed.
			inhalation of airborne particulates and vapors	Yes	Yes	
	Routine Workers (Commercial and/or Industrial)	surface soil	ingestion and dermal contact	No	Yes	Potential exposures are evaluated at areas without pavement and areas where pavement might be removed.
			inhalation of airborne particulates and vapors	No	Yes	
		subsurface soil	inhalation of soil vapors	No	Yes	Potential exposures via vapor intrusion through cracks in building foundations into indoor air are evaluated.
		groundwater	inhalation of groundwater vapors	No	Yes	
		LNAPL (including residual soil)	inhalation of LNAPL and residual soil vapors	No	Yes	

See Note on Page 2.

TABLE 6-1
CONCEPTUAL SITE MODEL - SCENARIOS FOR POTENTIAL HUMAN EXPOSURE

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Exposure Area	Receptor Population	Exposure Medium	Exposure Route	Scenario Timeframe		Comments
				Current	Future	
Onsite AOIs that are demolished and/or are planned for redevelopment (continued).	Redevelopment Construction Workers (Southend Only)	surface and subsurface soil	ingestion and dermal contact	No	Yes	Potential exposures for excavation up to 10 ft below surface are evaluated.
			inhalation of airborne particulates and vapors	No	Yes	
		groundwater	ingestion, dermal contact, and inhalation of vapors	No	Yes	Potential exposures are evaluated for construction and maintenance activities in the flooded basement/tunnel areas (AOIs 12-A, 23-A, 40-D), in the storm water sewer, and where groundwater is shallow.
		LNAPL (including residual soil)	ingestion (residual soil only), dermal contact, and inhalation of vapors	No	Yes	Potential exposures for excavation up to 10 ft below surface are evaluated.
	Recreational users (Southend Only)	surface soil	ingestion and dermal contact	No	Yes	Potential exposures are evaluated at areas without pavement and areas where pavement might be removed for future use as outdoor parks.
			inhalation of airborne particulates and vapors	No	Yes	
	Residents (Possible at Portions of the Southend Only)	surface soil	ingestion and dermal contact	No	Yes	Potential exposures are evaluated at areas that may be developed to residential areas (redevelopment plan to be determined).
			inhalation of airborne particulates and vapors	No	Yes	
		subsurface soil	inhalation of soil vapors	No	Yes	Potential exposures via vapor intrusion through cracks in building foundations into indoor air are evaluated for areas that may be developed to residential areas (redevelopment plan to be determined).
		groundwater	inhalation of groundwater vapors	No	Yes	
		LNAPL (including residual soil)	inhalation of LNAPL and residual soil vapors	No	Yes	
Offsite Areas	Routine Workers	surface and subsurface soil	ingestion and dermal contact	No	No	There is no site-related contamination of offsite soil.
			inhalation of airborne particulates and vapors	Yes	Yes	Potential airborne exposures to constituents in soil at the Site are evaluated.
		groundwater	inhalation of groundwater vapors	No	Yes	Potential exposures via vapor intrusion through cracks in building foundations into indoor air are evaluated. Potential exposure is only possible at areas downgradient of the site.
	Maintenance Workers	groundwater	ingestion, dermal contact, and inhalation of vapors	Yes	Yes	Potential exposures during construction where groundwater is less than 10 ft below surface are evaluated. Potential exposure is only possible at areas downgradient of the site.
	Recreational users	surface water	ingestion, dermal contact, and inhalation of vapors	Yes	Yes	Potential exposures during occasional recreation at Flint River are evaluated.
		fish	ingestion	Yes	Yes	
	Residents	surface and subsurface soil	ingestion and dermal contact	No	No	There is no site-related contamination of offsite soil.
			inhalation of airborne particulates and vapors	Yes	Yes	Potential airborne exposures to constituents in soil at the Site are evaluated.
		groundwater	inhalation of groundwater vapors	No	Yes	Potential exposures via vapor intrusion through cracks in future building foundations into indoor air are evaluated. Potential exposure is only possible at areas downgradient of the site that may be developed for residential use.

Note:
All worker activities in onsite areas are currently governed by OSHA regulations.

TABLE 6-2
BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR ROUTINE WORKER AND MAINTENANCE WORKER EXPOSURE TO SOIL

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Area	AOI	Parcel	Routine Worker Soil Contact Risk	Routine Worker Soil Contact HI	Maintenance Worker Soil Contact Risk	Maintenance Worker Soil Contact HI
GM-North	03-1	--	7E-05	2E-01	2E-06	2E-01
GM-North	05-1	--	1E-05	4E-01	4E-07	1E-01
GM-North	05-2	--	1E-06	3E-04	2E-08	8E-06
GM-North	05-3	--	2E-06	2E-02	7E-08	6E-03
GM-North	05-4	--	8E-07	6E-03	2E-08	3E-04
GM-North	05-5	--	5E-07	3E-02	5E-08	3E-02
GM-North	05-6	--	9E-06	4E-02	2E-07	3E-03
GM-North	07-1	--	2E-05	5E-02	5E-07	2E-02
GM-North	07-2	--	2E-07	6E-05	3E-09	5E-06
GM-North	07-3	--	8E-06	6E-02	2E-07	1E-02
GM-North	10-1	--	2E-05	3E-01	3E-06	1E-01
GM-North	10-2	--	5E-05	4E-01	1E-06	7E-02
GM-North	10-3	--	1E-05	1E-01	5E-07	9E-02
GM-North	10-4	--	NA	NA	NA	NA
GM-North	21-1	--	7E-06	6E-02	2E-07	4E-02
GM-North	36-1	--	**4E-04**	**1E+01**	5E-06	6E-01
GM-North	36-2	--	1E-06	9E-02	1E-06	4E-02
GM-North	36-3	--	3E-06	3E-01	3E-08	7E-03
GM-North	36-4	--	8E-08	7E-03	1E-07	1E-03
GM-North	36-5	--	1E-05	2E-02	4E-07	1E-02
GM-North	38-1	--	3E-06	1E-02	6E-08	6E-03
GM-North	55-1	--	1E-05	1E-01	3E-07	5E-02
GM-North	65-1	--	2E-07	5E-05	4E-09	1E-06
GM-North	81-1	--	2E-05	2E-01	1E-06	6E-02
GM-North	81-2	--	5E-05	**2E+01**	2E-06	6E-01
GM-North	81-3	--	3E-05	1E-01	5E-07	3E-02
GM-North	81-4	--	7E-06	8E-04	1E-07	3E-05
GM-North	81-5	--	3E-06	3E-02	5E-08	2E-02
GM-North	83/84-1	--	2E-06	2E-02	2E-08	9E-04
GM-North	83/84-2	--	**4E-04**	9E-01	1E-05	3E-01
GM-North	83/84-3	--	2E-05	8E-02	3E-07	3E-03
GM-North	83/84-4	--	4E-05	2E-01	1E-06	4E-02
GM-North	83/84-5	--	3E-06	1E-03	6E-08	5E-05
GM-North	83/84-6	--	4E-05	4E-03	7E-07	1E-03
GM-North	83/84-7	--	5E-07	6E-03	8E-09	3E-04
GM-North	85-1	--	3E-06	6E-02	4E-08	3E-03
GM-North	86-1	--	9E-05	8E-01	2E-06	2E-01
GM-North	Former Aeration Lagoons	--	6E-06	1E-01	2E-07	4E-02
GM-South	02-A	1	2E-07	1E-02	8E-09	1E-03
GM-South	02-B	1	5E-06	5E-02	1E-07	2E-02
GM-South	02-C	1	8E-07	6E-02	1E-06	1E-02
GM-South	02-D	1	3E-05	5E-03	4E-07	2E-04
GM-South	02-E	1	2E-06	1E-02	4E-08	1E-03
GM-South	02-F	1	4E-07	1E-02	6E-08	1E-02
GM-South	04-A	1	7E-06	3E-03	1E-07	2E-04
GM-South	04-B	1	3E-06	7E-03	5E-08	8E-03
GM-South	04-C	1	4E-07	1E-02	6E-09	4E-04
GM-South	09-A	3	**3E-04**	8E-01	5E-06	4E-01
GM-South	09-B	3	8E-05	9E-01	2E-06	1E-01
GM-South	12-A	1	2E-05	6E-01	2E-06	1E-01
GM-South	12-B	1	1E-06	6E-02	2E-07	6E-02
GM-South	12-C	1	4E-08	1E-03	4E-10	3E-05
GM-South	12-D	1	1E-06	7E-03	3E-08	1E-02
GM-South	16-A	1	3E-06	2E-02	1E-07	5E-03
GM-South	16-B	1	3E-08	4E-03	5E-09	8E-04
GM-South	16-C	1	3E-05	2E-01	7E-07	4E-02
GM-South	16-D	1	3E-08	6E-03	2E-09	5E-03
GM-South	17-A	2	4E-06	6E-02	9E-08	3E-03

See Notes on Page 2.

TABLE 6-2
BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR ROUTINE WORKER AND MAINTENANCE WORKER EXPOSURE TO SOIL

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Area	AOI	Parcel	Routine Worker Soil Contact Risk	Routine Worker Soil Contact HI	Maintenance Worker Soil Contact Risk	Maintenance Worker Soil Contact HI
GM-South	23-A	1	2E-06	4E-03	3E-08	7E-04
GM-South	29-A	1	1E-06	5E-02	7E-07	1E-02
GM-South	40-A	1	**2E-04**	2E-01	3E-06	2E-02
GM-South	40-B	1	4E-06	1E-02	7E-08	8E-04
GM-South	40-C	1	1E-06	2E-02	3E-08	3E-02
GM-South	40-D	1	2E-06	2E-02	3E-08	1E-03
GM-South	44-A	1	7E-06	1E-01	8E-07	2E-01
GM-South	84-A	2	7E-06	4E-02	2E-07	3E-03
GM-South	84-B	2	1E-06	7E-03	4E-08	7E-04
GM-South	84-C	2	5E-06	3E-02	1E-07	2E-03
GM-South	84-D	2	3E-06	2E-02	1E-07	1E-02
GM-South	94-A	2	3E-06	3E-02	8E-08	4E-02
GM-South	94-B	2	1E-06	2E-03	2E-08	2E-04
GM-South	94-C	2	9E-07	1E-02	6E-08	1E-02
GM-South	94-D	2	4E-07	1E-03	9E-09	3E-04
GM-South	94-E	2	2E-06	1E-02	5E-08	6E-04
GM-South	Former Admin Building	6	2E-06	2E-02	5E-08	6E-03
GM-South	Build 94 Parking Lot	2	9E-06	5E-01	2E-07	2E-02
GM-South	FEP	4	2E-05	1E-02	3E-07	3E-04
GM-South	Harriet Street Area	7	7E-06	5E-01	1E-07	2E-02

Notes:

1. Cumulative cancer risks and HIs are upper-bound estimates based on the maximum detected concentrations in each AOI .
2. Only AOIs where constituents were detected in soil are shown.
3. Parcels at the Southend are defined in Section 6.5.2.1 of the RFI Phase II Report and shown on Figure 6-1.
4. Values highlighted in bold are above the USEPA risk limits of 10^{-4} or 1 for cancer risk and HI, respectively.
5. Cumulative cancer risks and HIs are based on the following exposure pathways: ingestion, dermal contact, and inhalation.
6. NA indicates that no organics were detected in AOI 10-4 and detected concentrations of metals in this AOI were below background levels.
7. Lead is evaluated in Section 6.5.2.1 of the RFI Phase II Report and shown on Table 6-5.

TABLE 6-3
HIGH-END CUMULATIVE CANCER RISK AND HAZARD INDEX FOR ROUTINE WORKER EXPOSURE TO SOIL

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI	Estimates of Bounding Risks for Surface Soil Concentrations		Estimates of High-End Risks for Surface Soil Concentrations	
	Routine Worker Cumulative Risk	Routine Worker HI	Routine Worker Cumulative Risk	Routine Worker HI
36-1	4E-05	3E-01	NA	NA
81-2	5E-05	**2E+01**	2E-05	4E-01
83/84-2	3E-05	6E-01	NA	NA

Notes:

1. Cumulative cancer risks and HIs are based on the following exposure pathways: ingestion, dermal contact, and inhalation.
2. NA indicates that the bounding estimates of risk were acceptable, therefore no high-end risks were calculated.
3. Values highlighted in bold are above the USEPA risk limits of 10^{-4} or 1 for cancer risk and HI, respectively.
4. High-end cumulative risk estimates do not include the concentrations of 1,1-dichloroethane, 1,1,1-trichloroethane, and 1,1,2-trichloro-1,2,2-trifluoroethane from RFI-81-38 (1-3 foot depth) at AOI 81-2.
5. Lead is evaluated in Section 6.5.2.1 of the RFI Phase II Report and shown on Table 6-5.

TABLE 6-4
SOUTHEND LOCATIONS WITH UNACCEPTABLE BOUNDING CUMULATIVE CANCER RISK OR HI FOR ROUTINE WORKER SOIL CONTACT

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Parcel	AOI	Location	Estimates of Bounding Risks		Area-Weighted Estimates of Risks	
			Routine Worker Soil Contact Risk	Routine Worker Soil Contact HI	Routine Worker Soil Contact Risk	Routine Worker Soil Contact HI
3	09-A	RFI-09-03	**3E-04**	2E-01	2E-05	2E-01
1	40-A	RFI-40-12	**2E-04**	3E-01	3E-05	9E-02

Notes:

1. Parcels at the Southend are defined in Section 6.5.2.1 of the RFI Phase II Report and shown on Figure 6-1.
2. Values highlighted in bold are above the USEPA risk limits of 10^{-4} or 1 for cancer risk and HI, respectively.
3. Cumulative cancer risks and HIs are based on the following exposure pathways: ingestion, dermal contact, and inhalation.
4. Lead is evaluated in Section 6.5.2.1 of the RFI Phase II Report and shown on Table 6-5.

TABLE 6-5
MEAN LEAD CONCENTRATIONS IN SOIL BY AOI

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Area	AOI	Mean Lead Concentration in Surface Soil (mg/kg)	Ratio of Surface Mean to Industrial Criterion	Mean Lead Concentration in Soil at any Depth (mg/kg)	Ratio of any-Depth Mean to Industrial Criterion
GM-North	03-1	2.6E+02	2.9E-01	2.3E+02	2.5E-01
GM-North	05-1	4.7E+02	5.3E-01	5.2E+02	5.7E-01
GM-North	05-2	4.7E+00	5.2E-03	5.9E+00	6.5E-03
GM-North	05-3	3.9E+01	4.4E-02	9.1E+01	1.0E-01
GM-North	05-4	1.1E+01	1.2E-02	1.1E+01	1.2E-02
GM-North	05-5	2.1E+01	2.3E-02	2.8E+01	3.1E-02
GM-North	05-6	2.1E+01	2.3E-02	3.9E+02	4.4E-01
GM-North	07-1	5.5E+01	6.1E-02	5.2E+01	5.8E-02
GM-North	07-2	1.4E+01	1.6E-02	1.4E+01	1.6E-02
GM-North	07-3	1.8E+01	2.0E-02	1.8E+01	2.0E-02
GM-North	10-1	1.7E+02	1.9E-01	2.3E+02	2.5E-01
GM-North	10-2	6.2E+01	6.9E-02	4.8E+01	5.4E-02
GM-North	10-3	6.1E+01	6.8E-02	5.5E+01	6.1E-02
GM-North	10-4	NA	NA	6.0E+00	6.7E-03
GM-North	21-1	7.1E+01	7.9E-02	7.1E+01	7.9E-02
GM-North	36-1	3.9E+01	4.4E-02	3.9E+01	4.4E-02
GM-North	36-2	2.4E+01	2.6E-02	2.4E+01	2.6E-02
GM-North	36-3	1.0E+01	1.1E-02	1.7E+01	1.9E-02
GM-North	36-4	2.6E+01	2.8E-02	2.6E+01	2.8E-02
GM-North	36-5	1.1E+02	1.2E-01	1.1E+02	1.2E-01
GM-North	38-1	1.3E+01	1.5E-02	1.5E+01	1.6E-02
GM-North	55-1	3.7E+01	4.1E-02	4.1E+01	4.5E-02
GM-North	65-1	1.2E+01	1.3E-02	1.2E+01	1.3E-02
GM-North	81-1	2.3E+02	2.6E-01	1.3E+04	**1.5E+01**
GM-North	81-2	2.5E+02	2.7E-01	2.2E+02	2.5E-01
GM-North	81-3	3.9E+01	4.4E-02	6.4E+01	7.1E-02
GM-North	81-4	1.3E+01	1.4E-02	1.3E+01	1.4E-02
GM-North	81-5	3.8E+01	4.2E-02	3.6E+02	4.0E-01
GM-North	83/84-1	8.1E+00	9.0E-03	2.3E+01	2.5E-02
GM-North	83/84-2	4.1E+02	4.5E-01	1.2E+03	**1.3E+00**
GM-North	83/84-3	4.2E+03	**4.6E+00**	4.4E+03	**4.9E+00**
GM-North	83/84-4	1.4E+02	1.5E-01	1.9E+02	2.1E-01
GM-North	83/84-5	1.3E+01	1.4E-02	1.3E+01	1.4E-02
GM-North	83/84-6	8.6E+02	9.5E-01	8.6E+02	9.5E-01
GM-North	83/84-7	3.3E+01	3.7E-02	3.3E+01	3.7E-02
GM-North	85-1	2.0E+01	2.2E-02	3.1E+01	3.4E-02
GM-North	86-1	1.2E+02	1.3E-01	1.2E+02	1.3E-01
GM-North	Former Aeration Lagoons	6.9E+01	7.7E-02	3.8E+01	4.2E-02
GM-South	02-A	7.7E+02	8.6E-01	7.7E+02	8.6E-01
GM-South	02-B	1.4E+02	1.6E-01	1.7E+02	1.9E-01
GM-South	02-C	5.8E+02	6.5E-01	5.8E+02	6.5E-01
GM-South	02-D	6.7E+00	7.4E-03	4.2E+01	4.7E-02
GM-South	02-E	1.9E+01	2.1E-02	1.2E+02	1.3E-01
GM-South	02-F	1.0E+01	1.1E-02	2.1E+01	2.4E-02
GM-South	04-A	3.2E+01	3.6E-02	3.2E+01	3.6E-02
GM-South	04-B	2.2E+01	2.4E-02	3.2E+01	3.6E-02
GM-South	04-C	8.7E+00	9.7E-03	8.7E+00	9.7E-03
GM-South	09-A	6.9E+03	**7.6E+00**	7.0E+03	**7.7E+00**
GM-South	09-B	1.9E+02	2.1E-01	2.1E+02	2.4E-01
GM-South	12-A	5.4E+02	6.0E-01	9.8E+02	**1.1E+00**
GM-South	12-B	2.4E+02	2.7E-01	2.7E+02	3.0E-01
GM-South	12-C	5.5E+00	6.1E-03	6.2E+00	6.9E-03
GM-South	12-D	2.0E+01	2.2E-02	2.0E+01	2.2E-02
GM-South	16-A	4.1E+00	4.6E-03	1.1E+01	1.2E-02
GM-South	16-B	8.6E+00	9.6E-03	1.3E+01	1.4E-02
GM-South	16-C	6.7E+01	7.4E-02	7.1E+01	7.9E-02
GM-South	16-D	7.6E+00	8.4E-03	9.4E+00	1.0E-02
GM-South	17-A	1.7E+02	1.9E-01	1.7E+02	1.9E-01

See Notes on Page 2.

TABLE 6-5
MEAN LEAD CONCENTRATIONS IN SOIL BY AOI

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Area	AOI	Mean Lead Concentration in Surface Soil (mg/kg)	Ratio of Surface Mean to Industrial Criterion	Mean Lead Concentration in Soil at any Depth (mg/kg)	Ratio of any-Depth Mean to Industrial Criterion
GM-South	23-A	5.2E+01	5.8E-02	5.3E+01	5.9E-02
GM-South	29-A	6.9E+02	7.7E-01	6.9E+02	7.7E-01
GM-South	40-A	1.1E+02	1.2E-01	1.0E+02	1.1E-01
GM-South	40-B	1.2E+01	1.3E-02	1.2E+01	1.3E-02
GM-South	40-C	1.2E+01	1.3E-02	1.3E+01	1.4E-02
GM-South	40-D	2.3E+01	2.5E-02	2.3E+01	2.5E-02
GM-South	44-A	3.1E+01	3.5E-02	4.1E+01	4.5E-02
GM-South	84-A	3.0E+02	3.4E-01	3.0E+02	3.4E-01
GM-South	84-B	1.6E+01	1.8E-02	1.6E+01	1.8E-02
GM-South	84-C	1.4E+02	1.6E-01	1.4E+02	1.6E-01
GM-South	84-D	1.5E+02	1.7E-01	1.1E+02	1.2E-01
GM-South	94-A	4.2E+00	4.7E-03	1.0E+01	1.1E-02
GM-South	94-B	9.5E+01	1.1E-01	8.4E+01	9.3E-02
GM-South	94-C	1.3E+02	1.4E-01	1.4E+02	1.5E-01
GM-South	94-D	1.6E+02	1.8E-01	1.6E+02	1.8E-01
GM-South	94-E	7.5E+01	8.3E-02	7.5E+01	8.3E-02
GM-South	Former Admin Building	3.4E+01	3.7E-02	3.5E+01	3.8E-02
GM-South	Build 94 Parking Lot	5.0E+01	5.6E-02	5.1E+01	5.7E-02
GM-South	Harriet Street	NA	NA	1.2E+01	1.4E-02

Notes:
1. The site-specific background concentration for lead (93.5 mg/kg) was not subtracted from the concentrations when calculating ratios.
2. The industrial criterion for lead is 900 mg/kg.
3. NA indicates that no surface samples were analyzed for lead.

TABLE 6-6
MAXIMUM LEAD CONCENTRATIONS BY BORING AT SOUTHEND LOCATIONS

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI	Location	Max Conc (mg/kg)	Depth Interval (feet)
09-A	RFI-09-01	1.20E+05	1 - 3
09-A	RFI-09-01R *	1.20E+05	NA
12-A	RFI-12-02	1.10E+04	6 - 8
12-A	RFI-12-31	1.00E+04	0.7 - 2.7
12-A	RFI-12-35 *	1.00E+04	NA
09-A	RFI-09-02	6.90E+03	0.4 - 2
09-A	RFI-09-16	3.80E+03	1 - 3
09-A	RFI-09-56	2.65E+03	2 - 4
09-A	RFI-09-15	2.20E+03	1.9 - 3.9
02-C	RFI-02-03	2.00E+03	0.9 - 2
29-A	RFI-29-01	1.50E+03	0.6 - 2
09-A	RFI-09-18	1.40E+03	1 - 3
09-B	RFI-09-44	1.20E+03	0.7 - 2.7

Notes:

1. Only locations with lead concentrations greater than the industrial screening criterion (900 mg/kg) are shown.
2. The site-specific background concentration for lead (93.5 mg/kg) was not subtracted from concentrations presented here.
3. Locations marked with an asterisk (*) were not analyzed for lead. Concentrations at these locations were assigned by surrogate to the nearest location which was analyzed for lead. NA indicates that since no lead sample was collected, no depth interval is applicable.

TABLE 6-7
BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR ROUTINE WORKER EXPOSURE TO SOIL AND GROUNDWATER BY VAPOR INTRUSION

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

		Soil Vapor Intrusion			Groundwater Vapor Intrusion		
AOI	Parcel	Vapor Intrusion Occupational Contribution from Soil	Routine Worker Soil Vapor Intrusion Risk	Routine Worker Soil Vapor Intrusion HI	Vapor Intrusion Occupational Contribution from GW	Routine Worker GW Vapor Intrusion Risk	Routine Worker GW Vapor Intrusion HI
03-1	--	2E-04	4E-06	2E-02	6E-06	5E-08	5E-04
05-1	--	8E-05	4E-06	3E-02	3E-06	3E-09	3E-04
05-2	--	5E-07	6E-11	1E-03	1E-05	8E-08	3E-04
05-3	--	1E-05	5E-07	7E-03	2E-07	8E-09	9E-05
05-4	--	3E-07	3E-16	5E-03	3E-12	NA	1E-09
05-5	--	1E-04	2E-06	1E-02	1E-06	2E-10	2E-04
05-6	--	1E-05	4E-07	5E-03	1E-05	1E-07	9E-04
07-1	--	4E-04	2E-06	7E-02	2E-06	9E-09	2E-04
07-2	--	NA	3E-11	4E-08	NA	NA	NA
07-3	--	1E-05	1E-06	4E-03	9E-09	3E-10	8E-06
10-1	--	2E-04	9E-07	5E-02	4E-06	2E-08	3E-03
10-2	--	3E-04	8E-06	3E-01	5E-05	2E-07	5E-03
10-3	--	4E-04	2E-06	1E-01	3E-04	2E-06	2E-02
10-4	--	NA	NA	NA	2E-06	1E-08	1E-04
21-1	--	3E-05	3E-07	4E-02	2E-09	2E-11	8E-08
36-1	--	5E-01	**3E-03**	**7E+01**	2E-04	1E-06	1E-02
36-2	--	2E-05	4E-08	1E-03	7E-04	5E-06	5E-02
36-3	--	4E-03	2E-05	1E+00	1E-03	6E-06	9E-02
36-4	--	3E-05	NA	1E-02	5E-08	1E-09	1E-04
36-5	--	4E-06	7E-08	3E-03	8E-06	6E-08	8E-04
38-1	--	1E-05	2E-07	6E-03	1E-06	8E-10	1E-04
55-1	--	5E-05	1E-06	4E-02	2E-05	1E-07	9E-03
65-1	--	1E-06	9E-08	1E-04	1E-07	1E-08	4E-04
81-1	--	4E-04	2E-06	1E-01	7E-06	3E-08	2E-04
81-2	--	4E-01	3E-05	**2E+02**	2E-06	3E-09	2E-04
81-3	--	8E-04	3E-05	2E-01	4E-05	2E-07	2E-03
81-4	--	3E-06	3E-07	8E-04	5E-08	7E-09	2E-05
81-5	--	4E-05	9E-07	6E-03	NA	NA	NA
83/84-1	--	2E-03	1E-05	2E-01	2E-07	2E-09	2E-05
83/84-2	--	3E-03	2E-05	3E-01	2E-06	4E-10	3E-04
83/84-3	--	2E-04	1E-09	2E-02	5E-09	4E-10	7E-06
83/84-4	--	8E-04	6E-06	6E-01	3E-09	NA	2E-05
83/84-5	--	3E-07	2E-10	8E-04	NA	NA	NA
83/84-6	--	2E-06	1E-07	2E-04	NA	NA	NA
83/84-7	--	2E-07	1E-09	6E-05	1E-04	6E-07	1E-02
85-1	--	4E-04	2E-05	2E-01	1E-06	5E-08	4E-04
86-1	--	4E-04	1E-05	9E-02	2E-04	2E-06	1E-02
Former Aeration Lagoons	--	5E-06	4E-08	3E-04	2E-11	NA	2E-09
02-A	1	NA	1E-12	NA	NA	NA	NA
02-B	1	7E-05	1E-07	1E-02	3E-07	3E-10	1E-04
02-C	1	NA	2E-13	3E-08	NA	NA	NA
02-D	1	2E-06	2E-09	2E-03	NA	NA	NA
02-E	1	1E-04	5E-07	2E-02	7E-08	5E-09	NA
02-F	1	6E-05	1E-11	4E-03	1E-06	3E-09	1E-04
04-A	1	2E-05	6E-07	2E-02	NA	NA	NA
04-B	1	1E-06	1E-07	1E-03	NA	NA	NA
04-C	1	4E-06	3E-07	5E-05	NA	NA	NA
04-D	1	NA	NA	NA	6E-07	7E-09	4E-04
09-A	3	7E-04	2E-05	9E-02	3E-06	8E-08	4E-04
09-B	3	1E-03	7E-06	2E-01	2E-04	1E-06	2E-02
12-A	1	4E-04	3E-06	2E-01	9E-07	3E-09	1E-03
12-B	1	1E-05	7E-08	1E-02	3E-08	2E-09	2E-08
12-C	1	8E-06	2E-07	4E-03	NA	NA	NA
12-D	1	4E-06	5E-07	2E-03	NA	NA	NA
16-A	1	6E-06	1E-07	3E-03	2E-09	NA	1E-06
16-B	1	8E-06	3E-07	2E-03	NA	NA	NA

See Notes on Page 2.

TABLE 6-7
BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR ROUTINE WORKER EXPOSURE TO SOIL AND GROUNDWATER BY VAPOR INTRUSION

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

		Soil Vapor Intrusion			Groundwater Vapor Intrusion		
AOI	Parcel	Vapor Intrusion Occupational Contribution from Soil	Routine Worker Soil Vapor Intrusion Risk	Routine Worker Soil Vapor Intrusion HI	Vapor Intrusion Occupational Contribution from GW	Routine Worker GW Vapor Intrusion Risk	Routine Worker GW Vapor Intrusion HI
16-C	1	2E-03	1E-05	4E-01	3E-05	2E-07	3E-03
16-D	1	5E-06	1E-07	3E-03	NA	NA	NA
17-A	2	2E-04	1E-06	9E-02	4E-09	NA	1E-06
23-A	1	2E-05	3E-07	4E-03	6E-09	2E-13	2E-06
29-A	1	6E-06	8E-11	1E-03	NA	NA	NA
40-A	1	2E-03	1E-05	4E-01	9E-04	5E-06	8E-02
40-B	1	1E-05	7E-07	3E-03	4E-06	5E-08	9E-04
40-C	1	3E-04	2E-06	3E-02	2E-06	4E-08	1E-04
40-D	1	3E-05	3E-06	1E-02	4E-06	2E-08	5E-04
44-A	1	2E-05	3E-07	9E-03	3E-07	2E-08	1E-08
84-A	2	6E-05	2E-06	6E-02	6E-05	4E-07	4E-03
84-B	2	3E-08	3E-11	3E-04	NA	NA	NA
84-C	2	6E-07	3E-11	1E-04	NA	NA	NA
84-D	2	1E-04	9E-06	4E-02	3E-04	2E-06	2E-02
94-A	2	6E-07	8E-17	1E-03	NA	NA	NA
94-B	2	3E-06	6E-11	3E-04	3E-06	3E-07	3E-04
94-C	2	5E-06	3E-08	4E-03	NA	NA	NA
94-D	2	2E-06	3E-07	2E-07	2E-09	2E-10	NA
94-E	2	4E-06	3E-11	3E-03	NA	NA	NA
Former Admin Building	6	7E-06	7E-08	3E-04	1E-05	9E-08	1E-03
Build 94 Parking Lot	2	5E-06	1E-07	2E-04	4E-09	1E-11	NA
FEP	4	5E-06	2E-07	1E-02	NA	NA	NA
Harriet Street Area	7	6E-04	3E-06	4E-01	7E-06	4E-08	5E-04

Notes:

1. Values highlighted in bold are above the USEPA risk limits of 10^{-4} or 1 for cancer risk and HI, respectively.
2. Cumulative cancer risks and HIs are upper-bound estimates based on the maximum detected concentrations in each AOI .
3. NA indicates that the medium was not sampled in that AOI, or that chemicals with risk- or occupational-based volatilization criteria were all non-detect.
4. Parcels at the Southend are defined in Section 6.5.2.1 of the RFI Phase II Report and shown on Figure 6-1.

TABLE 6-8
ESTIMATED INDOOR AIR CONTRIBUTION AND BOUNDING CUMULATIVE CANCER RISK AND HI FOR ROUTINE WORKER EXPOSURE TO LNAPL BY VAPOR INTRUSION

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI	Routine Worker NAPL Vapor Intrusion Risk	Routine Worker NAPL Vapor Intrusion HI	Vapor Intrusion Occupational Contribution from NAPL
02-B	NA	5E-09	NA
03-1	3E-08	6E-04	5E-06
05-1	7E-09	4E-04	4E-07
05-5	3E-10	NA	4E-09
09-B	3E-05	6E-01	6E-03
10-1	NA	8E-09	NA
10-4	3E-07	8E-03	5E-05
12-A	5E-09	6E-04	5E-07
12-B	1E-08	8E-04	2E-06
12-C	1E-08	2E-04	2E-06
16-C	3E-07	3E-02	5E-06
23-A	3E-09	5E-05	6E-07
36-1	1E-04	**2E+00**	2E-02
36-2	NA	9E-03	7E-07
36-5	3E-08	2E-03	3E-06
40-A	5E-07	6E-03	8E-05
81-2	NA	9E-06	2E-08
83/84-2	4E-08	8E-04	5E-06
83/84-4	1E-07	1E-03	3E-05
85-1	1E-09	2E-04	2E-07
86-1	3E-09	6E-04	7E-07

Notes:

1. The criteria are Michigan OSHA threshold limit values (TLVs), OSHA permissible exposure limits (PELs) for chemicals without Michigan OSHA TLVs, or ACGIH TLVs for chemicals without Michigan OSHA TLVs or PELs. The criteria for 1,2,4-Trichlorobenzene are from the MDEQ Remediation and Redevelopment Division, Part 201/213 Acceptable Indoor Air Concentrations, 2003.
2. NA indicates that chemicals with the relevant toxicity values or occupational limits that could potentially volatilize were all non-detect.

TABLE 6-9
BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR MAINTENANCE WORKER EXPOSURE TO GROUNDWATER

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Area	AOI	Maintenance Worker GW Contact Risk	Maintenance Worker GW Contact HI
GM-North	03-1	2E-07	1E-02
GM-North	05-1	4E-08	2E-03
GM-North	05-2	1E-07	5E-03
GM-North	05-3	7E-08	2E-03
GM-North	05-4	8E-10	1E-04
GM-North	05-5	5E-08	2E-03
GM-North	05-6	2E-07	7E-03
GM-North	07-1	2E-08	1E-03
GM-North	07-3	2E-09	4E-04
GM-North	10-1	5E-08	3E-02
GM-North	10-2	5E-07	3E-02
GM-North	10-3	3E-06	6E-02
GM-North	10-4	5E-08	2E-03
GM-North	21-1	2E-06	3E-03
GM-North	36-1	3E-06	7E-02
GM-North	36-2	1E-05	3E-01
GM-North	36-3	1E-05	5E-01
GM-North	36-4	5E-09	8E-04
GM-North	36-5	1E-07	6E-03
GM-North	38-1	6E-09	2E-03
GM-North	55-1	6E-07	1E+00
GM-North	65-1	2E-08	3E-03
GM-North	81-1	1E-07	3E-03
GM-North	81-2	2E-07	3E-03
GM-North	81-3	4E-07	1E-02
GM-North	81-4	1E-08	3E-04
GM-North	83/84-1	9E-09	5E-04
GM-North	83/84-2	6E-09	6E-03
GM-North	83/84-3	3E-08	3E-03
GM-North	83/84-4	8E-08	2E-02
GM-North	83/84-5	2E-09	2E-04
GM-North	83/84-7	1E-06	7E-02
GM-North	85-1	9E-08	5E-03
GM-North	86-1	3E-06	1E-01
GM-North	Former Aeration Lagoons	2E-08	4E-04
GM-South	02-B	5E-10	8E-03
GM-South	02-E	2E-07	3E-02
GM-South	02-F	1E-07	2E-02
GM-South	04-D	2E-07	2E-02
GM-South	09-A	2E-07	2E-02
GM-South	09-B	4E-06	3E-01
GM-South	12-A	5E-08	5E-02
GM-South	12-B	7E-08	1E-02
GM-South	16-A	5E-09	6E-04
GM-South	16-C	5E-07	2E-02
GM-South	17-A	2E-08	6E-04
GM-South	23-A	3E-08	4E-04
GM-South	40-A	1E-05	5E-01
GM-South	40-B	8E-08	6E-03
GM-South	40-C	7E-08	3E-03
GM-South	40-D	2E-07	3E-02
GM-South	44-A	8E-07	1E-01
GM-South	84-A	7E-07	2E-02
GM-South	84-D	4E-06	1E-01
GM-South	94-B	4E-07	7E-03
GM-South	94-D	1E-09	1E-04

See Notes on Page 2.

TABLE 6-9
BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR MAINTENANCE WORKER EXPOSURE TO GROUNDWATER

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Area	AOI	Maintenance Worker GW Contact Risk	Maintenance Worker GW Contact HI
GM-South	Former Admin Building	2E-07	7E-03
GM-South	Build 94 Parking Lot	6E-10	1E-06
GM-South	FEP	3E-07	3E-04
GM-South	Harriet Street Area	1E-07	3E-03

Notes:
1. Cumulative cancer risks and HIs are based on the following exposure pathways: ingestion, dermal contact, and inhalation.
2. Cumulative cancer risks and HIs are upper-bound estimates based on the maximum detected concentrations in each AOI.
3. Only AOIs where constituents were detected in groundwater are shown.

TABLE 6-10
BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR MAINTENANCE WORKER EXPOSURE TO SMEAR ZONE SOIL AND LNAPL

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI	Smear Zone Soil				LNAPL			Smear Zone Soil				LNAPL		
	Ingestion	Dermal Contact	Vapor Inhalation	Total	Dermal Contact	Vapor Inhalation	Total	Ingestion	Dermal Contact	Vapor Inhalation	Total	Dermal Contact	Vapor Inhalation	Total
	Maintenance Worker Risk							Maintenance Worker HI						
02-B	NA	NA	NA	NA	NA	NA	NA	5E-06	2E-06	7E-06	1E-05	2E-05	1E-07	2E-05
03-1	2E-07	1E-07	2E-08	3E-07	2E-07	4E-07	6E-07	6E-05	2E-05	4E-03	4E-03	5E-04	2E-02	2E-02
05-1	5E-09	2E-09	8E-09	2E-08	2E-09	8E-08	9E-08	9E-04	4E-04	7E-05	1E-03	3E-04	1E-02	1E-02
05-5	9E-08	4E-08	1E-07	3E-07	3E-08	2E-09	3E-08	2E-02	7E-03	NA	2E-02	5E-03	NA	5E-03
09-B	2E-08	2E-10	6E-06	6E-06	2E-06	**4E-04**	**5E-04**	1E-03	1E-04	5E-01	5E-01	9E-02	**2E+01**	**2E+01**
10-1	7E-10	7E-11	NA	7E-10	4E-07	NA	4E-07	2E-05	3E-06	9E-06	3E-05	1E-01	2E-07	1E-01
10-4	7E-09	7E-10	5E-08	6E-08	4E-06	4E-06	8E-06	2E-04	2E-05	3E-02	3E-02	1E+00	2E-01	1E+00
12-A	3E-09	3E-10	4E-10	4E-09	2E-06	1E-07	2E-06	3E-04	8E-05	2E-02	2E-02	2E-01	2E-02	3E-01
12-B	1E-09	1E-10	7E-10	2E-09	7E-07	3E-07	9E-07	3E-04	8E-05	2E-02	2E-02	1E+00	3E-02	1E+00
12-C	6E-09	3E-09	1E-08	2E-08	2E-07	2E-07	3E-07	1E-03	5E-04	1E-04	2E-03	1E-01	6E-03	1E-01
16-C	6E-08	2E-08	1E-07	2E-07	3E-06	5E-06	9E-06	6E-03	2E-03	7E-01	7E-01	2E-01	1E+00	1E+00
23-A	3E-09	8E-10	6E-10	4E-09	3E-07	5E-08	3E-07	2E-04	5E-05	2E-03	2E-03	4E-01	2E-03	4E-01
36-1	5E-08	6E-11	2E-05	2E-05	4E-06	**1E-03**	**1E-03**	4E-03	2E-04	1E+00	1E+00	3E-01	**5E+01**	**6E+01**
36-2	1E-09	1E-10	NA	1E-09	6E-07	NA	6E-07	3E-05	5E-06	2E-04	2E-04	2E-01	3E-01	4E-01
36-5	6E-11	5E-12	3E-09	3E-09	3E-08	4E-07	5E-07	1E-04	5E-05	1E-02	1E-02	9E-02	5E-02	1E-01
40-A	2E-10	NA	8E-08	8E-08	2E-08	6E-06	6E-06	7E-06	NA	2E-03	3E-03	6E-04	2E-01	2E-01
81-2	NA	NA	NA	NA	NA	NA	NA	4E-06	2E-06	2E-05	3E-05	3E-05	4E-04	5E-04
83/84-2	4E-08	2E-08	5E-08	1E-07	4E-07	6E-07	1E-06	6E-03	3E-03	1E-02	2E-02	1E-01	2E-02	2E-01
83/84-4	2E-09	2E-10	2E-09	4E-09	1E-06	2E-06	4E-06	5E-05	4E-06	1E-04	2E-04	3E-01	4E-02	3E-01
85-1	2E-09	6E-10	2E-09	4E-09	3E-07	2E-08	4E-07	3E-04	1E-04	5E-03	5E-03	1E-01	5E-03	1E-01
86-1	5E-09	2E-09	7E-09	1E-08	7E-07	1E-07	8E-07	8E-04	3E-04	1E-02	1E-02	4E-01	3E-02	4E-01
Outfall 004	NA	NA	NA	NA	2E-06	9E-09	2E-06	NA	NA	NA	NA	1E-01	1E-01	2E-01
Storm Sewer (SS)	NA	NA	NA	NA	9E-08	NA	9E-08	NA	NA	NA	NA	2E-01	3E-05	2E-01

Notes:

1. NA = Risks were not calculated due to a lack of exposure or toxicity information for detected chemicals in the AOI.
2. Cumulative cancer risks and HIs are upper-bound estimates based on the maximum detected concentrations for LNAPL and estimated residual soil concentrations in each AOI.
3. Values highlighted in bold are above the USEPA risk limits of 10^{-4} or 1 for cancer risk and HI, respectively.

TABLE 6-11
BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR MAINTENANCE WORKER EXPOSURE TO BASEMENT, TUNNEL, AND SEWER WATER

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI	Matrix	Maintenance Worker Contact Risk	Maintenance Worker Contact HI
12-A	Basement Water	7E-08	1E-02
23-A	Basement Water	5E-05	5E-02
36-3	Basement Water	1E-06	6E-02
40-D	Tunnel Water	5E-07	4E-02
SS	Storm Sewer Water	2E-06	3E-01

Notes:
1. Cumulative cancer risks and HIs are based on the following exposure pathways: ingestion, dermal contact, and inhalation.
2. Cumulative cancer risks and HIs are upper-bound estimates based on the maximum detected concentrations in each AOI.

TABLE 6-12
BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR REDEVELOPMENT CONSTRUCTION WORKER AND RESIDENT EXPOSURE TO SOIL AT THE SOUTHEND

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI	Parcel	Redevelopment Construction Worker Soil Contact Risk	Redevelopment Construction Worker Soil Contact HI	Resident Soil Contact Risk	Resident Soil Contact HI
02-A	1	2E-08	6E-02	9E-07	1E-01
02-B	1	5E-07	6E-01	2E-05	2E-01
02-C	1	2E-06	2E-01	2E-06	5E-01
02-D	1	2E-06	2E-02	1E-04	1E-02
02-E	1	2E-07	8E-02	1E-05	7E-02
02-F	1	1E-07	2E-01	2E-06	5E-02
04-A	1	6E-07	7E-03	3E-05	1E-02
04-B	1	2E-07	2E-01	1E-05	3E-02
04-C	1	5E-08	8E-03	2E-06	4E-02
09-A	3	3E-05	**7E+00**	**1E-03**	**3E+00**
09-B	3	9E-06	**3E+00**	**4E-04**	**3E+00**
12-A	1	4E-06	**4E+00**	1E-04	**3E+00**
12-B	1	5E-07	1E+00	8E-06	2E-01
12-C	1	2E-08	1E-02	7E-08	2E-03
12-D	1	2E-07	2E-01	7E-06	3E-02
16-A	1	4E-07	7E-02	2E-05	1E-01
16-B	1	2E-08	3E-02	5E-08	3E-02
16-C	1	4E-06	1E+00	1E-04	6E-01
16-D	1	1E-08	1E-01	5E-08	3E-02
17-A	2	5E-07	2E-01	2E-05	2E-01
23-A	1	2E-07	3E-02	9E-06	1E-02
29-A	1	1E-06	2E-01	6E-06	3E-01
40-A	1	1E-05	1E+00	**8E-04**	7E-01
40-B	1	4E-07	2E-02	2E-05	5E-02
40-C	1	2E-07	5E-01	7E-06	6E-02
40-D	1	3E-07	4E-02	9E-06	1E-01
44-A	1	2E-06	**3E+00**	3E-05	6E-01
84-A	2	8E-07	2E-01	3E-05	2E-01
84-B	2	2E-07	9E-03	9E-06	4E-02
84-C	2	6E-07	4E-02	3E-05	2E-01
84-D	2	7E-07	3E-01	1E-05	1E-01
86-1	1	1E-05	**3E+00**	**6E-04**	**4E+00**
94-A	2	4E-07	6E-01	2E-05	2E-01
94-B	2	9E-08	1E-02	5E-06	6E-03
94-C	2	2E-07	2E-01	4E-06	7E-02
94-D	2	5E-08	8E-03	2E-06	8E-03
94-E	2	2E-07	1E-02	1E-05	6E-02
Former Admin Building	6	2E-07	1E-01	1E-05	1E-01
Build 94 Parking Lot	2	1E-06	4E-01	4E-05	**2E+00**
FEP	4	2E-06	8E-02	8E-05	2E-02
Harriet Street	7	9E-07	1E+00	3E-05	1E+00

Notes:

1. Cumulative cancer risks and HIs are upper-bound estimates based on the maximum detected concentrations in each AOI .
2. Only AOIs where constituents were detected in soil are shown.
3. Parcels at the Southend are defined in Section 6.5.2.1 of the RFI Phase II Report and shown on Figure 6-1.
4. Values highlighted in bold are above the USEPA risk limits of 10^{-4} or 1 for cancer risk and HI, respectively.
5. Cumulative cancer risks and HIs are based on the following exposure pathways: ingestion, dermal contact, and inhalation.
6. AOI 86-1 is part of the Northend, but contains nine soil locations on Parcel 1 in the Southend. The cumulative risk and HI for the redevelopment construction worker and resident at AOI 86-1 is based on concentrations detected in the Parcel 1 locations.
7. Lead is evaluated in Section 6.5.2.1 of the RFI Phase II Report and shown on Table 6-5.

TABLE 6-13
SOUTHEND LOCATIONS WITH UNACCEPTABLE BOUNDING CUMULATIVE CANCER RISK OR HI FOR REDEVELOPMENT WORKER SOIL CONTACT

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Parcel	AOI	Location	Estimates of Bounding Risks		Area-Weighted Estimates of Risks	
			Redevelopment Worker Soil Contact Risk	Redevelopment Worker Soil Contact HI	Redevelopment Worker Soil Contact Risk	Redevelopment Worker Soil Contact HI
3	09-A	RFI-09-04	1E-06	**6E+00**	8E-07	9E-01
3	09-A	RFI-09-49	9E-07	**2E+00**	8E-07	9E-01
3	09-A	RFI-09-25	9E-07	**2E+00**	8E-07	9E-01
3	09-A	RFI-09-24	8E-07	**2E+00**	8E-07	9E-01
1	44-A	RFI-44-05	5E-06	**3E+00**	4E-06	6E-01
1	86-1	RFI-86-01	3E-06	**2E+00**	2E-06	9E-01

Notes:

1. Parcels at the Southend are defined in Section 6.5.2.1 of the Revised RFI Phase II Report and shown on Figure 6-1.
2. Values highlighted in bold are above the USEPA risk limits of 10^{-4} or 1 for cancer risk and HI, respectively.
3. Cumulative cancer risks and HIs are based on the following exposure pathways: ingestion, dermal contact, and inhalation.
4. Lead is evaluated in Section 6.5.2.1 of the Revised RFI Phase II Report and shown on Table 6-5.

TABLE 6-14
BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR REDEVELOPMENT CONSTRUCTION WORKER EXPOSURE TO GROUNDWATER AT THE SOUTHEND

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Area	AOI	Redevelopment Worker GW Contact Risk	Redevelopment Worker GW Contact HI
GM-South	02-B	5E-11	7E-03
GM-South	02-E	2E-08	1E-02
GM-South	02-F	1E-08	8E-03
GM-South	04-D	2E-08	1E-02
GM-South	09-A	2E-08	9E-03
GM-South	09-B	4E-07	2E-01
GM-South	12-A	5E-09	5E-02
GM-South	12-B	7E-09	5E-03
GM-South	16-A	5E-10	3E-04
GM-South	16-C	5E-08	1E-02
GM-South	17-A	2E-09	2E-04
GM-South	23-A	3E-09	4E-04
GM-South	40-A	1E-06	3E-01
GM-South	40-B	8E-09	2E-03
GM-South	40-C	7E-09	2E-03
GM-South	40-D	2E-08	1E-02
GM-South	44-A	8E-08	5E-02
GM-South	84-A	7E-08	7E-03
GM-South	84-D	4E-07	8E-02
GM-South	94-B	4E-08	6E-03
GM-South	94-D	1E-10	6E-05
GM-South	Former Admin Building	2E-08	4E-03
GM-South	Build 94 Parking Lot	6E-11	1E-06
GM-South	Harriet Street Area	1E-08	2E-03

Notes:
1. Cumulative cancer risks and HIs are based on the following exposure pathways: ingestion, dermal contact, and inhalation.
2. Cumulative cancer risks and HIs are upper-bound estimates based on the maximum detected concentrations in each AOI.

TABLE 6-15
BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR REDEVELOPMENT CONSTRUCTION WORKER EXPOSURE TO SMEAR ZONE SOIL AND LNAPL AT THE SOUTHEND

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI	Smear Zone Soil				LNAPL			Smear Zone Soil				LNAPL		
	Ingestion	Dermal Contact	Vapor Inhalation	Total	Dermal Contact	Vapor Inhalation	Total	Ingestion	Dermal Contact	Vapor Inhalation	Total	Dermal Contact	Vapor Inhalation	Total
	Redevelopment Construction Worker Risk							Redevelopment Construction Worker HI						
02-B	NA	NA	NA	NA	NA	NA	NA	5E-07	2E-07	4E-07	1E-06	2E-07	2E-09	2E-07
09-B	2E-09	2E-11	4E-07	4E-07	2E-07	9E-06	9E-06	9E-04	9E-05	3E-01	3E-01	5E-03	**3E+00**	**3E+00**
12-A	3E-10	3E-11	2E-11	4E-10	2E-07	3E-09	2E-07	2E-04	6E-05	1E-02	1E-02	1E-02	4E-03	2E-02
12-B	1E-10	1E-11	5E-11	2E-10	7E-08	5E-09	7E-08	2E-04	7E-05	1E-02	1E-02	2E-02	6E-03	3E-02
12-C	6E-10	3E-10	6E-10	1E-09	2E-08	3E-09	2E-08	4E-04	2E-04	6E-05	6E-04	4E-03	7E-04	4E-03
16-C	6E-09	2E-09	8E-09	2E-08	3E-07	1E-07	4E-07	5E-03	2E-03	4E-01	5E-01	9E-03	2E-01	2E-01
23-A	3E-10	8E-11	4E-11	4E-10	3E-08	9E-10	3E-08	1E-04	2E-05	1E-03	1E-03	2E-02	2E-04	2E-02
40-A	2E-11	NA	5E-09	5E-09	2E-09	1E-07	1E-07	7E-06	NA	8E-04	8E-04	6E-05	2E-02	2E-02

Notes:

1. NA = Risks were not calculated due to a lack of exposure or toxicity information for detected chemicals in the AOI.
2. Cumulative cancer risks and HIs are upper-bound estimates based on the maximum detected concentrations for LNAPL and estimated residual soil concentrations in each AOI.
3. Values highlighted in bold are above the USEPA risk limits of 10^{-4} or 1 for cancer risk and HI, respectively.

TABLE 6-16
SOUTHEND LOCATIONS WITH UNACCEPTABLE BOUNDING CUMULATIVE CANCER RISK OR HI FOR RESIDENTIAL SOIL CONTACT

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Parcel	AOI	Location	Estimates of Bounding Risks for Surface Soil Concentrations		Area-Weighted Estimates of Risks for Surface Soil Concentrations	
			Residential Soil Contact Risk	Residential Soil Contact HI	Residential Soil Contact Risk	Residential Soil Contact HI
2	Build 94 Parking Lot	BD 94 EP-02	7E-05	**2E+00**	NA	NA
2	Build 94 Parking Lot	EP 94-02A	7E-05	**2E+00**	NA	NA
3	09-A	RFI-09-02	1E-04	**2E+00**	NA	NA
3	09-A	RFI-09-03	**1E-03**	8E-01	1E-04	1E+00
3	09-B	RFI-09-05	1E-04	**3E+00**	5E-05	2E-01
3	09-A	RFI-09-19	**2E-04**	7E-01	1E-04	1E+00
3	09-A	RFI-09-38	1E-04	**2E+00**	NA	NA
3	09-A	RFI-09-39	**2E-04**	7E-02	1E-04	1E+00
3	09-B	RFI-09-45	**3E-04**	5E-01	NA	NA
3	09-B	RFI-09-45R	**2E-04**	9E-02	NA	NA
1	12-A	RFI-12-31	2E-05	**2E+00**	2E-05	1E+00
1	12-A	RFI-12-35	2E-05	**2E+00**	2E-05	1E+00
1	40-A	RFI-40-12	**8E-04**	8E-01	1E-04	3E-01
1	40-A	RFI-40-16	**2E-04**	4E-01	1E-04	3E-01
1	40-A	RFI-40-17	**2E-04**	4E-01	1E-04	3E-01
1	86-1	RFI-86-07	**3E-04**	**2E+00**	NA	NA
1	86-1	RFI-86-12	1E-04	**2E+00**	NA	NA
1	86-1	RFI-86-17	**5E-04**	**3E+00**	NA	NA

Notes:

1. Parcels at the Southend are defined in Section 6.5.2.1 of the RFI Phase II Report and shown on Figure 6-1.
2. Values highlighted in bold are above the USEPA risk limits of 10^{-4} or 1 for cancer risk and HI, respectively.
3. Cumulative cancer risks and HIs are based on the following exposure pathways: ingestion, dermal contact, and inhalation.
4. Lead is evaluated in Section 6.5.2.1 of the RFI Phase II Report and shown on Table 6-5.
5. NA indicates that area-weighted risks were not calculated for that location because its Thiessen polygon (or nearby group of Thiessen polygons with similar risk estimates) was 1/2 acre or larger.

TABLE 6-17
SOUTHEND LOCATIONS WITH LEAD CONCENTRATIONS IN SHALLOW SOIL GREATER THAN RESIDENTIAL CRITERION

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI	Location	Lead Concentration (mg/kg)	Depth Interval (feet)
09-A	RFI-09-01	1.20E+05	1 - 3
09-A	RFI-09-01R *	1.20E+05	NA
12-A	RFI-12-31	1.00E+04	0.7 - 2.7
12-A	RFI-12-35 *	1.00E+04	NA
09-A	RFI-09-02	6.90E+03	0.4 - 2
09-A	RFI-09-16	3.80E+03	1 - 3
09-A	RFI-09-15	2.20E+03	1.9 - 3.9
02-C	RFI-02-03	2.00E+03	0.9 - 2
29-A	RFI-29-01	1.50E+03	0.6 - 2
09-A	RFI-09-18	1.40E+03	1 - 3
09-B	RFI-09-44	1.20E+03	0.7 - 2.7
12-A	RFI-12-33	8.50E+02	1 - 2
02-A	RFI-02-01	7.70E+02	1 - 2
12-A	RFI-12-30	7.30E+02	0.7 - 2.7
84-A	RFI-84-01	6.00E+02	0.5 - 2
02-B	RFI-02-22	5.74E+02	0 - 3
09-B	RFI-09-10	5.30E+02	0.8 - 2
40-A	RFI-40-09	4.90E+02	0.7 - 2.7
29-A	RFI-29-03	4.70E+02	1 - 3
12-B	RFI-12-11D	4.60E+02	1.1 - 3.1
12-B	RFI-12-14 *	4.60E+02	NA
09-B	RFI-09-45	4.40E+02	0.5 - 2.5
09-B	RFI-09-45R *	4.40E+02	NA
09-A	RFI-09-36R	4.30E+02	0.3 - 2.3
84-A	RFI-84-06	4.30E+02	0.9 - 2
09-A	RFI-09-39	4.20E+02	0.5 - 2.5

Notes:

1. Only locations with shallow lead concentrations greater than the residential screening criterion (400 mg/kg) are shown.
2. The background concentration of lead is 93.5 mg/kg, and was not subtracted from presented concentrations.
3. Locations marked with an asterisk (*) were not analyzed for lead. Concentrations at these locations were assigned by surrogate to the nearest location which was analyzed for lead. NA indicates that since no lead sample was collected, no depth interval is applicable.
4. The area-weighted average lead concentration for a 1/2 acre lot centered on RFI-40-09 is 190 mg/kg, which is less than the residential screening criterion.

TABLE 6-18
BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR RESIDENTIAL EXPOSURE TO SOIL AND GROUNDWATER BY VAPOR INTRUSION AT THE SOUTHEND

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI	Parcel	Soil Vapor Intrusion		GW Vapor Intrusion	
		Residential Soil Vapor Intrusion Risk	Residential Soil Vapor Intrusion HI	Residential GW Vapor Intrusion Risk	Residential GW Vapor Intrusion HI
02-A	1	4E-12	NA	NA	NA
02-B	1	3E-07	3E-02	5E-10	2E-04
02-C	1	7E-13	8E-08	NA	NA
02-D	1	6E-09	5E-03	NA	NA
02-E	1	9E-07	4E-02	1E-08	NA
02-F	1	4E-11	9E-03	7E-09	2E-04
04-A	1	1E-06	2E-02	NA	NA
04-B	1	2E-07	3E-03	NA	NA
04-C	1	5E-07	1E-04	NA	NA
04-D	1	NA	NA	1E-08	6E-04
09-A	3	3E-05	2E-01	1E-07	6E-04
09-B	3	1E-05	4E-01	3E-06	4E-02
12-A	1	5E-06	5E-01	6E-09	2E-03
12-B	1	2E-07	3E-02	4E-09	4E-08
12-C	1	6E-07	1E-02	NA	NA
12-D	1	7E-07	3E-03	NA	NA
16-A	1	4E-07	8E-03	NA	2E-06
16-B	1	4E-07	4E-03	NA	NA
16-C	1	2E-05	7E-01	4E-07	4E-03
16-D	1	4E-07	8E-03	NA	NA
17-A	2	3E-06	2E-01	NA	3E-06
23-A	1	6E-07	7E-03	6E-13	4E-06
29-A	1	2E-10	3E-03	NA	NA
40-A	1	2E-05	7E-01	1E-05	1E-01
40-B	1	1E-06	4E-03	1E-07	2E-03
40-C	1	4E-06	5E-02	8E-08	2E-04
40-D	1	6E-06	2E-02	4E-08	9E-04
44-A	1	7E-07	2E-02	5E-08	3E-08
84-A	2	5E-06	9E-02	7E-07	7E-03
84-B	2	8E-11	7E-04	NA	NA
84-C	2	9E-11	2E-04	NA	NA
84-D	2	2E-05	6E-02	4E-06	3E-02
86-1	1	8E-06	3E-01	3E-06	2E-02
94-A	2	2E-16	3E-03	NA	NA
94-B	2	2E-10	7E-04	5E-07	5E-04
94-C	2	6E-08	9E-03	NA	NA
94-D	2	6E-07	5E-07	4E-10	NA
94-E	2	1E-10	7E-03	NA	NA
Former Admin Building	6	2E-07	6E-04	2E-07	2E-03
uild 94 Parking L	2	3E-07	5E-04	4E-11	NA
FEP	4	4E-07	2E-02	NA	NA
Harriet Street	7	6E-06	8E-01	9E-08	9E-04

Notes:

1. Only AOIs at the Southend are shown. AOI 86-1 is part of the Northend, but contains nine soil locations on Parcel 1 in the Southend. The cumulative soil risk and HI at AOI 86-1 is based on concentrations detected in the Parcel 1 locations.
2. Cumulative cancer risks and HIs are upper-bound estimates based on the maximum detected concentrations in each AOI.
3. NA indicates that the medium was not sampled in that AOI, or that chemicals with risk-based volatilization criteria were all non-detect.
4. Parcels at the Southend are defined in Section 6.5.2.1 of the RFI Phase II Report and shown on Figure 6-1.

TABLE 6-19
ESTIMATED RESIDENTIAL CANCER RISK AND HI FROM
LNAPL VOLATILIZATION TO INDOOR AIR AT THE SOUTHEND

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI	Residential NAPL Vapor Intrusion Risk	Residential NAPL Vapor Intrusion HI
02-B	NA	1E-08
09-B	1E-04	1E+00
12-A	1E-08	1E-03
12-B	3E-08	2E-03
12-C	3E-08	4E-04
16-C	8E-07	6E-02
23-A	1E-08	1E-04
40-A	1E-06	1E-02

Note:

1. NA indicates that chemicals with the relevant toxicity values that could potentially volatilize were all non-detect.

TABLE 6-20
RECREATIONAL SOIL CONTACT RISK AND HI AT SOUTHEND LOCATIONS WITH UNACCEPTABLE RESIDENTIAL BOUNDING RISK ESTIMATES

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Parcel	AOI	Location	Recreator Soil Contact Risk	Recreator Soil Contact HI
2	Build 94 Parking Lot	BD 94 EP-02	9E-06	3E-01
2	Build 94 Parking Lot	EP 94-02A	9E-06	2E-01
3	09-A	RFI-09-02	2E-05	3E-01
3	09-A	RFI-09-03	**2E-04**	1E-01
3	09-B	RFI-09-05	1E-05	4E-01
3	09-A	RFI-09-19	3E-05	8E-02
3	09-A	RFI-09-38	1E-05	3E-01
3	09-A	RFI-09-39	2E-05	9E-03
3	09-B	RFI-09-45	4E-05	6E-02
3	09-B	RFI-09-45R	3E-05	1E-02
1	12-A	RFI-12-31	3E-06	3E-01
1	12-A	RFI-12-35	3E-06	3E-01
1	40-A	RFI-40-12	9E-05	1E-01
1	40-A	RFI-40-16	3E-05	5E-02
1	40-A	RFI-40-17	2E-05	5E-02
1	86-1	RFI-86-07	4E-05	3E-01
1	86-1	RFI-86-12	2E-05	2E-01
1	86-1	RFI-86-17	6E-05	3E-01

Notes:

1. Parcels at the Southend are defined in Section 6.5.2.1 of the Revised RFI Phase II Report and shown on Figure 6-1.
2. Values highlighted in bold are above the USEPA risk limits of 10^{-4} or 1 for cancer risk and HI, respectively.
3. Cumulative cancer risks and HIs are based on the following exposure pathways: ingestion, dermal contact, and inhalation.
4. Lead is evaluated in Section 6.5.2.1 of the RFI Phase II Report and shown on Table 6-5.

TABLE 6-21
BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR RESIDENTIAL EXPOSURE TO GROUNDWATER BY VAPOR INTRUSION AT AREAS DOWNGRADIENT OF THE NORTHEND

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI	GW Vapor Intrusion	
	Residential GW Vapor Intrusion Risk	Residential GW Vapor Intrusion HI
03-1	9E-08	1E-03
05-1	6E-09	4E-04
05-2	2E-07	6E-04
05-3	2E-08	2E-04
05-4	NA	3E-09
05-5	5E-10	2E-04
05-6	2E-07	2E-03
07-1	2E-08	3E-04
07-2	NA	NA
07-3	6E-10	1E-05
10-1	3E-08	5E-03
10-2	5E-07	8E-03
10-3	3E-06	3E-02
10-4	2E-08	2E-04
21-1	5E-11	2E-07
36-1	2E-06	2E-02
36-2	9E-06	9E-02
36-3	1E-05	2E-01
36-4	3E-09	2E-04
36-5	1E-07	1E-03
38-1	1E-09	2E-04
55-1	3E-07	2E-02
65-1	3E-08	8E-04
81-1	6E-08	4E-04
81-2	6E-09	4E-04
81-3	4E-07	4E-03
81-4	1E-08	2E-05
81-5	NA	NA
83/84-1	3E-09	3E-05
83/84-2	8E-10	5E-04
83/84-3	8E-10	1E-05
83/84-4	NA	5E-05
83/84-5	NA	NA
83/84-6	NA	NA
83/84-7	1E-06	2E-02
85-1	1E-07	7E-04
86-1	3E-06	2E-02
Aeration Lagoon	NA	6E-09

Notes:
1. Only AOIs at the Northend are shown.
2. Cumulative cancer risks and HIs are upper-bound estimates based on the maximum detected concentrations in each AOI.
3. NA indicates that the medium was not sampled in that AOI, or that chemicals with risk-based volatilization criteria were all non-detect.

TABLE 6-22
ESTIMATED SURFACE WATER CONCENTRATIONS RESULTING FROM GROUNDWATER MIGRATION AND OUTFALL DISCHARGE TO FLINT RIVER

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Chem Group	Chemical	CASRN	River Concentration Due to Groundwater Discharges (mg/L)	River Concentration Due to Sewer Outfall Discharges (mg/L)	Sum of River Concentrations from Outfall and Groundwater Discharges (mg/L)	MDEQ Cancer-Based Drinking Water Quality Standard (mg/L)	Ratio of Discharge Conc to MDEQ Cancer-Based Drinking WQS	MDEQ Non-Cancer-Based Drinking Water Quality Standard (mg/L)	Ratio of Discharge Conc to MDEQ Non-Cancer-Based Drinking WQS	Federal AWQC: Water + Organism (mg/L)	Ratio of Discharge Conc to Federal AWQC: Water + Organism	MDEQ Part 201 Residential Drinking Water Criteria (mg/L)	Ratio of Discharge Conc to Part 201 DW Criteria
VOC	Benzene	71-43-2	4.9E-04		4.9E-04	1.2E-02	4.1E-02	1.9E-02	2.6E-02	2.2E-03	2.2E-01	5.0E-03	9.8E-02
VOC	Chloroethane	75-00-3		3.2E-07	3.2E-07							4.3E-01	7.4E-07
VOC	1,1-Dichloroethane	75-34-3		4.8E-06	4.8E-06							8.8E-01	5.4E-06
VOC	cis-1,2-Dichloroethene	156-59-2		1.1E-05	1.1E-05							7.0E-02	1.6E-04
VOC	trans-1,2-Dichloroethene	156-60-5		1.0E-06	1.0E-06					1.4E-01	7.3E-06	1.0E-01	1.0E-05
VOC	1,1,1-Trichloroethane	71-55-6		2.3E-07	2.3E-07							2.0E-01	1.1E-06
VOC	Trichloroethene	79-01-6	3.8E-04	9.5E-06	3.9E-04	2.9E-02	1.4E-02			2.5E-03	1.6E-01	5.0E-03	7.9E-02
VOC	Vinyl Chloride	75-01-4		1.3E-05	1.3E-05					2.5E-05	5.4E-01	2.0E-03	6.7E-03
VOC	Xylenes (total)	1330-20-7	2.3E-05		2.3E-05							1.0E+01	2.3E-06
SVOC	bis(2-Ethylhexyl)phthalate	117-81-7	2.3E-04		2.3E-04					1.2E-03	1.9E-01	6.0E-03	3.9E-02
SVOC	Di-n-butylphthalate	84-74-2	5.2E-06		5.2E-06					2.0E+00	2.6E-06	8.8E-01	5.9E-06
SVOC	3,3'-Dichlorobenzidine	91-94-1	3.2E-06		3.2E-06					2.1E-05	1.5E-01	1.1E-03	2.9E-03
P/PCB	PCBs	1336-36-3		2.5E-05	2.5E-05	2.6E-08	**9.8E+02**			6.4E-08	**4.0E+02**	5.0E-04	5.1E-02
INORG	Cyanide (total)	57-12-5	2.9E-05		2.9E-05			6.0E-01	4.8E-05	1.4E-01	2.1E-04	2.0E-01	1.4E-04
INORG	Mercury	7439-97-6	4.9E-08		4.9E-08			1.8E+00	2.7E-08			2.0E-03	2.4E-05
INORG	Selenium	7782-49-2	3.0E-06		3.0E-06					1.7E-01	1.7E-05	5.0E-02	5.9E-05
INORG	Silver	7440-22-4	1.8E-07		1.8E-07							3.4E-02	5.4E-06

Notes:
1. Ratios greater than 1.0 are highlighted in bold.
2. The sum of groundwater discharge concentrations and the sum of sewer outfall discharge concentrations are calculated in Appendix F and discussed in Section 6.5.2.6.
3. The Michigan Water Quality Standard and Federal AWQC for PCBs are below the analytical Target Detection Limit (TDL) of 0.2 ug/L.

TABLE 6-23
SENSITIVITY ANALYSIS ON BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR MAINTENANCE WORKER EXPOSURE TO SOIL AND GROUNDWATER AT THE NORTHEND

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI	Maintenance Worker Soil Contact Risk	Maintenance Worker Soil Contact HI	Maintenance Worker GW Contact Risk	Maintenance Worker GW Contact HI
03-1	7E-07	**2E+00**	6E-08	2E-02
05-1	2E-07	8E-01	6E-09	1E-02
05-2	2E-09	2E-04	8E-08	1E-02
05-3	2E-08	5E-02	1E-08	1E-03
05-4	5E-09	6E-05	8E-11	1E-04
05-5	5E-08	3E-01	5E-09	6E-03
05-6	1E-07	1E-02	1E-07	1E-02
07-1	1E-07	2E-01	9E-09	2E-03
07-2	4E-10	5E-06	NA	NA
07-3	5E-08	9E-02	5E-10	5E-04
10-1	2E-06	1E+00	4E-08	3E-02
10-2	4E-07	5E-01	3E-07	1E-01
10-3	2E-07	8E-01	1E-06	2E-01
10-4	NA	NA	2E-08	7E-03
21-1	7E-08	4E-01	2E-07	3E-03
36-1	1E-05	**8E+00**	1E-06	3E-01
36-2	1E-06	3E-01	8E-06	1E+00
36-3	6E-08	2E-01	1E-05	**2E+00**
36-4	1E-07	8E-03	2E-09	7E-04
36-5	2E-07	1E-01	6E-08	1E-02
38-1	8E-09	6E-02	1E-09	5E-03
55-1	2E-07	4E-01	4E-07	4E-01
65-1	7E-10	2E-05	1E-08	3E-03
81-1	7E-07	4E-01	4E-08	7E-03
81-2	1E-06	**3E+00**	2E-08	9E-03
81-3	2E-07	2E-01	2E-07	3E-02
81-4	1E-08	2E-04	6E-09	5E-04
81-5	8E-09	2E-01	NA	NA
83/84-1	4E-08	1E-02	3E-09	6E-04
83/84-2	8E-06	**2E+00**	1E-09	2E-02
83/84-3	3E-08	5E-02	4E-09	2E-03
83/84-4	4E-07	3E-01	8E-09	2E-02
83/84-5	6E-09	2E-04	2E-10	1E-04
83/84-6	8E-08	9E-03	NA	NA
83/84-7	1E-09	1E-04	7E-07	5E-01
85-1	6E-08	4E-02	6E-08	2E-02
86-1	6E-07	1E+00	2E-06	5E-01
Former Aeration Lagoons	8E-08	3E-01	2E-09	1E-04

Notes:

1. Cumulative cancer risks and HIs are upper-bound estimates based on the maximum detected concentrations in each AOI.
2. Only AOIs where constituents were detected in soil or groundwater are shown.
3. Values highlighted in bold are above the USEPA risk limits of 10^{-4} or 1 for cancer risk and HI, respectively.
4. Cumulative cancer risks and HIs are based on the following exposure pathways: ingestion, dermal contact, and inhalation.
5. NA indicates that the medium was not sampled in that AOI, or that no compounds were detected above background levels.
6. Risks are based on an exposure duration of 1 year and exposure frequencies of 45 days for the vapor inhalation route, and 5 days for the ingestion and dermal routes. All other exposure factors are those used for the maintenance worker.

8. Lead is evaluated in Section 6.5.2.1 of the RFI Phase II Report and shown on Table 6-5.

TABLE 6-24
SENSITIVITY ANALYSIS ON BOUNDING CUMULATIVE CANCER RISK AND HAZARD INDEX FOR MAINTENANCE WORKER EXPOSURE TO SMEAR ZONE SOIL AND LNAPL AT THE NORTHEND

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI	Smear Zone Soil				LNAPL			Smear Zone Soil				LNAPL		
	Ingestion	Dermal Contact	Vapor Inhalation	Total	Dermal Contact	Vapor Inhalation	Total	Ingestion	Dermal Contact	Vapor Inhalation	Total	Dermal Contact	Vapor Inhalation	Total
	Maintenance Worker Risk							Maintenance Worker HI						
03-1	2E-08	1E-08	1E-08	5E-08	2E-08	4E-07	4E-07	4E-05	1E-05	4E-02	4E-02	5E-04	1E-01	1E-01
05-1	5E-10	2E-10	8E-09	9E-09	2E-10	8E-08	8E-08	4E-04	2E-04	2E-04	7E-04	1E-04	5E-02	5E-02
05-5	9E-09	4E-09	1E-07	1E-07	3E-09	2E-09	4E-09	6E-03	3E-03	NA	9E-03	2E-03	NA	2E-03
10-1	7E-11	7E-12	NA	7E-11	4E-08	NA	4E-08	3E-06	3E-07	9E-06	1E-05	3E-02	2E-07	3E-02
10-4	7E-10	7E-11	5E-08	5E-08	4E-07	3E-06	4E-06	2E-05	1E-06	3E-01	3E-01	2E-01	**2E+00**	**2E+00**
36-1	5E-09	6E-12	2E-05	2E-05	4E-07	**1E-03**	**1E-03**	2E-03	1E-04	**8E+00**	**8E+00**	2E-01	**3E+02**	**3E+02**
36-2	1E-10	1E-11	NA	1E-10	6E-08	NA	6E-08	5E-06	4E-07	4E-04	4E-04	7E-02	3E-01	3E-01
36-5	6E-12	5E-13	3E-09	3E-09	3E-09	4E-07	4E-07	1E-04	4E-05	1E-01	1E-01	2E-02	3E-01	3E-01
81-2	NA	NA	NA	NA	NA	NA	NA	4E-07	2E-07	1E-04	1E-04	3E-06	4E-03	4E-03
83/84-2	4E-09	2E-09	5E-08	6E-08	4E-08	5E-07	6E-07	3E-03	1E-03	1E-01	1E-01	4E-02	2E-01	2E-01
83/84-4	2E-10	2E-11	2E-09	2E-09	1E-07	2E-06	2E-06	2E-05	3E-07	4E-04	4E-04	2E-01	3E-01	5E-01
85-1	2E-10	6E-11	2E-09	2E-09	3E-08	2E-08	5E-08	1E-04	5E-05	4E-02	4E-02	3E-02	5E-02	8E-02
86-1	5E-10	2E-10	6E-09	7E-09	7E-08	1E-07	2E-07	4E-04	2E-04	1E-01	1E-01	2E-01	2E-01	3E-01

Notes:

1. Only LNAPL plumes in the Northend are shown.
2. NA = Risks were not calculated due to a lack of exposure or toxicity information for detected chemicals in the AOI.
3. Cumulative cancer risks and HIs are upper-bound estimates based on the maximum detected concentrations for LNAPL and estimated residual soil concentrations in each AOI.
4. Risks are based on an exposure duration of 1 year and exposure frequencies of 45 days for the vapor inhalation route, and 5 days for the ingestion and dermal routes. All other exposure factors are those used for the maintenance worker.
5. Values highlighted in bold are above the USEPA risk limits of 10^{-4} or 1 for cancer risk and HI, respectively.

TABLE 7-1
SUMMARY OF AREAS OF ECOLOGICAL INTEREST FOR ECOLOGICAL RISK EVALUATION

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Area and Description	Industrial Areas	Undeveloped Areas	Retain for Habitat Assessment?
Areas of Ecological Interest North of Leith Street			
Buildings/operations areas	ü		N
USTs/ASTs	ü		N
Industrial wastewater facilities	ü		N
Solid waste transfer facility	ü		N
Scrapyard/coalyard	ü		N
Wastewater aeration lagoon area		ü	Y
Vacant lot south of former aeration lagoons		ü	Y
Areas of Ecological Interest South of Leith Street			
Trenches/sumps/pits	ü		N
Buildings/operations areas	ü		N
USTs/ASTs	ü		N
Drum storage areas	ü		N

TABLE 7-2
COMPARISON OF CHEMICAL CONCENTRATIONS IN SOIL SAMPLES FROM ECOLOGICAL AREAS OF INTEREST TO SCREENING LEVELS AND BACKGROUND CONCENTRATIONS

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

	General Characteristics				ERA Assessment Endpoint/Receptor Category									Conclusion	
Habitat	Release Likely?	Sufficient Size?	Accessible to Wildlife?	Active Industrial Use?	Aquatic plants	Aquatic macro-invertebrates	Fish	Piscivorous birds/ mammals	Terrestrial plants	Soil fauna	Omnivorous mammals	Herbivorous mammals	Carnivorous/ insectivorous birds/mammals	Carried Forward for Further Evaluation?	Rationale
Industrial water bodies															
Stormwater pond, process water basin, or drainage ditch															
Wastewater Aeration Lagoon No outlet to non-industrial water body	**N**	**Y**	**Y**	**N**	x	x	x	√ [a]			√ [a]			**N**	**No release**
Hydrologic connection to non-industrial water body					x	x	√ [b]	√ [a]			√ [a]				
Non-industrial water bodies															
Pond/lake					x	√	√	√			√				
Marsh/wetland					x	√	√	√			√				
Creek/stream/river					x	√	√	√			√				
Terrestrial habitats															
Developed areas (buildings, etc.)	**NE**	**NE**	**NE**	**NE**					**NE**	**NE**	**NE**	**NE**	**NE**	**N**	**NE**
Paved or graveled areas	**NE**	**NE**	**NE**	**NE**					**NE**	**NE**	**NE**	**NE**	**NE**	**N**	**NE**
Landscaped and intensively maintained areas	**NE**	**NE**	**NE**	**NE**					**NE**	**NE**	**NE**	**NE**	**NE**	**N**	**NE**
Vacant Lot Infrequently maintained areas/natural fields	**N**	**Y**	**Y**	**N**					√	√	√	√	√	**Y**	**Presence of surface soil contaminants**
Woodlots and forests															

Notes:
[a] Will be an assessment endpoint if water body is of sufficient size and hydroperiod, and with appropriate prey species for proposed receptors.
[b] Will be an assessment endpoint if there is movement or colonization of fish from connected natural water body.
NE = Not evaluated, because feature not considered to be ecological habitat.
x = Not an assessment endpoint for this habitat, but may be assessed for risk to higher trophic-level receptors.
√ = Assessment endpoint for this habitat.
Not applicable for this feature or not present at this facility

TABLE 7-3

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN
RFI PHASE II REPORT

COMPARISON OF CHEMICAL CONCENTRATIONS IN SOIL SAMPLES FROM ECOLOGICAL AREAS OF INTEREST TO SCREENING LEVELS AND BACKGROUND CONCENTRATIONS

Analyte	Maximum Concentration in Ecological Areas of Interest	Site-Specific Background	Michigan State Background	EPA Region 5 ESLs	EPA Eco-SSL Plants	EPA Eco-SSL Inverte-brates	EPA Eco-SSL Bird	EPA Eco-SSL Mammal	ORNL Benchmark Microbes	ORNL Benchmark Worms	ORNL Benchmark Plants
Total Metals (mg/kg)											
Antimony	*0.089 J*	0.09		0.142		78	0.3	0.27			5
Arsenic	5.8	8.1	5.8	5.7	18		43	46	100	60	10
Beryllium	0.64	0.59		1.06		40		21			10
Cobalt	3.6	7.1	6.8	0.14033	13		120	230	1,000		20
Manganese	*1,300J*	480	440						100		500
Nickel	15	20	20	13.6					90	200	30
Selenium	0.65	0.52	0.41	0.02765					100	70	1
Thallium	*0.12J*	0.2		0.05692							1
Vanadium	17	25		1.59			7.8	280	20		2
Zinc	170	110	47	6.62	130	120			100	200	50
Semivolatile Organic Compounds (μg/kg)											
Benzo[b]fluoranthene	*120J*			59,800							
Benzo[k]fluoranthene	*100J*			148,000							
Benzo[a]pyrene	*81J*			1,520							
Chrysene	*87J*			4,730							
Fluoranthene	*170J*			122,000							
Phenanthrene	*83J*			45,700							
Pyrene	*150J*			78,500							
Volatile Organic Compounds (μg/kg)											
Methyl acetate	*260J*										
Methyl cyclohexane	*43J*										
Polychlorinated Biphenyls (μg/kg)											
Polychlorinated biphenyls	850			0.332							40,000

Notes:
Includes data from the following samples collected in the vicinity of the vacant lot: RFI-07-12, 13, 14; and WL-B1A, B2A, B3A, B4A, B5A, B6A
All concentrations are dry weight.
Boxed screening values are below maximum Site concentration.
Site-specific and Michigan state background values taken from Table 4-1. Michigan default background values are included for reference.
Eco-SSL = ecological soil screening level (EPA 2005)
EPA = United States Environmental Protection Agency.
ESL = Region 5 ecological screening level (EPA 2003)
ORNL = Oak Ridge National Laboratory (Efroymson et al. 1997a, b)

TABLE 7-4

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN
RFI PHASE II REPORT

COMPARISON OF UNDETECTED CHEMICAL CONCENTRATIONS IN SOIL SAMPLES FROM ECOLOGICAL AREAS OF INTEREST TO SCREENING LEVELS

Sample ID:				RFI-07-12	RFI-07-13	RFI-07-14	WL-B1A	WL-B2A	WL-B3A	WL-B4A	WL-B5A	WL-B6A
Sample Depth:		Screening		0.3-2.3	0.3-2.3	0-2	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Date Collected:	Units	Value		03/17/03	03/17/03	03/19/03	05/14/01	05/14/01	05/14/01	05/14/01	05/14/01	05/10/01
Volatiles												
1,1,1-Trichloroethane	mg/kg	29.8	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
1,1,2,2-Tetrachloroethane	mg/kg	0.127	ESL	0.04 *U*	0.0385 *UJ*	0.0405 *UJ*						
1,1,2-Trichloroethane	mg/kg	28.6	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
1,1-Dichloroethane	mg/kg	20.1	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
1,1-Dichloroethene	mg/kg	8.28	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
1,2,4-Trichlorobenzene	mg/kg	11.1	ESL	0.085 *U*	0.085 *U*	0.085 *U*						
1,2-Dibromo-3-chloropropane (DBCP)	mg/kg	0.0352	ESL	0.085 *U*	0.085 *U*	0.085 *U*						
1,2-Dibromoethane (Ethylene Dibromide)	mg/kg	1.23	ESL	0.085 *U*	0.085 *U*	0.085 *U*						
1,2-Dichlorobenzene	mg/kg	2.96	ESL	0.04 *U*	0.0385 *U*	0.0405 *U*						
1,2-Dichloroethane	mg/kg	21.2	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
1,2-Dichloropropane	mg/kg	32.7	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
1,3-Dichlorobenzene	mg/kg	37.7	ESL	0.04 *U*	0.0385 *U*	0.0405 *U*						
1,4-Dichlorobenzene	mg/kg	0.546	ESL	0.04 *U*	0.0385 *U*	0.0405 *U*						
2-Butanone (Methyl Ethyl Ketone)	mg/kg	89.6	ESL	0.17 *UJ*	0.165 *UJ*	0.175 *UJ*						
2-Hexanone	mg/kg	12.6	ESL	0.04 *U*	0.0385 *UJ*	0.0405 *UJ*						
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	mg/kg	443	ESL	0.85 *U*	0.85 *UJ*	0.85 *UJ*						
Acetone	mg/kg	2.5	ESL	0.17 *UJ*	0.165 *UJ*	0.175 *UJ*						
Benzene	mg/kg	0.255	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
Bromodichloromethane	mg/kg	0.540	ESL	0.04 *U*	0.0385 *U*	0.0405 *U*						
Bromoform	mg/kg	15.9	ESL	0.04 *U*	0.0385 *U*	0.0405 *U*						
Bromomethane (Methyl Bromide)	mg/kg	0.235	ESL	0.085 *U*	0.085 *U*	0.085 *U*						
Carbon disulfide	mg/kg	0.0941	ESL	0.085 *U*	0.085 *U*	0.085 *UJ*						
Carbon tetrachloride	mg/kg	2.98	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
Chlorobenzene	mg/kg	13.1	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
Chloroethane	mg/kg			0.085 *U*	0.085 *U*	0.085 *U*						
Chloroform (Trichloromethane)	mg/kg	1.19	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
Chloromethane (Methyl Chloride)	mg/kg	10.4	ESL	0.085 *U*	0.085 *U*	0.085 *U*						
cis-1,2-Dichloroethene	mg/kg			0.02 *U*	0.0195 *U*	0.02 *U*						
cis-1,3-Dichloropropene	mg/kg	0.398	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
Cyclohexane	mg/kg			0.085 *U*	0.085 *U*	0.085 *U*						
Dibromochloromethane	mg/kg	2.05	ESL	0.04 *U*	0.0385 *U*	0.0405 *U*						
Dichlorodifluoromethane (CFC-12)	mg/kg	39.5	ESL	0.04 *U*	0.0385 *U*	0.0405 *U*						
Ethylbenzene	mg/kg	5.16	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
Isopropylbenzene	mg/kg			0.085 *U*	0.085 *U*	0.085 *U*						
m&p-Xylene	mg/kg			0.04 *U*	0.0385 *U*	0.0405 *U*						
Methyl acetate	mg/kg			0.085 *UJ*	0.085 *UJ*	0.26 *J*						
Methyl cyclohexane	mg/kg			0.085 *U*	0.035 *J*	0.043 *J*						
Methyl Tert Butyl Ether	mg/kg			0.085 *U*	0.085 *UJ*	0.085 *UJ*						
Methylene chloride	mg/kg	4.05	ESL	0.055 *J*	0.085 *U*	0.085 *U*						
o-Xylene	mg/kg			0.02 *U*	0.0195 *U*	0.02 *U*						
Styrene	mg/kg	4.69	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
Tetrachloroethene	mg/kg	9.92	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						

TABLE 7-4

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COMPARISON OF UNDETECTED CHEMICAL CONCENTRATIONS IN SOIL SAMPLES FROM ECOLOGICAL AREAS OF INTEREST TO SCREENING LEVELS

Sample ID:				RFI-07-12	RFI-07-13	RFI-07-14	WL-B1A	WL-B2A	WL-B3A	WL-B4A	WL-B5A	WL-B6A
Sample Depth:		Screening		0.3-2.3	0.3-2.3	0-2	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Date Collected:	Units	Value		03/17/03	03/17/03	03/19/03	05/14/01	05/14/01	05/14/01	05/14/01	05/14/01	05/10/01
Toluene	mg/kg	5.45	ESL	0.04 *U*	0.0385 *U*	0.0405 *U*						
trans-1,2-Dichloroethene	mg/kg	0.784	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
trans-1,3-Dichloropropene	mg/kg	0.398	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
Trichloroethene	mg/kg	12.4	ESL	0.02 *U*	0.0195 *U*	0.02 *U*						
Trichlorofluoromethane (CFC-11)	mg/kg	16.4	ESL	0.04 *U*	0.0385 *U*	0.0405 *U*						
Trifluorotrichloroethane (Freon 113)	mg/kg			0.086 *J*	0.085 *U*	0.085 *U*						
Vinyl chloride	mg/kg	0.646	ESL	0.04 *U*	0.0385 *U*	0.0405 *U*						
Xylenes (total)	mg/kg	10	ESL	0.04 *U*	0.0385 *U*	0.0405 *U*						
Semivolatiles												
1,2,4-Trichlorobenzene	mg/kg											
1,2-Dichlorobenzene	mg/kg											
1,3-Dichlorobenzene	mg/kg											
1,4-Dichlorobenzene	mg/kg											
2,2'-oxybis(1-Chloropropane) (bis(2-chloroisoprop	mg/kg	19.9	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
2,4,5-Trichlorophenol	mg/kg	14.1	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
2,4,6-Trichlorophenol	mg/kg	9.94	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
2,4-Dichlorophenol	mg/kg	87.5	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
2,4-Dimethylphenol	mg/kg	0.01	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
2,4-Dinitrophenol	mg/kg	0.06	ESL	0.395 *U*	0.375 *U*	0.39 *U*						
2,4-Dinitrotoluene	mg/kg	1.2	ESL	0.395 *U*	0.375 *U*	0.39 *U*						
2,6-Dinitrotoluene	mg/kg	0.03	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
2-Chloronaphthalene	mg/kg	0.01	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
2-Chlorophenol	mg/kg	0.24	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
2-Methylnaphthalene	mg/kg	3.2	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
2-Methylphenol	mg/kg	40.4	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
2-Nitroaniline	mg/kg	74.1	ESL	0.395 *U*	0.375 *U*	0.39 *U*						
2-Nitrophenol	mg/kg	1.6	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
3&4-Methylphenol	mg/kg	163	ESL	0.20 *UJ*	0.19 *U*	0.2 *UJ*						
3,3'-Dichlorobenzidine	mg/kg	0.64	ESL	0.395 *U*	0.375 *U*	0.39 *U*						
3-Nitroaniline	mg/kg	3.1	ESL	0.395 *U*	0.375 *U*	0.39 *U*						
4,6-Dinitro-2-methylphenol	mg/kg			0.395 *U*	0.375 *U*	0.39 *U*						
4-Bromophenyl phenyl ether	mg/kg			0.10 *U*	0.095 *U*	0.1 *U*						
4-Chloro-3-methylphenol	mg/kg	7.9	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
4-Chloroaniline	mg/kg	1.1	ESL	0.395 *U*	0.375 *U*	0.39 *U*						
4-Chlorophenyl phenyl ether	mg/kg			0.395 *U*	0.375 *U*	0.39 *U*						
4-Nitroaniline	mg/kg	21.9	ESL	0.395 *U*	0.375 *U*	0.39 *U*						
4-Nitrophenol	mg/kg	5.1	ESL	0.395 *U*	0.375 *U*	0.39 *U*						
Acenaphthene	mg/kg	682	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Acenaphthylene	mg/kg	682	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Acetophenone	mg/kg	300	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Anthracene	mg/kg	1480	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Atrazine	mg/kg			0.10 *U*	0.095 *UJ*	0.1 *U*						
Benzaldehyde	mg/kg			0.10 *UJ*	0.095 *UJ*	*R*						

TABLE 7-4

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COMPARISON OF UNDETECTED CHEMICAL CONCENTRATIONS IN SOIL SAMPLES FROM ECOLOGICAL AREAS OF INTEREST TO SCREENING LEVELS

Sample ID:				RFI-07-12	RFI-07-13	RFI-07-14	WL-B1A	WL-B2A	WL-B3A	WL-B4A	WL-B5A	WL-B6A
Sample Depth:		Screening		0.3-2.3	0.3-2.3	0-2	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Date Collected:	Units	Value		03/17/03	03/17/03	03/19/03	05/14/01	05/14/01	05/14/01	05/14/01	05/14/01	05/10/01
Benzo(a)anthracene	mg/kg	5.2	ESL	0.082 *J*	0.095 *U*	0.1 *U*						
Benzo(a)pyrene	mg/kg	1.5	ESL	0.080 *J*	0.095 *UJ*	0.081 *J*						
Benzo(b)fluoranthene	mg/kg	59.8	ESL	0.099 *J*	0.095 *UJ*	0.12 *J*						
Benzo(g,h,i)perylene	mg/kg	119	ESL	0.10 *UJ*	0.095 *UJ*	0.1 *U*						
Benzo(k)fluoranthene	mg/kg	148	ESL	0.12 *J*	0.095 *UJ*	0.1 *J*						
Biphenyl	mg/kg			0.10 *U*	0.095 *U*	0.1 *U*						
bis(2-Chloroethoxy)methane	mg/kg			0.10 *U*	0.095 *U*	0.1 *U*						
bis(2-Chloroethyl)ether	mg/kg	23.7	ESL	0.0195 *U*	0.0185 *U*	0.019 *U*						
bis(2-Ethylhexyl)phthalate	mg/kg	0.925	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Butyl benzylphthalate	mg/kg	0.239	ESL	0.086 *J*	0.095 *U*	0.1 *U*						
Caprolactam	mg/kg			0.10 *U*	0.095 *U*	0.1 *U*						
Carbazole	mg/kg			0.10 *U*	0.095 *U*	0.1 *U*						
Chrysene	mg/kg	4.7	ESL	0.091 *J*	0.095 *U*	0.087 *J*						
Di-n-butylphthalate	mg/kg	0.15	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Di-n-octyl phthalate	mg/kg	709	ESL	0.10 *U*	0.095 *UJ*	0.1 *U*						
Dibenz(a,h)anthracene	mg/kg	18.4	ESL	0.10 *UJ*	0.095 *UJ*	0.1 *UJ*						
Dibenzofuran	mg/kg			0.10 *U*	0.095 *U*	0.1 *U*						
Diethyl phthalate	mg/kg	24.8	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Dimethyl phthalate	mg/kg	734	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Fluoranthene	mg/kg	122	ESL	0.12 *J*	0.095 *U*	0.17 *J*						
Fluorene	mg/kg	122	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Hexachlorobenzene	mg/kg	0.199	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Hexachlorobutadiene	mg/kg	0.039	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Hexachlorocyclopentadiene	mg/kg	0.755	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Hexachloroethane	mg/kg	0.596	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Indeno(1,2,3-cd)pyrene	mg/kg	109	ESL	0.10 *U*	0.095 *UJ*	0.1 *UJ*						
Isophorone	mg/kg	139	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Methylphenols, Total	mg/kg			0.20 *U*	0.19 *U*	0.2 *U*						
N-Nitrosodi-n-propylamine	mg/kg			0.10 *U*	0.095 *U*	0.1 *U*						
N-Nitrosodiphenylamine	mg/kg	0.545	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Naphthalene	mg/kg	0.099	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Nitrobenzene	mg/kg	1.31	ESL	0.0395 *U*	0.0375 *U*	0.039 *U*						
Pentachlorophenol	mg/kg	0.0018	EcoSSL	0.395 *U*	0.375 *U*	0.39 *U*						
Phenanthrene	mg/kg	45.7	ESL	0.10 *U*	0.095 *U*	0.083 *J*						
Phenol	mg/kg	120	ESL	0.10 *U*	0.095 *U*	0.1 *U*						
Pyrene	mg/kg	78.5	ESL	0.21	0.095 *U*	0.15 *J*						
Inorganics												
Antimony	mg/kg			0.03 *J*	0.026 *J*	0.089 *J*						
Arsenic	mg/kg			9.1 *J*	11 *J*	5.8						
Barium	mg/kg											
Beryllium	mg/kg			0.26	0.4	0.64						
Cadmium	mg/kg											
Chromium Total	mg/kg											

TABLE 7-4

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COMPARISON OF UNDETECTED CHEMICAL CONCENTRATIONS IN SOIL SAMPLES FROM ECOLOGICAL AREAS OF INTEREST TO SCREENING LEVELS

Sample ID:				RFI-07-12	RFI-07-13	RFI-07-14	WL-B1A	WL-B2A	WL-B3A	WL-B4A	WL-B5A	WL-B6A
Sample Depth:		Screening		0.3-2.3	0.3-2.3	0-2	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5	0-0.5
Date Collected:	Units	Value		03/17/03	03/17/03	03/19/03	05/14/01	05/14/01	05/14/01	05/14/01	05/14/01	05/10/01
Cobalt	mg/kg			5.0	7.4	3.6						
Copper	mg/kg											
Cyanide (total)	mg/kg	1.33	ESL	0.10 *U*	0.1 *U*	0.1 *U*						
Lead	mg/kg											
Manganese	mg/kg			460 *J*	430 *J*	1300 *J*						
Mercury	mg/kg											
Nickel	mg/kg			15	17	15						
Selenium	mg/kg			0.31	0.14	0.65						
Silver	mg/kg											
Thallium	mg/kg			0.13 *J*	0.15 *J*	0.12 *J*						
Vanadium	mg/kg			18	36	17						
Zinc	mg/kg			160 *J*	65 *J*	170						
PCBs												
Aroclor-1016 (PCB-1016)	mg/kg			0.0205 *U*	0.0195 *U*	0.0205 *U*	0.02 *U*	0.019 *U*	0.0205 *U*	0.02 *U*	0.02 *U*	0.0195 *U*
Aroclor-1221 (PCB-1221)	mg/kg			0.0205 *U*	0.0195 *U*	0.0205 *U*	0.02 *U*	0.019 *U*	0.0205 *U*	0.02 *U*	0.02 *U*	0.0195 *U*
Aroclor-1232 (PCB-1232)	mg/kg			0.0205 *U*	0.0195 *U*	0.0205 *U*	0.02 *U*	0.019 *U*	0.0205 *U*	0.02 *U*	0.02 *U*	0.0195 *U*
Aroclor-1242 (PCB-1242)	mg/kg			0.0205 *U*	0.0195 *U*	0.0205 *U*	0.02 *U*	0.019 *U*	0.0205 *U*	0.02 *U*	0.02 *U*	0.0195 *U*
Aroclor-1248 (PCB-1248)	mg/kg			0.0205 *U*	0.0195 *U*	0.0205 *U*	0.02 *U*	0.019 *U*	0.0205 *U*	0.02 *U*	0.02 *U*	0.0195 *U*
Aroclor-1254 (PCB-1254)	mg/kg			0.0205 *U*	0.0195 *U*	0.0205 *U*	0.057	0.71	0.35	0.39	0.02 *U*	0.044
Aroclor-1260 (PCB-1260)	mg/kg			0.0205 *U*	0.0195 *U*	0.0205 *U*	0.02 *U*	0.14	0.071	0.02 *U*	0.02 *U*	0.0195 *U*
Total PCBs	mg/kg	0.000332	ESL	0.0205 *U*	0.0195 *U*	0.0205 *U*	0.057	0.85	0.42	0.39	0.02 *U*	0.044

Notes:
All concentrations are dry weight.
Nondetects are reported at half the detection limit.
Boxed concentrations exceed screening level.
J - estimated
R - rejected
U - undetected
Eco-SSL = ecological soil screening level (EPA 2005)
EPA = United States Environmental Protection Agency.
ESL = Region 5 ecological screening level (EPA 2003)

TABLE 7-6

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN
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BAFS USED TO ESTIMATE CONCENTRATIONS OF COPCS IN EARTHWORMS

CoPC	Nonlinear BAF		Source
	***B* 0**	***B* 1**	
Metals			
Manganese	-0.809	0.682	Sample et al. (1998)
Selenium	-0.075	0.733	Sample et al. (1998)
Zinc	4.449	0.328	Sample et al. (1998)
Polychlorinated Biphenyls			
Aroclor® 1248	0.1352	1.0347	See Appendix H
Aroclor® 1254	0.1352	1.0347	See Appendix H
Aroclor® 1260	0.1352	1.0347	See Appendix H
Total PCBs	0.1352	1.0347	See Appendix H

Notes:

Dry-weight nonlinear BAF has form: $\ln[biota] = B0 + B1 * \ln[soil]$

Dry-weight PCB nonlinear BAF has form: $6.25\ (\log[biota] = B0 + B1 * \log[soil])$

PCB BAF assumes an average earthworm moisture content of 84% (U.S. EPA 1993)

BAF - bioaccumulation factor

CoPC - chemical of potential concern

PCB - polychlorinated biphenyl

TABLE 7-8

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN
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SHORT-TAILED SHREW EXPOSURE MODEL
AND RISK CALCULATIONS

	Soil Max. (mg/kg)	BAFs (dry) B_0	BAFs (dry) B_1	ln[Earthworm Tissue] (mg/kg, dry)	Earthworm Tissue (mg/kg, dry)	Intake via Food (mg/kg bw-d)	Intake via Soil (mg/kg bw-d)	Total Ingestion (mg/kg bw-d)	Toxicity Reference Value (mg/kg bw-d)	Hazard Quotient
Metals										
Manganese	1300	-0.809	0.682	4.08	5.92E+01	8.63E+00	1.78E+01	2.65E+01	88	0.3
Selenium	0.65	-0.075	0.733	-0.39	6.77E-01	9.86E-02	8.91E-03	1.08E-01	0.20	0.5
Zinc	170	4.449	0.328	6.13	4.61E+02	6.72E+01	2.33E+00	6.96E+01	160	0.4
PCBs										
Total PCBs	0.85	0.1352	1.0347	0.06	7.21E+00	1.05E+00	1.16E-02	1.06E+00	0.137	7.8

Notes:
Maximum soil concentrations are from Table 7-3.
BAF - bioaccumulation factor
PCB - polychlorinated biphenyl
Toxicity Reference Values are from Table 7-7.
Dry-weight nonlinear BAF has form: $\ln[biota] = B_0 + B_1 * \ln[soil]$ (Sample et al. 1998); refer to Table 7-6.
Dry-weight PCB nonlinear BAF has form: 6.25 (log[biota] = B0 + B1 * log[soil]) (Appendix H); refer to Table 7-6.
PCB BAF assumes an average earthworm moisture content of 84% (U.S. EPA 1993)

TABLE 7-5
EXPOSURE PARAMETERS FOR ECOLOGICAL RISK EVALUATION

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Parameters	Units	Short-tailed Shrew
Body weight	kg	0.012 [a]
Food ingestion rate (dw basis)	kg/day	0.0017 [b]
Soil ingestion rate (dw basis)	kg/day	0.00016 [c]

Notes:
[a] Guilday (1957, as cited in U.S. EPA 1993).
[b] Nagy (2001) estimation.
[c] 9.4 percent of food ingestion rate, from Beyer and Fries (2003).

TABLE 7-7
TRVS FOR ECOLOGICAL RISK CALCULATIONS

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

CoPC	Class	Test Species	Body Weight (kg)	Exposure Route	No-Effects Dose Concentration	Lowest-Observed-Effects Dose Concentration	Ingestion Rate	Endpoint	Duration of Study	NOAEL (mg/kg bw - d)	LOAEL (mg/kg bw - d)	References
Manganese	Mammals	Rat	0.35 [a]	oral in diet	1,050 ppm and 50 ppm in food	3,500 ppm and 50 ppm in food	0.028 kg/day[b]	reproduction	224 days	88	280	Laskey et al. (1982)
Selenium	Mammals	Rat	0.35 [c]	oral in water	1.5 mg/L	2.5 mg/L	0.046 L/day[d]	reproduction	2 generations	0.20	0.33	Rosenfeld and Beath (1954)
Zinc	Mammals	Sprague-Dawley rat	0.35 [c]	oral in diet	2,000 ppm	4,000 ppm	0.028 kg/day[b]	reproduction	16 days during gestation	160	320	Schlicker and Cox (1968)
Total PCBs	Mammals	Mink	1.0 [e]	oral in diet	1 ppm	2 ppm	0.137 kg/day[f]	reproduction	9 months	0.137	0.27	Aulerich and Ringer (1977)

Notes:

Dose concentrations and ingestion rates are expressed in wet weight unless otherwise noted.

bw = body weight.

CoPC = chemical of potential concern.

LOAEL = lowest-observed-adverse-effect level.

NOAEL = no-observed-adverse-effect level.

PCB = polychlorinated biphenyl.

TRV = toxicity reference value.

[a] U.S. EPA (1995).

[b] Calculated using allometric equation from U.S. EPA (1988).

[c] U.S. EPA (1988).

[d] Calder and Braun (1983).

[e] U.S. EPA (1993).

[f] Based on the observations of Bleavins and Aulerich (1981).

TABLE 8-1
AREAS THAT DO NOT CONTAIN LNAPL AND DO NOT REQUIRE FURTHER ACTION BASED ON THE RFI RESULTS

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI:	Section Reference	Description:
02-D	4.5.14	Press Machine Pit
02-E	4.5.15	Former UST
02-F	4.5.16	Hydraulic Oil AST and Pump
04-A	4.5.23	Process Waste Room and Waste Pit
04-B	4.5.24	Elevator Pits
04-C	4.5.25	Elevator Pit
04-D	4.5.26	Former USTs
05-2	4.4.13	Filtration Room, Oil Room, Below-Grade Vault, and Elevator Pit
05-3	4.4.14	Building 43 Basement Containing Process Waste Oil Sumps and Drains
05-4	4.4.15	Metal Forming Operations, Recirculation Trenches and Sumps
05-6	4.4.17	Active Process Machinery, Collection Trenches, and Sumps
07-1	4.4.35	Former Coal Yard
07-2	4.4.36	Inactive Line "Slacker House" and Inactive Lime Slurry Tank
07-3	4.4.37	Two Elevator Pits and a Bulk Acid AST
10-2	4.4.9	Solid Waste Transfer Area and Former ASTs
10-3	4.4.10	Two Process Waste Oil Sumps
12-D	4.5.22	Abandoned, Flooded Utility Tunnel
16-A	4.5.27	Vehicle Fill-Up Station, Automatic Transmission Pump House, and a Gas Pump Station
16-B	4.5.28	Elevator Pit
16-D	4.5.30	Former UST and Process Wastewater Sump
17-A	4.5.10	Elevator Pit
21-1	4.4.24	Former Metal Chip Briquetting Operations and Current Metal Welding and Tool Grinding Operations
36-3	4.4.4	Engine Assembly, Waste Oil Collection and Processing, and Former USTs
36-4	4.4.5	Former Metal Machining and Active Engine Assembly
38-1	4.4.1	Process Waste Sumps, Trenches, and Former Hydraulic Car Lifts
40-C	4.5.33	Elevator Pit
40-D	4.5.34	Flooded Basement/Tunnel Area
44-A	4.5.35	Sumps, Pits, Trenches, Drains, Floor Stains, and ASTs
55-1	4.4.7	Industrial Wastewater Treatment Facilities
65-1	4.4.25	Air Compressor Station and a Main Process Waste Pump Station
81-3	4.4.21	Former Foundry Operations, an Elevator Pit and an Inactive Rail Loading Area
81-4	4.4.22	Air Compressor Operations
81-5	4.4.23	Existing and Former ASTs
83/84-1	4.4.26	Former and Existing Machining Operations
83/84-5	4.4.30	Former Process Trenches and Pits, and an Inactive Heat Treating Tunnel
83/84-6	4.4.31	Forklift Battery Charging Area and Associated Trench and Pit, and a Drum Storage Area
83/84-7	4.4.32	Underground Storage Tanks
84-B	4.5.7	Sumps, Floor Drains, a Pit, a Flooded Basement, and a Below Grade Vault
84-C	4.5.8	Sumps, a Trench, and an Oil/Water Separator Pit
84-D	4.5.9	Former UST Farm, and AST Farm, and Drum Storage Area
94-A	4.5.1	Sumps and Trenches in Oil Change Pits and Chemical Storage Areas
94-B	4.5.2	Process Sump and Trench
94-C	4.5.3	Hydraulic Oil Storage Area
94-D	4.5.4	Pit for a Cable-Operated Car Elevator
94-E	4.5.6	Car Loading Machinery and Hydraulic Oil Observed on Floor
Other Areas of Interest:		
	4.6.1	Former Aeration Lagoons Area
	4.6.3	Former Administration Building Area (Transformer Yard, Soil Stockpile Area, and Former USTs)
	4.6.2	Harriet Street Area (USTs)
	4.6.5	Former Employee Parking Lot North of Oak Park

TABLE 8-2
AREAS THAT DO NOT CONTAIN LNAPL AND REQUIRE ACTION BASED ON THE HUMAN HEALTH RISK ASSESSMENT

RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI:	Section Reference	Description:	Remarks:
02-A	4.5.11	Process Wastewater Sump	Lead concentrations in surface soil at certain locations exceed the residential screening criterion.
02-C	4.5.13	Sump in Materials Laboratory	Lead concentrations in surface soil at certain locations exceed the residential and industrial screening criteria. A Due Care Plan has been prepared and procedures implemented in this area.
09-A	4.5.36	Former USTs, Floor Trenches, and Former AST	Bounding CCR and HI for potential exposure of residents and recreators to soil at certain locations exceed USEPA risk limits. Lead concentrations in surface soil at certain locations exceed the residential and industrial screening criteria. A Due Care Plan has been prepared and procedures implemented in this area and an interim measure is being prepared to remove contaminated soil.
29-A	4.5.18	Elevator Pit and Observed Oil Staining	Lead concentrations in surface and deep soil at certain locations exceed the residential and industrial screening criteria. A Due Care Plan has been prepared and procedures implemented in this area.
81-1	4.4.19	Metal Machining, Chip, Cooling, and Cutting Oil Filtration and Processing, a Hydraulic Elevator, Process Waste Sumps and Tanks, a Drum Storage Area, and an Active Hazardous Waste Accumulation Area	Mean lead concentrations in deep soil exceed the industrial screening criterion. A Due Care Plan has been prepared and procedures implemented in this area.
83/84-3	4.4.28	Former and Existing Machining Operations	Mean lead concentrations in surface and deep soil exceed the industrial routine worker screening criterion. The AOI is covered by operational building floors. A Due Care Plan has been prepared and procedures implemented in this area.
84-A	4.5.~~7~~6	Elevation Pits, Sumps, Machine Shop, Hydraulic Cylinders, and a Hydraulic Lift	Lead concentrations in surface soil at certain locations exceed the residential screening criterion.
--	4.6.4	Former Building 94 Employee Parking Lot	Bounding HI for potential exposure of residents to soil at certain locations exceeds the USEPA HI limit.

Notes:
CCR = Cumulative cancer risk.
HI = Hazard index.

TABLE 8-3
AREAS THAT CONTAIN LNAPL (TO BE FURTHER EVALUATED IN THE CORRECTIVE MEASURES PLAN)

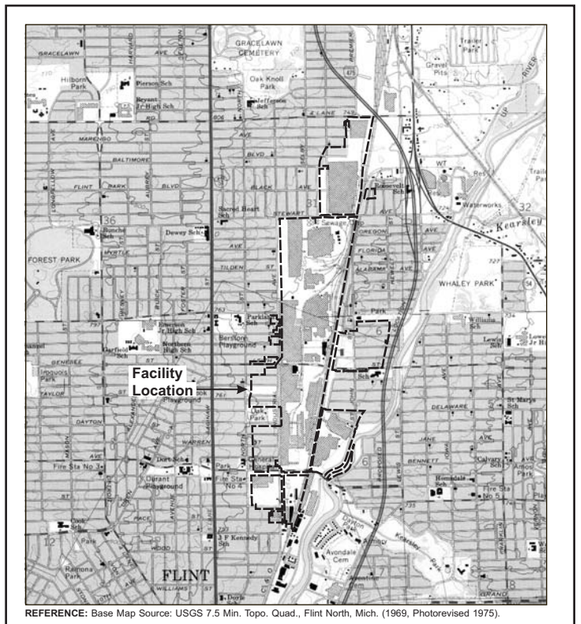
RFI PHASE II REPORT
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

AOI:	Section Reference	Description:	Remarks:
AOIs That Contain LNAPL and Do Not Require Further Action Based on the Human Health Risk Assessment			
03-1	4.4.18	Factory 03 Area	
05-1	4.4.12	Former Metal Machining Chip Processing	Automated LNAPL recovery system is currently in service in this area.
05-5	4.4.16	Active Process Machinery, Collection Trenches, and Sumps	Automated LNAPL recovery system is currently in service in this area.
10-1	4.4.8	Factory 10 Area; Manufacturing Operations and Several Tanks	Automated LNAPL recovery system is currently in service in this area.
10-4	4.4.11	Factory 10 Area; Scrapyard	Automated LNAPL recovery system is currently in service in this area.
12-C	4.5.21	Sump in Battery Charging Area, Deep Steam Pipe, and a Utility Pit Containing Oil and Water	
16-C	4.5.29	Hydraulic Motor, Former AST, and Former USTs	Automated LNAPL recovery system is currently in service in this area.
23-A	4.5.17	Process Waste Sumps, Dock Levelers, and Basement Used for Heat Treat Process Water	Accumulated product is removed from the tunnel periodically via a vac-truck.
36-2	4.4.3	Metal Chip Processing Area	Automated LNAPL recovery system is currently in service in this area.
36-5	4.4.6	Former UST Farm and Active AST Farm	Automated LNAPL recovery system is currently in service in this area.
40-A	4.5.31	Building 16/40 Corridor Area	
40-B	4.5.32	Building 16/40 Corridor Area	
83/84-4	4.4.29	Factory 83/84 Area	
85-1	4.4.33	Building 87/Leith Street	
AOIs That Contain LNAPL and Require Further Action Based on the Human Health Risk Assessment			
02-B	4.5.12	Elevator Pit	Lead concentrations in surface soil at certain locations exceed the residential screening criterion.
09-B	4.5.37		Bounding CCR for potential exposure of residents to soil at certain locations exceed USEPA risk limits. Bounding CCR and HI for potential exposure of routine workers in a non-OSHA commercial building and residents to LNAPL via vapor intrusion also exceed USEPA limits. Bounding CCR and/or HI for potential exposure of maintenance and redevelopment construction workers to LNAPL exceed USEPA risk and HI limits. Lead concentrations in surface soil at certain locations exceed the residential and industrial screening criteria. Due Care Plan has been implemented at the Site to minimize exposure during any planned maintenance activity in the LNAPL area.
12-A	4.5.19	Press Pits, Sumps, Trenches, Traps, and Floor Staining	Lead concentrations in surface soil at certain locations exceed the residential and/or industrial screening criterion. A Due Care Plan has been prepared and procedures implemented in this area.
12-B	4.5.20	Truck Loading Dock Drain and Sump	Lead concentrations in surface soil at certain locations exceed the residential screening criterion.
36-1	4.4.2	Factory 36 Area; Engine Manufacturing and Metal Machining Processes	High-end CCR and HI for potential exposure of construction workers to LNAPL exceed USEPA risk and HI limits. Bounding CCR and HI for potential exposure of routine workers to soil and LNAPL via vapor intrusion for a future non-OSHA commercial building exceed USEPA risk and HI limits. Bounding CCR and HI for potential exposure of maintenance workers to LNAPL exceed USEPA risk and HI limits. Due Care Plan has been implemented at the Site to minimize exposure during any planned maintenance activity in the LNAPL area.
81-2	4.4.20	Factory 81 Area; Active Metal Welding and Machining and Torque Converter Assembly	Bounding HI for potential exposure of routine workers to soil exceeds the USEPA HI limit. Bounding HI for potential exposure of routine workers to soil via vapor intrusion for a future non-OSHA commercial building exceeds the USEPA HI limit. The AOI is covered by operational building floors. A Due Care Plan has been prepared and procedures implemented in this area.
83/84-2	4.4.27	Former and Existing Machining Operations	Mean lead concentrations in deep soil exceed the industrial screening criterion. A Due Care Plan has been prepared and procedures implemented in this area.
86-1	4.4.33	Hazardous Waste Drum Accumulation Area, Process Waste Sump and Pump Station, Waste Transport Vehicle Storage Area, and Former USTs	Bounding CCR and HI for potential exposure of residents to soil at certain locations exceed USEPA risk and HI limits.

Notes:
CCR = Cumulative cancer risk.
HI = Hazard index.

RCRA FACILITY INVESTIGATION
PHASE II REPORT FIGURES

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE
FLINT, MICHIGAN



REFERENCE: Base Map Source: USGS 7.5 Min. Topo. Quad., Flint North, Mich. (1969, Photorevised 1975).

2,000' 0 2,000'

APPROX. SCALE 1" = 2,000'

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN
RFI PHASE II REPORT

SITE LOCATION MAP

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FIGURE **2-1**

07/12/06 SYR-D85-DJH-KLS
6441012/64410C01.CDR

JULY 14, 2006

PREPARED FOR:

General Motors Corporation Remediation Team
Worldwide Facilities Group

PREPARED BY:

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

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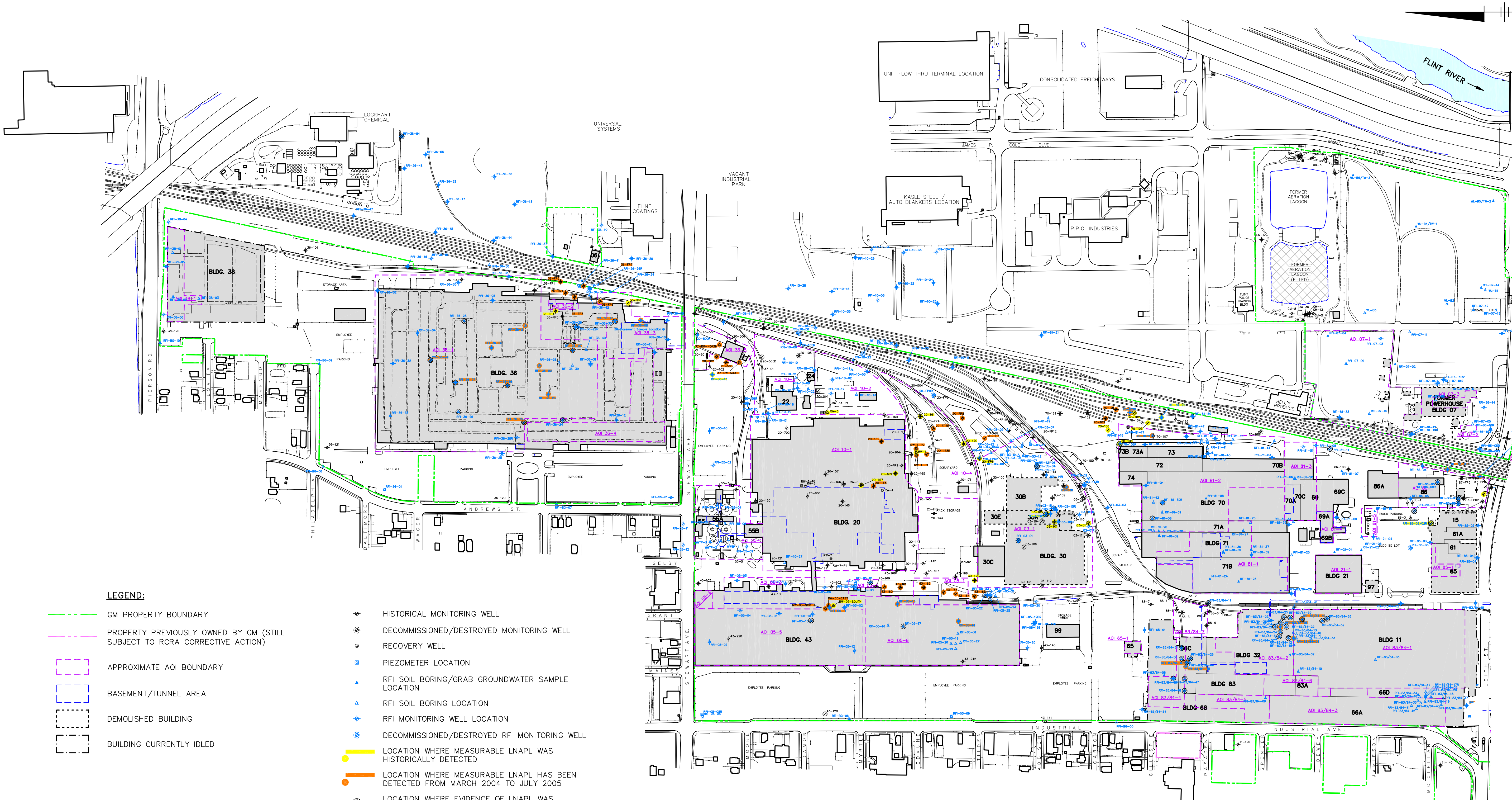

LEGEND:

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- HISTORICAL MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- PIEZOMETER LOCATION
- RFI SOIL BORING/GRAB GROUNDWATER SAMPLE LOCATION
- RFI SOIL BORING LOCATION
- RFI MONITORING WELL LOCATION
- DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL

JULY 2006

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.

0 250' 500'
APPROXIMATE GRAPHIC SCALE

X: 64410X01, X02, X3A.DWG
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P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410B01.DWG

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SITE PLAN - NORTHEND

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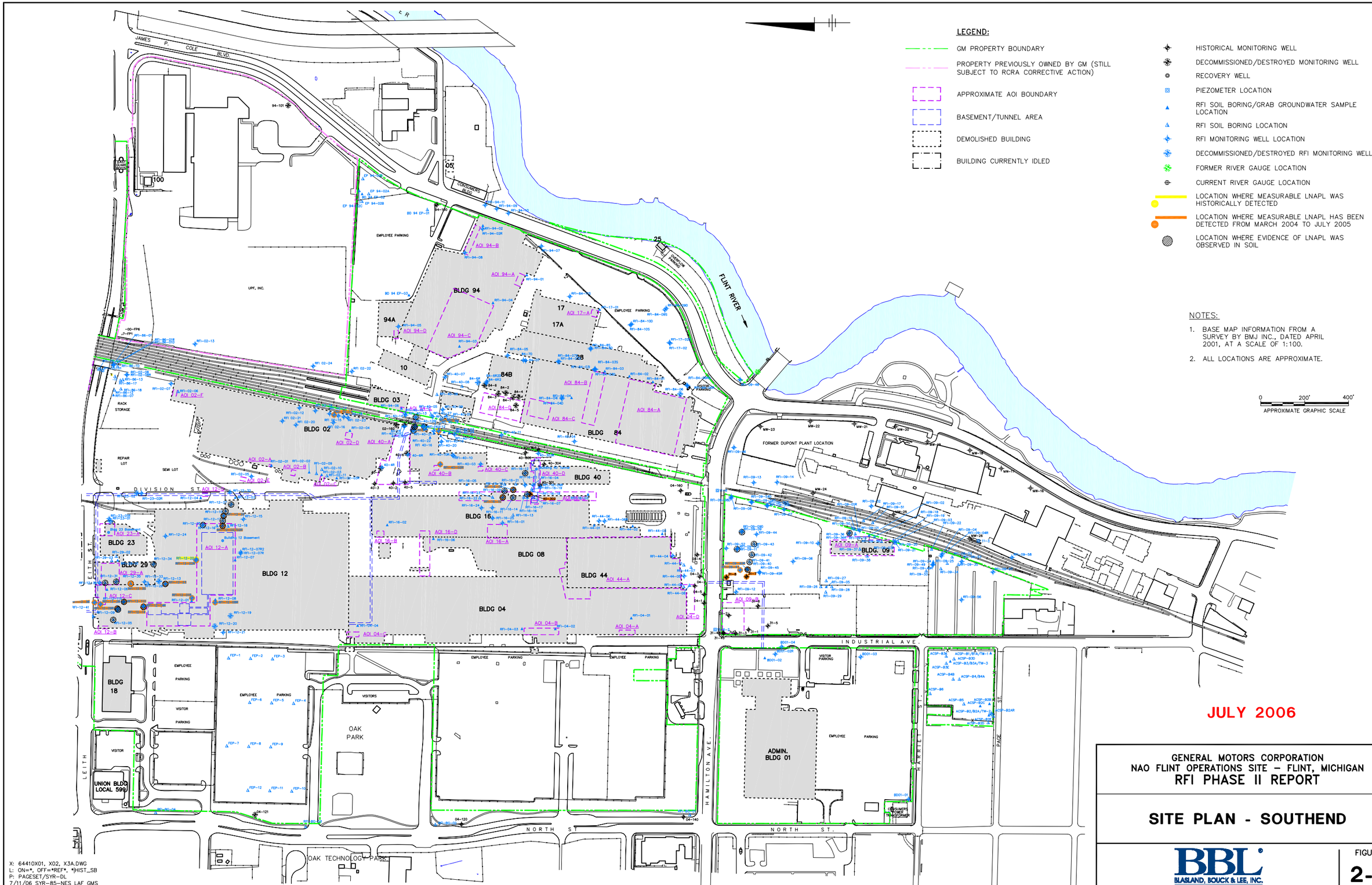
engineers, scientists, economists

FIGURE 2-2



NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SITE PLAN - SOUTHEND

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 2-3

X: 64410X01, X02, X3A.DWG
L: ON=*, OFF=*REF*, *|HIST_SB
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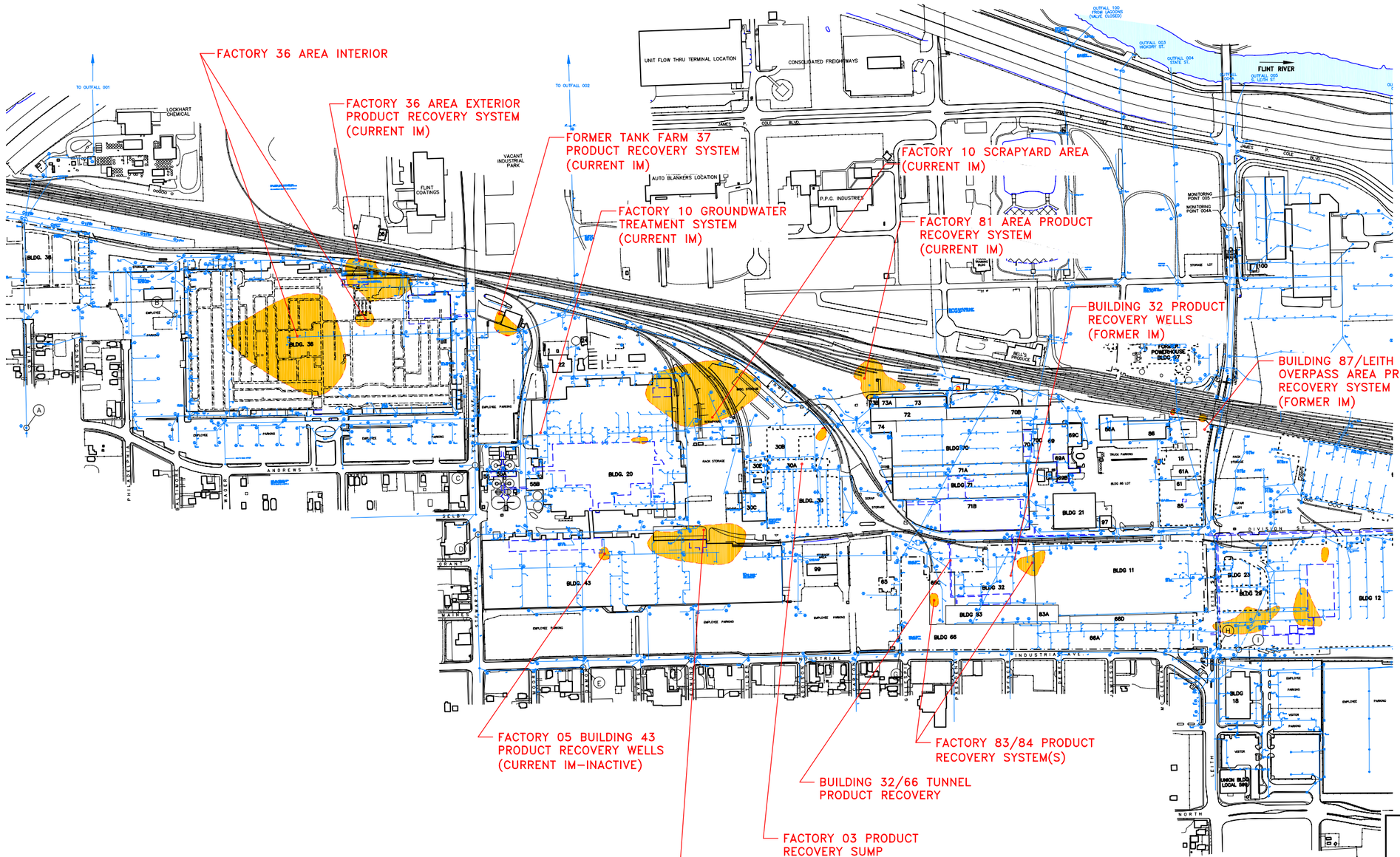
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410B02.DWG



LEGEND:

- STORM SEWER LINE
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- ESTIMATED CURRENT LIMITS OF MEASUREABLE LNAPL

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.

0 300' 600'
GRAPHIC SCALE

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

INTERIM MEASURE AND STORM SEWER LOCATION MAP - NORTHEND

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FIGURE 2-4

X: 64410X01, X06, X07.DWG
L: ON=*, OFF=*REF*, |PROPERTY*, |SHD-BUILDING
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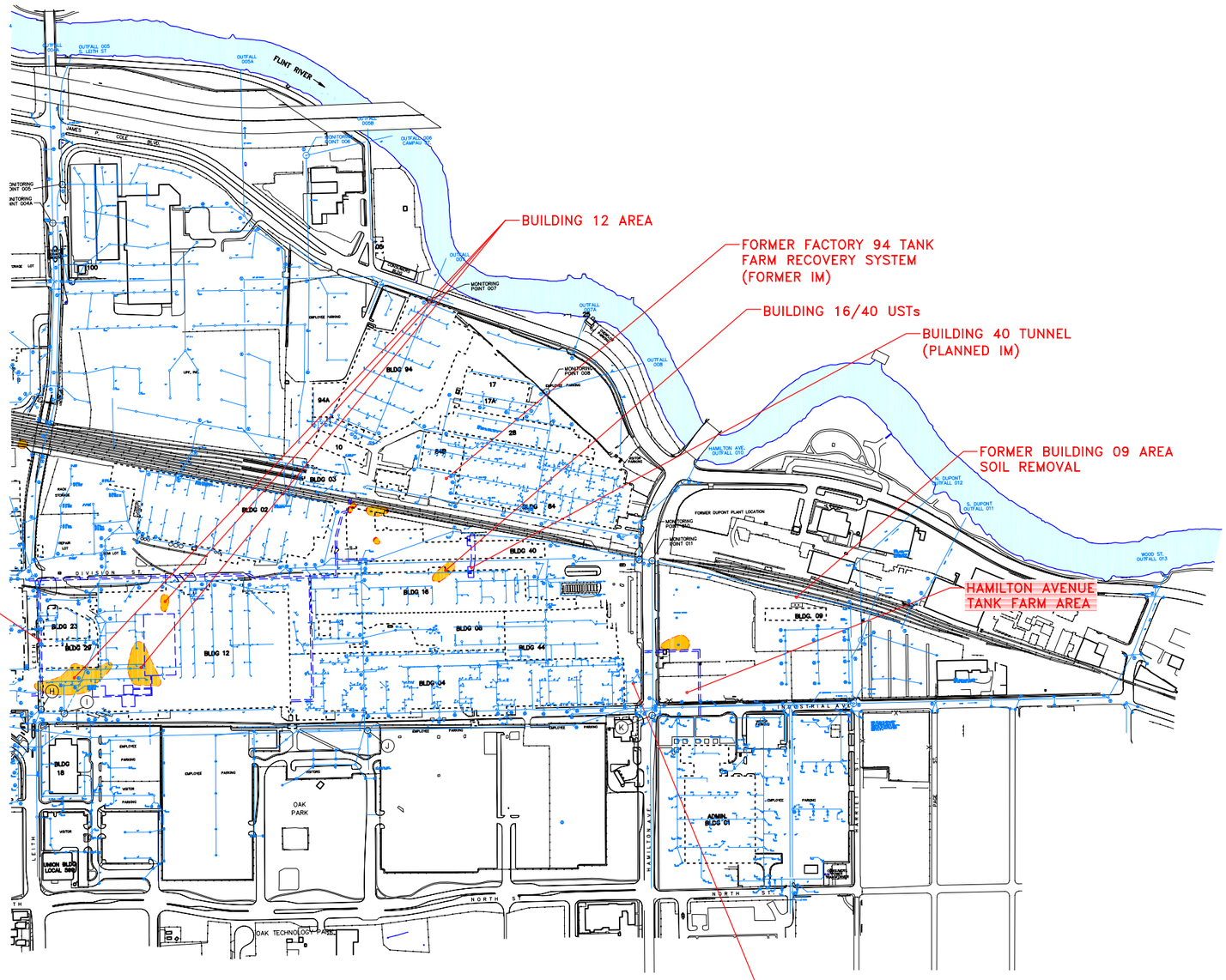
7/14/06 SYR-85-GMS RCA GMS
64410112/RFI-06/64410B03.DWG



LEGEND:

- STORM SEWER LINE
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- ESTIMATED CURRENT LIMITS OF MEASUREABLE LNAPL

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.

0 300' 600'
GRAPHIC SCALE

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

INTERIM MEASURE AND STORM SEWER LOCATION MAP - SOUTHEND

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 2-5

X: 64410X01, X06, X07.DWG
L: ON=*, OFF=*REF*, |PROPERTY*, |SHD-BUILDING
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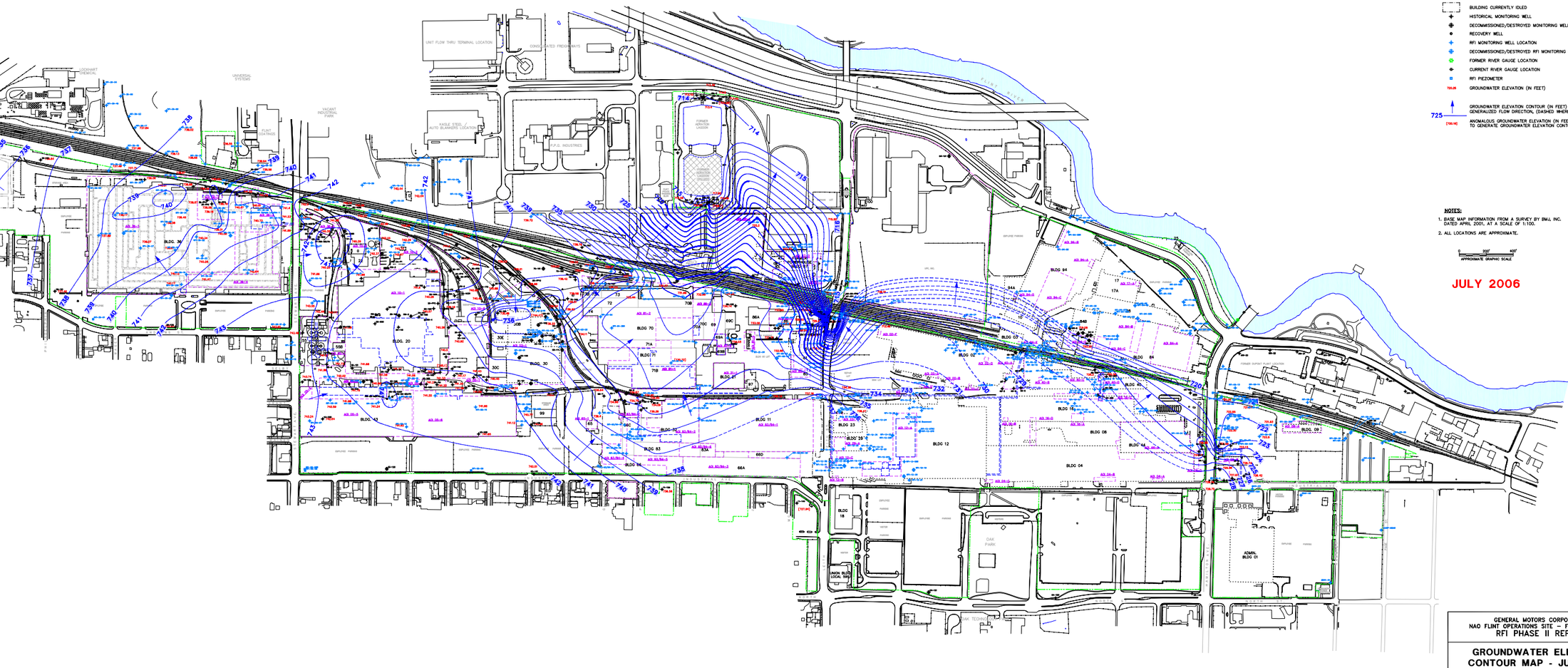
7/11/06 SYR-85-GMS RCA GMS
64410112/RFI-06/64410B04.DWG



LEGEND:

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- HISTORICAL MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- RFI MONITORING WELL LOCATION
- DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- FORMER RIVER GAUGE LOCATION
- CURRENT RIVER GAUGE LOCATION
- RFI PIEZOMETER
- 720.28 GROUNDWATER ELEVATION (IN FEET)
- 725 [720.19] GROUNDWATER ELEVATION CONTOUR (IN FEET) AND GENERALIZED FLOW DIRECTION, (DASHED WHERE INFERRED)
- ANOMALOUS GROUNDWATER ELEVATION (IN FEET), NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.

0 200' 400'
APPROXIMATE GRAPHIC SCALE

JULY 2006

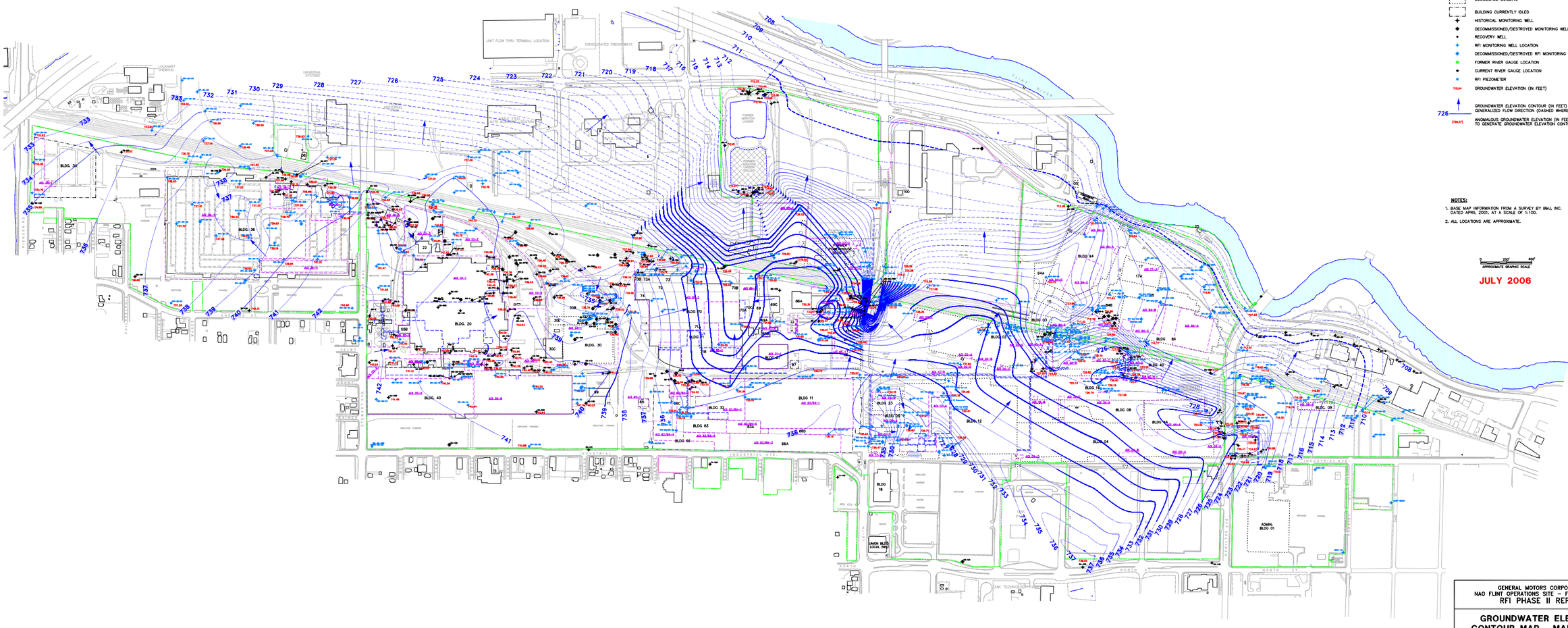
X: 64410X01, 64410X02, 64410X3A.DWG
L: ON=*, OFF=*REF*, *RFI_SB, *HIST_SB, *RFI_MW, *HIST_MW
DD: 64410DWG, *XHAL*
M: BBL
7/11/06 SYR-SS-GMS NJR GMS
64410312/RFI-GE/64410M01.DWG

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ELEVATION CONTOUR MAP - JUNE 2002

BBL BLASLAND, BOUCK & LEE, INC. Engineers, Scientists, Geologists

FIGURE 3-1



LEGEND:

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- HISTORICAL MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- RFI MONITORING WELL LOCATION
- DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- FORMER RIVER GAUGE LOCATION
- CURRENT RIVER GAUGE LOCATION
- RFI PIEZOMETER
- 719.54 GROUNDWATER ELEVATION (IN FEET)
- 726 GROUNDWATER ELEVATION CONTOUR (IN FEET) AND GENERALIZED FLOW DIRECTION (DASHED WHERE INFERRED)
- [736.37] ANOMALOUS GROUNDWATER ELEVATION (IN FEET), NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC. DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.

0 200' 400'
APPROXIMATE GRAPHIC SCALE

JULY 2006

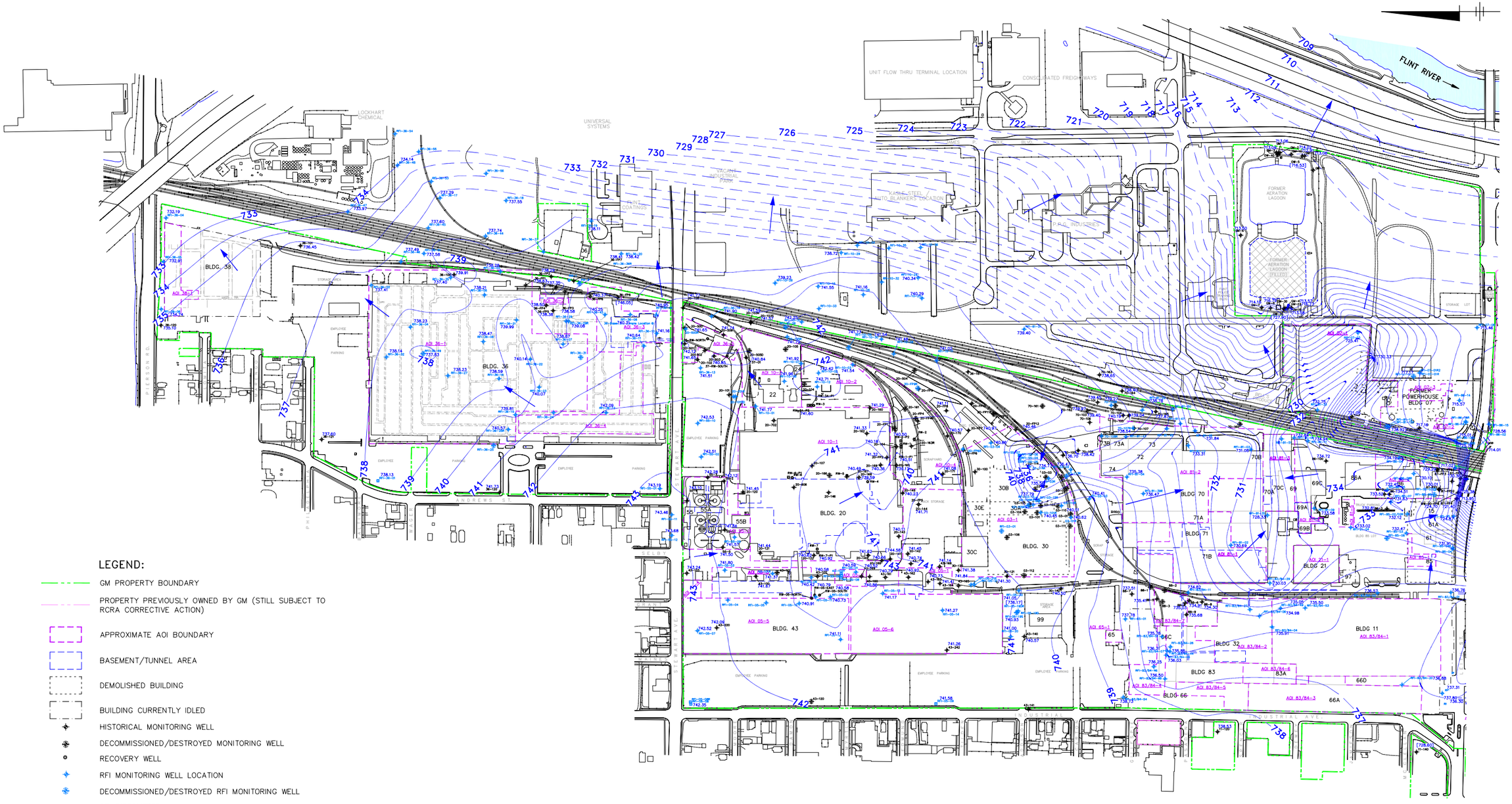
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ELEVATION CONTOUR MAP - MARCH 2003

BBL BLASLAND, BOUCK & LEE, INC.
engineers, scientists, consultants

FIGURE 3-2

X: 64410X01, 64410X02, 64410X3A.DWG
L: ON=*, OFF=*REF*, *RFI_3A, *HIST_3A
[DHC-BOL2WG, YEAR,...
P: 64410P01.DWG
7/11/06, SYR-SS-GMS NLW GMS
64410T02/RFI-3A/64410M03.DWG



LEGEND:

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- HISTORICAL MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- RFI MONITORING WELL LOCATION
- DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- RFI PIEZOMETER
- 715.54 — GROUNDWATER ELEVATION (IN FEET)
- 726 — GROUNDWATER ELEVATION CONTOUR (IN FEET)
- GENERALIZED FLOW DIRECTION (DASHED WHERE INFERRED)
- [728.37] — ANOMALOUS GROUNDWATER ELEVATION (IN FEET), NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS

0 250' 500'
APPROXIMATE GRAPHIC SCALE

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.

X: 64410X01, X02, X03, X24.DWG
L: ON=*, OFF=*REF*, |SHD-BUILDING, *|HIST_SB, *|NAPL_
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410W03.DWG

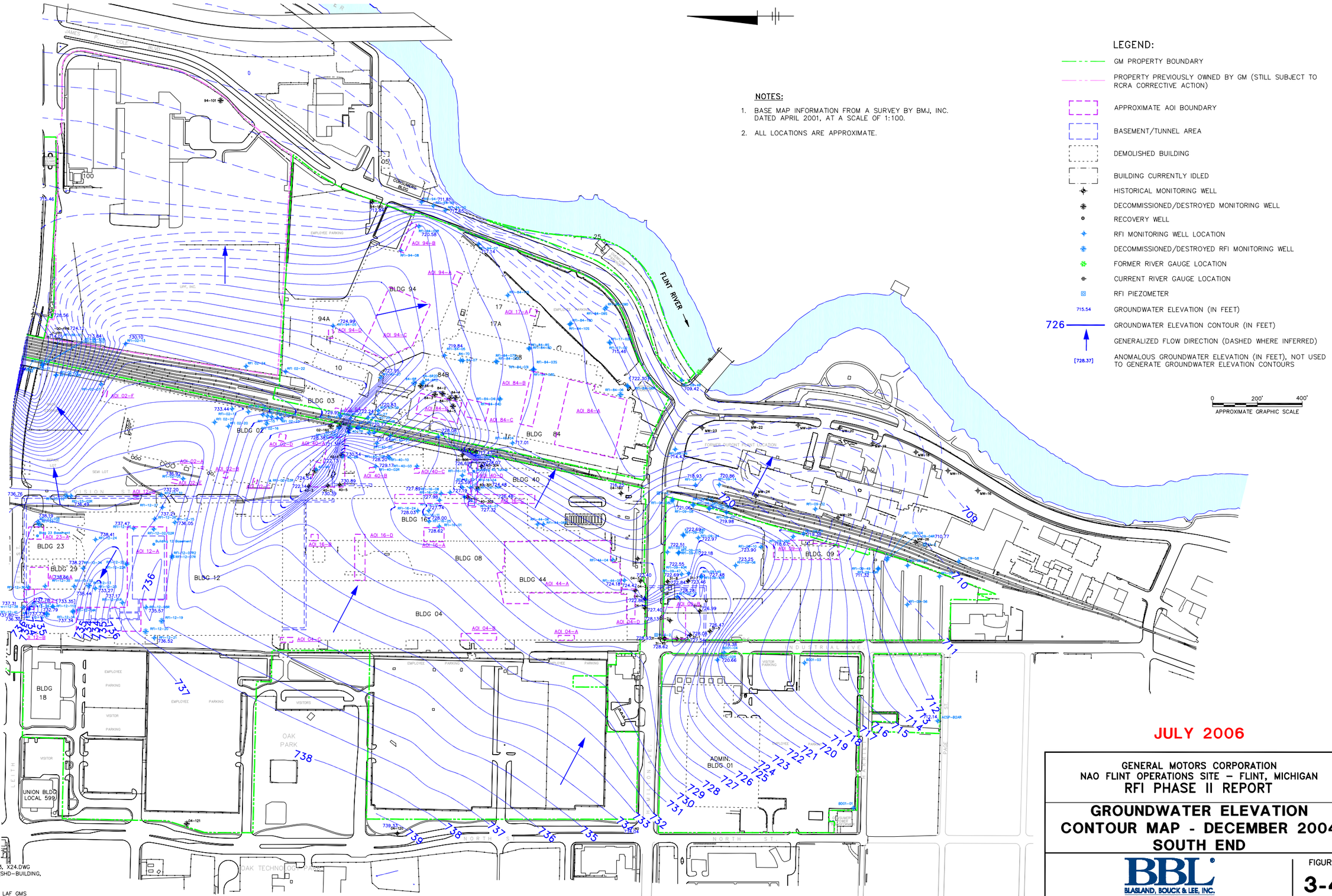
JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ELEVATION CONTOUR MAP - DECEMBER 2004 NORTH END

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 3-3



LEGEND:

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- HISTORICAL MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- RFI MONITORING WELL LOCATION
- DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- FORMER RIVER GAUGE LOCATION
- CURRENT RIVER GAUGE LOCATION
- RFI PIEZOMETER
- 715.54 — GROUNDWATER ELEVATION (IN FEET)
- 726 — GROUNDWATER ELEVATION CONTOUR (IN FEET)
- GENERALIZED FLOW DIRECTION (DASHED WHERE INFERRED)
- [728.37] — ANOMALOUS GROUNDWATER ELEVATION (IN FEET), NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS

0 200' 400'
APPROXIMATE GRAPHIC SCALE

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.

JULY 2006

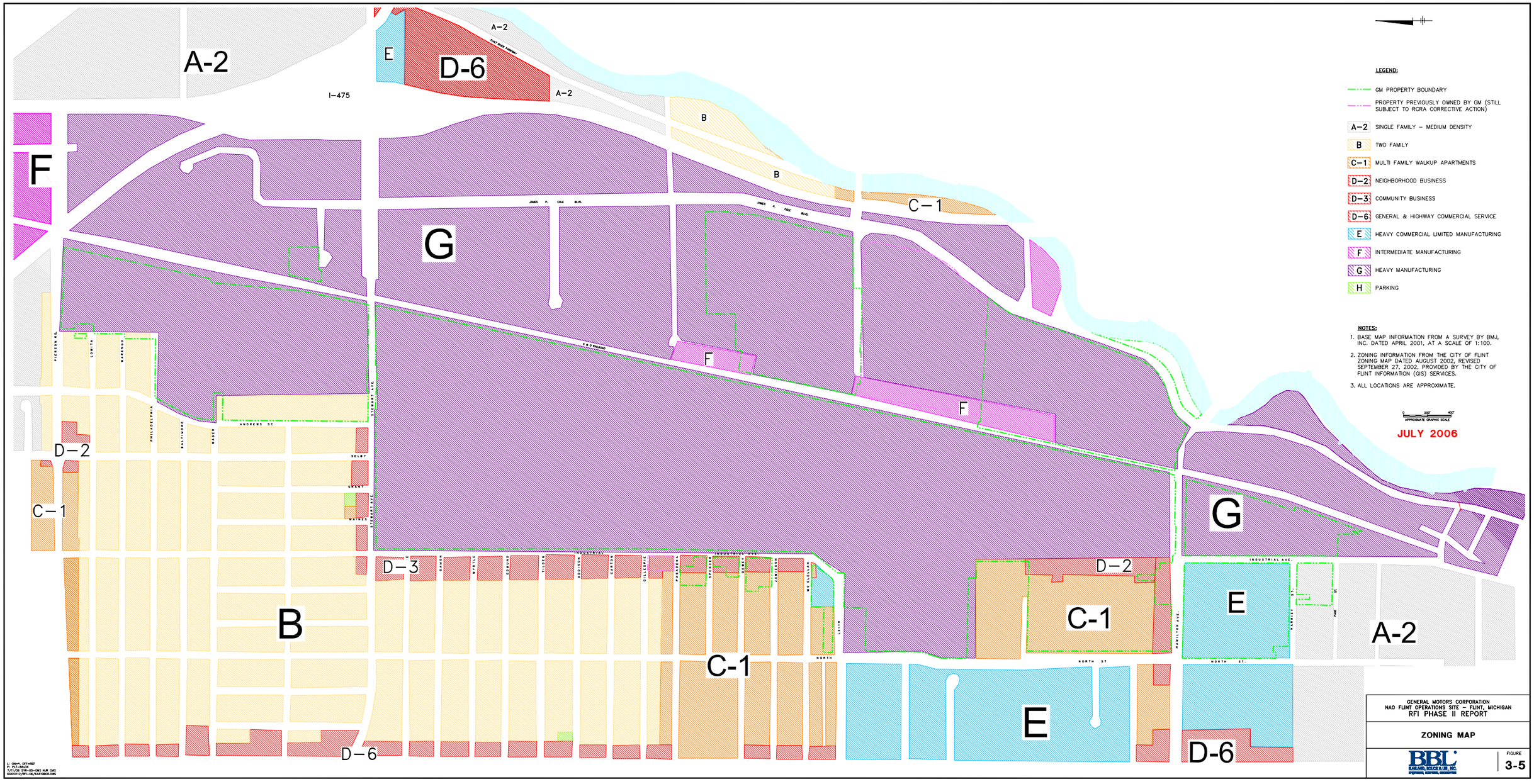
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ELEVATION CONTOUR MAP - DECEMBER 2004 SOUTH END

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 3-4

X: 64410X01, X02, X03, X24.DWG
L: ON=*, OFF=*REF*, |SHD-BUILDING, *|HIST_SB, *|NAPL_
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410W04.DWG



LEGEND:

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- A–2 SINGLE FAMILY – MEDIUM DENSITY
- B TWO FAMILY
- C–1 MULTI FAMILY WALKUP APARTMENTS
- D–2 NEIGHBORHOOD BUSINESS
- D–3 COMMUNITY BUSINESS
- D–6 GENERAL & HIGHWAY COMMERCIAL SERVICE
- E HEAVY COMMERCIAL LIMITED MANUFACTURING
- F INTERMEDIATE MANUFACTURING
- G HEAVY MANUFACTURING
- H PARKING

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED APRIL 2001, AT A SCALE OF 1:100.
2. ZONING INFORMATION FROM THE CITY OF FLINT ZONING MAP DATED AUGUST 2002, REVISED SEPTEMBER 27, 2002, PROVIDED BY THE CITY OF FLINT INFORMATION (GIS) SERVICES.
3. ALL LOCATIONS ARE APPROXIMATE.

0 200' 400'
APPROXIMATE GRAPHIC SCALE

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

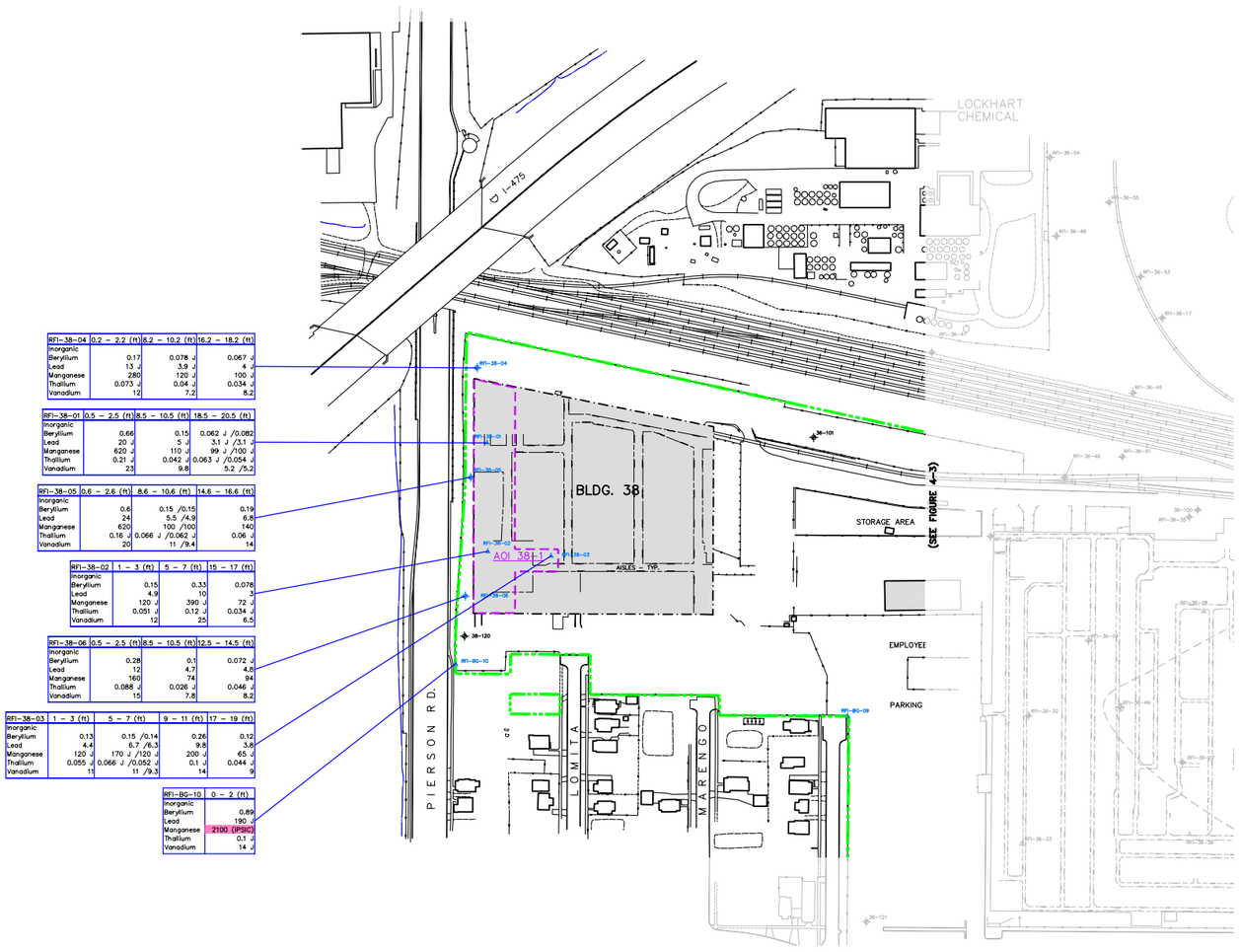
ZONING MAP

BBL BLASLAND, BOUCK & LEE, INC.

FIGURE 3-5

L: DIV=1, DIT=WDF
H: PLT-86x34
7/11/06 SYR-05-CWS NJR GWS
64401213/RFI-06/64413B05.DWG

SITE LOCATION



RFI-38-04	0.2 – 2.2 (ft)	8.2 – 10.2 (ft)	16.2 – 18.2 (ft)
Inorganic			
Beryllium	0.17	0.078 J	0.067 J
Lead	13 J	3.9 J	4 J
Manganese	280	120 J	100 J
Thallium	0.073 J	0.04 J	0.034 J
Vanadium	12	7.2	8.2

RFI-38-01	0.5 – 2.5 (ft)	8.5 – 10.5 (ft)	18.5 – 20.5 (ft)
Inorganic			
Beryllium	0.66	0.15	0.062 J /0.082
Lead	20 J	5 J	3.1 J /3.1 J
Manganese	620 J	110 J	99 J /100 J
Thallium	0.21 J	0.042 J	0.063 J /0.054 J
Vanadium	23	9.8	5.2 /5.2

RFI-38-05	0.6 – 2.6 (ft)	8.6 – 10.6 (ft)	14.6 – 16.6 (ft)
Inorganic			
Beryllium	0.6	0.15 /0.15	0.19
Lead	24	5.5 /4.9	6.8
Manganese	620	100 /100	140
Thallium	0.16 J	0.066 J /0.062 J	0.06 J
Vanadium	20	11 /9.4	14

RFI-38-02	1 – 3 (ft)	5 – 7 (ft)	15 – 17 (ft)
Inorganic			
Beryllium	0.15	0.33	0.078
Lead	4.9	10	3
Manganese	120 J	390 J	72 J
Thallium	0.051 J	0.12 J	0.034 J
Vanadium	12	25	6.5

RFI-38-06	0.5 – 2.5 (ft)	8.5 – 10.5 (ft)	12.5 – 14.5 (ft)
Inorganic			
Beryllium	0.28	0.1	0.072 J
Lead	12	4.7	4.8
Manganese	160	74	94
Thallium	0.088 J	0.026 J	0.046 J
Vanadium	15	7.8	8.2

RFI-38-03	1 – 3 (ft)	5 – 7 (ft)	9 – 11 (ft)	17 – 19 (ft)
Inorganic				
Beryllium	0.13	0.15 /0.14	0.26	0.12
Lead	4.4	6.7 /6.3	9.8	3.8
Manganese	120 J	170 J /120 J	200 J	65 J
Thallium	0.055 J	0.066 J /0.052 J	0.1 J	0.044 J
Vanadium	11	11 /9.3	14	9

RFI-BG-10	0 – 2 (ft)
Inorganic	
Beryllium	0.89
Lead	190 J
Manganese	2100 (IPSIC)
Thallium	0.1 J
Vanadium	14 J

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  - IPSIC – INDUSTRIAL PARTICULATE SOIL INHALATION

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. FOR ALL METALS, SITE-SPECIFIC BACKGROUND CONCENTRATIONS ARE SUBTRACTED FROM THE MEASURED CONCENTRATIONS PRIOR TO COMPARING TO PART 201 CRITERIA.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN DRY-WEIGHT MILLIGRAMS PER KILOGRAM (mg/kg).
6. ND (0.039)-CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS-NOT ANALYZED FOR THIS CONSTITUENT.
9. J-ESTIMATED CONCENTRATION.

0 150' 300'
GRAPHIC SCALE

JULY 2006

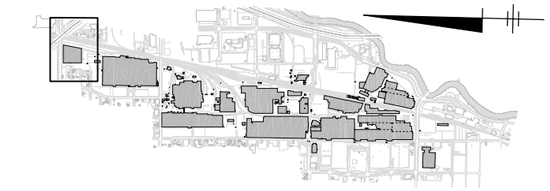
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SOIL ANALYTICAL DATA - BUILDING 38 AREA

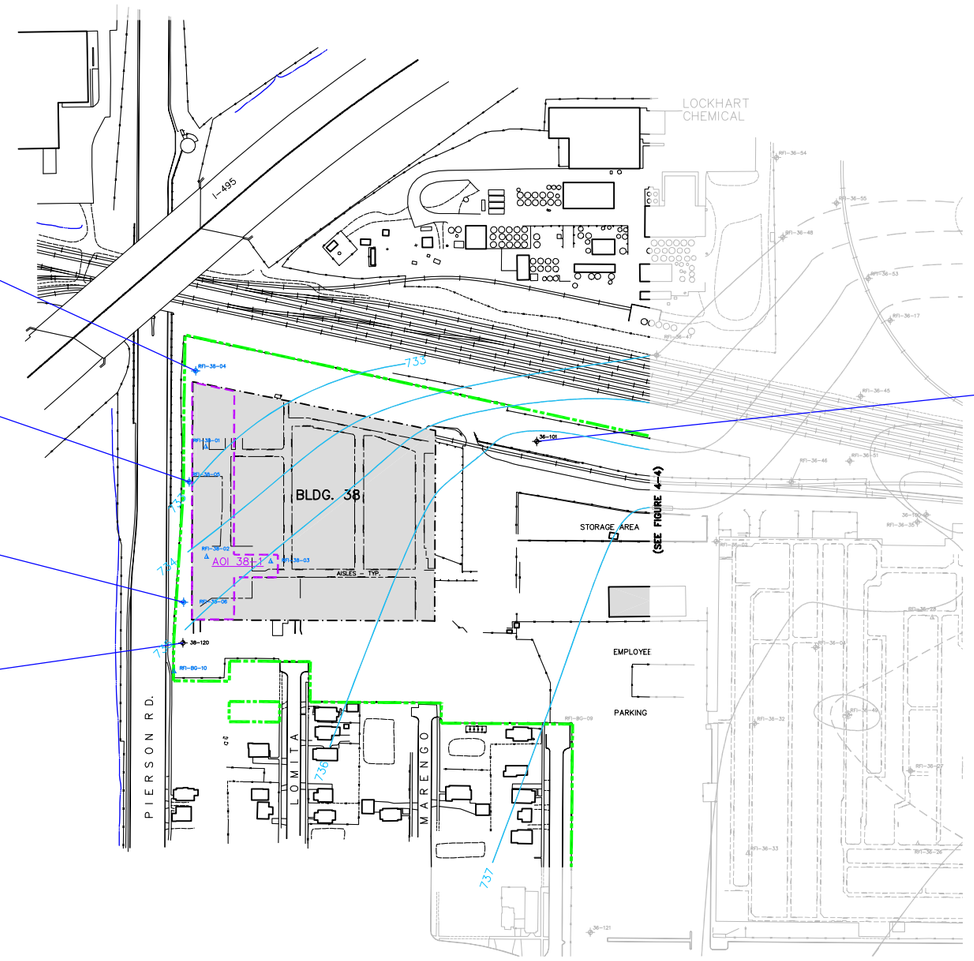
BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 4-1

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C01.DWG



SITE LOCATION



RFI-38-04	9/27/2001	6/13/2002	3/25/2003
Inorganic			
Beryllium	0.0011 J	ND(0.0004 J)	ND(0.0004)
Lead	0.00044	0.001 J	ND(0.0004)
Manganese	0.88 J (RDW)	0.49	0.24
Thallium	0.00024 J	0.000045 J	0.000068 J
Vanadium	ND(0.0008)	0.00075 J	ND(0.0008)
Inorganic-Dissolved			
Beryllium	ND(0.0004)	ND(0.0004)	NS
Lead	ND(0.0004)	0.0065 (GW,RDW)	NS
Manganese	0.77 J	1.7 J (RDW)	NS
Thallium	ND(0.0002)	ND(0.0002)	NS
Vanadium	ND(0.0008)	0.0045	NS

RFI-38-05	9/28/2001
Inorganic	
Beryllium	0.0015 J
Lead	0.00051
Manganese	0.55 J
Thallium	0.00046 J
Vanadium	ND(0.0008)
Inorganic-Dissolved	
Beryllium	ND(0.0004)
Lead	ND(0.0004)
Manganese	0.52 J
Thallium	ND(0.0002)
Vanadium	ND(0.0008)

RFI-38-06	9/28/2001	2/21/2002	6/13/2002	3/25/2003	10/13/2004
Inorganic					
Beryllium	0.0015 J /0.034 (GW,RDW)	NS	ND(0.0004 J)	ND(0.0004)	ND(0.001)
Lead	0.00048 /0.0007 J	NS	0.000093 J	0.00022 J	NS
Manganese	0.55 J /1 (RDW)	NS	0.41	0.34	NS
Thallium	0.0038 J (GW,RDW) /0.0049 (GW,RDW)	NS	0.0022 (GW,RDW)	0.0026 (GW,RDW)	0.003 (GW,RDW)
Vanadium	ND(0.0008) /0.0054 J (RDW)	NS	ND(0.0008)	ND(0.0008)	NS
Inorganic-Dissolved					
Beryllium	ND(0.0004) /ND(0.0004)	NS	NS	NS	NS
Lead	ND(0.0004) /ND(0.0004)	NS	NS	NS	NS
Manganese	0.55 J /0.52 J	NS	NS	NS	NS
Thallium	0.0031 (GW,RDW) /0.003 (GW,RDW)	0.0034 (GW,RDW)	NS	NS	NS
Vanadium	ND(0.0008) /ND(0.0008)	NS	NS	NS	NS

38-120	9/27/2001
Inorganic	
Beryllium	0.0032 J
Lead	0.00056
Manganese	0.57 J
Thallium	0.0019 J
Vanadium	ND(0.0008)
Inorganic-Dissolved	
Beryllium	ND(0.0004)
Lead	ND(0.0004)
Manganese	0.41
Thallium	0.00089
Vanadium	ND(0.0008)

36-101	9/28/2001	6/13/2002
Inorganic		
Beryllium	0.00037 J	ND(0.0004 J)
Lead	0.00038 J	0.00013 J
Manganese	0.44 J	0.33 J
Thallium	0.00025 J	0.000056 J
Vanadium	ND(0.0008)	ND(0.0008)
Inorganic-Dissolved		
Beryllium	ND(0.0004)	NS
Lead	ND(0.0004)	NS
Manganese	0.45 J	NS
Thallium	ND(0.0002)	NS
Vanadium	ND(0.0008)	NS

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 736 — WATER TABLE ELEVATION CONTOUR (FT AMSL)
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  - IDW – INDUSTRIAL DRINKING WATER

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED IN DECEMBER 2004.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. J–ESTIMATED CONCENTRATION.
10. RDW–EXCEEDS MICHIGAN PART 201 RESIDENTIAL DRINKING WATER CRITERIA.
11. GSI CRITERIA COMPARED TO SAMPLES LOCATED WITHIN 500 FEET OF THE FLINT RIVER.

0 150' 300'
GRAPHIC SCALE

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ANALYTICAL DATA - BUILDING 38 AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 4-2

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG, X24.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C02.DWG

RFI-36-45	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.041)	ND(0.038)	ND(0.039)
1,1-Dichloroethane	ND(0.041)	ND(0.038)	ND(0.039)
1,1-Dichloroethene	ND(0.041)	ND(0.038)	ND(0.039)
1,2-Dichloroethane	ND(0.041)	ND(0.038)	ND(0.039)
Benzene	ND(0.041)	ND(0.038)	ND(0.039)
Chloroethane	ND(0.18)	ND(0.16)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.041)	ND(0.038)	ND(0.039)
Ethylbenzene	ND(0.041)	ND(0.038)	ND(0.039)
Methylene chloride	ND(0.18)	ND(0.16)	ND(0.17)
Tetrachloroethene	ND(0.041 J)	ND(0.038)	ND(0.039)
Toluene	0.031 J	ND(0.038)	ND(0.039)
Trichloroethene	ND(0.041)	ND(0.038)	ND(0.039)
Vinyl chloride	ND(0.041)	ND(0.038)	ND(0.039)
Xylenes (total)	0.079 J	ND(0.077)	ND(0.078)
Inorganic			
Arsenic	11 J (RDC)	4.6 J	6.9 J
Beryllium	NS	NS	NS
Cadmium	NS	NS	NS
Chromium Total	NS	NS	NS
Lead	NS	NS	NS
Manganese	NS	NS	NS
Nickel	NS	NS	NS
Vanadium	NS	NS	NS

RFI-36-17	0 - 2 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.037)	ND(0.037) /ND(0.038)	ND(0.037)
1,1-Dichloroethane	ND(0.037)	ND(0.037) /ND(0.038)	ND(0.037)
1,1-Dichloroethene	ND(0.037)	ND(0.037) /ND(0.038)	ND(0.037)
1,2-Dichloroethane	ND(0.037)	ND(0.037) /ND(0.038)	ND(0.037)
Benzene	ND(0.037)	ND(0.037) /ND(0.038)	ND(0.037)
Chloroethane	ND(0.16)	ND(0.16 J) /ND(0.16)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.037) /ND(0.038)	ND(0.037)
Ethylbenzene	ND(0.037)	ND(0.037) /ND(0.038)	ND(0.037)
Methylene chloride	ND(0.16)	ND(0.16) /ND(0.16)	ND(0.16)
Tetrachloroethene	ND(0.037)	ND(0.037) /ND(0.038)	ND(0.037)
Toluene	0.033 J	ND(0.037) /ND(0.038)	ND(0.037)
Trichloroethene	ND(0.037)	ND(0.037) /ND(0.038)	ND(0.037)
Vinyl chloride	ND(0.037)	ND(0.037) /ND(0.038)	ND(0.037)
Xylenes (total)	0.031 J	ND(0.074) /ND(0.076)	ND(0.074)
SVOC			
Benzo(a)pyrene	NS	ND(0.18) /ND(0.18)	NS
PCB			
Total PCBs	NS	ND(0.037) /ND(0.037)	NS
Inorganic			
Arsenic	NS	NS	NS
Beryllium	NS	NS	NS
Cadmium	NS	NS	NS
Chromium Total	NS	NS	NS
Lead	NS	NS	NS
Manganese	NS	NS	NS
Nickel	NS	NS	NS
Vanadium	NS	NS	NS

RFI-36-48	0 - 2 (ft)	6 - 8 (ft)	8 - 10 (ft)	14 - 16 (ft)
VOC				
1,1,1-Trichloroethane	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.04)
1,1-Dichloroethane	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.04)
1,1-Dichloroethene	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.04)
1,2-Dichloroethane	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.04)
Benzene	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.04)
Chloroethane	ND(0.15)	ND(0.18)	ND(0.16)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.04)
Ethylbenzene	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.04)
Methylene chloride	ND(0.15 J)	ND(0.18 J)	ND(0.16)	ND(0.17)
Tetrachloroethene	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.04)
Toluene	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.04)
Trichloroethene	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.04)
Vinyl chloride	ND(0.036)	ND(0.043)	ND(0.037)	ND(0.04)
Xylenes (total)	ND(0.071)	ND(0.086)	ND(0.075)	ND(0.081)
Inorganic				
Arsenic	7.3 J	19 J (RDC)	8.2 J (RDC)	5.4 J
Beryllium	0.27 J	0.31 J	0.25 J	0.14 J
Cadmium	0.8	1.4	0.62	0.17
Chromium Total	64 J	410 J (IPSIC,RPSIC)	61 J	9 J
Lead	83 J	110 J	100 J	7 J
Manganese	710 J	4800 J (IPSIC,RPSIC)	1200 J	220 J
Nickel	28 J	130 J	31 J	8.8 J
Vanadium	17 J	9 J	18 J	16 J

RFI-36-54	0 - 2 (ft)	8 - 10 (ft)	14 - 16 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.05)	ND(0.06)	ND(0.05) /ND(0.05)
1,1-Dichloroethane	ND(0.05)	ND(0.06)	ND(0.05) /ND(0.05)
1,1-Dichloroethene	ND(0.05)	ND(0.06)	ND(0.05) /ND(0.05)
1,2-Dichloroethane	ND(0.05)	ND(0.06)	ND(0.05) /ND(0.05)
Benzene	ND(0.05)	0.03 J	0.01 J /0.01 J
Chloroethane	ND(0.3)	ND(0.3)	ND(0.3) /ND(0.3)
cis-1,2-Dichloroethene	ND(0.05)	0.01 J	ND(0.05) /ND(0.05)
Ethylbenzene	0.02 J	0.03 J	0.02 J /0.02 J
Methylene chloride	ND(0.3)	ND(0.3)	ND(0.3) /ND(0.3)
Tetrachloroethene	ND(0.05)	ND(0.06)	ND(0.05) /ND(0.05)
Toluene	0.03 J	0.04 J	0.02 J /0.02 J
Trichloroethene	ND(0.05)	0.01 J	ND(0.05) /ND(0.05)
Vinyl chloride	ND(0.1)	ND(0.1)	ND(0.1) /ND(0.1)
Xylenes (total)	0.21	0.11 J	0.04 J /0.04 J
SVOC			
Benzo(a)pyrene	0.73	0.78	0.05 J /0.2 J
PCB			
Total PCBs	1.2	0.05 J	0.11 J /0.08 J
Inorganic			
Arsenic	0.77	3.02	1.58 /1.53
Beryllium	0.17 J	0.72	0.45 J /0.44 J
Cadmium	2.08	1.98	0.55 /0.54
Chromium Total	73.6	280 (IPSIC,RPSIC)	59.7 /59.6
Lead	545 (RDC)	339	68.2 /68.6
Manganese	6730 (IPSIC,RPSIC)	1550 (IPSIC)	1400 /1410
Nickel	45.1	119	22.6 /22.4
Vanadium	2	18.4	5.1 /5.2

RFI-36-55	0 - 2 (ft)	8 - 10 (ft)
VOC		
1,1,1-Trichloroethane	ND(0.05)	ND(0.06)
1,1-Dichloroethane	ND(0.05)	ND(0.06)
1,1-Dichloroethene	ND(0.05)	ND(0.06)
1,2-Dichloroethane	ND(0.05)	ND(0.06)
Benzene	0.009 J	ND(0.06)
Chloroethane	ND(0.3)	ND(0.3)
cis-1,2-Dichloroethene	ND(0.05)	ND(0.06)
Ethylbenzene	0.01 J	ND(0.06)
Methylene chloride	ND(0.3)	ND(0.3)
Tetrachloroethene	1.54	0.04 J
Toluene	0.08	ND(0.06)
Trichloroethene	ND(0.05)	ND(0.06)
Vinyl chloride	ND(0.1)	ND(0.1)
Xylenes (total)	0.15 J	ND(0.06)
SVOC		
Benzo(a)pyrene	0.1 J	ND(0.33)
PCB		
Total PCBs	0.07 J	ND(0.33)
Inorganic		
Arsenic	2.03	0.97
Beryllium	0.2 J	0.03 J
Cadmium	0.15 J	0.05 J
Chromium Total	18.1	1 J
Lead	44.2	2.1
Manganese	542	102
Nickel	16.4	1.8
Vanadium	3.3	1.4

RFI-36-53	0 - 2 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.06)	ND(0.05)	ND(0.06)
1,1-Dichloroethane	ND(0.06)	ND(0.05)	ND(0.06)
1,1-Dichloroethene	ND(0.06)	ND(0.05)	ND(0.06)
1,2-Dichloroethane	ND(0.06)	ND(0.05)	ND(0.06)
Benzene	ND(0.06)	ND(0.05)	ND(0.06)
Chloroethane	ND(0.3)	ND(0.3)	ND(0.3)
cis-1,2-Dichloroethene	ND(0.06)	ND(0.05)	ND(0.06)
Ethylbenzene	ND(0.06)	ND(0.05)	0.13
Methylene chloride	ND(0.3)	ND(0.3)	ND(0.3)
Tetrachloroethene	ND(0.06)	ND(0.05)	ND(0.06)
Toluene	ND(0.06)	ND(0.05)	ND(0.06)
Trichloroethene	ND(0.06)	ND(0.05)	ND(0.06)
Vinyl chloride	ND(0.1)	ND(0.1)	ND(0.1)
Xylenes (total)	ND(0.06)	ND(0.05)	0.39 J
SVOC			
Benzo(a)pyrene	ND(0.3)	ND(0.3)	ND(0.3)
PCB			
Total PCBs	ND(0.33)	ND(0.33)	ND(0.33)
Inorganic			
Arsenic	0.81 J	1.17 J	1.58 J
Beryllium	0.348	ND(0.1)	ND(0.1)
Cadmium	ND(0.13)	ND(0.12)	ND(0.17)
Chromium Total	5.15	2.13	1.96
Lead	7	3.15	3.23
Manganese	319 J	93.2 J	136 J
Nickel	7.29	2.88	3.45
Vanadium	6.13	3.13	3.46

RFI-36-18	0 - 2 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.038)	ND(0.036)	ND(0.04)
1,1-Dichloroethane	ND(0.038)	ND(0.036)	ND(0.04)
1,1-Dichloroethene	ND(0.038)	ND(0.036)	ND(0.04)
1,2-Dichloroethane	ND(0.038)	ND(0.036)	ND(0.04)
Benzene	ND(0.038)	ND(0.036)	ND(0.04)
Chloroethane	ND(0.16)	ND(0.16)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.036)	ND(0.04)
Ethylbenzene	ND(0.038)	ND(0.036)	ND(0.04)
Methylene chloride	ND(0.16)	ND(0.16)	ND(0.17)
Tetrachloroethene	ND(0.038)	ND(0.036)	ND(0.04)
Toluene	ND(0.038)	ND(0.036)	ND(0.04)
Trichloroethene	ND(0.038)	ND(0.036)	ND(0.04)
Vinyl chloride	ND(0.038)	ND(0.036)	ND(0.04)
Xylenes (total)	ND(0.075)	ND(0.072)	ND(0.08)

RFI-36-37	0 - 2 (ft)	6 - 8 (ft)	8 - 10 (ft)	14 - 16 (ft)
VOC				
1,1,1-Trichloroethane	ND(0.037)	ND(0.036)	ND(0.036)	ND(0.038)
1,1-Dichloroethane	ND(0.037)	ND(0.036)	ND(0.036)	ND(0.038)
1,1-Dichloroethene	ND(0.037)	ND(0.036)	ND(0.036)	ND(0.038)
1,2-Dichloroethane	ND(0.037)	ND(0.036)	ND(0.036)	ND(0.038)
Benzene	ND(0.037)	ND(0.036)	ND(0.036)	ND(0.038)
Chloroethane	ND(0.16)	ND(0.16)	ND(0.15)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.036)	ND(0.036)	ND(0.038)
Ethylbenzene	ND(0.037)	ND(0.036)	ND(0.036)	ND(0.038)
Methylene chloride	0.029 J	0.081 J	0.078 J	0.028 J
Tetrachloroethene	ND(0.037)	ND(0.036)	ND(0.036)	ND(0.038)
Toluene	ND(0.037)	ND(0.036)	ND(0.036)	ND(0.038)
Trichloroethene	ND(0.037)	ND(0.036)	ND(0.036)	ND(0.038)
Vinyl chloride	ND(0.037)	ND(0.036)	ND(0.036)	ND(0.038)
Xylenes (total)	0.064 J	ND(0.073)	ND(0.072)	ND(0.076)
SVOC				
Benzo(a)pyrene	0.0904 J	ND(0.18)	ND(0.17)	ND(0.19)
PCB				
Total PCBs	NS	NS	ND(0.036)	NS

RFI-36-36R	1 - 3 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Cadmium	NS
Chromium Total	220
Chromium VI (Hexavalent)	ND(0.02)
Lead	NS
Manganese	NS
Nickel	NS
Vanadium	NS

RFI-36-36	1 - 3 (ft)	5 - 7 (ft)
VOC		
1,1,1-Trichloroethane	ND(0.038)	ND(0.04)
1,1-Dichloroethane	ND(0.038)	ND(0.04)
1,1-Dichloroethene	ND(0.038)	ND(0.04)
1,2-Dichloroethane	ND(0.038)	ND(0.04)
Benzene	ND(0.038)	ND(0.04)
Chloroethane	ND(0.16)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.04)
Ethylbenzene	ND(0.038)	ND(0.04)
Methylene chloride	ND(0.16)	ND(0.17)
Tetrachloroethene	ND(0.038)	ND(0.04)
Toluene	ND(0.038)	ND(0.04)
Trichloroethene	ND(0.038)	ND(0.04)
Vinyl chloride	ND(0.038)	ND(0.04)
Xylenes (total)	ND(0.076)	ND(0.08)
SVOC		
Benzo(a)pyrene	ND(0.92 J)	ND(0.98)
PCB		
Total PCBs	ND(0.038)	ND(0.04)
Inorganic		
Arsenic	5.8	3.8
Beryllium	0.15 J	0.25 J
Cadmium	0.17 J	0.068 J
Chromium Total	450 J (IPSIC,RPSIC)	54 J
Lead	40 J	14 J
Manganese	1100 J	240 J
Nickel	47 J	14 J
Vanadium	120 J	22 J

RFI-36-56	0 - 2 (ft)	6 - 8 (ft)
VOC		
1,1,1-Trichloroethane	ND(0.06)	ND(0.05)
1,1-Dichloroethane	ND(0.06)	ND(0.05)
1,1-Dichloroethene	ND(0.06)	ND(0.05)
1,2-Dichloroethane	ND(0.06)	ND(0.05)
Benzene	ND(0.06)	ND(0.05)
Chloroethane	ND(0.3)	ND(0.3)
cis-1,2-Dichloroethene	ND(0.06)	ND(0.05)
Ethylbenzene	0.009 J	ND(0.05)
Methylene chloride	ND(0.3)	ND(0.3)
Tetrachloroethene	ND(0.06)	ND(0.05)
Toluene	0.03 J	ND(0.05)
Trichloroethene	ND(0.06)	ND(0.05)
Vinyl chloride	ND(0.1)	ND(0.1)
Xylenes (total)	0.06 J	ND(0.05)
SVOC		
Benzo(a)pyrene	0.07 J	ND(0.33)
PCB		
Total PCBs	ND(0.33)	ND(0.33)
Inorganic		
Arsenic	1.91	ND(0.45)
Beryllium	0.42 J	0.05 J
Cadmium	0.42	0.06 J
Chromium Total	7.2	0.8 J
Lead	80	2.3
Manganese	561	81.1
Nickel	5.8	0.4 J
Vanadium	7.2	1.1

RFI-36-44	1 - 3 (ft)	7 - 9 (ft)	9 - 11 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.042)	ND(0.042)	ND(0.038)
1,1-Dichloroethane	ND(0.042)	ND(0.042)	ND(0.038)
1,1-Dichloroethene	ND(0.042)	ND(0.042)	ND(0.038)
1,2-Dichloroethane	ND(0.042)	ND(0.042)	ND(0.038)
Benzene	ND(0.042)	ND(0.042)	ND(0.038)
Chloroethane	ND(0.18)	ND(0.18)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.042)	ND(0.042)	ND(0.038)
Ethylbenzene	ND(0.042)	ND(0.042)	ND(0.038)
Methylene chloride	ND(0.18)	ND(0.18)	ND(0.16)
Tetrachloroethene	ND(0.042)	ND(0.042)	ND(0.038)
Toluene	ND(0.042)	ND(0.042)	ND(0.038)
Trichloroethene	ND(0.042)	ND(0.042)	ND(0.038)
Vinyl chloride	ND(0.042)	ND(0.042)	ND(0.038)
Xylenes (total)	ND(0.083)	ND(0.083)	ND(0.076)
Inorganic			
Arsenic	6.5 JD	5.5 J	5.4 J
Beryllium	NS	NS	NS
Cadmium	NS	NS	NS
Chromium Total	NS	NS	NS
Lead	NS	NS	NS
Manganese	NS	NS	NS
Nickel	NS	NS	NS
Vanadium	NS	NS	NS

RFI-36-19	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.037)	ND(0.037)	ND(0.036)
1,1-Dichloroethane	ND(0.037)	ND(0.037)	ND(0.036)
1,1-Dichloroethene	ND(0.037)	ND(0.037)	ND(0.036)
1,2-Dichloroethane	ND(0.037)	ND(0.037)	ND(0.036)
Benzene	ND(0.037)	ND(0.037)	ND(0.036)
Chloroethane	ND(0.16)	ND(0.16)	ND(0.15)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.037)	ND(0.036)
Ethylbenzene	ND(0.037)	ND(0.037)	ND(0.036)
Methylene chloride	ND(0.16)	ND(0.16)	0.035 J
Tetrachloroethene	ND(0.037)	ND(0.037)	ND(0.036)
Toluene	ND(0.037)	ND(0.037)	ND(0.036)
Trichloroethene	ND(0.037)	ND(0.037)	ND(0.036)
Vinyl chloride	ND(0.037)	ND(0.037)	ND(0.036)
Xylenes (total)	ND(0.073)	ND(0.074)	ND(0.072)

RFI-36-41	1 - 3 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Cadmium	NS
Chromium Total	110
Chromium VI (Hexavalent)	0.34
Lead	NS
Manganese	NS
Nickel	NS
Vanadium	NS

RFI-36-42	0.1 - 1.5 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Cadmium	NS
Chromium Total	8.7
Chromium VI (Hexavalent)	0.075
Lead	NS
Manganese	NS
Nickel	NS
Vanadium	NS

RFI-36-50	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	0.036 J	0.049	0.078
1,1-Dichloroethane	ND(0.04)	ND(0.037)	ND(0.039)
1,1-Dichloroethene	ND(0.04)	ND(0.037)	ND(0.039)
1,2-Dichloroethane	ND(0.04)	ND(0.037)	ND(0.039)
Benzene	ND(0.04)	ND(0.037)	ND(0.039)
Chloroethane	ND(0.17)	ND(0.16)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.037)	ND(0.039)
Ethylbenzene	ND(0.04)	ND(0.037)	ND(0.039)
Methylene chloride	ND(0.17)	ND(0.16)	ND(0.17)
Tetrachloroethene	ND(0.04)	ND(0.037)	ND(0.039)
Toluene	ND(0.08)	ND(0.075)	ND(0.078)
Trichloroethene	ND(0.04)	ND(0.037)	ND(0.039)
Vinyl chloride	ND(0.08)	ND(0.075)	ND(0.078)
Xylenes (total)	ND(0.08)	ND(0.075)	ND(0.078)
SVOC			
Benzo(a)pyrene	ND(0.19)	ND(0.18)	ND(0.19)
PCB			
Total PCBs	ND(0.04)	ND(0.038)	8.37 (RDC)
Inorganic			
Arsenic	6.2	4.4	3.8
Beryllium	0.42	0.11	0.11
Cadmium	ND(0.051)	ND(0.14)	ND(0.12)
Chromium Total	14	5.3	4.9
Lead	8.1	5	4.2
Manganese	210 J	130 J	100 J
Nickel	14	7.4	6.2
Vanadium	25	11	11

RFI-36-47	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.038)	ND(0.036)	ND(0.039)
1,1-Dichloroethane	ND(0.038)	ND(0.036)	ND(0.039)
1,1-Dichloroethene	ND(0.038)	ND(0.036)	ND(0.039)
1,2-Dichloroethane	ND(0.038)	ND(0.036)	ND(0.039)
Benzene	ND(0.038)	ND(0.036)	ND(0.039)
Chloroethane	ND(0.16)	ND(0.15)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.036)	ND(0.039)
Ethylbenzene	0.035 J	0.026 J	ND(0.039)
Methylene chloride	ND(0.16)	ND(0.15)	ND(0.17)
Tetrachloroethene	ND(0.038)	ND(0.036)	ND(0.039)
Toluene	0.092	0.054	ND(0.039)
Trichloroethene	ND(0.038)	ND(0.036)	ND(0.039)
Vinyl chloride	ND(0.038)	ND(0.036)	ND(0.039)
Xylenes (total)	0.3	0.34	ND(0.078)
Inorganic			
Arsenic	8.2 J (RDC)	3.3 J	3.4 J
Beryllium	0.33 J	0.15 J	0.079 J
Cadmium	0.55	0.2	0.11
Chromium Total	24 J	13 J	7.7 J
Lead	91 J	27 J	7.8 J
Manganese	390 J	100 J	51 J
Nickel	20 J	11 J	6.8 J
Vanadium	26 J	17 J	15 J

RFI-36-03	0.8 - 2 (ft)	8 - 10 (ft)	14 - 16 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.036)	ND(0.041)	ND(0.041) /ND(0.042)
1,1-Dichloroethane	ND(0.036)	ND(0.041)	ND(0.041) /ND(0.042)
1,1-Dichloroethene	ND(0.036)	ND(0.041)	ND(0.041) /ND(0.042)
1,2-Dichloroethane	ND(0.036)	ND(0.041)	ND(0.041) /ND(0.042)
Benzene	ND(0.036)	ND(0.041)	ND(0.041) /ND(0.042)
Chloroethane	ND(0.15)	ND(0.18)	ND(0.18) /ND(0.18)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.041)	ND(0.041) /ND(0.042)
Ethylbenzene	ND(0.036)	ND(0.041)	ND(0.041) /ND(0.042)
Methylene chloride	ND(0.15)	ND(0.18)	ND(0.18) /ND(0.18)
Tetrachloroethene	ND(0.036)	ND(0.041)	ND(0.041) /ND(0.042)
Toluene	ND(0.036)	ND(0.041)	ND(0.041) /ND(0.042)
Trichloroethene	ND(0.036)	ND(0.041)	ND(0.041) /ND(0.042)
Vinyl chloride	ND(0.036)	ND(0.041)	ND(0.041) /ND(0.042)
Xylenes (total)	ND(0.071)	ND(0.083)	ND(0.082) /ND(0.085)
SVOC			
Benzo(a)pyrene	ND(0.19)	ND(0.18)	ND(0.21) /ND(0.21)
Inorganic			
Arsenic	4.5 J	7.6 J	3.8 J /3.4 J
Beryllium	NS	NS	NS
Cadmium	0.17	0.064	0.11 /0.27
Chromium Total	11	6.4	4.4 /13
Lead	12	5.7	4.3 /4.7
Manganese	NS	NS	NS
Nickel	NS	NS	NS
Vanadium	NS	NS	NS

RFI-36-51	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.042)	ND(0.039)	ND(0.037)
1,1-Dichloroethane	ND(0.042)	ND(0.039)	ND(0.037)
1,1-Dichloroethene	ND(0.042)	ND(0.039)	ND(0.037)
1,2-Dichloroethane	ND(0.042)	ND(0.039)	ND(0.037)
Benzene	ND(0.042)	ND(0.039)	ND(0.037)
Chloroethane	ND(0.18)	ND(0.17)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.042)	ND(0.039)	ND(0.037)
Ethylbenzene	ND(0.042)	ND(0.039)	ND(0.037)
Methylene chloride	ND(0.18)	ND(0.17)	ND(0.16)
Tetrachloroethene	ND(0.042)	ND(0.039)	ND(0.037)
Toluene	0.048 J	ND(0.079)	ND(0.073)
Trichloroethene	ND(0.042)	ND(0.039)	ND(0.037)
Vinyl chloride	ND(0.083)	ND(0.079)	ND(0.073)
Xylenes (total)	0.107 J	ND(0.079)	ND(0.073)
SVOC			
Benzo(a)pyrene	ND(0.2)	ND(0.19)	ND(0.18)
PCB			
Total PCBs	ND(0.042)	ND(0.04)	ND(0.038)
Inorganic			
Arsenic	8.9 (RDC)	4.9	5
Beryllium	0.61	0.18	0.14
Cadmium	0.19	ND(0.086)	ND(0.088)
Chromium Total	20	6.8	5.7
Lead	13	6.3	6.3
Manganese	350 J	78 J	67 J
Nickel	24	6.1	5.5
Vanadium	34	14	12

RFI-36-46	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.041)	ND(0.039) /ND(0.039)	ND(0.038)
1,1-Dichloroethane	ND(0.041)	ND(0.039) /ND(0.039)	ND(0.038)
1,1-Dichloroethene	ND(0.041)	ND(0.039) /ND(0.039)	ND(0.038)
1,2-Dichloroethane	ND(0.041)	ND(0.039) /ND(0.039)	ND(0.038)
Benzene	ND(0.041)	ND(0.039) /ND(0.039)	ND(0.038)
Chloroethane	ND(0.17)	ND(0.17) /ND(0.17)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.041)	ND(0.039) /ND(0.039)	ND(0.038)
Ethylbenzene	ND(0.041)	ND(0.039) /ND(0.039)	ND(0.038)
Methylene chloride	0.039 J	0.059 J /0.057 J	0.061 J
Tetrachloroethene	ND(0.041)	ND(0.039) /ND(0.039)	ND(0.038)
Toluene	0.038 J	ND(0.039) /ND(0.039)	ND(0.038)
Trichloroethene	ND(0.041)	ND(0.039) /ND(0.039)	ND(0.038)
Vinyl chloride	ND(0.041)	ND(0.039) /ND(0.039)	ND(0.038)
Xylenes (total)	0.168	ND(0.078) /ND(0.078)	ND(0.076)
SVOC			
Benzo(a)pyrene	ND(2 J)	ND(0.19) /ND(0.19)	ND(0.19)
PCB			
Total PCBs	ND(0.041)	ND(0.038) /ND(0.038)	ND(0.038)
Inorganic			
Arsenic	8.6 (RDC)	3.8 /2.5	3.1
Beryllium	0.82	0.19 /0.27	0.16
Cadmium	0.57	0.089 /0.089	0.08
Chromium Total	24	11 /7.8	6.3
Lead	29	5.7 /6.2	5.2
Manganese	810	100 /67	65
Nickel	14	5.7 /5.8	5.2
Vanadium	19	14 /16	11

RFI-36-02	1 - 3 (ft)	7 - 9 (ft)	9 - 11 (ft)	13 - 15 (ft)
VOC				
1,1,1-Trichloroethane	ND(0.037)	ND(0.044)	ND(0.037) /ND(0.036)	ND(0.037)
1,1-Dichloroethane	ND(0.037)	ND(0.044)	ND(0.037) /ND(0.036)	ND(0.037)
1,1-Dichloroethene	ND(0.037)	ND(0.044)	ND(0.037) /ND(0.036)	ND(0.037)
1,2-Dichloroethane	ND(0.037)	ND(0.044)	ND(0.037) /ND(0.036)	ND(0.037)
Benzene	ND(0.037)	ND(0.044)	ND(0.037) /ND(0.036)	ND(0.037)
Chloroethane	ND(0.16)	ND(0.19)	ND(0.16) /ND(0.15)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.044)	ND(0.037) /ND(0.036)	ND(0.037)
Ethylbenzene	ND(0.037)	ND(0.044)	ND(0.037) /ND(0.036)	ND(0.037)
Methylene chloride	0.033 J	0.036 J	0.034 J /0.042 J	0.033 J
Tetrachloroethene	ND(0.037)	ND(0.044)	ND(0.037) /ND(0.036)	ND(0.037)
Toluene	ND(0.037)	ND(0.044)	ND(0.037) /ND(0.036)	ND(0.037)
Trichloroethene	ND(0.037)	ND(0.044)	ND(0.037) /ND(0.036)	ND(0.037)
Vinyl chloride	ND(0.037)	ND(0.044)	ND(0.037) /ND(0.036)	ND(0.037)
Xylenes (total)	ND(0.075)	ND(0.087)	ND(0.074) /ND(0.071)	ND(0.074)
SVOC				
Benzo(a)pyrene	ND(0.19 J)	ND(0.22 J)	ND(0.18 J) /NS	ND(0.18)
PCB				
Total PCBs	ND(0.038)	ND(0.044)	ND(0.037) /NS	ND(0.037)
Inorganic				
Arsenic	3.6 J	4.2 J	3.1 J /NS	4 J
Beryllium	0.091 J	0.12 J	0.058 J /NS	0.061 J
Cadmium	0.073 J	0.1 J	0.065 J /NS	0.1 J
Chromium Total	5 J	7.6 J	4.5 J /NS	4.2 J
Lead	5 J	6.3 J	4.1 J /NS	5.1 J
Manganese	120 J	180 J	110 J /NS	120 J
Nickel	6.8 J	8.4 J	5.8 J /NS	5.6 J
Vanadium	8.6 J	10 J	7.8 J /NS	7.2 J

RFI-36-35	0 - 2 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.039)	0.07	0.14
1,1-Dichloroethane	ND(0.039)	ND(0.038)	ND(0.04)
1,1-Dichloroethene	ND(0.039)	ND(0.038)	ND(0.04)
1,2-Dichloroethane	ND(0.039)	ND(0.038)	ND(0.04)
Benzene	ND(0.039)	ND(0.038)	ND(0.04)
Chloroethane	ND(0.17)	ND(0.16)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.038)	ND(0.04)
Ethylbenzene	ND(0.039)	ND(0.038)	ND(0.04)
Methylene chloride	0.05 J	ND(0.16)	ND(0.17)
Tetrachloroethene	ND(0.039)	ND(0.038)	ND(0.04)
Toluene	ND(0.039)	ND(0.038)	ND(0.04)
Trichloroethene	ND(0.039)	ND(0.038)	ND(0.04)
Vinyl chloride	ND(0.039)	ND(0.038)	ND(0.04)
Xylenes (total)	ND(0.078)	ND(0.077)	ND(0.081)
SVOC			
Benzo(a)pyrene	ND(0.19)	ND(0.18)	ND(0.2)
PCB			
Total PCBs	ND(0.037)	ND(0.038)	ND(0.041)
Inorganic			
Arsenic	3.5	4.3	3.8
Beryllium	0.16 J	0.091 J	ND(0.19)
Cadmium	0.15	0.1 J	0.088 J
Chromium Total	8.2	4.4 J	3.2 J
Lead	7.3 J	4.1 J	4.1 J
Manganese	180	98	82
Nickel	8.9	5	3.9
Vanadium	9.2	6.9	3.9

RFI-36-05	0.8 - 2 (ft)	8 - 10 (ft)	16 - 18 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.042)	ND(0.042)	ND(0.045)
1,1-Dichloroethane	ND(0.042)	ND(0.042)	ND(0.045)
1,1-Dichloroethene	ND(0.042)	ND(0.042)	ND(0.045)
1,2-Dichloroethane	ND(0.042)	ND(0.042)	ND(0.045)
Benzene	ND(0.042)	ND(0.042)	ND(0.045)
Chloroethane	ND(0.18)	ND(0.18)	ND(0.19)
cis-1,2-Dichloroethene	ND(0.042)	ND(0.042)	ND(0.045)
Ethylbenzene	ND(0.042)	ND(0.042)	ND(0.045)
Methylene chloride	ND(0.18 J)	ND(0.18 J)	ND(0.19 J)
Tetrachloroethene	ND(0.042)	ND(0.042)	ND(0.045)
Toluene	ND(0.042)	0.047	ND(0.045)
Trichloroethene	ND(0.042)	ND(0.042)	ND(0.045)
Vinyl chloride	ND(0.042)	ND(0.042)	ND(0.045)
Xylenes (total)	ND(0.084)	ND(0.085)	ND(0.089)
SVOC			
Benzo(a)pyrene	ND(0.18)	ND(0.18)	ND(0.18)
Inorganic			
Arsenic	3.4	5.3	2.5
Beryllium	NS	NS	NS
Cadmium	0.095	0.16	0.063
Chromium Total	6.8	12	5.9
Lead	6.1	12	4.9
Manganese	NS	NS	NS
Nickel	NS	NS	NS
Vanadium	NS	NS	NS

RFI-36-04	0.6 - 2 (ft)	8 - 10 (ft)	18 - 20 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.033)	ND(0.037)	ND(0.042) /ND(0.042)
1,1-Dichloroethane	ND(0.033)	ND(0.037)	ND(0.042) /ND(0.042)
1,1-Dichloroethene	ND(0.033)	ND(0.037)	ND(0.042) /ND(0.042)
1,2-Dichloroethane	ND(0.033)	ND(0.037)	ND(0.042) /ND(0.042)
Benzene	ND(0.033)	ND(0.037)	ND(0.042) /ND(0.042)
Chloroethane	ND(0.14)	ND(0.16)	ND(0.18) /ND(0.18)
cis-1,2-Dichloroethene	ND(0.033)	ND(0.037)	ND(0.042) /ND(0.042)
Ethylbenzene	ND(0.033)	ND(0.037)	ND(0.042) /ND(0.042)
Methylene chloride	ND(0.14 J)	ND(0.16 J)	ND(0.18 J) /ND(0.18)
Tetrachloroethene	ND(0.033)	ND(0.037)	ND(0.042) /ND(0.042 J)
Toluene	ND(0.033)	ND(0.037)	ND(0.042) /ND(0.042)
Trichloroethene	ND(0.033)	ND(0.037)	ND(0.042) /ND(0.042)
Vinyl chloride	ND(0.033)	ND(0.037)	ND(0.042) /ND(0.042)
Xylenes (total)	ND(0.065)	ND(0.073)	ND(0.084) /ND(0.084)
SVOC			
Benzo(a)pyrene	1.08	ND(0.19 J)	ND(0.2) /ND(0.21)
Inorganic			
Arsenic	5.6	4.8	2.7 /2.7
Beryllium	NS	NS	NS
Cadmium	0.15	0.13	0.038 /0.046
Chromium Total	16	9.4	3.5 /4.4
Lead	14	12	3.6 /4.2
Manganese	NS	NS	NS
Nickel	NS	NS	NS
Vanadium	NS	NS	NS

RFI-BG-09	0 - 2 (ft)
Inorganic	
Arsenic	6.5 J
Beryllium	0.47
Cadmium	0.33 J
Chromium Total	16 J
Lead	45 J
Manganese	380
Nickel	19 J
Vanadium	22 J

RFI-36-32	0 - 2 (ft)	8 - 10 (ft)	12 - 14 (ft)	16 - 18 (ft)
VOC				
1,1,1-Trichloroethane	ND(0.039)	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
1,1-Dichloroethane	ND(0.039)	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
1,1-Dichloroethene	ND(0.039)	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
1,2-Dichloroethane	ND(0.039)	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Benzene	ND(0.039)	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Chloroethane	ND(0.17)	ND(0.17)	ND(0.15)	ND(0.15) /ND(0.15)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Ethylbenzene	ND(0.039)	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Methylene chloride	ND(0.17)	ND(0.17)	ND(0.15)	ND(0.15) /ND(0.15)
Tetrachloroethene	ND(0.039)	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Toluene	0.099	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Trichloroethene	ND(0.039)	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Vinyl chloride	ND(0.039)	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Xylenes (total)	0.061 J	ND(0.078)	ND(0.071)	ND(0.072) /ND(0.072)
SVOC				
Benzo(a)pyrene	ND(0.19 J)	ND(0.19 J)	ND(0.18 J)	ND(0.17) /ND(0.17)
PCB				
Total PCBs	0.05	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.034)
Inorganic				
Arsenic	3.3 J	7.4 J	4 J	2.9 J /3 J
Beryllium	0.18 J	0.37 J	0.068 J	0.059 J /ND(0.17)
Cadmium	0.11 J	0.17 J	0.1 J	0.084 J /0.062 J
Chromium Total	10 J	12 J	3.1 J	5.9 J /3.1 J
Lead	15 J	10 J	4.3 J	3 J /3.1 J
Manganese	180 J	360 J	130 J	86 J /94 J
Nickel	8.3 J	18 J	4.8 J	4 J /4.2 J
Vanadium	7 J	17 J	4.8 J	3.6 J /4 J

RFI-36-28	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)	14 - 16 (ft)
VOC				
1,1,1-Trichloroethane	ND(0.042)	0.15 /0.092	ND(0.037)	ND(0.037)
1,1-Dichloroethane	ND(0.042)	ND(0.039) /ND(0.037)	ND(0.037)	ND(0.037)
1,1-Dichloroethene	ND(0.042)	ND(0.039) /ND(0.037)	ND(0.037)	ND(0.037)
1,2-Dichloroethane	ND(0.042)	ND(0.039) /ND(0.037)	ND(0.037)	ND(0.037)
Benzene	ND(0.042)	ND(0.039) /ND(0.037)	ND(0.037)	ND(0.037)
Chloroethane	ND(0.18)	ND(0.17) /ND(0.16)	ND(0.16)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.042)	ND(0.039) /ND(0.037)	ND(0.037)	ND(0.037)
Ethylbenzene	ND(0.042)	ND(0.039) /ND(0.037)	ND(0.037)	ND(0.037)
Methylene chloride	ND(0.18)	ND(0.17) /ND(0.16)	ND(0.16)	ND(0.16)
Tetrachloroethene	ND(0.042)	ND(0.039) /ND(0.037)	ND(0.037)	ND(0.037)
Toluene	ND(0.042)	ND(0.039) /ND(0.037)	ND(0.037)	ND(0.037)
Trichloroethene	ND(0.042)	ND(0.039) /ND(0.037)	ND(0.037)	ND(0.037)
Vinyl chloride	ND(0.042)	ND(0.039) /ND(0.037)	ND(0.037)	ND(0.037)
Xylenes (total)	ND(0.084)	ND(0.077) /ND(0.075)	ND(0.074)	ND(0.074)
SVOC				
Benzo(a)pyrene	ND(0.2)	ND(0.18 J) /ND(0.18 J)	ND(0.18)	ND(0.17)
PCB				
Total PCBs	ND(0.038)	ND(0.036) /ND(0.036)	ND(0.035)	ND(0.034)
Inorganic				
Arsenic	2.3 J	3.5 J /3.2 J	4.3 J	5.7 J
Beryllium	ND(0.2)	0.21 J /0.16 J	ND(0.17)	0.14 J
Cadmium	0.077 J	0.18 J /0.75 J	0.074 J	0.18 J
Chromium Total	7.9 J	10 J /15 J	2.5 J	6.5 J
Lead	7.1 J	13 J /9.7 J	4.5 J	7.1 J
Manganese	97 J	200 J /240 J	110 J	220 J
Nickel	5.5 J	9.7 J /10 J	4 J	9.8 J
Vanadium	4.3 J	10 J /8.9 J	3.6 J	8.9 J

RFI-36-49	1 - 3 (ft)	7 - 9 (ft)	17 - 19 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.037)	ND(0.039)	ND(0.037)
1,1-Dichloroethane	0.036 J	ND(0.039)	ND(0.037)
1,1-Dichloroethene	ND(0.037)	ND(0.039)	ND(0.037)
1,2-Dichloroethane	ND(0.037)	ND(0.039)	ND(0.037)
Benzene	ND(0.037)	ND(0.039)	ND(0.037)
Chloroethane	ND(0.16)	ND(0.17)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.039)	ND(0.037)
Ethylbenzene	ND(0.037)	ND(0.039)	ND(0.037)
Methylene chloride	0.15 J	0.13 J	0.15 J
Tetrachloroethene	ND(0.037)	ND(0.039)	ND(0.037)
Toluene	ND(0.073)	ND(0.078)	ND(0.074)
Trichloroethene	ND(0.037)	ND(0.039)	ND(0.037)
Vinyl chloride	ND(0.073)	ND(0.078)	ND(0.074)
Xylenes (total)	ND(0.073)	ND(0.078)	0.046 J
SVOC			
Benzo(a)pyrene	ND(4.4 J)	ND(0.2)	ND(4.5 J)
PCB			
Total PCBs	ND(0.037)	ND(0.041)	0.039
Inorganic			
Arsenic	2.3 J	4.5 J	2.7 J
Beryllium	0.1 J	0.34 J	0.11 J
Cadmium	ND(0.071)	0.17	ND(0.048)
Chromium Total	8.8	15	4
Lead	5.8 J	11 J	3.4 J
Manganese	120	470	59
Nickel	5.9 J	13 J	4.1 J
Vanadium	8.3 J	24 J	8.3 J

RFI-36-33	0 - 2 (ft)	8 - 10 (ft)	16 - 18 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.038)	ND(0.04)	ND(0.036)
1,1-Dichloroethane	ND(0.038)	ND(0.04)	ND(0.036)
1,1-Dichloroethene	ND(0.038)	ND(0.04)	ND(0.036)
1,2-Dichloroethane	ND(0.038)	ND(0.04)	ND(0.036)
Benzene	ND(0.038)	ND(0.04)	ND(0.036)
Chloroethane	ND(0.16)	ND(0.17)	ND(0.15)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.04)	ND(0.036)
Ethylbenzene	ND(0.038)	ND(0.04)	ND(0.036)
Methylene chloride	ND(0.16)	ND(0.17)	ND(0.15)
Tetrachloroethene	ND(0.038)	ND(0.04)	ND(0.036)
Toluene	ND(0.038)	ND(0.04)	0.07
Trichloroethene	ND(0.038)	ND(0.04)	ND(0.036)
Vinyl chloride	ND(0.038)	ND(0.04)	ND(0.036)
Xylenes (total)	ND(0.076)	ND(0.081)	0.037 J
SVOC			
Benzo(a)pyrene	ND(0.19 J)	ND(0.19)	ND(0.17 J)
PCB			
Total PCBs	ND(0.037)	ND(0.038)	ND(0.034)
Inorganic			
Arsenic	8.2 J (RDC)	7.2 J	10 J (RDC)
Beryllium	0.46 J	0.47 J	0.055 J
Cadmium	0.67 J	0.41 J	0.056 J
Chromium Total	41 J	9.5 J	2.6 J
Lead	91 J	9.6 J	4 J
Manganese	250 J	350 J	140 J
Nickel	19 J	16 J	4.3 J
Vanadium	20 J	15 J	3.9 J

RFI-BG-08	0 - 2 (ft)
Inorganic	
Arsenic	8.5 J (RDC)
Beryllium	0.42
Cadmium	0.34 J
Chromium Total	16 J
Lead	30 J
Manganese	500
Nickel	14 J
Vanadium	24 J

RFI-36-27	0 - 2 (ft)	8 - 10 (ft)	12 - 14 (ft)	14 - 16 (ft)
VOC				
1,1,1-Trichloroethane	ND(0.038)	ND(0.037)	ND(0.037)	ND(0.039)
1,1-Dichloroethane	ND(0.038)	ND(0.037)	ND(0.037)	ND(0.039)
1,1-Dichloroethene	ND(0.038)	ND(0.037)	ND(0.037)	ND(0.039)
1,2-Dichloroethane	ND(0.038)	ND(0.037)	ND(0.037)	ND(0.039)
Benzene	ND(0.038)	ND(0.037)	ND(0.037)	ND(0.039)
Chloroethane	ND(0.16)	ND(0.16)	ND(0.16)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.037)	ND(0.037)	ND(0.039)
Ethylbenzene	ND(0.038)	ND(0.037)	ND(0.037)	ND(0.039)
Methylene chloride	ND(0.16)	ND(0.16)	ND(0.16)	ND(0.17)
Tetrachloroethene	ND(0.038)	ND(0.037)	ND(0.037)	ND(0.039)
Toluene	ND(0.038)	ND(0.037)	ND(0.037)	ND(0.039)
Trichloroethene	ND(0.038)	ND(0.037)	ND(0.037)	ND(0.039)
Vinyl chloride	ND(0.038)	ND(0.037)	ND(0.037)	ND(0.039)
Xylenes (total)	ND(0.076)	ND(0.075)	ND(0.073)	0.111 J
SVOC				
Benzo(a)pyrene	ND(0.18)	ND(0.18)	ND(0.18 J)	ND(0.19 J)
PCB				
Total PCBs	ND(0.037)	ND(0.038)	ND(0.034)	ND(0.038)
Inorganic				
Arsenic	3.4	3.9	1.7	3.3
Beryllium	0.15 J	0.21	0.071 J	0.11 J
Cadmium	0.16 J	0.079 J	0.076 J	0.088 J
Chromium Total	8.7 J	5.7 J	3.5 J	4.8 J
Lead	7.4 J	4.6 J	2.8 J	5.2 J
Manganese	130	130	95	140
Nickel	6.8	8.9	4.2	6.6
Vanadium	7.7	8.6	4.9	7.5

RFI-36-01	0.5 - 2.5 (ft)	8.5 - 10.5 (ft)	12.5 - 14.5 (
VOC			
1,1,1-Trichloroethane	ND(0.04)	ND(0.039) /ND(0.041)	ND(0.03
1,1-Dichloroethane	ND(0.04)	ND(0.039) /ND(0.041)	ND(0.03
1,1-Dichloroethene	ND(0.04)	ND(0.039) /ND(0.041)	ND(0.03
1,2-Dichloroethane	ND(0.04)	ND(0.039) /ND(0.041)	ND(0.03
Benzene	ND(0.04)	ND(0.039) /ND(0.041)	ND(0.03
Chloroethane	ND(0.17)	ND(0.17) /ND(0.17)	ND(0.1
cis-1,2-Dichloroethene	ND(0.04)	ND(0.039) /ND(0.041)	ND(0.03
Ethylbenzene	ND(0.04)	ND(0.039) /ND(0.041)	ND(0.03
Methylene chloride	ND(0.17)	ND(0.17) /ND(0.17)	ND(0.1
Tetrachloroethene	ND(0.04)	ND(0.039) /ND(0.041)	ND(0.03
Toluene	ND(0.04)	ND(0.039) /ND(0.041)	ND(0.03
Trichloroethene	ND(0.04)	ND(0.039) /ND(0.041)	ND(0.03
Vinyl chloride	ND(0.04)	ND(0.039) /ND(0.041)	ND(0.03
Xylenes (total)	ND(0.079)	ND(0.077) /ND(0.082)	ND(0.07
SVOC			
Benzo(a)pyrene	ND(0.19 J)	ND(0.19) /ND(0.2)	ND(0.1
PCB			
Total PCBs	ND(0.04)	ND(0.039) /ND(0.041)	ND(0.03
Inorganic			
Arsenic	5.5	3.2 /5.1	3
Beryllium	0.41	0.44 /0.45	0.088 J
Cadmium	0.29	0.13 /0.15	0.0
Chromium Total	12	18 /15	5
Lead	62 J	8.2 J /8.7 J	3
Manganese	270	390 /350	140
Nickel	13	24 /21	6
Vanadium	16	20 /23	9

RFI-36-26	0 - 2 (ft)	2 - 4 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC				
1,1,1-Trichloroethane	ND(0.038)	ND(0.036)	ND(0.038)	ND(0.036)
1,1-Dichloroethane	0.87	1.6	ND(0.038)	0.41
1,1-Dichloroethene	0.071 (RSVIA)	0.14 (RSVIA)	ND(0.038)	0.047
1,2-Dichloroethane	ND(0.038)	ND(0.036)	ND(0.038)	ND(0.036)
Benzene	ND(0.038)	ND(0.036)	ND(0.038)	ND(0.036)
Chloroethane	ND(0.16)	ND(0.15)	ND(0.16)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.038)	0.21	ND(0.038)	0.053
Ethylbenzene	ND(0.038)	ND(0.036)	ND(0.038)	ND(0.036)
Methylene chloride	ND(0.16)	0.038 J	ND(0.16)	ND(0.16)
Tetrachloroethene	ND(0.038)	ND(0.036)	ND(0.038)	ND(0.036)
Toluene	ND(0.038)	ND(0.036)	ND(0.038)	ND(0.036)
Trichloroethene	ND(0.038)	0.16	ND(0.038)	0.085
Vinyl chloride	ND(0.038)	0.036	ND(0.038)	ND(0.036)
Xylenes (total)	ND(0.076)	ND(0.071)	ND(0.076)	ND(0.073)
SVOC				
Benzo(a)pyrene	ND(0.18 J)	ND(0.18)	ND(0.18)	ND(0.18)
PCB				
Total PCBs	0.06	R	ND(0.036)	ND(0.036)
Inorganic				
Arsenic	3.3	4.6	2.4	2.7
Beryllium	ND(0.22)	ND(0.18)	0.072 J	ND(0.18)
Cadmium	0.083 J	0.11 J	0.068 J	0.13 J
Chromium Total	13 J	28	3.4 J	5.8 J
Lead	8.5 J	11 J	3.2 J	3.6 J
Manganese	160	210	91	110
Nickel	10	16	4.5	5.7
Vanadium	5.7	8.2	5.2	6.1

RFI-36-06	0.7 - 2 (ft)	6 - 8 (ft)	16 - 17 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.036)	ND(0.033)	ND(0.041)
1,1-Dichloroethane	0.04	ND(0.033)	ND(0.041)
1,1-Dichloroethene	ND(0.036)	ND(0.033)	ND(0.041)
1,2-Dichloroethane	ND(0.036)	ND(0.033)	ND(0.041)
Benzene	ND(0.036)	ND(0.033)	ND(0.041)
Chloroethane	ND(0.15)	ND(0.14)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.033)	ND(0.041)
Ethylbenzene	ND(0.036)	ND(0.033)	ND(0.041)
Methylene chloride	ND(0.15)	ND(0.14)	ND(0.17)
Tetrachloroethene	ND(0.036 J)	ND(0.033)	ND(0.041)
Toluene	0.097	ND(0.033)	ND(0.041)
Trichloroethene	0.05	ND(0.033)	ND(0.041)
Vinyl chloride	ND(0.036)	ND(0.033)	ND(0.041)
Xylenes (total)	ND(0.071)	ND(0.067)	ND(0.082)
SVOC			
Benzo(a)pyrene	ND(4.6)	ND(0.19)	ND(1.8)
Inorganic			
Arsenic	3	8.2 (RDC)	1.6
Beryllium	NS	NS	NS
Cadmium	0.18	0.16	0.11
Chromium Total	25	11	1.9
Lead	9	8.4	2.2
Manganese	NS	NS	NS
Nickel	NS	NS	NS
Vanadium	NS	NS	NS

RFI-36-16	0.9 - 2 (ft)	8 - 10 (ft)	18 - 20 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.034)	ND(0.039)	ND(0.041)
1,1-Dichloroethane	0.066	ND(0.039)	ND(0.041)
1,1-Dichloroethene	ND(0.034)	ND(0.039)	ND(0.041 J)
1,2-Dichloroethane	ND(0.034)	ND(0.039)	ND(0.041)
Benzene	ND(0.034)	ND(0.039)	ND(0.041)
Chloroethane	ND(0.15)	ND(0.17)	ND(0.17)
cis-1,2-Dichloroethene	3.1	ND(0.039)	ND(0.041)
Ethylbenzene	ND(0.034)	ND(0.039)	ND(0.041)
Methylene chloride	ND(0.15)	ND(0.17)	ND(0.17)
Tetrachloroethene	ND(0.034 J)	ND(0.039 J)	ND(0.041 J)
Toluene	0.31	ND(0.039)	0.043
Trichloroethene	1.5	ND(0.039)	0.053
Vinyl chloride	ND(0.034)	ND(0.039)	ND(0.041)
Xylenes (total)	ND(0.068)	ND(0.078)	ND(0.082)
SVOC			
Benzo(a)pyrene	ND(1.8)	ND(0.18)	ND(1)
Inorganic			
Arsenic	3.2	3.1	8.1 (RDC)
Beryllium	NS	NS	NS
Cadmium	0.21	0.078	0.14
Chromium Total	32	4.2	9.1
Lead	19	3.4	5.9
Manganese	NS	NS	NS
Nickel	NS	NS	NS
Vanadium	NS	NS	NS

RFI-36-25	0 - 2 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.039)	ND(0.037)	ND(0.042)
1,1-Dichloroethane	ND(0.039)	ND(0.037)	ND(0.042)
1,1-Dichloroethene	ND(0.039)	ND(0.037)	ND(0.042)
1,2-Dichloroethane	ND(0.039)	ND(0.037)	ND(0.042)
Benzene	ND(0.039)	ND(0.037)	ND(0.042)
Chloroethane	ND(0.17)	ND(0.16)	ND(0.18)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.037)	ND(0.042)
Ethylbenzene	ND(0.039)	ND(0.037)	ND(0.042)
Methylene chloride	ND(0.17)	ND(0.16)	ND(0.18)
Tetrachloroethene	ND(0.039)	ND(0.037)	ND(0.042)
Toluene	ND(0.039)	ND(0.037)	ND(0.042)
Trichloroethene	ND(0.039)	ND(0.037)	ND(0.042)
Vinyl chloride	ND(0.039)	ND(0.037)	ND(0.042)
Xylenes (total)	ND(0.078)	ND(0.073)	ND(0.084)
SVOC			
Benzo(a)pyrene	ND(0.19 J)	0.152 J	ND(0.2)
PCB			
Total PCBs	R	ND(0.036)	ND(0.041)
Inorganic			
Arsenic	7.8 (RDC)	3.5	3.8
Beryllium	ND(0.15)	0.086 J	0.13 J
Cadmium	0.16 J	0.066 J	0.13 J
Chromium Total	28 J	3.2 J	5.1 J
Lead	11 J	4 J	4.9 J
Manganese	380	91	160
Nickel	23	5.7	8
Vanadium	19	5.9	9.7

RFI-BG-07	0 - 2 (ft)
Inorganic	
Arsenic	9.9 J (RDC)
Beryllium	0.72
Cadmium	0.97 J
Chromium Total	35 J
Lead	150 J
Manganese	610
Nickel	20 J
Vanadium	23 J

RFI-36-15	0.8 - 2 (ft)	8 - 10 (ft)	14 - 16 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.035)	ND(0.036)	ND(0.041)
1,1-Dichloroethane	ND(0.035)	ND(0.036)	0.057
1,1-Dichloroethene	ND(0.035)	ND(0.036)	ND(0.041)
1,2-Dichloroethane	ND(0.035)	ND(0.036)	ND(0.041)
Benzene	ND(0.035)	ND(0.036)	ND(0.041)
Chloroethane	ND(0.15)	ND(0.15)	ND(0.18)
cis-1,2-Dichloroethene	ND(0.035)	ND(0.036)	ND(0.041)
Ethylbenzene	ND(0.035)	ND(0.036)	ND(0.041)
Methylene chloride	ND(0.15)	ND(0.15)	ND(0.18)
Tetrachloroethene	ND(0.035)	ND(0.036)	ND(0.041 J)
Toluene	ND(0.035)	ND(0.036)	ND(0.041)
Trichloroethene	ND(0.035)	ND(0.036)	0.12
Vinyl chloride	ND(0.035)	ND(0.036)	ND(0.041)
Xylenes (total)	ND(0.07)	ND(0.071)	ND(0.082)
SVOC			
Benzo(a)pyrene	ND(3.6)	ND(0.18)	ND(4.1)
Inorganic			
Arsenic	4 J	3.3 J	39 J (IDC,RDC)
Beryllium	NS	NS	NS
Cadmium	0.08	0.067	0.085
Chromium Total	7.5	6.3	7.3
Lead	12	9.7	4.3
Manganese	NS	NS	NS
Nickel	NS	NS	NS
Vanadium	NS	NS	NS

RFI-36-22	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.036)	ND(0.038)	ND(0.037) /ND(0.038)
1,1-Dichloroethane	ND(0.036)	ND(0.038)	0.17 /ND(0.038)
1,1-Dichloroethene	ND(0.036)	ND(0.038)	ND(0.037) /ND(0.038)
1,2-Dichloroethane	ND(0.036)	ND(0.038)	ND(0.037) /ND(0.038)
Benzene	ND(0.036)	ND(0.038)	ND(0.037) /ND(0.038)
Chloroethane	ND(0.16)	ND(0.16 J)	ND(0.16) /ND(0.16)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.038)	ND(0.037) /ND(0.038)
Ethylbenzene	ND(0.036)	ND(0.038)	ND(0.037) /ND(0.038)
Methylene chloride	0.048 J	0.071 J	ND(0.16) /0.053 J
Tetrachloroethene	ND(0.036)	ND(0.038)	ND(0.037) /ND(0.038)
Toluene	ND(0.036)	ND(0.038)	ND(0.037) /ND(0.038)
Trichloroethene	ND(0.036)	ND(0.038)	ND(0.037) /ND(0.038)
Vinyl chloride	ND(0.036)	ND(0.038)	ND(0.037) /ND(0.038)
Xylenes (total)	ND(0.073)	ND(0.077)	ND(0.073) /ND(0.075)
SVOC			
Benzo(a)pyrene	ND(0.18 J)	ND(0.18)	ND(0.18) /ND(0.18)
PCB			
Total PCBs	ND(0.035)	ND(0.036)	ND(0.036) /ND(0.036)
Inorganic			
Arsenic	2.5	3.6	2.5 /2.9
Beryllium	0.096 J	0.15 J	0.11 J /0.099 J
Cadmium	0.099	0.06 J	0.074 J /0.1 J
Chromium Total	11	6.1	6.2 J /4.5
Lead	7.8 J	4.9 J	3 J /3.6 J
Manganese	180	93	92 /190
Nickel	10	7.9	5.4 /7.4
Vanadium	5.1	7.9	6.3 /5.9

RFI-36-25R	1 - 3 (ft)	7 - 9 (ft)	11 - 13 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.04)	ND(0.044)	ND(0.038)
1,1-Dichloroethane	ND(0.04)	ND(0.044)	ND(0.038)
1,1-Dichloroethene	ND(0.04)	ND(0.044)	ND(0.038)
1,2-Dichloroethane	ND(0.04 J)	ND(0.044 J)	ND(0.038 J)
Benzene	ND(0.04)	ND(0.044)	ND(0.038)
Chloroethane	ND(0.17)	ND(0.19)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.044)	ND(0.038)
Ethylbenzene	ND(0.04)	ND(0.044)	ND(0.038)
Methylene chloride	ND(0.17)	ND(0.19)	ND(0.16)
Tetrachloroethene	ND(0.04)	ND(0.044)	ND(0.038)
Toluene	ND(0.04)	ND(0.044)	ND(0.038)
Trichloroethene	ND(0.04)	ND(0.044)	ND(0.038)
Vinyl chloride	ND(0.04)	ND(0.044)	ND(0.038)
Xylenes (total)	ND(0.079)	ND(0.087)	ND(0.076)
SVOC			
Benzo(a)pyrene	0.0418 J	ND(0.21)	ND(0.19)
PCB			
Total PCBs	ND(0.04)	ND(0.044)	ND(0.038)
Inorganic			
Arsenic	3 J	6.8 J	2.4 J
Beryllium	0.29 J	0.86 J	0.2 J
Cadmium	0.13 J	0.21 J	0.079 J
Chromium Total	13 J	21 J	4.7 J
Lead	10 J	12 J	3.9 J
Manganese	260 J	630 J	92 J
Nickel	10	32	5.4
Vanadium	13	26	9.9

RFI-36-24	0 - 2 (ft)	6 - 8 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC				
1,1,1-Trichloroethane	ND(0.036)	ND(0.037)	ND(0.035)	ND(0.038) /ND(0.036)
1,1-Dichloroethane	ND(0.036)	0.062	ND(0.035)	ND(0.038) /ND(0.036)
1,1-Dichloroethene	ND(0.036)	ND(0.037)	ND(0.035)	ND(0.038) /ND(0.036)
1,2-Dichloroethane	ND(0.036)	ND(0.037)	ND(0.035)	ND(0.038) /ND(0.036)
Benzene	ND(0.036)	ND(0.037)	ND(0.035)	ND(0.038) /ND(0.036)
Chloroethane	ND(0.16)	ND(0.16)	ND(0.15)	ND(0.16) /ND(0.16)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.037)	ND(0.035)	ND(0.038) /ND(0.036)
Ethylbenzene	ND(0.036)	ND(0.037)	ND(0.035)	ND(0.038) /ND(0.036)
Methylene chloride	ND(0.16)	ND(0.16)	ND(0.15)	ND(0.16) /ND(0.16)
Tetrachloroethene	ND(0.036)	ND(0.037)	ND(0.035)	ND(0.038) /ND(0.036)
Toluene	ND(0.036)	ND(0.037)	ND(0.035)	ND(0.038) /ND(0.036)
Trichloroethene	ND(0.036)	ND(0.037)	ND(0.035)	ND(0.038) /ND(0.036)
Vinyl chloride	ND(0.036)	ND(0.037)	ND(0.035)	ND(0.038) /ND(0.036)
Xylenes (total)	ND(0.073)	ND(0.073)	ND(0.07)	ND(0.076) /ND(0.072)
SVOC				
Benzo(a)pyrene	ND(0.18 J)	ND(0.18)	ND(0.18 J)	ND(0.19 J) /ND(0.18 J)
PCB				
Total PCBs	0.08	ND(0.037)	ND(0.036)	ND(0.037) /0.028 J
Inorganic				
Arsenic	7.1	4.6	6.3	3.3 /4.8
Beryllium	0.54	0.16 J	ND(0.22)	0.16 J /0.099 J
Cadmium	0.47 J	0.14 J	0.2 J	0.18 J /0.14 J
Chromium Total	39 J	22 J	5.4 J	14 J /4.2 J
Lead	15 J	11 J	5.6 J	7.8 J /4 J
Manganese	330	210	300	150 /190
Nickel	22	11	7.6	10 /6
Vanadium	11	12	10	12 /8.1

RFI-36-23	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.037)	ND(0.037)	ND(0.037)
1,1-Dichloroethane	ND(0.037)	ND(0.037)	0.061
1,1-Dichloroethene	ND(0.037)	ND(0.037)	ND(0.037)
1,2-Dichloroethane	ND(0.037)	ND(0.037)	ND(0.037)
Benzene	ND(0.037)	ND(0.037)	ND(0.037)
Chloroethane	ND(0.16)	ND(0.16)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.037)	ND(0.037)
Ethylbenzene	ND(0.037)	ND(0.037)	ND(0.037)
Methylene chloride	0.04 J	0.062 J	0.039 J
Tetrachloroethene	ND(0.037)	ND(0.037)	ND(0.037)
Toluene	0.041	ND(0.037)	ND(0.037)
Trichloroethene	ND(0.037)	ND(0.037)	ND(0.037)
Vinyl chloride	ND(0.037)	ND(0.037)	ND(0.037)
Xylenes (total)	ND(0.074)	ND(0.075)	ND(0.073)
SVOC			
Benzo(a)pyrene	ND(0.18 J)	ND(0.18)	ND(0.18 J)
PCB			
Total PCBs	ND(0.036)	ND(0.036)	ND(0.035)
Inorganic			
Arsenic	6.7	3.6	6.4
Beryllium	0.58	0.14 J	0.17 J
Cadmium	0.2	0.063 J	0.14
Chromium Total	21	6.4	8.8
Lead	21 J	5.3 J	8.2 J
Manganese	260 D	130	130
Nickel	23	8.4	13
Vanadium	21	6.9	13

RFI-36-38	0.5 - 2.5 (ft)	8.5 - 10.5 (ft)	10.5 - 12.5 (ft)
VOC			
1,1,1-Trichloroethane	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS
Benzene	ND(0.011)	ND(0.011)	ND(0.01) /ND(0.012)
Chloroethane	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS
Ethylbenzene	ND(0.011)	ND(0.011)	ND(0.01) /ND(0.012)
Methylene chloride	NS	NS	NS
Tetrachloroethene	NS	NS	NS
Toluene	ND(0.011)	ND(0.011)	ND(0.01 J) /0.083 J
Trichloroethene	NS	NS	NS
Vinyl chloride	NS	NS	NS
Xylenes (total)	ND(0.022)	ND(0.022)	ND(0.021) /0.043

RFI-36-39	0.5 - 2.5 (ft)	8.5 - 10.5 (ft)	10.5 - 12.5 (ft)
VOC			
1,1,1-Trichloroethane	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS
Benzene	ND(0.011)	ND(0.011)	ND(0.01)
Chloroethane	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS
Ethylbenzene	ND(0.011)	ND(0.011)	ND(0.01)
Methylene chloride	NS	NS	NS
Tetrachloroethene	NS	NS	NS
Toluene	ND(0.011)	ND(0.011)	ND(0.01)
Trichloroethene	NS	NS	NS
Vinyl chloride	NS	NS	NS
Xylenes (total)	ND(0.022)	ND(0.022)	ND(0.021)

RFI-36-12	0.8 - 2 (ft)	8 - 10 (ft)
VOC		
1,1,1-Trichloroethane	0.35	ND(0.049)
1,1-Dichloroethane	1.4	ND(0.049)
1,1-Dichloroethene	ND(0.04)	ND(0.049)
1,2-Dichloroethane	ND(0.04)	ND(0.049)
Benzene	ND(0.04)	ND(0.049)
Chloroethane	ND(0.17)	ND(0.21)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.049)
Ethylbenzene	ND(0.04)	ND(0.049)
Methylene chloride	ND(0.17)	ND(0.21)
Tetrachloroethene	ND(0.04)	ND(0.049)
Toluene	ND(0.04)	ND(0.049)
Trichloroethene	ND(0.04)	ND(0.049)
Vinyl chloride	ND(0.04)	ND(0.049)
Xylenes (total)	ND(0.08)	ND(0.098)
SVOC		
Benzo(a)pyrene	ND(1.9)	ND(0.2)
Inorganic		
Arsenic	2.6 J	5.1 J
Beryllium	NS	NS
Cadmium	0.13	0.19
Chromium Total	20	6.1
Lead	22	5.2
Manganese	NS	NS
Nickel	NS	NS
Vanadium	NS	NS

RFI-36-07	0.8 - 2 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.037)	ND(0.043)	ND(2)
1,1-Dichloroethane	ND(0.037)	ND(0.043)	ND(2)
1,1-Dichloroethene	ND(0.037)	ND(0.043)	ND(2)
1,2-Dichloroethane	ND(0.037)	ND(0.043)	ND(2)
Benzene	ND(0.037)	ND(0.043)	240 (ISVIA,IVSIC,RDC,RSVIA,RVSIC)
Chloroethane	ND(0.16)	ND(0.18)	ND(8.5)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.043)	ND(2)
Ethylbenzene	ND(0.037)	ND(0.043)	680 D (IDC,ISVIA,RDC,RSVIA)
Methylene chloride	ND(0.16)	ND(0.18)	ND(8.5)
Tetrachloroethene	ND(0.037)	ND(0.043)	ND(2)
Toluene	ND(0.037)	0.19	4100 D (IDC,ISVIA,IVSIC,RDC,RSVIA,RVSIC)
Trichloroethene	ND(0.037)	ND(0.043)	ND(2)
Vinyl chloride	ND(0.037)	ND(0.043)	ND(2)
Xylenes (total)	ND(0.074)	ND(0.086)	2480 (IDC,ISVIA,RDC,RSVIA)
SVOC			
Benzo(a)pyrene	ND(9.3)	ND(0.18)	ND(38)
Inorganic			
Arsenic	4.8 J	3 J	3.8 J
Beryllium	NS	NS	NS
Cadmium	0.15	0.079	0.16
Chromium Total	13	3.8	7
Lead	8.7	3.5	4.8
Manganese	NS	NS	NS
Nickel	NS	NS	NS
Vanadium	NS	NS	NS

RFI-36-20	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.037)	ND(0.037)	ND(0.038)
1,1-Dichloroethane	ND(0.037)	ND(0.037)	ND(0.038)
1,1-Dichloroethene	ND(0.037)	ND(0.037)	ND(0.038 J)
1,2-Dichloroethane	ND(0.037)	ND(0.037)	ND(0.038)
Benzene	ND(0.037)	ND(0.037)	ND(0.038)
Chloroethane	ND(0.16)	ND(0.16)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.037)	ND(0.038)
Ethylbenzene	ND(0.037)	ND(0.037)	ND(0.038)
Methylene chloride	0.033 J	0.032 J	0.033 J
Tetrachloroethene	ND(0.037)	ND(0.037)	ND(0.038)
Toluene	ND(0.037)	ND(0.037)	ND(0.038)
Trichloroethene	ND(0.037)	ND(0.037)	ND(0.038)
Vinyl chloride	ND(0.037)	ND(0.037)	ND(0.038)
Xylenes (total)	ND(0.074)	ND(0.075)	ND(0.077)
SVOC			
Benzo(a)pyrene	ND(0.18)	ND(0.18)	ND(0.18)
Inorganic			
Arsenic	NS	3.8	NS
Beryllium	NS	0.12	NS
Cadmium	NS	0.072	NS
Chromium Total	NS	4.5	NS
Lead	NS	4	NS
Manganese	NS	140	NS
Nickel	NS	6.1	NS
Vanadium	NS	8.5	NS

RFI-36-34	0.9 - 2.9 (ft)	6.9 - 8.9 (ft)
VOC		
1,1,1-Trichloroethane	ND(0.039)	ND(0.04)
1,1-Dichloroethane	ND(0.039)	ND(0.04)
1,1-Dichloroethene	ND(0.039)	ND(0.04)
1,2-Dichloroethane	ND(0.039)	ND(0.04)
Benzene	ND(0.039)	ND(0.04)
Chloroethane	ND(0.17)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.04)
Ethylbenzene	ND(0.039)	ND(0.04)
Methylene chloride	0.052 J	0.031 J
Tetrachloroethene	ND(0.039 J)	ND(0.04)
Toluene	ND(0.039)	ND(0.04)
Trichloroethene	ND(0.039)	ND(0.04)
Vinyl chloride	ND(0.039)	ND(0.04)
Xylenes (total)	ND(0.078)	ND(0.079)
SVOC		
Benzo(a)pyrene	ND(0.19)	ND(0.19)
PCB		
Total PCBs	ND(0.039)	ND(0.039)
Inorganic		
Arsenic	5.2	3.4
Beryllium	0.28 J	0.13 J
Cadmium	0.15 J	0.097 J
Chromium Total	13 J	5.2 J
Lead	7.1 J	3.9 J
Manganese	230 J	440 J
Nickel	15 J	5.7 J
Vanadium	18 J	11 J

RFI-36-21	6 - 8 (ft)	8 - 10 (ft)	10 - 12 (ft)	12 - 14 (ft)
VOC				
1,1,1-Trichloroethane	ND(0.041)	ND(0.036)	ND(0.038)	ND(0.036)
1,1-Dichloroethane	ND(0.041)	ND(0.036)	0.22	ND(0.036)
1,1-Dichloroethene	ND(0.041)	ND(0.036)	ND(0.038)	ND(0.036)
1,2-Dichloroethane	ND(0.041)	ND(0.036)	ND(0.038)	ND(0.036)
Benzene	ND(0.041)	ND(0.036)	0.13	ND(0.036)
Chloroethane	ND(0.17)	ND(0.15)	ND(0.16)	ND(0.15)
cis-1,2-Dichloroethene	ND(0.041)	ND(0.036)	ND(0.038)	ND(0.036)
Ethylbenzene	ND(0.041 J)	ND(0.036)	0.37	ND(0.036)
Methylene chloride	ND(0.17)	0.047 J	ND(0.16)	0.039 J
Tetrachloroethene	ND(0.041)	ND(0.036)	ND(0.038)	ND(0.036)
Toluene	ND(0.041)	ND(0.036)	1.4	ND(0.036)
Trichloroethene	ND(0.041)	ND(0.036)	ND(0.038)	ND(0.036)
Vinyl chloride	ND(0.041)	ND(0.036)	ND(0.038)	ND(0.036)
Xylenes (total)	ND(0.082)	ND(0.071)	1.4	ND(0.072)
SVOC				
Benzo(a)pyrene	ND(0.19)	ND(0.18 J)	0.902 J	ND(0.18 J)
PCB				
Total PCBs	ND(0.038)	ND(0.034)	ND(0.036)	ND(0.18)
Inorganic				
Arsenic	4.6 J	3.5	9.5 J (RDC)	1.7
Beryllium	0.2 J	0.16 J	0.31 J	ND(0.17)
Cadmium	0.049 J	0.098 J	0.38 J	0.034 J
Chromium Total	6 J	4.8	46 J	2.4
Lead	6.5 J	4.6 J	52 J	2 J
Manganese	220 J	170	510 J	67
Nickel	9.9 J	15	46 J	2.8
Vanadium	9.6 J	7.2	13 J	3.6

RFI-36-08	1 - 3 (ft)	7 - 9 (ft)
VOC		
1,1,1-Trichloroethane	ND(0.044)	ND(0.04 J)
1,1-Dichloroethane	ND(0.044)	ND(0.04 J)
1,1-Dichloroethene	ND(0.044)	ND(0.04 J)
1,2-Dichloroethane	ND(0.044)	ND(0.04 J)
Benzene	ND(0.044)	1.4 J
Chloroethane	ND(0.19)	ND(0.17 J)
cis-1,2-Dichloroethene	ND(0.044)	ND(0.04 J)
Ethylbenzene	ND(0.044)	25 D
Methylene chloride	ND(0.19 J)	0.064 J
Tetrachloroethene	ND(0.044)	ND(0.04 J)
Toluene	ND(0.044)	25 D
Trichloroethene	ND(0.044)	ND(0.04 J)
Vinyl chloride	ND(0.044)	ND(0.04 J)
Xylenes (total)	0.038 J	87
SVOC		
Benzo(a)pyrene	ND(0.21)	ND(0.2 J)
PCB		
Total PCBs	ND(0.044)	ND(0.041)
Inorganic		
Arsenic	4	5.7
Beryllium	0.16	0.22
Cadmium	0.12	0.75
Chromium Total	11	12
Lead	6.4	47
Manganese	200 J	430 J
Nickel	11	14
Vanadium	11	16

RFI-36-09	1 - 3 (ft)	5 - 7 (ft)
VOC		
1,1,1-Trichloroethane	ND(0.038)	ND(0.04) /ND(0.038)
1,1-Dichloroethane	ND(0.038)	ND(0.04) /ND(0.038)
1,1-Dichloroethene	ND(0.038)	ND(0.04) /ND(0.038)
1,2-Dichloroethane	ND(0.038)	ND(0.04) /ND(0.038)
Benzene	1.9 (RSVIA)	ND(0.04) /ND(0.038)
Chloroethane	ND(0.16)	ND(0.17) /ND(0.16)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.04) /ND(0.038)
Ethylbenzene	2.9	ND(0.04) /ND(0.038)
Methylene chloride	ND(0.16)	ND(0.17) /ND(0.16 J)
Tetrachloroethene	ND(0.038)	ND(0.04) /ND(0.038)
Toluene	0.13	ND(0.04) /ND(0.038)
Trichloroethene	ND(0.038)	ND(0.04) /ND(0.038)
Vinyl chloride	ND(0.038)	ND(0.04) /ND(0.038)
Xylenes (total)	0.654	ND(0.079) /ND(0.076)
SVOC		
Benzo(a)pyrene	0.0525 J	ND(0.19) /ND(0.19)
PCB		
Total PCBs	ND(0.038)	ND(0.04) /ND(0.038)
Inorganic		
Arsenic	5.3	5.5 /6.2
Beryllium	0.26	0.15 /0.18
Cadmium	0.27	0.14 /0.13
Chromium Total	19	5.3 /7.5
Lead	22	6.1 /8.9
Manganese	230 J	100 J /99 J
Nickel	16	8.7 /8.3
Vanadium	16	12 /19

RFI-36-43	0.9 - 2.9 (ft)	6.9 - 8.9 (ft)	10.9 - 12.9 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.038)	ND(0.038)	ND(0.038)
1,1-Dichloroethane	ND(0.038)	ND(0.038)	ND(0.038)
1,1-Dichloroethene	ND(0.038)	ND(0.038)	ND(0.038)
1,2-Dichloroethane	ND(0.038 J)	ND(0.038 J)	ND(0.038 J)
Benzene	0.058	ND(0.038)	0.64
Chloroethane	ND(0.16)	ND(0.16)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.038)	ND(0.038)
Ethylbenzene	0.069	0.24	17 D
Methylene chloride	ND(0.16)	ND(0.16)	ND(0.16)
Tetrachloroethene	ND(0.038)	ND(0.038)	ND(0.038)
Toluene	ND(0.038)	0.32	29 D
Trichloroethene	ND(0.038)	ND(0.038)	ND(0.038)
Vinyl chloride	ND(0.038)	ND(0.038)	ND(0.038)
Xylenes (total)	0.076	1.27	80
SVOC			
Benzo(a)pyrene	0.104 J	ND(0.18)	ND(0.18)
PCB			
Total PCBs	ND(0.038)	ND(0.037)	ND(0.038)
Inorganic			
Arsenic	3.5 J	2.2 J	2.7 J
Beryllium	0.23 J	0.13 J	0.12 J
Cadmium	0.15 J	0.045 J	0.083 J
Chromium Total	8.4 J	5.1 J	5 J
Lead	7.5 J	2.9 J	3.7 J
Manganese	190 J	42 J	46 J
Nickel	7.9	4.9	5.4
Vanadium	11	9.3	8.9

RFI-36-10	1 - 3 (ft)	7 - 9 (ft)
VOC		
1,1,1-Trichloroethane	ND(0.036)	ND(0.038)
1,1-Dichloroethane	ND(0.036)	ND(0.038)
1,1-Dichloroethene	ND(0.036)	ND(0.038)
1,2-Dichloroethane	ND(0.036)	ND(0.038)
Benzene	ND(0.036)	ND(0.038)
Chloroethane	ND(0.16)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.038)
Ethylbenzene	ND(0.036)	ND(0.038)
Methylene chloride	ND(0.16)	ND(0.16)
Tetrachloroethene	ND(0.036)	ND(0.038)
Toluene	ND(0.036)	ND(0.038)
Trichloroethene	ND(0.036)	ND(0.038)
Vinyl chloride	ND(0.036)	ND(0.038)
Xylenes (total)	ND(0.073)	ND(0.076)
SVOC		
Benzo(a)pyrene	ND(0.18)	ND(0.18)
PCB		
Total PCBs	ND(0.036)	ND(0.038)
Inorganic		
Arsenic	3.7	3.6
Beryllium	0.1	0.12
Cadmium	0.12	0.1
Chromium Total	5.1	4.9
Lead	4.8	4.1
Manganese	140 J	140 J
Nickel	7.6	5.8
Vanadium	7.9	7.7

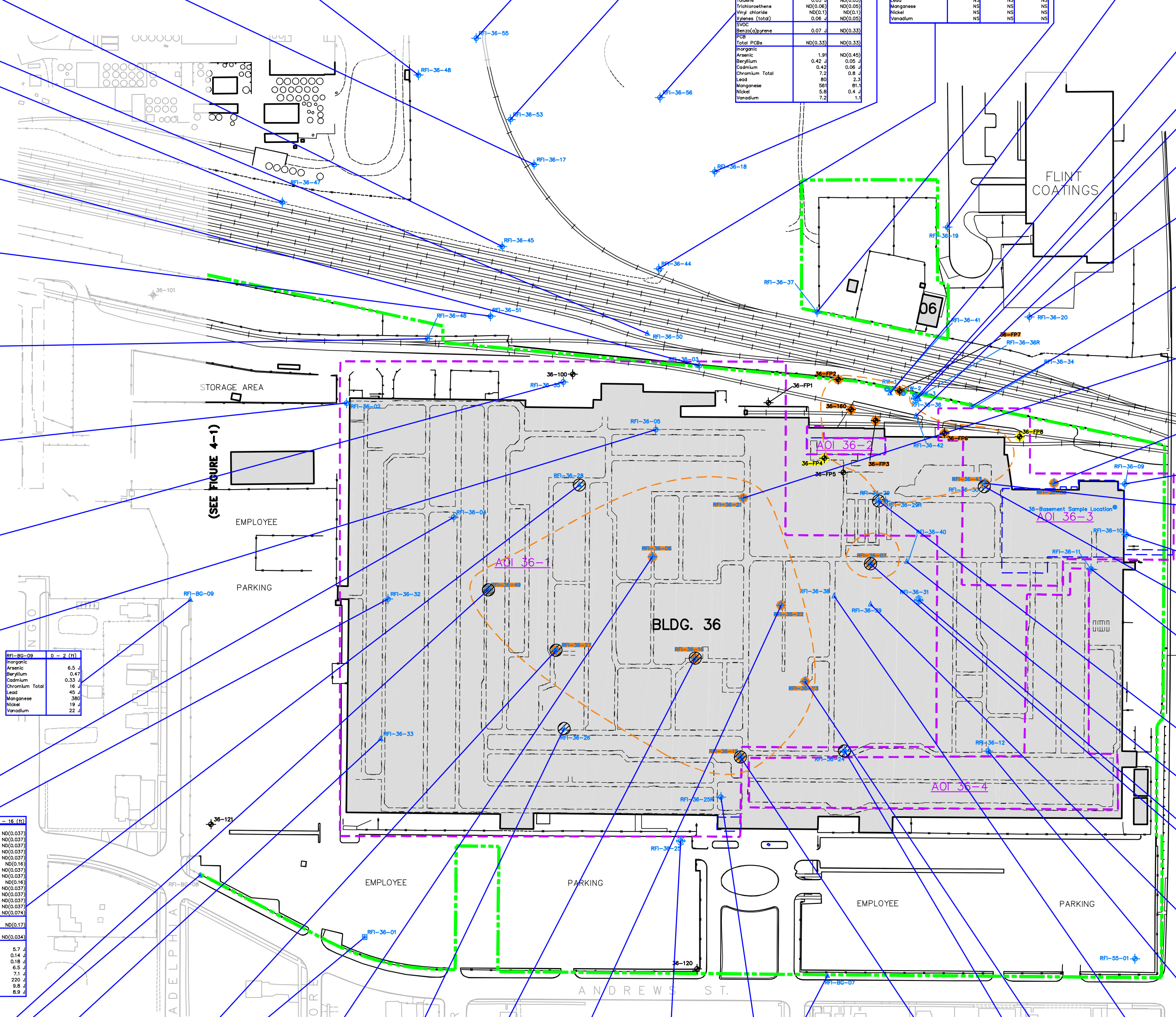
RFI-36-30	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.037)	ND(0.037)	ND(0.035)
1,1-Dichloroethane	ND(0.037)	ND(0.037)	ND(0.035)
1,1-Dichloroethene	ND(0.037)	ND(0.037)	ND(0.035)
1,2-Dichloroethane	ND(0.037)	ND(0.037)	ND(0.035)
Benzene	1.5	9.3 D (ISVIA,RSVIA)	1.3
Chloroethane	ND(0.16)	ND(0.16)	ND(0.15)
cis-1,2-Dichloroethene	0.087	ND(0.037)	ND(0.035)
Ethylbenzene	0.54	28 D	7.8 D
Methylene chloride	ND(0.16)	ND(0.16)	0.041 J
Tetrachloroethene	ND(0.037)	ND(0.037)	ND(0.035)
Toluene	3.7	100 D	21 D
Trichloroethene	0.049	0.14	ND(0.035)
Vinyl chloride	ND(0.037)	ND(0.037)	ND(0.035)
Xylenes (total)	1.85	104	31.7
SVOC			
Benzo(a)pyrene	ND(0.18 J)	ND(0.18 J)	ND(0.18)
PCB			
Total PCBs	ND(0.038)	ND(0.037)	ND(0.035)
Inorganic			
Arsenic	3.8	2.5	3.6
Beryllium	0.22 J	0.074 J	0.1 J
Cadmium	0.35	0.061	0.12
Chromium Total	23	3.1	4.2
Lead	24 J	3.4 J	3.8 J
Manganese	290	42	52
Nickel	10	4.7	6.1
Vanadium	17	5.3	6.2

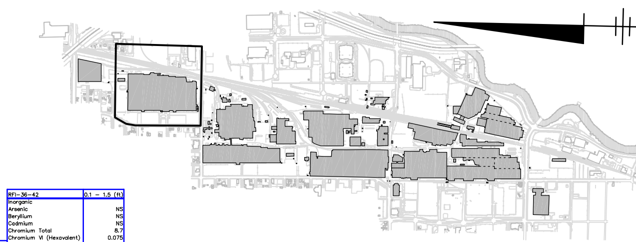
RFI-36-11	0.8 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.04)	ND(0.044)	0.078
1,1-Dichloroethane	ND(0.04)	ND(0.044)	ND(0.038)
1,1-Dichloroethene	ND(0.04)	ND(0.044)	ND(0.038)
1,2-Dichloroethane	ND(0.04)	ND(0.044)	ND(0.038)
Benzene	ND(0.04)	ND(0.044)	ND(0.038)
Chloroethane	ND(0.17)	ND(0.19)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.044)	ND(0.038)
Ethylbenzene	ND(0.04)	ND(0.044)	ND(0.038)
Methylene chloride	ND(0.17)	ND(0.19)	ND(0.16)
Tetrachloroethene	ND(0.04)	ND(0.044)	ND(0.038)
Toluene	ND(0.04)	ND(0.044)	ND(0.038)
Trichloroethene	ND(0.04)	ND(0.044)	ND(0.038)
Vinyl chloride	ND(0.04)	ND(0.044)	ND(0.038)
Xylenes (total)	ND(0.08)	ND(0.089)	ND(0.077)
SVOC			
Benzo(a)pyrene	ND(0.18)	ND(0.18)	ND(0.21)
Inorganic			
Arsenic	7.7 J (RDC)	4.6 J	3.7 J
Beryllium	NS	NS	NS
Cadmium	0.23	0.17	0.12
Chromium Total	67	5	12
Lead	29	4.4	4.5
Manganese	NS	NS	NS
Nickel	NS	NS	NS
Vanadium	NS	NS	NS

RFI-36-29	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
1,1-Dichloroethane	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
1,1-Dichloroethene	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
1,2-Dichloroethane	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Benzene	ND(0.039)	ND(0.036)	0.23 /0.19
Chloroethane	ND(0.17)	ND(0.15)	ND(0.16) /ND(0.15)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Ethylbenzene	ND(0.039)	ND(0.036)	0.047 /0.042
Methylene chloride	ND(0.17)	0.039 J	ND(0.16) /ND(0.15)
Tetrachloroethene	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Toluene	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Trichloroethene	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Vinyl chloride	ND(0.039)	ND(0.036)	ND(0.036) /ND(0.036)
Xylenes (total)	ND(0.079)	ND(0.071)	ND(0.072) /ND(0.072)
SVOC			
Benzo(a)pyrene	ND(0.19 J)	ND(0.17)	ND(0.18 J) /ND(0.18 J)
PCB			
Total PCBs	ND(0.037)	ND(0.036)	ND(0.036) /ND(0.036)
Inorganic			
Arsenic	2.3 J	2.4	2.9 /2.4
Beryllium	0.27 J	0.085 J	0.13 J /0.099 J
Cadmium	0.14 J	0.093 J	0.14 J /0.081 J
Chromium Total	11 J	3.3	6.7 /5.5
Lead	16 J	2.7 J	4.7 J /3.3 J
Manganese	930 J	190	220 /160
Nickel	11 J	4.5	8 /5.7
Vanadium	13 J	5.5	7.6 /6.7

RFI-36-40	0.5 - 2.5 (ft)	8.5 - 10.5 (ft)	12.5 - 14.5 (ft)
VOC			
1,1,1-Trichloroethane	NS	NS	NS
1,1-Dichloroethane	NS	NS	NS
1,1-Dichloroethene	NS	NS	NS
1,2-Dichloroethane	NS	NS	NS
Benzene	0.056	4.7 (RSVIA)	6.3 D (RSVIA)
Chloroethane	NS	NS	NS
cis-1,2-Dichloroethene	NS	NS	NS
Ethylbenzene	ND(0.011)	2.6	52 D
Methylene chloride	NS	NS	NS
Tetrachloroethene	NS	NS	NS
Toluene	0.12	19 D	150 D
Trichloroethene	NS	NS	NS
Vinyl chloride	NS	NS	NS
Xylenes (total)	0.053	7.7	198 (IDC,ISVIA,RDC,RSVIA)

RFI-36-31	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.039)	ND(0.038)	ND(0.037)
1,1-Dichloroethane	ND(0.039)	ND(0.038)	ND(0.037)
1,1-Dichloroethene	ND(0.039)	ND(0.038)	ND(0.037)
1,2-Dichloroethane	ND(0.039)	ND(0.038)	ND(0.037)
Benzene	ND(0.039)	0.056	ND(0.037)
Chloroethane	ND(0.17)	ND(0.16)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.038)	ND(0.037)
Ethylbenzene	ND(0.039)	0.11	0.069
Methylene chloride	0.12 J	0.043 J	ND(0.16)
Tetrachloroethene	ND(0.039)	ND(0.038)	ND(0.037)
Toluene	ND(0.039)	0.4	0.18
Trichloroethene	ND(0.039)	ND(0.038)	ND(0.037)
Vinyl chloride	ND(0.039)	ND(0.038)	ND(0.037)
Xylenes (total)	ND(0.077)	0.46	0.267
SVOC			
Benzo(a)pyrene	6.16 JD (RDC)	ND(0.19)	ND(0.18 J)
PCB			
Total PCBs	ND(0.037)	ND(0.039)	ND(0.036)
Inorganic			
Arsenic	2.2 J	3.8	2.6 J
Beryllium	0.16 J	0.12 J	ND(0.22)
Cadmium	0.14 J	0.074 J	0.043 J
Chromium Total	13 J	7.8	3.1 J
Lead	5.8 J	5.7 J	2.9 J
Manganese	200 J	120	51 J
Nickel	9.7 J	8.7	3.7 J
Vanadium	6.9 J	5.8	4.6 J




SITE LOCATION

LEGEND

GM PROPERTY BOUNDARY

PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)

APPROXIMATE AOI BOUNDARY

AOI 81-1 — AOI ID

BASEMENT/TUNNEL AREA

ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL

04-140 — HISTORICAL MONITORING WELL LOCATION

RFI-83/84-03 — RFI SOIL BORING LOCATION

RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION

RFI-09-01 — RFI MONITORING WELL LOCATION

RFI-05-190 — DECOMMISSIONED/DESTROYED MONITORING WELL

RFI-36-01 — RFI PIEZOMETER

LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005

LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED

LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL

EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:

IDC – INDUSTRIAL DIRECT CONTACT

IPSIC – INDUSTRIAL PARTICULATE SOIL INHALATION

ISVIA – INDUSTRIAL SOIL VOLATILIZATION TO INDOOR AIR

IISVSIC – INDUSTRIAL INFINITE SOURCE VOLATILE SOIL INHALATION

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. FOR ALL METALS, SITE-SPECIFIC BACKGROUND CONCENTRATIONS ARE SUBTRACTED FROM THE MEASURED CONCENTRATIONS PRIOR TO COMPARING TO PART 201 CRITERIA.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN DRY-WEIGHT MILLIGRAMS PER KILOGRAM (mg/kg).
6. ALL DEPTH IN FEET.
7. ND (0.039)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
8. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
9. NS–NOT ANALYZED FOR THIS CONSTITUENT.
10. J–ESTIMATED CONCENTRATION.
11. D–CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
12. R–RESULT REJECTED DURING DATA VALIDATION.
13. RDC–EXCEEDS MICHIGAN PART 201 RESIDENTIAL DIRECT CONTACT CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

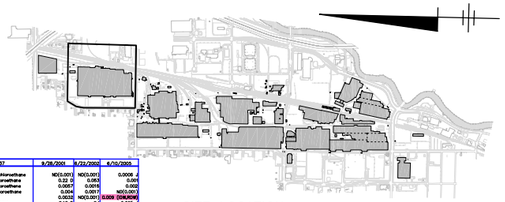
X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C03.DWG

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SOIL ANALYTICAL DATA - BUILDING 36 AREA

BBL® BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 4-3



SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 736 — WATER TABLE ELEVATION CONTOUR (FT AMSL) (DASHED WHERE INFERED)
- (739.13) GROUNDWATER ELEVATION (IN FEET)
- [742.02] ANOMALOUS GROUNDWATER ELEVATION (IN FEET), NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS
- 04-140 HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 RFI SOIL BORING LOCATION
- RFI-09-02 RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 RFI MONITORING WELL LOCATION
- RFI-12-13 DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  - IDW – INDUSTRIAL DRINKING WATER

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED ON JULY 20, 2005.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. J–ESTIMATED CONCENTRATION.
10. D–CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
11. E–CONCENTRATION EXCEEDED THE LINEAR RANGE OF THE ANALYTICAL EQUIPMENT; HOWEVER THE RESULT WAS DEEMED ACCEPTABLE DURING DATA VALIDATION.
12. RDW–EXCEEDS MICHIGAN PART 201 RESIDENTIAL DRINKING WATER CRITERIA.
13. RGVIA – EXCEEDS MICHIGAN PART 201 RESIDENTIAL GROUNDWATER VOLATILIZATION TO INDOOR AIR CRITERIA
14. GSI CRITERIA COMPARED TO SAMPLES LOCATED WITHIN 500 FEET OF THE FLINT RIVER.

GRAPHIC SCALE 0 150' 300'

JULY 2006

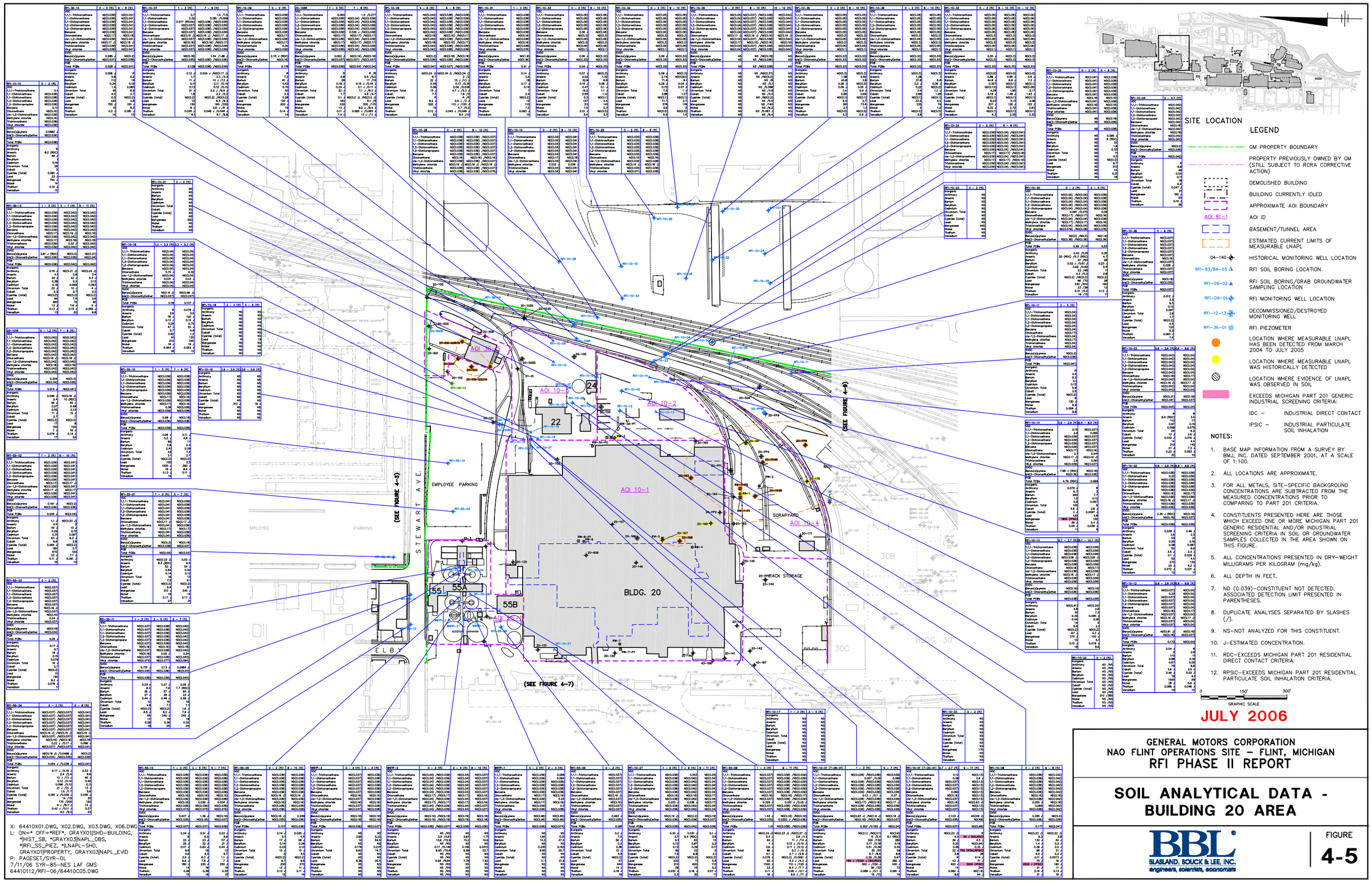
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ANALYTICAL DATA - BUILDING 36 AREA

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 4-4

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD–BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL–SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR–DL
7/11/06 SYR–85–NES LAF GMS
64410112/RFI–06/64410C04.DWG



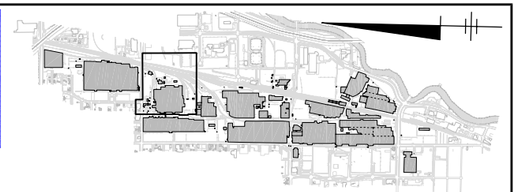
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SOIL ANALYTICAL DATA - BUILDING 20 AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 4-5

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD–BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL–SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR–DL
7/11/06 SYR–85–NES LAF GMS
64410112/RFI–06/64410C05.DWG



SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 736 — WATER TABLE ELEVATION CONTOUR (FT AMSL) (DASHED WHERE INFERED)
- (739.13) — GROUNDWATER ELEVATION (IN FEET)
- [743.02] — ANOMALOUS GROUNDWATER ELEVATION (IN FEET), NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  - IDW – INDUSTRIAL DRINKING WATER

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED ON JULY 25, 2005.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. J–ESTIMATED CONCENTRATION.
10. D–CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
11. R–RESULT REJECTED DURING DATA VALIDATION.
12. RDW–EXCEEDS MICHIGAN PART 201 RESIDENTIAL DRINKING WATER CRITERIA.
13. GSI CRITERIA COMPARED TO SAMPLES LOCATED WITHIN 500 FEET OF THE FLINT RIVER.
14. (slf) – SAMPLE WAS COLLECTED USING ULTRA LOW–FLOW PROCEDURES TO MINIMIZE TURBIDITY.

0 150' 300'
GRAPHIC SCALE

JULY 2006

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD–BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL–SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR–DL
7/11/06 SYR–85–NES LAF GMS
64410112/RFI–06/64410C06.DWG

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ANALYTICAL DATA - BUILDING 20 AREA

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 4-6

43-101R	0.5 – 2 (ft)	8 – 10 (ft)
VOC		
cis-1,2-Dichloroethene	ND(0.038)	ND(0.041)
Trichloroethene	0.075	ND(0.041)
Vinyl chloride	ND(0.038)	ND(0.041)
SVOC		
Benzo(a)pyrene	0.13 J	0.0475 J
Inorganic		
Arsenic	3.5	4.6
Beryllium	0.3	0.32
Cobalt	3.3	3.7
Copper	150 J	38
Lead	160	400
Manganese	600	460
Nickel	18 J	21 J

RFI-05-11	8 – 10 (ft)	10 – 12 (ft)	0 – 2 (ft)
VOC			
cis-1,2-Dichloroethene	ND(0.043)	ND(0.042)	ND(0.041)
Trichloroethene	ND(0.043)	ND(0.042)	0.094
Vinyl chloride	ND(0.043)	ND(0.042)	ND(0.041)
SVOC			
Benzo(a)pyrene	ND(0.18)	ND(0.89)	ND(0.18)
Inorganic			
Arsenic	4.67 J	4.41 J	4.48
Beryllium	NS	NS	NS
Cobalt	NS	NS	NS
Copper	NS	NS	NS
Lead	5.61 J	6.34 J	17.9 J
Manganese	NS	NS	NS
Nickel	NS	NS	NS

RFI-05-06	0 – 2 (ft)	8 – 10 (ft)
VOC		
cis-1,2-Dichloroethene	ND(0.036)	ND(0.039)
Trichloroethene	ND(0.036)	0.03 J
Vinyl chloride	ND(0.036)	ND(0.039)
SVOC		
Benzo(a)pyrene	ND(0.18)	ND(0.19 J)
Inorganic		
Arsenic	3.1	5.3
Beryllium	0.16	0.29
Cobalt	2.7	4.6
Copper	6.5 J	26 J
Lead	8.9 J	23 J
Manganese	130 J	240 J
Nickel	7	15

RFI-05-02	8 – 10 (ft)	10 – 12 (ft)	0 – 2 (ft)
VOC			
cis-1,2-Dichloroethene	ND(0.042) /ND(0.067)	ND(0.036)	ND(0.039)
Trichloroethene	ND(0.042) /ND(0.067)	ND(0.036)	ND(0.039)
Vinyl chloride	ND(0.042) /ND(0.067)	ND(0.036)	ND(0.039)
SVOC			
Benzo(a)pyrene	ND(0.18) /ND(0.18)	ND(0.18)	ND(0.18)
Inorganic			
Arsenic	7.55 J /5.89	5.73 J	4.22
Beryllium	NS	NS	NS
Cobalt	NS	NS	NS
Copper	NS	NS	NS
Lead	7.13 J /6.03	6.75 J	5.89 J
Manganese	NS	NS	NS
Nickel	NS	NS	NS

RFI-05-01	1 – 3 (ft)	7 – 9 (ft)
VOC		
cis-1,2-Dichloroethene	ND(0.039)	ND(0.039)
Trichloroethene	ND(0.039)	ND(0.039)
Vinyl chloride	ND(0.039)	ND(0.039)
SVOC		
Benzo(a)pyrene	0.264 J	ND(0.19)
Inorganic		
Arsenic	3.1	3.3
Beryllium	0.082 J	0.16
Cobalt	2 J	2.7 J
Copper	4.6 J	5.1 J
Lead	3.5	150
Manganese	130	190
Nickel	5.2 J	5.9 J

RFI-05-22	0.5 – 2.5 (ft)	4 – 6 (ft)
VOC		
cis-1,2-Dichloroethene	NS	ND(0.041)
Trichloroethene	NS	ND(0.041)
Vinyl chloride	NS	ND(0.041)
SVOC		
Benzo(a)pyrene	NS	2.06 J (RDC)
Inorganic		
Arsenic	NS	4.6
Beryllium	NS	0.68 J
Cobalt	NS	4
Copper	NS	200
Lead	NS	310
Manganese	NS	930
Nickel	NS	45 J

RFI-05-23	1.3 – 3 (ft)	4 – 6 (ft)
VOC		
cis-1,2-Dichloroethene	NS	ND(0.036)
Trichloroethene	NS	ND(0.036)
Vinyl chloride	NS	ND(0.036)
SVOC		
Benzo(a)pyrene	NS	0.398
Inorganic		
Arsenic	NS	12 (RDC)
Beryllium	NS	0.58 J
Cobalt	NS	6.5
Copper	NS	100
Lead	NS	91
Manganese	NS	2400 (IPSIC)
Nickel	NS	89 J

RFI-05-21	0 – 2 (ft)	6 – 8 (ft)
VOC		
cis-1,2-Dichloroethene	ND(0.039)	ND(0.043)
Trichloroethene	ND(0.039)	ND(0.043)
Vinyl chloride	ND(0.039)	ND(0.043)
SVOC		
Benzo(a)pyrene	1.69 J	1.27 J
Inorganic		
Arsenic	4.2	4.6
Beryllium	0.41	0.7 J
Cobalt	3.9 J	5.7 J
Copper	21000 J (RDC)	30 J
Lead	3100 (IDC,RDC)	78
Manganese	220	120
Nickel	44 J	17 J

RFI-05-24	1 – 3 (ft)	3 – 5 (ft)
Inorganic		
Arsenic	NS	NS
Beryllium	NS	NS
Cobalt	NS	NS
Copper	NS	NS
Lead	42	34
Manganese	NS	NS
Nickel	NS	NS

RFI-05-10	8 – 10 (ft)	10 – 12 (ft)	0 – 2 (ft)
VOC			
cis-1,2-Dichloroethene	ND(0.035)	ND(0.042) /ND(0.045)	ND(0.039)
Trichloroethene	ND(0.035)	ND(0.042) /ND(0.045)	0.57
Vinyl chloride	ND(0.035)	ND(0.042) /ND(0.045)	ND(0.039)
SVOC			
Benzo(a)pyrene	ND(0.18 J)	ND(0.19) /ND(0.19 J)	ND(0.18 J)
Inorganic			
Arsenic	5.74 J	4.24 J /5.03 J	4.75
Beryllium	NS	NS	NS
Cobalt	NS	NS	NS
Copper	NS	NS	NS
Lead	6.59 J	4.1 J /5.17 J	6.43 J
Manganese	NS	NS	NS
Nickel	NS	NS	NS

RFI-05-03	0.6 – 2.6 (ft)	8.6 – 10.6 (ft)
VOC		
cis-1,2-Dichloroethene	ND(0.039)	ND(0.038)
Trichloroethene	ND(0.039)	ND(0.038)
Vinyl chloride	ND(0.039)	ND(0.038)
SVOC		
Benzo(a)pyrene	ND(0.19)	ND(0.19)
Inorganic		
Arsenic	2.9	2.5
Beryllium	0.21	0.081 J
Cobalt	3.1 J	2 J
Copper	9.3 J	3.9 J
Lead	8.5	2.7
Manganese	160	110
Nickel	9.6 J	5.1 J

RFI-05-05	8 – 10 (ft)	10 – 12 (ft)	0 – 2 (ft)
VOC			
cis-1,2-Dichloroethene	ND(0.04)	ND(0.04)	ND(0.036)
Trichloroethene	ND(0.04)	ND(0.04)	ND(0.036)
Vinyl chloride	ND(0.04)	ND(0.04)	ND(0.036)
SVOC			
Benzo(a)pyrene	ND(0.18)	0.28	0.23
Inorganic			
Arsenic	4.88 J	4.18 J	5.5
Beryllium	NS	NS	NS
Cobalt	NS	NS	NS
Copper	NS	NS	NS
Lead	8.77 J	5.04 J	9.4 J
Manganese	NS	NS	NS
Nickel	NS	NS	NS

RFI-05-04	8 – 10 (ft)	0 – 2 (ft)
VOC		
cis-1,2-Dichloroethene	ND(0.04)	ND(0.037)
Trichloroethene	ND(0.04)	0.23
Vinyl chloride	ND(0.04)	ND(0.037)
SVOC		
Benzo(a)pyrene	ND(0.19)	ND(0.18)
Inorganic		
Arsenic	10.7 (RDC)	4.43
Beryllium	NS	NS
Cobalt	NS	NS
Copper	NS	NS
Lead	9.69 J	9.87 J
Manganese	NS	NS
Nickel	NS	NS

RFI-05-07	8 – 10 (ft)	10 – 12 (ft)	0 – 2 (ft)
VOC			
cis-1,2-Dichloroethene	ND(0.039)	ND(0.044)	ND(0.037)
Trichloroethene	ND(0.039)	ND(0.044)	ND(0.037)
Vinyl chloride	ND(0.039)	ND(0.044)	ND(0.037)
SVOC			
Benzo(a)pyrene	ND(0.19)	ND(0.2)	ND(0.18)
Inorganic			
Arsenic	10.4 (RDC)	3.18	4.44
Beryllium	NS	NS	NS
Cobalt	NS	NS	NS
Copper	NS	NS	NS
Lead	8.92 J	8.78 J	10.8 J
Manganese	NS	NS	NS
Nickel	NS	NS	NS

RFI-05-15	0.9 – 2.9 (ft)	6.9 – 8.9 (ft)
VOC		
cis-1,2-Dichloroethene	ND(0.036)	ND(0.036)
Trichloroethene	ND(0.036)	ND(0.036)
Vinyl chloride	ND(0.036)	ND(0.036)
SVOC		
Benzo(a)pyrene	ND(0.18) /ND(0.18)	ND(0.19 J)
Inorganic		
Arsenic	3.3 /3.7	6.9
Beryllium	0.11 /0.14	0.43
Cobalt	2.3 /3.1	7.6
Copper	5.8 /5.8	14
Lead	5.1 /6.1	12
Manganese	120 /160	270
Nickel	6.4 /8.3	18

RFI-05-08	0.7 – 2.7 (ft)	2.7 – 4.7 (ft)
VOC		
cis-1,2-Dichloroethene	ND(0.037)	ND(0.037) /ND(0.037)
Trichloroethene	ND(0.037)	ND(0.037) /ND(0.037)
Vinyl chloride	ND(0.037)	ND(0.037) /ND(0.037)
SVOC		
Benzo(a)pyrene	ND(0.18)	ND(0.18 J) /0.0559 J
Inorganic		
Arsenic	5.2	5.4 /5.3
Beryllium	0.27 J	0.55 J /0.63 J
Cobalt	3.7 J	3.2 J /3.3 J
Copper	11 J	16 J /15 J
Lead	29 J	57 J /49 J
Manganese	250 J	1200 J /1500 J
Nickel	11 J	11 J /11 J

RFI-05-25	0 – 2 (ft)
VOC	
cis-1,2-Dichloroethene	ND(0.039)
Trichloroethene	ND(0.039)
Vinyl chloride	ND(0.039)
SVOC	
Benzo(a)pyrene	ND(0.95 J)
Inorganic	
Arsenic	4.2
Beryllium	0.26 J
Cobalt	5.2
Copper	17
Lead	50
Manganese	300
Nickel	17 J

RFI-05-30	0 – 2 (ft)	6 – 8 (ft)
VOC		
cis-1,2-Dichloroethene	ND(0.039)	ND(0.038)
Trichloroethene	ND(0.039)	ND(0.038)
Vinyl chloride	ND(0.039)	ND(0.038)
SVOC		
Benzo(a)pyrene	0.143 J	ND(0.18)
Inorganic		
Arsenic	8.4 (RDC)	3.4
Beryllium	0.64	0.13
Cobalt	5.3	2.1
Copper	18	5.2
Lead	32	3.8
Manganese	220	120
Nickel	16	5.1

RFI-05-195	0.8 – 2.8 (ft)	6.8 – 8.8 (ft)
VOC		
cis-1,2-Dichloroethene	ND(0.038)	ND(0.038)
Trichloroethene	ND(0.038)	ND(0.038)
Vinyl chloride	ND(0.038)	ND(0.038)
SVOC		
Benzo(a)pyrene	ND(0.18)	ND(0.18)
Inorganic		
Arsenic	1.7	3.7
Beryllium	0.11	0.1
Cobalt	1.5 J	2 J
Copper	23 J	5.5 J
Lead	8.2	4.5
Manganese	94	130
Nickel	5.8 J	5.2 J

RFI-05-14	8 – 10 (ft)	10 – 12 (ft)	0 – 2 (ft)
VOC			
cis-1,2-Dichloroethene	ND(0.041)	ND(0.041)	0.2
Trichloroethene	0.16	ND(0.041)	1.9
Vinyl chloride	ND(0.041)	ND(0.041)	ND(0.039)
SVOC			
Benzo(a)pyrene	ND(0.19)	ND(0.2 J)	ND(0.18 J)
Inorganic			
Arsenic	3.39 J	6.87 J	4.72
Beryllium	NS	NS	NS
Cobalt	NS	NS	NS
Copper	NS	NS	NS
Lead	4.66 J	6.21 J	6.83 J
Manganese	NS	NS	NS
Nickel	NS	NS	NS

RFI-05-20	0.7 – 2.7 (ft)	6.7 – 8.6 (ft)
VOC		
cis-1,2-Dichloroethene	ND(0.04)	ND(0.041)
Trichloroethene	0.16	ND(0.041)
Vinyl chloride	ND(0.04)	ND(0.041)
SVOC		
Benzo(a)pyrene	0.0375 J	0.0457 J
Inorganic		
Arsenic	5.7	4.1
Beryllium	0.4 J	0.18 J
Cobalt	5.4	3
Copper	93	10
Lead	54	14
Manganese	390 J	210 J
Nickel	16	9.6

RFI-05-31	7 – 9 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Cobalt	NS
Copper	NS
Lead	8.3 J
Manganese	NS
Nickel	NS

RFI-05-27	7 – 9 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Cobalt	NS
Copper	NS
Lead	5.5 J
Manganese	NS
Nickel	NS

RFI-05-12	8 – 10 (ft)	10 – 12 (ft)	0 – 2 (ft)
VOC			
cis-1,2-Dichloroethene	ND(0.046)	ND(0.043)	ND(0.036)
Trichloroethene	ND(0.046)	ND(0.042)	ND(0.036)
Vinyl chloride	ND(0.046)	ND(0.042)	ND(0.036)
SVOC			
Benzo(a)pyrene	ND(0.18)	ND(0.19)	ND(0.19 J)
Inorganic			
Arsenic	5.1	4.41	6.27
Beryllium	NS	NS	NS
Cobalt	NS	NS	NS
Copper	NS	NS	NS
Lead	5.74 J	6.24 J	44.1 J
Manganese	NS	NS	NS
Nickel	NS	NS	NS

RFI-05-13	8 – 10 (ft)	10 – 12 (ft)	0 – 2 (ft)
VOC			
cis-1,2-Dichloroethene	ND(0.042)	ND(0.042)	ND(0.041)
Trichloroethene	ND(0.042)	ND(0.042)	ND(0.041)
Vinyl chloride	ND(0.042)	ND(0.042)	ND(0.041)
SVOC			
Benzo(a)pyrene	ND(0.19)	ND(0.2)	ND(0.18 J)
Inorganic			
Arsenic	4.92 J	7.38 J	4.68
Beryllium	NS	NS	NS
Cobalt	NS	NS	NS
Copper	NS	NS	NS
Lead	10.9 J	7.34 J	8.47 J
Manganese	NS	NS	NS
Nickel	NS	NS	NS

RFI-BG-06	0 – 2 (ft)
Inorganic	
Arsenic	6.8 J /6.2 J
Beryllium	0.19 /0.34
Cobalt	3.2 J /4.3 J
Copper	25 J /34 J
Lead	50 J /65 J
Manganese	410 /270
Nickel	21 J /20 J

RFI-05-16	0.8 – 2.8 (ft)	8.8 – 10.8 (ft)	10.8 – 12.8 (ft)
VOC			
cis-1,2-Dichloroethene	ND(0.044)	ND(0.042)	ND(0.04)
Trichloroethene	ND(0.044)	ND(0.042)	ND(0.04)
Vinyl chloride	ND(0.044)	ND(0.042)	ND(0.04)
SVOC			
Benzo(a)pyrene	ND(0.21)	ND(0.2)	ND(0.2)
Inorganic			
Arsenic	4.2	4.9	7.9 (RDC)
Beryllium	0.17	0.29	0.16
Cobalt	3.1	4.3	3.5
Copper	7	12	8.6
Lead	6	7.1	7.4
Manganese	180	190	86
Nickel	8.2	12	8.5

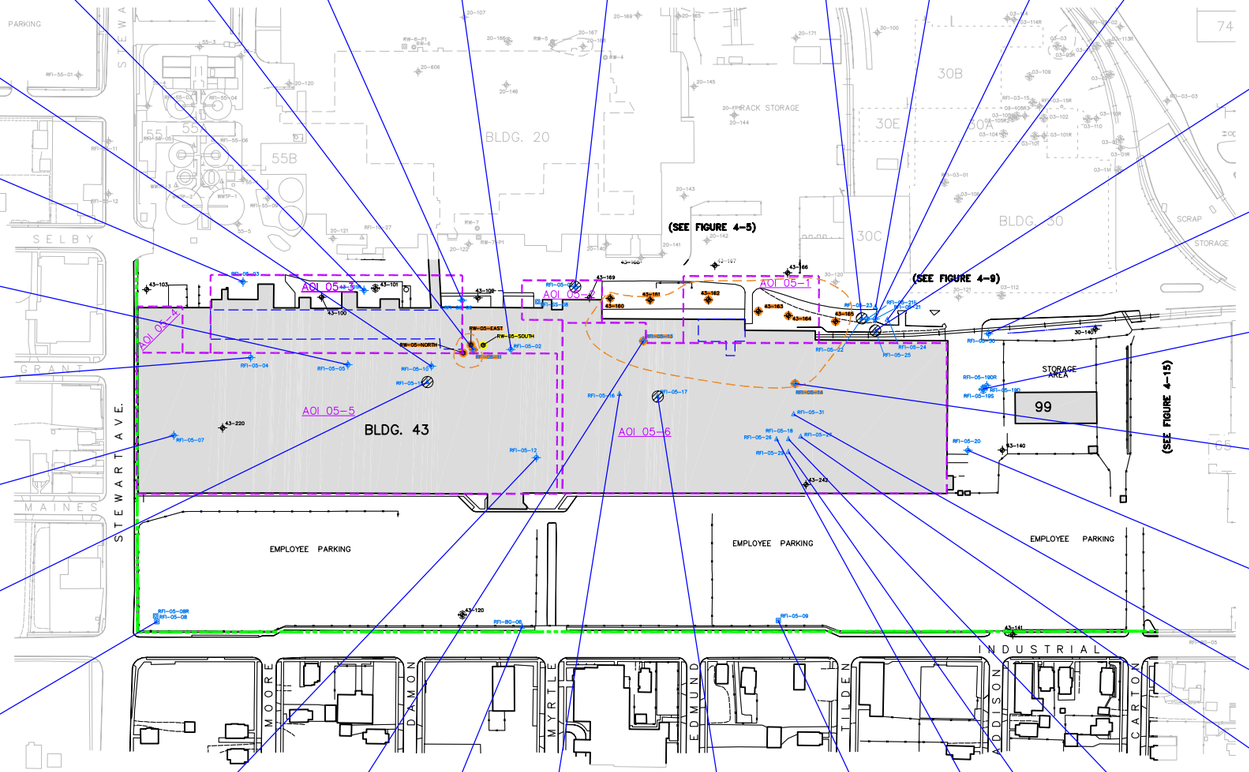
RFI-05-17	0.9 – 2.9 (ft)	8.9 – 10.9 (ft)	10.9 – 12.9 (ft)
VOC			
cis-1,2-Dichloroethene	ND(0.036)	ND(0.038)	ND(0.036) /ND(0.037)
Trichloroethene	ND(0.036)	ND(0.038)	ND(0.036) /ND(0.037)
Vinyl chloride	ND(0.036)	ND(0.038)	ND(0.036) /ND(0.037)
SVOC			
Benzo(a)pyrene	0.119 J	ND(0.18)	ND(0.18) /ND(0.18)
Inorganic			
Arsenic	4.8	5.1	4.8 /3.8
Beryllium	0.19	0.18	0.11 /0.1
Cobalt	4.2	3.8	2.6 /2.1
Copper	13	8.5	7 /5.7
Lead	12	6	6.6 /4.8
Manganese	170	200	120 /140
Nickel	11	9.7	6.4 /5.4

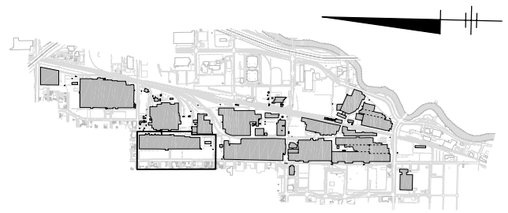
RFI-05-09	0.2 – 2.2 (ft)	6.2 – 8.2 (ft)
VOC		
cis-1,2-Dichloroethene	ND(0.042)	ND(0.041)
Trichloroethene	ND(0.042)	ND(0.041)
Vinyl chloride	ND(0.042)	ND(0.041)
SVOC		
Benzo(a)pyrene	0.329 J	1.82 J
Inorganic		
Arsenic	6.1	4.7
Beryllium	0.33 J	0.22 J
Cobalt	3.6 J	3.3 J
Copper	40 J	10 J
Lead	28 J	29 J
Manganese	440 J	170 J
Nickel	28 J	8.8 J

RFI-05-26	7 – 9 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Cobalt	NS
Copper	NS
Lead	540 JD (RDC)
Manganese	NS
Nickel	NS

RFI-05-29	7 – 9 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Cobalt	NS
Copper	NS
Lead	46 J
Manganese	NS
Nickel	NS

RFI-05-18	0.9 – 2.9 (ft)	6.9 – 8.9 (ft)	8.9 – 10.9 (ft)
VOC			
cis-1,2-Dichloroethene	ND(0.036)	ND(0.039)	ND(0.041)
Trichloroethene	ND(0.036)	ND(0.039)	ND(0.041)
Vinyl chloride	ND(0.036)	ND(0.039)	ND(0.041)
SVOC			
Benzo(a)pyrene	0.0403 J	0.945 J	ND(0.19 J)
Inorganic			
Arsenic	3.8	9.5 (RDC)	5.8
Beryllium	0.11	1.6	0.21
Cobalt	2.7	7.2	2.7
Copper	7.7	77	15
Lead	6.3	3500 (IDC,RDC)	51
Manganese	140	250	120
Nickel	8.4	20	8.2





SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  - IDC – INDUSTRIAL DIRECT CONTACT
  - IPSIC – INDUSTRIAL PARTICULATE SOIL INHALATION

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. FOR ALL METALS, SITE-SPECIFIC BACKGROUND CONCENTRATIONS ARE SUBTRACTED FROM THE MEASURED CONCENTRATIONS PRIOR TO COMPARING TO PART 201 CRITERIA.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN DRY-WEIGHT MILLIGRAMS PER KILOGRAM (mg/kg).
6. ND (0.039)-CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS-NOT ANALYZED FOR THIS CONSTITUENT.
9. J-ESTIMATED CONCENTRATION.
10. D-CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
11. RDC-EXCEEDS MICHIGAN PART 201 RESIDENTIAL DIRECT CONTACT CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C07.DWG

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SOIL ANALYTICAL DATA - FACTORY 05 (BUILDING 43) AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 4-7

43-101R	11/15/2001	6/18/2002
VOC		
cis-1,2-Dichloroethene	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
SVOC		
Benzo(a)pyrene	ND(0.002)	NS
Inorganic		
Arsenic	0.067 (IDW,RDW)	0.056 (IDW,RDW)
Beryllium	ND(0.0004 J)	ND(0.0004 J)
Cobalt	0.0028	0.0017
Copper	ND(0.00096)	0.0023 J
Lead	0.00056	0.00088
Manganese	0.69 J	0.53
Nickel	0.0046	0.0047
Inorganic-Dissolved		
Arsenic	0.084 (IDW,RDW)	NS
Beryllium	ND(0.0004)	NS
Cobalt	0.0032	NS
Copper	ND(0.0006)	NS
Lead	ND(0.0004)	NS
Manganese	0.76 J	NS
Nickel	0.0059	NS

RFI-05-06	9/25/2001	6/20/2002
VOC		
cis-1,2-Dichloroethene	0.0011	ND(0.001)
Trichloroethene	0.00093 J	0.0007 J
Vinyl chloride	ND(0.001)	ND(0.001)
SVOC		
Benzo(a)pyrene	ND(0.0022)	NS
Inorganic-Dissolved		
Arsenic	0.024	NS
Beryllium	ND(0.0004)	NS
Cobalt	0.003	NS
Copper	0.0016	NS
Lead	ND(0.0004)	NS
Manganese	0.24 J	NS
Nickel	0.013 J	NS

20-140	2/22/2002	6/20/2002	3/31/2003	10/11/2004
VOC				
cis-1,2-Dichloroethene	0.0026 J	0.0029	0.0019	0.001
Trichloroethene	0.095 (IDW,RDW)	0.086 (IDW,RDW)	0.061 (IDW,RDW)	0.039 (IDW,RDW)
Vinyl chloride	0.0019	0.001	0.019 J (IDW,RDW)	0.007 (IDW,RDW)
SVOC				
Benzo(a)pyrene	ND(0.002)	NS	NS	NS
Inorganic				
Arsenic	NS	ND(0.001)	ND(0.001)	NS
Beryllium	NS	ND(0.0004)	ND(0.0004)	NS
Cobalt	NS	0.0091	0.006	NS
Copper	NS	0.012	0.012	NS
Lead	NS	0.0014	0.0011	NS
Manganese	NS	1.7 (ROW)	1.9 J (ROW)	NS
Nickel	NS	0.024	0.03	0.023
Inorganic-Dissolved				
Arsenic	0.0024 J	NS	NS	NS
Beryllium	0.0056 J (IDW,RDW)	NS	NS	NS
Cobalt	0.0069 J	NS	NS	NS
Copper	0.0074 J	NS	NS	NS
Lead	0.00053 J	NS	NS	NS
Manganese	2.2 J (ROW)	NS	NS	NS
Nickel	0.023 J	NS	NS	NS

43-168	9/27/2001	12/17/2002
VOC		
cis-1,2-Dichloroethene	ND(0.001)	NS
Trichloroethene	ND(0.001)	NS
Vinyl chloride	0.0011	NS
SVOC		
Benzo(a)pyrene	ND(0.0021)	NS
Inorganic		
Arsenic	NS	0.0044
Beryllium	NS	0.00024 J
Cobalt	NS	0.0026 J
Copper	NS	0.0066 J
Lead	NS	0.00074 J
Manganese	NS	1.8 J (RDW)
Nickel	NS	0.0093 J
Inorganic-Dissolved		
Arsenic	0.0061	NS
Beryllium	ND(0.0004)	NS
Cobalt	0.0025	NS
Copper	0.0035	NS
Lead	ND(0.0004)	NS
Manganese	1.4 J (ROW)	NS
Nickel	0.013	NS

43-167	9/26/2001
VOC	
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.002)
Inorganic-Dissolved	
Arsenic	0.037
Beryllium	ND(0.0004)
Cobalt	0.0061
Copper	0.00095
Lead	ND(0.0004)
Manganese	0.28
Nickel	0.028

43-166	9/26/2001	6/19/2002
VOC		
cis-1,2-Dichloroethene	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
SVOC		
Benzo(a)pyrene	ND(0.002)	NS
Inorganic		
Arsenic	NS	0.029
Beryllium	NS	ND(0.0004 J)
Cobalt	NS	0.0042
Copper	NS	0.0066 J
Lead	NS	0.0003 J
Manganese	NS	1.2 (ROW)
Nickel	NS	0.013
Inorganic-Dissolved		
Arsenic	0.024	NS
Beryllium	ND(0.0004)	NS
Cobalt	0.0059	NS
Copper	0.0017	NS
Lead	ND(0.0004)	NS
Manganese	1.6 (ROW)	NS
Nickel	0.013	NS

30-120	9/25/2001
VOC	
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.0022)
Inorganic-Dissolved	
Arsenic	0.0044
Beryllium	ND(0.0004)
Cobalt	0.00088
Copper	0.0015
Lead	ND(0.0004)
Manganese	0.78 J
Nickel	0.0054

RFI-05-21	9/25/2001	3/27/2003
VOC		
cis-1,2-Dichloroethene	0.0012 /0.00066 J	NS
Trichloroethene	ND(0.001) /ND(0.001)	NS
Vinyl chloride	ND(0.001) /ND(0.001)	NS
SVOC		
Benzo(a)pyrene	ND(0.002) /ND(0.002)	NS
Inorganic		
Arsenic	NS	0.035
Beryllium	NS	ND(0.0004)
Cobalt	NS	0.0029
Copper	NS	0.0018
Lead	NS	0.00016 J
Manganese	NS	0.54
Nickel	NS	0.016
Inorganic-Dissolved		
Arsenic	0.046 /0.047	NS
Beryllium	ND(0.0004) /ND(0.0004)	NS
Cobalt	0.0027 /0.0028	NS
Copper	0.0017 /0.028	NS
Lead	ND(0.0004) /ND(0.0004)	NS
Manganese	0.36 J /0.35 J	NS
Nickel	0.0076 J /0.0075 J	NS

RFI-05-30	2/19/2002	6/12/2002	10/4/2004
VOC			
cis-1,2-Dichloroethene	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)
Inorganic			
Arsenic	NS	NS	NS
Beryllium	NS	NS	NS
Cobalt	NS	NS	NS
Copper	NS	NS	NS
Lead	NS	NS	NS
Manganese	NS	NS	1.11 (RDW)
Nickel	NS	NS	NS

43-100	9/25/2001
VOC	
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.002)
Inorganic-Dissolved	
Arsenic	ND(0.001)
Beryllium	ND(0.0004)
Cobalt	ND(0.0002)
Copper	0.0068
Lead	ND(0.0004)
Manganese	ND(0.0004 J)
Nickel	0.0022

RFI-05-03	9/25/2001
VOC	
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.0022)
Inorganic-Dissolved	
Arsenic	0.0069
Beryllium	ND(0.0004)
Cobalt	0.0022
Copper	0.0048
Lead	ND(0.0004)
Manganese	0.63 J
Nickel	0.0069 J

43-103	9/25/2001
VOC	
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.002)
Inorganic-Dissolved	
Arsenic	0.0011 J
Beryllium	ND(0.0004)
Cobalt	0.0012
Copper	0.0025
Lead	ND(0.0004)
Manganese	0.35 J
Nickel	0.0072

RFI-05-04	9/19/2001	6/21/2002
VOC		
cis-1,2-Dichloroethene	0.0057	0.009
Trichloroethene	0.029 (IDW,RDW)	0.024 (IDW,RDW)
Vinyl chloride	ND(0.001)	ND(0.001)
SVOC		
Benzo(a)pyrene	ND(0.0021)	NS
Inorganic-Dissolved		
Arsenic	ND(0.001)	NS
Beryllium	ND(0.0004)	NS
Cobalt	0.0044	NS
Copper	0.0028	NS
Lead	0.00054	NS
Manganese	0.53 J	NS
Nickel	0.0067	NS

RFI-05-07	9/20/2001
VOC	
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.0021)
Inorganic-Dissolved	
Arsenic	ND(0.001)
Beryllium	ND(0.0004)
Cobalt	0.0008
Copper	0.0056
Lead	ND(0.0004)
Manganese	0.27
Nickel	0.0047

43-220	9/25/2001
VOC	
cis-1,2-Dichloroethene	0.0039
Trichloroethene	0.0008 J
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.002)
Inorganic-Dissolved	
Arsenic	ND(0.001)
Beryllium	ND(0.0004)
Cobalt	0.0008
Copper	0.011
Lead	ND(0.0004)
Manganese	0.41 J
Nickel	0.0046

RFI-05-05	9/19/2001	6/21/2002	4/3/2003
VOC			
cis-1,2-Dichloroethene	0.0037	0.0025	0.0014
Trichloroethene	0.022 (IDW,RDW)	0.016 (IDW,RDW)	0.0099 (IDW,RDW)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)
SVOC			
Benzo(a)pyrene	ND(0.0021)	NS	NS
Inorganic			
Arsenic	NS	NS	0.004
Beryllium	NS	NS	ND(0.0004)
Cobalt	NS	NS	0.0033
Copper	NS	NS	0.0039
Lead	NS	NS	0.0025
Manganese	NS	NS	0.76 J
Nickel	NS	NS	0.012
Inorganic-Dissolved			
Arsenic	0.0047	NS	NS
Beryllium	ND(0.0004)	NS	NS
Cobalt	0.002	NS	NS
Copper	0.0029	NS	NS
Lead	ND(0.0004)	NS	NS
Manganese	0.7 J	NS	NS
Nickel	0.015	NS	NS

30-140	9/25/2001	6/13/2002	3/27/2003	10/4/2004
VOC				
cis-1,2-Dichloroethene	ND(0.001)	NS	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	NS	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	NS	ND(0.001)	ND(0.001)
SVOC				
Benzo(a)pyrene	ND(0.002)	NS	NS	NS
Inorganic				
Arsenic	NS	ND(0.001)	ND(0.001)	NS
Beryllium	NS	ND(0.0004 J)	ND(0.0004)	NS
Cobalt	NS	0.0024	0.0013	NS
Copper	NS	0.0062	0.0027	NS
Lead	NS	ND(0.0004 J)	0.00023 J	NS
Manganese	NS	3.1 J (IDW,RDW)	0.81 2.17 (ROW)	
Nickel	NS	0.0095	0.011	NS
Inorganic-Dissolved				
Arsenic	ND(0.001)	NS	NS	NS
Beryllium	ND(0.0004)	NS	NS	NS
Cobalt	0.0022	NS	NS	NS
Copper	0.0041	NS	NS	NS
Lead	ND(0.0004)	NS	NS	NS
Manganese	2.1 J (ROW)	NS	NS	NS
Nickel	0.015	NS	NS	NS

RFI-05-190R	12/11/2001	12/18/2002
VOC		
cis-1,2-Dichloroethene	0.00052 J	ND(0.001)
Trichloroethene	0.0047	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
SVOC		
Benzo(a)pyrene	ND(0.0021)	NS
Inorganic		
Arsenic	0.0072	0.017 J
Beryllium	0.0012 J	ND(0.0004)
Cobalt	0.0061	0.0037 J
Copper	0.00097	0.002 J
Lead	ND(0.00047)	0.00019 J
Manganese	1.1 (RDW)	0.88 (RDW)
Nickel	0.02	0.011 J
Inorganic-Dissolved		
Arsenic	0.0059	NS
Beryllium	ND(0.0004)	NS
Cobalt	0.005	NS
Copper	0.002	NS
Lead	ND(0.0004)	NS
Manganese	0.97 (RDW)	NS
Nickel	0.019	NS

RFI-05-195	9/25/2001	6/12/2002	3/28/2003
VOC			
cis-1,2-Dichloroethene	0.081 (IDW,RDW)	0.046	0.034 /0.032
Trichloroethene	0.024 (IDW,RDW)	0.02 (IDW,RDW)	0.021 (IDW,RDW) /0.021 (IDW,RDW)
Vinyl chloride	0.019 (IDW,RDW)	0.016 J (IDW,RDW)	0.0074 (IDW,RDW) /0.007 (IDW,RDW)
SVOC			
Benzo(a)pyrene	ND(0.0022)	NS	NS
Inorganic			
Arsenic	NS	ND(0.001)	ND(0.001) /NS
Beryllium	NS	ND(0.0004 J)	ND(0.0004) /NS
Cobalt	NS	0.0098	0.011 /NS
Copper	NS	0.0039	0.0039 /NS
Lead	NS	0.00013 J	0.00022 J /NS
Manganese	NS	2.7 J (IDW,RDW)	1 (RDW) /NS
Nickel	NS	0.026	0.034 /NS
Inorganic-Dissolved			
Arsenic	0.0018 J	NS	NS
Beryllium	ND(0.0004)	NS	NS
Cobalt	0.0085	NS	NS
Copper	0.0043	NS	NS
Lead	ND(0.0004)	NS	NS
Manganese	1 J (RDW)	NS	NS
Nickel	0.023 J	NS	NS

43-140	9/26/2001	6/12/2002	4/3/2003	10/12/2004
VOC				
cis-1,2-Dichloroethene	ND(0.001)	0.00076 J	0.0033	0.004
Trichloroethene	0.025 (IDW,RDW)	0.058 (IDW,RDW)	0.22 D (IDW,RDW)	0.25 (IDW,RDW)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
SVOC				
Benzo(a)pyrene	ND(0.0021)	NS	NS	NS
Inorganic-Dissolved				
Arsenic	ND(0.001)	NS	NS	NS
Beryllium	ND(0.0004)	NS	NS	NS
Cobalt	0.00097 J	NS	NS	NS
Copper	0.0015	NS	NS	NS
Lead	ND(0.0004)	NS	NS	NS
Manganese	0.013 J	NS	NS	NS
Nickel	0.00095	NS	NS	NS

RFI-05-20	9/25/2001	6/12/2002	4/3/2003
VOC			
cis-1,2-Dichloroethene	0.0015	0.0017	0.0013
Trichloroethene	0.23 D (IDW,RDW)	0.14 D (IDW,RDW)	0.17 D (IDW,RDW)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)
SVOC			
Benzo(a)pyrene	ND(0.0022)	NS	NS
Inorganic-Dissolved			
Arsenic	0.0024 J	NS	NS
Beryllium	ND(0.0004)	NS	NS
Cobalt	0.0051	NS	NS
Copper	0.0082	NS	NS
Lead	ND(0.0004)	NS	NS
Manganese	0.59 J	NS	NS
Nickel	0.0081 J	NS	NS

RFI-05-08R	6/12/2002	3/27/2003
VOC		
cis-1,2-Dichloroethene	ND(0.001)	NS
Trichloroethene	ND(0.001)	NS
Vinyl chloride	ND(0.001)	NS
SVOC		
Benzo(a)pyrene	ND(0.002)	NS
Inorganic		
Arsenic	ND(0.001)	0.0017
Beryllium	ND(0.0004 J)	ND(0.0004)
Cobalt	0.0013	0.0012
Copper	0.0048	0.0022
Lead	0.00049	0.00088
Manganese	0.91 J (ROW)	0.47
Nickel	0.0058 J	0.013
Inorganic-Dissolved		
Arsenic	0.0016	NS
Beryllium	ND(0.0004)	NS
Cobalt	0.00094	NS
Copper	ND(0.00093)	NS
Lead	ND(0.0004)	NS
Manganese	0.77 J	NS
Nickel	0.005	NS

RFI-05-10	9/19/2001	4/2/2003	10/12/2004
VOC			
cis-1,2-Dichloroethene	ND(0.001)	NS	ND(0.001)
Trichloroethene	ND(0.001)	NS	0.0004 J
Vinyl chloride	ND(0.001)	NS	ND(0.001)
SVOC			
Benzo(a)pyrene	ND(0.002)	NS	NS
Inorganic			
Arsenic	NS	0.00085 J	NS
Beryllium	NS	ND(0.0004)	NS
Cobalt	NS	0.099 (RDW)	NS
Copper	NS	0.0078	NS
Lead	NS	0.0017	NS
Manganese	NS	1.9 J (RDW)	NS
Nickel	NS	0.22 (IDW,RDW)	0.015
Inorganic-Dissolved			
Arsenic	0.023	NS	NS
Beryllium	ND(0.0004)	NS	NS
Cobalt	0.0032	NS	NS
Copper	0.013	NS	NS
Lead	ND(0.0004)	NS	NS
Manganese	0.86 J	NS	NS
Nickel	0.0078	NS	NS

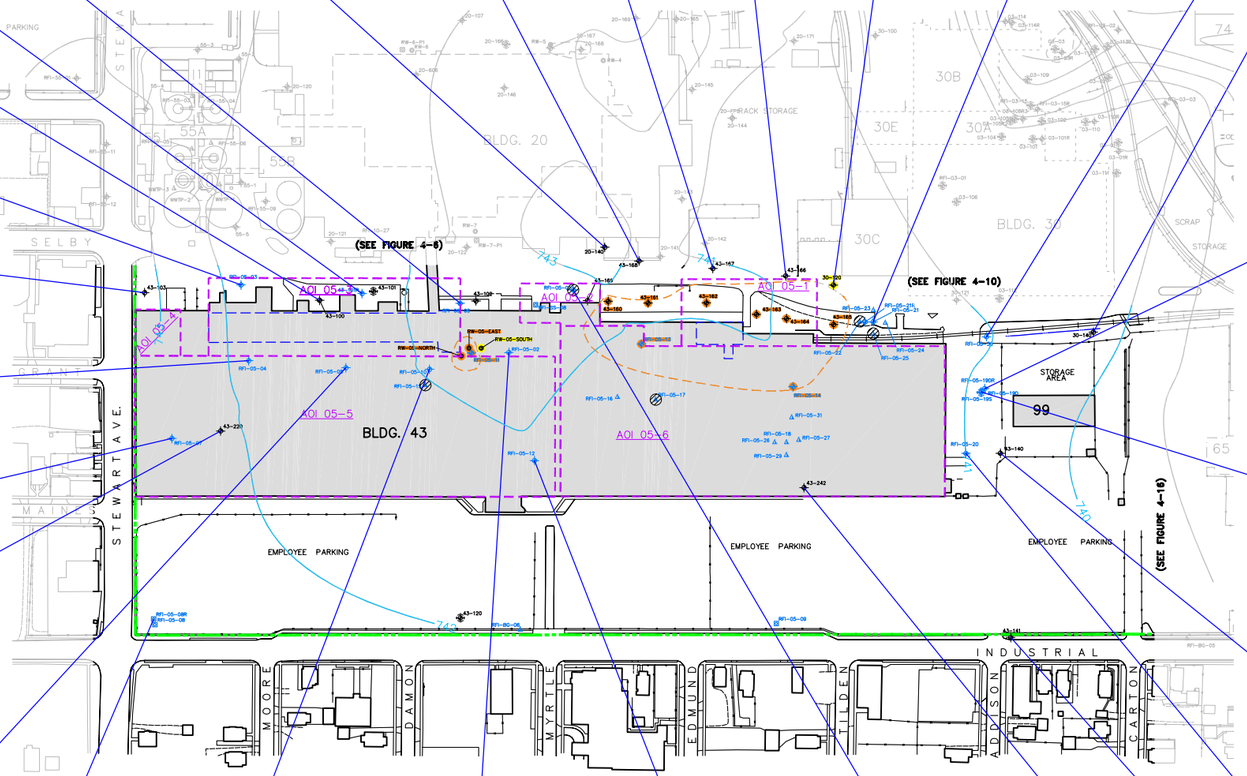
RFI-05-02	9/20/2001	4/3/2003
VOC		
cis-1,2-Dichloroethene	ND(0.001) /ND(0.001)	NS
Trichloroethene	0.0017 /0.0018	NS
Vinyl chloride	ND(0.001) /ND(0.001)	NS
SVOC		
Benzo(a)pyrene	ND(0.0021) /ND(0.0022)	NS
Inorganic		
Arsenic	NS	0.0011 J /0.00085 J
Beryllium	NS	ND(0.0004) /ND(0.0004)
Cobalt	NS	0.096 (RDW) /0.088 (RDW)
Copper	NS	0.01 /0.0086
Lead	NS	0.0022 /0.0021
Manganese	NS	1.9 J (RDW) /1.8 J (RDW)
Nickel	NS	0.21 (IDW,RDW) /0.2 (IDW,RDW)
Inorganic-Dissolved		
Arsenic	ND(0.001) /0.001 J	NS
Beryllium	ND(0.0004) /ND(0.0004)	NS
Cobalt	0.0085 /0.0088	NS
Copper	0.0066 /0.0097	NS
Lead	ND(0.0004) /ND(0.0004)	NS
Manganese	1.2 J (RDW) /1.3 J (RDW)	NS
Nickel	0.052 /0.054	NS

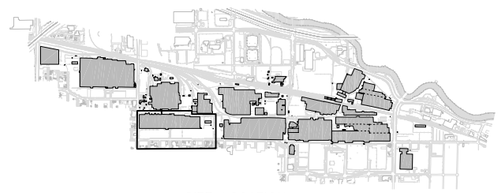
RFI-05-12	9/20/2001	6/14/2002
VOC		
cis-1,2-Dichloroethene	ND(0.001)	NS
Trichloroethene	ND(0.001)	NS
Vinyl chloride	ND(0.001)	NS
SVOC		
Benzo(a)pyrene	ND(0.0021)	NS
Inorganic		
Arsenic	NS	0.046
Beryllium	NS	ND(0.0004 J)
Cobalt	NS	0.003
Copper	NS	0.0068
Lead	NS	0.0013
Manganese	NS	0.39 J
Nickel	NS	0.02
Inorganic-Dissolved		
Arsenic	0.07 (IDW,RDW)	NS
Beryllium	ND(0.0004)	NS
Cobalt	0.0024	NS
Copper	0.0037	NS
Lead	ND(0.0004)	NS
Manganese	0.29	NS
Nickel	0.02	NS

RFI-05-01	9/25/2001	6/20/2002	3/31/2003
VOC			
cis-1,2-Dichloroethene	0.014	0.0078	0.009
Trichloroethene	0.012 (IDW,RDW)	0.0081 (IDW,RDW)	0.0094 (IDW,RDW)
Vinyl chloride	0.006 (IDW,RDW)	0.0022 (IDW,RDW)	0.0035 (IDW,RDW)
SVOC			
Benzo(a)pyrene	ND(0.0022)	NS	NS
Inorganic			
Arsenic	NS	0.01	NS
Beryllium	NS	ND(0.0004)	NS
Cobalt	NS	0.0026	NS
Copper	NS	0.0023	NS
Lead	NS	0.0017	NS
Manganese	NS	0.78	NS
Nickel	NS	0.033	NS
Inorganic-Dissolved			
Arsenic	0.018	NS	NS
Beryllium	ND(0.0004)	NS	NS
Cobalt	0.0023	NS	NS
Copper	0.0079	NS	NS
Lead	0.0011	NS	NS
Manganese	0.9 J (RDW)	NS	NS
Nickel	0.033 J	NS	NS

43-242	9/25/2001
VOC	
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.002)
Inorganic-Dissolved	
Arsenic	0.0012
Beryllium	ND(0.0004)
Cobalt	0.0033
Copper	0.011
Lead	ND(0.0004)
Manganese	0.48 J
Nickel	0.0082

43-141	9/25/2001
VOC	
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.0021)
Inorganic-Dissolved	
Arsenic	ND(0.001)
Beryllium	ND(0.0004)
Cobalt	ND(0.0002)
Copper	0.0032
Lead	ND(0.0004)
Manganese	0.0042 J
Nickel	0.004





SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 736 — WATER TABLE ELEVATION CONTOUR (FT AMSL)
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:

IDW – INDUSTRIAL DRINKING WATER

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED IN DECEMBER 2004.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. J–ESTIMATED CONCENTRATION.
10. D–CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
11. RDW–EXCEEDS MICHIGAN PART 201 RESIDENTIAL DRINKING WATER CRITERIA.
12. GSI CRITERIA COMPARED TO SAMPLES LOCATED WITHIN 500 FEET OF THE FLINT RIVER.

0 150' 300'
GRAPHIC SCALE

JULY 2006

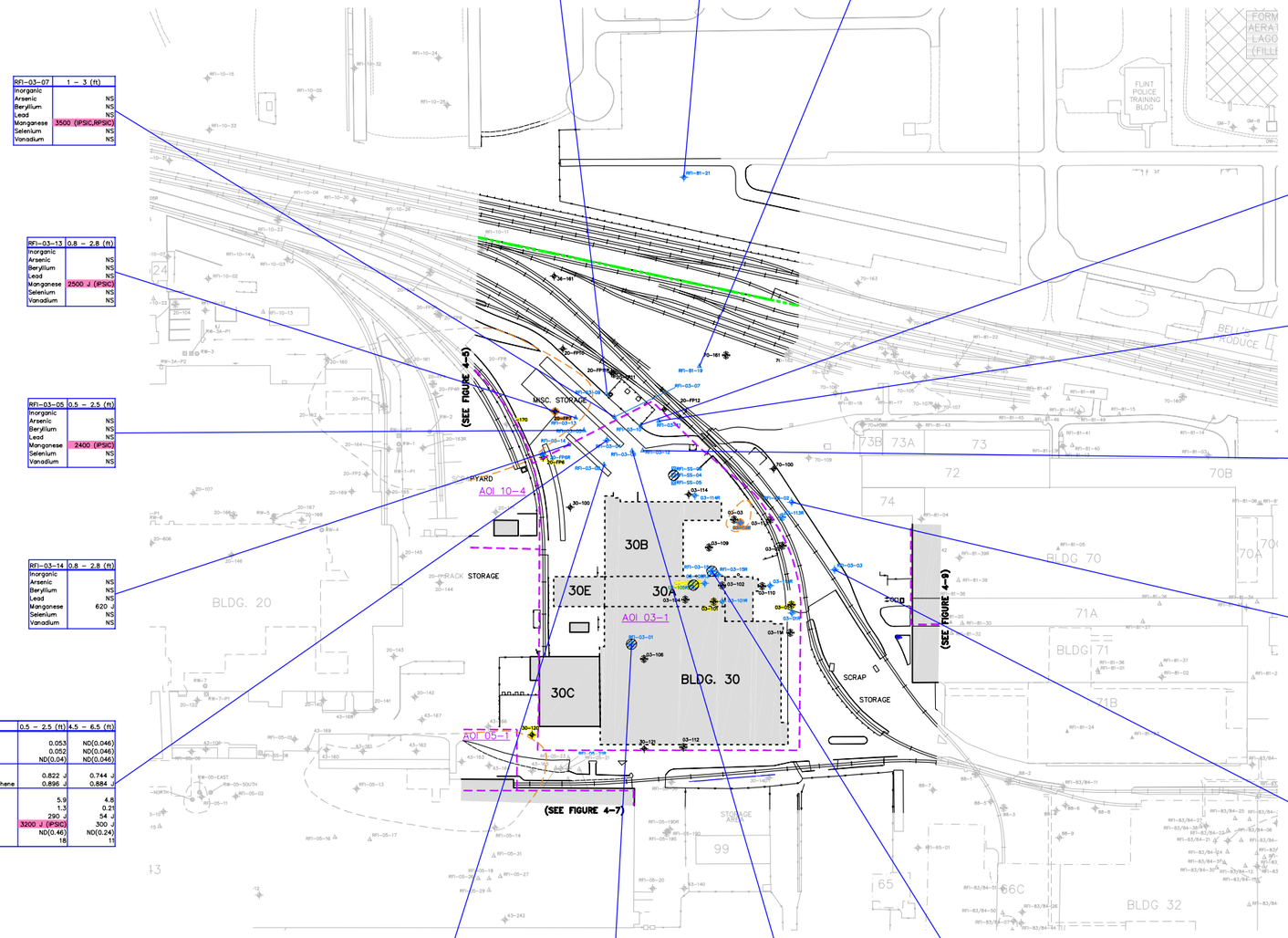
X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG, X24.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD–BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL–SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR–DL
7/11/06 SYR–85–NES LAF GMS
64410112/RFI–06/64410C08.DWG

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ANALYTICAL DATA - FACTORY 05 (BUILDING 43) AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 4-8



RFI-03-07	1 – 3 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Lead	NS
Manganese	3500 (IPSIC,RPSIC)
Selenium	NS
Vanadium	NS

RFI-03-13	0.8 – 2.8 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Lead	NS
Manganese	2500 J (IPSIC)
Selenium	NS
Vanadium	NS

RFI-03-05	0.5 – 2.5 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Lead	NS
Manganese	2400 (IPSIC)
Selenium	NS
Vanadium	NS

RFI-03-14	0.8 – 2.8 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Lead	NS
Manganese	620 J
Selenium	NS
Vanadium	NS

RFI-03-04	0.5 – 2.5 (ft)	4.5 – 6.5 (ft)
VOC		
Benzene	0.053	ND(0.046)
Trichloroethene	0.052	ND(0.046)
Vinyl chloride	ND(0.04)	ND(0.046)
SVOC		
Benzo(a)pyrene	0.822 J	0.744 J
Benzo(b)fluoranthene	0.896 J	0.884 J
Inorganic		
Arsenic	5.9	4.8
Beryllium	1.3	0.21
Lead	290 J	54 J
Manganese	3200 J (IPSIC)	300 J
Selenium	ND(0.46)	ND(0.24)
Vanadium	18	11

RFI-03-08	0.5 – 2.5 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Lead	NS
Manganese	930
Selenium	NS
Vanadium	NS

RFI-03-01	2 – 4 (ft)	8 – 10 (ft)	10 – 12 (ft)
VOC			
Benzene	ND(0.041)	ND(0.041)	ND(0.05)
Trichloroethene	0.84	0.046	0.12
Vinyl chloride	ND(0.041)	ND(0.041)	ND(0.05)
SVOC			
Benzo(a)pyrene	0.0498 J	ND(0.2 J)	ND(0.24)
Benzo(b)fluoranthene	0.0686 J	ND(0.2 J)	ND(0.24)
Inorganic			
Arsenic	4.8	4.6	2.3
Beryllium	0.65 J	0.33	0.42 J
Lead	20	92	9.7
Manganese	120 J	95 J	170 J
Selenium	0.61 J	0.38 J	1.3
Vanadium	20	12	21

RFI-03-06	0.5 – 2.5 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Lead	NS
Manganese	2300 (IPSIC)
Selenium	NS
Vanadium	NS

RFI-03-15	0.9 – 2.9 (ft)	6.9 – 8.9 (ft)
VOC		
Benzene	ND(0.039)	ND(0.039) /ND(0.038)
Trichloroethene	0.068	ND(0.039) /ND(0.038)
Vinyl chloride	ND(0.077)	ND(0.078) /ND(0.076)
SVOC		
Benzo(a)pyrene	8.23 (DC,RDC)	13.1 (DC,RDC) /14.9 (DC,RDC)
Benzo(b)fluoranthene	10.6	19.6 D /25.1 D (RDC)
Inorganic		
Arsenic	6.8	5.9 /5
Beryllium	0.57	0.19 /0.26
Lead	700 (RDC)	370 /230
Manganese	350	120 /93
Selenium	0.57	0.22 J /0.25
Vanadium	14	8.6 /11

RFI-81-21	0 – 2 (ft)	8 – 10 (ft)
VOC		
Benzene	ND(0.041)	ND(0.038)
Trichloroethene	ND(0.041)	ND(0.038)
Vinyl chloride	ND(0.041)	ND(0.038)
SVOC		
Benzo(a)pyrene	0.121 J	ND(0.18)
Benzo(b)fluoranthene	0.118 J	ND(0.18)
Inorganic		
Arsenic	22 J (RDC)	4.2 J
Beryllium	0.4 J	0.077 J
Lead	24 J	17 J
Manganese	21 J	170 J
Selenium	2.9 J	ND(0.094)
Vanadium	20 J	10 J

RFI-81-19	0 – 2 (ft)
VOC	
Benzene	0.26
Trichloroethene	ND(0.039)
Vinyl chloride	ND(0.039)
SVOC	
Benzo(a)pyrene	ND(0.19 J)
Benzo(b)fluoranthene	ND(0.19 J)
Inorganic	
Arsenic	12 J (RDC)
Beryllium	0.35 J
Lead	37 J
Manganese	54 J
Selenium	1.3 J
Vanadium	10 J

RFI-03-09	0 – 2 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Lead	NS
Manganese	230 J
Selenium	NS
Vanadium	NS

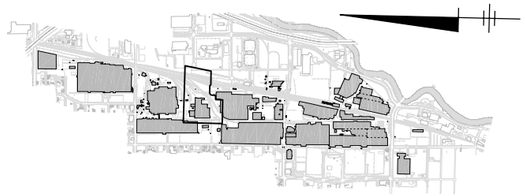
RFI-03-10	0 – 2 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Lead	NS
Manganese	3100 J (IPSIC)
Selenium	NS
Vanadium	NS

RFI-03-11	0 – 2 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Lead	NS
Manganese	4700 (IPSIC,RPSIC)
Selenium	NS
Vanadium	NS

RFI-03-12	0.8 – 2.8 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Lead	NS
Manganese	3800 J (IPSIC,RPSIC)
Selenium	NS
Vanadium	NS

RFI-03-02	1 – 3 (ft)	3 – 5 (ft)	5 – 7 (ft)
VOC			
Benzene	ND(0.037)	ND(0.038)	ND(0.039) /ND(0.04)
Trichloroethene	0.049	0.28	0.67 /0.65
Vinyl chloride	ND(0.037)	ND(0.038)	ND(0.039) /ND(0.04)
SVOC			
Benzo(a)pyrene	ND(0.18)	ND(0.18)	ND(0.19) /ND(0.19)
Benzo(b)fluoranthene	ND(0.18)	ND(0.18)	ND(0.19) /ND(0.19)
Inorganic			
Arsenic	2.9	2.7	2.4 /2.1
Beryllium	0.16	0.09 J	0.13 J /0.095 J
Lead	8.6	7.8	11 /7.9
Manganese	150	120 J	110 J /110
Selenium	0.33 J	ND(0.078)	0.12 J /0.15
Vanadium	10	7	7.2 /6.5

RFI-03-03	0 – 2 (ft)
VOC	
Benzene	ND(0.04)
Trichloroethene	ND(0.04)
Vinyl chloride	ND(0.04)
SVOC	
Benzo(a)pyrene	0.194 J
Benzo(b)fluoranthene	0.267 J
Inorganic	
Arsenic	3.7
Beryllium	0.17 J
Lead	46
Manganese	190 J
Selenium	0.23 J
Vanadium	9.3



SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENT IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  - IDC – INDUSTRIAL DIRECT CONTACT
  - IPSIC – INDUSTRIAL PARTICULATE SOIL INHALATION

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. FOR ALL METALS, SITE-SPECIFIC BACKGROUND CONCENTRATIONS ARE SUBTRACTED FROM THE MEASURED CONCENTRATIONS PRIOR TO COMPARING TO PART 201 CRITERIA.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN DRY-WEIGHT MILLIGRAMS PER KILOGRAM (mg/kg).
6. ND (0.039)-CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS-NOT ANALYZED FOR THIS CONSTITUENT.
9. J-ESTIMATED CONCENTRATION.
10. D-CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
11. RDC-EXCEEDS MICHIGAN PART 201 RESIDENTIAL DIRECT CONTACT CRITERIA.
12. RPSIC EXCEEDS MICHIGAN PART 201 RESIDENTIAL PARTICULATE SOIL INHALATION CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SOIL ANALYTICAL DATA - BUILDING 30 AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
4-9

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAOESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C09.DWG

20-FP10	9/25/2001	2/22/2002
VOC		
Benzene	0.0061 (IDW,RDW)	ND(0.0022)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
SVOC		
Benzo(a)pyrene	ND(0.0022)	NS
Benzo(b)fluoranthene	ND(0.0022)	NS
Inorganic-Dissolved		
Arsenic	0.038	NS
Beryllium	ND(0.0004)	NS
Lead	ND(0.0004)	NS
Manganese	0.18 J	NS
Selenium	ND(0.0014)	NS
Vanadium	ND(0.0008)	NS

20-FP11	9/25/2001	6/19/2002
VOC		
Benzene	0.00069 J	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
SVOC		
Benzo(a)pyrene	ND(0.002)	NS
Benzo(b)fluoranthene	ND(0.002)	NS
Inorganic-Dissolved		
Arsenic	0.0045	NS
Beryllium	ND(0.0004)	NS
Lead	ND(0.0004)	NS
Manganese	0.31 J	NS
Selenium	0.0058	NS
Vanadium	ND(0.0008)	NS

RFI-81-21	10/4/2001	10/6/2004
VOC		
Benzene	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)

70-100	9/24/2001	6/13/2002	3/27/2003
VOC			
Benzene	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	0.003 (IDW,RDW)	0.0029 J (IDW,RDW)	0.0027 (IDW,RDW)
SVOC			
Benzo(a)pyrene	ND(0.002)	NS	NS
Benzo(b)fluoranthene	ND(0.002)	NS	NS
Inorganic-Dissolved			
Arsenic	0.0096 J	NS	NS
Beryllium	ND(0.0004)	NS	NS
Lead	ND(0.0004)	NS	NS
Manganese	0.15 J	NS	NS
Selenium	0.0021 J	NS	NS
Vanadium	ND(0.0008)	NS	NS

70-109	9/24/2001	3/26/2003
VOC		
Benzene	ND(0.001)	0.003
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
SVOC		
Benzo(a)pyrene	ND(0.0022)	NS
Benzo(b)fluoranthene	ND(0.0022)	NS
Inorganic-Dissolved		
Arsenic	0.0024	NS
Beryllium	ND(0.0004 J)	NS
Lead	ND(0.0004)	NS
Manganese	0.059	NS
Selenium	ND(0.0014)	NS
Vanadium	ND(0.0008)	NS

RFI-03-04	9/21/2001	6/13/2002
VOC		
Benzene	ND(0.001)	NS
Trichloroethene	ND(0.001)	NS
Vinyl chloride	ND(0.001)	NS
SVOC		
Benzo(a)pyrene	ND(0.002)	NS
Benzo(b)fluoranthene	ND(0.002)	NS
Inorganic		
Arsenic	NS	0.012
Beryllium	NS	ND(0.0004 J)
Lead	NS	0.0004 J
Manganese	NS	0.63 J
Selenium	NS	ND(0.0014)
Vanadium	NS	ND(0.0008)
Inorganic-Dissolved		
Arsenic	0.09 (IDW,RDW)	NS
Beryllium	ND(0.0004 J)	NS
Lead	ND(0.0004)	NS
Manganese	0.76	NS
Selenium	ND(0.0014)	NS
Vanadium	ND(0.0008)	NS

RFI-03-02	2/26/2002	6/13/2002
VOC		
Benzene	ND(0.001)	ND(0.001) /ND(0.001)
Trichloroethene	0.0026	0.0021 /0.002
Vinyl chloride	ND(0.001)	ND(0.001) /ND(0.001)
SVOC		
Benzo(a)pyrene	ND(0.002)	NS
Benzo(b)fluoranthene	ND(0.002)	NS
Inorganic		
Arsenic	NS	0.0031 /0.0026
Beryllium	NS	ND(0.0004 J) /ND(0.0004 J)
Lead	NS	0.0013 J /0.0011 J
Manganese	NS	0.17 /0.17
Selenium	NS	0.0006 J /ND(0.0014)
Vanadium	NS	ND(0.0008) /ND(0.0008)
Inorganic-Dissolved		
Arsenic	0.011	NS
Beryllium	0.043 J (IDW,RDW)	NS
Lead	0.001 J	NS
Manganese	0.11 J	NS
Selenium	0.19 (IDW,RDW)	NS
Vanadium	0.0065 (RDW)	NS

20-FP6	9/25/2001	2/20/2002	6/19/2002	3/27/2003
VOC				
Benzene	0.00065 J	ND(0.001)	0.0005 J	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	0.0023 (IDW,RDW)	0.00057 J	0.0012	ND(0.001)
SVOC				
Benzo(a)pyrene	ND(0.0022)	NS	NS	NS
Benzo(b)fluoranthene	ND(0.0022)	NS	NS	NS
Inorganic-Dissolved				
Arsenic	ND(0.001)	NS	NS	NS
Beryllium	ND(0.0004)	NS	NS	NS
Lead	ND(0.0004)	NS	NS	NS
Manganese	0.31 J	NS	NS	NS
Selenium	ND(0.0014)	NS	NS	NS
Vanadium	ND(0.0008)	NS	NS	NS

03-02	9/20/2001	6/14/2002
VOC		
Benzene	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
SVOC		
Benzo(a)pyrene	ND(0.0021)	NS
Benzo(b)fluoranthene	ND(0.0021)	NS
Inorganic-Dissolved		
Arsenic	0.0036	NS
Beryllium	ND(0.0004)	NS
Lead	ND(0.0004)	NS
Manganese	0.46	NS
Selenium	ND(0.0014)	NS
Vanadium	ND(0.0008)	NS

30-100	9/21/2001
VOC	
Benzene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.0022)
Benzo(b)fluoranthene	ND(0.0022)
Inorganic-Dissolved	
Arsenic	0.0048
Beryllium	ND(0.0004 J)
Lead	ND(0.0004)
Manganese	0.73
Selenium	0.002 J
Vanadium	ND(0.0008)

03-114	9/21/2001
VOC	
Benzene	ND(0.001)
Trichloroethene	0.00066 J
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.0022)
Benzo(b)fluoranthene	ND(0.0022)
Inorganic-Dissolved	
Arsenic	ND(0.0018)
Beryllium	ND(0.0004 J)
Lead	ND(0.0004)
Manganese	0.27
Selenium	0.0026 J
Vanadium	0.00089

03-114R	3/31/2003
VOC	
Benzene	ND(0.001)
Trichloroethene	0.011 (IDW,RDW)
Vinyl chloride	0.0084 (IDW,RDW)

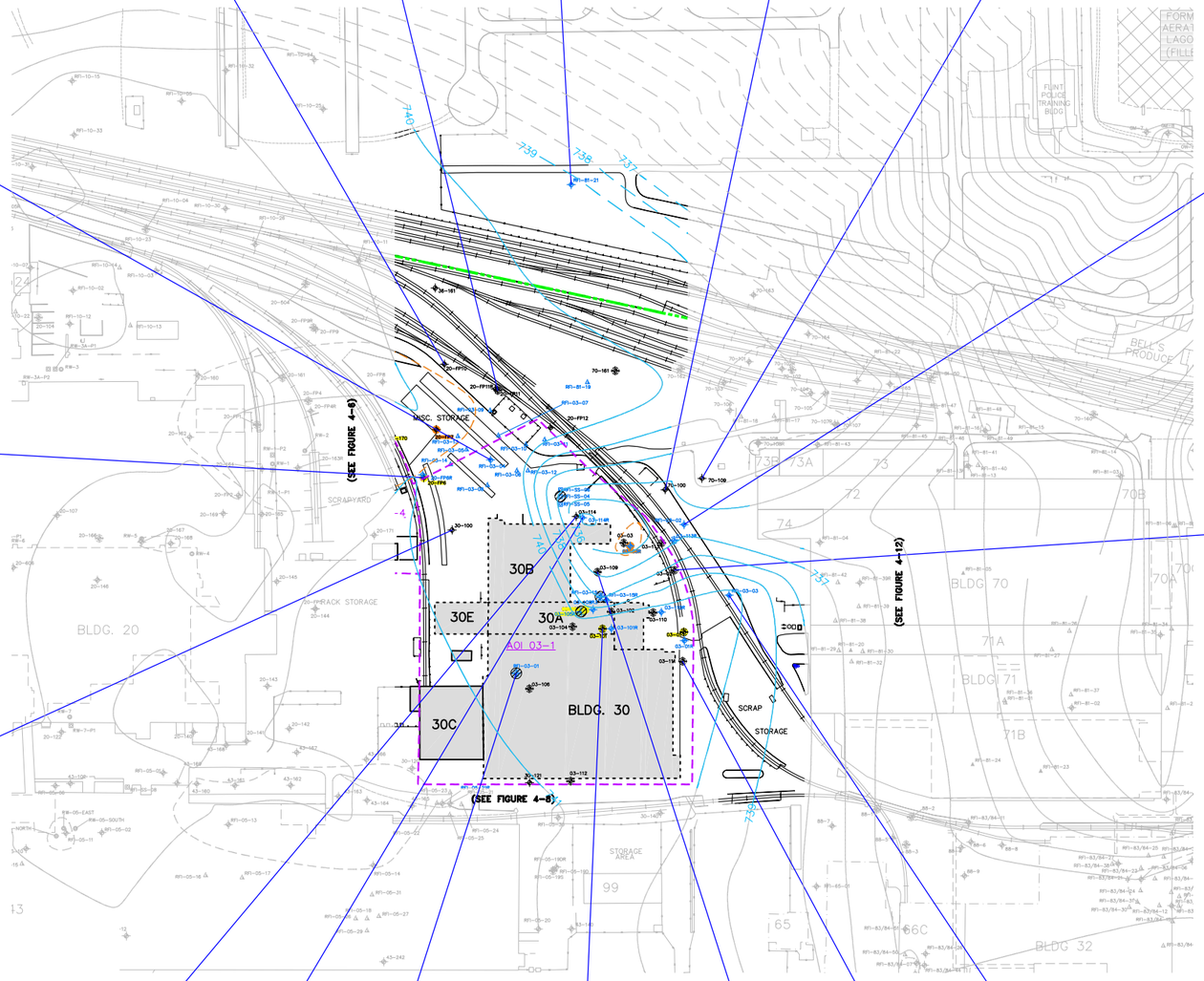
RFI-03-01	9/19/2001
VOC	
Benzene	ND(0.001)
Trichloroethene	0.00058 J
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.0021)
Benzo(b)fluoranthene	ND(0.0021)
Inorganic-Dissolved	
Arsenic	0.011
Beryllium	ND(0.0004)
Lead	ND(0.0004)
Manganese	0.48 J
Selenium	ND(0.0014)
Vanadium	0.0014

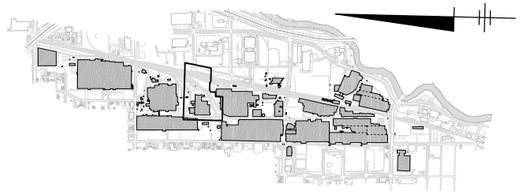
03-101	9/27/2001	6/25/2002
VOC		
Benzene	ND(0.001)	ND(0.001)
Trichloroethene	0.064 J (IDW,RDW)	0.057 (IDW,RDW)
Vinyl chloride	0.0091 (IDW,RDW)	0.0046 (IDW,RDW)
SVOC		
Benzo(a)pyrene	ND(0.0021)	NS
Benzo(b)fluoranthene	ND(0.0021)	NS
Inorganic-Dissolved		
Arsenic	0.029	NS
Beryllium	ND(0.0004)	NS
Lead	ND(0.0004)	NS
Manganese	0.45 J	NS
Selenium	ND(0.0014)	NS
Vanadium	ND(0.0008)	NS

03-109	9/26/2001
VOC	
Benzene	0.00066 J
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.0021)
Benzo(b)fluoranthene	ND(0.0021)
Inorganic-Dissolved	
Arsenic	ND(0.001)
Beryllium	ND(0.0004)
Lead	ND(0.0004)
Manganese	1.5 (RDW)
Selenium	ND(0.0014)
Vanadium	ND(0.0008)

03-111	9/21/2001
VOC	
Benzene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.0022)
Benzo(b)fluoranthene	ND(0.0022)
Inorganic-Dissolved	
Arsenic	0.002 J
Beryllium	ND(0.0004 J)
Lead	ND(0.0004)
Manganese	0.28
Selenium	ND(0.0014)
Vanadium	ND(0.0008)

RFI-03-03	9/21/2001
VOC	
Benzene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.0022)
Benzo(b)fluoranthene	ND(0.0022)
Inorganic-Dissolved	
Arsenic	0.0017 J
Beryllium	ND(0.0004)
Lead	ND(0.0004)
Manganese	0.21
Selenium	ND(0.0014)
Vanadium	ND(0.0008)





SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 736 — WATER TABLE ELEVATION CONTOUR (FT AMSL)
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  IDW – INDUSTRIAL DRINKING WATER

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED IN DECEMBER 2004.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. J–ESTIMATED CONCENTRATION.
10. RDW–EXCEEDS MICHIGAN PART 201 RESIDENTIAL DRINKING WATER CRITERIA.
11. GSI CRITERIA COMPARED TO SAMPLES LOCATED WITHIN 500 FEET OF THE FLINT RIVER.

0 150' 300'
GRAPHIC SCALE

JULY 2006

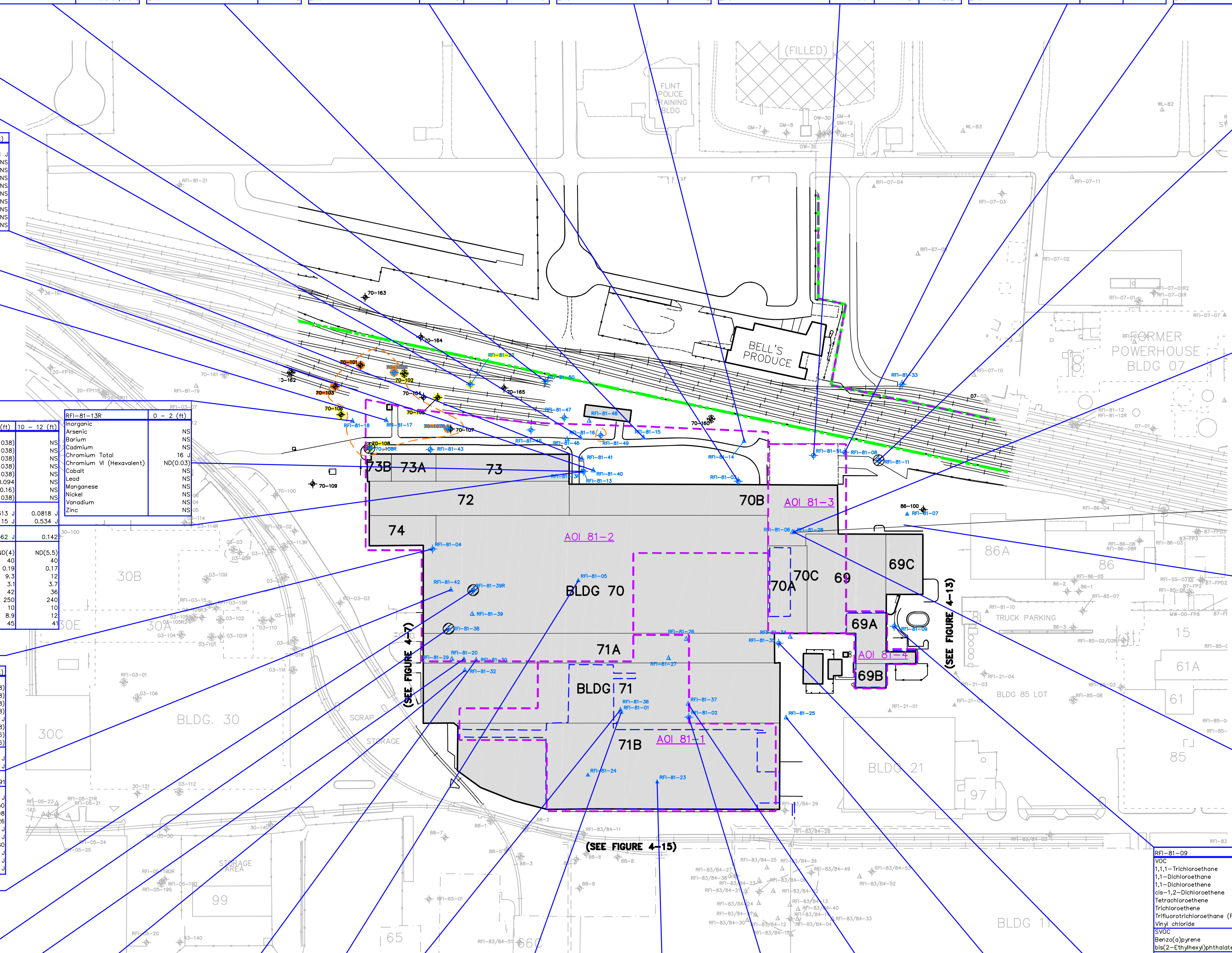
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ANALYTICAL DATA - BUILDING 30 AREA

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 4-10

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG, X24.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C10.DWG



SITE LOCATION

RFI-81-22	0 - 2 (ft)
VOC	
1,1,1-Trichloroethane	ND(0.038)
1,1-Dichloroethane	ND(0.038)
1,1-Dichloroethene	ND(0.038)
cis-1,2-Dichloroethene	ND(0.038)
Tetrachloroethene	ND(0.038)
Trichloroethene	ND(0.038)
Trifluorotrichloroethane (Freon 113)	ND(0.16)
Vinyl chloride	ND(0.038)
SVOC	
Benzo(a)pyrene	ND(0.95)
bis(2-Ethylhexyl)phthalate	ND(0.95)
PCB	
Total PCBs	4.98 (RDC)
Inorganic	
Arsenic	24 (RDC)
Barium	90
Cadmium	0.65 J
Chromium Total	110 J
Cobalt	5.5
Lead	82
Manganese	350 J
Nickel	52
Vanadium	16
Zinc	200

RFI-81-16	0 - 2 (ft)
VOC	
1,1,1-Trichloroethane	ND(0.039)
1,1-Dichloroethane	ND(0.039)
1,1-Dichloroethene	ND(0.039)
cis-1,2-Dichloroethene	ND(0.039)
Tetrachloroethene	ND(0.039)
Trichloroethene	ND(0.039)
Trifluorotrichloroethane (Freon 113)	ND(0.17)
Vinyl chloride	ND(0.039)
SVOC	
Benzo(a)pyrene	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.19)
PCB	
Total PCBs	ND(0.039)
Inorganic	
Arsenic	7
Barium	52 J
Cadmium	0.32
Chromium Total	17
Cobalt	5.8
Lead	17 J
Manganese	420 J
Nickel	14
Vanadium	25
Zinc	54

RFI-81-50	4 - 6 (ft)
VOC	
1,1,1-Trichloroethane	ND(0.06) /ND(0.06)
1,1-Dichloroethane	ND(0.06) /ND(0.06)
1,1-Dichloroethene	ND(0.06) /ND(0.06)
cis-1,2-Dichloroethene	ND(0.06) /ND(0.06)
Tetrachloroethene	ND(0.06) /ND(0.06)
Trichloroethene	ND(0.06) /ND(0.06)
Trifluorotrichloroethane (Freon 113)	ND(0.1) /ND(0.1)
Vinyl chloride	ND(0.1) /ND(0.1)
SVOC	
Benzo(a)pyrene	ND(0.3) /ND(0.3 J)
bis(2-Ethylhexyl)phthalate	ND(0.3) /ND(0.3)
PCB	
Total PCBs	ND(0.33) /ND(0.33)
Inorganic	
Arsenic	0.8 J /0.83 J
Barium	22.1 J /30.4 J
Cadmium	ND(0.14) /ND(0.13)
Chromium Total	4.13 /3.39
Cobalt	2.17 J /3.69 J
Lead	5.49 /5.39
Manganese	91.2 J /327 J
Nickel	3.8 /5.85
Vanadium	6.29 /5.09
Zinc	13.8 J /9.9 J

RFI-81-15	0 - 2 (ft)
VOC	
1,1,1-Trichloroethane	ND(0.04)
1,1-Dichloroethane	ND(0.04)
1,1-Dichloroethene	ND(0.04)
cis-1,2-Dichloroethene	ND(0.04)
Tetrachloroethene	ND(0.04)
Trichloroethene	ND(0.04)
Trifluorotrichloroethane (Freon 113)	ND(0.17)
Vinyl chloride	ND(0.04)
SVOC	
Benzo(a)pyrene	ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.2)
PCB	
Total PCBs	ND(0.04)
Inorganic	
Arsenic	4.7
Barium	45 J
Cadmium	0.21
Chromium Total	11
Cobalt	4.4
Lead	22 J
Manganese	320 J
Nickel	9.1
Vanadium	18
Zinc	42

RFI-81-03	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.038)	ND(0.038)	ND(0.039)
1,1-Dichloroethane	ND(0.038)	ND(0.038)	ND(0.039)
1,1-Dichloroethene	ND(0.038)	ND(0.038)	ND(0.039)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.038)	ND(0.039)
Tetrachloroethene	ND(0.038)	ND(0.038)	ND(0.039)
Trichloroethene	ND(0.038)	ND(0.038)	ND(0.039)
Trifluorotrichloroethane (Freon 113)	ND(0.16)	ND(0.16)	ND(0.17)
Vinyl chloride	ND(0.038)	ND(0.038)	ND(0.039)
SVOC			
Benzo(a)pyrene	3.36 J (RDC)	0.426 J	0.132 J
bis(2-Ethylhexyl)phthalate	0.134 J	ND(0.18)	0.17 J
PCB			
Total PCBs	0.181	0.061	0.281
Inorganic			
Arsenic	13 (RDC)	3	5.2
Barium	71	34	42
Cadmium	0.92	0.053	0.2
Chromium Total	45	10	20
Cobalt	5.4	2.8	3.4
Lead	160 J	6 J	23 J
Manganese	1200	1000	1200
Nickel	44	6.1	10
Vanadium	17	13	17
Zinc	190	17	54

RFI-81-14	0 - 2 (ft)
VOC	
1,1,1-Trichloroethane	ND(0.038)
1,1-Dichloroethane	ND(0.038)
1,1-Dichloroethene	ND(0.038)
cis-1,2-Dichloroethene	ND(0.038)
Tetrachloroethene	ND(0.038)
Trichloroethene	ND(0.038)
Trifluorotrichloroethane (Freon 113)	ND(0.16)
Vinyl chloride	ND(0.038)
SVOC	
Benzo(a)pyrene	0.0384 J
bis(2-Ethylhexyl)phthalate	ND(0.19)
PCB	
Total PCBs	ND(0.039)
Inorganic	
Arsenic	3.5
Barium	46 J
Cadmium	0.21
Chromium Total	11
Cobalt	4.2
Lead	19 J
Manganese	270 J
Nickel	9.7
Vanadium	17
Zinc	42

RFI-81-51	0 - 2 (ft)	8 - 10 (ft)	11 - 13 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.06)	0.04 J	0.01 J
1,1-Dichloroethane	ND(0.06)	ND(0.06)	ND(0.06)
1,1-Dichloroethene	ND(0.06)	ND(0.06)	ND(0.06)
cis-1,2-Dichloroethene	0.38	ND(0.06)	0.01 J
Tetrachloroethene	0.62	2.48	0.41
Trichloroethene	1.3	7.35 (RSVIA)	1.54
Trifluorotrichloroethane (Freon 113)	ND(0.1)	ND(0.1)	ND(0.1)
Vinyl chloride	ND(0.1)	ND(0.1)	ND(0.1)
SVOC			
Benzo(a)pyrene	0.05 J	0.02 J	0.02 J
bis(2-Ethylhexyl)phthalate	0.05 J	ND(0.3)	ND(0.3)
PCB			
Total PCBs	ND(0.33)	ND(0.33)	ND(0.33)
Inorganic			
Arsenic	1.48 J	1.65 J	2.64 J
Barium	12.4 J	14.5 J	18.6 J
Cadmium	0.21	0.14	0.86
Chromium Total	2.59	5.62	16.9
Cobalt	1.38	3.71	2.29
Lead	16.6	19.5	9.06
Manganese	105	299	199
Nickel	3.55	6.63	8.97
Vanadium	3.21	4.22	10.3
Zinc	18.9 J	17.2 J	282 J

RFI-81-08	0 - 2 (ft)	6 - 8 (ft)
VOC		
1,1,1-Trichloroethane	ND(0.039)	ND(0.042)
1,1-Dichloroethane	ND(0.039)	ND(0.042)
1,1-Dichloroethene	ND(0.039)	ND(0.042)
cis-1,2-Dichloroethene	ND(0.039)	0.043
Tetrachloroethene	ND(0.039)	ND(0.042)
Trichloroethene	ND(0.039)	0.39
Trifluorotrichloroethane (Freon 113)	ND(0.17)	ND(0.18)
Vinyl chloride	ND(0.039)	ND(0.042)
SVOC		
Benzo(a)pyrene	ND(0.19)	ND(0.2 J)
bis(2-Ethylhexyl)phthalate	ND(0.19)	0.0941 J
PCB		
Total PCBs	0.095	ND(0.041)
Inorganic		
Arsenic	3.9	2.6
Barium	20	33
Cadmium	0.2	0.19 J
Chromium Total	8.5	8.6 J
Cobalt	2.8	3.9
Lead	33 J	16
Manganese	160	80 J
Nickel	8.3	8.9
Vanadium	11	15
Zinc	41	47

RFI-81-33	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.038)	ND(0.04)	ND(0.044)
1,1-Dichloroethane	ND(0.038)	ND(0.04)	ND(0.044)
1,1-Dichloroethene	ND(0.038)	ND(0.04)	ND(0.044)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.04)	ND(0.044)
Tetrachloroethene	ND(0.038)	ND(0.04)	ND(0.044)
Trichloroethene	ND(0.038)	ND(0.04)	ND(0.044)
Trifluorotrichloroethane (Freon 113)	ND(0.16)	ND(0.17)	ND(0.19)
Vinyl chloride	ND(0.038)	ND(0.04)	ND(0.044)
SVOC			
Benzo(a)pyrene	0.17 J	ND(0.19)	ND(0.21)
bis(2-Ethylhexyl)phthalate	0.0513 J	ND(0.19)	ND(0.21)
PCB			
Total PCBs	ND(0.037)	ND(0.039)	ND(0.044)
Inorganic			
Arsenic	4.2	6.7 D	10 (RDC)
Barium	90 J	57 JD	110 J
Cadmium	0.41	0.1 D	0.12
Chromium Total	38	16 D	21
Cobalt	5	7.5 D	11
Lead	40	7.7 D	9.6
Manganese	1000 J	330 JD	790 J
Nickel	15	19 D	26
Vanadium	18	25 D	29
Zinc	66	41 D	39

RFI-81-17	0 - 2 (ft)
VOC	
1,1,1-Trichloroethane	ND(0.038)
1,1-Dichloroethane	ND(0.038)
1,1-Dichloroethene	ND(0.038)
cis-1,2-Dichloroethene	ND(0.038)
Tetrachloroethene	ND(0.038)
Trichloroethene	ND(0.038)
Trifluorotrichloroethane (Freon 113)	ND(0.16)
Vinyl chloride	ND(0.038)
SVOC	
Benzo(a)pyrene	ND(0.18)
bis(2-Ethylhexyl)phthalate	ND(0.18)
PCB	
Total PCBs	0.433
Inorganic	
Arsenic	6.7
Barium	26 J
Cadmium	0.13
Chromium Total	5.2
Cobalt	4.1
Lead	13 J
Manganese	370 J
Nickel	13
Vanadium	7.7
Zinc	31

RFI-81-40	0 - 2 (ft)
Inorganic	
Arsenic	8.1 J (RDC)
Barium	NS
Cadmium	NS
Chromium Total	NS
Cobalt	NS
Lead	NS
Manganese	NS
Nickel	NS
Vanadium	NS
Zinc	NS

RFI-81-41	0 - 2 (ft)
Inorganic	
Arsenic	5.1 J
Barium	NS
Cadmium	NS
Chromium Total	NS
Cobalt	NS
Lead	NS
Manganese	NS
Nickel	NS
Vanadium	NS
Zinc	NS

RFI-81-18	0 - 2 (ft)
VOC	
1,1,1-Trichloroethane	ND(0.038)
1,1-Dichloroethane	ND(0.038)
1,1-Dichloroethene	ND(0.038)
cis-1,2-Dichloroethene	ND(0.038)
Tetrachloroethene	ND(0.038)
Trichloroethene	ND(0.038)
Trifluorotrichloroethane (Freon 113)	ND(0.16)
Vinyl chloride	ND(0.038)
SVOC	
Benzo(a)pyrene	0.125 J
bis(2-Ethylhexyl)phthalate	ND(0.19)
PCB	
Total PCBs	0.95
Inorganic	
Arsenic	7.2
Barium	56 J
Cadmium	0.45
Chromium Total	21
Cobalt	4.9
Lead	63 J
Manganese	370 J
Nickel	23
Vanadium	13
Zinc	69

RFI-81-13	0 - 2 (ft)	6 - 8 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.04)	ND(0.038)	NS
1,1-Dichloroethane	ND(0.04)	ND(0.038)	NS
1,1-Dichloroethene	ND(0.04)	ND(0.038)	NS
cis-1,2-Dichloroethene	ND(0.04)	ND(0.038)	NS
Tetrachloroethene	ND(0.04)	ND(0.038)	NS
Trichloroethene	ND(0.04)	0.094	NS
Trifluorotrichloroethane (Freon 113)	ND(0.17)	ND(0.16)	NS
Vinyl chloride	ND(0.04)	ND(0.038)	NS
SVOC			
Benzo(a)pyrene	0.119 J	0.0613 J	0.0818 J
bis(2-Ethylhexyl)phthalate	0.078 J	0.115 J	0.534 J
PCB			
Total PCBs	0.102 J	0.062 J	0.142
Inorganic			
Arsenic	56 (IDC,RDC)	ND(4)	ND(5.5)
Barium	36	40	40
Cadmium	0.36	0.19	0.17
Chromium Total	270 (IPSIC,RPSIC)	9.3	12
Cobalt	15	3.1	3.7
Lead	27	42	36
Manganese	1100	250	240
Nickel	110	10	10
Vanadium	30	8.9	12
Zinc	42	45	41

RFI-81-13R	0 - 2 (ft)
Inorganic	
Arsenic	NS
Barium	NS
Cadmium	NS
Chromium Total	16 J
Chromium VI (Hexavalent)	ND(0.03)
Cobalt	NS
Lead	NS
Manganese	NS
Nickel	NS
Vanadium	NS
Zinc	NS

RFI-81-04	8 - 10 (ft)
VOC	
1,1,1-Trichloroethane	ND(0.039)
1,1-Dichloroethane	ND(0.039)
1,1-Dichloroethene	ND(0.039)
cis-1,2-Dichloroethene	ND(0.039)
Tetrachloroethene	ND(0.039)
Trichloroethene	ND(0.039)
Trifluorotrichloroethane (Freon 113)	NS
Vinyl chloride	ND(0.039)
SVOC	
Benzo(a)pyrene	0.31 J
bis(2-Ethylhexyl)phthalate	ND(0.18)
Inorganic	
Arsenic	7.9 (RDC)
Barium	30 J
Cadmium	0.132
Chromium Total	15
Cobalt	NS
Lead	12.5 J
Manganese	NS
Nickel	NS
Vanadium	NS
Zinc	NS

RFI-81-42	0.7 - 2 (ft)
VOC	
1,1,1-Trichloroethane	ND(0.038)
1,1-Dichloroethane	ND(0.038)
1,1-Dichloroethene	ND(0.038)
cis-1,2-Dichloroethene	ND(0.038)
Tetrachloroethene	0.037 J
Trichloroethene	ND(0.038)
Trifluorotrichloroethane (Freon 113)	ND(0.16)
Vinyl chloride	ND(0.076)
SVOC	
Benzo(a)pyrene	1.96 J
bis(2-Ethylhexyl)phthalate	0.5 J
PCB	
Total PCBs	1.91
Inorganic	
Arsenic	3.6 J
Barium	50
Cadmium	0.98
Chromium Total	26
Cobalt	4 J
Lead	200 J
Manganese	180
Nickel	23 J
Vanadium	14 J
Zinc	74 J

RFI-81-39R	1.7 - 3.7 (ft)	7.7 - 9.7 (ft)
VOC		
1,1,1-Trichloroethane	ND(0.037)	ND(0.035)
1,1-Dichloroethane	ND(0.037)	ND(0.035)
1,1-Dichloroethene	ND(0.037)	ND(0.035)
cis-1,2-Dichloroethene	0.041	0.026 J
Tetrachloroethene	ND(0.037)	ND(0.035)
Trichloroethene	ND(0.037)	ND(0.035)
Trifluorotrichloroethane (Freon 113)	ND(0.16)	ND(0.15)
Vinyl chloride	ND(0.074)	ND(0.07)
SVOC		
Benzo(a)pyrene	ND(0.91)	ND(0.88 J)
bis(2-Ethylhexyl)phthalate	ND(0.91)	ND(0.88)
PCB		
Total PCBs	ND(0.037)	ND(0.036)
Inorganic		
Arsenic	6.2 J	1.7 J
Barium	57	16
Cadmium	0.16	ND(0.055)
Chromium Total	24	5.3
Cobalt	3.9 J	1.7 J
Lead	49 J	5.8 J
Manganese	540	100
Nickel	11 J	4.8 J
Vanadium	19 J	7.2 J
Zinc	33 J	16 J

RFI-81-38	1 - 3 (ft)
VOC	
1,1,1-Trichloroethane	47000 D (IDC,ISVIA,IVSICI,RDC,RSVIA,RVSICI)
1,1-Dichloroethane	7000 D (IDC,ISVIA,IVSICI,RDC,RSVIA,RVSICI)
1,1-Dichloroethene	10 EJ (ISVIA,IVSICI,RSVIA,RVSICI)
cis-1,2-Dichloroethene	0.12
Tetrachloroethene	0.1
Trichloroethene	4
Trifluorotrichloroethane (Freon 113)	64000 D (IDC,ISVIA,RDC,RSVIA)
Vinyl chloride	0.5 (RSVIA)
SVOC	
Benzo(a)pyrene	ND(5.2)
bis(2-Ethylhexyl)phthalate	ND(5.2)
PCB	
Total PCBs	ND(0.043)
Inorganic	
Arsenic	2.1 J
Barium	15 J
Cadmium	0.5
Chromium Total	3.7
Cobalt	0.34
Lead	5.8 J
Manganese	19 J
Nickel	1.4
Vanadium	2.2
Zinc	110 J

RFI-81-32	1 - 3 (ft)	3 - 5 (ft)
Inorganic		
Arsenic	NS	NS
Barium	NS	NS
Cadmium	NS	NS
Chromium Total	NS	NS
Cobalt	NS	NS
Lead	13 J	210 J
Manganese	330 J	540 J
Nickel	NS	NS
Vanadium	NS	NS
Zinc	NS	NS

RFI-81-30	1.2 - 3.2 (ft)	3.2 - 5.2 (ft)
Inorganic		
Arsenic	NS	NS
Barium	NS	NS
Cadmium	NS	NS
Chromium Total	NS	NS
Cobalt	NS	NS
Lead	92 J	140 J
Manganese	350 J	340 J
Nickel	NS	NS
Vanadium	NS	NS
Zinc	NS	NS

RFI-81-36	8 - 10 (ft)
Inorganic	
Arsenic	NS
Barium	NS
Cadmium	NS
Chromium Total	NS
Cobalt	NS
Lead	12000 (IDC,RDC)
Manganese	NS
Nickel	NS
Vanadium	NS
Zinc	NS

RFI-81-37	8 - 10 (ft)
Inorganic	
Arsenic	NS
Barium	NS
Cadmium	NS
Chromium Total	NS
Cobalt	NS
Lead	5000 (IDC,RDC)
Manganese	NS
Nickel	NS
Vanadium	NS
Zinc	NS

RFI-81-25	0.8 - 2.8 (ft)	8 - 10 (ft)
Inorganic		
Arsenic	NS	NS
Barium	NS	NS
Cadmium	NS	NS
Chromium Total	NS	NS
Cobalt	NS	NS
Lead	550 J (RDC)	110 J
Manganese	NS	NS
Nickel	NS	NS
Vanadium	NS	NS
Zinc	NS	NS

RFI-81-20	1 - 3 (ft)	3 - 5 (ft)	7 - 9 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.037)	ND(0.036)	ND(0.044)
1,1-Dichloroethane	ND(0.037)	ND(0.036)	ND(0.044)
1,1-Dichloroethene	ND(0.037)	ND(0.036)	ND(0.044)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.036)	ND(0.044)
Tetrachloroethene	ND(0.037)	ND(0.036)	ND(0.044)
Trichloroethene	ND(0.037)	ND(0.036)	ND(0.044)
Trifluorotrichloroethane (Freon 113)	ND(0.16)	ND(0.15)	ND(0.19)
Vinyl chloride	ND(0.037)	ND(0.036)	ND(0.044)
SVOC			
Benzo(a)pyrene	0.811 J	0.279 J	0.118 J
bis(2-Ethylhexyl)phthalate	0.068 J	ND(0.18)	ND(0.22)
PCB			
Total PCBs	ND(0.037)	ND(0.037)	ND(0.045)
Inorganic			
Arsenic	9.2 (RDC)	2.8	3.6
Barium	560	66	27
Cadmium	2.1	0.11	0.071
Chromium Total	160	63	19
Cobalt	43	4.7	3.1
Lead	3100 (IDC,RDC)	94	30
Manganese	750	1800 (IPSIC)	450
Nickel	73	14	12
Vanadium	43	18	12
Zinc	1500	30	28

RFI-81-05	3 - 5 (ft)	9 - 11 (ft)
VOC		
1,1,1-Trichloroethane	ND(0.037) /ND(0.035)	ND(0.04)
1,1-Dichloroethane	ND(0.037) /ND(0.035)	ND(0.04)
1,1-Dichloroethene	ND(0.037) /ND(0.035)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.037) /ND(0.035)	ND(0.04)
Tetrachloroethene	ND(0.037) /ND(0.035)	ND(0.04)
Trichloroethene	0.042 /0.038	0.18
Trifluorotrichloroethane (Freon 113)	ND(0.16) /ND(0.15)	ND(0.17)
Vinyl chloride	ND(0.037) /ND(0.035)	ND(0.04)
SVOC		
Benzo(a)pyrene	ND(0.17 J) /ND(0.17 J)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.17) /ND(0.17)	ND(0.19)
PCB		
Total PCBs	0.028 J /ND(0.036)	ND(0.039)
Inorganic		
Arsenic	2.1 /1.5	1.6
Barium	18 /22	20
Cadmium	0.068 /0.078	0.1
Chromium Total	4.2 /5.4	5.1
Cobalt	1.2 /1.2	1.1
Lead	5.4 /6.6	6.9
Manganese	49 /61	74
Nickel	3.3 /3.6	3.3
Vanadium	4.3 /4.7	4.9
Zinc	14 /14	19

RFI-81-01	2.5 - 4.5 (ft)
VOC	
1,1,1-Trichloroethane	ND(0.039)
1,1-Dichloroethane	ND(0.039)
1,1-Dichloroethene	ND(0.039)
cis-1,2-Dichloroethene	ND(0.039)
Tetrachloroethene	ND(0.039)
Trichloroethene	ND(0.039)
Trifluorotrichloroethane (Freon 113)	ND(0.17)
Vinyl chloride	ND(0.039)
SVOC	
Benzo(a)pyrene	0.115 J
bis(2-Ethylhexyl)phthalate	ND(0.19 J)
PCB	
Total PCBs	ND(0.038)
Inorganic	
Arsenic	14 (RDC)
Barium	1000
Cadmium	3.4
Chromium Total	230
Cobalt	38
Lead	5500 (IDC,RDC)
Manganese	1300
Nickel	170
Vanadium	38
Zinc	18 J

RFI-81-23	0.9 - 1.7 (ft)
VOC	
1,1,1-Trichloroethane	ND(0.04)
1,1-Dichloroethane	ND(0.04)
1,1-Dichloroethene	ND(0.04)
cis-1,2-Dichloroethene	0.99
Tetrachloroethene	ND(0.04)
Trichloroethene	ND(0.04)
Trifluorotrichloroethane (Freon 113)	ND(0.17)
Vinyl chloride	0.029 J
SVOC	
Benzo(a)pyrene	0.0573 J
bis(2-Ethylhexyl)phthalate	ND(0.19 J)
PCB	
Total PCBs	ND(0.04)
Inorganic	
Arsenic	3.7
Barium	17
Cadmium	0.15
Chromium Total	7.4
Cobalt	4
Lead	25
Manganese	180
Nickel	11
Vanadium	12
Zinc	36

RFI-81-02	4 - 6 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.04)	ND(0.042)	ND(0.04)
1,1-Dichloroethane	ND(0.04)	ND(0.042)	ND(0.04)
1,1-Dichloroethene	ND(0.04)	ND(0.042)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.042)	ND(0.04)
Tetrachloroethene	ND(0.04)	ND(0.042)	ND(0.04)
Trichloroethene	ND(0.04)	ND(0.042)	ND(0.04)
Trifluorotrichloroethane (Freon 113)	ND(0.17)	ND(0.18)	ND(0.17)
Vinyl chloride	ND(0.04)	ND(0.042)	ND(0.04)
SVOC			
Benzo(a)pyrene	0.235 J	3.89 J (RDC)	ND(0.19 J)
bis(2-Ethylhexyl)phthalate	ND(0.2 J)	ND(0.2)	ND(0.19)
PCB			
Total PCBs	ND(0.041)	ND(0.042)	ND(0.04)
Inorganic			
Arsenic	10 (RDC)	19 (RDC)	5.8
Barium	310	2000	38
Cadmium	5.2	19	0.14
Chromium Total	42	190	8.9
Cobalt	11	44	4.1
Lead	1600 (IDC,RDC)	69000 D (IDC,IPSIC,RDC)	140
Manganese	570	970	140
Nickel	120	80	10
Vanadium	18	35	13
Zinc	1100 J	5800 J	66 J

RFI-81-35	0.8 - 2.8 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.036)	ND(0.037)	ND(0.059)
1,1-Dichloroethane	ND(0.036)	ND(0.037)	ND(0.059)
1,1-Dichloroethene	ND(0.036)	ND(0.037)	ND(0.059)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.037)	ND(0.059)
Tetrachloroethene	ND(0.036 J)	0.041 J	ND(0.059 J)
Trichloroethene	ND(0.036)	ND(0.037)	ND(0.059)
Trifluorotrichloroethane (Freon 113)	ND(0.16)	ND(0.16)	ND(0.25)
Vinyl chloride	ND(0.036)	ND(0.037)	ND(0.059)
SVOC			
Benzo(a)pyrene	0.0481 J	ND(0.18)	0.16 J
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.18)	ND(0.29)
PCB			
Total PCBs	ND(0.037)	ND(0.038)	ND(0.059)
Inorganic			
Arsenic	3.6 J	7.3 J	8 J (RDC)
Barium	19	61	83
Cadmium	0.2	1.1	1.3
Chromium Total	8.3	15	18
Cobalt	2.6	5.8	4
Lead	120	1000 J (IDC,RDC)	13
Manganese	270 J	1300	220 J
Nickel	10 J	13 J	14 J
Vanadium	11	19	21
Zinc	26 J	30 J	66 J

RFI-81-09	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.047)	ND(0.039)	ND(0.039)
1,1-Dichloroethane	ND(0.047)	ND(0.039)	ND(0.039)
1,1-Dichloroethene	ND(0.047)	ND(0.039)	ND(0.039)
cis-1,2-Dichloroethene	ND(0.047)	ND(0.039)	ND(0.039)
Tetrachloroethene	ND(0.047)	0.049	0.045
Trichloroethene	ND(0.047)	ND(0.039)	ND(0.039)
Trifluorotrichloroethane (Freon 113)	ND(0.2)	ND(0.17)	ND(0.17)
Vinyl chloride	ND(0.047)	ND(0.039)	ND(0.039)
SVOC			
Benzo(a)pyrene	ND(0.23)	ND(0.18)	1.24 J
bis(2-Ethylhexyl)phthalate	ND(0.23)	ND(0.18)	ND(0.19)
PCB			
Total PCBs	ND(0.048)	ND(0.038)	ND(0.039)
Inorganic			
Arsenic	2.7	4.4	2.3
Barium	52	33	17
Cadmium	0.36 J	0.054 J	0.053 J
Chromium Total	16 J	8.7 J	7.5 J
Cobalt	3.3	3.1	2.5
Lead	13	12	5.5
Manganese	100 J	350 J	230 J
Nickel	8.9	6.6	6.6
Vanadium	14	15	11
Zinc	50	23	14 J

RFI-81-11	0 - 2 (ft)	2 - 4 (ft)	4 - 6 (ft)
VOC			
1,1,1-Trichloroethane	ND(0.039) /ND(0.042)	ND(0.037)	ND(0.04)
1,1-Dichloroethane	ND(0.039) /ND(0.042)	ND(0.037)	ND(0.04)
1,1-Dichloroethene	ND(0.039) /ND(0.042)	ND(0.037)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.039) /ND(0.042)	0.028 J	0.085
Tetrachloroethene	ND(0.039) /ND(0.042)	0.027 J	ND(0.04)
Trichloroethene	ND(0.039) /ND(0.042)	0.027 J	0.066
Trifluorotrichloroethane (Freon 113)	ND(0.17) /ND(0.18)	ND(0.16)	ND(0.17)
Vinyl chloride	ND(0.039) /ND(0.042)	ND(0.037)	0.029 J
SVOC			
Benzo(a)pyrene	ND(0.19) /ND(0.21)	4.57 EJ (RDC)	0.187 J
bis(2-Ethylhexyl)phthalate	ND(0.19) /ND(0.21)	0.0926 J	ND(0.2)
PCB			
Total PCBs	ND(0.04) /ND(0.043)	0.151	ND(0.04)
Inorganic			
Arsenic	3.3 /4.7	3.9	3.7
Barium	15 /22	18	20
Cadmium	0.12 /0.15	0.66	0.11
Chromium Total	6.6 /8.8	35	5.7
Cobalt	2.4 /3.3	2.9	2
Lead	7.6 J /10 J	72 J	21 J
Manganese	120 /160	340	73
Nickel	6.4 /8.9	16	6.1
Vanadium	12 /13	10	6.8
Zinc	25 /32	170	28

RFI-81-06	0.8 - 2.8 (ft)	2.8 - 4.8 (ft)	8.8 - 10.8 (ft)	12.8 - 14.8 (ft)
VOC				
1,1,1-Trichloroethane	ND(0.036)	ND(0.036)	ND(0.037)	ND(0.036)
1,1-Dichloroethane	ND(0.036)	ND(0.036)	ND(0.037)	ND(0.036)
1,1-Dichloroethene	ND(0.036)	ND(0.036)	ND(0.037)	ND(0.036)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.036)	ND(0.037)	ND(0.036)
Tetrachloroethene	ND(0.036)	ND(0.036)	ND(0.037)	ND(0.036)
Trichloroethene	ND(0.036)	ND(0.036)	ND(0.037)	ND(0.036)
Trifluorotrichloroethane (Freon 113)	ND(0.15)	ND(0.15)	ND(0.16)	ND(0.16)
Vinyl chloride	ND(0.036)	ND(0.036)	ND(0.037)	ND(0.036)
SVOC				
Benzo(a)pyrene	ND(0.17)	ND(0.18)	0.37 J	ND(0.18)
bis(2-Ethylhexyl)phthalate	0.106 J	0.0806 J	ND(0.18)	ND(0.18)
PCB				
Total PCBs	0.032 J	ND(0.036)	ND(0.038)	ND(0.037)
Inorganic				
Arsenic	3.5	2.1	2.1	0.58
Barium	14	13	13	3.5
Cadmium	0.13	0.098	0.24	0.014 J
Chromium Total	11	15	31	4.7
Cobalt	3.1	2.2	1.7	0.53
Lead	8.3	10	19	2.4
Manganese	240	160	270	40
Nickel	12	9.1	14	2.8
Vanadium	8	6.7	6.9	2.5
Zinc	30	22	100	6.2

RFI-81-07	0.3 - 2.3 (ft)	4.3 - 6.3 (ft)
VOC		
1,1,1-Trichloroethane	0.71	ND(0.04)
1,1-Dichloroethane	ND(0.038)	ND(0.04)
1,1-Dichloroethene	ND(0.038)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.04)
Tetrachloroethene	ND(0.038 J)	ND(0.04 J)
Trichloroethene	2.1 J	0.15 J
Trifluorotrichloroethane (Freon 113)	ND(0.16)	ND(0.17)
Vinyl chloride	ND(0.038)	ND(0.04)
SVOC		
Benzo(a)pyrene	0.638 J	0.104 J
bis(2-Ethylhexyl)phthalate	0.104 J	ND(0.19)
PCB		
Total PCBs	0.69	0.051
Inorganic		
Arsenic	4.5	5.2
Barium	83 J	47 J
Cadmium	1.1	0.25
Chromium Total	42 J	27 J
Cobalt	4.5	6.7
Lead	130	200
Manganese	690	470
Nickel	22 J	28 J
Vanadium	13	18
Zinc	150	51

RFI-81-28	0.5 - 2.5 (ft)
Inorganic	
Arsenic	NS
Barium	NS
Cadmium	NS
Chromium Total	7.2
Chromium VI (Hexavalent)	ND(0.02)
Cobalt	NS
Lead	NS
Manganese	NS
Nickel	NS
Vanadium	NS
Zinc	NS

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILD CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  - IDC – INDUSTRIAL DIRECT CONTACT
  - IPSIC – INDUSTRIAL PARTICULATE SOIL INHALATION
  - ISVIA – INDUSTRIAL SOIL VOLATILIZATION TO INDOOR AIR
  - IISVSIC – INDUSTRIAL INFINITE SOURCE VOLATILE SOIL INHALATION

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. FOR ALL METALS, SITE-SPECIFIC BACKGROUND CONCENTRATIONS ARE SUBTRACTED FROM THE MEASURED CONCENTRATIONS PRIOR TO COMPARING TO PART 201 CRITERIA.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN DRY-WEIGHT MILLIGRAMS PER KILOGRAM (mg/kg).
6. ND (0.039)-CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS-NOT ANALYZED FOR THIS CONSTITUENT.
9. J-ESTIMATED CONCENTRATION.
10. D-CONCENTRATION BASED ON A DILUTED SAMPLE.
11. E-CONCENTRATION EXCEEDED THE LINEAR RANGE OF THE ANALYTICAL EQUIPMENT; HOWEVER, THE RESULT WAS DEEMED ACCEPTABLE DURING DATA VALIDATION.
12. RDC-EXCEEDS MICHIGAN PART 201 RESIDENTIAL DIRECT CONTACT CRITERIA.
13 RSVIA-EXCEEDS MICHIGAN PART 201 RESIDENTIAL SOIL VOLATILIZATION TO INDOOR AIR CRITERIA.
14. RISVSIC-EXCEEDS MICHIGAN PART 201 RESIDENTIAL INFINITE SOURCE VOLATILE SOIL INHALATION.

0 150' 300'
GRAPHIC SCALE

JULY 2006

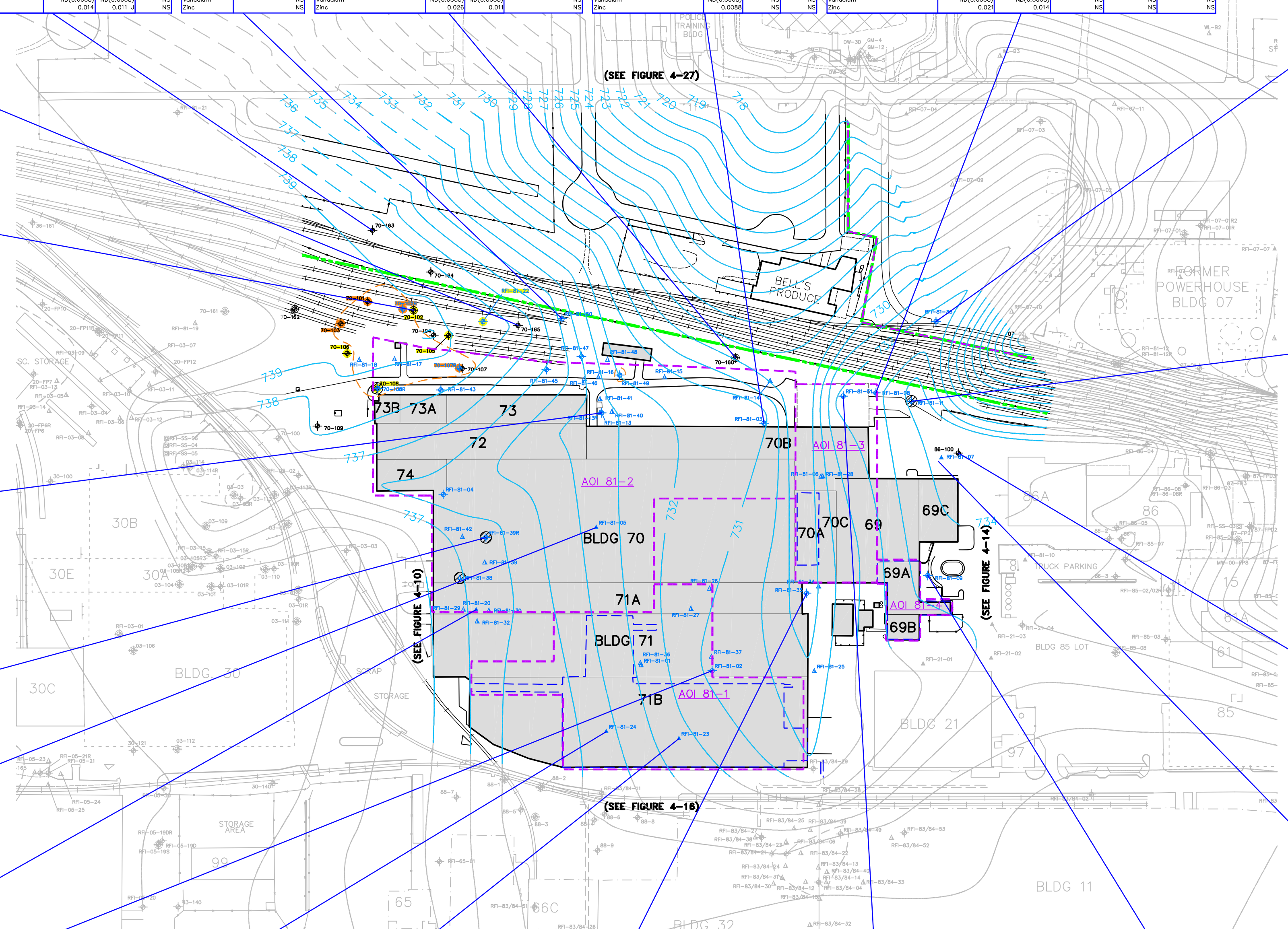
X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG, X24.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C11.DWG

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SOIL ANALYTICAL DATA - FACTORY 81 (BUILDINGS 69, 70, 71, 72, 73, AND 74) AREA

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
4-11



70-165	9/26/2001	6/22/2002	3/28/2003	10/7/2004
VOC				
1,1,1-Trichloroethane	ND(0.001)	NS	NS	ND(0.001)
1,1-Dichloroethane	ND(0.001)	NS	NS	ND(0.001)
1,1-Dichloroethene	ND(0.001)	NS	NS	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)	NS	NS	ND(0.001)
Tetrachloroethene	ND(0.001)	NS	NS	ND(0.001)
Trichloroethene	ND(0.001)	NS	NS	ND(0.001)
Trifluorotrichloroethane (Freon 113)	ND(0.001 J)	NS	NS	ND(0.03)
Vinyl chloride	ND(0.001)	NS	NS	ND(0.001)
SVOC				
Benzo(a)pyrene	ND(0.002)	NS	NS	NS
bis(2-Ethylhexyl)phthalate	0.00102 J	NS	NS	NS
PCB				
Total PCBs	ND(0.0001)	NS	NS	NS
PCB-Dissolved				
Total PCBs	ND(0.00012)	NS	NS	NS
Inorganic				
Arsenic	NS	0.0027	0.0029	NS
Barium	NS	0.02	0.043	NS
Cadmium	NS	0.000064 J	ND(0.0002)	NS
Chromium Total	NS	0.00042 J	0.00093	NS
Cobalt	NS	0.0019	0.0012	NS
Lead	NS	0.00023 J	0.027 (IDW,RDW)	0.055 (IDW,RDW)
Manganese	NS	1.2 J (RDW)	0.46	NS
Nickel	NS	0.0042	0.021	NS
Vanadium	NS	0.0003 J	0.0002 J	NS
Zinc	NS	0.029	0.017	NS
Inorganic-Dissolved				
Arsenic	0.0013 J	0.0029	NS	NS
Barium	0.037	0.017	NS	NS
Cadmium	ND(0.0002)	ND(0.0002)	NS	NS
Chromium Total	ND(0.0006)	ND(0.0006)	NS	NS
Cobalt	0.0011	0.0017	NS	NS
Lead	0.019 (IDW,RDW)	ND(0.0004)	NS	NS
Manganese	0.72 J	1.1 J (RDW)	NS	NS
Nickel	0.014	0.0035	NS	NS
Vanadium	ND(0.0008)	ND(0.0008)	NS	NS
Zinc	0.013	0.01	NS	NS

70-163	9/28/2001	6/20/2002	3/28/2003
VOC			
1,1,1-Trichloroethane	ND(0.001)	NS	NS
1,1-Dichloroethane	ND(0.001)	NS	NS
1,1-Dichloroethene	ND(0.001)	NS	NS
cis-1,2-Dichloroethene	0.0032	NS	NS
Tetrachloroethene	ND(0.001)	NS	NS
Trichloroethene	0.0021	NS	NS
Trifluorotrichloroethane (Freon 113)	ND(0.001)	NS	NS
Vinyl chloride	0.00063 J	NS	NS
SVOC			
Benzo(a)pyrene	ND(0.0021)	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.0051)	NS	NS
PCB			
Total PCBs	ND(0.00011)	NS	NS
PCB-Dissolved			
Total PCBs	ND(0.0001)	NS	NS
Inorganic			
Arsenic	0.01 J	0.0036	0.0053
Barium	0.068 J	0.026	0.038
Cadmium	0.00044 J	0.00019 J	0.00013 J
Chromium Total	0.0013	0.00054 J	0.00089
Cobalt	0.016 J	0.0076	0.014
Lead	0.00029 J	0.00037 J	0.0003 J
Manganese	3.2 J (IDW,RDW)	2.1 (RDW)	2.4 (RDW)
Nickel	0.028 J	0.011	0.039
Vanadium	ND(0.0008)	0.00027 J	0.00024 J
Zinc	0.016 J	ND(0.035 J)	0.0095
Inorganic-Dissolved			
Arsenic	ND(0.0075)	0.0019	NS
Barium	0.044	0.019	NS
Cadmium	ND(0.0002)	ND(0.0002)	NS
Chromium Total	ND(0.0006)	ND(0.0006)	NS
Cobalt	0.01	0.0059	NS
Lead	ND(0.0004)	ND(0.0004)	NS
Manganese	2.5 (RDW)	1.6 (RDW)	NS
Nickel	0.016	0.0092	NS
Vanadium	ND(0.0008)	ND(0.0008)	NS
Zinc	0.014	0.011 J	NS

RFI-81-50	4/4/2005
Inorganic	
Arsenic	NS
Barium	NS
Cadmium	NS
Chromium Total	NS
Cobalt	NS
Lead	ND(0.003) /ND(0.003)
Manganese	NS
Nickel	NS
Vanadium	NS
Zinc	NS

70-160	9/26/2001	6/17/2002	3/28/2003
VOC			
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)	NS
1,1-Dichloroethane	ND(0.001)	ND(0.001)	NS
1,1-Dichloroethene	ND(0.001)	ND(0.001)	NS
cis-1,2-Dichloroethene	ND(0.001)	ND(0.001)	NS
Tetrachloroethene	ND(0.001)	ND(0.001 J)	NS
Trichloroethene	ND(0.001)	ND(0.001)	NS
Trifluorotrichloroethane (Freon 113)	ND(0.001)	ND(0.001)	NS
Vinyl chloride	ND(0.001)	ND(0.001)	NS
SVOC			
Benzo(a)pyrene	ND(0.0022)	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.0054)	NS	NS
PCB			
Total PCBs	ND(0.00011)	NS	NS
PCB-Dissolved			
Total PCBs	ND(0.0001)	NS	NS
Inorganic			
Arsenic	NS	0.02	0.024 /0.025
Barium	NS	0.28	0.29 /0.29
Cadmium	NS	ND(0.0002)	ND(0.0002) /ND(0.0002)
Chromium Total	NS	ND(0.0006)	0.0014 /0.0014
Cobalt	NS	0.00034	0.00096 /0.00094
Lead	NS	0.000083 J	0.00042 /0.00042
Manganese	NS	0.11 J	0.14 /0.14
Nickel	NS	0.0023	0.0096 /0.0097
Vanadium	NS	ND(0.0008)	0.0012 /0.0012
Zinc	NS	0.01	0.015 /0.016
Inorganic-Dissolved			
Arsenic	0.035	0.022	NS
Barium	0.31	0.27	NS
Cadmium	ND(0.0002)	ND(0.0002)	NS
Chromium Total	ND(0.0006)	0.00072	NS
Cobalt	0.00034	0.00031	NS
Lead	ND(0.0004)	ND(0.0004)	NS
Manganese	0.11	0.11	NS
Nickel	0.0032	0.0021	NS
Vanadium	ND(0.0008)	ND(0.0008)	NS
Zinc	0.026	0.011	NS

RFI-81-03	9/28/2001	3/27/2003	2/28/2005
VOC			
1,1,1-Trichloroethane	ND(0.001)	NS	ND(0.001)
1,1-Dichloroethane	ND(0.001)	NS	ND(0.001)
1,1-Dichloroethene	ND(0.001)	NS	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)	NS	ND(0.001)
Tetrachloroethene	ND(0.001)	NS	ND(0.001)
Trichloroethene	ND(0.001)	NS	ND(0.001)
Trifluorotrichloroethane (Freon 113)	ND(0.001)	NS	ND(0.03)
Vinyl chloride	ND(0.001)	NS	ND(0.001)
SVOC			
Benzo(a)pyrene	ND(0.0022)	NS	NS
bis(2-Ethylhexyl)phthalate	0.00111 J	NS	NS
PCB			
Total PCBs	ND(0.00011)	NS	NS
PCB-Dissolved			
Total PCBs	ND(0.0001)	NS	NS
Inorganic			
Arsenic	NS	0.00091 J	NS
Barium	NS	0.086	NS
Cadmium	NS	0.000081 J	NS
Chromium Total	NS	0.0019	NS
Cobalt	NS	0.00033	NS
Lead	NS	0.00082	NS
Manganese	NS	0.045	NS
Nickel	NS	0.0076	NS
Vanadium	NS	0.00054 J	NS
Zinc	NS	0.013	NS
Inorganic-Dissolved			
Arsenic	ND(0.001)	NS	NS
Barium	0.059	NS	NS
Cadmium	ND(0.0002)	NS	NS
Chromium Total	ND(0.0006)	NS	NS
Cobalt	0.00073	NS	NS
Lead	ND(0.0004)	NS	NS
Manganese	0.52	NS	NS
Nickel	0.0045	NS	NS
Vanadium	ND(0.0008)	NS	NS
Zinc	0.0088	NS	NS

RFI-81-08	9/24/2001	6/17/2002	4/1/2003	10/7/2004	2/24/2005
VOC					
1,1,1-Trichloroethane	0.0012	0.0011	ND(0.001)	0.0004 J	ND(0.001)
1,1-Dichloroethane	0.0031	0.0011	0.0047	0.002	0.002
1,1-Dichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	0.0036	0.0014	0.05	0.025	0.024
Tetrachloroethene	ND(0.001 J)	ND(0.001 J)	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	0.011 (IDW,RDW)	0.0077 (IDW,RDW)	0.0026	0.002	0.002
Trifluorotrichloroethane (Freon 113)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.03)	ND(0.03)
Vinyl chloride	0.0067 (IDW,RDW)	0.0006 J	0.029 (IDW,RDW)	0.008 (IDW,RDW)	0.012 J (IDW,RDW)
SVOC					
Benzo(a)pyrene	ND(0.0022)	NS	NS	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.0056)	NS	NS	NS	NS
PCB					
Total PCBs	ND(0.00011)	NS	NS	NS	NS
PCB-Dissolved					
Total PCBs	ND(0.00011)	NS	NS	NS	NS
Inorganic					
Arsenic	NS	0.0011 J	0.0073	NS	NS
Barium	NS	0.13	1	NS	NS
Cadmium	NS	ND(0.0002)	ND(0.0002)	NS	NS
Chromium Total	NS	0.00054 J	0.0013	NS	NS
Cobalt	NS	0.00058	0.0033	NS	NS
Lead	NS	0.00067	0.00039 J	ND(0.003)	NS
Manganese	NS	1.4 J (RDW)	3.3 J (IDW,RDW)	1.36 (RDW)	NS
Nickel	NS	0.015	0.031	NS	NS
Vanadium	NS	ND(0.0008)	ND(0.0008)	NS	NS
Zinc	NS	0.012	0.027	NS	NS
Inorganic-Dissolved					
Arsenic	0.0078 J	0.001	NS	NS	NS
Barium	0.43 J	0.14	NS	NS	NS
Cadmium	ND(0.0002)	ND(0.0002)	NS	NS	NS
Chromium Total	0.00086	0.002	NS	NS	NS
Cobalt	0.0023	0.0006	NS	NS	NS
Lead	ND(0.0004)	ND(0.0004)	NS	NS	NS
Manganese	1.9 J (RDW)	1.6 (RDW)	NS	NS	NS
Nickel	0.016	0.015	NS	NS	NS
Vanadium	ND(0.0008)	ND(0.0008)	NS	NS	NS
Zinc	0.021	0.014	NS	NS	NS

70-102	9/27/2001
VOC	
1,1,1-Trichloroethane	ND(0.001)
1,1-Dichloroethane	ND(0.001)
1,1-Dichloroethene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Tetrachloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Trifluorotrichloroethane (Freon 113)	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.002)
bis(2-Ethylhexyl)phthalate	ND(0.0051 J)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic	
Arsenic	0.0046 J
Barium	0.085 J
Cadmium	ND(0.0002)
Chromium Total	0.001
Cobalt	0.0011 J
Lead	0.0004 J
Manganese	0.46 J
Nickel	0.018 J
Vanadium	ND(0.0008)
Zinc	0.065 J
Inorganic-Dissolved	
Arsenic	0.0028 J
Barium	0.057
Cadmium	ND(0.0002)
Chromium Total	ND(0.0006)
Cobalt	0.00091
Lead	ND(0.0004)
Manganese	0.41 J
Nickel	0.014
Vanadium	ND(0.0008)
Zinc	0.073

RFI-81-13	9/24/2001	3/27/2003
VOC		
1,1,1-Trichloroethane	0.00063 J	NS
1,1-Dichloroethane	0.0016	NS
1,1-Dichloroethene	ND(0.001)	NS
cis-1,2-Dichloroethene	ND(0.001)	NS
Tetrachloroethene	ND(0.001)	NS
Trichloroethene	0.0029	NS
Trifluorotrichloroethane (Freon 113)	ND(0.001)	NS
Vinyl chloride	ND(0.001)	NS
SVOC		
Benzo(a)pyrene	ND(0.0021)	NS
bis(2-Ethylhexyl)phthalate	ND(0.0053)	NS
PCB		
Total PCBs	ND(0.00011)	NS
PCB-Dissolved		
Total PCBs	ND(0.00011)	NS
Inorganic		
Arsenic	NS	0.001 J
Barium	NS	0.5
Cadmium	NS	ND(0.0002)
Chromium Total	NS	0.00086
Cobalt	NS	0.00018 J
Lead	NS	0.00045
Manganese	NS	0.18
Nickel	NS	0.0057
Vanadium	NS	ND(0.0008)
Zinc	NS	0.016
Inorganic-Dissolved		
Arsenic	0.0023 J	NS
Barium	0.5 J	NS
Cadmium	ND(0.0002)	NS
Chromium Total	ND(0.0006)	NS
Cobalt	0.00028	NS
Lead	ND(0.0004)	NS
Manganese	0.16 J	NS
Nickel	0.0044	NS
Vanadium	ND(0.0008)	NS
Zinc	0.014	NS

RFI-81-39R	9/17/2003	10/11/2004
VOC		
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.00069 J	0.0007 J
1,1-Dichloroethene	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)	ND(0.001)
Tetrachloroethene	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)
Trifluorotrichloroethane (Freon 113)	ND(0.001)	ND(0.03)
Vinyl chloride	ND(0.001)	ND(0.001)

RFI-81-05	9/19/2001
VOC	
1,1,1-Trichloroethane	ND(0.001)
1,1-Dichloroethane	ND(0.001)
1,1-Dichloroethene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Tetrachloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Trifluorotrichloroethane (Freon 113)	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.0021)
bis(2-Ethylhexyl)phthalate	ND(0.0051)
PCB	
Total PCBs	ND(0.00011)
PCB-Dissolved	
Total PCBs	ND(0.00012)

RFI-81-20	9/19/2001
VOC	
1,1,1-Trichloroethane	ND(0.001)
1,1-Dichloroethane	ND(0.001)
1,1-Dichloroethene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Tetrachloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Trifluorotrichloroethane (Freon 113)	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)pyrene	ND(0.0022)
bis(2-Ethylhexyl)phthalate	ND(0.0056)
PCB	
Total PCBs	ND(0.00011)
PCB-Dissolved	
Total PCBs	ND(0.00011)

RFI-81-02	10/13/2001	6/20/2002	4/2/2003
VOC			
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.00054 J	ND(0.001)	ND(0.001)
1,1-Dichloroethene	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	0.0029 J	0.0011	ND(0.001)
Tetrachloroethene	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	0.0019	ND(0.001)	ND(0.001)
Trifluorotrichloroethane (Freon 113)	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	0.012 (IDW,RDW)	0.0072 (IDW,RDW)	0.01 (IDW,RDW)
SVOC			
Benzo(a)pyrene	ND(0.0021)	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.0053)	NS	NS
PCB			
Total PCBs	ND(0.0001)	NS	NS
PCB-Dissolved			
Total PCBs	ND(0.0001)	NS	NS
Inorganic			
Arsenic	NS	0.08 (IDW,RDW)	0.091 (IDW,RDW)
Barium	NS	1	0.66
Cadmium	NS	ND(0.0002)	ND(0.0002)
Chromium Total	NS	0.0015	0.0023
Cobalt	NS	0.0038	0.0031
Lead	NS	0.0014	0.01 (IDW,RDW)
Manganese	NS	0.066	0.1 J
Nickel	NS	0.017	0.024
Vanadium	NS	ND(0.0008)	0.00075 J
Zinc	NS	ND(0.029 J)	0.026
Inorganic-Dissolved			
Arsenic	0.083 (IDW,RDW)	0.073 (IDW,RDW)	NS
Barium	0.54	0.87	NS
Cadmium	ND(0.0002)	ND(0.0002)	NS
Chromium Total	0.0015	0.0055	NS
Cobalt	0.0019	0.0032	NS
Lead	0.00058	0.00043	NS
Manganese	0.058	0.058	NS
Nickel	0.008	0.015	NS
Vanadium	ND(0.0008)	ND(0.0008)	NS
Zinc	0.026	0.02 J	NS

RFI-81-24	9/7/2001
VOC	
1,1,1-Trichloroethane	ND(0.001)
1,1-Dichloroethane	ND(0.001)
1,1-Dichloroethene	ND(0.001)
cis-1,2-Dichloroethene	0.0028
Tetrachloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Trifluorotrichloroethane (Freon 113)	ND(0.001)
Vinyl chloride	0.0015
SVOC	
Benzo(a)pyrene	ND(0.002)
bis(2-Ethylhexyl)phthalate	ND(0.005)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Arsenic	0.02
Barium	0.18
Cadmium	0.00025
Chromium Total	0.0013
Cobalt	0.00033
Lead	ND(0.0004)
Manganese	0.029
Nickel	0.0037
Vanadium	0.012 (RDW)
Zinc	0.01 J

RFI-81-23	9/7/2001
VOC	
1,1,1-Trichloroethane	ND(0.001)
1,1-Dichloroethane	ND(0.001)
1,1-Dichloroethene	ND(0.001)
cis-1,2-Dichloroethene	0.00086 J
Tetrachloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Trifluorotrichloroethane (Freon 113)	ND(0.001)
Vinyl chloride	0.0017
SVOC	
Benzo(a)pyrene	ND(0.002 J)
bis(2-Ethylhexyl)phthalate	ND(0.005)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Arsenic	0.039
Barium	0.48
Cadmium	ND(0.0002)
Chromium Total	0.00097
Cobalt	0.0012
Lead	ND(0.0004)
Manganese	0.14
Nickel	0.005
Vanadium	0.0082 (RDW)
Zinc	0.024 J

RFI-81-35	2/19/2002	6/18/2002	4/1/2003
VOC			
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)	NS
1,1-Dichloroethane	ND(0.001)	ND(0.001)	NS
1,1-Dichloroethene	ND(0.001)	ND(0.001)	NS
cis-1,2-Dichloroethene	ND(0.001)	ND(0.001)	NS
Tetrachloroethene	ND(0.001)	ND(0.001)	NS
Trichloroethene	ND(0.001)	ND(0.001)	NS
Trifluorotrichloroethane (Freon 113)	ND(0.001)	ND(0.001)	NS
Vinyl chloride	ND(0.001)	ND(0.001)	NS
Inorganic			
Arsenic	NS	0.0096	0.0033
Barium	NS	0.063	0.1
Cadmium	NS	0.00013 J	ND(0.0002)
Chromium Total	NS	0.0037	0.0014
Cobalt	NS	0.00078	0.00031
Lead	NS	0.0061 (IDW,RDW)	0.0005
Manganese	NS	0.21	0.24 J
Nickel	NS	0.0045	0.006
Vanadium	NS	0.012 (RDW)	0.0028
Zinc	NS	0.02 J	0.0085

RFI-81-51	4/4/2005
VOC	
1,1,1-Trichloroethane	ND(0.001) /ND(0.001)
1,1-Dichloroethane	0.004 /0.004
1,1-Dichloroethene	0.0006 J /0.0005 J
cis-1,2-Dichloroethene	0.162 (IDW,RDW) /0.159 (IDW,RDW)
Tetrachloroethene	ND(0.001) /ND(0.001)
Trichloroethene	0.0008 J /0.0008 J
Trifluorotrichloroethane (Freon 113)	ND(0.03) /ND(0.03)
Vinyl chloride	0.064 (IDW,RDW) /0.065 (IDW,RDW)

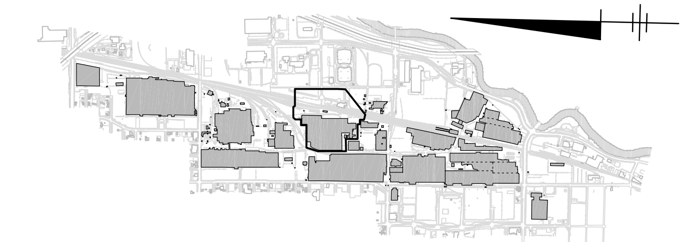
RFI-81-09	9/24/2001	2/22/2002	6/18/2002	4/1/2003
VOC				
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethane	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Tetrachloroethene	0.0059 (IDW,RDW)	0.011 J (IDW,RDW)	0.01 J (IDW,RDW)	0.0028
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Trifluorotrichloroethane (Freon 113)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
SVOC				
Benzo(a)pyrene	ND(0.0021)	NS	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.0053)	NS	NS	NS
PCB				
Total PCBs	ND(0.00012)	NS	NS	NS
PCB-Dissolved				
Total PCBs	ND(0.00011)	NS	NS	NS
Inorganic-Dissolved				
Arsenic	0.0026 J	NS	NS	NS
Barium	0.24 J	NS	NS	NS
Cadmium	0.00021 J	NS	NS	NS
Chromium Total	ND(0.0006)	NS	NS	NS
Cobalt	0.002	NS	NS	NS
Lead	ND(0.0004)	NS	NS	NS
Manganese	0.7 J	NS	NS	NS
Nickel	0.006	NS	NS	NS
Vanadium	ND(0.0008)	NS	NS	NS
Zinc	0.0081	NS	NS	NS

RFI-81-07	7/27/2001
VOC	
1,1,1-Trichloroethane	ND(0.001)
1,1-Dichloroethane	ND(0.001)
1,1-Dichloroethene	ND(0.001)
cis-1,2-Dichloroethene	0.0019 J
Tetrachloroethene	ND(0.001 J)
Trichloroethene	ND(0.001)
Trifluorotrichloroethane (Freon 113)	ND(0.001)
Vinyl chloride	0.0017 J
SVOC	
Benzo(a)pyrene	ND(0.002)
bis(2-Ethylhexyl)phthalate	0.00637 (IDW,RDW)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Arsenic	0.0035 J
Barium	0.83
Cadmium	0.0013
Chromium Total	ND(0.0018)
Cobalt	0.0042
Lead	0.0067 (IDW,RDW)
Manganese	2.6 (IDW,RDW)
Nickel	0.091
Vanadium	0.016 (RDW)
Zinc	0.034

RFI-81-33	2/19/2002	6/20/2002	4/3/2003	10/6/2004
VOC				
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethane	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Tetrachloroethene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Trifluorotrichloroethane (Freon 113)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.03)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Inorganic				
Arsenic	NS	0.0056	0.0049	NS
Barium	NS	0.12	0.11	0.121
Cadmium	NS	ND(0.0002)	0.000072 J	ND(0.0005)
Chromium Total	NS	0.00046 J	0.00026 J	NS
Cobalt	NS	0.0013	0.0014	NS
Lead	NS	0.00025 J	0.00015 J	ND(0.003)
Manganese	NS	0.88 (RDW)	0.79 J	NS
Nickel	NS	0.0044	0.005	ND(0.005)
Vanadium	NS	ND(0.0008)	0.000098 J	NS
Zinc	NS	ND(0.015 J)	0.033	ND(0.005)
Inorganic-Dissolved				
Arsenic	NS	0.0048	NS	NS
Barium	NS	0.1	NS	NS
Cadmium	NS	ND(0.0002)	NS	NS
Chromium Total	NS	0.0033	NS	NS
Cobalt	NS	0.0012	NS	NS
Lead	NS	ND(0.0004)	NS	NS
Manganese	NS	0.77	NS	NS
Nickel	NS	0.0032	NS	NS
Vanadium	NS	0.00093	NS	NS
Zinc	NS	0.0083 J	NS	NS

RFI-81-11	9/24/2001	6/19/2002	4/1/2003
VOC			
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethane	0.0043	0.0036	0.0013
1,1-Dichloroethene	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	0.00055 J	ND(0.001)	ND(0.001)
Tetrachloroethene	ND(0.001 J)	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)
Trifluorotrichloroethane (Freon 113)	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	0.0016	0.0012	ND(0.001)
SVOC			
Benzo(a)pyrene	ND(0.0022)	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.0055)	NS	NS
PCB			
Total PCBs	ND(0.00011)	NS	NS
PCB-Dissolved			
Total PCBs	ND(0.00011)	NS	NS
Inorganic			
Arsenic	NS	0.011	0.0064
Barium	NS	0.22	1
Cadmium	NS	ND(0.0002)	ND(0.0002)
Chromium Total	NS	0.00097	0.0019
Cobalt	NS	0.00026	0.0012
Lead	NS	0.047 (IDW,RDW)	0.021 (IDW,RDW)
Manganese	NS	0.45	2 J (RDW)
Nickel	NS	0.0031	0.025
Vanadium	NS	0.0005 J	ND(0.0008)
Zinc	NS	0.015 J	0.025
Inorganic-Dissolved			
Arsenic	0.013 J	0.0097	NS
Barium	0.37 J	0.19	NS
Cadmium	ND(0.0002)	ND(0.0002)	NS
Chromium Total	ND(0.0006)	0.003	NS
Cobalt	0.00029	0.00022	NS
Lead	ND(0.0004)	ND(0.0004)	NS
Manganese	0.46 J	0.37 J	NS
Nickel	0.0043	0.0034	NS
Vanadium	ND(0.0008)	0.00085	NS
Zinc	0.012	0.013	NS

86-100	9/24/2001	6/18/2002	4/1/2003	10/7/2004
VOC				
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethane	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
1,1-Dichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	0.0052	0.047	0.0027	0.008
Tetrachloroethene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	0.0038	0.032 (IDW,RDW)	0.0018	0.007 (IDW,RDW)
Trifluorotrichloroethane (Freon 113)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.03)
Vinyl chloride	0.0034 (IDW,RDW)	0.047 J (IDW,RDW)	ND(0.001)	0.009 (IDW,RDW)
SVOC				
Benzo(a)pyrene	ND(0.0022)	NS	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.0056)	NS	NS	NS
PCB				
Total PCBs	ND(0.00011)	NS	NS	NS
PCB-Dissolved				
Total PCBs	ND(0.0001)	NS	NS	NS
Inorganic				
Arsenic	NS	0.0029	0.003 J	NS
Barium	NS	1.2	0.66	1.44
Cadmium	NS	0.00035	0.0098 (IDW,RDW)	0.0008
Chromium Total	NS	0.0006 J	0.0034	NS
Cobalt	NS	0.0019	0.072 (RDW)	NS
Lead	NS	0.0034	0.033 (IDW,RDW)	0.006 (IDW,RDW)
Manganese	NS	1.2 (RDW)	1.7 J (RDW)	NS
Nickel	NS	0.0098	0.24 (IDW,RDW)	0.006
Vanadium	NS	ND(0.0008)	ND(0.0008)	NS
Zinc	NS	0.068 J	6 (IDW,RDW)	0.042
Inorganic-Dissolved				
Arsenic	0.0058	NS	NS	NS
Barium	2.5 (IDW,RDW)	NS	NS	NS
Cadmium	0.00084	NS	NS	NS
Chromium Total	ND(0.0006)	NS	NS	NS
Cobalt	0.0049	NS	NS	NS
Lead	0.0013	NS	NS	NS
Manganese	1.1 (RDW)	NS	NS	NS
Nickel	0.014	NS	NS	NS
Vanadium	ND(0.0008)	NS	NS	NS
Zinc	0.14	NS	NS	NS



SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 736 — WATER TABLE ELEVATION CONTOUR (FT AMSL)
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  IDW – INDUSTRIAL DRINKING WATER

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED IN DECEMBER 2004.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. J–ESTIMATED CONCENTRATION.
10. RDW–EXCEEDS MICHIGAN PART 201 RESIDENTIAL DRINKING WATER CRITERIA.
11. GSI CRITERIA COMPARED TO SAMPLES LOCATED WITHIN 500 FEET OF THE FLINT RIVER.

0 150' 300'
GRAPHIC SCALE

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ANALYTICAL DATA - FACTORY 81 (BUILDINGS 69, 70, 71, 72, 73, AND 74) AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 4-12

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG, X24.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C12.DWG

RFI-07-10	0 - 2 (ft)	6 - 8 (ft)
VOC		
1,1-Dichloroethene	ND(0.04)	ND(0.038)
1,2-Dichloroethane	ND(0.04)	ND(0.038)
Benzene	ND(0.04)	ND(0.038)
Chloroethane	ND(0.17)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.038)
Methylene chloride	0.036 J	0.035 J
Tetrachloroethene	ND(0.04)	ND(0.038)
Trichloroethene	ND(0.04)	ND(0.038)
Vinyl chloride	ND(0.079)	ND(0.077)
SVOC		
2-Methylnaphthalene	ND(0.2)	ND(0.19)
Benzo(a)pyrene	ND(0.2)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.2)	ND(0.19)
Pentachlorophenol	ND(0.77)	ND(0.75)
Inorganic		
Arsenic	4.9	18 (RDC)
Beryllium	0.33	0.23
Lead	11 J	6.5 J
Manganese	190 J	290 J
Selenium	0.33	0.15
Vanadium	27	18

RFI-07-09	0 - 2 (ft)
VOC	
1,1-Dichloroethene	ND(0.041)
1,2-Dichloroethane	ND(0.041)
Benzene	ND(0.041)
Chloroethane	ND(0.17)
cis-1,2-Dichloroethene	ND(0.041)
Methylene chloride	ND(0.17)
Tetrachloroethene	ND(0.041)
Trichloroethene	ND(0.041)
Vinyl chloride	ND(0.041)
SVOC	
2-Methylnaphthalene	0.173 J
Benzo(a)pyrene	0.0472 J
bis(2-Ethylhexyl)phthalate	ND(0.2)
Pentachlorophenol	ND(0.78)
Inorganic	
Arsenic	4.6
Beryllium	0.51
Lead	81 J
Manganese	900 J
Selenium	0.24 J
Vanadium	21

RFI-07-04	0 - 2 (ft)	4 - 6 (ft)
VOC		
1,1-Dichloroethene	ND(0.051)	ND(0.043)
1,2-Dichloroethane	ND(0.051)	ND(0.043)
Benzene	0.2	ND(0.043)
Chloroethane	ND(0.22)	ND(0.18)
cis-1,2-Dichloroethene	ND(0.051)	ND(0.043)
Methylene chloride	ND(0.22)	ND(0.18)
Tetrachloroethene	ND(0.051)	ND(0.043)
Trichloroethene	ND(0.051)	ND(0.043)
Vinyl chloride	ND(0.051)	ND(0.043)
SVOC		
2-Methylnaphthalene	0.608	ND(0.21)
Benzo(a)pyrene	0.125 J	ND(0.21)
bis(2-Ethylhexyl)phthalate	ND(0.25)	ND(0.21)
Pentachlorophenol	ND(0.97)	ND(0.84)
Inorganic		
Arsenic	16 (RDC)	12 (RDC)
Beryllium	1.1	0.61
Lead	200 J	12 J
Manganese	390 J	510 J
Selenium	1.5	ND(0.11)
Vanadium	40	35

RFI-07-02	0.8 - 2.8 (ft)	2.8 - 4.8 (ft)
VOC		
1,1-Dichloroethene	ND(0.038)	ND(0.041)
1,2-Dichloroethane	ND(0.038)	ND(0.041)
Benzene	ND(0.038)	ND(0.041)
Chloroethane	ND(0.16)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.041)
Methylene chloride	ND(0.16)	ND(0.17)
Tetrachloroethene	ND(0.038)	ND(0.041)
Trichloroethene	ND(0.038)	ND(0.041)
Vinyl chloride	ND(0.038)	ND(0.041)
SVOC		
2-Methylnaphthalene	ND(0.18)	ND(0.2)
Benzo(a)pyrene	0.0343 J	ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.2)
Pentachlorophenol	ND(0.72)	ND(0.78)
Inorganic		
Arsenic	5.2	2.9
Beryllium	0.2	0.41
Lead	9.7	7.6
Manganese	300 J	180 J
Selenium	0.53 J	0.49 J
Vanadium	16	18

RFI-07-03	0 - 2 (ft)
VOC	
1,1-Dichloroethene	ND(0.039)
1,2-Dichloroethane	ND(0.039)
Benzene	ND(0.039)
Chloroethane	ND(0.17)
cis-1,2-Dichloroethene	ND(0.039)
Methylene chloride	ND(0.17)
Tetrachloroethene	ND(0.039)
Trichloroethene	ND(0.039)
Vinyl chloride	ND(0.039)
SVOC	
2-Methylnaphthalene	ND(0.19)
Benzo(a)pyrene	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.19)
Pentachlorophenol	ND(0.76)
Inorganic	
Arsenic	3.5
Beryllium	0.31
Lead	30 J
Manganese	160 J
Selenium	0.33 J
Vanadium	16

RFI-07-11	0 - 2 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC			
1,1-Dichloroethene	ND(0.039)	ND(0.04)	ND(0.037)
1,2-Dichloroethane	ND(0.039)	ND(0.04)	ND(0.037)
Benzene	ND(0.039)	ND(0.04)	ND(0.037)
Chloroethane	ND(0.17)	ND(0.17)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.04)	ND(0.037)
Methylene chloride	0.049 J	ND(0.17)	ND(0.16)
Tetrachloroethene	ND(0.039 J)	ND(0.04)	ND(0.037)
Trichloroethene	ND(0.039)	ND(0.04)	ND(0.037)
Vinyl chloride	ND(0.078)	ND(0.08)	ND(0.074)
SVOC			
2-Methylnaphthalene	ND(0.19)	ND(0.2)	ND(0.18)
Benzo(a)pyrene	ND(0.19)	ND(0.2)	ND(0.18)
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(0.2)	ND(0.18)
Pentachlorophenol	ND(0.76)	ND(0.77)	ND(0.72)
Inorganic			
Arsenic	6.1	5.1	6.1
Beryllium	0.35	0.48	0.39
Lead	42 J	6.8	6.8
Manganese	860 J	200 J	220 J
Selenium	0.34	ND(0.25)	ND(0.19)
Vanadium	21	27	26

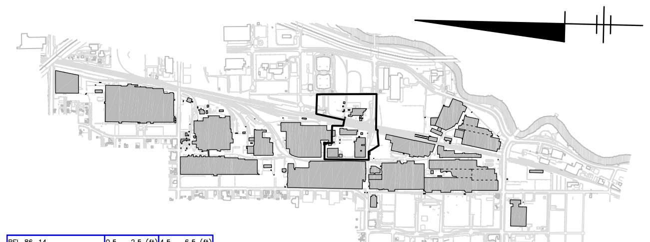
RFI-07-06	0.5 - 2.5 (ft)	6.5 - 8.5 (ft)
VOC		
1,1-Dichloroethene	ND(0.036)	ND(0.04)
1,2-Dichloroethane	ND(0.036)	ND(0.04)
Benzene	ND(0.036)	ND(0.04)
Chloroethane	ND(0.15)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.04)
Methylene chloride	ND(0.15)	ND(0.17)
Tetrachloroethene	0.23	0.23
Trichloroethene	ND(0.036)	ND(0.04)
Vinyl chloride	ND(0.036)	ND(0.04)
SVOC		
2-Methylnaphthalene	ND(0.18)	ND(0.2)
Benzo(a)pyrene	ND(0.18)	ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.2)
Pentachlorophenol	ND(0.69)	ND(0.77)
Inorganic		
Arsenic	3.4	3.1
Beryllium	0.14	0.14
Lead	12 J	4.1 J
Manganese	160 J	100 J
Selenium	ND(0.19)	ND(0.31)
Vanadium	8.8	9.8

RFI-07-01	0.3 - 2.3 (ft)	2.3 - 4.3 (ft)
VOC		
1,1-Dichloroethene	ND(0.041)	ND(0.04)
1,2-Dichloroethane	ND(0.041)	ND(0.04)
Benzene	ND(0.041)	ND(0.04)
Chloroethane	ND(0.18)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.041)	ND(0.04)
Methylene chloride	ND(0.18)	0.035 J
Tetrachloroethene	ND(0.041)	ND(0.04)
Trichloroethene	ND(0.041)	ND(0.04)
Vinyl chloride	ND(0.041)	ND(0.04)
SVOC		
2-Methylnaphthalene	ND(0.2)	ND(0.2)
Benzo(a)pyrene	ND(0.2)	0.097 J
bis(2-Ethylhexyl)phthalate	0.074 J	ND(0.2)
Pentachlorophenol	ND(0.8)	ND(0.78)
Inorganic		
Arsenic	4.8	6.1
Beryllium	0.29	0.35
Lead	8.1	32
Manganese	380 J	410 J
Selenium	ND(0.7)	ND(0.73)
Vanadium	13	20

RFI-07-01R	4 - 6 (ft)
VOC	
1,1-Dichloroethene	ND(0.041)
1,2-Dichloroethane	ND(0.041)
Benzene	ND(0.041)
Chloroethane	ND(0.18)
cis-1,2-Dichloroethene	ND(0.041)
Methylene chloride	0.1 J
Tetrachloroethene	ND(0.041)
Trichloroethene	ND(0.041)
Vinyl chloride	ND(0.082)
SVOC	
2-Methylnaphthalene	0.246
Benzo(a)pyrene	4.04 J (RDC)
bis(2-Ethylhexyl)phthalate	0.965 J
Pentachlorophenol	ND(0.79)
Inorganic	
Arsenic	8.4 (RDC)
Beryllium	0.59 J
Lead	12 J
Manganese	290
Selenium	ND(0.063)
Vanadium	48

RFI-07-08	0 - 2 (ft)	8 - 10 (ft)	10 - 12 (ft)
VOC			
1,1-Dichloroethene	ND(0.036)	ND(0.037)	ND(0.037)
1,2-Dichloroethane	ND(0.036)	ND(0.037)	ND(0.037)
Benzene	ND(0.036)	ND(0.037)	ND(0.037)
Chloroethane	ND(0.16)	ND(0.16)	ND(0.16 J)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.037)	ND(0.037)
Methylene chloride	ND(0.16)	ND(0.16)	ND(0.16)
Tetrachloroethene	ND(0.036)	ND(0.037)	ND(0.037 J)
Trichloroethene	ND(0.036)	ND(0.037)	ND(0.037)
Vinyl chloride	ND(0.036)	ND(0.037)	ND(0.037)
SVOC			
2-Methylnaphthalene	ND(0.18)	ND(0.18)	ND(0.18)
Benzo(a)pyrene	0.0475 J	ND(0.18)	ND(0.18)
bis(2-Ethylhexyl)phthalate	0.0579 J	ND(0.18)	ND(0.18)
Pentachlorophenol	ND(0.69)	ND(0.7)	ND(0.7)
Inorganic			
Arsenic	6.5	6.7	4.8
Beryllium	0.35	0.061 J	0.08
Lead	36	2.8	2.9
Manganese	730	75	130
Selenium	0.5 J	0.059 J	ND(0.074)
Vanadium	23	7	6.9

RFI-07-07	0.5 - 2.5 (ft)	8.5 - 10.5 (ft)	14.5 - 16.5 (ft)
VOC			
1,1-Dichloroethene	ND(0.038)	ND(0.038)	ND(0.046)
1,2-Dichloroethane	ND(0.038)	ND(0.038)	ND(0.046)
Benzene	ND(0.038)	ND(0.038)	ND(0.046)
Chloroethane	ND(0.16)	ND(0.16)	ND(0.2)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.038)	ND(0.046)
Methylene chloride	ND(0.16)	ND(0.16)	ND(0.2)
Tetrachloroethene	ND(0.038)	ND(0.038)	ND(0.046)
Trichloroethene	ND(0.038)	ND(0.038)	ND(0.046)
Vinyl chloride	ND(0.038)	ND(0.038)	ND(0.046)
SVOC			
2-Methylnaphthalene	ND(0.19)	ND(0.18)	ND(0.22)
Benzo(a)pyrene	ND(0.19)	ND(0.18)	ND(0.22 J)
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(0.18)	ND(0.22 J)
Pentachlorophenol	ND(0.73)	ND(0.71)	ND(0.86 J)
Inorganic			
Arsenic	4.1	28 (RDC)	4.4
Beryllium	0.19	0.11	0.14
Lead	5.1 J	3.3	4 J
Manganese	220 J	170	110 J
Selenium	ND(0.25)	ND(0.098)	ND(0.26)
Vanadium	14	7.2	8.8



RFI-86-03	2 - 4 (ft)	4 - 6 (ft)
VOC		
1,1-Dichloroethene	ND(0.043)	ND(0.042)
1,2-Dichloroethane	ND(0.043)	ND(0.042)
Benzene	ND(0.043)	ND(0.042)
Chloroethane	ND(0.18)	ND(0.18)
cis-1,2-Dichloroethene	ND(0.043)	ND(0.042)
Methylene chloride	ND(0.18)	ND(0.18)
Tetrachloroethene	0.06	0.055
Trichloroethene	0.2	0.15
Vinyl chloride	ND(0.043)	ND(0.042)
SVOC		
2-Methylnaphthalene	ND(0.21)	ND(0.2)
Benzo(a)pyrene	ND(0.21)	ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.21)	ND(0.2)
Pentachlorophenol	ND(0.82)	ND(0.8)
Inorganic		
Arsenic	9.8 (RDC)	34 (RDC)
Beryllium	0.98	0.14
Lead	14 J	4.7 J
Manganese	400	130
Selenium	0.19 J	0.28 J
Vanadium	48	13

RFI-86-04	1 - 3 (ft)	3 - 5 (ft)
VOC		
1,1-Dichloroethene	ND(0.04)	ND(0.04)
1,2-Dichloroethane	ND(0.04 J)	ND(0.04)
Benzene	ND(0.04)	ND(0.04)
Chloroethane	ND(0.17)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.04)
Methylene chloride	ND(0.17 J)	ND(0.17 J)
Tetrachloroethene	ND(0.04)	ND(0.04)
Trichloroethene	ND(0.04)	ND(0.04)
Vinyl chloride	ND(0.04)	ND(0.04)
SVOC		
2-Methylnaphthalene	ND(0.19)	ND(0.19)
Benzo(a)pyrene	0.177 J	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.19 J)	ND(0.19)
Pentachlorophenol	ND(0.75)	ND(0.76)
Inorganic		
Arsenic	4.5	4.5
Beryllium	0.29	0.15
Lead	630 J (RDC)	460 J (RDC)
Manganese	270 J	280 J
Selenium	ND(0.63 J)	ND(0.33 J)
Vanadium	15	9.3

RFI-86-08	0.6 - 2.6 (ft)	8.6 - 10.6 (ft)	10.6 - 12.6 (ft)
VOC			
1,1-Dichloroethene	ND(0.038)	ND(0.045)	ND(0.044)
1,2-Dichloroethane	ND(0.038)	ND(0.045)	ND(0.044)
Benzene	0.08	ND(0.045)	ND(0.044)
Chloroethane	ND(0.16)	ND(0.19)	0.18 J
cis-1,2-Dichloroethene	ND(0.038)	0.097	ND(0.044)
Methylene chloride	ND(0.16)	ND(0.19)	ND(0.19)
Tetrachloroethene	0.11 J	ND(0.045)	ND(0.044)
Trichloroethene	5.5 D	3.3	ND(0.044)
Vinyl chloride	ND(0.038)	ND(0.045)	ND(0.044)
SVOC			
2-Methylnaphthalene	0.131 J	ND(0.22)	ND(0.21)
Benzo(a)pyrene	1.7	ND(0.22)	ND(0.21)
bis(2-Ethylhexyl)phthalate	0.151 J	ND(0.22)	ND(0.21)
Pentachlorophenol	ND(0.74)	ND(0.85)	ND(0.83)
Inorganic			
Arsenic	8.4 (RDC)	12 (RDC)	9.5 (RDC)
Beryllium	0.87	1.3	0.86
Lead	170 J	99 J	14 J
Manganese	370 J	820 J	410 J
Selenium	0.65	ND(0.47)	0.66
Vanadium	18	23	38

RFI-86-05	1 - 3 (ft)	3 - 5 (ft)	5 - 7 (ft)
VOC			
1,1-Dichloroethene	ND(0.038)	ND(0.038)	ND(0.041)
1,2-Dichloroethane	ND(0.038)	ND(0.038)	ND(0.041)
Benzene	ND(0.038)	ND(0.038)	ND(0.041)
Chloroethane	ND(0.16)	ND(0.16)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.038)	ND(0.041)
Methylene chloride	ND(0.16)	0.14 J	0.15 J
Tetrachloroethene	0.077	0.18	0.054
Trichloroethene	0.16	0.081	ND(0.041)
Vinyl chloride	ND(0.038)	ND(0.038)	ND(0.041)
SVOC			
2-Methylnaphthalene	ND(0.19)	ND(0.18)	ND(0.19)
Benzo(a)pyrene	ND(0.19)	ND(0.18)	ND(0.19)
bis(2-Ethylhexyl)phthalate	0.331 J	0.474 J	0.217 J
Pentachlorophenol	ND(0.75)	ND(0.71)	ND(0.77)
Inorganic			
Arsenic	5.8	3.1	4
Beryllium	0.6	0.25	0.36
Lead	27 J	7.6 J	10 J
Manganese	1000	490	310
Selenium	0.66	0.23 J	0.26 J
Vanadium	16	11	15

RFI-85-07	0.5 - 2.5 (ft)	8 - 10 (ft)	11 - 13 (ft)
VOC			
1,1-Dichloroethene	ND(0.039)	ND(0.043)	ND(0.042)
1,2-Dichloroethane	ND(0.039)	ND(0.043)	ND(0.042)
Benzene	0.042	ND(0.043)	ND(0.042)
Chloroethane	ND(0.17 J)	ND(0.19 J)	ND(0.18)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.043)	ND(0.042)
Methylene chloride	ND(0.17)	ND(0.19)	ND(0.18)
Tetrachloroethene	ND(0.039 J)	ND(0.043 J)	ND(0.042)
Trichloroethene	ND(0.039)	ND(0.043)	ND(0.042)
Vinyl chloride	ND(0.039)	ND(0.043)	ND(0.042)
SVOC			
2-Methylnaphthalene	0.124 J	ND(0.21)	0.823
Benzo(a)pyrene	0.15 J	ND(0.21)	ND(0.21)
bis(2-Ethylhexyl)phthalate	ND(0.19 J)	ND(0.21)	ND(0.21)
Pentachlorophenol	ND(0.75)	ND(0.82)	ND(0.82)
Inorganic			
Arsenic	8.7 (RDC)	5.2	7.2
Beryllium	1	0.43	0.55
Lead	66	10	12
Manganese	140	340	490
Selenium	0.21	0.25 J	ND(0.081)
Vanadium	17	20	31

RFI-81-10	0.3 - 2.3 (ft)	8.3 - 10.3 (ft)	10.3 - 12.3 (ft)
VOC			
1,1-Dichloroethene	ND(0.038)	ND(0.039)	ND(0.04)
1,2-Dichloroethane	ND(0.038)	ND(0.039)	ND(0.04)
Benzene	ND(0.038)	ND(0.039)	ND(0.04)
Chloroethane	ND(0.16)	ND(0.17)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.039)	ND(0.04)
Methylene chloride	0.032 J	0.14 J	0.033 J
Tetrachloroethene	ND(0.038)	0.13	0.05
Trichloroethene	ND(0.038)	0.056	ND(0.04)
Vinyl chloride	ND(0.038)	ND(0.039)	ND(0.04)
SVOC			
2-Methylnaphthalene	ND(0.18)	ND(0.19)	ND(0.19)
Benzo(a)pyrene	0.621 J	ND(0.19)	0.0432 J
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.19)	ND(0.19)
Pentachlorophenol	ND(0.71)	ND(0.74)	ND(0.75)
Inorganic			
Arsenic	4.7	3.4	3.4
Beryllium	0.41	0.15	0.17
Lead	38 J	360 J	220 J
Manganese	940	140	120
Selenium	0.39 J	0.083 J	0.068 J
Vanadium	14	8.2	9.5

RFI-21-03	1 - 3 (ft)	9 - 11 (ft)
VOC		
1,1-Dichloroethene	ND(0.037)	ND(0.039)
1,2-Dichloroethane	ND(0.037)	ND(0.039)
Benzene	ND(0.037)	ND(0.039)
Chloroethane	ND(0.16)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.039)
Methylene chloride	0.034 J	0.03 J
Tetrachloroethene	ND(0.037)	ND(0.039)
Trichloroethene	ND(0.037)	ND(0.039)
Vinyl chloride	ND(0.037)	ND(0.039)
SVOC		
2-Methylnaphthalene	0.209 J	ND(0.19)
Benzo(a)pyrene	0.199 J	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.19)
Pentachlorophenol	ND(0.71)	ND(0.76)
Inorganic		
Arsenic	10 (RDC)	21 (RDC)
Beryllium	0.93	0.42
Lead	40 J	31 J
Manganese	910	1300
Selenium	0.68	0.74
Vanadium	21	27

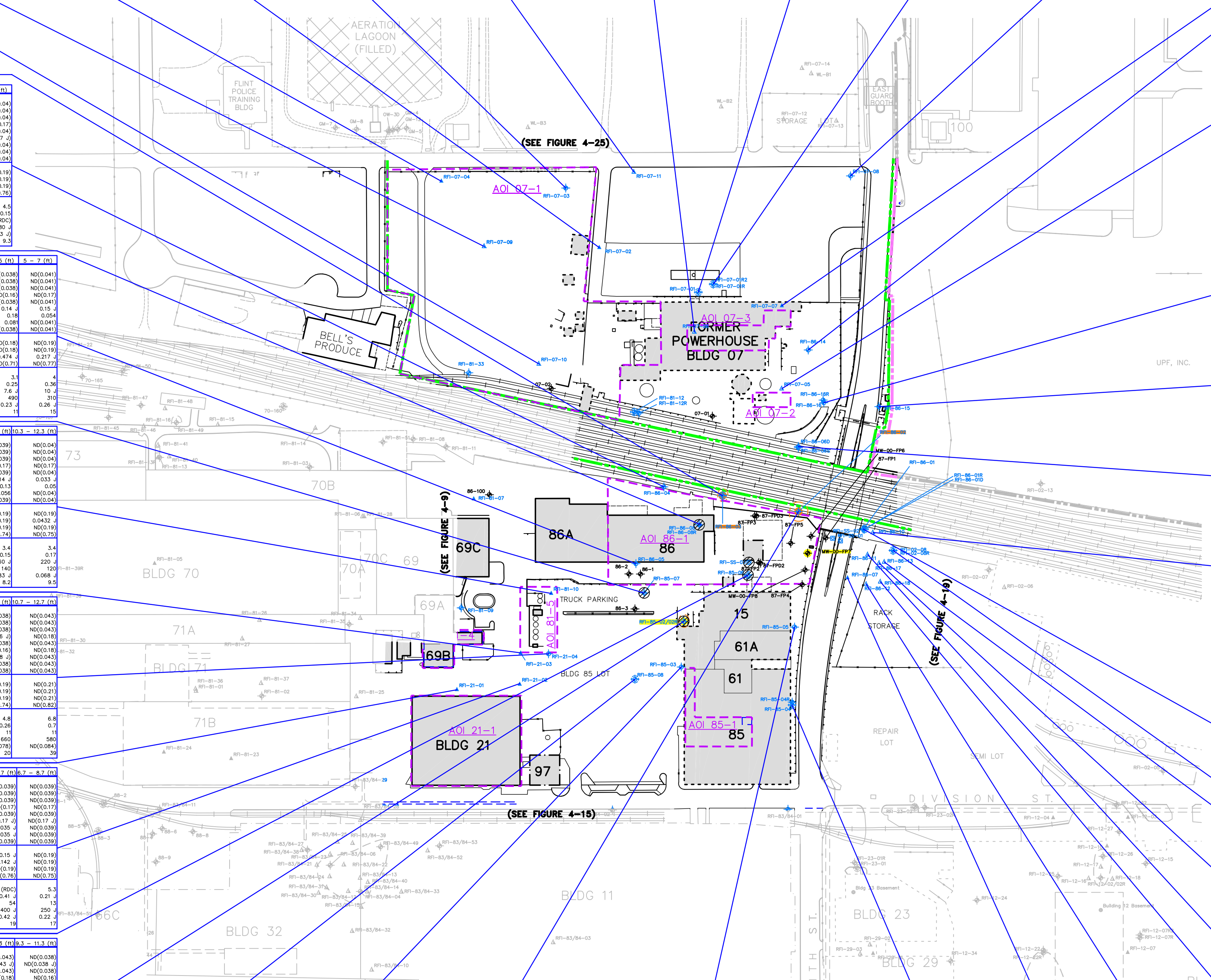
RFI-21-04	0.7 - 2.7 (ft)	6.7 - 8.7 (ft)	10.7 - 12.7 (ft)
VOC			
1,1-Dichloroethene	ND(0.037)	ND(0.038)	ND(0.043)
1,2-Dichloroethane	ND(0.037)	ND(0.038)	ND(0.043)
Benzene	ND(0.037)	ND(0.038)	ND(0.043)
Chloroethane	ND(0.16 J)	ND(0.16 J)	ND(0.18)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.038)	ND(0.043)
Methylene chloride	ND(0.16)	ND(0.16)	ND(0.18)
Tetrachloroethene	ND(0.037 J)	ND(0.038 J)	ND(0.043)
Trichloroethene	0.04	ND(0.038)	ND(0.043)
Vinyl chloride	ND(0.037)	ND(0.038)	ND(0.043)
SVOC			
2-Methylnaphthalene	ND(0.18)	ND(0.19)	ND(0.21)
Benzo(a)pyrene	0.524 J	ND(0.19)	ND(0.21)
bis(2-Ethylhexyl)phthalate	0.0641 J	ND(0.19)	ND(0.21)
Pentachlorophenol	ND(0.71)	ND(0.74)	ND(0.82)
Inorganic			
Arsenic	3.1	4.8	6.8
Beryllium	0.18	0.26	0.7
Lead	140	11	11
Manganese	450	660	580
Selenium	ND(0.071)	ND(0.078)	ND(0.084)
Vanadium	9	20	39

RFI-21-01	0.9 - 2.9 (ft)	6.9 - 8.9 (ft)
VOC		
1,1-Dichloroethene	ND(0.038)	ND(0.039)
1,2-Dichloroethane	ND(0.038)	ND(0.039)
Benzene	ND(0.038)	ND(0.039)
Chloroethane	ND(0.16)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.039)
Methylene chloride	ND(0.16 J)	ND(0.17 J)
Tetrachloroethene	ND(0.038)	ND(0.039)
Trichloroethene	ND(0.038)	ND(0.039)
Vinyl chloride	ND(0.038)	ND(0.039)
SVOC		
2-Methylnaphthalene	ND(0.19)	ND(0.19)
Benzo(a)pyrene	0.103 J	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.19 J)	ND(0.19)
Pentachlorophenol	ND(0.73)	ND(0.77)
Inorganic		
Arsenic	10 (RDC)	10 (RDC)
Beryllium	1.2 J	0.52 J
Lead	50	11
Manganese	480 J	340 J
Selenium	0.26 J	0.19 J
Vanadium	16	26

RFI-21-02	0.7 - 2.7 (ft)	6.7 - 8.7 (ft)
VOC		
1,1-Dichloroethene	ND(0.039)	ND(0.039)
1,2-Dichloroethane	ND(0.039)	ND(0.039)
Benzene	ND(0.039)	ND(0.039)
Chloroethane	ND(0.17)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.039)
Methylene chloride	ND(0.17 J)	ND(0.17 J)
Tetrachloroethene	0.035 J	ND(0.039)
Trichloroethene	0.035 J	ND(0.039)
Vinyl chloride	ND(0.039)	ND(0.039)
SVOC		
2-Methylnaphthalene	0.15 J	ND(0.19)
Benzo(a)pyrene	0.142 J	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(0.19)
Pentachlorophenol	ND(0.76)	ND(0.75)
Inorganic		
Arsenic	7.9 (RDC)	5.3
Beryllium	0.41 J	0.21 J
Lead	54	13
Manganese	1400 J	250 J
Selenium	0.42 J	0.22 J
Vanadium	19	17

RFI-85-06	0.7 - 2.7 (ft)	8.7 - 10.7 (ft)	10.7 - 12.7 (ft)
VOC			
1,1-Dichloroethene	ND(0.037)	ND(0.041)	ND(0.037)
1,2-Dichloroethane	ND(0.037 J)	ND(0.041 J)	ND(0.037 J)
Benzene	ND(0.037)	ND(0.041)	ND(0.037)
Chloroethane	ND(0.16)	ND(0.18)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.041)	ND(0.037)
Methylene chloride	ND(0.16 J)	ND(0.18 J)	ND(0.16 J)
Tetrachloroethene	ND(0.037)	ND(0.041)	2.2
Trichloroethene	ND(0.037)	ND(0.041)	2.8
Vinyl chloride	ND(0.037)	ND(0.041)	ND(0.037)
SVOC			
2-Methylnaphthalene	ND(0.18)	ND(0.2)	ND(0.18)
Benzo(a)pyrene	0.0343 J	ND(0.2)	ND(0.18)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.2)	ND(0.18)
Pentachlorophenol	ND(0.73)	ND(0.77)	ND(0.72)
Inorganic			
Arsenic	3.2	3.1	3.1
Beryllium	0.18 J	0.18 J	0.095 J
Lead	5.8	3	3.7
Manganese	130 J	87 J	100 J
Selenium	0.2 J	0.19 J	0.17 J
Vanadium	10	9.8	6.9

RFI-85-02	1.3 - 3.3 (ft)	7.3 - 9.3 (ft)	9.3 - 11.3 (ft)
VOC			
1,1-Dichloroethene	ND(0.038)	ND(0.043)	ND(0.038)
1,2-Dichloroethane	ND(0.038 J)	ND(0.043 J)	ND(0.038 J)
Benzene	ND(0.038)	ND(0.043)	ND(0.038)
Chloroethane	ND(0.16)	ND(0.18)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.043)	ND(0.038)
Methylene chloride	ND(0.16 J)	ND(0.18 J)	ND(0.16 J)
Tetrachloroethene	ND(0.038)	ND(0.043)	ND(0.038)
Trichloroethene	0.081	ND(0.043)	0.28
Vinyl chloride	ND(0.038)	ND(0.043)	ND(0.038)
SVOC			
2-Methylnaphthalene	ND(0.18)	ND(0.21)	ND(0.18)
Benzo(a)pyrene	0.0339 J	ND(0.21)	ND(0.18)
bis(2-Ethylhexyl)phthalate	0.182	ND(0.21)	ND(0.18)
Pentachlorophenol	ND(0.71)	ND(0.83)	ND(0.71)
Inorganic			
Arsenic	2.5	4.7	2.8
Beryllium	0.21 J	0.56 J	0.081 J
Lead	6.3	8.3	2.8
Manganese	120 J	190 J	97 J
Selenium	0.16 J	0.18 J	0.094 J
Vanadium	9.2	29	6.8



RFI-86-14	0.5 - 2.5 (ft)	4.5 - 6.5 (ft)
VOC		
1,1-Dichloroethene	ND(0.037)	ND(0.041)
1,2-Dichloroethane	ND(0.037)	ND(0.041)
Benzene	ND(0.037)	ND(0.041)
Chloroethane	ND(0.16)	ND(0.18)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.041)
Methylene chloride	0.056 J	0.059 J
Tetrachloroethene	ND(0.037)	ND(0.041)
Trichloroethene	ND(0.037)	ND(0.041)
Vinyl chloride	ND(0.037)	ND(0.041)
SVOC		
2-Methylnaphthalene	ND(0.18)	ND(0.2)
Benzo(a)pyrene	ND(0.18)	ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.2)
Pentachlorophenol	ND(0.71)	ND(0.79)
Inorganic		
Arsenic	2.4	6.7 D
Beryllium	0.22	1.2 D
Lead	4	10 D
Manganese	100	480 D
Selenium	0.34 J	ND(0.38 D)
Vanadium	8	38 D

RFI-07-05	1 - 3 (ft)	5 - 7 (ft)	9 - 11 (ft)
VOC			
1,1-Dichloroethene	ND(0.036)	ND(0.039) /ND(0.04)	ND(0.038)
1,2-Dichloroethane	ND(0.036)	ND(0.039) /ND(0.04)	ND(0.038)
Benzene	ND(0.036)	ND(0.039) /ND(0.04)	ND(0.038)
Chloroethane	ND(0.15)	ND(0.17) /ND(0.17)	ND(0.16)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.039) /ND(0.04)	ND(0.038)
Methylene chloride	ND(0.15)	ND(0.17) /ND(0.17)	ND(0.16)
Tetrachloroethene	ND(0.036)	ND(0.039) /ND(0.04)	ND(0.038)
Trichloroethene	ND(0.036)	ND(0.039) /ND(0.04)	ND(0.038)
Vinyl chloride	ND(0.036)	ND(0.039) /ND(0.04)	ND(0.038)
SVOC			
2-Methylnaphthalene	ND(0.18)	ND(0.19) /ND(0.19)	ND(0.19)
Benzo(a)pyrene	0.0377 J	ND(0.19) /ND(0.19)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.19) /ND(0.19)	ND(0.19)
Pentachlorophenol	ND(0.7)	ND(0.75) /ND(0.76)	ND(0.73)
Inorganic			
Arsenic	5.7	2.3 /2.8	2.7
Beryllium	0.18 J	0.17 J /0.24 J	0.14
Lead	14 J	5.2 J /6.1 J	4.4 J
Manganese	290 J	110 J /150 J	150 J
Selenium	0.44 J	0.2 J /0.15 J	0.35
Vanadium	12	12 /15	10

RFI-86-16	0.8 - 2.8 (ft)	7.8 - 9.8 (ft)	9.8 - 11.8 (ft)
VOC			
1,1-Dichloroethene	ND(0.036)	ND(0.043)	ND(0.047)
1,2-Dichloroethane	ND(0.036 J)	ND(0.043 J)	ND(0.047 J)
Benzene	ND(0.036)	ND(0.043)	ND(0.047)
Chloroethane	ND(0.15)	ND(0.19)	ND(0.2)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.043)	ND(0.047)
Methylene chloride	ND(0.15)	1.1	ND(0.2)
Tetrachloroethene	ND(0.036)	ND(0.043)	ND(0.047)
Trichloroethene	ND(0.036)	ND(0.043)	ND(0.047)
Vinyl chloride	ND(0.072)	ND(0.087)	ND(0.093)
SVOC			
2-Methylnaphthalene	ND(0.18)	ND(0.21)	ND(0.23)
Benzo(a)pyrene	ND(0.18)	ND(0.21)	ND(0.23)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.21)	ND(0.23)
Pentachlorophenol	R	ND(0.84)	ND(0.89)
Inorganic			
Arsenic	3.9	6.2	7.9 (RDC)
Beryllium	0.13 J	0.56 J	0.69 J
Lead	9.5	12	14
Manganese	150	340	410
Selenium	0.23 J	0.26	0.23
Vanadium	12	35	42

RFI-86-15	0.3 - 2.3 (ft)
VOC	
1,1-Dichloroethene	ND(0.039)
1,2-Dichloroethane	ND(0.039)
Benzene	ND(0.039)
Chloroethane	ND(0.17)
cis-1,2-Dichloroethene	ND(0.039)
Methylene chloride	0.031 J
Tetrachloroethene	ND(0.039)
Trichloroethene	ND(0.039)
Vinyl chloride	ND(0.039)
SVOC	
2-Methylnaphthalene	ND(0.19)
Benzo(a)pyrene	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.19)
Pentachlorophenol	ND(0.74)
Inorganic	
Arsenic	3.3
Beryllium	0.25
Lead	9.6
Manganese	130
Selenium	0.15
Vanadium	10

RFI-86-06D	2 - 4 (ft)	6 - 8 (ft)
VOC		
1,1-Dichloroethene	ND(0.042)	ND(0.052)
1,2-Dichloroethane	ND(0.042)	ND(0.052)
Benzene	ND(0.042)	ND(0.052)
Chloroethane	ND(0.18)	ND(0.22)
cis-1,2-Dichloroethene	ND(0.042)	ND(0.052)
Methylene chloride	ND(0.18)	ND(0.22)
Tetrachloroethene	ND(0.042)	ND(0.052)
Trichloroethene	ND(0.042)	0.073
Vinyl chloride	ND(0.042)	ND(0.052)
SVOC		
2-Methylnaphthalene	ND(0.2)	ND(0.26)
Benzo(a)pyrene	0.0575 J	0.074 J
bis(2-Ethylhexyl)phthalate	ND(0.2)	ND(0.26)
Pentachlorophenol	ND(0.78)	ND(1)
Inorganic		
Arsenic	4.8	13 (RDC)
Beryllium	0.56 J	0.72 J
Lead	110 J	260 J
Manganese	210 J	350 J
Selenium	0.36 J	1.1
Vanadium	16	29

RFI-86-10	6.5 - 8.5 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Lead	NS
Manganese	320
Selenium	NS
Vanadium	NS

RFI-86-01	0.5 - 2.5 (ft)	4.5 - 6.5 (ft)	8.5 - 10.5 (ft)
VOC			
1,1-Dichloroethene	ND(0.038)	ND(0.037)	ND(0.04) /ND(0.04)
1,2-Dichloroethane	ND(0.038)	ND(0.037 J)	ND(0.04 J) /ND(0.04 J)
Benzene	0.1	ND(0.037)	ND(0.04) /ND(0.04)
Chloroethane	ND(0.16)	ND(0.16)	ND(0.17) /ND(0.17)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.037 J)	ND(0.04 J) /ND(0.04 J)
Methylene chloride	ND(0.16)	ND(0.16)	ND(0.17) /ND(0.17)
Tetrachloroethene	0.011 J	ND(0.037 J)	ND(0.04 J) /ND(0.04 J)
Trichloroethene	ND(0.038)	ND(0.037)	ND(0.04) /ND(0.04)
Vinyl chloride	ND(0.038)	ND(0.037)	ND(0.04) /ND(0.04)
SVOC			
2-Methylnaphthalene	0.658	ND(0.18)	ND(0.19) /ND(0.19)
Benzo(a)pyrene	3.85 J (RDC)	0.0733 J	ND(0.19) /ND(0.19)
bis(2-Ethylhexyl)phthalate	0.109 J	ND(0.18)	ND(0.19) /ND(0.19)
Pentachlorophenol	ND(0.74)	ND(0.72)	ND(0.77) /ND(0.76)
Inorganic			
Arsenic	12 J (RDC)	7.4 J	3.3 J /3 J
Beryllium	0.68 J	0.19 J	1.6 J /1.1 J
Lead	110 J	7.7 J	6.4 J /2.9 J
Manganese	380 J	230 J	3200 J (IPSIC) /1100 J
Selenium	0.89 J	ND(1.6)	ND(1.8) /ND(1.6)
Vanadium	15	14	13 /5.7

RFI-02-08	0.7 - 2 (ft)	4 - 6 (ft)
VOC		
1,1-Dichloroethene	ND(0.039)	ND(0.042)
1,2-Dichloroethane	ND(0.039)	ND(0.042)
Benzene	0.011 J	ND(0.042)
Chloroethane	ND(0.17)	ND(0.18)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.042)
Methylene chloride	0.021 J	0.017 J
Tetrachloroethene	ND(0.039)	ND(0.042)
Trichloroethene	ND(0.039)	ND(0.042)
Vinyl chloride	ND(0.039)	ND(0.042)
SVOC		
2-Methylnaphthalene	ND(0.19)	ND(0.2)
Benzo(a)pyrene	0.564	ND(0.2)
bis(2-Ethylhexyl)phthalate	0.308	ND(0.2)
Pentachlorophenol	ND(0.75)	ND(0.8)
Inorganic		
Arsenic	10 J (RDC)	4.1 J
Beryllium	0.64 J	0.86 J
Lead	190 J	10 J
Manganese	1300 J	280 J
Selenium	1.9	1.5 J
Vanadium	25	37

RFI-86-13	0.8 - 2.8 (ft)	2.8 - 4.8 (ft)
Inorganic		
Arsenic	11 (RDC)	6.2
Beryllium	NS	NS
Lead	NS	NS
Manganese	NS	NS
Selenium	NS	NS
Vanadium	NS	NS

RFI-86-17	1 - 3 (ft)
Inorganic	
Arsenic	190 J (IDC,RDC)
Beryllium	NS
Lead	NS
Manganese	NS
Selenium	NS
Vanadium	NS

RFI-86-11	0.7 - 2.7 (ft)	2.7 - 4.7 (ft)
Inorganic		
Arsenic	35 (RDC)	8.5 (RDC)
Beryllium	NS	NS
Lead	NS	NS
Manganese	NS	NS
Selenium	NS	NS
Vanadium	NS	NS

RFI-86-12	0.8 - 2.8 (ft)	2.8 - 4.8 (ft)
Inorganic		
Arsenic	56 (IDC,RDC)	4.7
Beryllium	NS	NS
Lead	NS	NS
Manganese	NS	NS
Selenium	NS	NS
Vanadium	NS	NS

RFI-86-18	1 - 3 (ft)
Inorganic	
Arsenic	19 J (RDC)
Beryllium	NS
Lead	NS
Manganese	NS
Selenium	NS
Vanadium	NS

RFI-85-08	0.5 - 2.5 (ft)	6.5 - 8.5 (ft)
VOC		
1,1-Dichloroethene	ND(0.037 J)	ND(0.04 J)
1,2-Dichloroethane	ND(0.037 J)	ND(0.04 J)
Benzene	ND(0.037 J)	ND(0.04 J)
Chloroethane	ND(0.16 J)	ND(0.17 J)
cis-1,2-Dichloroethene	ND(0.037 J)	ND(0.04 J)
Methylene chloride	0.07 J	0.09 J
Tetrachloroethene	ND(0.037 J)	ND(0.04 J)
Trichloroethene	ND(0.037 J)	ND(0.04 J)
Vinyl chloride	ND(0.037 J)	ND(0.04 J)
SVOC		
2-Methylnaphthalene	ND(1.8)	ND(0.19)
Benzo(a)pyrene	ND(1.8)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(1.8)	ND(0.19)
Pentachlorophenol	ND(7.2)	ND(0.75)
Inorganic		
Arsenic	4.2 J	2.3 J
Beryllium	0.26	0.13
Lead	27 J	37 J
Manganese	370 J	150 J
Selenium	ND(0.064 J)	0.04 J
Vanadium	14 J	9.6 J

RFI-85-03	1 - 3 (ft)	5 - 7 (ft)
VOC		
1,1-Dichloroethene	ND(0.038)	ND(0.04)
1,2-Dichloroethane	ND(0.038)	ND(0.04)
Benzene	ND(0.038)	ND(0.04)
Chloroethane	ND(0.16)	ND(0.17)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.04)
Methylene chloride	ND(0.16)	ND(0.17)
Tetrachloroethene	ND(0.038)	ND(0.04)
Trichloroethene	0.043	ND(0.04)
Vinyl chloride	ND(0.038)	ND(0.04)
SVOC		
2-Methylnaphthalene	0.0799 J	ND(0.2)
Benzo(a)pyrene	0.107 J	0.0667 J
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.2)
Pentachlorophenol	ND(0.71)	ND(0.77)
Inorganic		
Arsenic	3.1	2.2
Beryllium	0.18	0.19
Lead	25 J	85 J
Manganese	230	400
Selenium	0.29 J	0.27 J
Vanadium	9.8	13

RFI-86-02	1 - 3 (ft)	7 - 9 (ft)
VOC		
1,1-Dichloroethene	ND(0.039)	ND(0.037) /ND(0.037)
1,2-Dichloroethane	ND(0.039)	ND(0.037) /ND(0.037)
Benzene	ND(0.039)	ND(0.037) /ND(0.037)
Chloroethane	ND(0.17)	ND(0.16 J) /ND(0.16)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.037) /ND(0.037)
Methylene chloride	ND(0.17 J)	ND(0.16) /ND(0.16 J)
Tetrachloroethene	ND(0.039)	ND(0.037) /ND(0.037)
Trichloroethene	ND(0.039)	ND(0.037) /ND(0.037)
Vinyl chloride	ND(0.039)	ND(0.037) /ND(0.037)
SVOC		
2-Methylnaphthalene	ND(0.19)	7.35 /7.41
Benzo(a)pyrene	ND(0.19)	ND(0.9 J) /ND(0.89 J)
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(0.9 J) /ND(0.89 J)
Pentachlorophenol	ND(0.74)	ND(3.5) /ND(3.5)
Inorganic		
Arsenic	2.7	3.5 J /2.9
Beryllium	0.13 J	0.095 J /0.088 J
Lead	2.8	6 /3.6
Manganese	80 J	120 J /85 J
Selenium	0.41 J	0.33 J /0.32 J
Vanadium	10	12 /8.6

RFI-85-05	1 - 3 (ft)	5 - 7 (ft)	9 - 11 (ft)	17 - 19 (ft)
VOC				
1,1-Dichloroethene	ND(0.037) /ND(0.038)	ND(0.038)	ND(0.038)	ND(0.044)
1,2-Dichloroethane	ND(0.037) /ND(0.038 J)	ND(0.038 J)	ND(0.038 J)	ND(0.044)
Benzene	ND(0.037) /ND(0.038)	ND(0.038)	ND(0.038)	ND(0.044)
Chloroethane	ND(0.16) /ND(0.16)	ND(0.16)	ND(0.16)	ND(0.19)
cis-1,2-Dichloroethene	ND(0.037) /ND(0.038)	ND(0.038)	ND(0.038)	ND(0.044)
Methylene chloride	ND(0.16 J) /ND(0.16 J)	ND(0.16 J)	ND(0.16 J)	ND(0.19 J)
Tetrachloroethene	ND(0.037) /ND(0.038)	ND(0.038)	ND(0.038)	ND(0.044)
Trichloroethene	ND(0.037) /ND(0.038)	ND(0.038)	ND(0.038)	ND(0.044)
Vinyl chloride	ND(0.037) /ND(0.038)	ND(0.038)	ND(0.038)	ND(0.044)
SVOC				
2-Methylnaphthalene	ND(0.18) /ND(0.18)	ND(0.18)	ND(0.18)	ND(0.21)
Benzo(a)pyrene	ND(0.18) /ND(0.18)	ND(0.18)	ND(0.18)	ND(0.21)
bis(2-Ethylhexyl)phthalate	0.0704 J /0.147 J	0.126	0.108 J	0.134 J
Pentachlorophenol	ND(0.72) /ND(0.71)	ND(0.72)	ND(0.72)	ND(0.84)
Inorganic				
Arsenic	2.7 /3.1	3.4	3.8	6.1
Beryllium	0.14 /0.14	0.17	0.14	0.59
Lead	6.6 J /6.9 J	5.5 J	5.5 J	10 J
Manganese	260 J /250 J	100 J	100 J	310 J
Selenium	ND(0.2) /ND(0.12)	ND(0.42 J)	ND(0.22)	ND(0.15)
Vanadium	9.8 /9.1	11	11	31

RFI-85-04	0.5 - 2.5 (ft)	8.5 - 10.5 (ft)	12.5 - 14.5 (ft)
VOC			
1,1-Dichloroethene	ND(0.036)	ND(0.036) /ND(0.038)	ND(0.038)
1,2-Dichloroethane	ND(0.036)	ND(0.036) /ND(0.038)	ND(0.038)
Benzene	ND(0.036)	ND(0.036) /ND(0.038)	ND(0.038)
Chloroethane	ND(0.16 J)	ND(0.16) /ND(0.16)	ND(0.16 J)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.036) /ND(0.038)	ND(0.038)
Methylene chloride	ND(0.16)	ND(0.16 J) /ND(0.16 J)	ND(0.16)
Tetrachloroethene	ND(0.036 J)	ND(0.036) /ND(0.038)	ND(0.038)
Trichloroethene	ND(0.036)	ND(0.036) /ND(0.038)	ND(0.038)
Vinyl chloride	ND(0.036)	ND(0.036) /ND(0.038)	ND(0.038)
SVOC			
2-Methylnaphthalene	ND(0.18)	ND(0.18) /ND(0.18)	ND(0.18)
Benzo(a)pyrene	ND(0.18)	ND(0.18) /ND(0.18)	ND(0.18)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.18) /ND(0.18)	ND(0.18)
Pentachlorophenol	ND(0.7)	ND(0.71) /ND(0.72)	ND(0.72)
Inorganic			
Arsenic	3.5	4.3 /3.6	5
Beryllium	0.15	0.17 J /0.12 J	0.21 J
Lead	4.8	5.2 /5	4.7
Manganese	94	120 J /120 J	110 J
Selenium	ND(0.072)	0.25 J /0.19 J	0.23 J
Vanadium	11	12 /11	10

RFI-86-07	0.7 - 2.7 (ft)	8.7 - 10.7 (ft)
VOC		
1,1-Dichloroethene	ND(0.04) /ND(0.04)	ND(0.045)
1,2-Dichloroethane	ND(0.04) /ND(0.04 J)	ND(0.045)
Benzene	0.0074 J /ND(0.04)	ND(0.045)
Chloroethane	ND(0.17) /ND(0.17)	ND(0.19)
cis-1,2-Dichloroethene	ND(0.04 J) /ND(0.04 J)	ND(0.045 J)
Methylene chloride	ND(0.17) /ND(0.17)	ND(0.19)
Tetrachloroethene	ND(0.04 J) /ND(0.04 J)	ND(0.045 J)
Trichloroethene	ND(0.04) /ND(0.04)	ND(0.045)
Vinyl chloride	ND(0.04) /ND(0.04)	ND(0.045)
SVOC		
2-Methylnaphthalene	ND(0.19) /ND(0.19)	ND(0.22)
Benzo(a)pyrene	0.0705 J /0.0458 J	ND(0.22)
bis(2-Ethylhexyl)phthalate	0.0705 J /ND(0.19)	ND(0.22)
Pentachlorophenol	ND(0.75) /ND(0.76)	ND(0.85)
Inorganic		
Arsenic	110 J (IDC,RDC) /110 J (IDC,RDC)	9.1 J (RDC)
Beryllium	0.15 J /ND(0.2)	0.76 J
Lead	7.3 J /7.5 J	12 J
Manganese	18 J /18 J	640 J
Selenium	4.8 /4.8	ND(2.1)
Vanadium	15 /16	30

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  - IDC – INDUSTRIAL DIRECT CONTACT
  - IPSIC – INDUSTRIAL PARTICULATE SOIL INHALATION

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. FOR ALL METALS, SITE-SPECIFIC BACKGROUND CONCENTRATIONS ARE SUBTRACTED FROM THE MEASURED CONCENTRATIONS PRIOR TO COMPARING TO PART 201 CRITERIA.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN DRY-WEIGHT MILLIGRAMS PER KILOGRAM (mg/kg).
6. ND (0.039)-CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS-NOT ANALYZED FOR THIS CONSTITUENT.
9. J-ESTIMATED CONCENTRATION.
10. D-CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
11. R-RESULT REJECTED DURING DATA VALIDATION.
12. RDC-EXCEEDS MICHIGAN PART 201 RESIDENTIAL DIRECT CONTACT CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

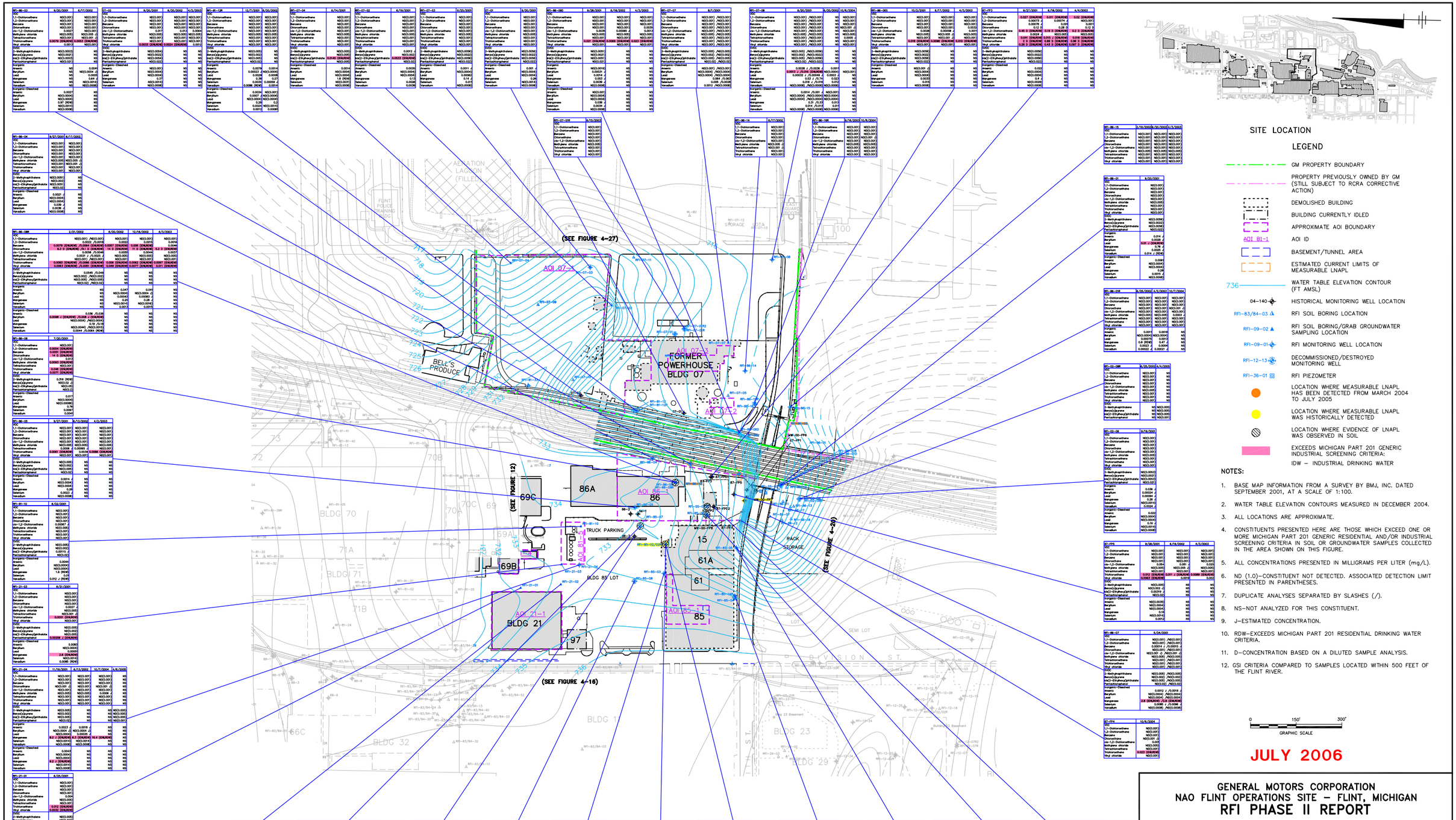
X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
6/4/07 SYR-85-NES LAF GMS
64410112/RFI-06/64410C13.DWG

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SOIL ANALYTICAL DATA - BUILDINGS 07, 21, 85 AND 86 AREA

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
4-13



SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 736 — WATER TABLE ELEVATION CONTOUR (FT AMSL)
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA: IDW – INDUSTRIAL DRINKING WATER

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED IN DECEMBER 2004.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)—CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS—NOT ANALYZED FOR THIS CONSTITUENT.
9. J—ESTIMATED CONCENTRATION.
10. RDW—EXCEEDS MICHIGAN PART 201 RESIDENTIAL DRINKING WATER CRITERIA.
11. D—CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
12. GSI CRITERIA COMPARED TO SAMPLES LOCATED WITHIN 500 FEET OF THE FLINT RIVER.

0 150' 300'
GRAPHIC SCALE

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ANALYTICAL DATA - BUILDINGS 07, 21, 85 AND 86 AREA

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 4-14

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG, X24.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD—BUILDING,
*|HIST_SB, *GRAYX03|NAPL_OBS,
*|RFI_SS_PIEZ, *|LNAPL-SHD,
GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
6/4/07 SYR-85-NES LAF GMS
64410112/RFI-06/64410C14.DWG

RFI-83-84-26	0.8 – 2.8 (ft)	6.8 – 8.8 (ft)
VOC		
Benzene	ND(0.04)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.04)
Methylene chloride	ND(0.17)	ND(0.17)
Toluene	ND(0.04)	0.062
Trichloroethene	ND(0.04)	ND(0.04)
Vinyl chloride	ND(0.04)	ND(0.04)
SVOC		
Benzo(a)anthracene	1.91 J	ND(0.97 J)
Benzo(a)pyrene	2.08 J (RDC)	ND(0.97 J)
Benzo(b)fluoranthene	2.58 J	ND(0.97 J)
Dibenz(a,h)anthracene	ND(0.19 J)	ND(0.97 J)
Indeno(1,2,3-cd)pyrene	1.91 J	ND(0.97 J)
Phenanthrene	0.746	1.09
Inorganic		
Arsenic	4.2 J	7.3 J
Beryllium	0.54 J	0.8 J
Chromium Total	9.5	24
Cyanide (total)	ND(0.2 J)	ND(0.2 J)
Lead	470 (RDC)	460 (RDC)
Manganese	230	280
Vanadium	14	21

RFI-83-84-51	3 – 5 (ft)	5 – 7 (ft)
VOC		
Benzene	ND(0.036)	ND(0.038) /ND(0.038)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.038) /ND(0.038)
Methylene chloride	ND(0.16)	ND(0.16) /ND(0.16)
Toluene	ND(0.073)	ND(0.077) /ND(0.076)
Trichloroethene	ND(0.036)	ND(0.038) /ND(0.038)
Vinyl chloride	ND(0.073)	ND(0.077) /ND(0.076)
SVOC		
Benzo(a)anthracene	ND(0.18)	0.176 J /1.47
Benzo(a)pyrene	ND(0.18)	0.0991 J /0.904
Benzo(b)fluoranthene	ND(0.18)	0.0883 J /0.959
Dibenz(a,h)anthracene	ND(0.18 J)	ND(0.19 J) /ND(0.19 J)
Indeno(1,2,3-cd)pyrene	ND(0.18 J)	ND(0.19 J) /0.328 J
Phenanthrene	ND(0.18)	1.51 /15.2 D
Inorganic		
Arsenic	4.1	9.1 (RDC) /4.9
Beryllium	0.19	0.3 /0.2
Chromium Total	5.6	8.7 /6
Cyanide (total)	ND(0.2)	ND(0.2) /ND(0.2)
Lead	5.7	14 /6
Manganese	110	140 /120
Vanadium	11	18 /12

RFI-83-84-11	0 – 2 (ft)	4 – 6 (ft)
VOC		
Benzene	ND(0.037)	ND(0.038)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.038)
Methylene chloride	ND(0.16 J)	ND(0.16 J)
Toluene	ND(0.037)	ND(0.038)
Trichloroethene	ND(0.037)	ND(0.038)
Vinyl chloride	ND(0.037)	ND(0.038)
SVOC		
Benzo(a)anthracene	0.0834 J	ND(0.19)
Benzo(a)pyrene	0.0809 J	ND(0.19)
Benzo(b)fluoranthene	0.119 J	ND(0.19)
Dibenz(a,h)anthracene	ND(0.18 J)	ND(0.19 J)
Indeno(1,2,3-cd)pyrene	ND(0.18 J)	ND(0.19 J)
Phenanthrene	0.0717 J	ND(0.19)
Inorganic		
Arsenic	3.6	2.6
Beryllium	0.17	0.2
Chromium Total	14	7
Cyanide (total)	0.33 J	0.026 J
Lead	33	4.7
Manganese	190	65
Vanadium	11	11

RFI-83-84-27	0.7 – 2.7 (ft)	6.7 – 8.7 (ft)	8.7 – 10.7 (ft)
VOC			
Benzene	ND(0.037)	ND(0.037)	ND(0.037) /ND(0.037)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.037)	ND(0.037) /ND(0.037)
Methylene chloride	ND(0.16)	ND(0.16)	ND(0.16) /ND(0.16)
Toluene	ND(0.037)	ND(0.037)	ND(0.037) /ND(0.037)
Trichloroethene	ND(0.037)	ND(0.037)	ND(0.037) /ND(0.037)
Vinyl chloride	ND(0.037)	ND(0.037)	ND(0.037) /ND(0.037)
SVOC			
Benzo(a)anthracene	0.0383 J	0.167 J	0.0662 J /0.0659 J
Benzo(a)pyrene	0.0355 J	0.146 J	0.0627 J /0.0691 J
Benzo(b)fluoranthene	ND(0.18)	0.142 J	0.0609 J /0.057 J
Dibenz(a,h)anthracene	ND(0.18)	ND(0.18)	ND(0.18) /ND(0.18)
Indeno(1,2,3-cd)pyrene	ND(0.18)	0.093 J	0.041 J /0.0399 J
Phenanthrene	0.0692 J	0.385	0.122 J /0.123 J
Inorganic			
Arsenic	2.5 J	1.8 J	2.4 J /2 J
Beryllium	0.11 J	0.092 J	0.14 J /0.11 J
Chromium Total	23 J	18 J	31 J /25 J
Cyanide (total)	0.051 J	0.054 J	0.14 J /0.066 J
Lead	7 J	3.5 J	4.7 J /7.3 J
Manganese	130 J	120 J	140 J /120 J
Vanadium	4.7	4.8	7.1 /7

RFI-83-84-21	0.7 – 2.7 (ft)	6.7 – 8.7 (ft)
VOC		
Benzene	0.36	0.62
cis-1,2-Dichloroethene	ND(0.038)	ND(0.044)
Methylene chloride	ND(0.16)	ND(0.19)
Toluene	0.15	0.27
Trichloroethene	ND(0.038)	ND(0.044)
Vinyl chloride	ND(0.038)	ND(0.044)
SVOC		
Benzo(a)anthracene	0.736 J	12.8 D
Benzo(a)pyrene	0.758 J	13.1 JD (IDC,RDC)
Benzo(b)fluoranthene	0.74 J	11 JD
Dibenz(a,h)anthracene	ND(0.18 J)	2.82 J (RDC)
Indeno(1,2,3-cd)pyrene	0.468 J	13.3 EJ
Phenanthrene	0.975	20 D
Inorganic		
Arsenic	5.5 J	47 J (IDC,RDC)
Beryllium	0.43 J	5.6 J
Chromium Total	36	270 (IPSIC,RPSIC)
Cyanide (total)	0.039 J	0.049 J
Lead	220	2900 (IDC,RDC)
Manganese	290	3500 (IPSIC,RPSIC)
Vanadium	7.3	66

RFI-83-84-06	1 – 3 (ft)	7 – 9 (ft)	9 – 11 (ft)
VOC			
Benzene	ND(0.036)	0.41	0.031 J
cis-1,2-Dichloroethene	ND(0.036)	ND(0.04)	ND(0.04)
Methylene chloride	ND(0.15)	ND(0.17)	ND(0.17)
Toluene	ND(0.036)	0.16	ND(0.04)
Trichloroethene	ND(0.036)	ND(0.04)	ND(0.04)
Vinyl chloride	ND(0.036)	ND(0.04)	ND(0.04)
SVOC			
Benzo(a)anthracene	0.0992 J	0.44 J	ND(0.19)
Benzo(a)pyrene	ND(0.17 J)	ND(0.19 J)	ND(0.19 J)
Benzo(b)fluoranthene	0.0469 J	0.118 J	ND(0.19 J)
Dibenz(a,h)anthracene	ND(0.17 J)	ND(0.19 J)	ND(0.19 J)
Indeno(1,2,3-cd)pyrene	ND(0.17 J)	ND(0.19 J)	ND(0.19 J)
Phenanthrene	0.16 J	0.876	ND(0.19)
Inorganic			
Arsenic	3.3 J	15 J (RDC)	5.1 J
Beryllium	0.11	0.41	0.31
Chromium Total	5.2	29	28
Cyanide (total)	0.22	3.1	0.067 J
Lead	8.6	2300 J (IDC,RDC)	25 J
Manganese	140 J	750 J	420 J
Vanadium	7.6 J	22 J	14 J

RFI-83-84-29	1 – 3 (ft)	9 – 11 (ft)
VOC		
Benzene	ND(0.04)	ND(0.061)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.061)
Methylene chloride	ND(0.17)	ND(0.26)
Toluene	0.13	ND(0.061)
Trichloroethene	ND(0.04)	ND(0.061)
Vinyl chloride	ND(0.04)	ND(0.061)
SVOC		
Benzo(a)anthracene	0.0524 J	ND(0.3)
Benzo(a)pyrene	0.0632 J	ND(0.3)
Benzo(b)fluoranthene	0.058 J	ND(0.3)
Dibenz(a,h)anthracene	ND(0.19 J)	ND(0.3)
Indeno(1,2,3-cd)pyrene	ND(0.19 J)	ND(0.3)
Phenanthrene	0.114 J	ND(0.3)
Inorganic		
Arsenic	11 (RDC)	1.5
Beryllium	1.4	0.31
Chromium Total	22	12
Cyanide (total)	ND(0.2)	ND(0.3)
Lead	95	6.4
Manganese	360	150 J
Vanadium	16	7.7

RFI-83-84-28	0.7 – 2.7 (ft)	2.7 – 4.7 (ft)
VOC		
Benzene	ND(0.04)	ND(0.041)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.041)
Methylene chloride	ND(0.17)	ND(0.18)
Toluene	ND(0.04)	ND(0.041)
Trichloroethene	ND(0.04)	ND(0.041)
Vinyl chloride	ND(0.04)	ND(0.041)
SVOC		
Benzo(a)anthracene	5.35 D	ND(0.2 J)
Benzo(a)pyrene	5.58 (RDC)	ND(0.2 J)
Benzo(b)fluoranthene	6.23 D	ND(0.2 J)
Dibenz(a,h)anthracene	ND(0.98)	ND(0.2 J)
Indeno(1,2,3-cd)pyrene	2.68 D	ND(0.2 J)
Phenanthrene	9.42 D	ND(0.2)
Inorganic		
Arsenic	6.1 J	4.1 J
Beryllium	0.32 J	0.33 J
Chromium Total	47 J	11 J
Cyanide (total)	0.39	ND(0.2)
Lead	66 J	6.9 J
Manganese	410 J	410 J
Vanadium	9.1	17

RFI-83-84-39	0.9 – 2.9 (ft)	1.1 – 3.1 (ft)	5.1 – 7.1 (ft)
VOC			
Benzene	ND(0.037)	ND(0.036)	ND(0.036)
cis-1,2-Dichloroethene	ND(0.037 J)	ND(0.036)	ND(0.036)
Methylene chloride	0.028 J	0.034 J	0.029 J
Toluene	0.033 J	ND(0.072)	ND(0.071)
Trichloroethene	ND(0.037)	ND(0.036)	ND(0.036)
Vinyl chloride	ND(0.074)	ND(0.072)	ND(0.071)
SVOC			
Benzo(a)anthracene	ND(4.6)	ND(0.18)	ND(0.18)
Benzo(a)pyrene	ND(4.6 J)	ND(0.18)	ND(0.18)
Benzo(b)fluoranthene	ND(4.6 J)	ND(0.18)	ND(0.18)
Dibenz(a,h)anthracene	ND(4.6 J)	ND(0.18 J)	ND(0.18 J)
Indeno(1,2,3-cd)pyrene	ND(4.6)	ND(0.18 J)	ND(0.18 J)
Phenanthrene	ND(4.6)	ND(0.18)	ND(0.18)
Inorganic			
Arsenic	13 (RDC)	0.99	0.98
Beryllium	0.12	0.12	0.12
Chromium Total	2400 (IPSIC,RPSIC)	3.4	2.9
Cyanide (total)	ND(0.2)	ND(0.2)	ND(0.2)
Lead	96	3 J	2.3 J
Manganese	1800 (IPSIC)	53 J	44 J
Vanadium	390	5	5

RFI-83-84-53	0.9 – 2.9 (ft)	6.9 – 8.9 (ft)	8.9 – 10.9 (ft)
VOC			
Benzene	ND(0.037)	ND(0.036)	ND(0.041)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.036)	ND(0.041)
Methylene chloride	ND(0.16)	ND(0.16)	ND(0.17)
Toluene	0.1	ND(0.072)	ND(0.081)
Trichloroethene	ND(0.037)	ND(0.036)	ND(0.041)
Vinyl chloride	ND(0.074)	ND(0.072)	ND(0.081)
SVOC			
Benzo(a)anthracene	2.21 J	ND(1.8)	ND(4)
Benzo(a)pyrene	1.63 J	ND(1.8)	ND(4)
Benzo(b)fluoranthene	2.42 J	ND(1.8)	ND(4)
Dibenz(a,h)anthracene	ND(3.7 J)	ND(1.8 J)	ND(4 J)
Indeno(1,2,3-cd)pyrene	ND(3.7 J)	ND(1.8 J)	ND(4 J)
Phenanthrene	8.73	1.48 J	2.39 J
Inorganic			
Arsenic	3.2	2.2	4.5
Beryllium	0.2	0.11	0.49
Chromium Total	15	5.3	16
Cyanide (total)	0.52 J	ND(0.2)	ND(0.2)
Lead	8.8	3.8	9.8
Manganese	160	160	510
Vanadium	18	9.9	28

RFI-83-84-02	2 – 4 (ft)	4 – 6 (ft)
VOC		
Benzene	ND(0.039)	ND(0.04) /ND(0.04)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.04) /ND(0.04)
Methylene chloride	ND(0.17)	ND(0.17) /ND(0.17)
Toluene	ND(0.039)	ND(0.04) /ND(0.04)
Trichloroethene	ND(0.039)	ND(0.04) /ND(0.04)
Vinyl chloride	ND(0.039)	ND(0.04) /ND(0.04)
SVOC		
Benzo(a)anthracene	ND(0.19)	ND(0.19) /ND(0.2)
Benzo(a)pyrene	ND(0.19)	ND(0.19) /ND(0.2)
Benzo(b)fluoranthene	ND(0.19)	ND(0.19) /ND(0.2)
Dibenz(a,h)anthracene	ND(0.19)	ND(0.19) /ND(0.2)
Indeno(1,2,3-cd)pyrene	ND(0.19)	ND(0.19) /ND(0.2)
Phenanthrene	ND(0.19)	ND(0.19) /ND(0.2)
Inorganic		
Arsenic	7.4	3.5 /4.3
Beryllium	0.5	0.21 /0.25
Chromium Total	17	9.1 /8.9
Cyanide (total)	0.079 J	0.055 J /0.046 J
Lead	9.9 J	7.2 J /5.6 J
Manganese	460 J	170 J /170 J
Vanadium	25	15 /16

RFI-65-01	0.7 – 2.7 (ft)	4.7 – 6.7 (ft)
VOC		
Benzene	ND(0.039)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.04)
Methylene chloride	ND(0.17)	ND(0.17)
Toluene	ND(0.039)	ND(0.04)
Trichloroethene	0.044 J	ND(0.04)
Vinyl chloride	ND(0.039)	ND(0.04)
SVOC		
Benzo(a)anthracene	0.0401 J	ND(0.2)
Benzo(a)pyrene	0.0553 J	ND(0.2)
Benzo(b)fluoranthene	0.0669 J	ND(0.2)
Dibenz(a,h)anthracene	ND(0.18 J)	ND(0.2)
Indeno(1,2,3-cd)pyrene	ND(0.18 J)	ND(0.2)
Phenanthrene	ND(0.18)	ND(0.2)
Inorganic		
Arsenic	3.7	1.8
Beryllium	0.2	0.15
Chromium Total	10 J	6.8 J
Cyanide (total)	ND(0.2)	ND(0.2)
Lead	12	6
Manganese	230	71
Vanadium	13	14

RFI-83-84-38	5 – 7 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	NS
Lead	12 J
Manganese	NS
Vanadium	NS

RFI-83-84-23	1 – 3 (ft)	5 – 7 (ft)
VOC		
Benzene	ND(0.035) /ND(0.035)	1.4
cis-1,2-Dichloroethene	ND(0.035) /ND(0.035)	0.083
Methylene chloride	ND(0.15) /ND(0.15)	ND(0.16)
Toluene	ND(0.035) /ND(0.035)	0.45
Trichloroethene	ND(0.035) /ND(0.035)	0.035 J
Vinyl chloride	ND(0.035) /ND(0.035)	ND(0.038)
SVOC		
Benzo(a)anthracene	0.142 J /0.0839 J	1.34 J
Benzo(a)pyrene	ND(0.17 J) /ND(0.17 J)	0.608 J
Benzo(b)fluoranthene	ND(0.17 J) /ND(0.17 J)	0.684 J
Dibenz(a,h)anthracene	ND(0.17 J) /ND(0.17 J)	ND(0.94 J)
Indeno(1,2,3-cd)pyrene	ND(0.17 J) /ND(0.17 J)	ND(0.94 J)
Phenanthrene	0.302 /0.212	2.05
Inorganic		
Arsenic	2.8 J /2.4 J	28 J (RDC)
Beryllium	0.28 J /0.3 J	11 J
Chromium Total	6.6 /5.5	99
Cyanide (total)	ND(0.2 J) /ND(0.2 J)	ND(0.2 J)
Lead	10 /7.5	6500 (IDC,RDC)
Manganese	180 /180	2600 (IPSIC)
Vanadium	7.6 /7.4	51

RFI-83-84-25	0.7 – 2.7 (ft)	8.7 – 10.7 (ft)	10.7 – 12.7 (ft)
VOC			
Benzene	ND(0.037)	ND(0.038)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.038)	ND(0.04)
Methylene chloride	ND(0.16)	ND(0.16)	ND(0.17)
Toluene	ND(0.037)	ND(0.038)	ND(0.04)
Trichloroethene	0.082	ND(0.038)	0.052
Vinyl chloride	ND(0.037)	ND(0.038)	ND(0.04)
SVOC			
Benzo(a)anthracene	0.0344 J	ND(0.18)	1.24 J
Benzo(a)pyrene	ND(0.18)	ND(0.18)	1.09 J
Benzo(b)fluoranthene	ND(0.18)	ND(0.18)	1.14 J
Dibenz(a,h)anthracene	ND(0.18)	ND(0.18)	0.26 J
Indeno(1,2,3-cd)pyrene	ND(0.18)	ND(0.18)	0.587 J
Phenanthrene	0.081 J	ND(0.18)	3.05 J
Inorganic			
Arsenic	2 J	2.3 J	2.2 J
Beryllium	0.083 J	0.17 J	0.077 J
Chromium Total	22 J	6.6 J	5.8 J
Cyanide (total)	ND(0.2)	3.2	0.82
Lead	2.6 J	5.5 J	4.6 J
Manganese	160 J	69 J	57 J
Vanadium	4.8 J	9.8 J	7 J

RFI-83-84-03	0 – 2 (ft)	8 – 10 (ft)	10 – 12 (ft)
VOC			
Benzene	ND(0.039)	ND(0.038)	ND(0.039) /ND(0.038)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.038)	ND(0.039) /ND(0.038)
Methylene chloride	ND(0.17)	ND(0.16)	ND(0.17) /ND(0.16)
Toluene	ND(0.039)	0.61	0.31 /0.33
Trichloroethene	ND(0.039)	0.083	0.061 /0.068
Vinyl chloride	ND(0.039)	ND(0.038)	ND(0.039) /ND(0.038)
SVOC			
Benzo(a)anthracene	ND(0.18)	ND(4.5 J)	ND(5) /ND(0.97)
Benzo(a)pyrene	ND(0.18)	ND(4.5 J)	ND(5) /ND(0.97)
Benzo(b)fluoranthene	ND(0.18)	ND(4.5 J)	ND(5 J) /ND(0.97 J)
Dibenz(a,h)anthracene	ND(0.18)	ND(4.5 J)	ND(5) /ND(0.97)
Indeno(1,2,3-cd)pyrene	ND(0.18)	ND(4.5 J)	ND(5) /ND(0.97)
Phenanthrene	ND(0.18)	ND(4.5)	ND(5) /3 J
Inorganic			
Arsenic	3.1 J	2.74 J	3.62 J /3.83 J
Beryllium	NS	NS	NS
Chromium Total	6.83	3.9	4.97 /4
Cyanide (total)	NS	NS	NS
Lead	8.14	3.25	3.22 /2.82
Manganese	NS	NS	NS
Vanadium	NS	NS	NS

RFI-83-84-01	2 – 3.7 (ft)
VOC	
Benzene	1.1 J
cis-1,2-Dichloroethene	ND(0.041)
Methylene chloride	ND(0.17)
Toluene	0.68
Trichloroethene	ND(0.041)
Vinyl chloride	ND(0.041)
SVOC	
Benzo(a)anthracene	0.0388 J
Benzo(a)pyrene	0.0408 J
Benzo(b)fluoranthene	ND(0.2)
Dibenz(a,h)anthracene	ND(0.2)
Indeno(1,2,3-cd)pyrene	ND(0.2)
Phenanthrene	0.0658 J
Inorganic	
Arsenic	3.3
Beryllium	1.1
Chromium Total	9.3
Cyanide (total)	0.16 J
Lead	50 J
Manganese	110 J
Vanadium	15

RFI-83-84-34	0.7 – 2.7 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	NS
Lead	35
Manganese	NS
Vanadium	NS

RFI-83-84-16	0.8 – 2.8 (ft)	2.8 – 4.8 (ft)
Inorganic		
Arsenic	NS	NS
Beryllium	NS	NS
Chromium Total	NS	NS
Cyanide (total)	NS	NS
Lead	670 J (RDC) /870 J (RDC)	2500 J (IDC,RDC)
Manganese	NS	NS
Vanadium	NS	NS

RFI-83-84-17R	1 – 3 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	NS
Lead	1800 (IDC,RDC)
Manganese	NS
Vanadium	NS

RFI-83-84-05	0.7 – 2.7 (ft)	6.7 – 8.7 (ft)
VOC		
Benzene	ND(0.039)	ND(0.038)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.038)
Methylene chloride	ND(0.17 J)	ND(0.16 J)
Toluene	4.8	ND(0.038)
Trichloroethene	ND(0.039)	ND(0.038)
Vinyl chloride	ND(0.039)	ND(0.038)
SVOC		
Benzo(a)anthracene	4.44 JD	ND(0.18)
Benzo(a)pyrene	4.03 JD (RDC)	ND(0.18)
Benzo(b)fluoranthene	4.1 JD	ND(0.18)
Dibenz(a,h)anthracene	ND(0.19 J)	ND(0.18)
Indeno(1,2,3-cd)pyrene	1.65 J	ND(0.18)
Phenanthrene	4.4	ND(0.18)
Inorganic		
Arsenic	5.7	3.7
Beryllium	0.91	0.1
Chromium Total	17	6.8
Cyanide (total)	0.32	ND(0.2)
Lead	42000 JD (IDC,RDC)	6.4 J
Manganese	200 J	130 J
Vanadium	14	10

RFI-83-84-37	0.7 – 2.7 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	NS
Lead	290
Manganese	NS
Vanadium	NS

RFI-83-84-18	0.8 – 2.8 (ft)	2.8 – 4.8 (ft)
Inorganic		
Arsenic	NS	NS
Beryllium	NS	NS
Chromium Total	NS	NS
Cyanide (total)	NS	NS
Lead	400 J	1100 J (IDC,RDC)
Manganese	NS	NS
Vanadium	NS	NS

RFI-83-84-36	0.7 – 2.7 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	NS
Lead	200
Manganese	NS
Vanadium	NS

RFI-83-84-19	0.8 – 2.8 (ft)	2.8 – 3.4 (ft)
Inorganic		
Arsenic	NS	NS
Beryllium	NS	NS
Chromium Total	NS	NS
Cyanide (total)	NS	NS
Lead	110 J	38 J
Manganese	NS	NS
Vanadium	NS	NS

RFI-83-84-35	0.7 – 2.7 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	NS
Lead	3900 (IDC,RDC)
Manganese	NS
Vanadium	NS

RFI-83-84-43	1.5 – 3.5 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	NS
Lead	400
Manganese	NS
Vanadium	NS

RFI-83-84-42	1 – 3 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	NS
Lead	47
Manganese	NS
Vanadium	NS

RFI-83-84-41	1 – 2 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	NS
Lead	10
Manganese	NS
Vanadium	NS

RFI-83-84-50	3 – 5 (ft)	5 – 7 (ft)
VOC		
Benzene	ND(0.039)	ND(0.04) /ND(0.039)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.04) /ND(0.039)
Methylene chloride	0.036 J	ND(0.17) /ND(0.17)
Toluene	ND(0.078)	ND(0.079) /ND(0.078)
Trichloroethene	ND(0.039)	ND(0.04) /ND(0.039)
Vinyl chloride	ND(0.078)	ND(0.079) /ND(0.078)
SVOC		
Benzo(a)anthracene	ND(0.19)	ND(0.19) /ND(0.19)
Benzo(a)pyrene	ND(0.19)	ND(0.19) /ND(0.19)
Benzo(b)fluoranthene	ND(0.19)	ND(0.19) /ND(0.19)
Dibenz(a,h)anthracene	ND(0.19 J)	ND(0.19 J) /ND(0.19 J)
Indeno(1,2,3-cd)pyrene	ND(0.19 J)	ND(0.19 J) /ND(0.19 J)
Phenanthrene	ND(0.19)	ND(0.19) /ND(0.19)
Inorganic		
Arsenic	2.7	1.3 /2.1
Beryllium	0.21	0.14 /0.2
Chromium Total	8.6	4.7 /6.5
Cyanide (total)	ND(0.2)	ND(0.2) /ND(0.2)
Lead	7.7	4.3 /6.1
Manganese	89	76 /78
Vanadium	15	9.7 /13

RFI-83-84-07	0.9 – 2.9 (ft)	8.9 – 10.9 (ft)
VOC		
Benzene	ND(0.035)	ND(0.038)
cis-1,2-Dichloroethene	ND(0.035)	ND(0.038)
Methylene chloride	ND(0.15 J)	ND(0.16 J)
Toluene	ND(0.035)	ND(0.038)
Trichloroethene	0.11	ND(0.038)
Vinyl chloride	ND(0.035)	ND(0.038)
SVOC		
Benzo(a)anthracene	ND(0.17)	ND(0.19 J)
Benzo(a)pyrene	ND(0.17)	R
Benzo(b)fluoranthene	0.118 J	R
Dibenz(a,h)anthracene	ND(0.17)	R
Indeno(1,2,3-cd)pyrene	ND(0.17)	R
Phenanthrene	0.0903 J	ND(0.19)
Inorganic		
Arsenic	0.89	2.5
Beryllium	0.076 J	0.15
Chromium Total	3.6	6.2
Cyanide (total)	ND(0.2)	ND(0.2)
Lead	20 J	5.7 J
Manganese	35 J	41 J
Vanadium	4.4	11

RFI-83-84-44	1 – 3 (ft)	7 – 9 (ft)
VOC		
Benzene	ND(0.037)	ND(0.038)
cis-1,2-Dichloroethene	ND(0.037 J)	ND(0.038 J)
Methylene chloride	0.028 J	0.031 J
Toluene	ND(0.074)	ND(0.077)
Trichloroethene	0.071	ND(0.038)
Vinyl chloride	ND(0.074)	ND(0.077)
SVOC		
Benzo(a)anthracene	7.69 D	0.349
Benzo(a)pyrene	6.43 JD (RDC)	0.285
Benzo(b)fluoranthene	7.31 JD	0.279
Dibenz(a,h)anthracene	1.22 J	ND(0.19)
Indeno(1,2,3-cd)pyrene	2.06	ND(0.19)
Phenanthrene	11.9 D	0.627
Inorganic		
Arsenic	5.1	4.6
Beryllium	0.24	0.25
Chromium Total	42	12
Cyanide (total)	ND(0.2)	21 (RDC)
Lead	480 (RDC)	28
Manganese	290	120
Vanadium	8	16

RFI-83-84-45	0.9 – 2.9 (ft)	7.9 – 9.9 (ft)
VOC		
Benzene	ND(0.035)	ND(0.037) /ND(0.037)
cis-1,2-Dichloroethene	ND(0.035 J)	ND(0.037 J) /ND(0.037 J)
Methylene chloride	0.037 J	0.04 J /0.034 J
Toluene	0.054 J	ND(0.075) /ND(0.073)
Trichloroethene	0.83	ND(0.037) /ND(0.037)
Vinyl chloride	ND(0.07)	ND(0.075) /ND(0.073)
SVOC		
Benzo(a)anthracene	ND(0.17)	ND(0.19) /ND(0.18)
Benzo(a)pyrene	ND(0.17)	ND(0.19) /ND(0.18)
Benzo(b)fluoranthene	ND(0.17)	ND(0.19) /ND(0.18)
Dibenz(a,h)anthracene	ND(0.17)	ND(0.19) /ND(0.18)
Indeno(1,2,3-cd)pyrene	ND(0.17)	ND(0.19) /ND(0.18)
Phenanthrene	0.134 J	ND(0.19) /ND(0.18)
Inorganic		
Arsenic	1.4	2.2 /2.9
Beryllium	0.1	0.12 /0.14
Chromium Total	3.3	6.7 /7.7
Cyanide (total)	ND(0.2)	ND(0.2) /ND(0.2)
Lead	75	5.6 /9.9
Manganese	41	50 /64
Vanadium	4.9	12 /14

RFI-83-84-08	0.7 – 2.7 (ft)	8.7 – 10.7 (ft)
VOC		
Benzene	ND(0.036)	ND(0.045)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.045)
Methylene chloride	ND(0.16 J)	ND(0.19 J)
Toluene	0.035 J	ND(0.045)
Trichloroethene	ND(0.036)	ND(0.045)
Vinyl chloride	ND(0.036)	ND(0.045)
SVOC		
Benzo(a)anthracene	ND(0.17 J)	ND(0.22)
Benzo(a)pyrene	ND(0.17 J)	ND(0.22)
Benzo(b)fluoranthene	ND(0.17 J)	ND(0.22)
Dibenz(a,h)anthracene	ND(0.17 J)	ND(0.22)
Indeno(1,2,3-cd)pyrene	ND(0.17 J)	ND(0.22)
Phenanthrene	ND(0.17)	ND(0.22)
Inorganic		
Arsenic	1.9	10 (RDC)
Beryllium	0.18	0.72
Chromium Total	4.8	22
Cyanide (total)	ND(0.2)	ND(0.2)
Lead	8.7 J	16 J
Manganese	76 J	220 J
Vanadium	8.3	37

RFI-83-84-46	1.5 – 3.5 (ft)	7.5 – 9.5 (ft)	9.5 – 11.5 (ft)
VOC			
Benzene	ND(0.035)	ND(0.035)	ND(0.045)
cis-1,2-Dichloroethene	0.76	0.43	0.037 J
Methylene chloride	0.052 J	ND(0.15)	0.047 J
Toluene	0.036 J	0.026 J	ND(0.09)
Trichloroethene	ND(0.035)	ND(0.035)	ND(0.045)
Vinyl chloride	ND(0.071)	ND(0.07)	ND(0.09)
SVOC			
Benzo(a)anthracene	ND(0.17)	0.337	ND(0.23)
Benzo(a)pyrene	ND(0.17)	0.293 J	ND(0.23)
Benzo(b)fluoranthene	ND(0.17)	0.477 J	ND(0.23)
Dibenz(a,h)anthracene	ND(0.17 J)	ND(0.18 J)	ND(0.23 J)
Indeno(1,2,3-cd)pyrene	ND(0.17 J)	0.0982 J	ND(0.23 J)
Phenanthrene	0.226	2.05	ND(0.23)
Inorganic			
Arsenic	5.6	13 (RDC)	8.1 (RDC)
Beryllium	0.18	0.26	0.41
Chromium Total	20	120	23
Cyanide (total)	ND(0.2)	ND(0.2)	ND(0.3)
Lead	13 J	37 J	13 J
Manganese	310 J	930 J	190 J
Vanadium	17	27	29

RFI-BG-05	0 – 2 (ft)
Inorganic	
Arsenic	6.8 J
Beryllium	0.22
Chromium Total	14 J
Cyanide (total)	NS
Lead	84 J
Manganese	360
Vanadium	14 J

RFI-83-84-54	0.6 – 2.6 (ft)
VOC	
Benzene	ND(0.038)
cis-1,2-Dichloroethene	ND(0.038)
Methylene chloride	ND(0.16)
Toluene	0.038 J
Trichloroethene	ND(0.038)
Vinyl chloride	ND(0.076)
SVOC	
Benzo(a)anthracene	ND(0.93)
Benzo(a)pyrene	ND(0.93)
Benzo(b)fluoranthene	ND(0.93)
Dibenz(a,h)anthracene	ND(0.93 J)
Indeno(1,2,3-cd)pyrene	ND(0.93 J)
Phenanthrene	ND(0.93)
Inorganic	
Arsenic	4.4
Beryllium	0.29
Chromium Total	25
Cyanide (total)	0.36 J
Lead	140
Manganese	280
Vanadium	11

RFI-83-84-47	1 – 3 (ft)	8 – 10 (ft)
VOC		
Benzene	0.025 J /0.026 J	0.043
cis-1,2-Dichloroethene	5 /5.2	1.4
Methylene chloride	ND(0.15) /ND(0.15)	ND(0.17)
Toluene	0.062 J /0.064 J	0.14
Trichloroethene	0.13 /0.15	0.031 J
Vinyl chloride	0.23 /0.24	0.078 J
SVOC		
Benzo(a)anthracene	ND(0.88) /0.366	0.846 J
Benzo(a)pyrene	ND(0.88 J) /ND(0.18 J)	ND(2 J)
Benzo(b)fluoranthene	ND(0.88 J) /ND(0.18 J)	ND(2 J)
Dibenz(a,h)anthracene	ND(0.88 J) /ND(0.18 J)	ND(2 J)
Indeno(1,2,3-cd)pyrene	ND(0.88 J) /ND(0.18 J)	ND(2 J)
Phenanthrene	0.67 J /0.876	2.46
Inorganic		
Arsenic	3.4 /5.4	11 (RDC)
Beryllium	0.27 /0.51	0.51
Chromium Total	8.5 /20	53
Cyanide (total)	ND(0.2) /ND(0.2)	0.29 J
Lead	14 /16	840 (RDC)
Manganese	150 /110	1100
Vanadium	13 /17	16

RFI-83-84-48	1 – 3 (ft)	7 – 9 (ft)
VOC		
Benzene	ND(0.037)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.04)
Methylene chloride	ND(0.16)	ND(0.17)
Toluene	0.038 J	ND(0.079)
Trichloroethene	ND(0.037)	ND(0.04)
Vinyl chloride	ND(0.073)	ND(0.079)
SVOC		
Benzo(a)anthracene	0.0964 J	ND(0.97)
Benzo(a)pyrene	0.0894 J	ND(0.97 J)
Benzo(b)fluoranthene	0.119 J	ND(0.97 J)
Dibenz(a,h)anthracene	ND(0.18 J)	ND(0.97 J)
Indeno(1,2,3-cd)pyrene	ND(0.18 J)	ND(0.97 J)
Phenanthrene	0.282	ND(0.97)
Inorganic		
Arsenic	3.7	16 (RDC)
Beryllium	0.28	0.55
Chromium Total	15	12
Cyanide (total)	ND(0.2)	ND(0.2)
Lead	6.3	13
Manganese	490	690
Vanadium	14	24

RFI-83-84-24	0.8 – 2.8 (ft)	4.8 – 6.8 (ft)	6.8 – 8.8 (ft)
VOC			
Benzene	ND(0.037) /ND(0.036)	0.17 J	0.08
cis-1,2-Dichloroethene	ND(0.037) /ND(0.036)	ND(0.038)	ND(0.04)
Methylene chloride	ND(0.16) /ND(0.15)	ND(0.16)	ND(0.17)
Toluene	ND(0.037) /ND(0.036)	0.099 J	0.03 J
Trichloroethene	ND(0.037) /ND(0.036)	ND(0.038)	ND(0.04)
Vinyl chloride	ND(0.037) /ND(0.036)	ND(0.038)	ND(0.04)
SVOC			
Benzo(a)anthracene	ND(0.17) /ND(0.17)	1.6 J	1.52 J
Benzo(a)pyrene	ND(0.17) /ND(0.17)	ND(0.94 J)	0.409 J
Benzo(b)fluoranthene	ND(0.17) /ND(0.17)	ND(0.94 J)	0.698 J
Dibenz(a,h)anthracene	ND(0.17) /ND(0.17)	ND(0.94 J)	ND(0.98 J)
Indeno(1,2,3-cd)pyrene	ND(0.17) /ND(0.17)	ND(0.94 J)	0.373 J
Phenanthrene	ND(0.17) /ND(0.17)	2.97 J	6.07 JD
Inorganic			
Arsenic	2.7 J /2.8 J	11 J (RDC)	10 J (RDC)
Beryllium	0.24 J /0.2 J	6.2 J	0.98 J
Chromium Total	6.1 /4.8	180	28
Cyanide (total)	ND(0.2 J) /ND(0.2 J)	ND(0.2 J)	0.044 J
Lead	5.3 /4.8	3200 (IDC,RDC)	600 (RDC)
Manganese	150 /140	1800 (IPSIC)	430
Vanadium	6.2 /6.4	38	18

RFI-83-84-30	0.7 – 2.7 (ft)	8.7 – 10.7 (ft)
Inorganic		
Arsenic	2.4	6.2
Beryllium	0.17	1.1
Chromium Total	24 J	24 J
Cyanide (total)	NS	NS
Lead	42	73
Manganese	200 J	340 J
Vanadium	6.8	29

RFI-83-84-31	1 – 3 (ft)	7 – 9 (ft)
Inorganic		
Arsenic	3	2.2
Beryllium	0.11	0.19
Chromium Total	5.6 J	24 J
Cyanide (total)	NS	NS
Lead	3.6	37
Manganese	140 J	200 J
Vanadium	9.4	10

RFI-83-84-13	1.1 – 3.1 (ft)	3.1 – 5.1 (ft)
Inorganic		
Arsenic	NS	NS
Beryllium	NS	NS
Chromium Total	NS	NS
Cyanide (total)	NS	NS
Lead	78	640 (RDC)
Manganese	NS	NS
Vanadium	NS	NS

RFI-83-84-32	0.7 – 2.7 (ft)
Inorganic	
Arsenic	5
Beryllium	0.22
Chromium Total	27 J
Cyanide (total)	NS
Lead	110
Manganese	240 J
Vanadium	9.2

RFI-83-84-15	1.2 – 3 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	NS
Lead	35 J
Manganese	NS
Vanadium	NS

RFI-83-84-40	1 – 2.5 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	NS
Lead	3000 (IDC,RDC)
Manganese	NS
Vanadium	NS

RFI-83-84-22	1.1 – 3.1 (ft)	3.1 – 5.1 (ft)	7.1 – 9.1 (ft)
VOC			
Benzene	0.22	0.081	ND(0.04)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.04)	ND(0.04)
Methylene chloride	ND(0.16)	ND(0.17)	ND(0.17)
Toluene	0.44	0.2	ND(0.04)
Trichloroethene	ND(0.037)	ND(0.039)	ND(0.04)
Vinyl chloride	ND(0.037)	ND(0.039)	ND(0.04)
SVOC			
Benzo(a)anthracene	1.08 J	81.2 D (IDC,RDC)	0.299 J
Benzo(a)pyrene	1.63 J	66.1 JD (IDC,RDC)	ND(0.19 J)
Benzo(b)fluoranthene	1.35 J	62.9 JD (RDC)	ND(0.19 J)
Dibenz(a,h)anthracene	ND(0.9 J)	16.9 J (IDC,RDC)	ND(0.19 J)
Indeno(1,2,3-cd)pyrene	0.925 J	29.1 JD (RDC)	ND(0.19 J)
Phenanthrene	1.95	192 D (IVSIC,RVSIC)	0.811
Inorganic			
Arsenic	2.5 J	7.2 J	5.8 J
Beryllium	0.31 J	0.51 J	0.56 J
Chromium Total	20	37	11
Cyanide (total)	0.24 J	0.23 J	ND(0.2 J)
Lead	530 (RDC)	300	9.5
Manganese	190	380	120
Vanadium	5.3	12	16

RFI-83-84-12	0.7 – 2.7 (ft)	2.7 – 4.7 (ft)
VOC		
Benzene	ND(0.04)	ND(0.042)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.042)
Methylene chloride	ND(0.17)	ND(0.18)
Toluene	0.038 J	ND(0.042)
Trichloroethene	ND(0.04)	ND(0.042)
Vinyl chloride	ND(0.04)	ND(0.042)
SVOC		
Benzo(a)anthracene	0.658 J	0.451 J
Benzo(a)pyrene	ND(0.98 J)	ND(2 J)
Benzo(b)fluoranthene	0.441 J	ND(2 J)
Dibenz(a,h)anthracene	ND(0.98 J)	ND(2 J)
Indeno(1,2,3-cd)pyrene	ND(0.98 J)	ND(2 J)
Phenanthrene	4.52	2.89
Inorganic		
Arsenic	7.5 J	32 J (RDC)
Beryllium	1.1 J	5.3 J
Chromium Total	37	73
Cyanide (total)	0.16 J	0.14 J
Lead	150	2900 (IDC,RDC)
Manganese	630	1500
Vanadium	18	33

RFI-83-84-09	0.8 – 2.8 (ft)	6.8 – 8.8 (ft)
VOC		
Benzene	ND(0.038)	ND(0.042)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.042)
Methylene chloride	ND(0.16)	ND(0.18)
Toluene	ND(0.038)	ND(0.042)
Trichloroethene	ND(0.038)	ND(0.042)
Vinyl chloride	ND(0.038)	ND(0.042)
SVOC		
Benzo(a)anthracene	0.917 J	ND(0.21)
Benzo(a)pyrene	0.71 J	ND(0.21)
Benzo(b)fluoranthene	0.784 J	ND(0.21)
Dibenz(a,h)anthracene	ND(0.93 J)	ND(0.21)
Indeno(1,2,3-cd)pyrene	0.537 J	ND(0.21)
Phenanthrene	3.07	0.049 J
Inorganic		
Arsenic	3.2	2.4
Beryllium	0.24	0.54
Chromium Total	5.6 J	15 J
Cyanide (total)	R	R
Lead	13 J	8.8 J
Manganese	120 J	250 J
Vanadium	10	22

RFI-83-84-04	0 – 2 (ft)	8 – 10 (ft)	12 – 14 (ft)
VOC			
Benzene	ND(0.041)	ND(0.041)	ND(0.029)
cis-1,2-Dichloroethene	ND(0.041)	ND(0.041)	ND(0.029)
Methylene chloride	ND(0.18)	ND(0.18)	ND(0.12)
Toluene	ND(0.041)	ND(0.041)	ND(0.029)
Trichloroethene	ND(0.041)	ND(0.041)	ND(0.029)
Vinyl chloride	ND(0.041)	ND(0.041)	ND(0.029)
SVOC			
Benzo(a)anthracene	1.296 J	ND(0.2 J)	ND(0.2)
Benzo(a)pyrene	1.425 J	ND(0.2 J)	ND(0.2)
Benzo(b)fluoranthene	1.49 J	ND(0.2 J)	ND(0.2)
Dibenz(a,h)anthracene	0.304 J	ND(0.2 J)	ND(0.2)
Indeno(1,2,3-cd)pyrene	1.263 J	ND(0.2 J)	ND(0.2)
Phenanthrene	1.079 J	ND(0.2)	ND(0.2)
Inorganic			
Arsenic	10.7 J (RDC)	3.85 J	4.02 J
Beryllium	NS	NS	NS
Chromium Total	37.5	15.7	14.7
Cyanide (total)	NS	NS	NS
Lead	1570 (IDC,RDC)	14.6	10.9
Manganese	NS	NS	NS
Vanadium	NS	NS	NS

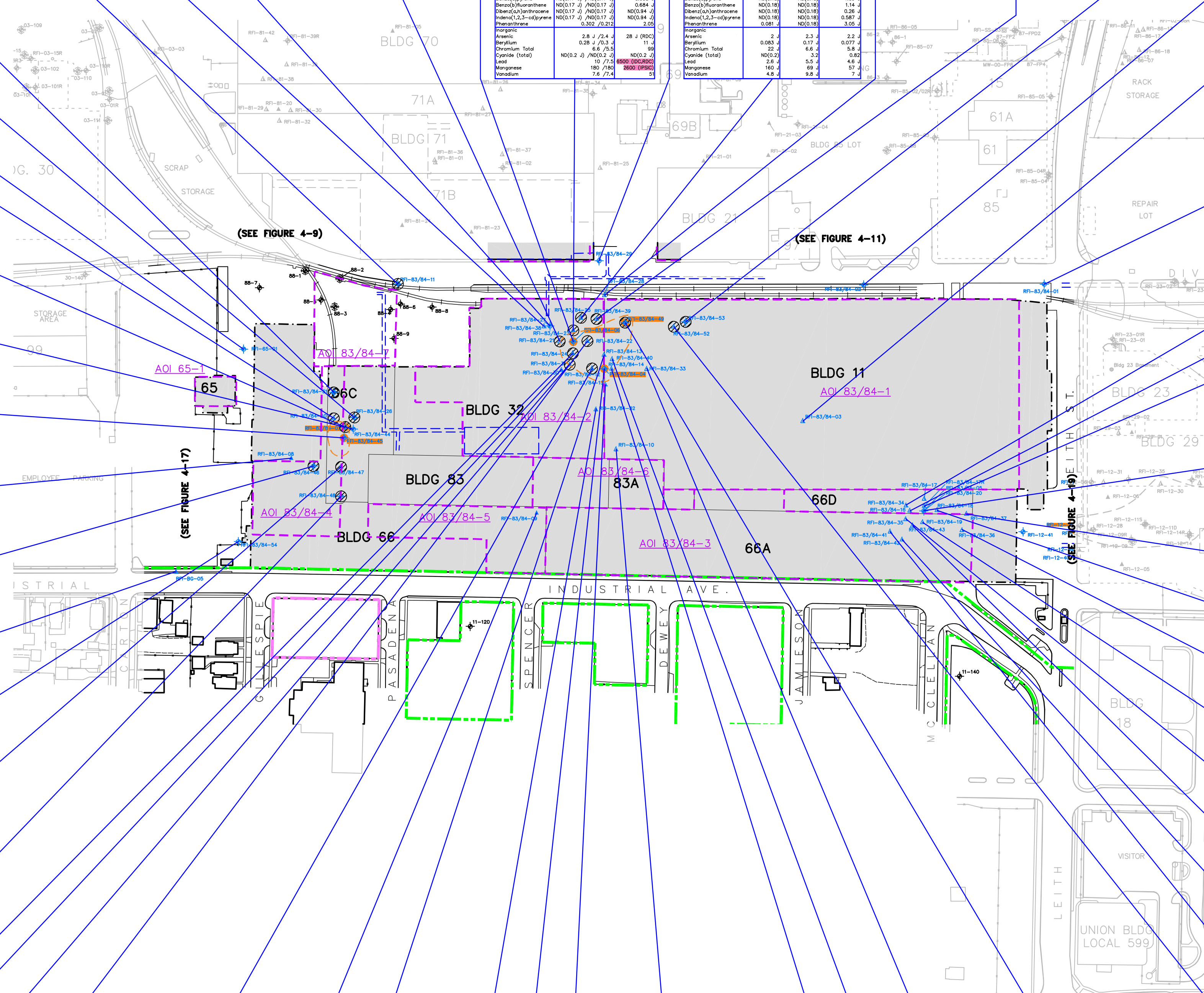
RFI-83-84-10	0 – 2 (ft)	8 – 10 (ft)	10 – 12 (ft)
VOC			
Benzene	ND(0.05)	ND(0.04)	ND(0.042) /ND(0.043)
cis-1,2-Dichloroethene	ND(0.05)	ND(0.04)	ND(0.042) /ND(0.043)
Methylene chloride	ND(0.21)	ND(0.17)	ND(0.18) /ND(0.18)
Toluene	ND(0.05)	ND(0.04)	ND(0.042) /ND(0.043)
Trichloroethene	0.051	ND(0.04)	ND(0.042) /ND(0.043)
Vinyl chloride	ND(0.05)	ND(0.04)	ND(0.042) /ND(0.043)
SVOC			
Benzo(a)anthracene	7.9	0.24 J	ND(0.21) /ND(0.21)
Benzo(a)pyrene	8.3 J (IDC,RDC)	0.2 J	ND(0.21) /ND(0.21)
Benzo(b)fluoranthene	7.8 J	ND(0.19 J)	ND(0.21) /ND(0.21)
Dibenz(a,h)anthracene	0.95 J	ND(0.19 J)	ND(0.21) /ND(0.21)
Indeno(1,2,3-cd)pyrene	5.4 J	ND(0.19 J)	ND(0.21) /ND(0.21)
Phenanthrene	11	1.3	ND(0.21) /ND(0.21)
Inorganic			
Arsenic	5.72 J	2.66 J	4.64 J /4 J
Beryllium	NS	NS	NS
Chromium Total	14.9	12.2	9.21 /5.19
Cyanide (total)	NS	NS	NS
Lead	857 (RDC)	7.62	17 /11.4
Manganese	NS	NS	NS
Vanadium	NS	NS	NS

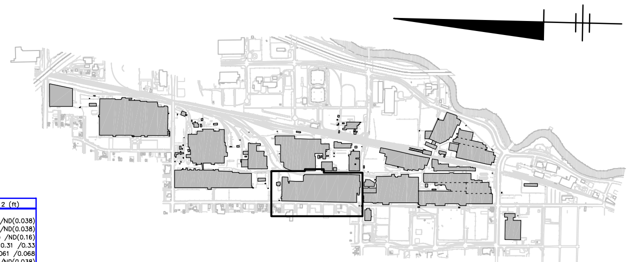
RFI-83-84-14	0.8 – 1 (ft)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	NS
Lead	3600 (IDC,RDC)
Manganese	NS
Vanadium	NS

RFI-83-84-33	1.2 – 3.2 (ft)	7.2 – 9.2 (ft)
Inorganic		
Arsenic	4.7 /4.2	6.4
Beryllium	0.59 /0.54	0.66
Chromium Total	14 J /9.5 J	17 J
Cyanide (total)	NS	NS
Lead	51 /70	53
Manganese	180 J /360 J	290 J
Vanadium	21 /17	27

RFI-83-84-49	0.9 – 2.9 (ft)	4.5 – 6.5 (ft)	8.5 – 10.5 (ft)
VOC			
Benzene	ND(0.038)	ND(0.04)	ND(0.041) /ND(0.04)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.04)	ND(0.041) /ND(0.04)
Methylene chloride	ND(0.16)	ND(0.17)	ND(0.18) /ND(0.17)
Toluene	ND(0.077)	ND(0.08)	ND(0.083) /ND(0.079)
Trichloroethene	ND(0.038)	ND(0.04)	ND(0.041) /ND(0.04)
Vinyl chloride	ND(0.077)	ND(0.08)	ND(0.083) /ND(0.079)
SVOC			
Benzo(a)anthracene	3.25 J	ND(1.9)	0.0766 J /ND(1.9)
Benzo(a)pyrene	3.6 J (RDC)	ND(1.9 J)	ND(0.21 J) /ND(1.9 J)
Benzo(b)fluoranthene	3.75 J	ND(1.9 J)	ND(0.21 J) /ND(1.9 J)
Dibenz(a,h)anthracene	ND(4.7 J)	ND(1.9 J)	ND(0.21 J) /ND(1.9 J)
Indeno(1,2,3-cd)pyrene	ND(4.7 J)	ND(1.9 J)	ND(0.21 J) /ND(1.9 J)
Phenanthrene	9.67	1.47 J	0.266 /ND(1.9)
Inorganic			
Arsenic	3.3	35 (RDC)	2.9 /15 (RDC)
Beryllium	0.22	0.23	0.42 /0.19
Chromium Total	26	20	22 /21
Cyanide (total)	ND(0.2)	0.3 J	ND(0.2) /ND(0.2)
Lead	65	1200 (IDC,RDC)	13 /590 (RDC)
Manganese	290	460	82 /370
Vanadium	10	18	22 /23

RFI-83-84-52	0.9 – 2.9 (ft)	2.9 – 4.9 (ft)	6.9 – 8.9 (ft)
VOC			
Benzene	ND(0.038)	ND(0.038) /ND(0.038)	ND(0.044)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.038) /ND(0.038)	ND(0.044)
Methylene chloride	ND(0.16)	0.03 J /ND(0.16)	ND(0.19)
Toluene	ND(0.075)	ND(0.077) /ND(0.075)	ND(0.088)
Trichloroethene	ND(0.038)	ND(0.038) /ND(0.038)	ND(0.044)
Vinyl chloride	ND(0.075)	ND(0.077) /ND(0.075)	ND(0.088)
SVOC			
Benzo(a)anthracene	ND(1.9 J)	ND(2.9) /0.45 J	0.192 J
Benzo(a)pyrene	ND(1.9 J)	ND(2.9) /ND(0.56)	ND(0.22)
Benzo(b)fluoranthene	ND(1.9 J)	ND(2.9) /ND(0.56)	ND(0.22)
Dibenz(a,h)anthracene	ND(1.9 J)	ND(2.9 J) /ND(0.56 J)	ND(0.22 J)
Indeno(1,2,3-cd)pyrene	ND(1.9 J)	ND(2.9 J) /ND(0.56 J)	ND(0.22 J)
Phenanthrene	1.42 J	2.65 J /2.59	0.971
Inorganic			
Arsenic	4.5	4.1 /3.5	10 (RDC)
Beryllium	0.36	0.26 /0.23	0.81
Chromium Total	12	9.6 /8.6	26
Cyanide (total)	ND(0.2)	ND(0.2) /ND(0.2)	ND(0.3)
Lead	8.4	7.1 /7	16
Manganese	200	180 /130	400
Vanadium	21	18 /18	42





SITE LOCATION

LEGEND

GM PROPERTY BOUNDARY

PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)

DEMOLISHED BUILDING

BUILDING CURRENTLY IDLED

APPROXIMATE AOI BOUNDARY

AOI 81-1 — AOI ID

BASEMENT/TUNNEL AREA

ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL

04-140 — HISTORICAL MONITORING WELL LOCATION

RFI-83/84-03 — RFI SOIL BORING LOCATION

RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION

RFI-09-01 — RFI MONITORING WELL LOCATION

RFI-12-13 — DECOMMISSIONED/DESTORYED MONITORING WELL

RFI-36-01 — RFI PIEZOMETER

LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005

LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED

LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL

EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:

IDC – INDUSTRIAL DIRECT CONTACT

IPSIC – INDUSTRIAL PARTICULATE SOIL INHALATION

NOTES

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. FOR ALL METALS, SITE-SPECIFIC BACKGROUND CONCENTRATIONS ARE SUBTRACTED FROM THE MEASURED CONCENTRATIONS PRIOR TO COMPARING TO PART 201 CRITERIA.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN DRY-WEIGHT MILLIGRAMS PER KILOGRAM (mg/kg).
6. ND (0.039)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. J–ESTIMATED CONCENTRATION.
10. D–CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
11. R–RESULT REJECTED DURING DATA VALIDATION.
12. RDC–EXCEEDS MICHIGAN PART 201 RESIDENTIAL DIRECT CONTACT CRITERIA.
13. RPSIC–EXCEEDS MICHIGAN PART 201 RESIDENTIAL PARTICULATE SOIL INHALATION CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SOIL ANALYTICAL DATA - FACTORY 83/84 (BUILDINGS 11, 32, 65, 66, AND 83) AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 4-15

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C15.DWG

SB-2	9/20/2001
VOC	
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Methylene chloride	ND(0.005)
Toluene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
Dibenz(a,h)anthracene	ND(0.002)
Indeno(1,2,3-cd)pyrene	ND(0.002)
Phenanthrene	ND(0.005)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	ND(0.005)
Lead	NS
Manganese	NS
Vanadium	NS
Inorganic-Dissolved	
Arsenic	0.0064
Beryllium	ND(0.0004)
Chromium Total	ND(0.0006)
Cyanide (total)	ND(0.005)
Lead	ND(0.0004)
Manganese	0.074
Vanadium	ND(0.0008)

RFI-83-84-11	9/24/2001	6/19/2002	4/1/2003	10/7/2004
VOC				
Benzene	0.04 (DW,RDW)	0.16 D (DW,RDW)	0.023 (DW,RDW)	0.067 (DW,RDW)
cis-1,2-Dichloroethene	0.0054	0.0009 J	0.001	ND(0.005)
Methylene chloride	ND(0.005)	ND(0.005 J)	ND(0.005)	0.01 J (DW,RDW)
Toluene	0.011	2.3 D (DW,RDW)	0.012	0.64
Trichloroethene	0.035 (DW,RDW)	0.0019	ND(0.001)	ND(0.005)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.005)
SVOC				
Benzo(a)anthracene	ND(0.0011)	NS	NS	NS
Benzo(a)pyrene	ND(0.0022)	NS	NS	NS
Benzo(b)fluoranthene	ND(0.0022)	NS	NS	NS
Dibenz(a,h)anthracene	ND(0.0022)	NS	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.0022)	NS	NS	NS
Phenanthrene	ND(0.0056)	NS	NS	NS
Inorganic				
Arsenic	NS	0.0047	NS	NS
Beryllium	NS	ND(0.0004 J)	NS	NS
Chromium Total	NS	0.0023	NS	NS
Cyanide (total)	0.0079	0.0048 J	NS	NS
Lead	NS	0.0016	NS	NS
Manganese	NS	0.39	NS	NS
Vanadium	NS	0.0029	NS	NS
Inorganic-Dissolved				
Arsenic	0.0062	0.0034	NS	NS
Beryllium	ND(0.0004 J)	ND(0.0004 J)	NS	NS
Chromium Total	ND(0.0006)	0.0033	NS	NS
Cyanide (total)	0.0064	0.0053	NS	NS
Lead	ND(0.0004)	ND(0.0004)	NS	NS
Manganese	0.56	0.25 J	NS	NS
Vanadium	0.0064 (RDW)	0.0011	NS	NS

RFI-83-84-27	2/21/2002	6/18/2002	4/2/2003	10/7/2004
VOC				
Benzene	ND(0.001)	NS	ND(0.001)	0.0004 J
cis-1,2-Dichloroethene	ND(0.001)	NS	ND(0.001)	ND(0.001)
Methylene chloride	ND(0.005)	NS	ND(0.005)	ND(0.005)
Toluene	ND(0.001)	NS	ND(0.001)	0.0004 J
Trichloroethene	ND(0.001)	NS	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	NS	ND(0.001)	ND(0.001)
SVOC				
Benzo(a)anthracene	ND(0.001)	NS	NS	NS
Benzo(a)pyrene	ND(0.002)	NS	NS	NS
Benzo(b)fluoranthene	ND(0.002)	NS	NS	NS
Dibenz(a,h)anthracene	ND(0.002)	NS	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS	NS	NS
Phenanthrene	ND(0.005)	NS	NS	NS
Inorganic				
Arsenic	NS	0.0031	NS	NS
Beryllium	NS	ND(0.0004 J)	NS	ND(0.001)
Chromium Total	NS	0.001	NS	NS
Cyanide (total)	0.0072	0.0074	NS	NS
Lead	NS	0.00092	NS	NS
Manganese	NS	0.17	NS	NS
Vanadium	NS	0.00054 J	NS	NS
Inorganic-Dissolved				
Arsenic	0.0047 J	NS	NS	NS
Beryllium	0.021 J (DW,RDW)	NS	NS	NS
Chromium Total	0.012	NS	NS	NS
Cyanide (total)	0.0066	NS	NS	NS
Lead	0.00088	NS	NS	NS
Manganese	0.2	NS	NS	NS
Vanadium	ND(0.0008)	NS	NS	NS

RFI-83-84-29	2/21/2002	6/18/2002	4/1/2003
VOC			
Benzene	ND(0.001)	NS	NS
cis-1,2-Dichloroethene	ND(0.001)	NS	NS
Methylene chloride	ND(0.005)	NS	NS
Toluene	ND(0.001)	NS	NS
Trichloroethene	ND(0.001)	NS	NS
Vinyl chloride	ND(0.001)	NS	NS
SVOC			
Benzo(a)anthracene	ND(0.001)	NS	NS
Benzo(a)pyrene	ND(0.002)	NS	NS
Benzo(b)fluoranthene	ND(0.002)	NS	NS
Dibenz(a,h)anthracene	ND(0.002)	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS	NS
Phenanthrene	ND(0.005)	NS	NS
Inorganic			
Arsenic	NS	0.0055	0.0061
Beryllium	NS	ND(0.0004 J)	ND(0.0004)
Chromium Total	NS	0.00071	0.00095
Cyanide (total)	0.0023 J	ND(0.005)	ND(0.005)
Lead	NS	0.0003 J	0.00013 J
Manganese	NS	1.2 (RDW)	0.57 J
Vanadium	NS	ND(0.0008)	ND(0.0008)
Inorganic-Dissolved			
Arsenic	0.0079	NS	NS
Beryllium	0.023 J (DW,RDW)	NS	NS
Chromium Total	0.014	NS	NS
Cyanide (total)	0.0033 J	NS	NS
Lead	0.00062 J	NS	NS
Manganese	1.1 (RDW)	NS	NS
Vanadium	0.00099	NS	NS

RFI-83-84-02	10/1/2001	12/18/2002
VOC		
Benzene	ND(0.001)	NS
cis-1,2-Dichloroethene	ND(0.001)	NS
Methylene chloride	ND(0.005)	NS
Toluene	ND(0.001)	NS
Trichloroethene	ND(0.001)	NS
Vinyl chloride	ND(0.001)	NS
SVOC		
Benzo(a)anthracene	ND(0.001)	NS
Benzo(a)pyrene	ND(0.002)	NS
Benzo(b)fluoranthene	ND(0.002)	NS
Dibenz(a,h)anthracene	ND(0.002)	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS
Phenanthrene	ND(0.005)	NS
Inorganic		
Arsenic	NS	0.0081
Beryllium	NS	ND(0.0004 J)
Chromium Total	NS	0.0018 J
Cyanide (total)	0.0083	0.003 J
Lead	NS	0.00065 J
Manganese	NS	1 (RDW)
Vanadium	NS	0.00024 J
Inorganic-Dissolved		
Arsenic	ND(0.067)	NS
Beryllium	ND(0.0004)	NS
Chromium Total	ND(0.0006)	NS
Cyanide (total)	0.0085	NS
Lead	ND(0.0004)	NS
Manganese	1.1	NS
Vanadium	ND(0.0008)	NS

RFI-83-84-02-ULF	10/1/2001
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	0.01
Lead	NS
Manganese	NS
Vanadium	NS

RFI-83-84-01	9/21/2001	4/4/2005
VOC		
Benzene	0.0011	NS
cis-1,2-Dichloroethene	0.00059 J	NS
Methylene chloride	ND(0.005)	NS
Toluene	ND(0.001)	NS
Trichloroethene	0.0016	NS
Vinyl chloride	ND(0.001)	NS
SVOC		
Benzo(a)anthracene	ND(0.001)	ND(0.005) /ND(0.005)
Benzo(a)pyrene	ND(0.002)	ND(0.005) /ND(0.005)
Benzo(b)fluoranthene	ND(0.002)	ND(0.005) /ND(0.005)
Dibenz(a,h)anthracene	ND(0.002)	ND(0.005) /ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)	ND(0.005) /ND(0.005)
Phenanthrene	ND(0.005)	ND(0.005) /ND(0.005)
Inorganic		
Arsenic	NS	NS
Beryllium	NS	NS
Chromium Total	NS	NS
Cyanide (total)	0.051	NS
Lead	NS	NS
Manganese	NS	NS
Vanadium	NS	NS
Inorganic-Dissolved		
Arsenic	0.0018 J	NS
Beryllium	ND(0.0004)	NS
Chromium Total	0.001	NS
Cyanide (total)	0.05	NS
Lead	ND(0.0004)	NS
Manganese	0.48	NS
Vanadium	ND(0.0008)	NS

SB-7	9/20/2001	6/14/2002
VOC		
Benzene	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)	ND(0.001)
Methylene chloride	ND(0.005)	ND(0.005)
Toluene	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
SVOC		
Benzo(a)anthracene	ND(0.0011)	NS
Benzo(a)pyrene	ND(0.0021)	NS
Benzo(b)fluoranthene	ND(0.0021)	NS
Dibenz(a,h)anthracene	ND(0.0021)	NS
Indeno(1,2,3-cd)pyrene	ND(0.0021)	NS
Phenanthrene	ND(0.0053)	NS
Inorganic		
Arsenic	NS	0.0031
Beryllium	NS	ND(0.0004 J)
Chromium Total	NS	0.00055 J
Cyanide (total)	0.0058	NS
Lead	NS	0.00014 J
Manganese	NS	1.1 J (RDW)
Vanadium	NS	ND(0.0008)
Inorganic-Dissolved		
Arsenic	0.0058	NS
Beryllium	ND(0.0004)	NS
Chromium Total	0.00075	NS
Cyanide (total)	0.0042 J	NS
Lead	ND(0.0004)	NS
Manganese	0.73	NS
Vanadium	ND(0.0008)	NS

RFI-65-01	9/24/2001	6/13/2002	4/1/2003
VOC			
Benzene	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	0.049	0.037	0.019
Methylene chloride	ND(0.005)	ND(0.005)	ND(0.005)
Toluene	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	0.042 (DW,RDW)	0.046 (DW,RDW)	0.036 (DW,RDW)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)
SVOC			
Benzo(a)anthracene	ND(0.0011)	NS	NS
Benzo(a)pyrene	ND(0.0022)	NS	NS
Benzo(b)fluoranthene	ND(0.0022)	NS	NS
Dibenz(a,h)anthracene	ND(0.0022)	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.0022)	NS	NS
Phenanthrene	ND(0.0056)	NS	NS
Inorganic			
Arsenic	NS	ND(0.001)	NS
Beryllium	NS	ND(0.0004 J)	NS
Chromium Total	NS	0.0021	NS
Cyanide (total)	0.004 J	NS	NS
Lead	NS	0.00028 J	NS
Manganese	NS	1.9 J (RDW)	NS
Vanadium	NS	0.00056 J	NS
Inorganic-Dissolved			
Arsenic	ND(0.0018)	NS	NS
Beryllium	ND(0.0004 J)	NS	NS
Chromium Total	0.0013	NS	NS
Cyanide (total)	0.0029 J	NS	NS
Lead	ND(0.0004)	NS	NS
Manganese	1.3 (RDW)	NS	NS
Vanadium	ND(0.0008)	NS	NS

RFI-83-84-51	9/19/2003	10/14/2003
VOC		
Benzene	ND(0.001)	NS
cis-1,2-Dichloroethene	ND(0.001)	NS
Methylene chloride	ND(0.005)	NS
Toluene	ND(0.001)	NS
Trichloroethene	ND(0.001)	NS
Vinyl chloride	ND(0.001)	NS
SVOC		
Benzo(a)anthracene	NS	ND(0.001) /ND(0.001)
Benzo(a)pyrene	NS	ND(0.002) /ND(0.002)
Benzo(b)fluoranthene	NS	ND(0.002) /ND(0.002)
Dibenz(a,h)anthracene	NS	ND(0.002) /ND(0.002)
Indeno(1,2,3-cd)pyrene	NS	ND(0.002) /ND(0.002)
Phenanthrene	NS	ND(0.005) /ND(0.005)
Inorganic		
Arsenic	0.11 J (DW,RDW)	NS
Beryllium	0.14 J (DW,RDW)	NS
Chromium Total	0.016	NS
Cyanide (total)	ND(0.005)	NS
Lead	0.0081 (DW,RDW)	NS
Manganese	0.36 J	NS
Vanadium	0.01 J (RDW)	NS
Inorganic-Dissolved		
Arsenic	0.097 J (DW,RDW)	NS
Beryllium	0.027 J (DW,RDW)	NS
Chromium Total	0.0025 J	NS
Cyanide (total)	ND(0.005)	NS
Lead	0.00052 J	NS
Manganese	0.18 J	NS
Vanadium	ND(0.0008 J)	NS

RFI-83-84-08	7/31/2001
VOC	
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Methylene chloride	ND(0.005)
Toluene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002 J)
Benzo(b)fluoranthene	ND(0.002 J)
Dibenz(a,h)anthracene	ND(0.002 J)
Indeno(1,2,3-cd)pyrene	ND(0.002 J)
Phenanthrene	ND(0.005)
Inorganic-Dissolved	
Arsenic	0.055 (DW,RDW)
Beryllium	ND(0.0004)
Chromium Total	0.0023
Cyanide (total)	0.0021 J
Lead	ND(0.0004)
Manganese	0.16
Vanadium	ND(0.0008)

RFI-83-84-05	7/31/2001
VOC	
Benzene	ND(0.001)
cis-1,2-Dichloroethene	0.003
Methylene chloride	ND(0.005)
Toluene	ND(0.001)
Trichloroethene	0.004
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
Dibenz(a,h)anthracene	ND(0.002)
Indeno(1,2,3-cd)pyrene	ND(0.002)
Phenanthrene	ND(0.005)
Inorganic-Dissolved	
Arsenic	0.036
Beryllium	ND(0.0004)
Chromium Total	0.0036
Cyanide (total)	0.0017 J
Lead	0.02 (DW,RDW)
Manganese	0.41
Vanadium	0.0014

RFI-83-84-20	2/22/2002	6/20/2002	4/2/2003
VOC			
Benzene	ND(0.001)	NS	NS
cis-1,2-Dichloroethene	0.00083 J	NS	NS
Methylene chloride	ND(0.005)	NS	NS
Toluene	ND(0.001)	NS	NS
Trichloroethene	0.0015	NS	NS
Vinyl chloride	ND(0.001)	NS	NS
SVOC			
Benzo(a)anthracene	ND(0.001)	NS	NS
Benzo(a)pyrene	ND(0.002 J)	NS	NS
Benzo(b)fluoranthene	ND(0.002 J)	NS	NS
Dibenz(a,h)anthracene	ND(0.002 J)	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.002 J)	NS	NS
Phenanthrene	ND(0.005)	NS	NS
Inorganic			
Arsenic	NS	0.014	0.023
Beryllium	NS	ND(0.0004)	ND(0.0004)
Chromium Total	NS	0.00061	0.00029 J
Cyanide (total)	0.0011 J	ND(0.005)	ND(0.005)
Lead	NS	0.017 (DW,RDW)	0.0016
Manganese	NS	0.61	0.6 J
Vanadium	NS	ND(0.0008)	0.00009 J
Inorganic-Dissolved			
Arsenic	0.017 J	NS	NS
Beryllium	0.011 J (DW,RDW)	NS	NS
Chromium Total	0.014 J	NS	NS
Cyanide (total)	ND(0.005)	NS	NS
Lead	0.0033 J	NS	NS
Manganese	0.92 J (RDW)	NS	NS
Vanadium	0.0023 J	NS	NS

11-140	9/28/2001
VOC	
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Methylene chloride	ND(0.005)
Toluene	0.00078 J
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.0011 J)
Benzo(a)pyrene	ND(0.0022 J)
Benzo(b)fluoranthene	ND(0.0022 J)
Dibenz(a,h)anthracene	ND(0.0022 J)
Indeno(1,2,3-cd)pyrene	ND(0.0022 J)
Phenanthrene	ND(0.0056 J)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	0.0017 J
Lead	NS
Manganese	NS
Vanadium	NS
Inorganic-Dissolved	
Arsenic	ND(0.001)
Beryllium	ND(0.0004 J)
Chromium Total	ND(0.0006 J)
Cyanide (total)	0.0028 J
Lead	ND(0.0004)
Manganese	0.22
Vanadium	ND(0.0008)

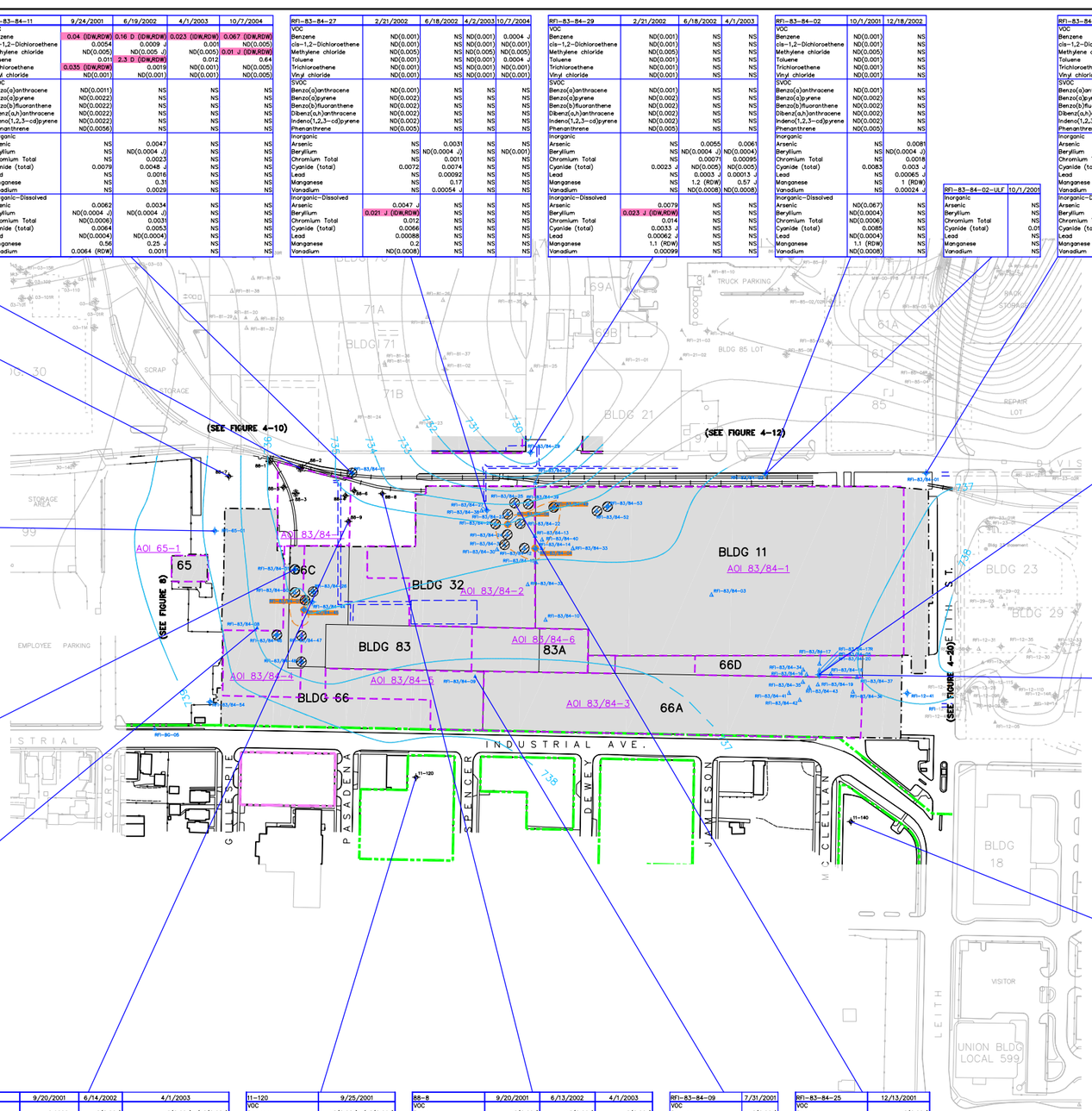
SB-9	9/20/2001	6/14/2002	4/1/2003
VOC			
Benzene	0.00061 J	ND(0.001)	ND(0.001) /ND(0.001)
cis-1,2-Dichloroethene	0.088 D (DW,RDW)	0.024	0.0016 /0.0014
Methylene chloride	ND(0.005)	ND(0.005 J)	ND(0.005) /ND(0.005)
Toluene	ND(0.001)	ND(0.001)	ND(0.001) /ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001) /ND(0.001)
Vinyl chloride	0.15 D (DW,RDW)	0.1 (DW,RDW)	0.1 D (DW,RDW) /0.1 D (DW,RDW)
SVOC			
Benzo(a)anthracene	ND(0.0011)	NS	NS
Benzo(a)pyrene	ND(0.0022)	NS	NS
Benzo(b)fluoranthene	ND(0.0022)	NS	NS
Dibenz(a,h)anthracene	ND(0.0022)	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.0022)	NS	NS
Phenanthrene	ND(0.0056)	NS	NS
Inorganic			
Arsenic	NS	NS	NS
Beryllium	NS	NS	NS
Chromium Total	NS	NS	NS
Cyanide (total)	0.0099	NS	NS
Lead	NS	NS	NS
Manganese	NS	NS	NS
Vanadium	NS	NS	NS
Inorganic-Dissolved			
Arsenic	0.036	NS	NS
Beryllium	ND(0.0004)	NS	NS
Chromium Total	ND(0.0006)	NS	NS
Cyanide (total)	0.0089	NS	NS
Lead	ND(0.0004)	NS	NS
Manganese	0.077	NS	NS
Vanadium	ND(0.0008)	NS	NS

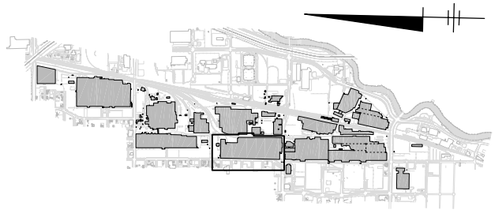
11-120	9/25/2001
VOC	
Benzene	ND(0.001) /ND(0.001)
cis-1,2-Dichloroethene	ND(0.001) /ND(0.001)
Methylene chloride	ND(0.005) /ND(0.005)
Toluene	ND(0.001) /ND(0.001)
Trichloroethene	ND(0.001) /ND(0.001)
Vinyl chloride	ND(0.001) /ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001) /ND(0.001)
Benzo(a)pyrene	ND(0.002) /ND(0.002)
Benzo(b)fluoranthene	ND(0.002) /ND(0.002)
Dibenz(a,h)anthracene	ND(0.002) /ND(0.002)
Indeno(1,2,3-cd)pyrene	ND(0.002) /ND(0.002)
Phenanthrene	ND(0.005) /ND(0.005)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	0.0027 J /0.0033 J
Lead	NS
Manganese	NS
Vanadium	NS
Inorganic-Dissolved	
Arsenic	0.0031 J /0.0026 J
Beryllium	ND(0.0004) /ND(0.0004)
Chromium Total	0.0006 /0.00072
Cyanide (total)	0.0035 J /0.0038 J
Lead	ND(0.0004) /ND(0.0004)
Manganese	0.13 J /0.12 J
Vanadium	ND(0.0008) /ND(0.0008)

68-8	9/20/2001	6/13/2002	4/1/2003
VOC			
Benzene	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	0.0013	0.0009 J	ND(0.001)
Methylene chloride	ND(0.005)	ND(0.005)	ND(0.005)
Toluene	ND(0.001)	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	0.0052 (DW,RDW)	0.0038 (DW,RDW)	0.012 J (DW,RDW)
SVOC			
Benzo(a)anthracene	ND(0.001)	NS	NS
Benzo(a)pyrene	ND(0.002)	NS	NS
Benzo(b)fluoranthene	ND(0.002)	NS	NS
Dibenz(a,h)anthracene	ND(0.002)	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS	NS
Phenanthrene	ND(0.005)	NS	NS
Inorganic			
Arsenic	NS	NS	NS
Beryllium	NS	NS	NS
Chromium Total	NS	NS	NS
Cyanide (total)	0.004 J	NS	NS
Lead	NS	NS	NS
Manganese	NS	NS	NS
Vanadium	NS	NS	NS
Inorganic-Dissolved			
Arsenic	0.039	NS	NS
Beryllium	ND(0.0004)	NS	NS
Chromium Total	ND(0.0006)	NS	NS
Cyanide (total)	0.0049 J	NS	NS
Lead	ND(0.0004)	NS	NS
Manganese	0.4	NS	NS
Vanadium	ND(0.0008)	NS	NS

RFI-83-84-09	7/31/2001
VOC	
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Methylene chloride	ND(0.005)
Toluene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	0.00055 J
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
Dibenz(a,h)anthracene	ND(0.002)
Indeno(1,2,3-cd)pyrene	ND(0.002)
Phenanthrene	ND(0.005)
Inorganic	
Arsenic	0.0094
Beryllium	ND(0.0004)
Chromium Total	0.0014
Cyanide (total)	ND(0.005)
Lead	ND(0.0004)
Manganese	0.17
Vanadium	0.00092

RFI-83-84-25	12/13/2001
VOC	
Benzene	ND(0.001)
cis-1,2-Dichloroethene	0.075 (DW,RDW)
Methylene chloride	ND(0.005)
Toluene	ND(0.001)
Trichloroethene	0.001
Vinyl chloride	0.069 (DW,RDW)
SVOC	
Benzo(a)anthracene	ND(0.0011)
Benzo(a)pyrene	ND(0.0021)
Benzo(b)fluoranthene	ND(0.0021)
Dibenz(a,h)anthracene	ND(0.0021)
Indeno(1,2,3-cd)pyrene	ND(0.0021)
Phenanthrene	ND(0.0053)
Inorganic	
Arsenic	0.1 J (DW,RDW)
Beryllium	0.0046 J (DW,RDW)
Chromium Total	0.0024 J
Cyanide (total)	0.042
Lead	0.00039 J
Manganese	0.17 J
Vanadium	ND(0.0008)
Inorganic-Dissolved	
Arsenic	0.095 (DW,RDW)
Beryllium	0.00081
Chromium Total	ND(0.0006)
Cyanide (total)	0.038
Lead	ND(0.0004)
Manganese	0.12
Vanadium	ND(0.0008)





SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 736 — WATER TABLE ELEVATION CONTOUR (FT AMSL)
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA: IDW – INDUSTRIAL DRINKING WATER

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED IN DECEMBER 2004.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. J–ESTIMATED CONCENTRATION.
10. D–CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
11. RDW–EXCEEDS MICHIGAN PART 201 RESIDENTIAL DRINKING WATER CRITERIA.
12. GSI CRITERIA COMPARED TO SAMPLES LOCATED WITHIN 500 FEET OF THE FLINT RIVER.
13. (ULF) – SAMPLE WAS COLLECTED USING ULTRA LOW-FLOW PROCEDURES TO MINIMIZE TUBIDITY.

0 150' 300'
GRAPHIC SCALE

JULY 2006

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG, X24.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD–BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL–SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR–DL
7/11/06 SYR–85–NES LAF GMS
64410112/RFI–06/64410C16.DWG

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ANALYTICAL DATA - FACTORY 83/84 (BUILDINGS 11, 32, 65, 66, AND 83) AREA

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 4-16

EP 94-02B	0.5 - 2.5 (ft)	2.5 - 4.5 (ft)	4.5 - 6.5 (ft)
VOC			
1,1-Dichloroethene	ND(0.039)	ND(0.038)	ND(0.038)
Benzene	ND(0.039)	ND(0.038)	ND(0.038)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.038)	ND(0.038)
Trichloroethene	ND(0.039)	ND(0.038)	ND(0.038)
Vinyl chloride	ND(0.039)	ND(0.038)	ND(0.038)
SVOC			
Benzo(a)anthracene	ND(0.19 J)	ND(0.19)	ND(0.19)
Benzo(a)pyrene	ND(0.19)	ND(0.19)	ND(0.19)
Benzo(b)fluoranthene	ND(0.19)	ND(0.19)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.19 J)	ND(0.19)	ND(0.19)
Di-n-butylphthalate	ND(0.19)	ND(0.19)	ND(0.19)
Indeno(1,2,3-cd)pyrene	0.137 J	ND(0.19)	ND(0.19)
PCB			
Total PCBs	ND(0.04)	ND(0.038)	ND(0.038)

BD 94 EP-02	0.33 - 2 (ft)	8 - 10 (ft)	16 - 18 (ft)
VOC			
1,1-Dichloroethene	ND(0.039)	ND(0.041)	ND(0.037)
Benzene	ND(0.039)	ND(0.041)	ND(0.037)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.041)	ND(0.037)
Trichloroethene	ND(0.039)	ND(0.041)	ND(0.037)
Vinyl chloride	ND(0.039)	ND(0.041)	ND(0.037)
SVOC			
Benzo(a)anthracene	ND(0.95 J)	ND(0.2)	ND(0.18)
Benzo(a)pyrene	ND(0.95 J)	ND(0.2)	ND(0.18)
Benzo(b)fluoranthene	ND(0.95 J)	ND(0.2)	ND(0.18)
bis(2-Ethylhexyl)phthalate	ND(0.95 J)	ND(0.2)	ND(0.18)
Di-n-butylphthalate	ND(0.95)	ND(0.2)	ND(0.18)
Indeno(1,2,3-cd)pyrene	ND(0.95 J)	ND(0.2 J)	ND(0.18)
PCB			
Total PCBs	6.9 (RDC)	ND(0.04)	ND(0.038)
Inorganic			
Arsenic	6.8 J	10 J (RDC)	5.4 J
Beryllium	0.46	0.69	0.28
Chromium Total	10	23	11 J
Cyanide (total)	0.088 J	ND(0.4)	ND(0.4)
Lead	130 J	10 J	5.8 J
Manganese	390 J	410 J	250 J
Nickel	11	29	13
Selenium	ND(1.9 J)	ND(1.7 J)	ND(1.8 J)
Silver	0.32 J	0.097 J	0.11 J
Vanadium	15 J	38 J	17 J

EP 94-02A	2.5 - 4.5 (ft)	4.5 - 6.5 (ft)
VOC		
1,1-Dichloroethene	ND(0.04)	ND(0.037)
Benzene	ND(0.04)	ND(0.037)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.037)
Trichloroethene	ND(0.04)	ND(0.037)
Vinyl chloride	ND(0.04)	ND(0.037)
SVOC		
Benzo(a)anthracene	ND(0.19 J)	ND(0.18)
Benzo(a)pyrene	ND(0.19 J)	ND(0.18)
Benzo(b)fluoranthene	ND(0.19 J)	ND(0.18)
bis(2-Ethylhexyl)phthalate	ND(0.19 J)	ND(0.18)
Di-n-butylphthalate	ND(0.19)	ND(0.18)
Indeno(1,2,3-cd)pyrene	ND(0.19 J)	ND(0.18)
PCB		
Total PCBs	ND(0.04)	ND(0.037)

EP 94-02D	0.5 - 2.5 (ft)	2.5 - 4.5 (ft)
PCB		
Total PCBs	ND(0.037)	ND(0.04)

EP 94-02C	0.5 - 2.5 (ft)	2.5 - 4.5 (ft)
PCB		
Total PCBs	ND(0.038)	ND(0.039)

BD 94 EP-01	0.5 - 2 (ft)	8 - 10 (ft)	14 - 16 (ft)
VOC			
1,1-Dichloroethene	ND(0.039)	ND(0.04)	ND(0.038)
Benzene	ND(0.039)	ND(0.04)	ND(0.038)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.04)	ND(0.038)
Trichloroethene	ND(0.039)	ND(0.04)	ND(0.038)
Vinyl chloride	ND(0.039)	ND(0.04)	ND(0.038)
SVOC			
Benzo(a)anthracene	ND(0.19)	ND(0.19)	ND(0.18)
Benzo(a)pyrene	ND(0.19)	ND(0.19)	ND(0.18)
Benzo(b)fluoranthene	ND(0.19)	ND(0.19)	ND(0.18)
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(0.19)	ND(0.18)
Di-n-butylphthalate	ND(0.19)	ND(0.19)	ND(0.18)
Indeno(1,2,3-cd)pyrene	ND(0.19)	ND(0.19)	ND(0.18)
PCB			
Total PCBs	ND(0.039)	ND(0.04)	ND(0.038)
Inorganic			
Arsenic	6.9 J	6.3 J	4.9 J
Beryllium	0.38	0.64	0.28
Chromium Total	13	22	14
Cyanide (total)	0.077 J	0.027 J	0.13 J
Lead	8.7 J	10 J	5 J
Manganese	300 J	400 J	230 J
Nickel	15	27	13
Selenium	ND(1.5 J)	ND(1.6 J)	ND(1.6 J)
Silver	0.062 J	0.092 J	0.049 J
Vanadium	24 J	34 J	17 J

RFI-94-08	4 - 6 (ft)	8 - 10 (ft)	21 - 23 (ft)
VOC			
1,1-Dichloroethene	ND(0.041)	ND(0.038) /ND(0.038)	ND(0.039)
Benzene	ND(0.041)	ND(0.038) /ND(0.038)	ND(0.039)
cis-1,2-Dichloroethene	ND(0.041)	ND(0.038) /ND(0.038)	ND(0.039)
Trichloroethene	ND(0.041)	ND(0.038) /ND(0.038)	ND(0.039)
Vinyl chloride	ND(0.082)	ND(0.076) /ND(0.076)	ND(0.078)
SVOC			
Benzo(a)anthracene	ND(0.2)	ND(0.19) /ND(0.19)	ND(0.19)
Benzo(a)pyrene	ND(0.2)	ND(0.19) /ND(0.19)	ND(0.19)
Benzo(b)fluoranthene	ND(0.2)	ND(0.19) /ND(0.19)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.2)	ND(0.19) /ND(0.19)	ND(0.19)
Di-n-butylphthalate	ND(0.2)	ND(0.19) /ND(0.19)	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(0.2)	ND(0.19) /ND(0.19)	ND(0.19)
PCB			
Total PCBs	ND(0.041)	ND(0.039) /ND(0.038)	ND(0.039)
Inorganic			
Arsenic	4.3	5.3 /6.3	2.2
Beryllium	0.54	0.42 /ND(1.4)	0.16
Chromium Total	19	13 /13	8
Cyanide (total)	NS	NS	NS
Lead	62	6 /ND(7)	3.1
Manganese	380	460 /310	150
Nickel	13	19 /14	8.6
Selenium	ND(1)	ND(0.93) /ND(8.4)	ND(0.42)
Silver	ND(0.17)	ND(0.15) /ND(3.5)	ND(0.17)
Vanadium	19	20 /18	12

RFI-94-02	0 - 2 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC			
1,1-Dichloroethene	ND(0.04)	ND(0.039)	ND(0.041)
Benzene	ND(0.04)	ND(0.039)	ND(0.041)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.039)	ND(0.041)
Trichloroethene	ND(0.04)	ND(0.039)	ND(0.041)
Vinyl chloride	ND(0.04)	ND(0.039)	ND(0.041)
SVOC			
Benzo(a)anthracene	0.209	ND(0.19)	ND(0.2)
Benzo(a)pyrene	0.227 J	ND(0.19)	ND(0.2)
Benzo(b)fluoranthene	0.231 J	ND(0.19)	ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.2)	ND(0.19)	ND(0.2)
Di-n-butylphthalate	ND(0.2)	ND(0.19)	ND(0.2)
Indeno(1,2,3-cd)pyrene	0.112 J	ND(0.19)	ND(0.2)
PCB			
Total PCBs	ND(0.04)	ND(0.04)	ND(0.04)
Inorganic			
Arsenic	8.2 J (RDC)	4.2 J	5.1 J
Beryllium	0.47 J	0.5 J	0.3 J
Chromium Total	17 J	20 J	13
Cyanide (total)	0.099 J	ND(0.2)	ND(0.4)
Lead	110 J	8.7 J	7.1 J
Manganese	420 J	300 J	360 J
Nickel	12 J	23 J	17 J
Selenium	ND(0.56)	ND(0.22)	ND(0.27)
Silver	0.2 J	0.087 J	0.13 J
Vanadium	21 J	26 J	18 J

RFI-94-04	0.4 - 2 (ft)	8 - 10 (ft)
VOC		
1,1-Dichloroethene	ND(0.041) /ND(0.038)	ND(0.039)
Benzene	ND(0.041) /ND(0.038)	ND(0.039)
cis-1,2-Dichloroethene	ND(0.041) /ND(0.038)	ND(0.039)
Trichloroethene	ND(0.041) /ND(0.038)	ND(0.039)
Vinyl chloride	ND(0.041) /ND(0.038)	ND(0.039)
SVOC		
Benzo(a)anthracene	0.123 J /0.173 J	ND(0.19)
Benzo(a)pyrene	ND(0.2) /0.095 J	ND(0.19)
Benzo(b)fluoranthene	ND(0.2 J) /0.158 J	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.2) /ND(0.19)	ND(0.19 J)
Di-n-butylphthalate	0.152 J /0.143 J	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(0.2) /ND(0.19)	ND(0.19)
PCB		
Total PCBs	ND(0.041) /ND(0.039)	ND(0.039)
Inorganic		
Arsenic	8.1 (RDC) /6.1	8.2 (RDC)
Beryllium	0.91 /0.51	0.39
Chromium Total	39 /63	14
Cyanide (total)	0.028 J /0.092 J	0.04 J
Lead	120 /110	8
Manganese	560 /460	310
Nickel	38 /40	18
Selenium	0.86 J /ND(1.4)	ND(1.8)
Silver	0.15 J /0.066 J	0.076 J
Vanadium	22 J /14 J	19 J

RFI-84-11	0.5 - 2.5 (ft)	3.5 - 5.5 (ft)
VOC		
1,1-Dichloroethene	ND(0.06) /ND(0.06)	ND(0.05)
Benzene	ND(0.06) /ND(0.06)	0.03 J
cis-1,2-Dichloroethene	ND(0.06) /ND(0.06)	ND(0.05)
Trichloroethene	ND(0.06) /ND(0.06)	0.03 J
Vinyl chloride	ND(0.1) /ND(0.1)	ND(0.1)

RFI-84-08	2 - 3 (ft)	8 - 10 (ft)	28 - 30 (ft)
VOC			
1,1-Dichloroethene	ND(0.05)	ND(0.07)	ND(0.07)
Benzene	ND(0.05)	ND(0.07)	ND(0.07)
cis-1,2-Dichloroethene	ND(0.05)	ND(0.07)	ND(0.07)
Trichloroethene	ND(0.05)	0.02 J	ND(0.07)
Vinyl chloride	ND(0.1)	ND(0.1)	ND(0.1)
SVOC			
Benzo(a)anthracene	ND(0.33)	0.2 J	ND(0.33)
Benzo(a)pyrene	ND(0.33)	0.1 J	ND(0.33)
Benzo(b)fluoranthene	ND(0.33)	0.1 J	ND(0.33)
bis(2-Ethylhexyl)phthalate	ND(0.33)	ND(0.33)	ND(0.33)
Di-n-butylphthalate	ND(0.33)	ND(0.33)	ND(0.33)
Indeno(1,2,3-cd)pyrene	ND(0.33)	0.3 J	ND(0.33)
PCB			
Total PCBs	ND(0.33)	ND(0.33)	ND(0.33)
Inorganic			
Arsenic	ND(0.68)	2.71	6.14
Beryllium	0.09 J	0.5	0.12 J
Chromium Total	28.5	3.6	2.9
Cyanide (total)	ND(0.1)	ND(0.1)	ND(0.1)
Lead	3.9	170	5.3
Manganese	155	303	360
Nickel	8.2	8.5	7
Selenium	ND(0.2)	ND(0.58)	ND(0.82)
Silver	ND(0.1)	ND(0.1)	ND(0.1)
Vanadium	1.7	7.4	5.3

RFI-84-09	0.5 - 2.5 (ft)	8 - 10 (ft)
VOC		
1,1-Dichloroethene	ND(0.05)	ND(0.07)
Benzene	ND(0.05)	ND(0.07)
cis-1,2-Dichloroethene	ND(0.05)	ND(0.07)
Trichloroethene	ND(0.05)	ND(0.07)
Vinyl chloride	ND(0.1)	ND(0.1)

RFI-94-11	1.5 - 3.5 (ft)	8 - 10 (ft)	10.5 - 12.5 (ft)
VOC			
1,1-Dichloroethene	ND(0.06)	ND(0.06)	ND(0.06)
Benzene	ND(0.06)	ND(0.06)	ND(0.06)
cis-1,2-Dichloroethene	ND(0.06)	ND(0.06)	ND(0.06)
Trichloroethene	ND(0.06)	ND(0.06)	ND(0.06)
Vinyl chloride	ND(0.1)	ND(0.1)	ND(0.1)
SVOC			
Benzo(a)anthracene	ND(0.3)	ND(0.3)	ND(0.3)
Benzo(a)pyrene	ND(0.3)	ND(0.3)	ND(0.3)
Benzo(b)fluoranthene	ND(0.3)	ND(0.3)	ND(0.3)
bis(2-Ethylhexyl)phthalate	ND(0.3)	ND(0.3)	ND(0.3)
Di-n-butylphthalate	ND(0.3)	ND(0.3)	ND(0.3)
Indeno(1,2,3-cd)pyrene	ND(0.3)	ND(0.3)	ND(0.3)
PCB			
Total PCBs	ND(0.33)	ND(0.33)	ND(0.33)
Inorganic			
Arsenic	1.34 J	3.29 J	4.65 J
Beryllium	0.24	0.229	0.173
Chromium Total	4.47	6.19	4.13
Cyanide (total)	ND(0.1)	ND(0.1)	ND(0.1)
Lead	80.2	6.95	5.53
Manganese	304	421	288
Nickel	4.75	13.6	7.96
Selenium	0.26	0.44	0.62
Silver	ND(0.2)	ND(0.2)	ND(0.2)
Vanadium	5.39	10.1	6.74

RFI-94-07	2 - 4 (ft)	4 - 6 (ft)
VOC		
1,1-Dichloroethene	ND(0.039)	ND(0.042)
Benzene	ND(0.039)	ND(0.042)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.042)
Trichloroethene	ND(0.039)	ND(0.042)
Vinyl chloride	ND(0.039)	ND(0.042)
SVOC		
Benzo(a)anthracene	ND(0.96)	ND(0.2)
Benzo(a)pyrene	ND(0.96)	ND(0.2)
Benzo(b)fluoranthene	ND(0.96)	ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.96)	ND(0.2)
Di-n-butylphthalate	ND(0.96)	ND(0.2)
Indeno(1,2,3-cd)pyrene	ND(0.96)	ND(0.2)
PCB		
Total PCBs	ND(0.04)	ND(0.041)
Inorganic		
Arsenic	16 J (RDC)	4.8 J
Beryllium	0.6	0.51
Chromium Total	12 J	20 J
Cyanide (total)	ND(0.2 J)	ND(0.2 J)
Lead	16 J	8.3 J
Manganese	1300 J	350 J
Nickel	22	20
Selenium	0.64 J	1.1
Silver	0.15 J	0.17
Vanadium	52 J	31 J

RFI-94-01	0.5 - 2 (ft)	2 - 4 (ft)
VOC		
1,1-Dichloroethene	ND(0.037)	ND(0.04)
Benzene	ND(0.037)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.037 J)	ND(0.04 J)
Trichloroethene	ND(0.037)	ND(0.04)
Vinyl chloride	ND(0.037)	ND(0.04)
SVOC		
Benzo(a)anthracene	ND(0.18)	ND(0.19)
Benzo(a)pyrene	ND(0.18)	ND(0.19)
Benzo(b)fluoranthene	ND(0.18)	ND(0.19)
bis(2-Ethylhexyl)phthalate	0.102 J	ND(0.19)
Di-n-butylphthalate	ND(0.18)	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(0.18)	ND(0.19)
PCB		
Total PCBs	ND(0.037)	ND(0.04)
Inorganic		
Arsenic	2.9	2.5
Beryllium	0.11 J	0.11 J
Chromium Total	5.4	4.5
Cyanide (total)	ND(0.2)	ND(0.2)
Lead	4.2 J	3.1 J
Manganese	110	95
Nickel	5.5	4.9 J
Selenium	ND(1.7 J)	ND(1.4 J)
Silver	ND(0.19 J)	ND(0.15)
Vanadium	8.3	7.7

RFI-17-01	0.7 - 2 (ft)	2 - 4 (ft)
VOC		
1,1-Dichloroethene	ND(0.039)	ND(0.041)
Benzene	0.082	0.025 J
cis-1,2-Dichloroethene	ND(0.039 J)	ND(0.041 J)
Trichloroethene	ND(0.039)	ND(0.041)
Vinyl chloride	ND(0.039)	ND(0.041)
SVOC		
Benzo(a)anthracene	0.195 J	0.119 J
Benzo(a)pyrene	0.293 J	0.168 J
Benzo(b)fluoranthene	0.526 J	0.253
bis(2-Ethylhexyl)phthalate	ND(0.19 J)	ND(0.2)
Di-n-butylphthalate	0.0505 J	ND(0.2)
Indeno(1,2,3-cd)pyrene	0.19 J	0.119 J
PCB		
Total PCBs	0.147 J	0.22
Inorganic		
Arsenic	13 (RDC)	12 (RDC)
Beryllium	0.45	0.41
Chromium Total	31	26
Cyanide (total)	0.0053 J	0.061 J
Lead	65 J	53 J
Manganese	490	400
Nickel	16 J	16 J
Selenium	0.63 J	0.59 J
Silver	0.15 J	0.094 J
Vanadium	11	12

RFI-84-10	0.7 - 2.7 (ft)	2.7 - 4.7 (ft)
VOC		
1,1-Dichloroethene	ND(0.05)	ND(0.06)
Benzene	ND(0.05)	ND(0.06)
cis-1,2-Dichloroethene	ND(0.05)	ND(0.06)
Trichloroethene	ND(0.05)	ND(0.06)
Vinyl chloride	ND(0.1)	ND(0.1)

RFI-84-03	0.8 - 2 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC			
1,1-Dichloroethene	ND(0.037)	ND(0.042)	ND(0.042)
Benzene	ND(0.037)	ND(0.042)	ND(0.042)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.042)	ND(0.042)
Trichloroethene	ND(0.037)	ND(0.042)	ND(0.042)
Vinyl chloride	ND(0.037)	ND(0.042)	ND(0.042)
SVOC			
Benzo(a)anthracene	0.0888 J	ND(0.2)	ND(0.2)
Benzo(a)pyrene	0.0838 J	ND(0.2)	ND(0.2)
Benzo(b)fluoranthene	0.102 J	ND(0.2)	ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.2 J)	ND(0.2 J)
Di-n-butylphthalate	0.0802 J	0.0561 J	0.0734 J
Indeno(1,2,3-cd)pyrene	0.0435 J	ND(0.2)	ND(0.2)
PCB			
Total PCBs	ND(0.037)	ND(0.042)	ND(0.041)
Inorganic			
Arsenic	6.8	11 (RDC)	6.2
Beryllium	0.55	0.56	0.1 J
Chromium Total	14	19	3.4
Cyanide (total)	ND(0.2)	ND(0.4)	0.053 J
Lead	16	10	2.1
Manganese	420	330	84
Nickel	20	24	3.7
Selenium	ND(1.3)	ND(1.8)	ND(1.8)
Silver	0.083 J	0.099 J	0.063 J
Vanadium	18 J	27 J	4 J

RFI-17-02	0.3 - 2 (ft)	4 - 6 (ft)
VOC		
1,1-Dichloroethene	ND(0.04)	ND(0.043)
Benzene	ND(0.04)	ND(0.043)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.043)
Trichloroethene	ND(0.04)	ND(0.043)
Vinyl chloride	ND(0.04)	ND(0.043)
SVOC		
Benzo(a)anthracene	0.15 J	ND(0.21)
Benzo(a)pyrene	0.136 J	ND(0.21)
Benzo(b)fluoranthene	0.133 J	ND(0.21)
bis(2-Ethylhexyl)phthalate	ND(0.2)	ND(0.21)
Di-n-butylphthalate	ND(0.2)	ND(0.21)
Indeno(1,2,3-cd)pyrene	0.0563 J	ND(0.21)
PCB		
Total PCBs	ND(0.041)	ND(0.043)
Inorganic		
Arsenic	10 (RDC)	14 (RDC)
Beryllium	2.1	0.72
Chromium Total	11 J	18 J
Cyanide (total)	0.28	ND(0.2)
Lead	270	11
Manganese	200	270
Nickel	34 J	21 J
Selenium	1.1 J	ND(1.7)
Silver	0.11 J	0.089 J
Vanadium	18 J	31 J

RFI-84-02	0.8 - 2 (ft)	8 - 10 (ft)
VOC		
1,1-Dichloroethene	ND(0.038)	ND(0.039)
Benzene	ND(0.038)	ND(0.039)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.039)
Trichloroethene	ND(0.038)	ND(0.039)
Vinyl chloride	ND(0.038)	ND(0.039)
SVOC		
Benzo(a)anthracene	0.905 J	ND(0.19)
Benzo(a)pyrene	0.77 J	ND(0.19)
Benzo(b)fluoranthene	0.933 J	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(0.19 J)
Di-n-butylphthalate	ND(0.19)	0.0889 J
Indeno(1,2,3-cd)pyrene	0.411 J	ND(0.19)
PCB		
Total PCBs	ND(0.038)	ND(0.039)
Inorganic		
Arsenic	4.3	2
Beryllium	0.34	0.092 J
Chromium Total	7.6	3.5
Cyanide (total)	0.04 J	ND(0.2)
Lead	47	2.2
Manganese	220	57
Nickel	11	4.1
Selenium	ND(1.3)	ND(1.5)
Silver	0.06 J	ND(0.17)
Vanadium	10 J	4.3 J

RFI-84-01	0.5 - 2 (ft)	8 - 10 (ft)	16 - 17.5 (ft)
VOC			
1,1-Dichloroethene	ND(0.04)	ND(0.039)	ND(0.038)
Benzene	ND(0.04)	ND(0.039)	ND(0.038)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.039)	ND(0.038)
Trichloroethene	0.49	ND(0.039)	ND(0.038)
Vinyl chloride	ND(0.04)	ND(0.039)	ND(0.038)
SVOC			
Benzo(a)anthracene	1.237 J	ND(0.19)	ND(0.19)
Benzo(a)pyrene	1.081 J	ND(0.19)	ND(0.19)
Benzo(b)fluoranthene	1.307 J	ND(0.19)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(0.19 J)	ND(0.19 J)
Di-n-butylphthalate	0.052 J	ND(0.19)	ND(0.19)
Indeno(1,2,3-cd)pyrene	0.493 J	ND(0.19)	ND(0.19)
PCB			
Total PCBs	ND(0.04)	ND(0.038)	ND(0.038)
Inorganic			
Arsenic	12 (RDC)	4.9	8 (RDC)
Beryllium	3.7	0.43	1.5
Chromium Total	15	16	19
Cyanide (total)	0.65	0.017 J	ND(0.4)
Lead	600 (RDC)	7.9	200
Manganese	370	350	420
Nickel	48	20	28
Selenium	1.2 J	ND(1.3)	ND(1.4)
Silver	0.31	0.087 J	0.14 J
Vanadium	23 J	20 J	20 J

RFI-09-48	0.5 - 2.5 (ft)	8.5 - 10.5 (ft)
VOC		
1,1-Dichloroethene	ND(0.039)	ND(0.046)
Benzene	ND(0.039)	ND(0.046)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.046)
Trichloroethene	ND(0.039)	ND(0.046)
Vinyl chloride	ND(0.078)	ND(0.093)
SVOC		
Benzo(a)anthracene	ND(0.95)	ND(0.2)
Benzo(a)pyrene	ND(0.95 J)	ND(0.2)
Benzo(b)fluoranthene	ND(0.95 J)	ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.95)	ND(0.2)
Di-n-butylphthalate	ND(0.95)	ND(0.2)
Indeno(1,2,3-cd)pyrene	ND(0.95)	ND(0.2)
PCB		
Total PCBs	ND(0.039)	ND(0.042)
Inorganic		
Arsenic	10 J (RDC)	9 J (RDC)
Beryllium	0.59 J	2.4 J
Chromium Total	150	11
Cyanide (total)	0.24	ND(0.2)
Lead	61 J	19 J
Manganese	1800 (IPSIC)	340
Nickel	87 J	32 J
Selenium	0.35 J	0.82 J
Silver	0.15 J	0.12 J
Vanadium	15 J	27 J

RFI-84-06	0.9 - 2 (ft)	4 - 6 (ft)
VOC		
1,1-Dichloroethene	ND(0.038)	ND(0.039)
Benzene	0.011 J	ND(0.039)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.039)
Trichloroethene	ND(0.038)	ND(0.039)
Vinyl chloride	ND(0.038)	ND(0.039)
SVOC		
Benzo(a)anthracene	0.487 J	ND(0.19)
Benzo(a)pyrene	0.552 J	ND(0.19)
Benzo(b)fluoranthene	0.537 J	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(0.19)
Di-n-butylphthalate	ND(0.19)	ND(0.19)
Indeno(1,2,3-cd)pyrene	0.25 J	ND(0.19)
PCB		
Total PCBs	ND(0.038)	ND(0.039)
Inorganic		
Arsenic	6.4 J	6.3 J
Beryllium	2.9 J	0.48 J
Chromium Total	11	16
Cyanide (total)	0.062 J	0.0054 J
Lead	430 J (RDC)	7 J
Manganese	380 J	240 J
Nickel	32	17
Selenium	ND(1.6)	ND(1.7)
Silver	0.15 J	0.056 J
Vanadium	19	23

RFI-84-07	2 - 4 (ft)	8 - 10 (ft)	14 - 16 (ft)
VOC			
1,1-Dichloroethene	ND(0.06)	ND(0.07)	ND(0.06)
Benzene	ND(0.06)	ND(0.07)	ND(0.06)
cis-1,2-Dichloroethene	ND(0.06)	ND(0.07)	ND(0.06)
Trichloroethene	ND(0.06)	ND(0.07)	ND(0.06)
Vinyl chloride	ND(0.1)	ND(0.1)	ND(0.1)
SVOC			
Benzo(a)anthracene	ND(0.33)	ND(0.33)	ND(0.33)
Benzo(a)pyrene	ND(0.33)	ND(0.33)	ND(0.33)
Benzo(b)fluoranthene	ND(0.33)	ND(0.33)	ND(0.33)
bis(2-Ethylhexyl)phthalate	ND(0.33)	ND(0.33)	ND(0.33)
Di-n-butylphthalate	ND(0.33)	ND(0.33)	ND(0.33)
Indeno(1,2,3-cd)pyrene	ND(0.33)	ND(0.33)	ND(0.33)
PCB			
Total PCBs	ND(0.33)	ND(0.33)	ND(0.33)
Inorganic			
Arsenic	1.82	1.8	2.78
Beryllium	0.19 J	0.18 J	0.51
Chromium Total	3.7	3.6	13.1
Cyanide (total)	ND(0.1)	ND(0.1)	ND(0.1)
Lead	13.1	4.8	11
Manganese	330	204	442
Nickel	7.8	6.1	24.7
Selenium	ND(0.87)	ND(0.64)	ND(0.92)
Silver	ND(0.1)	ND(0.1)	ND(0.1)
Vanadium	6.2	6.5	16.2

BD 94 EP-03	0.5 - 2 (ft)	8 - 10 (ft)	16 - 18 (ft)
VOC			
1,1-Dichloroethene	ND(0.039)	ND(0.038)	ND(0.043) /ND(0.042)
Benzene	ND(0.039)	ND(0.038)	ND(0.043) /ND(0.042)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.038)	ND(0.043) /ND(0.042)
Trichloroethene	ND(0.039)	ND(0.038)	ND(0.043) /ND(0.042)
Vinyl chloride	ND(0.039)	ND(0.038)	ND(0.043) /ND(0.042)
SVOC			
Benzo(a)anthracene	ND(0.19)	ND(0.19)	ND(0.21) /ND(0.2)
Benzo(a)pyrene	ND(0.19)	ND(0.19)	ND(0.21) /ND(0.2)
Benzo(b)fluoranthene	ND(0.19)	ND(0.19)	ND(0.21) /ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(0.19)	ND(0.21) /ND(0.2)
Di-n-butylphthalate	ND(0.19)	ND(0.19)	ND(0.21) /ND(0.2)
Indeno(1,2,3-cd)pyrene	ND(0.19)	ND(0.19)	ND(0.21) /ND(0.2)
PCB			
Total PCBs	ND(0.039)	ND(0.039)	ND(0.043) /ND(0.042)
Inorganic			
Arsenic	8.4 J (RDC)	5 J	10 J (RDC) /9.9 J (RDC)
Beryllium	0.52	0.4	0.81 /0.81
Chromium Total	15	14	28 /28
Cyanide (total)	0.14 J	0.059 J	0.039 J /0.079 J
Lead	12 J	7.4 J	14 J /13 J
Manganese	300 J	310 J	400 J /420 J
Nickel	16	17	35 /34
Selenium	ND(2 J)	ND(1.6 J)	ND(1.6 J) /ND(1.9 J)
Silver	0.17 J	0.082 J	0.16 J /0.15 J
Vanadium	24 J	23 J	45 J /41 J

RFI-94-03	0.8 - 2 (ft)	2 - 4 (ft)
VOC		
1,1-Dichloroethene	ND(0.04)	ND(0.04)
Benzene	ND(0.04)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.04)
Trichloroethene	ND(0.04)	ND(0.04)
Vinyl chloride	ND(0.04)	ND(0.04)
SVOC		
Benzo(a)anthracene	0.0927 J	0.252 J
Benzo(a)pyrene	0.0684 J	0.183 J
Benzo(b)fluoranthene	0.0954 J	0.261 J
bis(2-Ethylhexyl)phthalate	0.0861 J	ND(0.2)
Di-n-butylphthalate	ND(0.2)	0.069 J
Indeno(1,2,3-cd)pyrene	0.0348 J	ND(0.2)
PCB		
Total PCBs	ND(0.041)	ND(0.041)
Inorganic		
Arsenic	3.3	2
Beryllium	0.25	0.35
Chromium Total	44	38
Cyanide (total)	0.022 J	ND(0.2)
Lead	140	150
Manganese	390	720
Nickel	26	18
Selenium	ND(1.8)	ND(1.9)
Silver	0.18 J	0.11 J
Vanadium	11 J	9 J

RFI-94-05	0.5 - 2 (ft)	8 - 10 (ft)	18 - 20 (ft)
VOC			
1,1-Dichloroethene	ND(0.038)	ND(0.039)	ND(0.039) /ND(0.038)
Benzene	ND(0.038)	ND(0.039)	ND(0.039) /ND(0.038)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.039)	ND(0.039) /ND(0.038)
Trichloroethene	0.13	ND(0.039)	ND(0.039) /ND(0.038)
Vinyl chloride	ND(0.038)	ND(0.039)	ND(0.039) /ND(0.038)
SVOC			
Benzo(a)anthracene	0.12 J	ND(0.19)	ND(0.19) /ND(0.18)
Benzo(a)pyrene	0.0887 J	ND(0.19)	ND(0.19) /ND(0.18)
Benzo(b)fluoranthene	0.112 J	ND(0.19)	ND(0.19) /ND(0.18)
bis(2-Ethylhexyl)phthalate	0.128 J	ND(0.19)	ND(0.19) /ND(0.18)
Di-n-butylphthalate	ND(0.18)	ND(0.19)	ND(0.19) /ND(0.18)
Indeno(1,2,3-cd)pyrene	ND(0.18 J)	ND(0.19)	ND(0.19) /ND(0.18)
PCB			
Total PCBs	ND(0.038)	ND(0.039)	ND(0.039) /ND(0.037)
Inorganic			
Arsenic	7	5.5	8.1 (RDC) /5.6
Beryllium	0.45	0.53	0.51 J /0.2 J
Chromium Total	15	19	28 J /11 J
Cyanide (total)	ND(0.2)	0.034 J	ND(0.2) /0.061 J
Lead	160	9.6	9.6 J /5.3 J
Manganese	310 J	380 J	410 J /270 J
Nickel	17 J	22 J	22 J /12 J
Selenium	ND(1.5)	ND(1.9)	ND(1.8) /ND(1.6)
Silver	0.13 J	0.33	0.14 J /0.067 J
Vanadium	20 J	34 J	34 J /17 J

RFI-40-08	1 - 3 (ft)	9 - 11 (ft)	13 - 15 (ft)
VOC			
1,1-Dichloroethene	ND(0.04)	ND(0.045)	ND(0.042)
Benzene	ND(0.04)	ND(0.045)	ND(0.042)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.045)	ND(0.042)
Trichloroethene	0.041	ND(0.045)	ND(0.042)
Vinyl chloride	ND(0.04)	ND(0.045)	ND(0.042)
SVOC			
Benzo(a)anthracene	0.055 J	ND(0.22)	0.059 J
Benzo(a)pyrene	0.0477 J	ND(0.22)	0.0377 J
Benzo(b)fluoranthene	ND(0.2)	ND(0.22)	ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.2)	ND(0.22)	ND(0.2)
Di-n-butylphthalate	ND(0.2)	ND(0.22)	ND(0.2)
Indeno(1,2,3-cd)pyrene	ND(0.2)	ND(0.22)	ND(0.2)
PCB			
Total PCBs	ND(0.041)	ND(0.045)	ND(0.042)
Inorganic			
Arsenic	13 J (RDC)	5.5 J	5.4 J
Beryllium	4.1	5.7 J	4.1 J
Chromium Total	18	79 J	14 J
Cyanide (total)	0.057 J	ND(0.3)	ND(0.2)
Lead	100 J	16 J	12 J
Manganese	760 J	500 J	450 J
Nickel	24 J	28 J	14 J
Selenium	ND(0.54)	0.32 J	0.1 J
Silver	0.29	0.47 J	0.23 J
Vanadium	35	150	22

RFI-40-07	0.7 - 2.7 (ft)	8.7 - 10.7 (ft)
VOC		
1,1-Dichloroethene	ND(0.037) /ND(0.038)	ND(0.04)
Benzene	ND(0.037) /ND(0.038)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.037) /ND(0.038)	ND(0.04)
Trichloroethene	ND(0.037) /ND(0.038)	ND(0.04)
Vinyl chloride	ND(0.037) /ND(0.038)	ND(0.04)
SVOC		
Benzo(a)anthracene	ND(0.18) /ND(0.18)	ND(0.19)
Benzo(a)pyrene	0.0351 J /ND(0.18)	ND(0.19)
Benzo(b)fluoranthene	0.0411 J /ND(0.18)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.18) /ND(0.18)	ND(0.19)
Di-n-butylphthalate	ND(0.18) /ND(0.18)	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(0.18 J) /ND(0.18)	ND(0.19)
PCB		
Total PCBs	ND(0.038) /ND(0.038)	ND(0.04)
Inorganic		
Arsenic	2.6 /2.4	4.5
Beryllium	0.16 /0.12	0.48
Chromium Total	7.6 /4.8	12
Cyanide (total)	R /R	R
Lead	18 /9.4	5.5
Manganese	220 J /120 J	200 J
Nickel	5.5 /5.3	12
Selenium	0.1 /ND(0.06)	ND(0.066)
Silver	0.025 J /0.013 J	0.049 J
Vanadium	7.6 /7.4	17

RFI-40-06	1 - 3 (ft)	9 - 11 (ft)	11 - 13 (ft)	15 - 17 (ft)
VOC				
1,1-Dichloroethene	ND(0.038)	ND(0.041)	ND(0.04)	ND(0.041)
Benzene	ND(0.038)	ND(0.041)	ND(0.04)	ND(0.041)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.041)	ND(0.04)	ND(0.041)
Trichloroethene	ND(0.038)	ND(0.041)	ND(0.04)	ND(0.041)
Vinyl chloride	ND(0.038)	ND(0.041)	ND(0.04)	ND(0.041)
SVOC				
Benzo(a)anthracene	0.126 J	0.087 J	ND(0.2)	0.0604 J
Benzo(a)pyrene	0.139 J	0.078 J	ND(0.2)	0.0369 J
Benzo(b)fluoranthene	0.139 J	ND(0.2 J)	ND(0.2)	ND(0.2 J)
bis(2-Ethylhexyl)phthalate	0.0978 J	ND(0.2)	ND(0.2)	ND(0.2)
Di-n-butylphthalate	ND(0.19)	ND(0.2)	ND(0.2)	ND(0.2)
Indeno(1,2,3-cd)pyrene	0.0748 J	ND(0.2 J)	ND(0.2)	ND(0.2 J)
PCB				
Total PCBs	ND(0.039)	ND(0.041)	ND(0.04)	ND(0.04)
Inorganic				
Arsenic	4.4	4.7	4.4	3.7
Beryllium	0.58	0.89	0.56	0.7
Chromium Total	13	19 J	12	10
Cyanide (total)	ND(0.4)	ND(0.5)	ND(0.4)	ND(0.5)
Lead	220	10	9.8	8.7
Manganese	210 J	400 J	290 J	270 J
Nickel	12	20	17	14
Selenium	0.084	0.048 J	0.18 J	0.55
Silver	0.12 J	0.13 J	0.093 J	0.11 J
Vanadium	15	26	15	17

RFI-94-06	0.7 - 2 (ft)	8 - 10 (ft)
VOC		
1,1-Dichloroethene	ND(0.039)	ND(0.041) /ND(0.039)
Benzene	ND(0.039)	ND(0.041) /ND(0.039)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.041) /ND(0.039)
Trichloroethene	ND(0.039)	ND(0.041) /ND(0.039)
Vinyl chloride	ND(0.039)	ND(0.041) /ND(0.039)
SVOC		
Benzo(a)anthracene	0.0899 J	ND(0.2) /ND(0.19)
Benzo(a)pyrene	0.0839 J	ND(0.2) /ND(0.19)
Benzo(b)fluoranthene	0.12 J	ND(0.2) /ND(0.19)
bis(2-Ethylhexyl)phthalate	0.0582 J	ND(0.2) /ND(0.19)
Di-n-butylphthalate	0.069 J	ND(0.2) /ND(0.19)
Indeno(1,2,3-cd)pyrene	0.0511 J	ND(0.2) /ND(0.19)
PCB		
Total PCBs	ND(0.039)	ND(0.041) /ND(0.039)
Inorganic		
Arsenic	10 (RDC)	12 (RDC) /8.3 (RDC)
Beryllium	0.41	0.24 /0.32
Chromium Total	15	10 /15
Cyanide (total)	0.042 J	ND(0.2) /0.051 J
Lead	75	7.7 /7.5
Manganese	380 J	280 J /420 J
Nickel	16 J	12 J /15 J
Selenium	0.68 J	ND(1.8) /ND(1.8)
Silver	0.15 J	0.085 J /0.17 J
Vanadium	22 J	16 J /23 J

RFI-40-15	2 - 4 (ft)	8 - 10 (ft)	14 - 16 (ft)
VOC			
1,1-Dichloroethene	ND(0.04)	ND(0.043)	ND(0.039)
Benzene	ND(0.04)	ND(0.043)	ND(0.039)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.043)	ND(0.039)
Trichloroethene	ND(0.04)	ND(0.043)	ND(0.039)
Vinyl chloride	ND(0.08)	ND(0.087)	ND(0.078)
SVOC			
Benzo(a)anthracene	ND(0.2)	ND(0.21)	ND(0.2)
Benzo(a)pyrene	0.0733 J	ND(0.21)	ND(0.2)
Benzo(b)fluoranthene	ND(0.2)	ND(0.21)	ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.2)	ND(0.21)	ND(0.2)
Di-n-butylphthalate	ND(0.2)	ND(0.21)	ND(0.2)
Indeno(1,2,3-cd)pyrene	ND(0.2)	ND(0.21)	ND(0.2)
PCB			
Total PCBs	ND(0.041)	ND(0.044)	ND(0.041)
Inorganic			
Arsenic	4 J	4.9 J	4.8 J
Beryllium	0.3 J	0.61 J	0.2 J
Chromium Total	13	26	9.8
Cyanide (total)	ND(0.2)	ND(0.3)	1
Lead	11 J	11 J	5.6 J
Manganese	270	220	260
Nickel	9.6 J	27 J	13 J
Selenium	0.23 J	ND(0.07 J)	0.25 J
Silver	0.049 J	0.085 J	0.055 J
Vanadium	22 J	39 J	16 J

RFI-40-14	0.5 - 2.5 (ft)	4.5 - 6.5 (ft)
VOC		
1,1-Dichloroethene	ND(0.041)	ND(0.04)
Benzene	ND(0.041)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.041)	ND(0.04)
Trichloroethene	ND(0.041)	ND(0.04)
Vinyl chloride	ND(0.081)	ND(0.079)
SVOC		
Benzo(a)anthracene	ND(2)	ND(0.19)
Benzo(a)pyrene	ND(2)	ND(0.19)
Benzo(b)fluoranthene	ND(2)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(2)	ND(0.19)
Di-n-butylphthalate	ND(2)	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(2 J)	ND(0.19 J)
PCB		
Total PCBs	ND(0.041)	ND(0.04)
Inorganic		
Arsenic	3.8	4.6
Beryllium	0.25	0.3
Chromium Total	8	12
Cyanide (total)	ND(0.2)	ND(1)
Lead	24	6
Manganese	220 J	190 J
Nickel	7.5	13
Selenium	ND(0.2)	ND(0.11)
Silver	0.028 J	0.046 J
Vanadium	14	20

RFI-40-13	0.5 - 2.5 (ft)	8.5 - 10.5 (ft)	12.5 - 14.5 (ft)
VOC			
1,1-Dichloroethene	ND(0.038)	ND(0.04) /ND(0.041)	ND(0.038)
Benzene	ND(0.038)	ND(0.04) /ND(0.041)	ND(0.038)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.04) /ND(0.041)	ND(0.038)
Trichloroethene	ND(0.038)	ND(0.04) /ND(0.041)	ND(0.038)
Vinyl chloride	ND(0.077)	ND(0.08) /ND(0.081)	ND(0.075)
SVOC			
Benzo(a)anthracene	ND(1.9)	ND(0.2) /ND(0.2)	ND(0.19)
Benzo(a)pyrene	ND(1.9)	ND(0.2) /ND(0.2)	ND(0.19)
Benzo(b)fluoranthene	ND(1.9)	ND(0.2) /ND(0.2)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(1.9)	ND(0.2) /ND(0.2)	ND(0.19)
Di-n-butylphthalate	ND(1.9)	ND(0.2) /ND(0.2)	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(1.9 J)	ND(0.2 J) /ND(0.2 J)	ND(0.19 J)
PCB			
Total PCBs	ND(0.04)	ND(0.042) /ND(0.041)	ND(0.039)
Inorganic			
Arsenic	6	5.9 /6.4	3.9
Beryllium	0.31	0.34 /0.32	0.17
Chromium Total	11	13 /14	8.1
Cyanide (total)	0.24	ND(1) /ND(1)	ND(1)
Lead	54	7.3 /7.3	5
Manganese	180 J	250 J /220 J	230 J
Nickel	12	16 /16	12
Selenium	ND(0.42)	ND(0.23) /ND(0.18)	ND(0.19)
Silver	0.06 J	0.063 J /0.064 J	0.044 J
Vanadium	13	22 /23	13

RFI-40-17	0 - 2 (ft)
SVOC	
Benzo(a)anthracene	NS
Benzo(a)pyrene	ND(0.33)
Benzo(b)fluoranthene	NS
bis(2-Ethylhexyl)phthalate	NS
Di-n-butylphthalate	NS
Indeno(1,2,3-cd)pyrene	NS

RFI-40-16	0 - 2 (ft)
SVOC	
Benzo(a)anthracene	NS
Benzo(a)pyrene	3.5 (RDC)
Benzo(b)fluoranthene	NS
bis(2-Ethylhexyl)phthalate	NS
Di-n-butylphthalate	NS
Indeno(1,2,3-cd)pyrene	NS

RFI-40-18	0 - 2 (ft)
SVOC	
Benzo(a)anthracene	NS
Benzo(a)pyrene	ND(0.33)
Benzo(b)fluoranthene	NS
bis(2-Ethylhexyl)phthalate	NS
Di-n-butylphthalate	NS
Indeno(1,2,3-cd)pyrene	NS

40-7R	0 - 2 (ft)	2 - 4 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC				
1,1-Dichloroethene	ND(0.041)	ND(0.041)	ND(0.045)	ND(0.038)
Benzene	0.076	ND(0.041)	ND(0.045)	0.042 J
cis-1,2-Dichloroethene	0.09	ND(0.041)	ND(0.045)	ND(0.038)
Trichloroethene	0.32	ND(0.041)	ND(0.045)	ND(0.038)
Vinyl chloride	ND(0.041)	ND(0.041)	ND(0.045)	ND(0.038)
SVOC				
Benzo(a)anthracene	0.839	ND(0.2)	ND(0.21)	0.0363 J
Benzo(a)pyrene	0.759 J	ND(0.2)	ND(0.21)	0.0705 J
Benzo(b)fluoranthene	0.867 J	ND(0.2)	ND(0.21)	ND(0.18)
bis(2-Ethylhexyl)phthalate	0.0832 J	ND(0.2)	ND(0.21)	ND(0.18)
Di-n-butylphthalate	0.0606 J	ND(0.2)	ND(0.21)	ND(0.18)
Indeno(1,2,3-cd)pyrene	0.366 J	ND(0.2)	ND(0.21)	ND(0.18)
PCB				
Total PCBs	0.22 J	ND(0.041)	ND(0.044)	ND(0.038)
Inorganic				
Arsenic	4.7	2.7	9.3 (RDC)	2.4
Beryllium	0.86	0.18	0.75	0.11
Chromium Total	42 J	7.3 J	23 J	4.5 J
Cyanide (total)	0.5	ND(0.2)	0.13 J	ND(0.2)
Lead	140 J	6.4 J	13 J	3.2 J
Manganese	270	92	240	140
Nickel	29	7.2	30	6.6
Selenium	0.51	0.4 J	ND(0.11)	0.3
Silver	0.17 J	0.087 J	0.15 J	0.1 J
Vanadium	13	13	30	6.4

RFI-40-12	0 - 2 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC			
1,1-Dichloroethene	ND(0.041)	ND(0.037)	ND(0.039)
Benzene	ND(0.041)	ND(0.037)	ND(0.039)
cis-1,2-Dichloroethene	ND(0.041)	ND(0.037)	ND(0.039)
Trichloroethene	0.12	ND(0.037)	ND(0.039)
Vinyl chloride	ND(0.082)	ND(0.074)	ND(0.078)
SVOC			
Benzo(a)anthracene	37.1 (RDC)	ND(0.18)	ND(0.2)
Benzo(a)pyrene	35.8 J (IDC,RDC)	ND(0.18)	ND(0.2)
Benzo(b)fluoranthene	36.1 J (RDC)	ND(0.18)	ND(0.2)
bis(2-Ethylhexyl)phthalate	2.2	ND(0.18)	ND(0.2)
Di-n-butylphthalate	ND(2)	ND(0.18)	ND(0.2)
Indeno(1,2,3-cd)pyrene	20.8 J (RDC)	ND(0.18 J)	ND(0.2 J)
PCB			
Total PCBs	1.12	ND(0.037)	ND(0.04)
Inorganic			
Arsenic	6.4	5.1	4.4
Beryllium	0.34	0.34	0.27
Chromium Total	30	15	11
Cyanide (total)	2.6	ND(1)	ND(1)
Lead	120	7.2	6
Manganese	210 J	220 J	250 J
Nickel	27	15	15
Selenium	ND(0.54)	ND(0.25)	ND(0.35)
Silver	0.14 J	0.11 J	0.057 J
Vanadium	19	22	17

RFI-40-05	0.8 - 2.8 (ft)	8.8 - 10.8 (ft)	10.8 - 12.8 (ft)
VOC			
1,1-Dichloroethene	ND(0.04)	ND(0.041)	ND(0.039)
Benzene	ND(0.04)	ND(0.041)	ND(0.039)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.041)	ND(0.039)
Trichloroethene	ND(0.04)	ND(0.041)	ND(0.039)
Vinyl chloride	ND(0.04)	ND(0.041)	ND(0.039)
SVOC			
Benzo(a)anthracene	ND(0.2)	ND(0.2)	ND(0.19)
Benzo(a)pyrene	ND(0.2)	ND(0.2)	ND(0.19)
Benzo(b)fluoranthene	ND(0.2)	ND(0.2)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.2)	ND(0.2)	ND(0.19)
Di-n-butylphthalate	ND(0.2)	ND(0.2)	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(0.2)	ND(0.2)	ND(0.19)
PCB			
Total PCBs	ND(0.04)	ND(0.041)	ND(0.039)
Inorganic			
Arsenic	3.8	3.9	4.4
Beryllium	0.35	0.65	0.76
Chromium Total	7.8	12	15
Cyanide (total)	ND(0.2)	ND(0.5)	ND(0.4)
Lead	8.3	6.7	6.7
Manganese	170 J	230 J	300 J
Nickel	8.8	14	17
Selenium	0.089	0.43 J	0.2
Silver	0.088 J	0.12 J	0.11 J
Vanadium	13	19	27

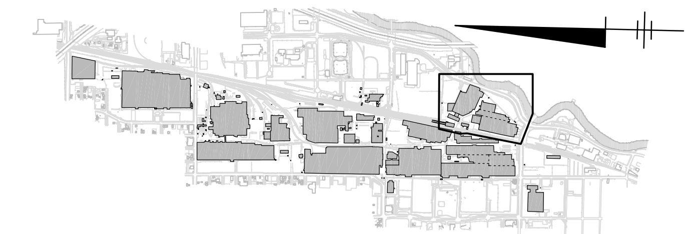
RFI-40-01	0.3 - 2.3 (ft)
VOC	
1,1-Dichloroethene	ND(0.039)
Benzene	ND(0.039)
cis-1,2-Dichloroethene	ND(0.039)
Trichloroethene	ND(0.039)
Vinyl chloride	ND(0.039)
SVOC	
Benzo(a)anthracene	0.102 J
Benzo(a)pyrene	0.211 J
Benzo(b)fluoranthene	0.456 J
bis(2-Ethylhexyl)phthalate	ND(0.19)
Di-n-butylphthalate	ND(0.19)
Indeno(1,2,3-cd)pyrene	0.112 J
PCB	
Total PCBs	ND(0.039)
Inorganic	
Arsenic	3.6 J
Beryllium	0.3 J
Chromium Total	8.8 J
Cyanide (total)	0.041 J
Lead	23 J
Manganese	170
Nickel	8 J
Selenium	0.54 J
Silver	0.081 J
Vanadium	16 J

RFI-40-09	0.7 - 2.7 (ft)	8.7 - 10.7 (ft)
VOC		
1,1-Dichloroethene	ND(0.04)	ND(0.044)
Benzene	ND(0.04)	ND(0.044)
cis-1,2-Dichloroethene	ND(0.04)	ND(0.044)
Trichloroethene	ND(0.04)	ND(0.044 J)
Vinyl chloride	ND(0.04)	ND(0.044)
SVOC		
Benzo(a)anthracene	0.242	ND(0.21)
Benzo(a)pyrene	0.278	ND(0.21)
Benzo(b)fluoranthene	0.443	ND(0.21)
bis(2-Ethylhexyl)phthalate	ND(0.19)	ND(0.21)
Di-n-butylphthalate	ND(0.19)	ND(0.21)
Indeno(1,2,3-cd)pyrene	0.167 J	ND(0.21)
PCB		
Total PCBs	ND(0.04)	ND(0.044)
Inorganic		
Arsenic	7 J	4.3 J
Beryllium	2.7 J	4.6 J
Chromium Total	25 J	19 J
Cyanide (total)	0.34 J	ND(0.3)
Lead	490 J (RDC)	8.5 J
Manganese	400 J	420 J
Nickel	20 J	17 J
Selenium	0.78 J	0.27 J
Silver	0.22 J	0.26 J
Vanadium	21	31

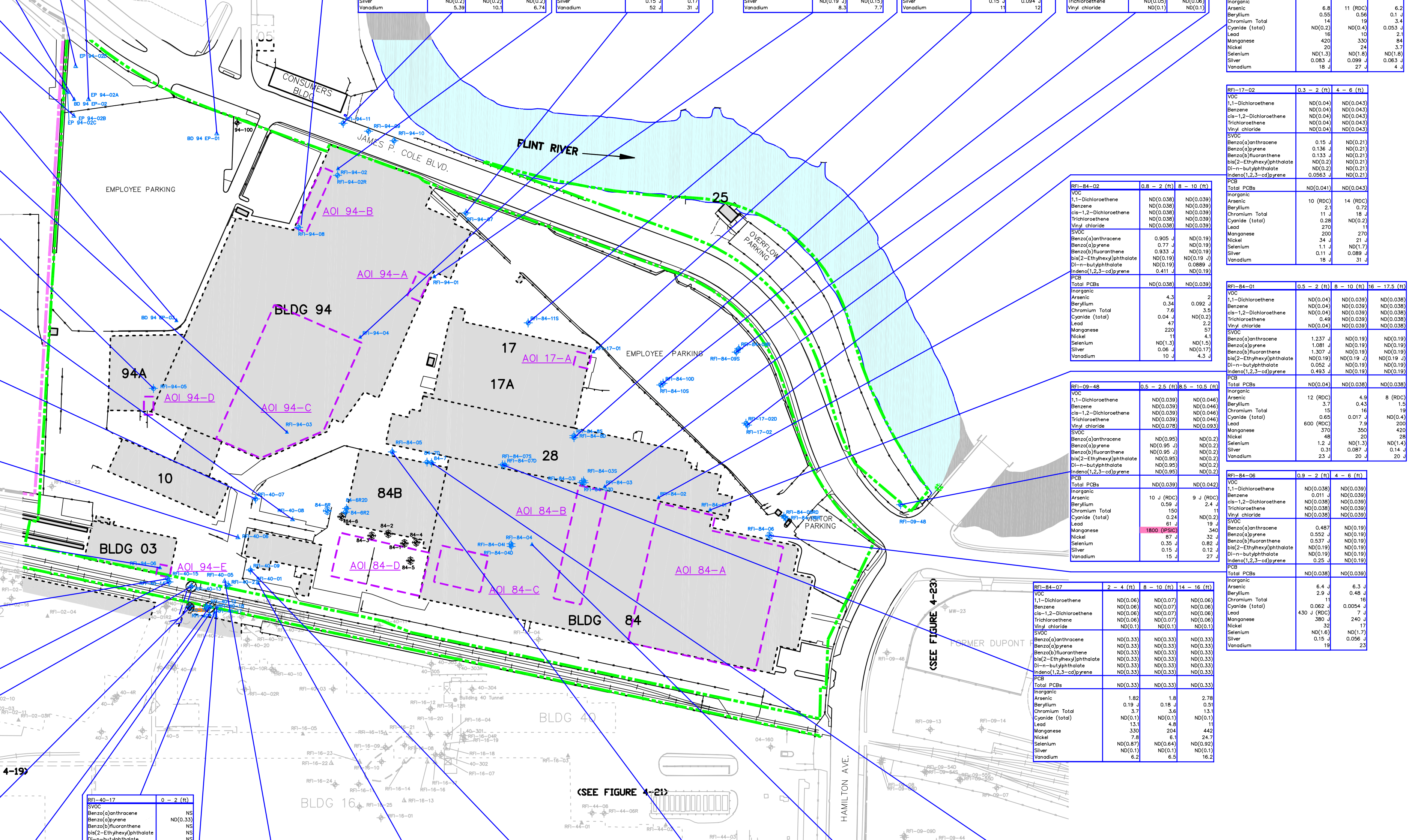
RFI-84-05	0.8 - 2.8 (ft)	6.8 - 8.8 (ft)
VOC		
1,1-Dichloroethene	ND(0.041)	ND(0.044)
Benzene	ND(0.041)	ND(0.044)
cis-1,2-Dichloroethene	0.26	ND(0.044)
Trichloroethene	4.1	0.39
Vinyl chloride	ND(0.041)	ND(0.044)
SVOC		
Benzo(a)anthracene	ND(0.2)	ND(0.21)
Benzo(a)pyrene	ND(0.2)	ND(0.21)
Benzo(b)fluoranthene	ND(0.2)	ND(0.21)
bis(2-Ethylhexyl)phthalate	ND(0.2)	ND(0.21)
Di-n-butylphthalate	ND(0.2)	ND(0.21)
Indeno(1,2,3-cd)pyrene	ND(0.2)	ND(0.21)
PCB		
Total PCBs	ND(0.041)	ND(0.043)
Inorganic		
Arsenic	8 J (RDC)	11 J (RDC)
Beryllium	0.78 J	0.72 J
Chromium Total	50 J	25 J
Cyanide (total)	0.056 J	0.041 J
Lead	150 J	30 J
Manganese	780	590
Nickel	37 J	28 J
Selenium	ND(1.9)	ND(1.8)
Silver	0.22 J	0.14 J
Vanadium	32 J	38 J

RFI-84-04	0.8 - 2 (ft)	8 - 10 (ft)	12 - 14 (ft)
VOC			
1,1-Dichloroethene	ND(0.039)	ND(0.039)	ND(0.041)
Benzene	ND(0.039)	ND(0.039)	ND(0.041)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.039)	ND(0.041)
Trichloroethene	ND(0.039)	ND(0.039)	ND(0.041)
Vinyl chloride	ND(0.039)	ND(0.039)	ND(0.041)
SVOC			
Benzo(a)anthracene	0.113 J	ND(0.19)	ND(0.2)
Benzo(a)pyrene	0.124 J	ND(0.19)	ND(0.2)
Benzo(b)fluoranthene	0.108 J	ND(0.19)	ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.19 J)	ND(0.19 J)	ND(0.2 J)
Di-n-butylphthalate	0.0502 J	ND(0.19)	0.072 J
Indeno(1,2,3-cd)pyrene	0.0829 J	ND(0.19)	ND(0.2)
PCB			
Total PCBs	ND(0.04)	ND(0.039)	ND(0.04)
Inorganic			
Arsenic	19 (RDC)	8.6 (RDC)	3.4
Beryllium	0.88	0.58	0.43
Chromium Total	11	19	15
Cyanide (total)	ND(0.2)	0.071 J	0.063 J
Lead	140	9.9	22
Manganese	260	330	310
Nickel	16	20	20
Selenium	1 J	ND(1.9)	ND(1.7)
Silver	0.092 J	0.18 J	0.075 J
Vanadium	27 J	28 J	19 J

84-07	0 - 2 (ft)	8 - 10 (ft)	15 - 17 (ft)
VOC			
1,1-Dichloroethene	ND(0.06)	ND(0.06)	ND(0.06)
Benzene	ND(0.06)	ND(0.06)	ND(0.06)
cis-1,2-Dichloroethene	ND(0.06)	0.47	ND(0.06)
Trichloroethene	0.3	1	ND(0.06)
Vinyl chloride	ND(0.1)	ND(0.1)	ND(0.1)
SVOC			
Benzo(a)anthracene	0.2 J	ND(0.3)	ND(0.3)
Benzo(a)pyrene	0.2 J	ND(0.3)	ND(0.3)
Benzo(b)fluoranthene	0.2 J	ND(0.3)	ND(0.3)
bis(2-Ethylhexyl)phthalate	0.08 J	ND(0.3)	ND(0.3)
Di-n-butylphthalate	ND(0.3)	ND(0.3)	ND(0.3)
Indeno(1,2,3-cd)pyrene	0.09 J	ND(0.3)	ND(0.3)
PCB			
Total PCBs	ND(0.33)	ND(0.33)	ND(0.33)
Inorganic			
Arsenic	2.29	1.71	6.55
Beryllium	NS	NS	NS
Chromium Total	39.3	6.17	5.28
Cyanide (total)	NS	NS	NS
Lead	134	7.77	12.5
Manganese	NS	NS	NS
Nickel	NS	NS	NS
Selenium	0.2	0.39	0.71
Silver	ND(0.2)	ND(0.2)	ND(0.2)
Vanadium	NS	NS	NS



SITE LOCATION



LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- FORMER RIVER GAUGE LOCATION
- CURRENT RIVER GAUGE LOCATION
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. FOR ALL METALS, SITE-SPECIFIC BACKGROUND CONCENTRATIONS ARE SUBTRACTED FROM THE MEASURED CONCENTRATIONS PRIOR TO COMPARING TO PART 201 CRITERIA.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN DRY-WEIGHT MILLIGRAMS PER KILOGRAM (mg/kg).
6. ALL DEPTH IN FEET.
7. ND (0.039)-CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
8. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
9. NS-NOT ANALYZED FOR THIS CONSTITUENT.
10. J-ESTIMATED CONCENTRATION.
11. R-RESULT REJECTED DURING DATA VALIDATION.
12. RDC - EXCEEDS MICHIGAN PART 201 RESIDENTIAL DIRECT CONTRACT CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

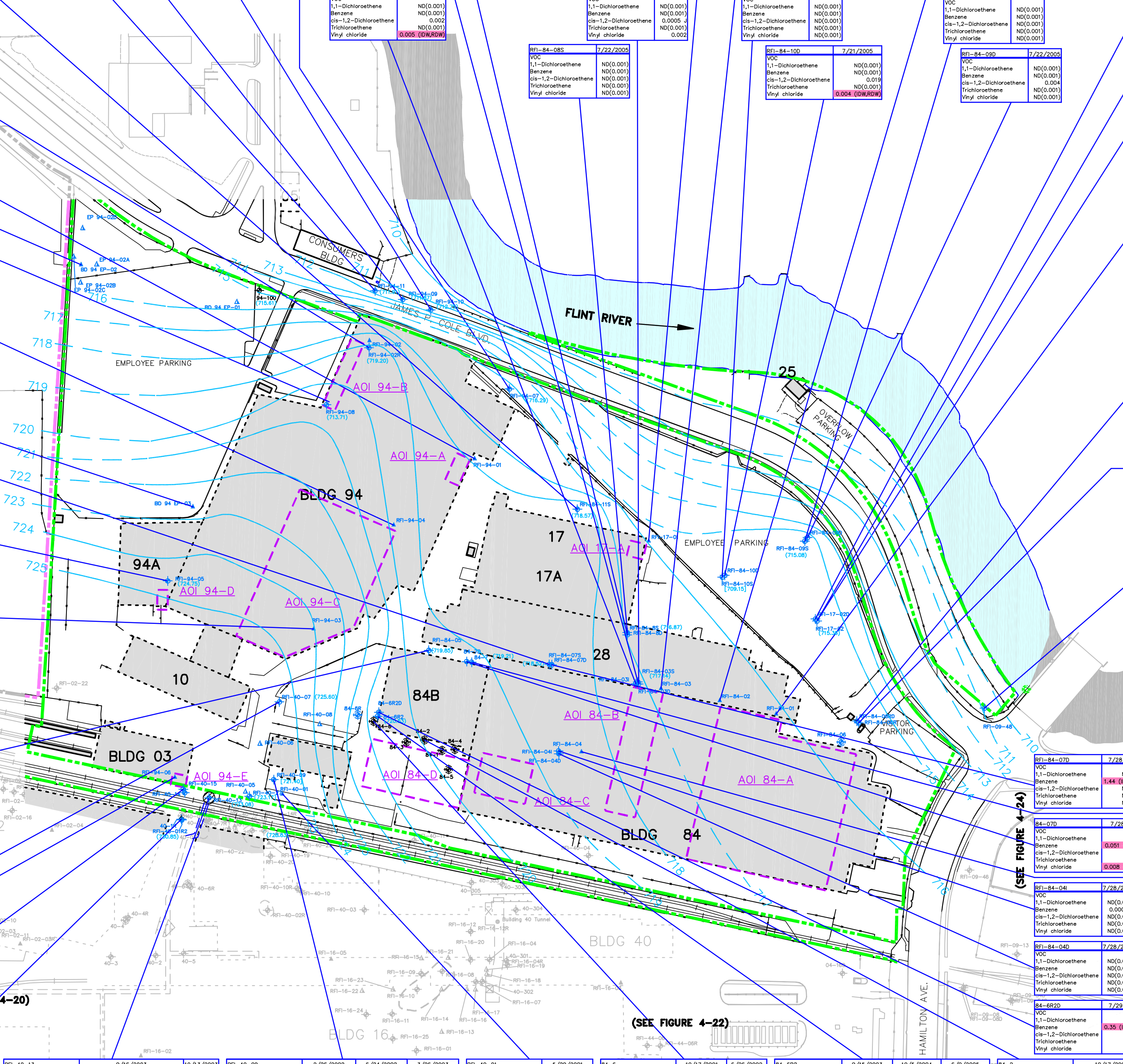
X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C17.DWG

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN
RFI PHASE II REPORT

SOIL ANALYTICAL DATA - FORMER BUILDINGS 03, 17, 28, 84, AND 94 AREA

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 4-17



RFI-94-01	5/22/2001
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001 J)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
bis(2-Ethylhexyl)phthalate	0.0114 (IDW,RDW)
Di-n-butylphthalate	0.0128 (GSI)
Indeno(1,2,3-cd)pyrene	ND(0.002)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Arsenic	0.0056 J
Beryllium	ND(0.0004)
Chromium Total	0.0025
Cyanide	0.0053 (GSI)
Lead	ND(0.0004)
Manganese	0.44
Nickel	0.0032
Selenium	ND(0.0014)
Silver	ND(0.0004)
Vanadium	0.0026

RFI-94-02R	4/3/2003	4/4/2003	9/18/2003	10/6/2004
VOC				
1,1-Dichloroethene	NS	0.0075 (IDW,RDW)	0.0053	0.002 J
Benzene	NS	ND(0.001)	ND(0.001)	0.0005 J
cis-1,2-Dichloroethene	NS	0.0052	0.0045	0.023
Trichloroethene	NS	0.51 D (GSI,IDW,RDW)	0.56 D (GSI,IDW,RDW)	0.95 (GSI,IDW,RDW)
Vinyl chloride	NS	ND(0.001)	ND(0.001)	ND(0.001)
SVOC				
Benzo(a)anthracene	NS	ND(0.001)	NS	NS
Benzo(a)pyrene	NS	ND(0.002)	NS	NS
Benzo(b)fluoranthene	NS	ND(0.002)	NS	NS
bis(2-Ethylhexyl)phthalate	NS	ND(0.005)	NS	NS
Di-n-butylphthalate	NS	ND(0.005)	NS	NS
Indeno(1,2,3-cd)pyrene	NS	ND(0.002)	NS	NS
PCB				
Total PCBs	ND(0.0001)	NS	NS	NS
Inorganic				
Arsenic	NS	ND(0.001)	NS	NS
Beryllium	NS	ND(0.0008)	NS	NS
Chromium Total	NS	0.00034 J	NS	NS
Cyanide (total)	NS	0.0032 J	NS	NS
Lead	NS	0.00028 J	NS	NS
Manganese	NS	0.29 J	NS	NS
Nickel	NS	0.016	NS	NS
Selenium	NS	ND(0.0016)	NS	NS
Silver	NS	ND(0.0004 J)	NS	NS
Vanadium	NS	0.00035 J	NS	NS

RFI-94-09	12/15/2003	2/25/2005
VOC		
1,1-Dichloroethene	ND(0.001)	ND(0.001)
Benzene	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)

RFI-94-07	12/17/2002	3/24/2003
SVOC		
Benzo(a)anthracene	ND(0.0011)	ND(0.001)
Benzo(a)pyrene	ND(0.0022)	ND(0.002)
Benzo(b)fluoranthene	ND(0.0022)	ND(0.002)
bis(2-Ethylhexyl)phthalate	ND(0.0055)	ND(0.005)
Di-n-butylphthalate	ND(0.0055)	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.0022)	ND(0.002 J)

RFI-84-08D	7/6/2005
VOC	
1,1-Dichloroethene	0.0008 J /0.0009 J
Benzene	0.002 /0.002
cis-1,2-Dichloroethene	0.078 (IDW,RDW) /0.084 (IDW,RDW)
Trichloroethene	ND(0.001) /ND(0.001)
Vinyl chloride	0.114 (IDW,RDW) /0.124 (IDW,RDW)

RFI-17-01	5/22/2001
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001 J)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
bis(2-Ethylhexyl)phthalate	0.0136 (IDW,RDW)
Di-n-butylphthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Arsenic	0.0024 J
Beryllium	ND(0.0004)
Chromium Total	0.0044
Cyanide	ND(0.005)
Lead	ND(0.0004)
Manganese	0.0056
Nickel	0.0061
Selenium	0.011 J (GSI)
Silver	ND(0.0004)
Vanadium	0.0041

RFI-84-03	5/22/2001
VOC	
1,1-Dichloroethene	ND(0.001) /ND(0.001)
Benzene	ND(0.001) /ND(0.001)
cis-1,2-Dichloroethene	0.0022 J /0.0019
Trichloroethene	ND(0.001) /ND(0.001)
Vinyl chloride	0.001 J /0.0005 J
SVOC	
Benzo(a)anthracene	ND(0.001) /ND(0.001)
Benzo(a)pyrene	ND(0.002) /ND(0.002)
Benzo(b)fluoranthene	ND(0.002) /ND(0.002)
bis(2-Ethylhexyl)phthalate	0.0799 (IDW,RDW) /0.0768 (IDW,RDW)
Di-n-butylphthalate	ND(0.005) /ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002) /ND(0.002)
PCB	
Total PCBs	ND(0.0001) /ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001) /ND(0.0001)
Inorganic-Dissolved	
Arsenic	0.0011 J /ND(0.001)
Beryllium	ND(0.0004) /ND(0.0004)
Chromium Total	0.0036 /0.0048
Cyanide	0.004 J /0.0039 J
Lead	ND(0.0004) /ND(0.0004)
Manganese	0.17 /0.18
Nickel	0.0039 /0.0044
Selenium	ND(0.0014) /ND(0.0014)
Silver	ND(0.0004) /ND(0.0004)
Vanadium	0.0019 /0.0041

RFI-84-02	5/24/2001
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001 J)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
bis(2-Ethylhexyl)phthalate	0.577 D (GAI,GCC,GSI,IDW,RDW)
Di-n-butylphthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Arsenic	ND(0.001)
Beryllium	ND(0.0004)
Chromium Total	0.001
Cyanide	ND(0.005)
Lead	ND(0.0004)
Manganese	0.006
Nickel	0.003 J
Selenium	ND(0.005)
Silver	ND(0.0004)
Vanadium	ND(0.0008)

RFI-84-11S	7/28/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	0.0008 J
Vinyl chloride	ND(0.001)

RFI-94-11	4/7/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-94-10	12/15/2003	10/8/2004
VOC		
1,1-Dichloroethene	ND(0.001)	ND(0.001)
Benzene	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)	0.0007 J
Trichloroethene	0.0025	0.003
Vinyl chloride	ND(0.001)	ND(0.001)

RFI-84-03S	7/29/2005
VOC	
1,1-Dichloroethene	ND(0.001) /ND(0.001)
Benzene	ND(0.001) /ND(0.001)
cis-1,2-Dichloroethene	0.001 /0.002
Trichloroethene	0.001 J /0.001 J
Vinyl chloride	ND(0.001) /ND(0.001)

RFI-17-02D	7/29/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	0.003
Trichloroethene	ND(0.001)
Vinyl chloride	0.003 (IDW,RDW)

RFI-84-03I	7/29/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	0.002
Trichloroethene	ND(0.001)
Vinyl chloride	0.005 (IDW,RDW)

RFI-84-03D	7/29/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	0.0005 J
Trichloroethene	ND(0.001)
Vinyl chloride	0.002

RFI-84-10S	7/22/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-84-09S	7/22/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-17-02-ULF	10/3/2001
Inorganic	
Arsenic	0.0055 J
Beryllium	ND(0.0004)
Chromium Total	0.0019 J
Cyanide (total)	ND(0.005)
Lead	0.00077 J
Manganese	0.033 J
Nickel	0.0069 J
Selenium	0.0073 J (GSI)
Silver	0.00045 J (GSI)
Vanadium	0.0012 J

RFI-84-08S	7/22/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-84-10D	7/21/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	0.019
Trichloroethene	ND(0.001)
Vinyl chloride	0.004 (IDW,RDW)

RFI-84-09D	7/22/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	0.004
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-17-02	10/3/2001	6/25/2002	4/2/2003	10/5/2004	6/9/2005
VOC					
1,1-Dichloroethene	ND(0.001)	NS	NS	NS	ND(0.001)
Benzene	ND(0.001)	NS	NS	NS	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)	NS	NS	NS	ND(0.001)
Trichloroethene	ND(0.001)	NS	NS	NS	ND(0.001)
Vinyl chloride	ND(0.001)	NS	NS	NS	ND(0.001)
SVOC					
Benzo(a)anthracene	ND(0.001)	NS	NS	NS	NS
Benzo(a)pyrene	ND(0.002)	NS	NS	NS	NS
Benzo(b)fluoranthene	ND(0.002)	NS	NS	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.005)	NS	NS	NS	NS
Di-n-butylphthalate	ND(0.005)	NS	NS	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS	NS	NS	NS
PCB					
Total PCBs	ND(0.0001)	NS	NS	NS	NS
PCB-Dissolved					
Total PCBs	ND(0.0001)	NS	NS	NS	NS
Inorganic					
Arsenic	NS	0.027	0.0058	NS	NS
Beryllium	NS	ND(0.0004)	ND(0.0004)	NS	NS
Chromium Total	NS	0.0026	0.0012	NS	NS
Cyanide (total)	0.0011 J	ND(0.005)	ND(0.005)	NS	NS
Lead	NS	0.002	0.00077	NS	NS
Manganese	NS	0.085	0.016 J	NS	NS
Nickel	NS	0.0038	0.0079	NS	NS
Selenium	NS	0.0032	0.0019 J	ND(0.005)	NS
Silver	NS	ND(0.0004 J)	ND(0.0004)	ND(0.0005)	NS
Vanadium	NS	0.0038	0.00056 J	NS	NS
Inorganic-Dissolved					
Arsenic	0.0014 J	0.0017 J	NS	NS	NS
Beryllium	ND(0.0004 J)	ND(0.0004)	NS	NS	NS
Chromium Total	ND(0.0006 J)	0.00089	NS	NS	NS
Cyanide	0.0016 J	ND(0.005)	NS	NS	NS
Lead	ND(0.0004)	ND(0.0004)	NS	NS	NS
Manganese	0.071	0.039 J	NS	NS	NS
Nickel	0.0025	0.0021	NS	NS	NS
Selenium	0.003	0.0038	NS	NS	NS
Silver	ND(0.0004 J)	ND(0.0004 J)	NS	NS	NS
Vanadium	ND(0.0008)	ND(0.0008)	NS	NS	NS

SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 736 — WATER TABLE ELEVATION CONTOUR (FT AMSL) (DASHED WHERE INFERED)
- (739.13) — GROUNDWATER ELEVATION (IN FEET)
- [742.02] — ANOMALOUS GROUNDWATER ELEVATION (IN FEET), NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- FORMER RIVER GAUGE LOCATION
- CURRENT RIVER GAUGE LOCATION
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  - IDW — INDUSTRIAL DRINKING WATER
  - GSI — GROUNDWATER SURFACE WATER INTERFACE
  - GCC — GROUNDWATER CONTACT
  - GAI — GROUNDWATER ACUTE INHALATION

BD 94 EP-02	5/31/2001
VOC	
1,1-Dichloroethene	ND(0.001) /ND(0.001)
Benzene	ND(0.001) /ND(0.001)
cis-1,2-Dichloroethene	ND(0.001) /ND(0.001)
Trichloroethene	ND(0.001 J) /ND(0.001)
Vinyl chloride	ND(0.001) /ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.005) /ND(0.005)
Benzo(a)pyrene	ND(0.005) /ND(0.005)
Benzo(b)fluoranthene	ND(0.005) /ND(0.005)
bis(2-Ethylhexyl)phthalate	0.0624 J (IDW,RDW) /0.0483 (IDW,RDW)
Di-n-butylphthalate	0.00075 J /0.00078 J
Indeno(1,2,3-cd)pyrene	ND(0.005) /ND(0.005)
PCB	
Total PCBs	ND(0.0001) /ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001) /ND(0.0001)
Inorganic-Dissolved	
Arsenic	0.019 /0.017
Beryllium	ND(0.0004) /ND(0.0004)
Chromium Total	0.0032 /0.0017
Cyanide	ND(0.005) /ND(0.005)
Lead	ND(0.0004) /ND(0.0004)
Manganese	0.14 /0.14
Nickel	0.0035 /0.0035
Selenium	ND(0.0014) /ND(0.0014)
Silver	ND(0.0004 J) /ND(0.0004 J)
Vanadium	ND(0.0008) /ND(0.0008)

RFI-94-04	5/22/2001
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	0.00045 J
cis-1,2-Dichloroethene	ND(0.001 J)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
bis(2-Ethylhexyl)phthalate	0.0762 (GSI,IDW,RDW)
Di-n-butylphthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.00011)
Inorganic-Dissolved	
Arsenic	0.052 J (IDW,RDW)
Beryllium	ND(0.0004)
Chromium Total	0.0026
Cyanide	ND(0.005)
Lead	ND(0.0004)
Manganese	0.1
Nickel	0.0092
Selenium	0.002 J
Silver	ND(0.0004)
Vanadium	0.0039

RFI-94-08	12/16/2003
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-84-01	5/23/2001
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	0.00012 J
cis-1,2-Dichloroethene	0.0074 J
Trichloroethene	0.00086 J
Vinyl chloride	0.00067 J
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
bis(2-Ethylhexyl)phthalate	0.0385 (GSI,IDW,RDW)
Di-n-butylphthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Arsenic	0.0011 J
Beryllium	ND(0.0004)
Chromium Total	0.0032
Cyanide	ND(0.005)
Lead	ND(0.0004)
Manganese	0.065
Nickel	0.0065
Selenium	0.0018 J
Silver	ND(0.0004)
Vanadium	0.0026

RFI-84-06R	4/2/2003	4/3/2003	2/25/2005	7/22/2005
VOC				
1,1-Dichloroethene	ND(0.001)	NS	NS	ND(0.001)
Benzene	ND(0.001)	NS	NS	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)	NS	NS	ND(0.001)
Trichloroethene	ND(0.001)	NS	NS	ND(0.001)
Vinyl chloride	ND(0.001)	NS	NS	ND(0.001)
SVOC				
Benzo(a)anthracene	NS	ND(0.001) /ND(0.001)	NS	NS
Benzo(a)pyrene	NS	ND(0.002) /ND(0.002)	NS	NS
Benzo(b)fluoranthene	NS	ND(0.002) /ND(0.002)	NS	NS
bis(2-Ethylhexyl)phthalate	NS	ND(0.005) /ND(0.005)	NS	NS
Di-n-butylphthalate	NS	ND(0.005) /ND(0.005)	NS	NS
Indeno(1,2,3-cd)pyrene	NS	ND(0.002) /ND(0.002)	NS	NS
PCB				
Total PCBs	ND(0.00011)	NS	NS	NS
PCB-Dissolved				
Total PCBs	ND(0.00011)	NS	NS	NS
Inorganic				
Arsenic	NS	0.0035 J /NS	NS	NS
Beryllium	NS	ND(0.0004) /NS	NS	NS
Chromium Total	NS	0.0028 /NS	NS	NS
Cyanide (total)	NS	0.061 (GSI) /NS	0.062 (GSI)	NS
Lead	NS	0.00094 /NS	NS	NS
Manganese	NS	0.051 J /NS	NS	NS
Nickel	NS	0.0092 /NS	NS	NS
Selenium	NS	0.0029 J /NS	NS	NS
Silver	NS	ND(0.0004) /NS	NS	NS
Vanadium	NS	0.004 /NS	NS	NS
Inorganic-Dissolved				
Arsenic	0.003	NS	NS	NS
Beryllium	ND(0.0004)	NS	NS	NS
Chromium Total	0.0066	NS	NS	NS
Cyanide	0.071 (GSI)	NS	0.058 (GSI)	NS
Lead	0.00017 J	NS	NS	NS
Manganese	0.05	NS	NS	NS
Nickel	0.0078	NS	NS	NS
Selenium	0.004	NS	NS	NS
Silver	0.00024 J (GSI)	NS	NS	NS
Vanadium	0.0016	NS	NS	NS

BD 94 EP-03	5/31/2001
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.005)
Benzo(a)pyrene	ND(0.005)
Benzo(b)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.0701 (IDW,RDW)
Di-n-butylphthalate	0.00056 J
Indeno(1,2,3-cd)pyrene	ND(0.005)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Arsenic	0.029
Beryllium	ND(0.0004)
Chromium Total	0.0044
Cyanide	ND(0.005)
Lead	0.00083
Manganese	0.41
Nickel	0.012
Selenium	ND(0.0014)
Silver	0.0019
Vanadium	0.0048 (RDW)

RFI-94-05	12/17/2002
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	0.00074 J
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.0011)
Benzo(a)pyrene	ND(0.0021)
Benzo(b)fluoranthene	ND(0.0021)
bis(2-Ethylhexyl)phthalate	ND(0.0053)
Di-n-butylphthalate	ND(0.0053)
Indeno(1,2,3-cd)pyrene	ND(0.0021)
PCB	
Total PCBs	ND(0.00011)
PCB-Dissolved	
Total PCBs	ND(0.00011)
Inorganic	
Arsenic	0.0012 J
Beryllium	ND(0.0004 J)
Chromium Total	0.0013
Cyanide (total)	ND(0.005)
Lead	0.00086 J
Manganese	0.12
Nickel	0.0056 J
Selenium	ND(0.0016)
Silver	ND(0.0004 J)
Vanadium	0.0011

RFI-84-07S	7/1/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	0.133 (IDW,RDW)
cis-1,2-Dichloroethene	0.002
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-84-06RD	7/21/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-94-03	5/21/2001
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
bis(2-Ethylhexyl)phthalate	0.184 D (IDW,RDW)
Di-n-butylphthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Arsenic	0.0039 J
Beryllium	ND(0.0004)
Chromium Total	0.0025
Cyanide	0.013
Lead	ND(0.0004)
Manganese	0.25
Nickel	0.004
Selenium	ND(0.0014)
Silver	ND(0.0004)
Vanadium	0.0018

RFI-09-48	4/24/2003	10/6/2004	2/24/2005
VOC			
1,1-Dichloroethene	ND(0.001)	ND(0.001)	NS
Benzene	ND(0.001)	ND(0.001)	NS
cis-1,2-Dichloroethene	ND(0.001)	ND(0.001)	NS
Trichloroethene	ND(0.001)	ND(0.001)	NS
Vinyl chloride	ND(0.001)	ND(0.001)	NS
Inorganic			
Arsenic	0.049	NS	NS
Beryllium	ND(0.0004)	NS	NS
Chromium Total	0.00049 J	NS	NS
Cyanide (total)	0.0026 J	NS	ND(0.005)
Lead	0.00021 J	NS	NS
Manganese	0.09	NS	NS
Nickel	0.012	NS	NS
Selenium	ND(0.0016)	ND(0.005)	NS
Silver	ND(0.0004 J)	NS	NS
Vanadium	ND(0.0008)	NS	NS
Inorganic-Dissolved			
Arsenic	NS	NS	NS
Beryllium	NS	NS	NS
Chromium Total	NS	NS	NS
Cyanide	NS	NS	ND(0.005)
Lead	NS	NS	NS
Manganese	NS	NS	NS
Nickel	NS	NS	NS
Selenium	NS	NS	NS
Silver	NS	NS	NS
Vanadium	NS	NS	NS

RFI-84-05	10/2/2001	12/17/2002	3/24/2003	2/25/2005	6/8/2005
VOC					
1,1-Dichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Benzene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	0.0003 J	0.0003 J
Trichloroethene	0.0035	0.0039	0.0024	0.009 (IDW,RDW)	0.013 (IDW,RDW)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
SVOC					
Benzo(a)anthracene	ND(0.0011)	NS	NS	NS	NS
Benzo(a)pyrene	ND(0.0022)	NS	NS	NS	NS
Benzo(b)fluoranthene	ND(0.0022)	NS	NS	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.0056)	NS	NS	NS	NS
Di-n-butylphthalate	ND(0.0056)	NS	NS	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.0022)	NS	NS	NS	NS
PCB					
Total PCBs	ND(0.00011)	NS	NS	NS	NS
PCB-Dissolved					
Total PCBs	ND(0.00011)	NS	NS	NS	NS
Inorganic					
Arsenic	NS	0.0017	NS	NS	NS
Beryllium	NS	0.00046 J	NS	NS	NS
Chromium Total	NS	0.0027	NS	NS	NS
Cyanide (total)	0.0011 J	ND(0.005)	NS	NS	NS
Lead	NS	0.0014 J	NS	NS	NS
Manganese	NS	0.41 J	NS	NS	NS
Nickel	NS	0.015 J	NS	NS	NS
Selenium	NS	ND(0.0016)	NS	NS	NS
Silver	NS	ND(0.0004 J)	NS	NS	NS
Vanadium	NS	0.0016	NS	NS	NS
Inorganic-Dissolved					
Arsenic	ND(0.001)	NS	NS	NS	NS
Beryllium	ND(0.0004)	NS	NS	NS	NS
Chromium Total	0.0015	NS	NS	NS	NS
Cyanide	0.00092 J	NS	NS	NS	NS
Lead	ND(0.0004)	NS	NS	NS	NS
Manganese	0.34	NS	NS	NS	NS
Nickel	0.022	NS	NS	NS	NS
Selenium	0.042	NS	NS	NS	NS
Silver	ND(0.0004)	NS	NS	NS	NS
Vanadium	ND(0.0008)	NS	NS	NS	NS

RFI-84-07D	7/28/2005
VOC	
1,1-Dichloroethene	ND(0.01)
Benzene	1.44 (IDW,RDW)
cis-1,2-Dichloroethene	ND(0.01)
Trichloroethene	ND(0.01)
Vinyl chloride	ND(0.01)

84-07S	4/5/2005	6/8/2005
VOC		
1,1-Dichloroethene	0.007	0.008 (IDW,RDW)
Benzene	0.006 (IDW,RDW)	0.003 J
cis-1,2-Dichloroethene	0.293 (IDW,RDW)	0.322 (IDW,RDW)
Trichloroethene	0.191 (IDW,RDW)	0.258 (IDW,RDW)
Vinyl chloride	0.061 (IDW,RDW)	0.105 (IDW,RDW)

84-07D	7/28/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	0.051 (IDW,RDW)
cis-1,2-Dichloroethene	0.027
Trichloroethene	0.0007 J
Vinyl chloride	0.008 (IDW,RDW)

RFI-84-04I	7/28/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	0.0005 J
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-84-04	5/23/2001
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001 J)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
bis(2-Ethylhexyl)phthalate	0.0121 (IDW,RDW)
Di-n-butylphthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Arsenic	0.0017 J
Beryllium	ND(0.0004)
Chromium Total	0.0058
Cyanide	ND(0.005)
Lead	ND(0.0004)
Manganese	1.6 (RDW)
Nickel	0.013
Selenium	0.0015 J
Silver	ND(0.0004)
Vanadium	ND(0.0008)

RFI-84-04D	7/28/2005
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

84-6R2D	7/29/2005
VOC	
1,1-Dichloroethene	ND(0.01)
Benzene	0.35 (IDW,RDW)
cis-1,2-Dichloroethene	ND(0.01)
Trichloroethene	ND(0.01)
Vinyl chloride	ND(0.01)

RFI-40-07	2/25/2002	6/24/2002
VOC		
1,1-Dichloroethene	ND(0.001)	ND(0.001)
Benzene	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
SVOC		
Benzo(a)anthracene	ND(0.001)	NS
Benzo(a)pyrene	ND(0.002)	NS
Benzo(b)fluoranthene	ND(0.002)	NS
bis(2-Ethylhexyl)phthalate	0.001 J	NS
Di-n-butylphthalate	ND(0.005)	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS
PCB		
Total PCBs	ND(0.0001)	NS
PCB-Dissolved		
Total PCBs	ND(0.0001)	NS
Inorganic		
Arsenic	NS	NS
Beryllium	NS	NS
Chromium Total	NS	NS
Cyanide (total)	0.0031 J	NS
Lead	NS	NS
Manganese	NS	NS
Nickel	NS	NS
Selenium	NS	NS
Silver	NS	NS
Vanadium	NS	NS
Inorganic-Dissolved		
Arsenic	0.0024	NS
Beryllium	0.0021 J	NS
Chromium Total	0.0075	NS
Cyanide	0.0033 J	NS
Lead	0.003	NS
Manganese	0.37	NS
Nickel	0.0096	NS
Selenium	0.0054 J	NS
Silver	ND(0.0004 J)	NS
Vanadium	0.00098 J	NS

RFI-94-06	5/21/2001
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	0.00028 J
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
bis(2-Ethylhexyl)phthalate	ND(0.005)
Di-n-butylphthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Arsenic	0.0057 J
Beryllium	ND(0.0004)
Chromium Total	0.0021
Cyanide	0.0048 J
Lead	ND(0.0004)
Manganese	0.4
Nickel	0.0076
Selenium	ND(0.0014)
Silver	ND(0.0004)
Vanadium	0.0098 (RDW)

RFI-40-15	4/22/2003
VOC	
1,1-Dichloroethene	ND(0.001 J)
Benzene	5.5 JD (IDW,RDW)
cis-1,2-Dichloroethene	ND(0.001 J)
Trichloroethene	ND(0.001 J)
Vinyl chloride	ND(0.001 J)
Inorganic	
Arsenic	0.011
Beryllium	ND(0.0004)
Chromium Total	0.00096
Cyanide (total)	0.0031 J
Lead	0.00053
Manganese	0.12
Nickel	0.0086
Selenium	ND(0.0016)
Silver	ND(0.0004 J)
Vanadium	0.00099

40-1R	4/3/2003
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	0.0017
Vinyl chloride	ND(0.001)
Inorganic	
Arsenic	ND(0.001)
Beryllium	ND(0.0004)
Chromium Total	0.0064
Cyanide (total)	0.0068
Lead	0.0013
Manganese	0.057 J
Nickel	0.0083
Selenium	ND(0.0016)
Silver	ND(0.0004 J)
Vanadium	0.00024 J

RFI-40-13	9/16/2003	10/13/2003
VOC		
1,1-Dichloroethene	ND(0.001) /ND(0.001)	NS
Benzene	ND(0.001) /ND(0.001)	NS
cis-1,2-Dichloroethene	ND(0.001) /ND(0.001)	NS
Trichloroethene	ND(0.001) /ND(0.001)	NS
Vinyl chloride	ND(0.001) /ND(0.001)	NS
SVOC		
Benzo(a)anthracene	NS	ND(0.001)
Benzo(a)pyrene	NS	ND(0.002)
Benzo(b)fluoranthene	NS	ND(0.002)
bis(2-Ethylhexyl)phthalate	NS	ND(0.005)
Di-n-butylphthalate	NS	ND(0.005)
Indeno(1,2,3-cd)pyrene	NS	ND(0.002)
PCB		
Total PCBs	ND(0.00011) /ND(0.0001)	NS
Inorganic		
Arsenic	0.0087 J /0.0086 J	NS
Beryllium	0.17 J (IDW,RDW) /0.19 J (IDW,RDW)	NS
Chromium Total	0.0065 J /0.0059 J	NS
Cyanide (total)	ND(0.005) /ND(0.005)	NS
Lead	0.0011 /0.0011	NS
Manganese	0.2 /0.2	NS
Nickel	0.019 J /0.018 J	NS
Selenium	ND(0.0016 J) /ND(0.0016 J)	NS
Silver	0.0013 J /0.0012 J	NS
Vanadium	ND(0.0008) /ND(0.0008)	NS

RFI-40-09	2/26/2002	6/24/2002	3/26/2003
VOC			
1,1-Dichloroethene	ND(0.001)	ND(0.001)	ND(0.001)
Benzene	0.68 D (IDW,RDW)	0.73 D (IDW,RDW)	0.85 D (IDW,RDW)
cis-1,2-Dichloroethene	ND(0.001 J)	ND(0.001)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)
SVOC			
Benzo(a)anthracene	ND(0.001)	NS	NS
Benzo(a)pyrene	ND(0.002)	NS	NS
Benzo(b)fluoranthene	ND(0.002)	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.005)	NS	NS
Di-n-butylphthalate	ND(0.005)	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS	NS
PCB			
Total PCBs	ND(0.0001)	NS	NS
PCB-Dissolved			
Total PCBs	ND(0.0001)	NS	NS
Inorganic			
Arsenic	NS	0.043	NS
Beryllium	NS	ND(0.0004)	NS
Chromium Total	NS	0.00026 J	NS
Cyanide (total)	0.0014 J	ND(0.005)	NS
Lead	NS	0.00031 J	NS
Manganese	NS	0.12 J	NS
Nickel	NS	0.004	NS
Selenium	NS	ND(0.0014)	NS
Silver	NS	ND(0.0004 J)	NS
Vanadium	NS	0.00025 J	NS
Inorganic-Dissolved			
Arsenic	0.049	0.041	NS
Beryllium	0.019 J (IDW,RDW)	ND(0.0004)	NS
Chromium Total	0.0097 J	ND(0.0006)	NS
Cyanide	ND(0.005)	ND(0.005)	NS
Lead	0.00049 J	ND(0.0004)	NS
Manganese	0.1 J	0.1 J	NS
Nickel	0.0093 J	0.0035	NS
Selenium	ND(0.0014)	ND(0.0014)	NS
Silver	0.0011 J	0.00084 J	NS
Vanadium	ND(0.0008 J)	ND(0.0008)	NS

RFI-40-01	5/29/2001
VOC	
1,1-Dichloroethene	ND(0.001)
Benzene	0.00013 J
cis-1,2-Dichloroethene	ND(0.001)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.005)
Benzo(a)pyrene	0.00019 J
Benzo(b)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.0109 (IDW,RDW)
Di-n-butylphthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.005)
PCB	
Total PCBs	ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Arsenic	0.0034 J
Beryllium	ND(0.0004)
Chromium Total	0.0047
Cyanide	ND(0.005)
Lead	0.0014 J
Manganese	0.17
Nickel	0.0059 J
Selenium	ND(0.0025)
Silver	ND(0.0004)
Vanadium	0.0045 J

84-6	10/17/2001	6/26/2002
VOC		
1,1-Dichloroethene	ND(0.001)	ND(0.001)
Benzene	ND(0.001)	ND(0.001)
cis-1,2-Dichloroethene	ND(0.001 J)	ND(0.001)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	0.0021 (IDW,RDW)	0.0013
SVOC		
Benzo(a)anthracene	ND(0.0011)	NS
Benzo(a)pyrene	ND(0.0021)	NS
Benzo(b)fluoranthene	ND(0.0021)	NS
bis(2-Ethylhexyl)phthalate	ND(0.0053)	NS
Di-n-butylphthalate	ND(0.0053)	NS
Indeno(1,2,3-cd)pyrene	ND(0.0021)	NS
PCB		
Total PCBs	ND(0.0001)	NS
PCB-Dissolved		
Total PCBs	ND(0.0001)	NS
Inorganic		
Arsenic	NS	0.0096 J
Beryllium	NS	ND(0.0004)
Chromium Total	NS	0.0009
Cyanide (total)	0.0019 J	ND(0.005 J)
Lead	NS	0.00059
Manganese	NS	0.11
Nickel	NS	0.0076
Selenium	NS	ND(0.0014)
Silver	NS	ND(0.0004 J)
Vanadium	NS	0.00026 J
Inorganic-Dissolved		
Arsenic	0.013	0.0076 J
Beryllium	ND(0.0004)	ND(0.0004)
Chromium Total	0.45 (IDW,RDW)	0.003
Cyanide	0.0016 J	ND(0.005 J)
Lead	0.00083	ND(0.0004)
Manganese	0.42	0.077
Nickel	0.91 (IDW,RDW)	0.0049
Selenium	0.0021 J	ND(0.0016)
Silver	ND(0.0004)	ND(0.0004 J)
Vanadium	0.002	ND(0.0008)

84-6R2	9/15/2003	10/5/2004	6/9/2005
VOC			
1,1-Dichloroethene	NS	ND(0.001)	ND(0.005)
Benzene	NS	0.259 (IDW,RDW)	0.402 (IDW,RDW)
cis-1,2-Dichloroethene	NS	0.002	ND(0.005)
Trichloroethene	NS	ND(0.001)	ND(0.005)
Vinyl chloride	NS	0.004 (IDW,RDW)	ND(0.005)
Inorganic			
Arsenic	0.013 J	NS	NS
Beryllium	0.21 J (IDW,RDW)	ND(0.001)	NS
Chromium Total	0.01 J	ND(0.005)	NS
Cyanide (total)	0.0091	NS	NS
Lead	0.0026	NS	NS
Manganese	0.43 J	NS	NS
Nickel	0.029 J	ND(0.005)	NS
Selenium	0.0025 J	NS	NS
Silver	0.0019 J	NS	NS
Vanadium	ND(0.0008)	NS	NS
Inorganic-Dissolved			
Arsenic	0.0097 J	NS	NS
Beryllium	0.26 J (IDW,RDW)	NS	NS
Chromium Total	0.0084 J	NS	NS
Cyanide	0.005	NS	NS
Lead	0.0011	NS	NS
Manganese	0.35	NS	NS
Nickel	0.024 J	NS	NS
Selenium	ND(0.0016)	NS	NS
Silver	0.0017 J	NS	NS
Vanadium	ND(0.0008)	NS	NS

84-2	10/17/2001
VOC	
1,1-Dichloroethene	ND(0.001) /ND(0.001)
Benzene	ND(0.001) /ND(0.001)
cis-1,2-Dichloroethene	ND(0.001 J) /ND(0.001 J)
Trichloroethene	ND(0.001) /ND(0.001)
Vinyl chloride	ND(0.001) /ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001) /ND(0.001)
Benzo(a)pyrene	ND(0.002) /ND(0.002)
Benzo(b)fluoranthene	ND(0.002) /ND(0.002)
bis(2-Ethylhexyl)phthalate	ND(0.0051) /ND(0.005)
Di-n-butylphthalate	ND(0.0051) /ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002) /ND(0.002)
PCB	
Total PCBs	ND(0.0001) /ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.0001) /ND(0.0001)
Inorganic	
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	ND(0.005) /0.0013 J
Lead	NS
Manganese	NS
Nickel	NS
Selenium	NS
Silver	NS
Vanadium	NS
Inorganic-Dissolved	
Arsenic	0.0016 J /0.0018 J
Beryllium	ND(0.0004) /ND(0.0004)
Chromium Total	0.0018 /0.0034
Cyanide	0.001 J /0.0013 J
Lead	ND(0.0004) /ND(0.0004)
Manganese	0.0085 /0.0088
Nickel	0.0014 /0.0023
Selenium	ND(0.0014) /ND(0.0014)
Silver	ND(0.0004) /ND(0.0004)
Vanadium	ND(0.0008) /ND(0.0008)

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED ON AUGUST 1, 2005.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)—CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS—NOT ANALYZED FOR THIS CONSTITUENT.
9. J—ESTIMATED CONCENTRATION.
10. D—CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
11. GSI CRITERIA COMPARED TO SAMPLES LOCATED WITHIN 500 FEET OF THE FLINT RIVER.
12. BIS(2-ETHYLHEXYL)PHTHALATE DETECTED IN SAMPLES COLLECTED FROM TEMPORARY WELLS IN MAY 2001 WAS FOUND TO BE CAUSED BY THE TUBING USED TO COLLECT THE SAMPLES.
13. RDW — EXCEEDS MICHIGAN PART 201 RESIDENTIAL DRINKING WATER CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

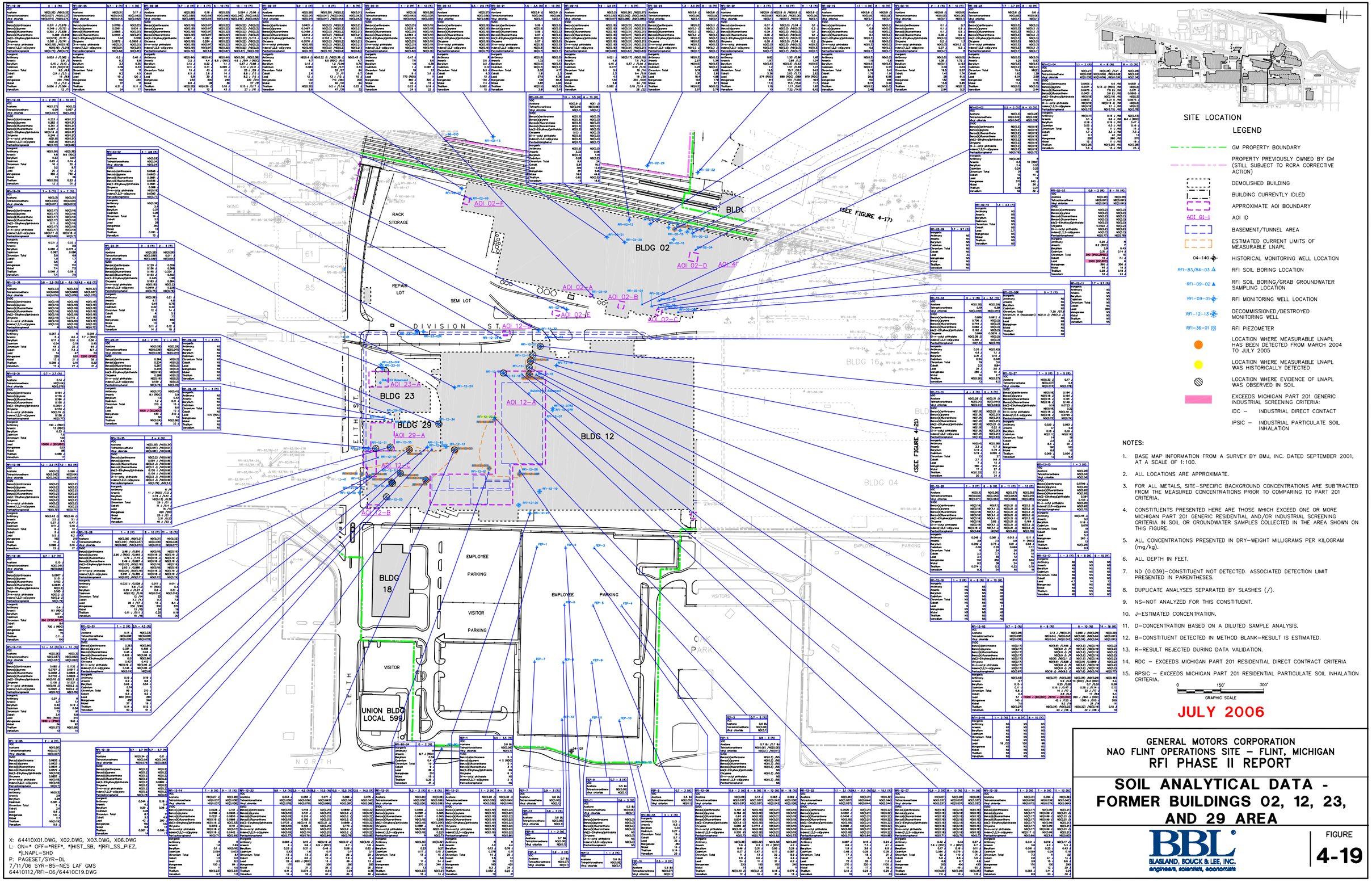
X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG, X24.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C18.DWG

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE — FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ANALYTICAL DATA - FORMER BUILDINGS 03, 17, 28, 84, AND 94 AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 4-18



SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 01-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  - IDC — INDUSTRIAL DIRECT CONTACT
  - IPSIC — INDUSTRIAL PARTICULATE SOIL INHALATION

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. FOR ALL METALS, SITE–SPECIFIC BACKGROUND CONCENTRATIONS ARE SUBTRACTED FROM THE MEASURED CONCENTRATIONS PRIOR TO COMPARING TO PART 201 CRITERIA.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN DRY–WEIGHT MILLIGRAMS PER KILOGRAM (mg/kg).
6. ALL DEPTH IN FEET.
7. ND (0.039)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
8. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
9. NS–NOT ANALYZED FOR THIS CONSTITUENT.
10. J–ESTIMATED CONCENTRATION.
11. D–CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
12. B–CONSTITUENT DETECTED IN METHOD BLANK–RESULT IS ESTIMATED.
13. R–RESULT REJECTED DURING DATA VALIDATION.
14. RDC – EXCEEDS MICHIGAN PART 201 RESIDENTIAL DIRECT CONTRACT CRITERIA
15. RPSIC – EXCEEDS MICHIGAN PART 201 RESIDENTIAL PARTICULATE SOIL INHALATION CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SOIL ANALYTICAL DATA - FORMER BUILDINGS 02, 12, 23, AND 29 AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 4-19

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF* , *HIST_SB, *RFI_SS_PIEZ, *LNAPL–SHD
P: PAGESET/SYR–DL
7/11/06 SYR–85–NES LAF GMS
64410112/RFI–06/64410C19.DWG

RFI-23-01R	10/4/2004	4/6/2005
SVOC		
Benzo(a)anthracene	ND(0.001)	ND(0.005)
Benzo(a)pyrene	ND(0.002)	ND(0.005)
Benzo(b)fluoranthene	ND(0.002)	ND(0.005)
Benzo(k)fluoranthene	ND(0.002)	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.0007 J	ND(0.005)
Chrysene	ND(0.002)	ND(0.005)
Di-n-octyl phthalate	ND(0.005)	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)	ND(0.005)
Pentachlorophenol	0.002 J (IDW,RDW)	ND(0.001)
Inorganic		
Antimony	NS	NS
Arsenic	NS	NS
Beryllium	NS	NS
Cadmium	NS	NS
Chromium Total	NS	NS
Cobalt	NS	NS
Lead	ND(0.003)	NS
Manganese	NS	NS
Nickel	NS	NS
Thallium	NS	NS
Vanadium	NS	NS

RFI-12-24	4/4/2003	4/23/2003	4/6/2005
VOC			
Acetone	ND(0.025)	0.0082 J	NS
Tetrachloroethene	ND(0.001)	ND(0.001)	NS
Vinyl chloride	ND(0.001)	ND(0.001)	NS
SVOC			
Benzo(a)anthracene	ND(0.0011)	ND(0.001)	ND(0.005)
Benzo(a)pyrene	ND(0.0022)	ND(0.002)	ND(0.005)
Benzo(b)fluoranthene	ND(0.0022)	ND(0.002)	ND(0.005)
Benzo(k)fluoranthene	ND(0.0056)	ND(0.005)	ND(0.005)
bis(2-Ethylhexyl)phthalate	ND(0.0056)	ND(0.005)	ND(0.005)
Chrysene	ND(0.0056)	ND(0.005)	ND(0.005)
Di-n-octyl phthalate	ND(0.0056)	ND(0.005 J)	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.0022)	ND(0.002 J)	ND(0.005)
Pentachlorophenol	ND(0.022 J)	ND(0.02)	ND(0.001)
Inorganic			
Antimony	0.00038 J	0.0011 J	NS
Arsenic	0.0023	0.0018	NS
Beryllium	ND(0.0008)	ND(0.0004)	NS
Cadmium	0.00043	0.00064	NS
Chromium Total	0.0014	0.00065	NS
Cobalt	0.019	0.024	NS
Lead	0.0026	0.0015	NS
Manganese	0.74 J	0.89 (RDW)	NS
Nickel	0.024	0.03	NS
Thallium	0.000059 J	0.00015 J	NS
Vanadium	0.0024	0.00074 J	NS

RFI-23-02	9/18/2001
VOC	
Acetone	ND(0.025)
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.0011)
Benzo(a)pyrene	ND(0.0022)
Benzo(b)fluoranthene	ND(0.0022)
Benzo(k)fluoranthene	ND(0.0056)
bis(2-Ethylhexyl)phthalate	ND(0.0056)
Chrysene	ND(0.0056)
Di-n-octyl phthalate	ND(0.0056)
Indeno(1,2,3-cd)pyrene	ND(0.0022)
Pentachlorophenol	ND(0.022)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	0.0023
Beryllium	ND(0.0004)
Cadmium	ND(0.0002)
Chromium Total	0.00083
Cobalt	0.0011
Lead	ND(0.0004)
Manganese	0.013
Nickel	0.0052
Thallium	ND(0.0002)
Vanadium	ND(0.0008)

RFI-23-02R	10/4/2004	4/6/2005
SVOC		
Benzo(a)anthracene	ND(0.001)	ND(0.005)
Benzo(a)pyrene	ND(0.002)	ND(0.005)
Benzo(b)fluoranthene	ND(0.002)	ND(0.005)
Benzo(k)fluoranthene	ND(0.002)	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.0007 J	ND(0.005)
Chrysene	ND(0.002)	ND(0.005)
Di-n-octyl phthalate	ND(0.005)	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)	ND(0.005)
Pentachlorophenol	0.003 J (IDW,RDW)	ND(0.001)
Inorganic		
Antimony	NS	NS
Arsenic	ND(0.002)	NS
Beryllium	ND(0.001)	NS
Cadmium	ND(0.0005)	NS
Chromium Total	ND(0.005)	NS
Cobalt	NS	NS
Lead	ND(0.003)	NS
Manganese	0.301	NS
Nickel	ND(0.005)	NS
Thallium	ND(0.002)	NS
Vanadium	0.009 (RDW)	NS

RFI-02-07	9/18/2001	6/27/2002	3/27/2003
VOC			
Acetone	ND(0.025)	NS	NS
Tetrachloroethene	ND(0.001)	NS	NS
Vinyl chloride	ND(0.001)	NS	NS
SVOC			
Benzo(a)anthracene	ND(0.0011)	NS	NS
Benzo(a)pyrene	ND(0.0022)	NS	NS
Benzo(b)fluoranthene	ND(0.0022)	NS	NS
Benzo(k)fluoranthene	ND(0.0054)	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.0054)	NS	NS
Chrysene	ND(0.0054)	NS	NS
Di-n-octyl phthalate	ND(0.0054)	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.0022)	NS	NS
Pentachlorophenol	ND(0.022)	NS	NS
Inorganic			
Antimony	ND(0.0012)	ND(0.0012)	ND(0.0012)
Arsenic	0.0024 J	0.0006 J	ND(0.001)
Beryllium	0.0025 J	ND(0.0004)	ND(0.0004)
Cadmium	0.00044 J	ND(0.0002)	0.00012 J
Chromium Total	0.0018	0.00054 J	0.0016
Cobalt	0.004 J	0.00035	0.0024
Lead	0.00054 J	0.0003 J	0.00015 J
Manganese	3.7 J (IDW,RDW)	0.45	2.2 (RDW)
Nickel	0.027 J	0.0029	0.026
Thallium	ND(0.0002)	0.000062 J	0.000086 J
Vanadium	ND(0.0008)	ND(0.0008)	ND(0.0008)
Inorganic-Dissolved			
Antimony	ND(0.0012)	ND(0.0012)	NS
Arsenic	ND(0.001)	0.0011 J	NS
Beryllium	ND(0.0004)	ND(0.0004)	NS
Cadmium	ND(0.0002)	ND(0.0002)	NS
Chromium Total	ND(0.0006)	0.0034	NS
Cobalt	0.0027	0.00074	NS
Lead	ND(0.0004)	ND(0.0004)	NS
Manganese	2.2 (RDW)	0.38	NS
Nickel	0.016	0.0042	NS
Thallium	ND(0.0002)	ND(0.0002)	NS
Vanadium	ND(0.0008)	ND(0.0008)	NS

RFI-02-13	12/19/2002	10/7/2004
VOC		
Acetone	NS	ND(0.03)
Tetrachloroethene	NS	ND(0.001)
Vinyl chloride	NS	ND(0.001)
Inorganic		
Antimony	ND(0.0012)	NS
Arsenic	0.0025 J	NS
Beryllium	ND(0.0004)	NS
Cadmium	0.000083 J	NS
Chromium Total	0.0012 J	NS
Cobalt	0.00058 J	NS
Lead	0.0011 J	NS
Manganese	0.38 J	2.25 (RDW)
Nickel	0.0051 J	NS
Thallium	0.00052 J	NS
Vanadium	0.00062 J	NS

RFI-02-21	4/5/2005
VOC	
Acetone	0.008 J
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-02-12	3/26/2003	10/5/2004	2/24/2005
VOC			
Acetone	NS	2 (RDW) /2.36 EJ (IDW,RDW)	47 (IDW,RDW)
Tetrachloroethene	NS	ND(0.001) /ND(0.001)	ND(0.001)
Vinyl chloride	NS	ND(0.001) /ND(0.001)	ND(0.001)
Inorganic			
Antimony	ND(0.0012)	NS	NS
Arsenic	ND(0.001)	NS	NS
Beryllium	ND(0.0004)	NS	NS
Cadmium	ND(0.0002)	NS	NS
Chromium Total	0.0007	NS	NS
Cobalt	0.0003	NS	NS
Lead	ND(0.0004)	NS	NS
Manganese	0.083	NS	NS
Nickel	0.0084	NS	NS
Thallium	ND(0.0002)	NS	NS
Vanadium	0.00027 J	NS	NS

RFI-02-24	4/5/2005
VOC	
Acetone	ND(0.03 J)
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

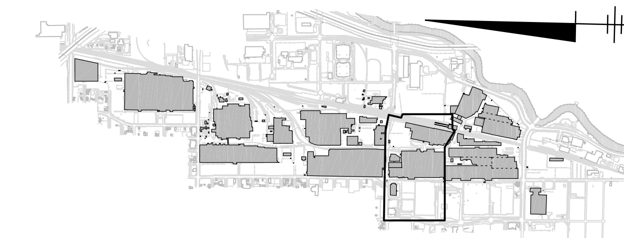
RFI-02-20	4/5/2005
VOC	
Acetone	2.3 (IDW,RDW)
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-02-22	4/5/2005
VOC	
Acetone	0.01 J
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-02-19	4/8/2005
VOC	
Acetone	0.006 J
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-02-01	5/18/2001
VOC	
Acetone	0.0018 J
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
Benzo(k)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.00093 J
Chrysene	ND(0.005)
Di-n-octyl phthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
Pentachlorophenol	ND(0.02)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	ND(0.001)
Beryllium	ND(0.00042)
Cadmium	0.00084
Chromium Total	0.003
Cobalt	0.00063
Lead	0.00042
Manganese	0.033
Nickel	0.0068
Thallium	ND(0.00021)
Vanadium	0.0017

RFI-02-04	5/18/2001
VOC	
Acetone	0.0055 J
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
Benzo(k)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.334 D (GCC,IDW,RDW)
Chrysene	ND(0.005)
Di-n-octyl phthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
Pentachlorophenol	ND(0.02)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	0.0085
Beryllium	ND(0.00042)
Cadmium	ND(0.00021)
Chromium Total	0.0044
Cobalt	0.0093
Lead	ND(0.00042)
Manganese	1.2 (RDW)
Nickel	0.0064
Thallium	ND(0.00021)
Vanadium	ND(0.00083)



RFI-23-01	9/18/2001
VOC	
Acetone	ND(0.025)
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
Benzo(k)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	ND(0.005)
Chrysene	ND(0.005)
Di-n-octyl phthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
Pentachlorophenol	ND(0.02)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	ND(0.001)
Beryllium	ND(0.0004)
Cadmium	ND(0.0002)
Chromium Total	0.0013
Cobalt	0.00039
Lead	ND(0.0004)
Manganese	0.0019
Nickel	0.0031
Thallium	ND(0.0002)
Vanadium	ND(0.0008)

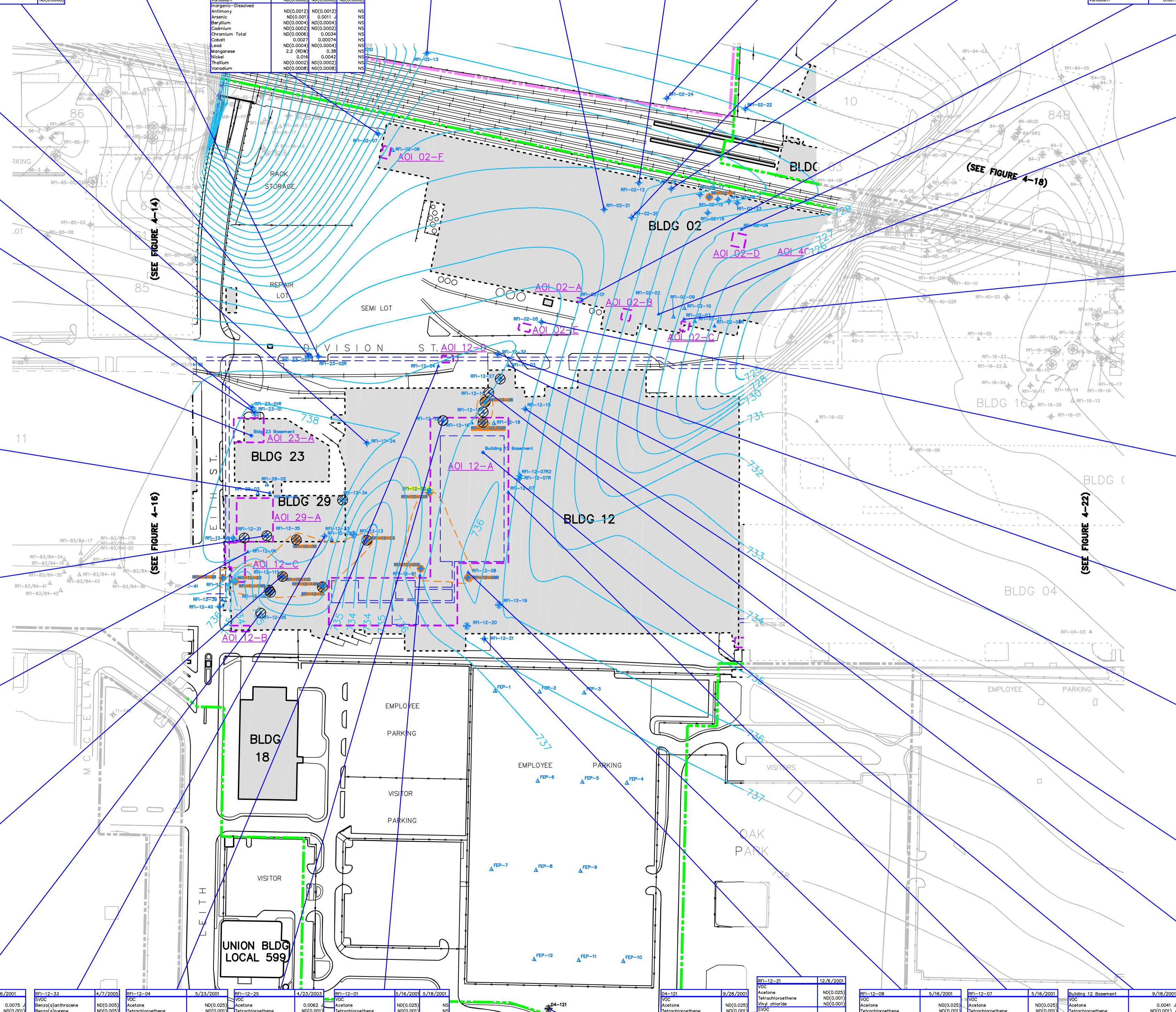
Bldg 23 Basement	11/22/2002
VOC	
Acetone	0.005 J
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	0.0113 J (GCC,IDW,RDW)
Benzo(a)pyrene	0.0113 J (GCC,IDW,RDW)
Benzo(b)fluoranthene	0.0659 J (GCC,IDW,RDW)
Benzo(k)fluoranthene	0.0088 J (GCC,IDW,RDW)
bis(2-Ethylhexyl)phthalate	0.197 (IDW,RDW)
Chrysene	0.0102 J (GCC,IDW,RDW)
Di-n-octyl phthalate	0.234 J (RDW)
Indeno(1,2,3-cd)pyrene	0.0166 J (GCC,IDW,RDW)
Pentachlorophenol	ND(0.2)
Inorganic	
Antimony	0.0031
Arsenic	ND(0.0017)
Beryllium	ND(0.0004)
Cadmium	0.00031
Chromium Total	0.0067
Cobalt	0.00075
Lead	0.0077 (IDW,RDW)
Manganese	0.17 J
Nickel	0.0068
Thallium	ND(0.0002)
Vanadium	0.00069 J

RFI-29-01	5/23/2001
VOC	
Acetone	0.0024 J
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
Benzo(k)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.238 D (IDW,RDW)
Chrysene	ND(0.005)
Di-n-octyl phthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
Pentachlorophenol	ND(0.02)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	ND(0.001)
Beryllium	ND(0.0004)
Cadmium	ND(0.0002)
Chromium Total	0.0018 J
Cobalt	0.00044
Lead	ND(0.0004)
Manganese	0.73
Nickel	0.0015
Thallium	ND(0.0002)
Vanadium	ND(0.0008)

RFI-12-35	9/17/2003	10/14/2003
VOC		
Acetone	0.02 J	NS
Tetrachloroethene	ND(0.001 J)	NS
Vinyl chloride	ND(0.001)	NS
SVOC		
Benzo(a)anthracene	NS	ND(0.0011)
Benzo(a)pyrene	NS	ND(0.0022)
Benzo(b)fluoranthene	NS	ND(0.0022)
Benzo(k)fluoranthene	NS	ND(0.0054)
bis(2-Ethylhexyl)phthalate	NS	ND(0.0054)
Chrysene	NS	ND(0.0054)
Di-n-octyl phthalate	NS	ND(0.0054)
Indeno(1,2,3-cd)pyrene	NS	ND(0.0022)
Pentachlorophenol	NS	ND(0.022)
Inorganic		
Antimony	0.0043 J	NS
Arsenic	0.06 J (IDW,RDW)	NS
Beryllium	0.27 JDM (IDW,RDW)	NS
Cadmium	0.0067 J (IDW,RDW)	NS
Chromium Total	0.12 (IDW,RDW)	NS
Cobalt	0.046 (RDW)	NS
Lead	0.059 (IDW,RDW)	NS
Manganese	2.1 (RDW)	NS
Nickel	0.12 (IDW,RDW)	NS
Thallium	0.0036 (IDW,RDW)	NS
Vanadium	0.14 (IDW,RDW)	NS
Inorganic-Dissolved		
Antimony	0.0028 J	NS
Arsenic	0.02	NS
Beryllium	0.03 J (IDW,RDW)	NS
Cadmium	0.0027 J	NS
Chromium Total	0.004	NS
Cobalt	0.0074 J	NS
Lead	0.001 J	NS
Manganese	0.27	NS
Nickel	0.027 J	NS
Thallium	0.00089 J	NS
Vanadium	ND(0.0008 J)	NS

RFI-12-06	5/25/2001
VOC	
Acetone	0.017 J
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.005)
Benzo(a)pyrene	ND(0.005)
Benzo(b)fluoranthene	ND(0.005)
Benzo(k)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.579 D (GAI,GCC,IDW,RDW)
Chrysene	ND(0.005)
Di-n-octyl phthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.005)
Pentachlorophenol	ND(0.005)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	0.014 J
Beryllium	ND(0.0004)
Cadmium	0.002 J
Chromium Total	0.0012
Cobalt	ND(0.0002)
Lead	ND(0.0004)
Manganese	ND(0.0004)
Nickel	0.007 J
Thallium	ND(0.0002)
Vanadium	0.076 J (IDW,RDW)

RFI-12-11S	9/19/2001	6/25/2002
VOC		
Acetone	ND(0.025)	0.0078 J
Tetrachloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
SVOC		
Benzo(a)anthracene	ND(0.001)	NS
Benzo(a)pyrene	ND(0.0021)	NS
Benzo(b)fluoranthene	ND(0.0021)	NS
Benzo(k)fluoranthene	ND(0.0051)	NS
bis(2-Ethylhexyl)phthalate	ND(0.0051)	NS
Chrysene	ND(0.0051)	NS
Di-n-octyl phthalate	ND(0.0051)	NS
Indeno(1,2,3-cd)pyrene	ND(0.0021)	NS
Pentachlorophenol	ND(0.021)	NS
Inorganic		
Antimony	NS	0.0013
Arsenic	NS	0.001 J
Beryllium	NS	ND(0.0004)
Cadmium	NS	0.0002
Chromium Total	NS	0.00068
Cobalt	NS	0.0011
Lead	NS	0.00043
Manganese	NS	0.74 J
Nickel	NS	0.017
Thallium	NS	ND(0.0002)
Vanadium	NS	0.00033 J
Inorganic-Dissolved		
Antimony	ND(0.0012)	NS
Arsenic	ND(0.001)	NS
Beryllium	ND(0.0004)	NS
Cadmium	ND(0.0002)	NS
Chromium Total	ND(0.0006)	NS
Cobalt	0.00081	NS
Lead	0.0006	NS
Manganese	0.31	NS
Nickel	0.0088	NS
Thallium	ND(0.0002)	NS
Vanadium	ND(0.0008)	NS



RFI-12-05	5/16/2001
VOC	
Acetone	0.0075 J
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001 J)
Benzo(a)pyrene	ND(0.002 J)
Benzo(b)fluoranthene	ND(0.002 J)
Benzo(k)fluoranthene	ND(0.005 J)
bis(2-Ethylhexyl)phthalate	0.179 D (IDW,RDW)
Chrysene	ND(0.005 J)
Di-n-octyl phthalate	ND(0.005 J)
Indeno(1,2,3-cd)pyrene	ND(0.002 J)
Pentachlorophenol	ND(0.02)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	0.0053 J
Beryllium	ND(0.00042)
Cadmium	ND(0.00021)
Chromium Total	0.003 J
Cobalt	0.0026 J
Lead	0.0013 J
Manganese	1.6 (RDW)
Nickel	0.033 J
Thallium	ND(0.00021)
Vanadium	0.013 J (RDW)

RFI-12-33	4/7/2005
SVOC	
Benzo(a)anthracene	ND(0.005)
Benzo(a)pyrene	ND(0.005)
Benzo(b)fluoranthene	ND(0.005)
Benzo(k)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	ND(0.005)
Chrysene	ND(0.005)
Di-n-octyl phthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.005)
Pentachlorophenol	ND(0.001)

RFI-12-04	5/23/2001
VOC	
Acetone	ND(0.025)
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.0013)
Benzo(a)pyrene	ND(0.0026)
Benzo(b)fluoranthene	ND(0.0026)
Benzo(k)fluoranthene	ND(0.0064)
bis(2-Ethylhexyl)phthalate	0.0907 (IDW,RDW)
Chrysene	ND(0.0064)
Di-n-octyl phthalate	ND(0.0064)
Indeno(1,2,3-cd)pyrene	ND(0.0026)
Pentachlorophenol	ND(0.026)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	0.014 J
Beryllium	ND(0.0004)
Cadmium	0.00095 J
Chromium Total	0.0013
Cobalt	0.00054
Lead	ND(0.0004)
Manganese	0.13
Nickel	0.0039
Thallium	ND(0.0002)
Vanadium	0.0018

RFI-12-25	4/23/2003
VOC	
Acetone	0.0062 J
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
Benzo(k)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	ND(0.005)
Chrysene	ND(0.005)
Di-n-octyl phthalate	ND(0.005 J)
Indeno(1,2,3-cd)pyrene	ND(0.002 J)
Pentachlorophenol	ND(0.02)
Inorganic	
Antimony	0.00039 J
Arsenic	0.0016 J
Beryllium	ND(0.0004)
Cadmium	0.00012 J
Chromium Total	0.0011
Cobalt	0.0018
Lead	0.0015
Manganese	0.4
Nickel	0.024
Thallium	0.000094 J
Vanadium	ND(0.0008)

RFI-12-01	5/16/2001	5/18/2001
VOC		
Acetone	ND(0.025)	NS
Tetrachloroethene	ND(0.001)	NS
Vinyl chloride	ND(0.001)	NS
SVOC		
Benzo(a)anthracene	NS	ND(0.001)
Benzo(a)pyrene	NS	ND(0.002)
Benzo(b)fluoranthene	NS	ND(0.002)
Benzo(k)fluoranthene	NS	ND(0.005)
bis(2-Ethylhexyl)phthalate	NS	0.00354 J
Chrysene	NS	ND(0.005)
Di-n-octyl phthalate	NS	ND(0.005)
Indeno(1,2,3-cd)pyrene	NS	ND(0.002)
Pentachlorophenol	NS	ND(0.02)
Inorganic-Dissolved		
Antimony	NS	0.0014
Arsenic	NS	ND(0.001)
Beryllium	NS	ND(0.00042)
Cadmium	NS	ND(0.00021)
Chromium Total	NS	0.0058
Cobalt	NS	0.0015
Lead	NS	0.00068
Manganese	NS	0.11
Nickel	NS	0.014
Thallium	NS	ND(0.00021)
Vanadium	NS	ND(0.00083)

04-121	9/28/2001
VOC	
Acetone	ND(0.025)
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
Benzo(k)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	ND(0.005)
Chrysene	ND(0.005)
Di-n-octyl phthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
Pentachlorophenol	ND(0.02)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	ND(0.001)
Beryllium	ND(0.0004)
Cadmium	ND(0.0002)
Chromium Total	ND(0.0006)
Cobalt	ND(0.0002)
Lead	ND(0.0004)
Manganese	0.019 J
Nickel	0.0044
Thallium	ND(0.0002)
Vanadium	ND(0.0008)

RFI-12-21	12/6/2001
VOC	
Acetone	ND(0.025)
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
Benzo(k)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	ND(0.005)
Chrysene	ND(0.005)
Di-n-octyl phthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
Pentachlorophenol	ND(0.02)
Inorganic	
Antimony	ND(0.0012)
Arsenic	0.0072
Beryllium	ND(0.0004)
Cadmium	0.000069 J
Chromium Total	0.0018
Cobalt	0.0046
Lead	0.00014 J
Manganese	0.31
Nickel	0.012
Thallium	0.000066 J
Vanadium	0.00044 J
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	0.0065
Beryllium	0.00094 J
Cadmium	0.00023
Chromium Total	0.00083
Cobalt	0.0032
Lead	ND(0.0004)
Manganese	0.21
Nickel	0.0069
Thallium	0.0003
Vanadium	ND(0.0008)

RFI-12-08	5/16/2001
VOC	
Acetone	ND(0.025)
Tetrachloroethene	ND(0.001)
Vinyl chloride	0.04 (IDW,RDW)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
Benzo(k)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.0725 (IDW,RDW)
Chrysene	ND(0.005)
Di-n-octyl phthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
Pentachlorophenol	ND(0.02)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	0.002 J
Beryllium	ND(0.00042)
Cadmium	ND(0.00021)
Chromium Total	0.0022 J
Cobalt	ND(0.00021)
Lead	0.0011 J
Manganese	0.074
Nickel	0.0043 J
Thallium	ND(0.00021)
Vanadium	0.0027 J

RFI-12-07	5/16/2001
VOC	
Acetone	ND(0.025)
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
Benzo(k)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.0026 J
Chrysene	ND(0.005)
Di-n-octyl phthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
Pentachlorophenol	ND(0.02)
Inorganic-Dissolved	
Antimony	ND(0.0019)
Arsenic	0.0014 J
Beryllium	ND(0.00042)
Cadmium	ND(0.00021)
Chromium Total	0.0071 J
Cobalt	0.0004 J
Lead	0.002 J
Manganese	0.2
Nickel	0.007 J
Thallium	ND(0.00021)
Vanadium	0.002 J

Building 12 Basement	9/18/2001
VOC	
Acetone	0.0041 J /0.004 J
Tetrachloroethene	ND(0.001) /ND(0.001)
Vinyl chloride	ND(0.001) /ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001 J) /ND(0.001)
Benzo(a)pyrene	ND(0.002 J) /0.00092 J
Benzo(b)fluoranthene	ND(0.002 J) /0.00076 J
Benzo(k)fluoranthene	ND(0.005 J) /0.00063 J
bis(2-Ethylhexyl)phthalate	0.0014 J /0.0236 J (IDW,RDW)
Chrysene	ND(0.005 J) /ND(0.005)
Di-n-octyl phthalate	ND(0.005 J) /ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002 J) /ND(0.002)
Pentachlorophenol	ND(0.02) /ND(0.02)
Inorganic-Dissolved	
Antimony	0.0054 /0.0054
Arsenic	0.0036 /0.0031
Beryllium	ND(0.0004) /ND(0.0004)
Cadmium	0.0013 /0.00062
Chromium Total	0.0043 /0.0033
Cobalt	0.0045 /0.0033
Lead	0.0079 (IDW,RDW) /0.0014
Manganese	0.055 /0.026
Nickel	0.034 /0.028
Thallium	ND(0.0002) /ND(0.0002)
Vanadium	0.0025 /0.0012

RFI-12-10	5/31/2001
VOC	
Acetone	ND(0.025)
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.005)
Benzo(a)pyrene	ND(0.005)
Benzo(b)fluoranthene	ND(0.005)
Benzo(k)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.52 D (GAI,GCC,IDW,RDW)
Chrysene	ND(0.005)
Di-n-octyl phthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.005)
Pentachlorophenol	ND(0.005)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	0.0075
Beryllium	ND(0.0004)
Cadmium	ND(0.0002)
Chromium Total	0.0016
Cobalt	0.00047
Lead	ND(0.0004)
Manganese	0.017
Nickel	0.0038
Thallium	ND(0.0002)
Vanadium	0.012 (RDW)

RFI-02-02	5/18/2001
VOC	
Acetone	ND(0.025) /ND(0.025)
Tetrachloroethene	ND(0.001) /ND(0.001)
Vinyl chloride	ND(0.001) /ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001) /ND(0.001)
Benzo(a)pyrene	ND(0.002) /ND(0.002)
Benzo(b)fluoranthene	ND(0.002) /ND(0.002)
Benzo(k)fluoranthene	ND(0.005) /ND(0.005)
bis(2-Ethylhexyl)phthalate	0.0664 J (IDW,RDW) /0.1 D (IDW,RDW)
Chrysene	ND(0.005) /ND(0.005)
Di-n-octyl phthalate	ND(0.005) /ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002) /ND(0.002)
Pentachlorophenol	ND(0.02) /ND(0.02)
Inorganic-Dissolved	
Antimony	ND(0.0012) /ND(0.0012)
Arsenic	ND(0.001) /ND(0.001)
Beryllium	ND(0.00042) /ND(0.00042)
Cadmium	0.00039 /0.00064
Chromium Total	0.003 /0.0046
Cobalt	0.0011 /0.0021
Lead	ND(0.00042) /ND(0.00042)
Manganese	1.7 (RDW) /3 (IDW,RDW)
Nickel	0.013 /0.022
Thallium	ND(0.00021) /ND(0.00021)
Vanadium	0.0071 (RDW) /0.0094 (RDW)

RFI-02-03	5/18/2001	5/25/2001
VOC		
Acetone	0.0014 J	NS
Tetrachloroethene	ND(0.001)	NS
Vinyl chloride	ND(0.001)	NS
SVOC		
Benzo(a)anthracene	ND(0.001)	NS
Benzo(a)pyrene	ND(0.002)	NS
Benzo(b)fluoranthene	ND(0.002)	NS
Benzo(k)fluoranthene	ND(0.005)	NS
bis(2-Ethylhexyl)phthalate	0.0268 (IDW,RDW)	NS
Chrysene	ND(0.005)	NS
Di-n-octyl phthalate	ND(0.005)	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS
Pentachlorophenol	ND(0.02)	NS
Inorganic-Dissolved		
Antimony	ND(0.0012)	NS
Arsenic	ND(0.001)	NS
Beryllium	ND(0.00042)	NS
Cadmium	ND(0.00021)	NS
Chromium Total	0.0025	NS
Cobalt	0.00032	NS
Lead	ND(0.00042)	NS
Manganese	0.54	NS
Nickel	0.0078	NS
Thallium	ND(0.00021)	NS
Vanadium	0.00098	NS

RFI-02-05	9/18/2001	12/16/2002
VOC		
Acetone	ND(0.025) /ND(0.025)	NS
Tetrachloroethene	ND(0.001) /ND(0.001)	NS
Vinyl chloride	ND(0.001) /ND(0.001)	NS
SVOC		
Benzo(a)anthracene	ND(0.0011) /ND(0.0011)	NS
Benzo(a)pyrene	ND(0.0022) /ND(0.0022)	NS
Benzo(b)fluoranthene	ND(0.0022) /ND(0.0022)	NS
Benzo(k)fluoranthene	ND(0.0056) /ND(0.0056)	NS
bis(2-Ethylhexyl)phthalate	ND(0.0056) /ND(0.0056)	NS
Chrysene	ND(0.0056) /ND(0.0056)	NS
Di-n-octyl phthalate	ND(0.0056) /ND(0.0056)	NS
Indeno(1,2,3-cd)pyrene	ND(0.0022) /ND(0.0022)	NS
Pentachlorophenol	ND(0.022) /ND(0.022)	NS
Inorganic		
Antimony	ND(0.0012) /ND(0.0012)	ND(0.0012)
Arsenic	ND(0.0017) /0.00087 J	0.0014
Beryllium	0.0002 J /0.0032	ND(0.0004 J)
Cadmium	0.000056 J /0.00014 J	0.00011 J
Chromium Total	0.00098 /0.001	0.005
Cobalt	0.00039 J /0.00045	0.00064 J
Lead	0.00065 J /0.00034 J	0.0021 J
Manganese	1.4 J (RDW) /1.5 (RDW)	2 (RDW)
Nickel	0.0057 J /0.0055	0.012 J
Thallium	0.00017 J /ND(0.0002)	0.00012 J
Vanadium	ND(0.0008) /ND(0.0008)	0.00027 J
Inorganic-Dissolved		
Antimony	ND(0.0012) /ND(0.0012)	NS
Arsenic	ND(0.001) /ND(0.001)	NS
Beryllium	ND(0.0004) /ND(0.0004)	NS
Cadmium	ND(0.0002) /ND(0.0002)	NS
Chromium Total	0.0012 /0.0007	NS
Cobalt	0.00022 /0.00021	NS
Lead	ND(0.0004) /ND(0.0004)	NS
Manganese	0.88 (RDW) /0.88 (RDW)	NS
Nickel	0.0022 /0.0023	NS
Thallium	ND(0.0002) /ND(0.0002)	NS
Vanadium	ND(0.0008) /ND(0.0008)	NS

RFI-12-32	10/4/2004
VOC	
Acetone	ND(0.03)
Tetrachloroethene	ND(0.001)
Vinyl chloride	ND(0.001)

RFI-12-03	5/24/2001
VOC	
Acetone	0.0011 J
Tetrachloroethene	0.0057 (IDW,RDW)
Vinyl chloride	ND(0.001)
SVOC	
Benzo(a)anthracene	ND(0.001)
Benzo(a)pyrene	ND(0.002)
Benzo(b)fluoranthene	ND(0.002)
Benzo(k)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.0279 (IDW,RDW)
Chrysene	ND(0.005)
Di-n-octyl phthalate	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.002)
Pentachlorophenol	ND(0.02)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	ND(0.001)
Beryllium	ND(0.0004)
Cadmium	ND(0.0002)
Chromium Total	ND(0.0006)
Cobalt	0.0012 J
Lead	0.0013 J
Manganese	0.3
Nickel	0.0095 J
Thallium	ND(0.0002)
Vanadium	ND(0.0008)

RFI-12-15	9/18/2001	12/16/2002
VOC		
Acetone	0.026	0.22 D
Tetrachloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
SVOC		
Benzo(a)anthracene	ND(0.0011)	NS
Benzo(a)pyrene	ND(0.0021)	NS
Benzo(b)fluoranthene	ND(0.0021)	NS
Benzo(k)fluoranthene	ND(0.0053)	NS
bis(2-Ethylhexyl)phthalate	ND(0.0053)	NS
Chrysene	ND(0.0053)	NS
Di-n-octyl phthalate	ND(0.0053)	NS
Indeno(1,2,3-cd)pyrene	ND(0.0021)	NS
Pentachlorophenol	ND(0.021)	NS
Inorganic-Dissolved		
Antimony	ND(0.0012)	NS
Arsenic	0.0034	NS
Beryllium	ND(0.0004)	NS
Cadmium	ND(0.0002)	NS
Chromium Total	ND(0.0006)	NS
Cobalt	ND(0.0002)	NS
Lead	ND(0.0004)	NS
Manganese	ND(0.0004)	NS
Nickel	0.0015	NS
Thallium	ND(0.0002)	NS
Vanadium	0.0039	NS

LEGEND

GM PROPERTY BOUNDARY

PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)

DEMOLISHED BUILDING

BUILDING CURRENTLY IDLED

APPROXIMATE AOI BOUNDARY

AOI 81-1 AOI ID

BASEMENT/TUNNEL AREA

ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL

736 WATER TABLE ELEVATION CONTOUR (FT AMSL)

04-140 HISTORICAL MONITORING WELL LOCATION

RFI-83/84-03 RFI SOIL BORING LOCATION

RFI-09-02 RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION

RFI-09-01 RFI MONITORING WELL LOCATION

RFI-12-13 DECOMMISSIONED/DESTROYED MONITORING WELL

RFI-36-01 RFI PIEZOMETER

LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005

LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED

LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL

EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:

IDW – INDUSTRIAL DRINKING WATER

GCC – GROUNDWATER CONTACT

GAI – GROUNDWATER ACUTE INHALATION

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED IN DECEMBER 2004.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. J–ESTIMATED CONCENTRATION.
10. E– ESTIMATED CONCENTRATION, CONCENTRATION OUT OF RANGE OF INSTRUMENT.
11. D– CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
12. GSI CRITERIA COMPARED TO SAMPLES LOCATED WITHIN 500 FEET OF THE FLINT RIVER.
13. BIS(2-ETHYLHEXYL)PHTHALATE DETECTED IN SAMPLES COLLECTED FROM TEMPORARY WELLS IN MAY 2001 WAS FOUND TO BE CAUSED BY THE TUBING USED TO COLLECT THE SAMPLES.
14. RDW – EXCEEDS MICHIGAN PART 201 RESIDENTIAL DRINKING WATER CRITERIA.
15. LNAPL MEASURED AT RFI-02-14 IN 2005.

0 150' 300'

GRAPHIC SCALE

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ANALYTICAL DATA - FORMER BUILDINGS 02, 12, 23, AND 29 AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 4-20

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG, X24.DWG
L: ON=* OFF=*REF*, *|HIST_SB, *|RFI_SS_PIEZ, *|LNAPL-SHD
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C20.DWG

RFI-16-05	0.5 – 2 (ft)	2 – 4 (ft)
VOC		
Benzene	ND(0.041)	ND(0.043)
cis-1,2-Dichloroethene	ND(0.041 J)	ND(0.043 J)
Ethylbenzene	ND(0.041)	ND(0.043)
Trichloroethene	ND(0.041)	ND(0.043)
Vinyl chloride	ND(0.041)	ND(0.043)
SVOC		
Benzo(a)anthracene	ND(0.2)	0.0656 J
Benzo(a)pyrene	ND(0.2)	0.0615 J
Benzo(b)fluoranthene	ND(0.2)	0.0554 J
Benzo(g,h,i)perylene	ND(0.2)	ND(0.21)
Benzo(k)fluoranthene	ND(0.2)	0.0575 J
bis(2-Ethylhexyl)phthalate	ND(0.2)	ND(0.21)
Chrysene	ND(0.2)	0.066 J
Indeno(1,2,3-cd)pyrene	ND(0.2)	ND(0.21)
PCB		
Total PCBs	ND(0.041)	ND(0.043)
Inorganic		
Antimony	ND(0.39)	ND(0.38)
Arsenic	7.7 (RDC)	6.1
Beryllium	0.83	0.74
Chromium Total	21 J	15 J
Cyanide (total)	ND(0.2)	ND(0.2)
Lead	170 J	60 J
Manganese	560 J	420 J
Nickel	21	17
Selenium	ND(1.6)	ND(1.5)
Vanadium	19 J	24 J

RFI-40-02	0.9 – 2.9 (ft)	8.9 – 10.9 (ft)
VOC		
Benzene	ND(0.041)	ND(0.042)
cis-1,2-Dichloroethene	ND(0.041)	ND(0.042)
Ethylbenzene	ND(0.041)	ND(0.042)
Trichloroethene	0.051	ND(0.042)
Vinyl chloride	ND(0.041)	ND(0.042)
SVOC		
Benzo(a)anthracene	0.615	0.349 J
Benzo(a)pyrene	0.617	ND(0.21 J)
Benzo(b)fluoranthene	0.909 J	ND(0.21 J)
Benzo(g,h,i)perylene	1.39 J	ND(0.21 J)
Benzo(k)fluoranthene	0.686 J	ND(0.21 J)
bis(2-Ethylhexyl)phthalate	0.168 J	ND(0.21 J)
Chrysene	0.714	0.588 J
Indeno(1,2,3-cd)pyrene	1.09 J	ND(0.21 J)
PCB		
Total PCBs	0.034 J	ND(0.043)
Inorganic		
Antimony	0.14 J	0.15 J
Arsenic	6.3 J	4.7 J
Beryllium	3.3 J	2.9 J
Chromium Total	17 J	13 J
Cyanide (total)	0.14 J	ND(0.2)
Lead	12 J	6.8 J
Manganese	410 J	440 J
Nickel	16 J	14 J
Selenium	0.15 J	ND(0.07)
Vanadium	26	22

RFI-40-10	0.7 – 2.7 (ft)	4.7 – 6.7 (ft)
VOC		
Benzene	ND(0.037)	ND(0.041)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.041)
Ethylbenzene	ND(0.037)	ND(0.041)
Trichloroethene	0.15	0.031 J
Vinyl chloride	ND(0.037)	ND(0.041)
SVOC		
Benzo(a)anthracene	0.355	ND(0.19)
Benzo(a)pyrene	0.345	ND(0.19)
Benzo(b)fluoranthene	0.353	ND(0.19)
Benzo(g,h,i)perylene	0.263 J	ND(0.19)
Benzo(k)fluoranthene	0.294	ND(0.19)
bis(2-Ethylhexyl)phthalate	0.0602 J	ND(0.19)
Chrysene	0.404	ND(0.19)
Indeno(1,2,3-cd)pyrene	0.219 J	ND(0.19)
PCB		
Total PCBs	0.014 J	ND(0.04)
Inorganic		
Antimony	0.1 J	0.098 J
Arsenic	4.8 J	9.1 J (RDC)
Beryllium	2.5 J	2.7 J
Chromium Total	15 J	13 J
Cyanide (total)	ND(0.2)	ND(0.2)
Lead	11 J	8.7 J
Manganese	410 J	280 J
Nickel	11 J	13 J
Selenium	0.23 J	ND(0.066)
Vanadium	22	24

RFI-40-03	0.7 – 2.7 (ft)	6.7 – 8.7 (ft)
VOC		
Benzene	ND(0.038) /ND(0.037)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.038) /ND(0.037)	ND(0.04)
Ethylbenzene	ND(0.038) /ND(0.037)	ND(0.04)
Trichloroethene	0.32 /ND(0.037)	ND(0.04)
Vinyl chloride	ND(0.038) /ND(0.037)	ND(0.04)
SVOC		
Benzo(a)anthracene	0.138 J /ND(0.18)	ND(0.19)
Benzo(a)pyrene	0.129 J /ND(0.18)	ND(0.19)
Benzo(b)fluoranthene	0.123 J /ND(0.18)	ND(0.19)
Benzo(g,h,i)perylene	0.0688 J /ND(0.18)	ND(0.19 J)
Benzo(k)fluoranthene	0.0972 J /ND(0.18)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.18) /ND(0.18)	ND(0.19)
Chrysene	0.146 J /ND(0.18)	ND(0.19)
Indeno(1,2,3-cd)pyrene	0.0635 J /ND(0.18)	ND(0.19 J)
PCB		
Total PCBs	ND(0.037) /ND(0.037)	ND(0.04)
Inorganic		
Antimony	0.082 J /0.056 J	0.068 J
Arsenic	8.2 J (RDC) /3.9 J	9.5 J (RDC)
Beryllium	2.3 J /1.3 J	1.6 J
Chromium Total	15 J /8 J	13 J
Cyanide (total)	ND(0.2) /ND(0.2)	ND(0.2)
Lead	12 J /19 J	13 J
Manganese	1200 J /180 J	1100 J
Nickel	13 J /8.8 J	15 J
Selenium	0.18 J /0.19 J	0.3 J
Vanadium	27 /14	23

RFI-40-11	0.9 – 2.9 (ft)	4.9 – 6.9 (ft)
VOC		
Benzene	0.13	ND(0.034)
cis-1,2-Dichloroethene	ND(0.034)	ND(0.034)
Ethylbenzene	0.12	ND(0.034)
Trichloroethene	ND(0.034)	ND(0.034)
Vinyl chloride	ND(0.067)	ND(0.069)

RFI-16-12	0.9 – 2.9 (ft)	8.9 – 10.9 (ft)
VOC		
Benzene	ND(0.04)	ND(0.042)
cis-1,2-Dichloroethene	ND(0.04)	1.4
Ethylbenzene	ND(0.04)	ND(0.042)
Trichloroethene	0.15	0.17
Vinyl chloride	ND(0.04)	0.16
SVOC		
Benzo(a)anthracene	ND(0.2 J)	ND(0.2)
Benzo(a)pyrene	ND(0.2 J)	ND(0.2)
Benzo(b)fluoranthene	ND(0.2 J)	ND(0.2)
Benzo(g,h,i)perylene	ND(0.2 J)	ND(0.2)
Benzo(k)fluoranthene	ND(0.2 J)	ND(0.2)
bis(2-Ethylhexyl)phthalate	ND(0.2 J)	ND(0.2)
Chrysene	ND(0.2 J)	ND(0.2)
Indeno(1,2,3-cd)pyrene	ND(0.2 J)	ND(0.2)
PCB		
Total PCBs	0.033 J	ND(0.041)
Inorganic		
Antimony	0.1 J	0.16 J
Arsenic	4.1 J	14 J (RDC)
Beryllium	3.2 J	2.9 J
Chromium Total	14 J	12 J
Cyanide (total)	ND(0.2)	ND(0.2)
Lead	250 J	7.1 J
Manganese	270 J	380 J
Nickel	21 J	14 J
Selenium	0.3 J	0.31 J
Vanadium	22	19

40-303R	1 – 3 (ft)	8 – 10 (ft)	27 – 29 (ft)
VOC			
Benzene	ND(0.037)	ND(0.039)	ND(0.039)
cis-1,2-Dichloroethene	0.05	0.071	ND(0.039)
Ethylbenzene	0.028 J	ND(0.039)	ND(0.039)
Trichloroethene	1.3	ND(0.039)	ND(0.039)
Vinyl chloride	ND(0.037)	ND(0.039)	ND(0.039)
SVOC			
Benzo(a)anthracene	0.154 J	ND(0.19)	ND(0.19)
Benzo(a)pyrene	0.223	ND(0.19)	ND(0.19)
Benzo(b)fluoranthene	0.26	ND(0.19)	ND(0.19)
Benzo(g,h,i)perylene	0.122 J	ND(0.19)	ND(0.19)
Benzo(k)fluoranthene	0.232	ND(0.19)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.19)	ND(0.19)
Chrysene	0.179 J	ND(0.19)	ND(0.19)
Indeno(1,2,3-cd)pyrene	0.131 J	ND(0.19)	ND(0.19)
PCB			
Total PCBs	0.102 J	ND(0.039)	0.013 J
Inorganic			
Antimony	R	R	R
Arsenic	3.8	3.3	5.1
Beryllium	0.19	0.23	0.33
Chromium Total	10	16	12
Cyanide (total)	1.8	0.45	0.11 J
Lead	29	5.5	7.1
Manganese	220	250	360
Nickel	13	9.9	15
Selenium	ND(0.097)	ND(0.094)	0.16
Vanadium	9.9	13	19

RFI-40-04	0.5 – 2.5 (ft)	8.5 – 10.5 (ft)	22.5 – 24.5 (ft)
VOC			
Benzene	ND(0.038)	ND(0.039)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.039)	ND(0.04)
Ethylbenzene	ND(0.038)	ND(0.039)	ND(0.04)
Trichloroethene	ND(0.038)	ND(0.039)	ND(0.04)
Vinyl chloride	ND(0.038)	ND(0.039)	ND(0.04)
SVOC			
Benzo(a)anthracene	0.128 J	ND(0.19)	ND(0.19)
Benzo(a)pyrene	0.12 J	ND(0.19)	ND(0.19)
Benzo(b)fluoranthene	0.14 J	ND(0.19)	ND(0.19)
Benzo(g,h,i)perylene	0.0771 J	ND(0.19)	ND(0.19)
Benzo(k)fluoranthene	0.133 J	ND(0.19)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.19)	ND(0.19)
Chrysene	0.149 J	ND(0.19)	ND(0.19)
Indeno(1,2,3-cd)pyrene	0.0682 J	ND(0.19)	ND(0.19)
PCB			
Total PCBs	ND(0.038)	ND(0.039)	ND(0.039)
Inorganic			
Antimony	R	R	R
Arsenic	9.3 (RDC)	4.5	3.5
Beryllium	0.86	0.75	0.48
Chromium Total	7.6	14	8.5
Cyanide (total)	ND(0.4)	ND(0.4)	ND(0.4)
Lead	16	7.6	4.2
Manganese	480 J	310 J	210 J
Nickel	16	16	10
Selenium	1.9	0.12	0.1
Vanadium	10	23	13

RFI-16-03	0.5 – 2 (ft)	4 – 6 (ft)
VOC		
Benzene	0.12	0.015 J /0.0078 J
cis-1,2-Dichloroethene	ND(0.038 J)	ND(0.043 J) /ND(0.042 J)
Ethylbenzene	0.049	ND(0.043) /ND(0.042)
Trichloroethene	ND(0.038)	ND(0.043) /ND(0.042)
Vinyl chloride	ND(0.038)	ND(0.043) /ND(0.042)
SVOC		
Benzo(a)anthracene	R	R /ND(0.2)
Benzo(a)pyrene	R	R /ND(0.2)
Benzo(b)fluoranthene	R	R /ND(0.2)
Benzo(g,h,i)perylene	R	R /ND(0.2)
Benzo(k)fluoranthene	R	R /ND(0.2)
bis(2-Ethylhexyl)phthalate	R	R /ND(0.2)
Chrysene	0.0652 J	R /ND(0.2)
Indeno(1,2,3-cd)pyrene	R	R /ND(0.2)
PCB		
Total PCBs	ND(0.039)	ND(0.043) /ND(0.041)
Inorganic		
Antimony	ND(0.43)	ND(0.44) /ND(0.4)
Arsenic	8.4 (RDC)	8.7 (RDC) /3.8
Beryllium	0.97	0.51 /0.35
Chromium Total	16 J	16 J /12 J
Cyanide (total)	ND(0.2)	ND(0.2) /ND(0.2)
Lead	65 J	16 J /14 J
Manganese	370 J	780 J /350 J
Nickel	18	19 /13
Selenium	0.86 J	0.75 J /ND(1.6)
Vanadium	30 J	26 J /18 J

RFI-44-01	0.7 – 2 (ft)	4 – 6 (ft)
VOC		
Benzene	ND(0.038)	ND(0.038) /ND(0.037)
cis-1,2-Dichloroethene	0.026 J	ND(0.038 J) /ND(0.037 J)
Ethylbenzene	0.01 J	ND(0.038) /ND(0.037)
Trichloroethene	0.011 J	0.013 J /0.061
Vinyl chloride	ND(0.038)	ND(0.038) /ND(0.037)
SVOC		
Benzo(a)anthracene	0.134 J	ND(0.18) /ND(0.18)
Benzo(a)pyrene	0.163 J	ND(0.18) /ND(0.18 J)
Benzo(b)fluoranthene	0.197	ND(0.18) /ND(0.18 J)
Benzo(g,h,i)perylene	0.102 J	ND(0.18) /ND(0.18 J)
Benzo(k)fluoranthene	0.202	ND(0.18) /ND(0.18 J)
bis(2-Ethylhexyl)phthalate	0.108 J	ND(0.18) /0.123 J
Chrysene	0.174 J	ND(0.18) /ND(0.18)
Indeno(1,2,3-cd)pyrene	0.101 J	ND(0.18) /ND(0.18 J)
PCB		
Total PCBs	ND(0.039)	ND(0.038) /ND(0.038)
Inorganic		
Antimony	ND(0.47 J)	ND(0.48 J) /ND(0.42 J)
Arsenic	4.8	5.2 /5.9
Beryllium	0.2 J	0.14 J /0.11 J
Chromium Total	13	8.1 /6.1
Cyanide (total)	0.19 J	ND(0.2) /0.017 J
Lead	68 J	5.7 J /5.6 J
Manganese	250	300 /230
Nickel	19	8.5 /7.3
Selenium	ND(1.9)	ND(1.9) /ND(1.7)
Vanadium	15	9.2 /9.2

40-4R	1 – 3 (ft)	8 – 10 (ft)	13 – 15 (ft)	15 – 17 (ft)
VOC				
Benzene	ND(0.037) /ND(0.036)	ND(0.037)	0.91	0.83
cis-1,2-Dichloroethene	ND(0.037) /ND(0.036)	ND(0.037)	ND(0.04)	ND(0.04)
Ethylbenzene	ND(0.037) /ND(0.036)	ND(0.037)	3.9	3.8
Trichloroethene	ND(0.037) /ND(0.036)	ND(0.037)	ND(0.04)	ND(0.04)
Vinyl chloride	ND(0.037) /ND(0.036)	ND(0.037)	ND(0.04)	ND(0.04)
SVOC				
Benzo(a)anthracene	ND(0.18) /ND(0.18)	ND(0.18)	ND(0.2)	ND(0.19)
Benzo(a)pyrene	ND(0.18) /ND(0.18)	ND(0.18)	ND(0.2)	ND(0.19)
Benzo(b)fluoranthene	ND(0.18) /ND(0.18)	ND(0.18)	ND(0.2)	ND(0.19)
Benzo(g,h,i)perylene	ND(0.18) /ND(0.18)	ND(0.18 J)	ND(0.2 J)	ND(0.19)
Benzo(k)fluoranthene	ND(0.18) /ND(0.18)	ND(0.18)	ND(0.2)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.18) /ND(0.18)	ND(0.18)	ND(0.2)	ND(0.19)
Chrysene	ND(0.18) /ND(0.18)	ND(0.18)	ND(0.2)	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(0.18) /ND(0.18)	ND(0.18)	ND(0.2 J)	ND(0.19)
PCB				
Total PCBs	ND(0.036) /ND(0.036)	ND(0.037)	ND(0.041)	ND(0.04)
Inorganic				
Antimony	R /R	R	R	R
Arsenic	3.6 /3.9	2.5	2.8	4.7
Beryllium	0.09 /0.099	0.074	0.44	0.25
Chromium Total	5.8 /6.3	4.9	15	12
Cyanide (total)	ND(0.2) /ND(0.2)	0.04 J	ND(0.2)	ND(0.2)
Lead	3.9 /4.6	4.7	6.9	7.1
Manganese	220 /180	150	160	180
Nickel	8.7 /8.1	7.2	13	9.2
Selenium	0.093 /ND(0.071)	ND(0.074)	ND(0.26)	ND(0.09)
Vanadium	8.3 /8.4	6.4	23	15

RFI-16-09	0.7 – 2.7 (ft)	4.7 – 6.6 (ft)
VOC		
Benzene	ND(0.038)	ND(0.037) /ND(0.037)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.037) /ND(0.037)
Ethylbenzene	ND(0.038)	ND(0.037) /ND(0.037)
Trichloroethene	ND(0.038)	ND(0.037) /ND(0.037)
Vinyl chloride	ND(0.038)	ND(0.037) /ND(0.037)
SVOC		
Benzo(a)anthracene	ND(0.18)	ND(0.18) /ND(0.18)
Benzo(a)pyrene	ND(0.18)	ND(0.18) /ND(0.18)
Benzo(b)fluoranthene	ND(0.18)	ND(0.18) /ND(0.18)
Benzo(g,h,i)perylene	ND(0.18)	ND(0.18) /ND(0.18)
Benzo(k)fluoranthene	ND(0.18)	ND(0.18) /ND(0.18)
bis(2-Ethylhexyl)phthalate	ND(0.18 J)	ND(0.18) /ND(0.18)
Chrysene	ND(0.18)	ND(0.18) /ND(0.18)
Indeno(1,2,3-cd)pyrene	ND(0.18)	ND(0.18) /ND(0.18)
PCB		
Total PCBs	ND(0.037)	ND(0.038) /ND(0.037)
Inorganic		
Antimony	R	R /R
Arsenic	3.4	4.1 /3.3
Beryllium	0.11 J	0.12 J /0.15
Chromium Total	4.8	4.8 /4.8
Cyanide (total)	ND(0.2)	ND(0.2) /ND(0.2)
Lead	4.8	5.4 /5
Manganese	220 J	420 J /240 J
Nickel	7.2	8.7 /7.2
Selenium	ND(1.5)	ND(1.4) /ND(1.3)
Vanadium	5.8	5.9 /6.1

RFI-16-02	0.4 – 2 (ft)	8 – 10 (ft)	14 – 16 (ft)
VOC			
Benzene	ND(0.037)	ND(0.043)	ND(0.041)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.043)	ND(0.041 J)
Ethylbenzene	0.012 J	ND(0.043)	ND(0.041)
Trichloroethene	ND(0.037)	ND(0.043)	ND(0.041)
Vinyl chloride	ND(0.037)	ND(0.043)	ND(0.041)
SVOC			
Benzo(a)anthracene	ND(0.18)	ND(0.2)	ND(0.2 J)
Benzo(a)pyrene	ND(0.18)	ND(0.2)	ND(0.2 J)
Benzo(b)fluoranthene	ND(0.18)	ND(0.2)	ND(0.2 J)
Benzo(g,h,i)perylene	ND(0.18)	ND(0.2)	ND(0.2 J)
Benzo(k)fluoranthene	ND(0.18)	ND(0.2)	ND(0.2 J)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.2)	ND(0.2 J)
Chrysene	ND(0.18)	ND(0.2)	ND(0.2 J)
Indeno(1,2,3-cd)pyrene	ND(0.18)	ND(0.2)	ND(0.2 J)
PCB			
Total PCBs	ND(0.037)	ND(0.042)	ND(0.041)
Inorganic			
Antimony	R	0.18 J	ND(0.44)
Arsenic	1.5	6.6	5.6
Beryllium	0.16 J	1.1	0.27
Chromium Total	11 J	31 J	9.1 J
Cyanide (total)	0.013 J	ND(0.2)	ND(0.2)
Lead	8.6	13	8.2 J
Manganese	120	290	230 J
Nickel	6.2 J	35 J	18
Selenium	ND(1.9)	ND(2)	ND(1.7)
Vanadium	6 J	45 J	12 J

RFI-16-24	1 – 3 (ft)	5 – 7 (ft)
VOC		
Benzene	ND(0.034)	ND(0.033)
cis-1,2-Dichloroethene	ND(0.034)	ND(0.033)
Ethylbenzene	ND(0.034)	ND(0.033)
Trichloroethene	ND(0.034)	ND(0.033)
Vinyl chloride	ND(0.067)	ND(0.067)

RFI-16-06	0.7 – 2 (ft)	4 – 6 (ft)
VOC		
Benzene	ND(0.037)	ND(0.039) /ND(0.039)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.039) /ND(0.039)
Ethylbenzene	ND(0.037)	ND(0.039) /ND(0.039)
Trichloroethene	ND(0.037)	ND(0.039) /ND(0.039)
Vinyl chloride	ND(0.037)	ND(0.039) /ND(0.039)
SVOC		
Benzo(a)anthracene	ND(0.18)	ND(0.19) /ND(0.19)
Benzo(a)pyrene	ND(0.18)	ND(0.19) /ND(0.19)
Benzo(b)fluoranthene	ND(0.18)	ND(0.19) /ND(0.19)
Benzo(g,h,i)perylene	ND(0.18)	ND(0.19) /ND(0.19)
Benzo(k)fluoranthene	ND(0.18)	ND(0.19) /ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.19) /ND(0.19)
Chrysene	ND(0.18)	ND(0.19) /ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(0.18)	ND(0.19) /ND(0.19)
PCB		
Total PCBs	ND(0.037)	ND(0.039) /ND(0.039)
Inorganic		
Antimony	R	R /R
Arsenic	4.1	6.6 /5.4
Beryllium	0.16 J	0.49 /0.28
Chromium Total	23 J	18 J /11 J
Cyanide (total)	ND(0.2)	0.028 J /ND(0.2)
Lead	7.6	9.4 /7.1
Manganese	260	590 /390
Nickel	14 J	22 J /12 J
Selenium	ND(1.9)	ND(1.5) /ND(1.8)
Vanadium	11 J	24 J /15 J

RFI-16-11	1 – 3 (ft)	5 – 7 (ft)
VOC		
Benzene	ND(0.038)	ND(0.037)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.037)
Ethylbenzene	ND(0.038)	ND(0.037)
Trichloroethene	ND(0.038)	ND(0.037)
Vinyl chloride	ND(0.038)	ND(0.037)
SVOC		
Benzo(a)anthracene	5.92	0.0766 J
Benzo(a)pyrene	5.18 (RDC)	0.0816 J
Benzo(b)fluoranthene	5.53	0.115 J
Benzo(g,h,i)perylene	2.08	ND(0.18)
Benzo(k)fluoranthene	5.29	0.0766 J
bis(2-Ethylhexyl)phthalate	ND(1.8)	ND(0.18)
Chrysene	6.4	0.118 J
Indeno(1,2,3-cd)pyrene	2.24	ND(0.18)
PCB		
Total PCBs	ND(0.037)	ND(0.038)
Inorganic		
Antimony	ND(0.37 J)	ND(0.4 J)
Arsenic	4.6	2.1
Beryllium	0.21	0.18 J
Chromium Total	71	14
Cyanide (total)	ND(0.2)	ND(0.2)
Lead	46	85
Manganese	1300 J	310 J
Nickel	79	15
Selenium	0.53 J	ND(0.73)
Vanadium	16	7.7

RFI-04-04	1.3 – 2.1 (ft)	3.1 – 5.1 (ft)	5.1 – 7.1 (ft)
VOC			
Benzene	ND(0.036)	ND(0.037)	ND(0.038) /ND(0.038)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.037)	ND(0.038) /ND(0.038)
Ethylbenzene	ND(0.036)	ND(0.037)	ND(0.038) /ND(0.038)
Trichloroethene	0.11	ND(0.037)	ND(0.038) /ND(0.038)
Vinyl chloride	ND(0.036)	ND(0.037)	ND(0.038) /ND(0.038)
SVOC			
Benzo(a)anthracene	0.0706 J	ND(0.18)	ND(0.18) /ND(0.18)
Benzo(a)pyrene	0.0397 J	ND(0.18)	ND(0.18) /ND(0.18)
Benzo(b)fluoranthene	0.0665 J	ND(0.18)	ND(0.18) /ND(0.18)
Benzo(g,h,i)perylene	ND(0.18)	ND(0.18)	ND(0.18) /ND(0.18)
Benzo(k)fluoranthene	0.0546 J	ND(0.18)	ND(0.18) /ND(0.18)
bis(2-Ethylhexyl)phthalate	ND(0.183)	ND(0.18)	ND(0.18) /ND(0.18)
Chrysene	0.0912 J	ND(0.18)	ND(0.18) /ND(0.18)
Indeno(1,2,3-cd)pyrene	ND(0.18)	ND(0.18)	ND(0.18) /ND(0.18)
PCB			
Total PCBs	0.085	ND(0.037)	ND(0.037) /ND(0.037)
Inorganic			
Antimony	R	R	R /R
Arsenic	3.4	4.1	3.7 /4.9
Beryllium	0.13 J	0.28	0.11 J /0.28
Chromium Total	21	4.9	3.8 /10
Cyanide (total)	NS	NS	NS
Lead	8.7	7.7	5 /50
Manganese	260	200	150 /400
Nickel	13	9.1	7.3 /20
Selenium	ND(1.5)	ND(1.8)	ND(1.7) /ND(1.6)
Vanadium	5.5	7.5	5.6 /10

RFI-16-10	1.2 – 3.2 (ft)	3.2 – 5.2 (ft)
VOC		
Benzene	ND(0.037)	ND(0.037)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.037)
Ethylbenzene	ND(0.037)	ND(0.037)
Trichloroethene	ND(0.037)	ND(0.037)
Vinyl chloride	ND(0.037)	ND(0.037)
SVOC		
Benzo(a)anthracene	ND(0.18)	ND(0.18)
Benzo(a)pyrene	ND(0.18)	ND(0.18)
Benzo(b)fluoranthene	ND(0.18)	0.124 J
Benzo(g,h,i)perylene	ND(0.18)	ND(0.18)
Benzo(k)fluoranthene	ND(0.18)	ND(0.18)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.194)
Chrysene	ND(0.18)	ND(0.18)
Indeno(1,2,3-cd)pyrene	ND(0.18)	ND(0.18)
PCB		
Total PCBs	ND(0.037)	ND(0.037)
Inorganic		
Antimony	ND(0.47 J)	ND(0.43 J)
Arsenic	4.9	4.1
Beryllium	0.33	0.19 J
Chromium Total	10	10
Cyanide (total)	0.041 J	0.02 J
Lead	5.4	6.9
Manganese	220 J	280 J
Nickel	11	13
Selenium	ND(0.86)	ND(0.79)
Vanadium	18	11

RFI-16-25	1 – 3 (ft)	8 – 10 (ft)
VOC		
Benzene	ND(0.035)	ND(0.034)
cis-1,2-Dichloroethene	ND(0.035)	ND(0.034)
Ethylbenzene	ND(0.035)	ND(0.034)
Trichloroethene	ND(0.035)	ND(0.034)
Vinyl chloride	ND(0.07)	ND(0.068)

RFI-16-01	1 – 3 (ft)	5 – 7 (ft)	8 – 10 (ft)
VOC			
Benzene	ND(0.036)	ND(0.036)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.036)	ND(0.04)
Ethylbenzene	ND(0.036)	ND(0.036)	ND(0.04)
Trichloroethene	ND(0.036)	ND(0.036)	ND(0.04)
Vinyl chloride	ND(0.036)	ND(0.036)	ND(0.04)
SVOC			
Benzo(a)anthracene	ND(0.17)	ND(0.18)	ND(0.19)
Benzo(a)pyrene	ND(0.17)	ND(0.18)	ND(0.19)
Benzo(b)fluoranthene	ND(0.17)	ND(0.18)	ND(0.19)
Benzo(g,h,i)perylene	ND(0.17)	ND(0.18)	ND(0.19)
Benzo(k)fluoranthene	ND(0.17)	ND(0.18)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.17)	0.417	ND(0.19)
Chrysene	ND(0.17)	ND(0.18)	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(0.17)	ND(0.18)	ND(0.19)
PCB			
Total PCBs	ND(0.036)	ND(0.037)	ND(0.039)
Inorganic			
Antimony	R	R	R
Arsenic	2.6	2.2	17 (RDC)
Beryllium	0.088 J	0.16 J	0.6
Chromium Total	5.5	3.1	14
Cyanide (total)	0.014 J	ND(0.2)	0.1 J
Lead	4.1	3.3	11
Manganese	120	100	540
Nickel	4.9	3.8	22
Selenium	0.5 J	ND(1.5)	0.49 J
Vanadium	4.4	3.7	22

RFI-16-13	1 – 3 (ft)	9 – 11 (ft)
VOC		
Benzene	ND(0.036)	ND(0.042)
cis-1,2-Dichloroethene	ND(0.036)	ND(0.042)
Ethylbenzene	ND(0.036)	ND(0.042)
Trichloroethene	ND(0.036)	ND(0.042)
Vinyl chloride	ND(0.036)	ND(0.042)
SVOC		
Benzo(a)anthracene	0.0746 J	ND(0.2)
Benzo(a)pyrene	0.0826 J	ND(0.2)
Benzo(b)fluoranthene	0.0851 J	ND(0.2)
Benzo(g,h,i)perylene	ND(0.18)	ND(0.2)
Benzo(k)fluoranthene	ND(0.18)	ND(0.2)
bis(2-Ethylhexyl)phthalate	0.0607 J	ND(0.2)
Chrysene	0.103 J	ND(0.2)
Indeno(1,2,3-cd)pyrene	ND(0.18)	ND(0.2)
PCB		
Total PCBs	ND(0.037)	ND(0.042)
Inorganic		
Antimony	R	R
Arsenic	1.2 J	4.4 J
Beryllium	0.089 J	0.42 J
Chromium Total	6.8 J	14 J
Cyanide (total)	ND(0.2)	0.15 J
Lead	55 J	14 J
Manganese	84 J	220 J
Nickel	9.3	20
Selenium	0.32 J	0.27 J
Vanadium	5.8 J	20 J

RFI-BG-02	0 – 2 (ft)
Inorganic	
Antimony	R
Arsenic	10 J (RDC)
Beryllium	0.67
Chromium Total	22 J
Cyanide (total)	NS
Lead	30 J
Manganese	610
Nickel	22 J
Selenium	0.16 J
Vanadium	36 J

RFI-04-03	0.8 – 2.8 (ft)	7 – 9 (ft)	9 – 11 (ft)
VOC			
Benzene	ND(0.037)	ND(0.041) /ND(0.036)	ND(0.04)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.041) /ND(0.036)	ND(0.04)
Ethylbenzene	ND(0.037)	ND(0.041) /ND(0.036)	ND(0.04)
Trichloroethene	0.046	ND(0.041) /0.037 J	ND(0.04)
Vinyl chloride	ND(0.037)	ND(0.041) /ND(0.036)	ND(0.04)
SVOC			
Benzo(a)anthracene	ND(0.18)	ND(0.2) /ND(0.18)	ND(0.19)
Benzo(a)pyrene	ND(0.18)	ND(0.2) /ND(0.18)	ND(0.19)
Benzo(b)fluoranthene	ND(0.18)	ND(0.2) /ND(0.18)	ND(0.19)
Benzo(g,h,i)perylene	ND(0.18)	ND(0.2) /ND(0.18)	ND(0.19)
Benzo(k)fluoranthene	ND(0.18)	ND(0.2) /ND(0.18)	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.2) /ND(0.31 J)	ND(0.19)
Chrysene	ND(0.18)	ND(0.2) /ND(0.18)	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(0.18)	ND(0.2) /ND(0.18)	ND(0.19)
PCB			
Total PCBs	ND(0.038)	ND(0.04) /ND(0.037)	ND(0.04)
Inorganic			
Antimony	R	0.42 J /R	R
Arsenic	3.9	6.5 /5	7
Beryllium	0.21	0.5 J /0.094 J	0.47
Chromium Total	5.9	15 J /4.2 J	16
Cyanide (total)	0.46	4 /ND(0.2)	5.5
Lead	12	11 /7.6	11
Manganese	210	400 J /98 J	650 J
Nickel	9.6	25 J /4.7 J	25
Selenium	ND(1.5)	ND(2) /ND(1.5)	ND(1.8)
Vanadium	6.5	18 J /6.1 J	18

RFI-16-08	1.5 – 3.5 (ft)	7.5 – 9.5 (ft)
VOC		
Benzene	0.86	ND(0.043)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.043)
Ethylbenzene	0.7	ND(0.043)
Trichloroethene	ND(0.039)	ND(0.043)
Vinyl chloride	ND(0.039)	ND(0.043)
SVOC		
Benzo(a)anthracene	0.045 J	ND(0.2)
Benzo(a)pyrene	0.0382 J	ND(0.2 J)
Benzo(b)fluoranthene	ND(0.19 J)	ND(0.2 J)
Benzo(g,h,i)perylene	0.0476 J	ND(0.2 J)
Benzo(k)fluoranthene	ND(0.19 J)	ND(0.2 J)
bis(2-Ethylhexyl)phthalate	ND(0.42)	ND(0.2 J)
Chrysene	0.0503 J	ND(0.2)
Indeno(1,2,3-cd)pyrene	ND(0.19 J)	ND(0.2 J)
PCB		
Total PCBs	ND(0.04)	ND(0.042)
Inorganic		
Antimony	R	R
Arsenic	8.2 (RDC)	10 (RDC)
Beryllium	1.1	0.71
Chromium Total	8	21
Cyanide (total)	0.019 J	0.0077 J
Lead	25	17
Manganese	500 J	770 J
Nickel	17	32
Selenium	ND(1.3)	ND(1.4)
Vanadium	15	27

RFI-04-02	0.7 – 2.7 (ft)	8.7 – 10.7 (ft)
VOC		
Benzene	ND(0.037)	ND(0.038)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.038)
Ethylbenzene	ND(0.037)	ND(0.038)
Trichloroethene	ND(0.037)	0.03 J
Vinyl chloride	ND(0.037)	ND(0.038)
SVOC		
Benzo(a)anthracene	0.7	ND(0.19)
Benzo(a)pyrene	0.597	ND(0.19)
Benzo(b)fluoranthene	0.446	ND(0.19)
Benzo(g,h,i)perylene	0.677 J	ND(0.19)
Benzo(k)fluoranthene	0.435	ND(0.19)
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.19)
Chrysene	0.697	ND(0.19)
Indeno(1,2,3-cd)pyrene	0.516 J	ND(0.19)
PCB		
Total PCBs	ND(0.037)	ND(0.039)
Inorganic		
Antimony	0.26 J	R
Arsenic	2.6	5.8
Beryllium	0.13 J	0.33
Chromium Total	10	16
Cyanide (total)	0.073 J	0.027 J
Lead	32	52
Manganese	200 J	350 J
Nickel	10	36
Selenium	ND(1.7)	ND(1.6)
Vanadium	6.3	14

RFI-BG-01	0 – 2 (ft)
Inorganic	
Antimony	0.028 J
Arsenic	7.2 J
Beryllium	0.43
Chromium Total	17 J
Cyanide (total)	NS
Lead	48 J
Manganese	410
Nickel	15 J
Selenium	ND(0.064)
Vanadium	24 J

RFI-16-07	0.5 – 2.5 (ft)	4.5 – 6.5 (ft)
VOC		
Benzene	ND(0.037)	ND(0.038) /ND(0.039)
cis-1,2-Dichloroethene	ND(0.037)	ND(0.038) /ND(0.039)
Ethylbenzene	ND(0.037)	ND(0.038) /ND(0.039)
Trichloroethene	ND(0.037)	ND(0.038) /ND(0.039)
Vinyl chloride	ND(0.037)	ND(0.038) /ND(0.039)
SVOC		
Benzo(a)anthracene	0.059 J	ND(0.19) /ND(0.19)
Benzo(a)pyrene	0.0593 J	ND(0.19) /ND(0.19)
Benzo(b)fluoranthene	0.0555 J	ND(0.19) /ND(0.19)
Benzo(g,h,i)perylene	0.0829 J	ND(0.19) /ND(0.19)
Benzo(k)fluoranthene	0.0486 J	ND(0.19) /ND(0.19)
bis(2-Ethylhexyl)phthalate	0.164 J	ND(0.19) /ND(0.19)
Chrysene	0.0652 J	ND(0.19) /ND(0.19)
Indeno(1,2,3-cd)pyrene	0.0604 J	ND(0.19) /ND(0.19)
PCB		
Total PCBs	ND(0.036)	ND(0.039) /ND(0.039)
Inorganic		
Antimony	R	R /R
Arsenic	3.1	2.5 /2.1
Beryllium	0.12 J	0.097 J /0.086 J
Chromium Total	30	43 /38
Cyanide (total)	0.065 J	0.059 J /0.083 J
Lead	31	4.8 /3.8
Manganese	270 J	370 J /420 J
Nickel	21	28 /43
Selenium	ND(1.4)	ND(1.5) /ND(1.6)
Vanadium	6.8	4 /3.4

RFI-04-01	1 – 3 (ft)	9 – 11 (ft)
VOC		
Benzene	ND(0.035)	ND(0.036)
cis-1,2-Dichloroethene	0.081	ND(0.036)
Ethylbenzene	ND(0.035)	ND(0.036)
Trichloroethene	0.28	0.039
Vinyl chloride	ND(0.035)	ND(0.036)
SVOC		
Benzo(a)anthracene	1.47	ND(0.18)
Benzo(a)pyrene	1.5	ND(0.18)
Benzo(b)fluoranthene	1.4	ND(0.18)
Benzo(g,h,i)perylene	1.87 J	ND(0.18)
Benzo(k)fluoranthene	1.44	ND(0.18)
bis(2-Ethylhexyl)phthalate	ND(0.87)	ND(0.2)
Chrysene	1.85	ND(0.18)
Indeno(1,2,3-cd)pyrene	1.41 J	ND(0.18)
PCB		
Total PCBs	ND(0.036)	ND(0.037)
Inorganic		
Antimony	R	R
Arsenic	2.9	1.4
Beryllium	0.12 J	0.079 J
Chromium Total	33	3
Cyanide (total)	0.073 J	0.02 J
Lead	32	4.2
Manganese	250 J	51 J
Nickel	70	3.1
Selenium	ND(1.6)	ND(1.4)
Vanadium	7.2	4.2

RFI-16-20	1 – 3 (ft)	4 – 6 (ft)
VOC		
Benzene	0.12	ND(0.038)
cis-1,2-Dichloroethene	ND(0.039)	ND(0.038)
Ethylbenzene	ND(0.039)	ND(0.038)
Trichloroethene	ND(0.039)	ND(0.038)
Vinyl chloride	ND(0.039)	ND(0.038)
SVOC		
Benzo(a)anthracene	0.0685 J	ND(0.19)
Benzo(a)pyrene	ND(0.2 J)	ND(0.19)
Benzo(b)fluoranthene	ND(0.2 J)	ND(0.19)
Benzo(g,h,i)perylene	ND(0.2 J)	ND(0.19)
Benzo(k)fluoranthene	ND(0.2 J)	ND(0.19)
bis(2-Ethylhexyl)phthalate	0.0666 J	0.614 J
Chrysene	0.0743 J	ND(0.19)
Indeno(1,2,3-cd)pyrene	ND(0.2 J)	ND(0.19)
PCB		
Total PCBs	ND(0.04)	ND(0.039)
Inorganic		
Antimony	R	R
Arsenic	5.7 J	1.9 J
Beryllium	1.5 J	0.15 J
Chromium Total	11 J	4.9 J
Cyanide (total)	0.55	ND(0.2)
Lead	71 J	2.7 J
Manganese	190 J	79 J
Nickel	34	5.9
Selenium	0.39 J	0.2 J
Vanadium	17 J	7.8 J

RFI-44-06	1.3 – 3.3 (ft)	5.3 – 7.3 (ft)	7.3 – 9.3 (ft)
VOC			
Benzene	ND(0.038)	ND(0.038)	ND(0.039)
cis-1,2-Dichloroethene	ND(0.038)	ND(0.038)	ND(0.039)
Ethylbenzene	ND(0.038)	ND(0.038)	ND(0.039)
Trichloroethene	0.075	ND(0.038)	ND(0.039)
Vinyl chloride	ND(0.038)	ND(0.038)	ND(0.039)
SVOC			
Benzo(a)anthracene	0.227 J	0.0568 J	ND(0.19)
Benzo(a)pyrene	0.24 J	0.0625 J	ND(0.19)
Benzo(b)fluoranthene	0.26 J	0.0481 J	ND(0.19)
Benzo(g,h,i)perylene	0.326 J	0.0568 J	ND(0.19)
Benzo(k)fluoranthene	0.182 J	0.0539 J	ND(0.19)
bis(2-Ethylhexyl)phthalate	0.115 J	ND(0.18)	ND(0.19)
Chrysene	0.252 J	0.0636 J	ND(0.19)
Indeno(1,2,3-cd)pyrene	0.304 J	0.0463 J	ND(0.19)
PCB			
Total PCBs	ND(0.038)	ND(0.038)	ND(0.038)
Inorganic			
Antimony	ND(0.16 J)	ND(0.19 J)	0.2 J
Arsenic	6.3	2.3	4.8
Beryllium	0.23	0.12	0.21 J
Chromium Total	18 J	6.4	7.5
Cyanide (total)	0.38	6.7	29 D (RDC)
Lead	43 J	18	6.6
Manganese	360	220	380
Nickel	24 J	8.3	11
Selenium	ND(0.064)	ND(0.076)	ND(0.076)
Vanadium	18 J	7.4	10

RFI-44-02	0.7 – 2 (ft)	2 – 4 (ft)	4 – 6 (ft)
VOC			
Benzene	ND(0.036)	ND(0.038)	ND(0.039)
cis-1,2-Dichloroethene	ND(0.036 J)	ND(0.038)	ND(0.039)
Ethylbenzene	ND(0.036)	ND(0.038)	ND(0.039)
Trichloroethene	ND(0.036)	0.036 J	0.043
Vinyl chloride	ND(0.036)	ND(0.038)	ND(0.039)
SVOC			
Benzo(a)anthracene	0.4426 J	0.117 J	1.175 J
Benzo(a)pyrene	0.549 J	ND(0.18 J)	1.225 J
Benzo(b)fluoranthene	0.55 J	0.233 J	1.309 J
Benzo(g,h,i)perylene	ND(0.18 J)	0.223 J	0.374 J
Benzo(k)fluoranthene	0.36 J	0.22 J	1.261 J
bis(2-Ethylhexyl)phthalate	0.196 J	ND(0.18)	0.405 J
Chrysene	0.548 J	0.156 J	1.244 J
Indeno(1,2,3-cd)pyrene	0.277 J	0.186 J	0.456 J
PCB			
Total PCBs	ND(0.037)	0.48	0.019 J
Inorganic			
Antimony	ND(0.42 J)	ND(0.38 J)	ND(0.41 J)
Arsenic	2.6	1.8	3.8
Beryllium	0.11 J	0.098 J	0.48
Chromium Total	9	20	39
Cyanide (total)	0.087 J	0.11 J	0.095 J
Lead	6.2 J	6.5 J	63 J
Manganese	110	120	980
Nickel	8.1	12	20
Selenium	ND(1.7)	ND(1.5)	ND(1.6)
Vanadium	7.5	5.5	12

RFI-44-03	0.9 – 2 (ft)	6 – 8 (ft)
VOC		
Benzene	ND(0.036)	ND(0.037)
cis-1,2-Dichloroethene	ND(0.036 J)	ND(0.037)
Ethylbenzene	ND(0.036)	ND(0.037)
Trichloroethene	ND(0.036)	ND(0.037)
Vinyl chloride	ND(0.036)	ND(0.037)
SVOC		
Benzo(a)anthracene	ND(0.89)	ND(0.91)
Benzo(a)pyrene	ND(0.89 J)	ND(0.91 J)
Benzo(b)fluoranthene	ND(0.89 J)	ND(0.91 J)
Benzo(g,h,i)perylene	ND(0.89 J)	ND(0.91 J)
Benzo(k)fluoranthene	ND(0.89 J)	ND(0.91 J)
bis(2-Ethylhexyl)phthalate	ND(0.89)	ND(0.91)
Chrysene	ND(0.89)	ND(0.91)
Indeno(1,2,3-cd)pyrene	ND(0.89 J)	ND(0.91 J)
PCB		
Total PCBs	ND(0.036)	ND(0.038)
Inorganic		
Antimony	ND(0.41 J)	ND(0.41 J)
Arsenic	4.4	5
Beryllium	0.13 J	0.14 J
Chromium Total	5.2	5.5
Cyanide (total)	ND(0.2)	0.011 J
Lead	4.8 J	4.1 J
Manganese	140	140
Nickel	7.3	8.3
Selenium	ND(1.6)	ND(1.6)
Vanadium	9.2	10

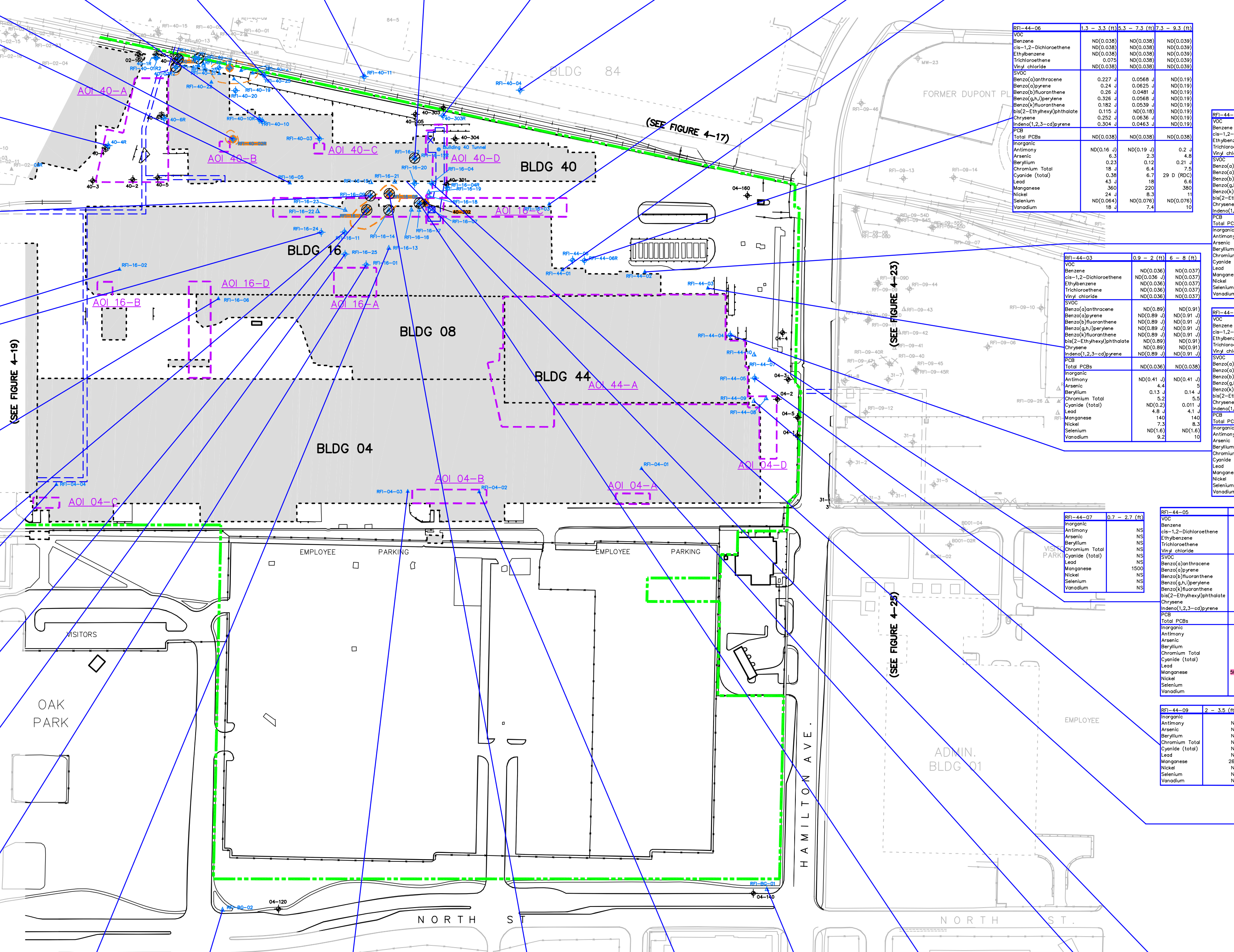
RFI-44-04	0.9 – 2 (ft)	2 – 4 (ft)
VOC		
Benzene	ND(0.037)	ND(0.037)
cis-1,2-Dichloroethene	ND(0.037 J)	ND(0.037 J)
Ethylbenzene	ND(0.037)	ND(0.037)
Trichloroethene	ND(0.037)	ND(0.037)
Vinyl chloride	ND(0.037)	ND(0.037)
SVOC		
Benzo(a)anthracene	ND(1.8 J)	ND(1.8)
Benzo(a)pyrene	ND(1.8 J)	ND(1.8)
Benzo(b)fluoranthene	ND(1.8 J)	ND(1.8)
Benzo(g,h,i)perylene	ND(1.8 J)	ND(1.8)
Benzo(k)fluoranthene	ND(1.8 J)	ND(1.8)
bis(2-Ethylhexyl)phthalate	ND(1.8 J)	ND(1.8)
Chrysene	ND(1.8)	ND(1.8)
Indeno(1,2,3-cd)pyrene	ND(1.8 J)	ND(1.8)
PCB		
Total PCBs	ND(0.037)	ND(0.037)
Inorganic		
Antimony	R	R
Arsenic	4.4	3.7
Beryllium	0.19 J	0.12 J
Chromium Total	18	13
Cyanide (total)	ND(0.2)	ND(0.2)
Lead	9.2 J	4.4 J
Manganese	320	180
Nickel	12 J	10 J
Selenium	ND(1.7 J)	ND(1.6 J)
Vanadium	12	9.6

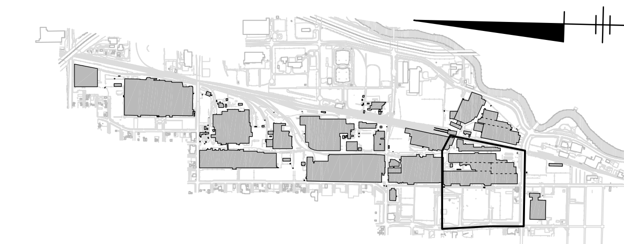
RFI-44-07	0.7 – 2.7 (ft)
Inorganic	
Antimony	NS
Arsenic	NS
Beryllium	NS
Chromium Total	NS
Cyanide (total)	NS
Lead	NS
Manganese	1500
Nickel	NS
Selenium	NS
Vanadium	NS

RFI-44-05	0.9 – 2 (ft)	2 – 4 (ft)	8 – 10 (ft)	10 – 12 (ft)
VOC				
Benzene	ND(0.04)	ND(0.037)	ND(0.039) /ND(0.038)	ND(0.039)
cis-1,2-Dichloroethene	ND(0.04 J)	ND(0.037 J)	ND(0.039 J) /ND(0.038 J)	ND(0.039 J)
Ethylbenzene	ND(0.04)	ND(0.037)	ND(0.039) /ND(0.038)	ND(0.039)
Trichloroethene	ND(0.04)	ND(0.037)	ND(0.039) /ND(0.038)	ND(0.039)
Vinyl chloride	ND(0.04)	ND(0.037)	ND(0.039) /ND(0.038)	ND(0.039)
SVOC				
Benzo(a)anthracene	0.0668 J	ND(1.8)	ND(0.19) /ND(0.19)	ND(0.19)
Benzo(a)pyrene	0.0761 J	ND(1.8)	ND(0.19) /ND(0.19)	ND(0.19)
Benzo(b)fluoranthene	0.0896 J	ND(1.8)	ND(0.19) /ND(0.19)	ND(0.19)
Benzo(g,h,i)perylene	0.0964 J	ND(1.8)	ND(0.19) /ND(0.19)	ND(0.19)
Benzo(k)fluoranthene	0.0705 J	ND(1.8)	ND(0.19) /ND(0.19)	ND(0.19)
bis(2-Ethylhexyl)phthalate	0.121 J	ND(1.8)	ND(0.19) /0.0557 J	ND(0.19)
Chrysene	0.0806 J	ND(1.8)	ND(0.19) /ND(0.19)	ND(0.19)
Indeno(1,2,3-cd)pyrene	0.0825 J	ND(1.8)	ND(0.19) /ND(0.19)	ND(0.19)
PCB				
Total PCBs	0.063	ND(0.037)	ND(0.039) /ND(0.038)	ND(0.039)
Inorganic				
Antimony	0.34 J	R	R /R	R
Arsenic	9.9 (RDC)	4.3	4.5 /4.3	4.5
Beryllium	1.8	0.14 J	0.39 /0.41	0.52
Chromium Total	210	11	13 /16	18
Cyanide (total)	0.035 J	0.01 J	ND(0.2) /0.035 J	0.012 J
Lead	57 J	6.1 J	10 J /7.7 J	8 J
Manganese	5000 (IPSIC,RPSIC)	200	340 /250	310
Nickel	44 J	11 J	15 J /16 J	19 J
Selenium	0.73 J	ND(1.5 J)	ND(1.5 J) /ND(1.7 J)	ND(1.3 J)
Vanadium	18	11	21 /23	27

RFI-44-09	2 – 3.5 (ft)	0.9 – 2.9 (ft)
Inorganic		
Antimony	NS	NS
Arsenic	NS	NS
Beryllium	NS	NS
Chromium Total	NS	NS
Cyanide (total)	NS	NS
Lead	NS	NS
Manganese	260	150
Nickel	NS	NS
Selenium	NS	NS
Vanadium	NS	NS

RFI-16-04	0.7 – 2 (ft)	4 – 6 (ft)
VOC		
Benzene	ND(0.036)	0.023 J
cis-1,2-Dichloroethene	ND(0.036 J)	ND(0.038 J)
Ethylbenzene	ND(0.036)	ND(0.038)
Trichloroethene	ND(0.036)	0.04
Vinyl chloride	ND(0.036)	ND(0.038)
SVOC		
Benzo(a)anthracene	0.651	0.276
Benzo(a)pyrene	0.811	0.327 J
Benzo(b)fluoranthene	0.761	0.324 J
Benzo(g,h,i)perylene	0.911 J	0.292 J
Benzo(k)fluoranthene	0.58	0.312 J
bis(2-Ethylhexyl)phthalate	ND(0.18)	ND(0.19)
Chrysene	0.771	0.324
Indeno(1,2,3-cd)pyrene	0.736 J	0.235 J
PCB		
Total PCBs	0.097	1.13
Inorganic		
Antimony	ND(0.38)	ND(0.31)
Arsenic	3.5	2.4
Beryllium	0.17 J	0.21
Chromium Total	7.7 J	6 J
Cyanide (total)	ND(0.2)	ND(0.2)
Lead	12 J	22 J
Manganese	180 J	140 J
Nickel	8.1	8
Selenium	ND(1.5)	ND(1.2)
Vanadium	9.9 J	8.1 J





SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  IPSIC – INDUSTRIAL PARTICULATE SOIL INHALATION

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. FOR ALL METALS, SITE-SPECIFIC BACKGROUND CONCENTRATIONS ARE SUBTRACTED FROM THE MEASURED CONCENTRATIONS PRIOR TO COMPARING TO PART 201 CRITERIA.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN DRY-WEIGHT MILLIGRAMS PER KILOGRAM (mg/kg).
6. ND (0.039)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. J–ESTIMATED CONCENTRATION.
10. D–CONCENTRATION BASE ON A DILUTED SAMPLE ANALYSIS.
11. R–RESULT REJECTED DURING DATA VALIDATION.
12. RDC – EXCEEDS MICHIGAN PART 201 RESIDENTIAL DIRECT CONTACT CRITERIA.
13. RPSIC – EXCEEDS MICHIGAN PART 201 RESIDENTIAL PARTICULATE SOIL INHALATION CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SOIL ANALYTICAL DATA - FORMER BUILDINGS 04, 08, 16, 40, AND 44 AREA

BBL®
BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
4-21

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES DJP GMS
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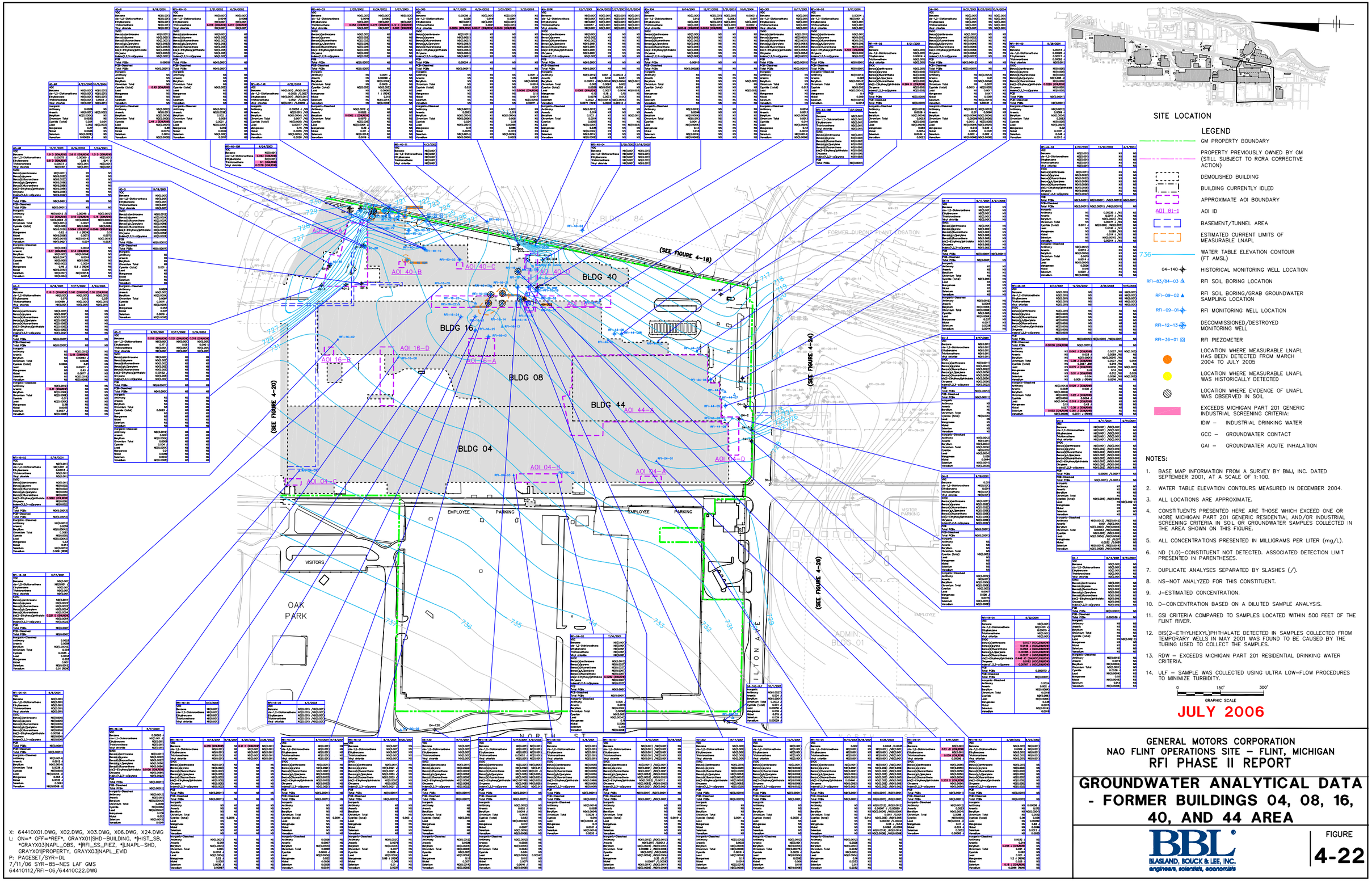


SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 736 — WATER TABLE ELEVATION CONTOUR (FT AMSL)
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  - IDW – INDUSTRIAL DRINKING WATER
  - GCC – GROUNDWATER CONTACT
  - GAI – GROUNDWATER ACUTE INHALATION

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED IN DECEMBER 2004.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. J–ESTIMATED CONCENTRATION.
10. D–CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
11. GSI CRITERIA COMPARED TO SAMPLES LOCATED WITHIN 500 FEET OF THE FLINT RIVER.
12. BIS(2–ETHYLHEXYL)PHTHALATE DETECTED IN SAMPLES COLLECTED FROM TEMPORARY WELLS IN MAY 2001 WAS FOUND TO BE CAUSED BY THE TUBING USED TO COLLECT THE SAMPLES.
13. RDW – EXCEEDS MICHIGAN PART 201 RESIDENTIAL DRINKING WATER CRITERIA.
14. ULF – SAMPLE WAS COLLECTED USING ULTRA LOW–FLOW PROCEDURES TO MINIMIZE TURBIDITY.

0 150' 300'
GRAPHIC SCALE

JULY 2006

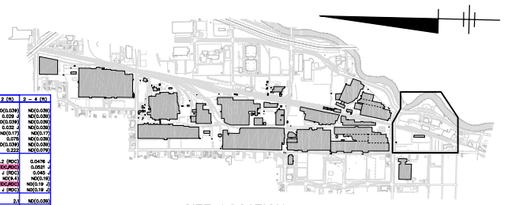
X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG, X24.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD–BUILDING, *|HIST_SB, *GRAYX01|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL–SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVD
P: PAGESET/SYR–DL
7/11/06 SYR–85–NES LAF GMS
64410112/RFI–06/64410C22.DWG

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ANALYTICAL DATA - FORMER BUILDINGS 04, 08, 16, 40, AND 44 AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
4-22



SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- FORMER RIVER GAUGE LOCATION
- CURRENT RIVER GAUGE LOCATION
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  - IDC – INDUSTRIAL DIRECT CONTACT
  - IPSIC – INDUSTRIAL PARTICULATE SOIL INHALATION

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. FOR ALL METALS, SITE-SPECIFIC BACKGROUND CONCENTRATIONS ARE SUBTRACTED FROM THE MEASURED CONCENTRATIONS PRIOR TO COMPARING TO PART 201 CRITERIA.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN DRY-WEIGHT MILLIGRAMS PER KILOGRAM (mg/kg).
6. ALL DEPTH IN FEET.
7. ND (0.039)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
8. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
9. NS–NOT ANALYZED FOR THIS CONSTITUENT.
10. J–ESTIMATED CONCENTRATION.
11. D–CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
12. R–RESULT REJECTED DURING DATA VALIDATION.
13. RDC – EXCEEDS MICHIGAN PART 201 RESIDENTIAL DIRECT CONTRACT CRITERIA
14. RPSIC – EXCEEDS MICHIGAN PART 201 RESIDENTIAL PARTICULATE SOIL INHALATION CRITERIA.
15. RSVIA – EXCEEDS MICHIGAN PART 201 RESIDENTIAL SOIL VOLATILIZATION TO INDOOR AIR CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

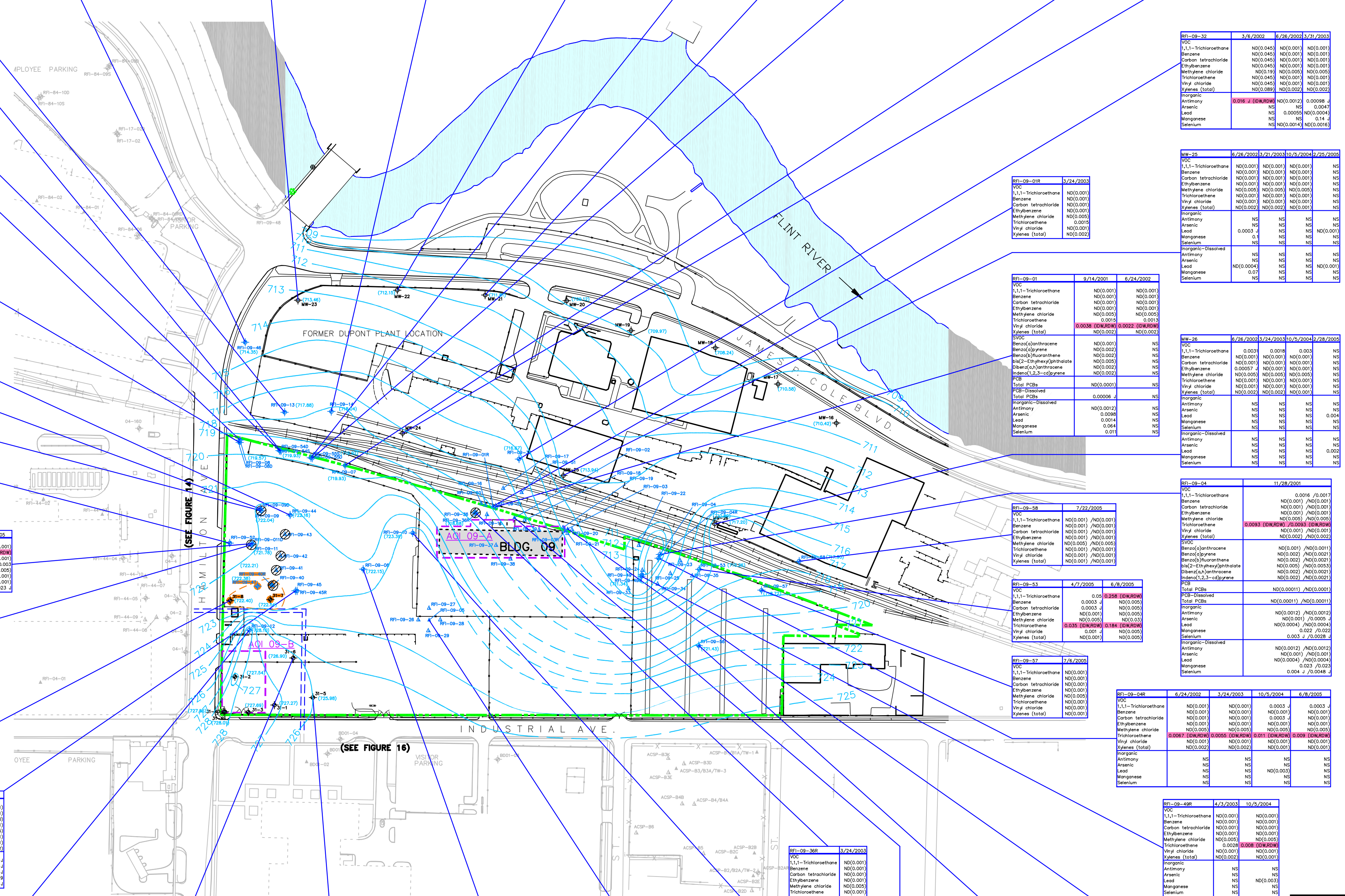
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SOIL ANALYTICAL DATA - FORMER BUILDING 09 AREA

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 4-23

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF* , GRAYX01|SHD–BUILDING, *|HIST_SB* *GRAYX03|NAPL–*, *|RFI_SS_PIEZ, *|LNAPL–SHD, GRAYX01|PROPERTY
P: PAGESET/SYR–DL
7/11/06 SYR–85–NES LAF GMS
64410112/RFI–06/64410C23.DWG



RFI-09-13	10/3/2001	6/26/2002	3/26/2003	10/4/2004
VOC				
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.01)
Benzene	0.28 D (GSI,IDW,RDW)	0.28 D (GSI,IDW,RDW)	0.45 D (GSI,IDW,RDW)	1.21 (GSI,IDW,RDW)
Carbon tetrachloride	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.01)
Ethylbenzene	0.0046	0.0053	0.0048	0.003 J
Methylene chloride	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.05)
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.01)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.01)
Xylenes (total)	0.0414 (GSI)	0.04 (GSI)	0.0405 (GSI)	0.058 J (GSI)
Inorganic				
Antimony	NS	ND(0.0012)	NS	NS
Arsenic	NS	NS	NS	NS
Lead	NS	NS	NS	NS
Manganese	NS	NS	NS	NS
Selenium	NS	ND(0.0014)	NS	ND(0.005)
Inorganic-Dissolved				
Antimony	NS	ND(0.0012)	NS	NS
Arsenic	NS	NS	NS	NS
Lead	ND(0.0004)	NS	NS	NS
Manganese	NS	NS	NS	NS
Selenium	NS	ND(0.0024)	NS	NS

RFI-09-46	12/19/2002	4/1/2003	10/5/2004
VOC			
1,1,1-Trichloroethane	ND(0.001) /ND(0.001)	ND(0.001)	ND(0.001)
Benzene	0.7 D (GSI,IDW,RDW) /0.68 D (GSI,IDW,RDW)	0.5 D (GSI,IDW,RDW)	0.049 (IDW,RDW)
Carbon tetrachloride	ND(0.001 J) /ND(0.001)	ND(0.001)	ND(0.001)
Ethylbenzene	0.0019 /0.0018	0.0016	0.0004 J
Methylene chloride	ND(0.005) /ND(0.005)	ND(0.005)	ND(0.005)
Trichloroethene	ND(0.001) /ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001) /ND(0.001)	ND(0.001)	ND(0.001)
Xylenes (total)	0.0532 (GSI) /0.0508 (GSI)	0.0447 (GSI)	0.019 J
Inorganic			
Antimony	ND(0.0012) /ND(0.0012)	NS	NS
Arsenic	0.0022 J /0.002 J	NS	NS
Lead	0.00048 J /ND(0.0004)	NS	NS
Manganese	0.065 J /0.059 J	NS	NS
Selenium	ND(0.0016) /ND(0.0016)	NS	ND(0.005)

MW-23	2/27/2002	6/25/2002	3/20/2003	10/4/2004
VOC				
1,1,1-Trichloroethane	ND(0.001 J)	NS	ND(0.001)	ND(0.001)
Benzene	ND(0.001)	NS	ND(0.001)	ND(0.001)
Carbon tetrachloride	ND(0.001)	NS	ND(0.001)	ND(0.001)
Ethylbenzene	ND(0.001)	NS	ND(0.001)	ND(0.001)
Methylene chloride	ND(0.005)	NS	ND(0.005)	ND(0.005)
Trichloroethene	ND(0.001)	NS	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	NS	ND(0.001)	ND(0.001)
Xylenes (total)	ND(0.002)	NS	ND(0.002)	ND(0.001)
Inorganic				
Antimony	NS	ND(0.0012)	NS	NS
Arsenic	NS	NS	NS	NS
Lead	NS	NS	NS	NS
Manganese	NS	NS	NS	NS
Selenium	NS	0.0007 J	NS	ND(0.005)

RFI-09-14	10/3/2001	6/26/2002	3/31/2003	10/4/2004
VOC				
1,1,1-Trichloroethane	ND(0.001)	NS	ND(0.001)	ND(0.001)
Benzene	ND(0.001)	NS	ND(0.001)	ND(0.001)
Carbon tetrachloride	ND(0.001)	NS	ND(0.001)	ND(0.001)
Ethylbenzene	ND(0.001)	NS	ND(0.001)	ND(0.001)
Methylene chloride	ND(0.005)	NS	ND(0.005)	ND(0.005)
Trichloroethene	ND(0.001)	NS	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	NS	ND(0.001)	ND(0.001)
Xylenes (total)	ND(0.002)	NS	ND(0.002)	ND(0.001)
Inorganic				
Antimony	NS	0.00071 J	NS	NS
Arsenic	NS	NS	NS	NS
Lead	NS	NS	NS	NS
Manganese	NS	NS	NS	NS
Selenium	NS	ND(0.0025)	NS	ND(0.005)
Inorganic-Dissolved				
Antimony	NS	NS	NS	NS
Arsenic	NS	NS	NS	NS
Lead	ND(0.0004)	NS	NS	NS
Manganese	NS	NS	NS	NS
Selenium	NS	NS	NS	NS

MW-22	2/27/2002	6/25/2002	3/20/2003
VOC			
1,1,1-Trichloroethane	ND(0.001 J)	NS	ND(0.001)
Benzene	ND(0.001)	NS	ND(0.001)
Carbon tetrachloride	ND(0.001)	NS	ND(0.001)
Ethylbenzene	ND(0.001)	NS	ND(0.001)
Methylene chloride	ND(0.005)	NS	ND(0.005)
Trichloroethene	ND(0.001)	NS	ND(0.001)
Vinyl chloride	ND(0.001)	NS	ND(0.001)
Xylenes (total)	ND(0.002)	NS	ND(0.002)
Inorganic			
Antimony	NS	ND(0.0012)	NS
Arsenic	NS	NS	NS
Lead	NS	NS	NS
Manganese	NS	NS	NS
Selenium	NS	0.00073 J	NS

RFI-09-55S	4/8/2005
VOC	
1,1,1-Trichloroethane	ND(0.001)
Benzene	0.0005 J
Carbon tetrachloride	ND(0.001)
Ethylbenzene	0.01
Methylene chloride	ND(0.005)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
Xylenes (total)	0.013 J

MW-21	3/20/2003
VOC	
1,1,1-Trichloroethane	ND(0.001)
Benzene	ND(0.001)
Carbon tetrachloride	ND(0.001)
Ethylbenzene	ND(0.001)
Methylene chloride	ND(0.005)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
Xylenes (total)	ND(0.002)

RFI-09-55D	4/8/2005
VOC	
1,1,1-Trichloroethane	ND(0.01)
Benzene	0.84 (IDW,RDW)
Carbon tetrachloride	ND(0.01)
Ethylbenzene	0.07
Methylene chloride	0.007 J (IDW,RDW)
Trichloroethene	ND(0.01)
Vinyl chloride	ND(0.01)
Xylenes (total)	0.35 J

RFI-09-07	6/21/2002	10/5/2004
VOC		
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)
Benzene	0.052 J (IDW,RDW)	0.007 (IDW,RDW)
Carbon tetrachloride	ND(0.001)	ND(0.001)
Ethylbenzene	0.062 J	0.018
Methylene chloride	ND(0.005)	ND(0.005)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
Xylenes (total)	0.0719 J	0.015 J
SVOC		
Benzo(a)anthracene	ND(0.001)	NS
Benzo(a)pyrene	ND(0.002)	NS
Benzo(b)fluoranthene	ND(0.002)	NS
bis(2-Ethylhexyl)phthalate	ND(0.005)	NS
Dibenz(a,h)anthracene	ND(0.002)	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS
PCB		
Total PCBs	ND(0.0001)	NS
PCB-Dissolved		
Total PCBs	ND(0.0001)	NS
Inorganic		
Antimony	0.00058 J	NS
Arsenic	0.002	NS
Lead	0.00096	NS
Manganese	0.044	NS
Selenium	0.00087 J	NS
Inorganic-Dissolved		
Antimony	ND(0.0012)	NS
Arsenic	0.0016	NS
Lead	ND(0.0004)	NS
Manganese	0.032	NS
Selenium	ND(0.0014)	NS

MW-24	2/28/2002	6/26/2002	3/20/2003
VOC			
1,1,1-Trichloroethane	ND(0.001 J)	NS	ND(0.001)
Benzene	ND(0.001)	NS	ND(0.001)
Carbon tetrachloride	ND(0.001)	NS	ND(0.001)
Ethylbenzene	ND(0.001)	NS	ND(0.001)
Methylene chloride	ND(0.005)	NS	ND(0.005)
Trichloroethene	ND(0.001)	NS	ND(0.001)
Vinyl chloride	ND(0.001)	NS	ND(0.001)
Xylenes (total)	ND(0.002)	NS	ND(0.002)
Inorganic			
Antimony	NS	0.00059 J	NS
Arsenic	NS	NS	NS
Lead	NS	NS	NS
Manganese	NS	NS	NS
Selenium	NS	ND(0.0014)	NS

RFI-09-08	9/14/2001	6/21/2002	3/21/2003
VOC			
1,1,1-Trichloroethane	ND(0.001)	ND(0.001 J)	ND(0.001)
Benzene	0.27 D (IDW,RDW)	0.0089 (IDW,RDW)	0.2 D (IDW,RDW)
Carbon tetrachloride	ND(0.001)	ND(0.001 J)	ND(0.001)
Ethylbenzene	0.062	0.0011	0.097 D
Methylene chloride	ND(0.005)	ND(0.005)	0.0074 (IDW,RDW)
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)
Xylenes (total)	0.267	0.00064 J	0.117
SVOC			
Benzo(a)anthracene	ND(0.001)	NS	NS
Benzo(a)pyrene	ND(0.002)	NS	NS
Benzo(b)fluoranthene	ND(0.002)	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.005)	NS	NS
Dibenz(a,h)anthracene	ND(0.002)	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS	NS
PCB			
Total PCBs	ND(0.00016)	NS	NS
PCB-Dissolved			
Total PCBs	0.000047 J	NS	NS
Inorganic			
Antimony	NS	0.00039 J	NS
Arsenic	NS	0.0025	NS
Lead	NS	0.0014	NS
Manganese	NS	0.058	NS
Selenium	NS	0.00068 J	NS
Inorganic-Dissolved			
Antimony	ND(0.0012)	NS	NS
Arsenic	0.0075	NS	NS
Lead	0.0021	NS	NS
Manganese	0.13	NS	NS
Selenium	0.052 (IDW,RDW)	NS	NS

RFI-09-54S	4/7/2005
VOC	
1,1,1-Trichloroethane	ND(0.001)
Benzene	0.006 (IDW,RDW)
Carbon tetrachloride	ND(0.001)
Ethylbenzene	0.002
Methylene chloride	ND(0.005)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
Xylenes (total)	0.003 J

RFI-09-54D	4/8/2005
VOC	
1,1,1-Trichloroethane	ND(0.001)
Benzene	0.033 (IDW,RDW)
Carbon tetrachloride	ND(0.001)
Ethylbenzene	ND(0.001)
Methylene chloride	0.0003 J
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
Xylenes (total)	0.0005 J

RFI-09-44	3/21/2003	10/5/2004
VOC		
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)
Benzene	ND(0.001)	ND(0.001)
Carbon tetrachloride	ND(0.001)	ND(0.001)
Ethylbenzene	ND(0.001)	ND(0.001)
Methylene chloride	ND(0.005)	ND(0.005)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
Xylenes (total)	ND(0.002)	ND(0.001)
Inorganic		
Antimony	0.00037 J	NS
Arsenic	0.0017 J	ND(0.002)
Lead	0.00033 J	ND(0.003)
Manganese	0.3	NS
Selenium	ND(0.0016)	NS

RFI-09-08D	4/7/2005
VOC	
1,1,1-Trichloroethane	ND(0.001)
Benzene	0.094 (IDW,RDW)
Carbon tetrachloride	ND(0.001)
Ethylbenzene	0.164
Methylene chloride	ND(0.005)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
Xylenes (total)	0.362 J

RFI-09-09	9/17/2001	6/21/2002	3/21/2003
VOC			
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)	ND(0.001)
Benzene	ND(0.001)	ND(0.001)	ND(0.001)
Carbon tetrachloride	ND(0.001)	ND(0.001)	ND(0.001)
Ethylbenzene	0.00052 J	ND(0.001)	ND(0.001)
Methylene chloride	ND(0.005)	ND(0.005)	ND(0.005)
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)
Xylenes (total)	0.00092 J	ND(0.002)	ND(0.002)
SVOC			
Benzo(a)anthracene	ND(0.0011)	NS	NS
Benzo(a)pyrene	ND(0.0021)	NS	NS
Benzo(b)fluoranthene	ND(0.0021)	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.0053)	NS	NS
Dibenz(a,h)anthracene	ND(0.0021)	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.0021)	NS	NS
PCB			
Total PCBs	0.000095 J	NS	NS
PCB-Dissolved			
Total PCBs	ND(0.0001)	NS	NS
Inorganic			
Antimony	NS	0.00051 J	NS
Arsenic	NS	0.003	NS
Lead	NS	0.0028	NS
Manganese	NS	0.89 (RDW)	NS
Selenium	NS	0.00074 J	NS
Inorganic-Dissolved			
Antimony	ND(0.0012)	0.0021	NS
Arsenic	0.0024	0.0021	NS
Lead	ND(0.0004)	ND(0.0004)	NS
Manganese	0.81	0.71	NS
Selenium	ND(0.0014)	0.0017 J	NS

RFI-09-09D	4/7/2005
VOC	
1,1,1-Trichloroethane	ND(0.001)
Benzene	0.0004 J
Carbon tetrachloride	ND(0.001)
Ethylbenzene	0.0007 J
Methylene chloride	ND(0.005)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
Xylenes (total)	0.001 J

RFI-09-52	9/15/2003
VOC	
1,1,1-Trichloroethane	ND(0.001)
Benzene	ND(0.001)
Carbon tetrachloride	ND(0.001)
Ethylbenzene	ND(0.001)
Methylene chloride	ND(0.005)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
Xylenes (total)	ND(0.002)

RFI-09-11	9/17/2001	6/21/2002	3/21/2003
VOC			
1,1,1-Trichloroethane	ND(0.001) /ND(0.001)	ND(0.001 J)	ND(0.001)
Benzene	0.8 D (IDW,RDW) /0.83 D (IDW,RDW)	1.1 D (IDW,RDW)	1 D (IDW,RDW)
Carbon tetrachloride	ND(0.001) /ND(0.001)	ND(0.001 J)	ND(0.001)
Ethylbenzene	0.065 /0.087	0.075	0.026
Methylene chloride	ND(0.005) /ND(0.005)	ND(0.005)	0.0067 (IDW,RDW)
Trichloroethene	ND(0.001) /ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001) /ND(0.001)	ND(0.001)	ND(0.001)
Xylenes (total)	0.173 /0.27	0.088	0.066
SVOC			
Benzo(a)anthracene	ND(0.001) /ND(0.001)	NS	NS
Benzo(a)pyrene	ND(0.002) /ND(0.002)	NS	NS
Benzo(b)fluoranthene	ND(0.002) /ND(0.002)	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.005) /ND(0.005)	NS	NS
Dibenz(a,h)anthracene	ND(0.002) /ND(0.002)	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.002) /ND(0.002)	NS	NS
PCB			
Total PCBs	0.00024 /0.00026	NS	NS
PCB-Dissolved			
Total PCBs	0.00026 /0.0003	NS	NS
Inorganic-Dissolved			
Antimony	ND(0.0012) /ND(0.0012)	NS	NS
Arsenic	0.0035 /0.0026	NS	NS
Lead	0.00042 /ND(0.0004)	NS	NS
Manganese	0.28 /0.21	NS	NS
Selenium	ND(0.0014) /ND(0.0014)	NS	NS

RFI-09-11D	4/7/2005
VOC	
1,1,1-Trichloroethane	ND(0.001)
Benzene	0.19 (IDW,RDW)
Carbon tetrachloride	ND(0.001)
Ethylbenzene	0.003
Methylene chloride	ND(0.005)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
Xylenes (total)	0.023 J

31-8	9/17/2001	6/24/2002
VOC		
1,1,1-Trichloroethane	ND(0.001)	ND(0.001) /ND(0.001)
Benzene	0.93 D (IDW,RDW)	0.7 D (IDW,RDW) /0.72 D (IDW,RDW)
Carbon tetrachloride	ND(0.001)	ND(0.001) /ND(0.001)
Ethylbenzene	0.61 D	1 D (IDW,RDW) /1 D (IDW,RDW)
Methylene chloride	ND(0.005)	ND(0.005) /ND(0.005)
Trichloroethene	ND(0.001)	ND(0.001) /ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001) /ND(0.001)
Xylenes (total)	1.17	1.69 /1.7
SVOC		
Benzo(a)anthracene	ND(0.001)	NS
Benzo(a)pyrene	ND(0.002)	NS
Benzo(b)fluoranthene	ND(0.002)	NS
bis(2-Ethylhexyl)phthalate	ND(0.005)	NS
Dibenz(a,h)anthracene	ND(0.002)	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS
PCB		
Total PCBs	ND(0.00011)	NS
PCB-Dissolved		
Total PCBs	ND(0.00011)	NS
Inorganic		
Antimony	NS	0.00041 J /ND(0.0012)
Arsenic	NS	0.022 /0.018
Lead	NS	0.0017 /0.0014
Manganese	NS	0.17 J /0.13 J
Selenium	NS	ND(0.0014) /ND(0.0014)
Inorganic-Dissolved		
Antimony	ND(0.0012)	NS
Arsenic	0.016	NS
Lead	0.0058 (IDW,RDW)	NS
Manganese	0.16	NS
Selenium	ND(0.0014)	NS

RFI-09-45	12/20/2002
VOC	
1,1,1-Trichloroethane	ND(0.001) /ND(0.001)
Benzene	ND(0.001) /ND(0.001)
Carbon tetrachloride	ND(0.001 J) /ND(0.001 J)
Ethylbenzene	ND(0.001) /ND(0.001)
Methylene chloride	ND(0.005) /ND(0.005)
Trichloroethene	ND(0.001) /ND(0.001)
Vinyl chloride	ND(0.001) /ND(0.001)
Xylenes (total)	ND(0.002) /ND(0.002)
Inorganic	
Antimony	0.0011 J /0.0012 J
Arsenic	0.002 J /0.0024 J
Lead	0.0009 J /0.00096 J
Manganese	0.091 /0.079
Selenium	0.0042 J /0.0066 J

RFI-09-12	12/13/2001	6/21/2002	3/21/2003
VOC			
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)	ND(0.001)
Benzene	0.01 (IDW,RDW)	0.013 J (IDW,RDW)	0.0036
Carbon tetrachloride	ND(0.001)	ND(0.001)	ND(0.001)
Ethylbenzene	ND(0.001)	ND(0.001)	ND(0.001)
Methylene chloride	ND(0.005)	ND(0.005)	ND(0.005)
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)
Xylenes (total)	ND(0.002)	ND(0.002)	ND(0.002)
SVOC			
Benzo(a)anthracene	ND(0.001)	NS	NS
Benzo(a)pyrene	ND(0.002)	NS	NS
Benzo(b)fluoranthene	ND(0.002)	NS	NS
bis(2-Ethylhexyl)phthalate	ND(0.005)	NS	NS
Dibenz(a,h)anthracene	ND(0.002)	NS	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS	NS
PCB			
Total PCBs	ND(0.00011)	NS	NS
PCB-Dissolved			
Total PCBs	ND(0.00011)	NS	NS
Inorganic			
Antimony	ND(0.0012)	ND(0.0012)	ND(0.0012)
Arsenic	0.061 J (IDW,RDW)	0.049	0.056 (IDW,RDW)
Lead	0.0019 J	0.00013 J	0.00023 J
Manganese	0.11 J	0.065	0.05
Selenium	ND(0.0045)	ND(0.0014)	ND(0.0016)
Inorganic-Dissolved			
Antimony	ND(0.0012)	ND(0.0012)	NS
Arsenic	0.043	0.04	NS
Lead	ND(0.0004)	ND(0.0004)	NS
Manganese	0.069	0.051	NS
Selenium	ND(0.0014)	ND(0.0014)	NS

31-6	9/17/2001	6/21/2002
VOC		
1,1,1-Trichloroethane	ND(0.001)	ND(0.001 J)
Benzene	ND(0.001)	ND(0.001)
Carbon tetrachloride	ND(0.001)	ND(0.001 J)
Ethylbenzene	ND(0.001)	ND(0.001)
Methylene chloride	ND(0.005)	ND(0.005)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
Xylenes (total)	ND(0.002)	ND(0.002)
SVOC		
Benzo(a)anthracene	ND(0.0011)	NS
Benzo(a)pyrene	ND(0.0021)	NS
Benzo(b)fluoranthene	ND(0.0021)	NS
bis(2-Ethylhexyl)phthalate	ND(0.0053)	NS
Dibenz(a,h)anthracene	ND(0.0021)	NS
Indeno(1,2,3-cd)pyrene	ND(0.0021)	NS
PCB		
Total PCBs	ND(0.00011)	NS
PCB-Dissolved		
Total PCBs	ND(0.00011)	NS
Inorganic-Dissolved		
Antimony	ND(0.0012)	NS
Arsenic	ND(0.001)	NS
Lead	ND(0.0004)	NS
Manganese	0.0045	NS
Selenium	ND(0.0014)	NS

31-5	9/17/2001	6/21/2002
VOC		
1,1,1-Trichloroethane	ND(0.001)	NS
Benzene	ND(0.001)	NS
Carbon tetrachloride	ND(0.001)	NS
Ethylbenzene	ND(0.001)	NS
Methylene chloride	ND(0.005)	NS
Trichloroethene	ND(0.001)	NS
Vinyl chloride	ND(0.001)	NS
Xylenes (total)	ND(0.002)	NS
SVOC		
Benzo(a)anthracene	ND(0.001)	NS
Benzo(a)pyrene	ND(0.002)	NS
Benzo(b)fluoranthene	ND(0.002)	NS
bis(2-Ethylhexyl)phthalate	ND(0.005)	NS
Dibenz(a,h)anthracene	ND(0.002)	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS
PCB		
Total PCBs	0.00029	ND(0.00011)
PCB-Dissolved		
Total PCBs	0.00169 (IDW,RDW)	ND(0.00011)
Inorganic-Dissolved		
Antimony	ND(0.0012)	NS
Arsenic	ND(0.001)	NS
Lead	ND(0.0004)	NS
Manganese	0.005	NS
Selenium	ND(0.0014)	NS

RFI-09-06	9/13/2001	6/21/2002
VOC		
1,1,1-Trichloroethane	ND(0.001)	ND(0.001 J)
Benzene	0.014 (IDW,RDW)	0.012 (IDW,RDW)
Carbon tetrachloride	ND(0.001)	ND(0.001 J)
Ethylbenzene	0.005	0.0045
Methylene chloride	ND(0.005)	ND(0.005)
Trichloroethene	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.001)	ND(0.001)
Xylenes (total)	0.0184	0.0182
SVOC		
Benzo(a)anthracene	ND(0.001)	NS
Benzo(a)pyrene	ND(0.002)	NS
Benzo(b)fluoranthene	ND(0.002)	NS
bis(2-Ethylhexyl)phthalate	ND(0.005)	NS
Dibenz(a,h)anthracene	ND(0.002)	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS
PCB		
Total PCBs	ND(0.0001)	NS
PCB-Dissolved		
Total PCBs	ND(0.00014)	NS
Inorganic		
Antimony	ND(0.0012)	NS
Arsenic	0.016	NS
Lead	0.003	NS
Manganese	0.2	NS
Selenium	0.0019	NS
Inorganic-Dissolved		
Antimony	ND(0.0012)	NS
Arsenic	0.017	NS
Lead	ND(0.0004)	NS
Manganese	0.14	NS
Selenium	0.014	NS

RFI-09-05	5/29/2001
VOC	
1,1,1-Trichloroethane	ND(0.001 J)
Benzene	0.00013 J
Carbon tetrachloride	ND(0.001)
Ethylbenzene	0.00019 J
Methylene chloride	ND(0.005)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
Xylenes (total)	0.00033 J
SVOC	
Benzo(a)anthracene	ND(0.005)
Benzo(a)pyrene	ND(0.005)
Benzo(b)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.107 (IDW,RDW)
Dibenz(a,h)anthracene	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.005)
PCB	
Total PCBs	0.00012
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	ND(0.001)
Lead	ND(0.0004)
Manganese	0.078
Selenium	0.014 J

RFI-09-10	9/13/2001	6/21/2002
VOC		
1,1,1-Trichloroethane	ND(0.001)	NS
Benzene	ND(0.001)	NS
Carbon tetrachloride	ND(0.001)	NS
Ethylbenzene	ND(0.001)	NS
Methylene chloride	ND(0.005)	NS
Trichloroethene	ND(0.001)	NS
Vinyl chloride	ND(0.001)	NS
Xylenes (total)	ND(0.002)	NS
SVOC		
Benzo(a)anthracene	ND(0.001)	NS
Benzo(a)pyrene	ND(0.002)	NS
Benzo(b)fluoranthene	ND(0.002)	NS
bis(2-Ethylhexyl)phthalate	ND(0.005)	NS
Dibenz(a,h)anthracene	ND(0.002)	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS
PCB		
Total PCBs	ND(0.00014)	NS
PCB-Dissolved		
Total PCBs	ND(0.00012)	NS
Inorganic		
Antimony	0.0031 J	0.003
Arsenic	0.0028	0.002
Lead	0.0013	0.0019
Manganese	0.13	0.11
Selenium	0.0014	0.0005 J
Inorganic-Dissolved		
Antimony	0.0068 J (IDW,RDW)	NS
Arsenic	0.0024	NS
Lead	ND(0.00066)	NS
Manganese	0.11	NS
Selenium	ND(0.0056)	NS

RFI-09-36R	3/24/2003
VOC	
1,1,1-Trichloroethane	ND(0.001)
Benzene	ND(0.001)
Carbon tetrachloride	ND(0.001)
Ethylbenzene	ND(0.001)
Methylene chloride	ND(0.005)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
Xylenes (total)	ND(0.002)

RFI-09-02	5/30/2001
VOC	
1,1,1-Trichloroethane	ND(0.001)
Benzene	ND(0.001)
Carbon tetrachloride	ND(0.001)
Ethylbenzene	ND(0.001)
Methylene chloride	ND(0.005)
Trichloroethene	0.0019
Vinyl chloride	ND(0.001)
Xylenes (total)	ND(0.002)
SVOC	
Benzo(a)anthracene	ND(0.005)
Benzo(a)pyrene	ND(0.005)
Benzo(b)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.00339 J
Dibenz(a,h)anthracene	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.005)
PCB	
Total PCBs	0.00014
PCB-Dissolved	
Total PCBs	ND(0.0001)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	0.0015
Lead	0.026 (IDW,RDW)
Manganese	0.049
Selenium	0.007

RFI-09-56	7/6/2005
VOC	
1,1,1-Trichloroethane	ND(0.001)
Benzene	0.001
Carbon tetrachloride	ND(0.001)
Ethylbenzene	0.0003 J
Methylene chloride	ND(0.005)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
Xylenes (total)	0.0014 J

RFI-09-03	5/29/2001
VOC	
1,1,1-Trichloroethane	ND(0.001 J)
Benzene	ND(0.001)
Carbon tetrachloride	ND(0.001)
Ethylbenzene	0.00011 J
Methylene chloride	ND(0.005)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
Xylenes (total)	0.00012 J
SVOC	
Benzo(a)anthracene	ND(0.005)
Benzo(a)pyrene	ND(0.005)
Benzo(b)fluoranthene	ND(0.005)
bis(2-Ethylhexyl)phthalate	0.863 D (GAI,GCC,IDW,RDW)
Dibenz(a,h)anthracene	ND(0.005)
Indeno(1,2,3-cd)pyrene	ND(0.005)
PCB	
Total PCBs	0.000046 J
PCB-Dissolved	
Total PCBs	ND(0.00011)
Inorganic-Dissolved	
Antimony	ND(0.0012)
Arsenic	0.0033 J
Lead	0.00056 J
Manganese	0.88 (RDW)
Selenium	ND(0.0014)

RFI-09-01R	3/24/2003
VOC	
1,1,1-Trichloroethane	ND(0.001)
Benzene	ND(0.001)
Carbon tetrachloride	ND(0.001)
Ethylbenzene	ND(0.001)
Methylene chloride	ND(0.005)
Trichloroethene	0.0015
Vinyl chloride	ND(0.001)
Xylenes (total)	ND(0.002)

RFI-09-01	9/14/2001	6/24/2002
VOC		
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)
Benzene	ND(0.001)	ND(0.001)
Carbon tetrachloride	ND(0.001)	ND(0.001)
Ethylbenzene	ND(0.001)	ND(0.001)
Methylene chloride	ND(0.005)	ND(0.005)
Trichloroethene	0.0015	0.0013
Vinyl chloride	0.0038 (IDW,RDW)	0.0022 (IDW,RDW)
Xylenes (total)	ND(0.002)	ND(0.002)
SVOC		
Benzo(a)anthracene	ND(0.001)	NS
Benzo(a)pyrene	ND(0.002)	NS
Benzo(b)fluoranthene	ND(0.002)	NS
bis(2-Ethylhexyl)phthalate	ND(0.005)	NS
Dibenz(a,h)anthracene	ND(0.002)	NS
Indeno(1,2,3-cd)pyrene	ND(0.002)	NS
PCB		
Total PCBs	ND(0.0001)	NS
PCB-Dissolved		
Total PCBs	0.00006 J	NS
Inorganic-Dissolved		
Antimony	ND(0.0012)	NS
Arsenic	0.0098	NS
Lead	0.0014	NS
Manganese	0.064	NS
Selenium	0.011	NS

RFI-09-32	3/6/2002	6/26/2002	3/31/2003
VOC			
1,1,1-Trichloroethane	ND(0.045)	ND(0.001)	ND(0.001)
Benzene	ND(0.045)	ND(0.001)	ND(0.001)
Carbon tetrachloride	ND(0.045)	ND(0.001)	ND(0.001)
Ethylbenzene	ND(0.045)	ND(0.001)	ND(0.001)
Methylene chloride	ND(0.19)	ND(0.005)	ND(0.005)
Trichloroethene	ND(0.045)	ND(0.001)	ND(0.001)
Vinyl chloride	ND(0.045)	ND(0.001)	ND(0.001)
Xylenes (total)	ND(0.089)	ND(0.002)	ND(0.002)
Inorganic			
Antimony	0.016 J (IDW,RDW)	ND(0.0012)	0.00098 J
Arsenic	NS	NS	0.0047
Lead	NS	0.00055	ND(0.0004)
Manganese	NS	NS	0.14 J
Selenium	NS	ND(0.0014)	ND(0.0016)

MW-25	6/26/2002	3/21/2003	10/5/2004	2/25/2005
VOC				
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)	ND(0.001)	NS
Benzene	ND(0.001)	ND(0.001)	ND(0.001)	NS
Carbon tetrachloride	ND(0.001)	ND(0.001)	ND(0.001)	NS
Ethylbenzene	ND(0.001)	ND(0.001)	ND(0.001)	NS
Methylene chloride	ND(0.005)	ND(0.005)	ND(0.005)	NS
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	NS
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)	NS
Xylenes (total)	ND(0.002)	ND(0.002)	ND(0.001)	NS
Inorganic				
Antimony	NS	NS	NS	NS
Arsenic	NS	NS	NS	NS
Lead	0.0003 J	NS	NS	ND(0.001)
Manganese	0.1	NS	NS	NS
Selenium	NS	NS	NS	NS
Inorganic-Dissolved				
Antimony	NS	NS	NS	NS
Arsenic	NS	NS	NS	NS
Lead	ND(0.0004)	NS	NS	ND(0.001)
Manganese	0.07	NS	NS	NS
Selenium	NS	NS	NS	NS

MW-26	6/26/2002	3/24/2003	10/5/2004	2/28/2005
VOC				
1,1,1-Trichloroethane	0.0031	0.0018	0.003	NS
Benzene	ND(0.001)	ND(0.001)	ND(0.001)	NS
Carbon tetrachloride	ND(0.001)	ND(0.001)	ND(0.001)	NS
Ethylbenzene	0.00057 J	ND(0.001)	ND(0.001)	NS
Methylene chloride	ND(0.005)	ND(0.005)	ND(0.005)	NS
Trichloroethene	ND(0.001)	ND(0.001)	ND(0.001)	NS
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)	NS
Xylenes (total)	ND(0.002)	ND(0.002)	ND(0.001)	NS
Inorganic				
Antimony	NS	NS	NS	NS
Arsenic	NS	NS	NS	NS
Lead	NS	NS	NS	0.004
Manganese	NS	NS	NS	NS
Selenium	NS	NS	NS	NS
Inorganic-Dissolved				
Antimony	NS	NS	NS	NS
Arsenic	NS	NS	NS	NS
Lead	NS	NS	NS	0.002
Manganese	NS	NS	NS	NS
Selenium	NS	NS	NS	NS

RFI-09-04	11/28/2001
VOC	
1,1,1-Trichloroethane	0.0016 /0.0017
Benzene	ND(0.001) /ND(0.001)
Carbon tetrachloride	ND(0.001) /ND(0.001)
Ethylbenzene	ND(0.001) /ND(0.001)
Methylene chloride	ND(0.005) /ND(0.005)
Trichloroethene	0.0093 (IDW,RDW) /0.0093 (IDW,RDW)
Vinyl chloride	ND(0.001) /ND(0.001)
Xylenes (total)	ND(0.002) /ND(0.002)
SVOC	
Benzo(a)anthracene	ND(0.001) /ND(0.0011)
Benzo(a)pyrene	ND(0.002) /ND(0.0021)
Benzo(b)fluoranthene	ND(0.002) /ND(0.0021)
bis(2-Ethylhexyl)phthalate	ND(0.005) /ND(0.0053)
Dibenz(a,h)anthracene	ND(0.002) /ND(0.0021)
Indeno(1,2,3-cd)pyrene	ND(0.002) /ND(0.0021)
PCB	
Total PCBs	ND(0.00011) /ND(0.0001)
PCB-Dissolved	
Total PCBs	ND(0.00011) /ND(0.00011)
Inorganic	
Antimony	ND(0.0012) /ND(0.0012)
Arsenic	ND(0.001) /0.0005 J
Lead	ND(0.0004) /ND(0.0004)
Manganese	0.022 /0.022
Selenium	0.003 J /0.0028 J
Inorganic-Dissolved	
Antimony	ND(0.0012) /ND(0.0012)
Arsenic	ND(0.001) /ND(0.001)
Lead	ND(0.0004) /ND(0.0004)
Manganese	0.023 /0.023
Selenium	0.004 J /0.0048 J

RFI-09-58	7/22/2005
VOC	
1,1,1-Trichloroethane	ND(0.001) /ND(0.001)
Benzene	ND(0.001) /ND(0.001)
Carbon tetrachloride	ND(0.001) /ND(0.001)
Ethylbenzene	ND(0.001) /ND(0.001)
Methylene chloride	ND(0.005) /ND(0.005)
Trichloroethene	ND(0.001) /ND(0.001)
Vinyl chloride	ND(0.001) /ND(0.001)
Xylenes (total)	ND(0.001) /ND(0.001)

RFI-09-53	4/7/2005	6/8/2005
VOC		
1,1,1-Trichloroethane	0.05	0.258 (IDW,RDW)
Benzene	0.0003 J	ND(0.005)
Carbon tetrachloride	0.0003 J	ND(0.005)
Ethylbenzene	ND(0.001)	ND(0.005)
Methylene chloride	ND(0.005)	ND(0.03)
Trichloroethene	0.035 (IDW,RDW)	0.184 (IDW,RDW)
Vinyl chloride	0.001 J	ND(0.005)
Xylenes (total)	ND(0.001)	ND(0.005)

RFI-09-57	7/6/2005
VOC	
1,1,1-Trichloroethane	ND(0.001)
Benzene	ND(0.001)
Carbon tetrachloride	ND(0.001)
Ethylbenzene	ND(0.001)
Methylene chloride	ND(0.005)
Trichloroethene	ND(0.001)
Vinyl chloride	ND(0.001)
Xylenes (total)	ND(0.001)

RFI-09-04R	6/24/2002	3/24/2003	10/5/2004	6/8/2005
VOC				
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)	0.0003 J	0.0003 J
Benzene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Carbon tetrachloride	ND(0.001)	ND(0.001)	0.0003 J	ND(0.001)
Ethylbenzene	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Methylene chloride	ND(0.005)	ND(0.005)	ND(0.005)	ND(0.005)
Trichloroethene	0.0067 (IDW,RDW)	0.0055 (IDW,RDW)	0.011 (IDW,RDW)	0.009 (IDW,RDW)
Vinyl chloride	ND(0.001)	ND(0.001)	ND(0.001)	ND(0.001)
Xylenes (total)	ND(0.002)	ND(0.002)	ND(0.001)	ND(0.001)
Inorganic				
Antimony	NS	NS	NS	NS
Arsenic	NS	NS	NS	NS
Lead	NS	NS	ND(0.003)	NS
Manganese	NS	NS	NS	NS
Selenium	NS	NS	NS	NS

RFI-09-49R	4/3/2003	10/5/2004
VOC		
1,1,1-Trichloroethane	ND(0.001)	ND(0.001)
Benzene	ND(0.001)	ND(0.001)
Carbon tetrachloride	ND(0.001)	ND(0.001)
Ethylbenzene	ND(0.001)	ND(0.001)
Methylene chloride	ND(0.005)	ND(0.005)
Trichloroethene	0.0028	0.008 (IDW,RDW)
Vinyl chloride	ND(0.001)	ND(0.001)
Xylenes (total)	ND(0.002)	ND(0.001)
Inorganic		
Antimony	NS	NS
Arsenic	NS	NS
Lead	NS	ND(0.003)
Manganese	NS	NS
Selenium	NS	NS

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 736 — WATER TABLE ELEVATION CONTOUR (FT AMSL) (DASHED WHERE INFERED)
- (739.13) — GROUNDWATER ELEVATION (IN FEET)
- [742.02] — ANOMALOUS GROUNDWATER ELEVATION (IN FEET), NOT USED TO GENERATE GROUNDWATER ELEVATION CONTOURS
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- FORMER RIVER GAUGE LOCATION
- CURRENT RIVER GAUGE LOCATION
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:
  - IDW – INDUSTRIAL DRINKING WATER
  - GSI – GROUNDWATER SURFACE WATER INTERFACE
  - GCC – GROUNDWATER CONTACT
  - GAI – GROUNDWATER ACUTE INHALATION

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED ON JULY 7, 2005.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. J–ESTIMATED CONCENTRATION.
10. D– CONCENTRATION BASED ON A DILUTED SAMPLE ANALYSIS.
11. RDW – EXCEEDS MICHIGAN PART 201 RESIDENTIAL DRINKING WATER CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

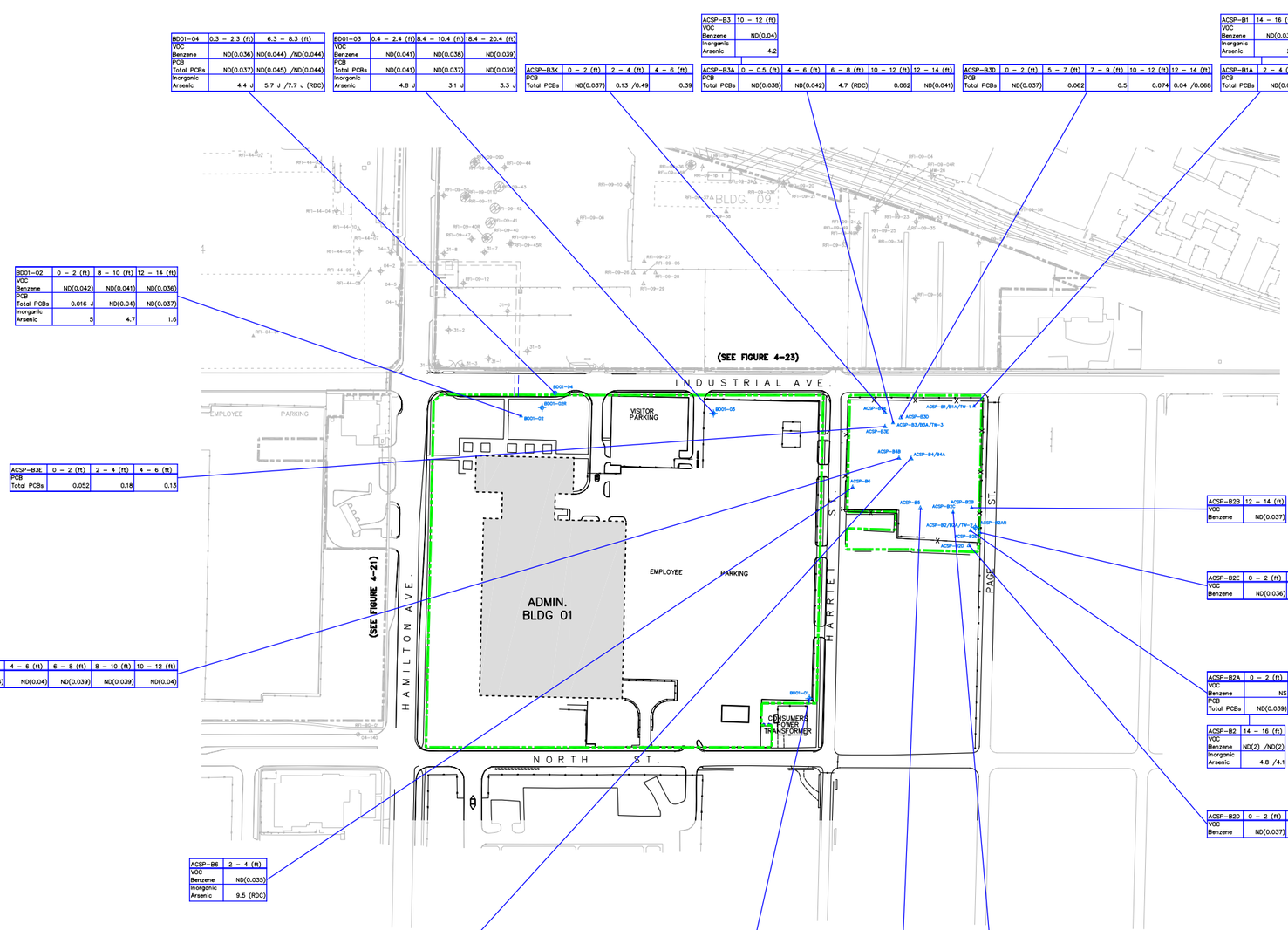
GROUNDWATER ANALYTICAL DATA - FORMER BUILDING 09 AREA

BBL® BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE 4-24

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB*, *GRAYX03|NAPL_*, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C24.DWG

SITE LOCATION



BD01-04	0.3 – 2.3 (ft)	6.3 – 8.3 (ft)
VOC		
Benzene	ND(0.036)	ND(0.044) /ND(0.044)
PCB		
Total PCBs	ND(0.037)	ND(0.045) /ND(0.044)
Inorganic		
Arsenic	4.4 J	5.7 J /7.7 J (RDC)

BD01-03	0.4 – 2.4 (ft)	8.4 – 10.4 (ft)	18.4 – 20.4 (ft)
VOC			
Benzene	ND(0.041)	ND(0.038)	ND(0.039)
PCB			
Total PCBs	ND(0.041)	ND(0.037)	ND(0.039)
Inorganic			
Arsenic	4.8 J	3.1 J	3.3 J

ACSP-B3K	0 – 2 (ft)	2 – 4 (ft)	4 – 6 (ft)
PCB			
Total PCBs	ND(0.037)	0.13 /0.49	0.39

ACSP-B3	10 – 12 (ft)
VOC	
Benzene	ND(0.04)
Inorganic	
Arsenic	4.2

ACSP-B3A	0 – 0.5 (ft)	4 – 6 (ft)	6 – 8 (ft)	10 – 12 (ft)	12 – 14 (ft)
PCB					
Total PCBs	ND(0.038)	ND(0.042)	4.7 (RDC)	0.062	ND(0.041)

ACSP-B3D	0 – 2 (ft)	5 – 7 (ft)	7 – 9 (ft)	10 – 12 (ft)	12 – 14 (ft)
PCB					
Total PCBs	ND(0.037)	0.062	0.5	0.074	0.04 /0.068

ACSP-B1	14 – 16 (ft)
VOC	
Benzene	ND(0.033)
Inorganic	
Arsenic	2.8

ACSP-B1A	2 – 4 (ft)
PCB	
Total PCBs	ND(0.039)

BD01-02	0 – 2 (ft)	8 – 10 (ft)	12 – 14 (ft)
VOC			
Benzene	ND(0.042)	ND(0.041)	ND(0.036)
PCB			
Total PCBs	0.016 J	ND(0.04)	ND(0.037)
Inorganic			
Arsenic	5	4.7	1.6

ACSP-B3E	0 – 2 (ft)	2 – 4 (ft)	4 – 6 (ft)
PCB			
Total PCBs	0.052	0.18	0.13

ACSP-B2B	12 – 14 (ft)
VOC	
Benzene	ND(0.037)

ACSP-B2E	0 – 2 (ft)	6 – 8 (ft)	8 – 10 (ft)	14 – 16 (ft)	22 – 24 (ft)
VOC					
Benzene	ND(0.036)	ND(0.039)	ND(0.04)	ND(0.038)	0.12

ACSP-B4B	0 – 2 (ft)	2 – 4 (ft)	4 – 6 (ft)	6 – 8 (ft)	8 – 10 (ft)	10 – 12 (ft)
PCB						
Total PCBs	ND(0.038)	ND(0.039) /ND(0.04)	ND(0.04)	ND(0.039)	ND(0.039)	ND(0.04)

ACSP-B2A	0 – 2 (ft)	2 – 4 (ft)	4 – 6 (ft)	6 – 8 (ft)	8 – 10 (ft)	10 – 12 (ft)
VOC						
Benzene	NS	NS	NS	NS	NS	ND(0.83) /NS
PCB						
Total PCBs	ND(0.039)	ND(0.04)	ND(0.041)	ND(0.041)	ND(0.043)	ND(0.044)

ACSP-B2	14 – 16 (ft)
VOC	
Benzene	ND(2) /ND(2)
Inorganic	
Arsenic	4.8 /4.1

ACSP-B2D	0 – 2 (ft)	2 – 4 (ft)	4 – 6 (ft)	14 – 16 (ft)	24 – 26 (ft)
VOC					
Benzene	ND(0.037)	ND(0.039)	ND(0.039)	ND(0.039)	ND(0.037)

ACSP-B6	2 – 4 (ft)
VOC	
Benzene	ND(0.035)
Inorganic	
Arsenic	9.5 (RDC)

ACSP-B4A	0 – 2 (ft)	2 – 4 (ft)	4 – 6 (ft)	6 – 8 (ft)	8 – 10 (ft)	10 – 12 (ft)	12 – 14 (ft)
PCB							
Total PCBs	ND(0.039)	ND(0.038)	ND(0.04)	ND(0.038)	ND(0.036)	ND(0.038)	ND(0.042)

ACSP-B4	8 – 10 (ft)
VOC	
Benzene	ND(0.043)
Inorganic	
Arsenic	4.8

BD01-01	0.4 – 2.4 (ft)	8.4 – 10.4 (ft)	22.4 – 24.4 (ft)
VOC			
Benzene	ND(0.039)	ND(0.043)	ND(0.038) /ND(0.038)
PCB			
Total PCBs	ND(0.039)	ND(0.044)	ND(0.038) /ND(0.038)
Inorganic			
Arsenic	6.3 J	7.2 J	2.8 J /2.8 J

ACSP-B5	12 – 14 (ft)
VOC	
Benzene	ND(0.04)
Inorganic	
Arsenic	3.2

ACSP-B2C	8 – 10 (ft)
VOC	
Benzene	ND(0.039)

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDIND CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. FOR ALL METALS, SITE-SPECIFIC BACKGROUND CONCENTRATIONS ARE SUBTRACTED FROM THE MEASURED CONCENTRATIONS PRIOR TO COMPARING TO PART 201 CRITERIA.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN DRY-WEIGHT MILLIGRAMS PER KILOGRAM (mg/kg).
6. ND (0.039)-CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS-NOT ANALYZED FOR THIS CONSTITUENT.
9. J-ESTIMATED CONCENTRATION.
10. RDC – EXCEEDS MICHIGAN PART 201 RESIDENTIAL DIRECT CONTRACT CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

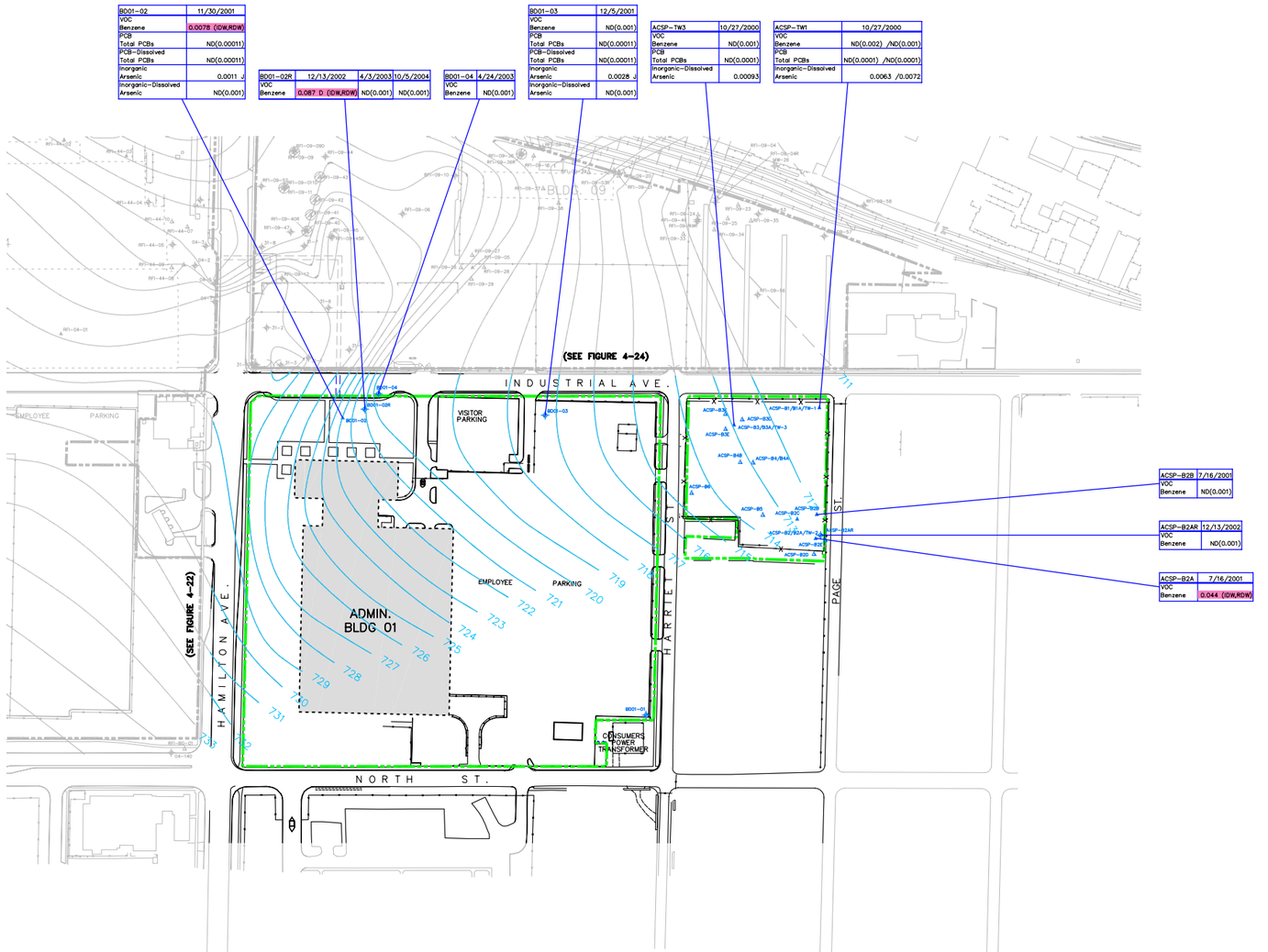
X: 64410X01.DWG, X02.DWG, X03.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES SDL GMS
64410112/RFI-06/64410C25.DWG

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

SOIL ANALYTICAL DATA - BUILDING 01 AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
4-25



NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED IN DECEMBER 2004.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. GSI CRITERIA COMPARED TO SAMPLES LOCATED WITHIN 500 FEET OF THE FLINT RIVER.
10. RDW – EXCEEDS MICHIGAN PART 201 RESIDENTIAL DRINKING WATER CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ANALYTICAL DATA - BUILDING 01 AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
4-26

X: 64410X01.DWG, X02.DWG, X03.DWG, X24.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C13.DWG

WL-B3	10 – 12 (ft)
Inorganic	
Arsenic	4.4

WL-B6	10 – 12 (ft)
Inorganic	
Arsenic	21 (RDC)

WL-B4	2 – 4 (ft)
Inorganic	
Arsenic	17 (RDC)

WL-B2	2 – 4 (ft)
Inorganic	
Arsenic	12 (RDC)

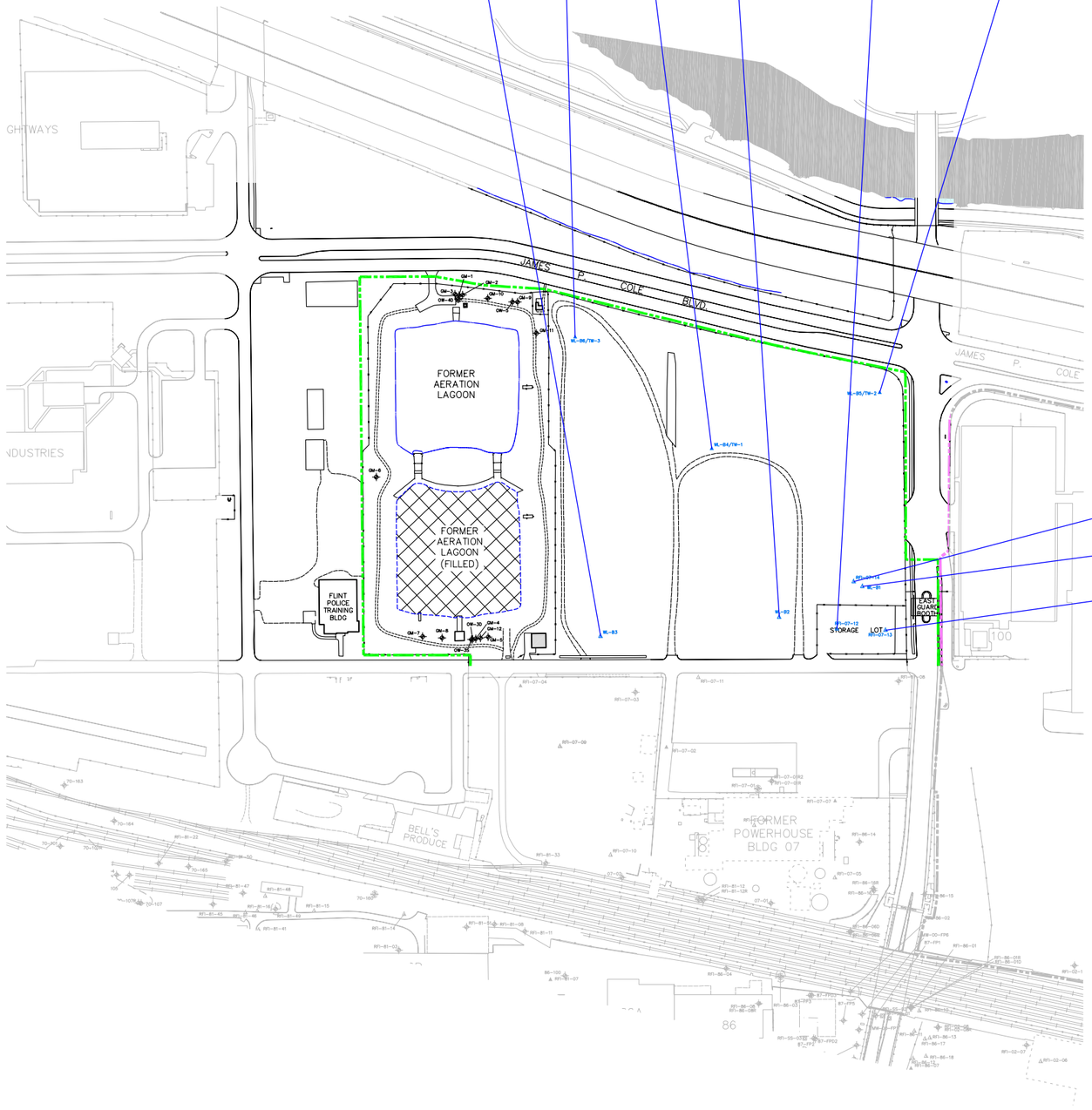
RFI-07-12	0.3 – 2.3 (ft)	8.3 – 10.3 (ft)	14.3 – 16.3 (ft)
Inorganic			
Arsenic	9.1 J (RDC)	5.3 /4.5	6.7

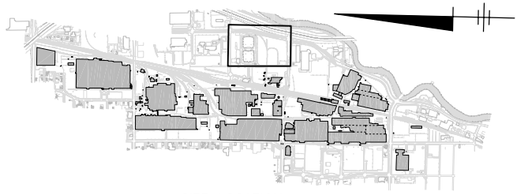
WL-B5	10 – 12 (ft)
Inorganic	
Arsenic	8.9 (RDC)

RFI-07-14	0 – 2 (ft)
Inorganic	
Arsenic	5.8

WL-B1	8 – 10 (ft)
Inorganic	
Arsenic	7.3

RFI-07-13	0.3 – 2.3 (ft)	8.3 – 10.3 (ft)	14.3 – 16.3 (ft)
Inorganic			
Arsenic	11 J (RDC)	5.9 J	6.8 J





SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI B1-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. FOR ALL METALS, SITE-SPECIFIC BACKGROUND CONCENTRATIONS ARE SUBTRACTED FROM THE MEASURED CONCENTRATIONS PRIOR TO COMPARING TO PART 201 CRITERIA.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN DRY-WEIGHT MILLIGRAMS PER KILOGRAM (mg/kg).
6. ND (0.039)-CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS-NOT ANALYZED FOR THIS CONSTITUENT.
9. J-ESTIMATED CONCENTRATION.
10. RDC – EXCEEDS MICHIGAN PART 201 RESIDENTIAL DIRECT CONTACT CRITERIA.

0 150' 300'
GRAPHIC SCALE

JULY 2006

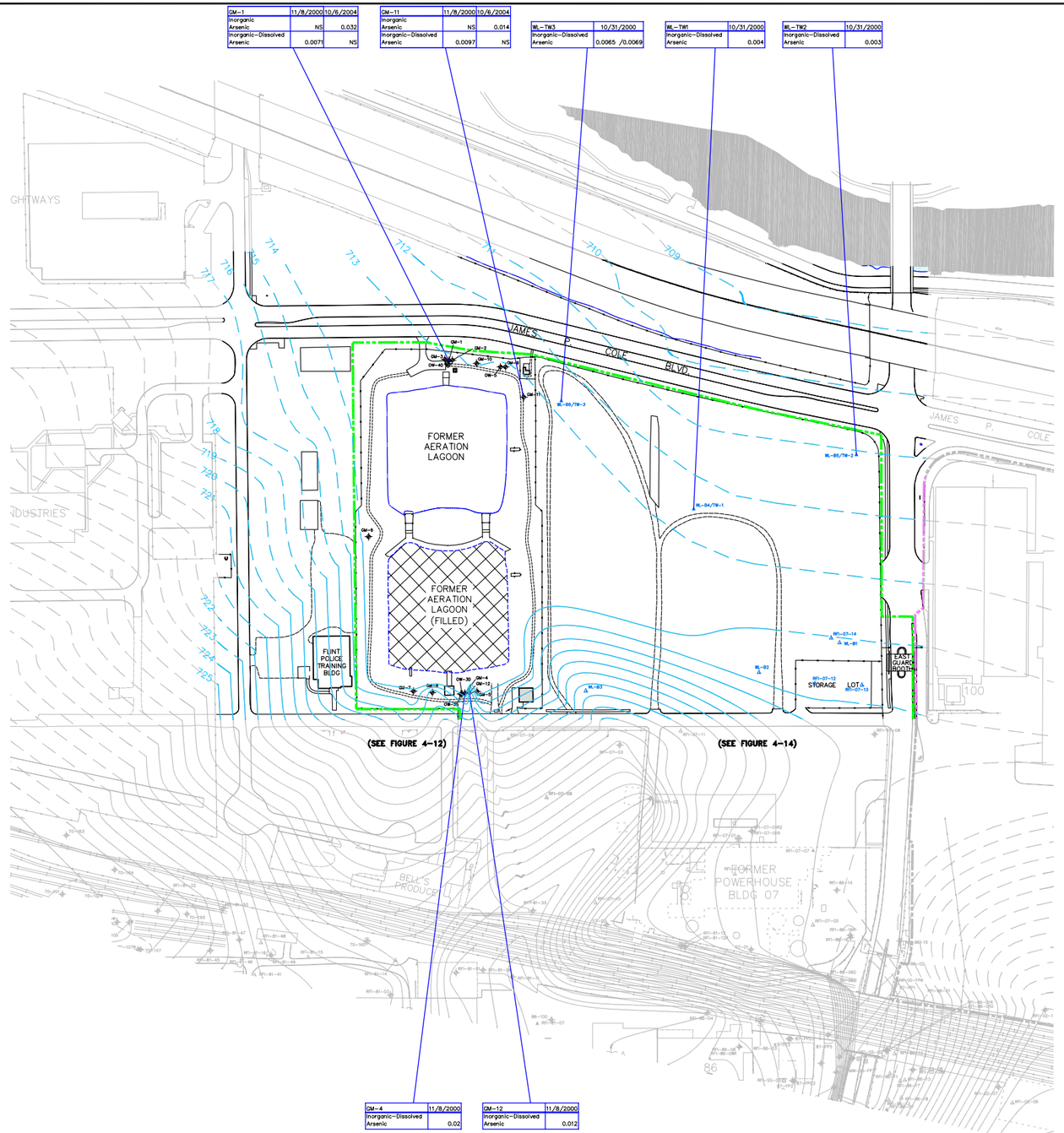
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

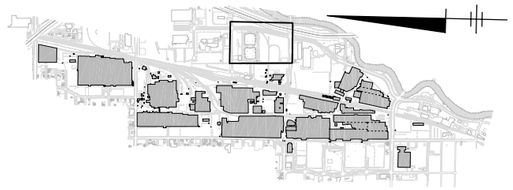
SOIL ANALYTICAL DATA - FORMER AERATION LAGOON AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
4-27

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES DJP GMS
64410112/RFI-06/64410C27.DWG





SITE LOCATION

LEGEND

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- APPROXIMATE AOI BOUNDARY
- AOI 81-1 — AOI ID
- BASEMENT/TUNNEL AREA
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 736 — WATER TABLE ELEVATION CONTOUR (FT AMSL)
- 04-140 — HISTORICAL MONITORING WELL LOCATION
- RFI-83/84-03 — RFI SOIL BORING LOCATION
- RFI-09-02 — RFI SOIL BORING/GRAB GROUNDWATER SAMPLING LOCATION
- RFI-09-01 — RFI MONITORING WELL LOCATION
- RFI-12-13 — DECOMMISSIONED/DESTROYED MONITORING WELL
- RFI-36-01 — RFI PIEZOMETER
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- EXCEEDS MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA:

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ, INC. DATED SEPTEMBER 2001, AT A SCALE OF 1:100.
2. WATER TABLE ELEVATION CONTOURS MEASURED IN DECEMBER 2004.
3. ALL LOCATIONS ARE APPROXIMATE.
4. CONSTITUENTS PRESENTED HERE ARE THOSE WHICH EXCEED ONE OR MORE MICHIGAN PART 201 GENERIC RESIDENTIAL AND/OR INDUSTRIAL SCREENING CRITERIA IN SOIL OR GROUNDWATER SAMPLES COLLECTED IN THE AREA SHOWN ON THIS FIGURE.
5. ALL CONCENTRATIONS PRESENTED IN MILLIGRAMS PER LITER (mg/L).
6. ND (1.0)–CONSTITUENT NOT DETECTED. ASSOCIATED DETECTION LIMIT PRESENTED IN PARENTHESES.
7. DUPLICATE ANALYSES SEPARATED BY SLASHES (/).
8. NS–NOT ANALYZED FOR THIS CONSTITUENT.
9. J–ESTIMATED CONCENTRATION.
10. GSI CRITERIA COMPARED TO SAMPLES LOCATED WITHIN 500 FEET OF THE FLINT RIVER.

0 150' 300'
GRAPHIC SCALE

JULY 2006

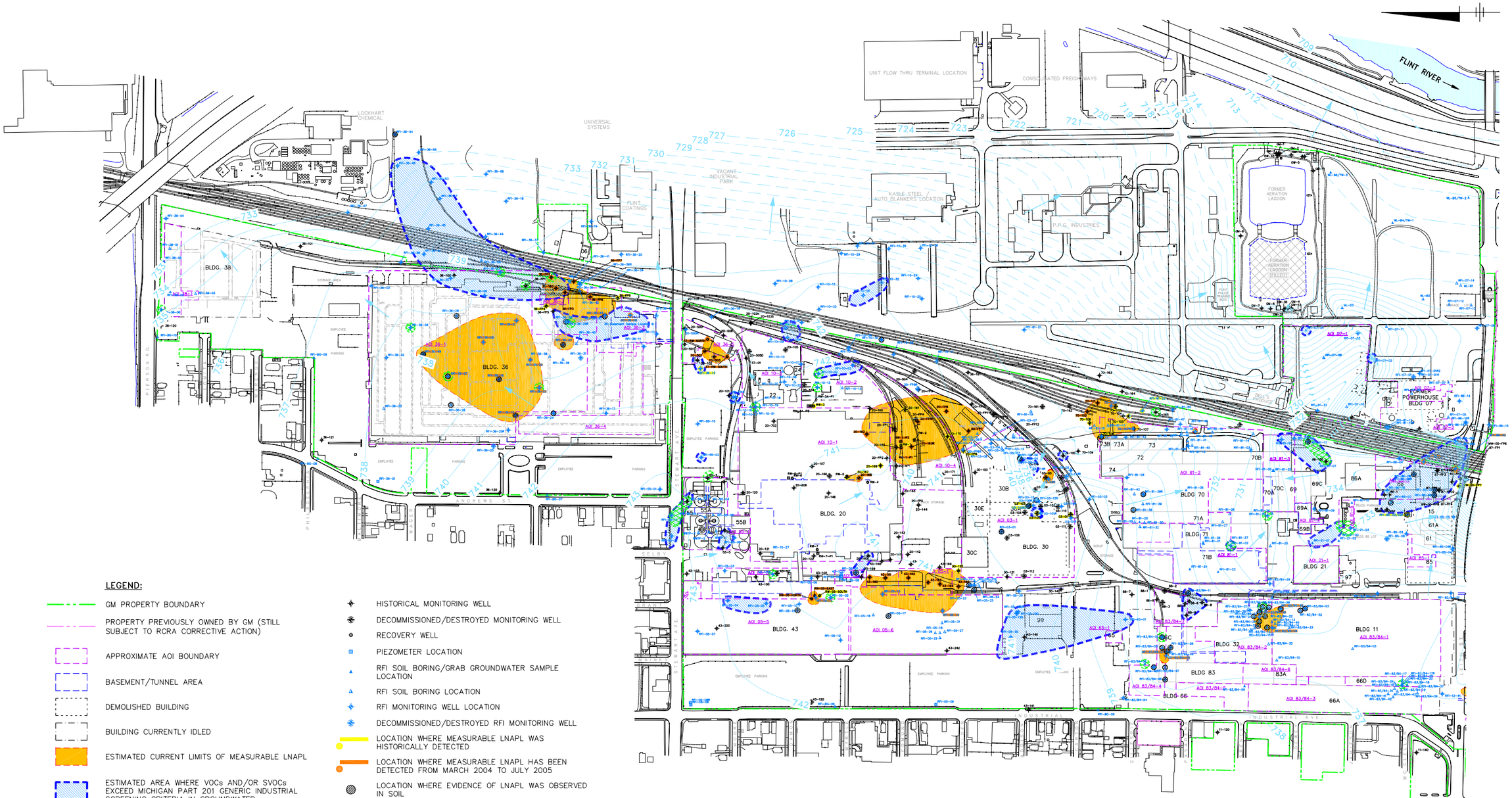
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

GROUNDWATER ANALYTICAL DATA - FORMER AERATION LAGOON AREA

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
4-28

X: 64410X01.DWG, X02.DWG, X03.DWG, X06.DWG, X24.DWG
L: ON=* OFF=*REF*, GRAYX01|SHD-BUILDING, *|HIST_SB, *GRAYX03|NAPL_OBS, *|RFI_SS_PIEZ, *|LNAPL-SHD, GRAYX01|PROPERTY, GRAYX03|NAPL_EVID
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410C28.DWG



LEGEND:

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- ESTIMATED AREA WHERE VOCs AND/OR SVOCs EXCEED MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA IN GROUNDWATER
- ESTIMATED AREA WHERE INORGANICS EXCEED MICHIGAN PART 201 GENERIC INDUSTRIAL SCREENING CRITERIA IN GROUNDWATER
- HISTORICAL MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- PIEZOMETER LOCATION
- RFI SOIL BORING/GRAB GROUNDWATER SAMPLE LOCATION
- RFI SOIL BORING LOCATION
- RFI MONITORING WELL LOCATION
- DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL
- GENERALIZED GROUNDWATER FLOW DIRECTION
- 739 DECEMBER 2004 GROUNDWATER ELEVATION CONTOUR (IN FEET)

0 250' 500'
APPROXIMATE GRAPHIC SCALE

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. ANALYTICAL DATA SHOWN ARE FROM MOST RECENT SAMPLING EVENT AT EACH LOCATION. ESTIMATED LIMITS OF MEASUREABLE LNAPL BASED ON MEASUREMENTS FROM MARCH 2004 TO JULY 2005.

X: 64410X01, X02, X3A, X06, X24.DWG
L: ON=*, OFF=*REF*, |SHD-BUILDING, *|HIST_SB
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410B06.DWG

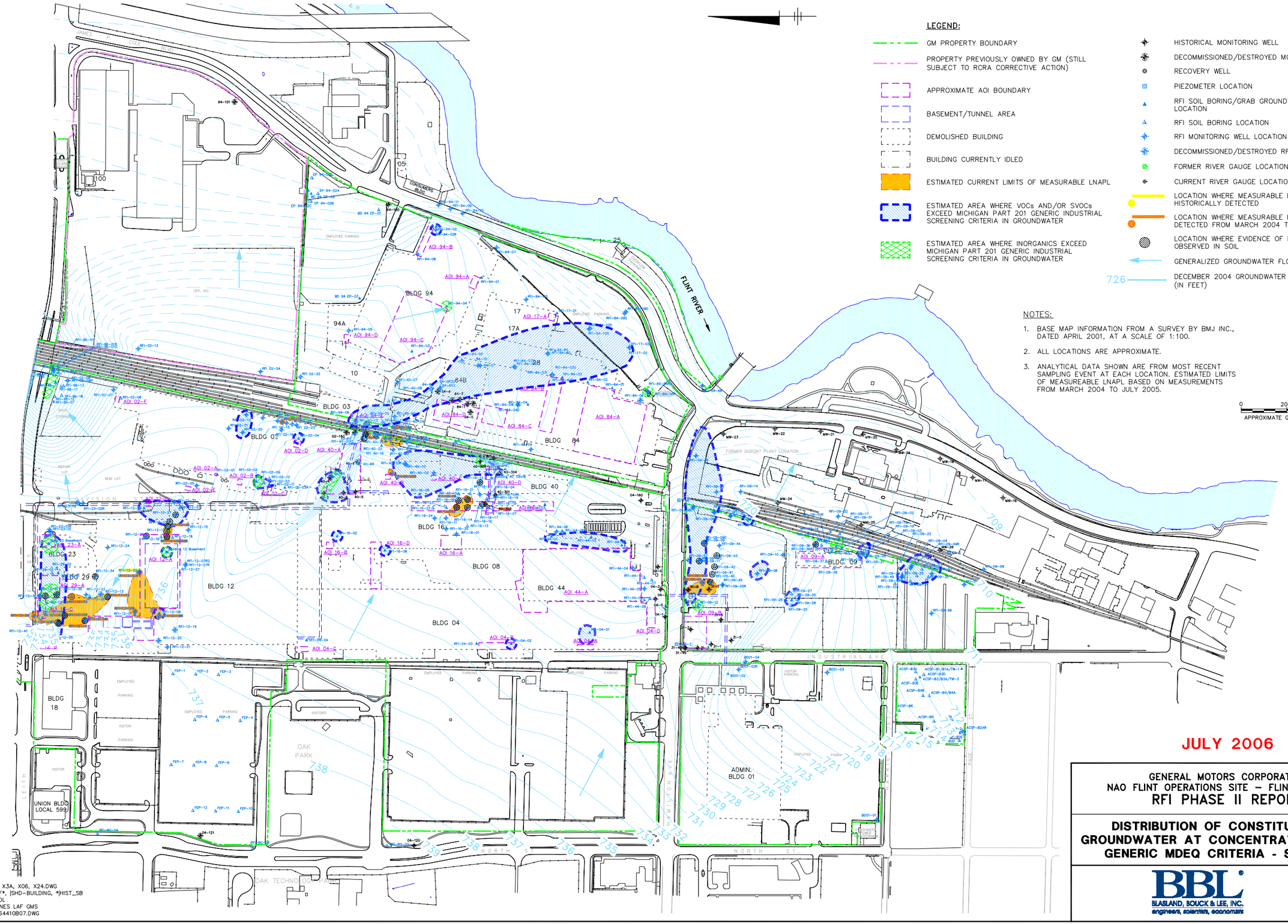
JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

DISTRIBUTION OF CONSTITUENTS IN GROUNDWATER AT CONCENTRATIONS ABOVE GENERIC MDEQ CRITERIA - NORTHEND

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 5-1



JULY 2006

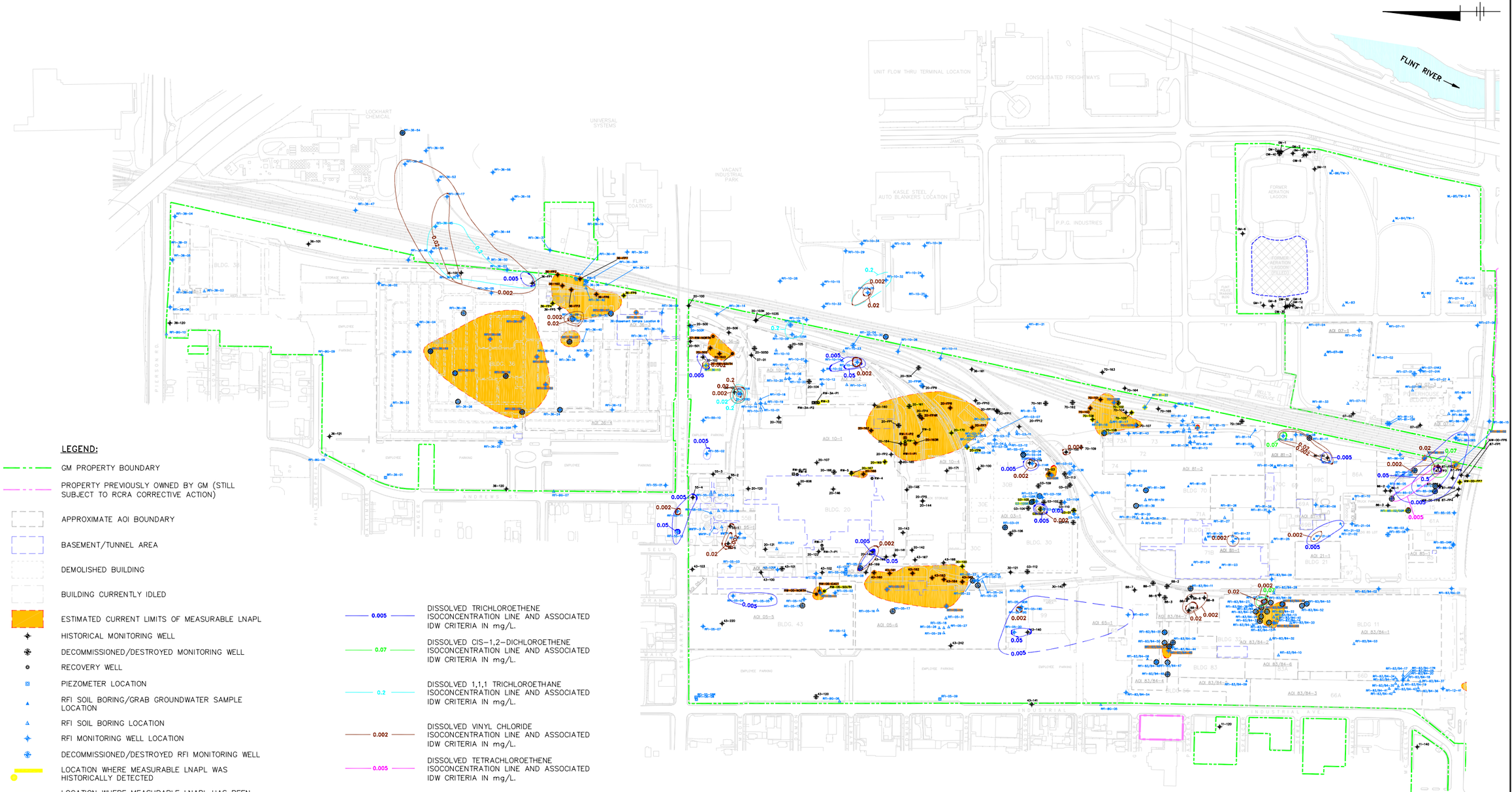
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

DISTRIBUTION OF CONSTITUENTS IN GROUNDWATER AT CONCENTRATIONS ABOVE GENERIC MDEQ CRITERIA - SOUTHEND

BLASLAND, BOUCK & LEE, INC.
engineers, scientists, economists

FIGURE
5-2

X: 64410X01, X02, X3A, X06, X24.DWG
L: ON=*, OFF=*REF*, |SHD-BUILDING, *|HIST_SB
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410B07.DWG



LEGEND:

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- HISTORICAL MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- PIEZOMETER LOCATION
- RFI SOIL BORING/GRAB GROUNDWATER SAMPLE LOCATION
- RFI SOIL BORING LOCATION
- RFI MONITORING WELL LOCATION
- DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL

- 0.005 — DISSOLVED TRICHLOROETHENE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L.
- 0.07 — DISSOLVED CIS-1,2-DICHLOROETHENE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L.
- 0.2 — DISSOLVED 1,1,1 TRICHLOROETHANE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L.
- 0.002 — DISSOLVED VINYL CHLORIDE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L.
- 0.005 — DISSOLVED TETRACHLOROETHENE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L.

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. ANALYTICAL DATA SHOWN ARE FROM MOST RECENT SAMPLING EVENT AT EACH LOCATION. ESTIMATED LIMITS OF MEASUREABLE LNAPL BASED ON MEASUREMENTS FROM MARCH 2004 TO JULY 2005.
4. ISOCONCENTRATION LINES WITH THE LOWEST CONCENTRATION SHOWN REPRESENT MICHIGAN PART 201 GENERIC IDW CRITERIA.

0 250' 500'
APPROXIMATE GRAPHIC SCALE

X: 64410X01, X02, X3A, X06.DWG
L: ON=*, OFF=*REF*, |SHD-BUILDING, *|HIST_SB
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410B08.DWG

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

ISOCONCENTRATION MAP OF SELECT CHLORINATED CONSTITUENTS IN GROUNDWATER - NORTHEND

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 5-3

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. ANALYTICAL DATA SHOWN ARE FROM MOST RECENT SAMPLING EVENT AT EACH LOCATION. ESTIMATED LIMITS OF MEASUREABLE LNAPL BASED ON MEASUREMENTS FROM MARCH 2004 TO JULY 2005.
4. ISOCONCENTRATION LINES WITH THE LOWEST CONCENTRATION SHOWN REPRESENT MICHIGAN PART 201 GENERIC IDW CRITERIA.
5. LNAPL WAS MEASURED AT RFI-02-14 IN 2005.

LEGEND:

- 0.005 — DISSOLVED TRICHLOROETHENE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L.
- 0.07 — DISSOLVED CIS-1,2-DICHLOROETHENE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L.
- 0.002 — DISSOLVED VINYL CHLORIDE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L.
- 0.005 — DISSOLVED TETRACHLOROETHENE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L.

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- HISTORICAL MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- PIEZOMETER LOCATION
- RFI SOIL BORING/GRAB GROUNDWATER SAMPLE LOCATION
- RFI SOIL BORING LOCATION
- RFI MONITORING WELL LOCATION
- DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- FORMER RIVER GAUGE LOCATION
- CURRENT RIVER GAUGE LOCATION
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL

0 200' 400'
APPROXIMATE GRAPHIC SCALE

FLINT RIVER

JULY 2006

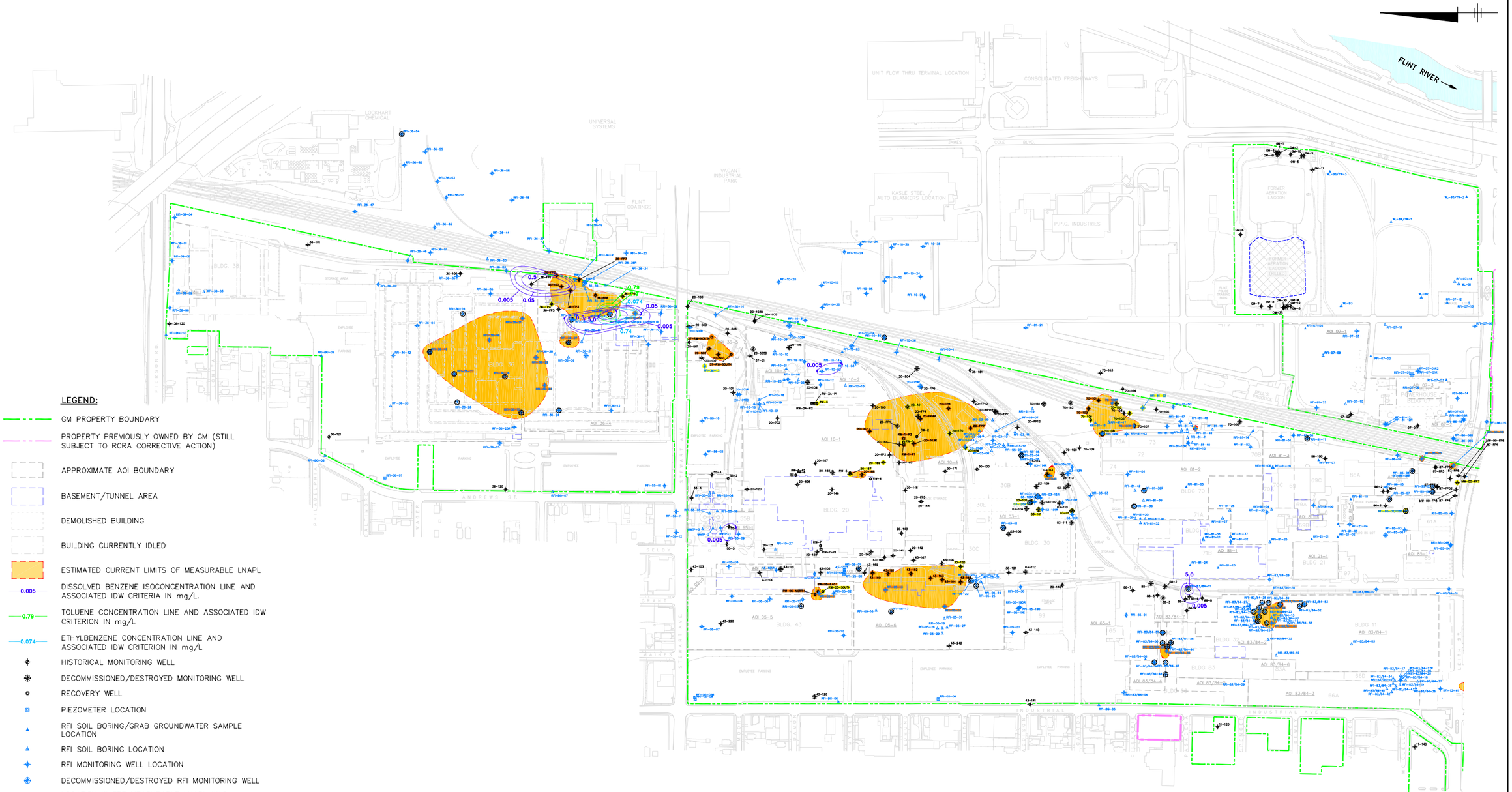
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

ISOCONCENTRATION MAP OF SELECT CHLORINATED CONSTITUENTS IN GROUNDWATER - SOUTHEND

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 5-4

X: 64410X01, X02, X3A, X06.DWG
L: ON=*, OFF=*REF*, |SHD-BUILDING, *|HIST_SB
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410B09.DWG



LEGEND:

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING CURRENTLY IDLED
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 0.005 — DISSOLVED BENZENE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L.
- 0.79 — TOLUENE CONCENTRATION LINE AND ASSOCIATED IDW CRITERION IN mg/L
- 0.074 — ETHYLBENZENE CONCENTRATION LINE AND ASSOCIATED IDW CRITERION IN mg/L
- HISTORICAL MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- PIEZOMETER LOCATION
- RFI SOIL BORING/GRAB GROUNDWATER SAMPLE LOCATION
- RFI SOIL BORING LOCATION
- RFI MONITORING WELL LOCATION
- DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL

0 250' 500'
APPROXIMATE GRAPHIC SCALE

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. ANALYTICAL DATA SHOWN ARE FROM MOST RECENT SAMPLING EVENT AT EACH LOCATION. ESTIMATED LIMITS OF MEASUREABLE LNAPL BASED ON MEASUREMENTS FROM MARCH 2004 TO JULY 2005.
4. ISOCONCENTRATION LINES WITH THE LOWEST CONCENTRATION SHOWN REPRESENT MICHIGAN PART 201 GENERIC IDW CRITERIA.

X: 64410X01, X02, X3A, X06.DWG
L: ON=*, OFF=*REF*, |SHD-BUILDING, *|HIST_SB
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410B10.DWG

JULY 2006

GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

ISOCONCENTRATION MAP OF BENZENE, TOLUENE AND ETHYLBENZENE IN GROUNDWATER - NORTHEND

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 5-5

NOTES:

1. BASE MAP INFORMATION FROM A SURVEY BY BMJ INC., DATED APRIL 2001, AT A SCALE OF 1:100.
2. ALL LOCATIONS ARE APPROXIMATE.
3. ANALYTICAL DATA SHOWN ARE FROM MOST RECENT SAMPLING EVENT AT EACH LOCATION. ESTIMATED LIMITS OF MEASUREABLE LNAPL BASED ON MEASUREMENTS FROM MARCH 2004 TO JULY 2005.
4. ISOCONCENTRATION LINES WITH THE LOWEST CONCENTRATION SHOWN REPRESENT MICHIGAN PART 201 GENERIC IDW CRITERIA.

LEGEND:

- GM PROPERTY BOUNDARY
- PROPERTY PREVIOUSLY OWNED BY GM (STILL SUBJECT TO RCRA CORRECTIVE ACTION)
- APPROXIMATE AOI BOUNDARY
- BASEMENT/TUNNEL AREA
- DEMOLISHED BUILDING
- BUILDING SCHEDULED FOR DEMOLITION
- ESTIMATED CURRENT LIMITS OF MEASURABLE LNAPL
- 0.005 — DISSOLVED BENZENE ISOCONCENTRATION LINE AND ASSOCIATED IDW CRITERIA IN mg/L
- 0.074 — ETHYLBENZENE CONCENTRATION LINE AND ASSOCIATED IDW CRITERION IN mg/L
- HISTORICAL MONITORING WELL
- DECOMMISSIONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- PIEZOMETER LOCATION
- RFI SOIL BORING/GRAB GROUNDWATER SAMPLE LOCATION
- RFI SOIL BORING LOCATION
- RFI MONITORING WELL LOCATION
- DECOMMISSIONED/DESTROYED RFI MONITORING WELL
- LOCATION WHERE MEASURABLE LNAPL WAS HISTORICALLY DETECTED
- LOCATION WHERE MEASURABLE LNAPL HAS BEEN DETECTED FROM MARCH 2004 TO JULY 2005
- LOCATION WHERE EVIDENCE OF LNAPL WAS OBSERVED IN SOIL

0 200' 400'
APPROXIMATE GRAPHIC SCALE

FLINT RIVER

JULY 2006

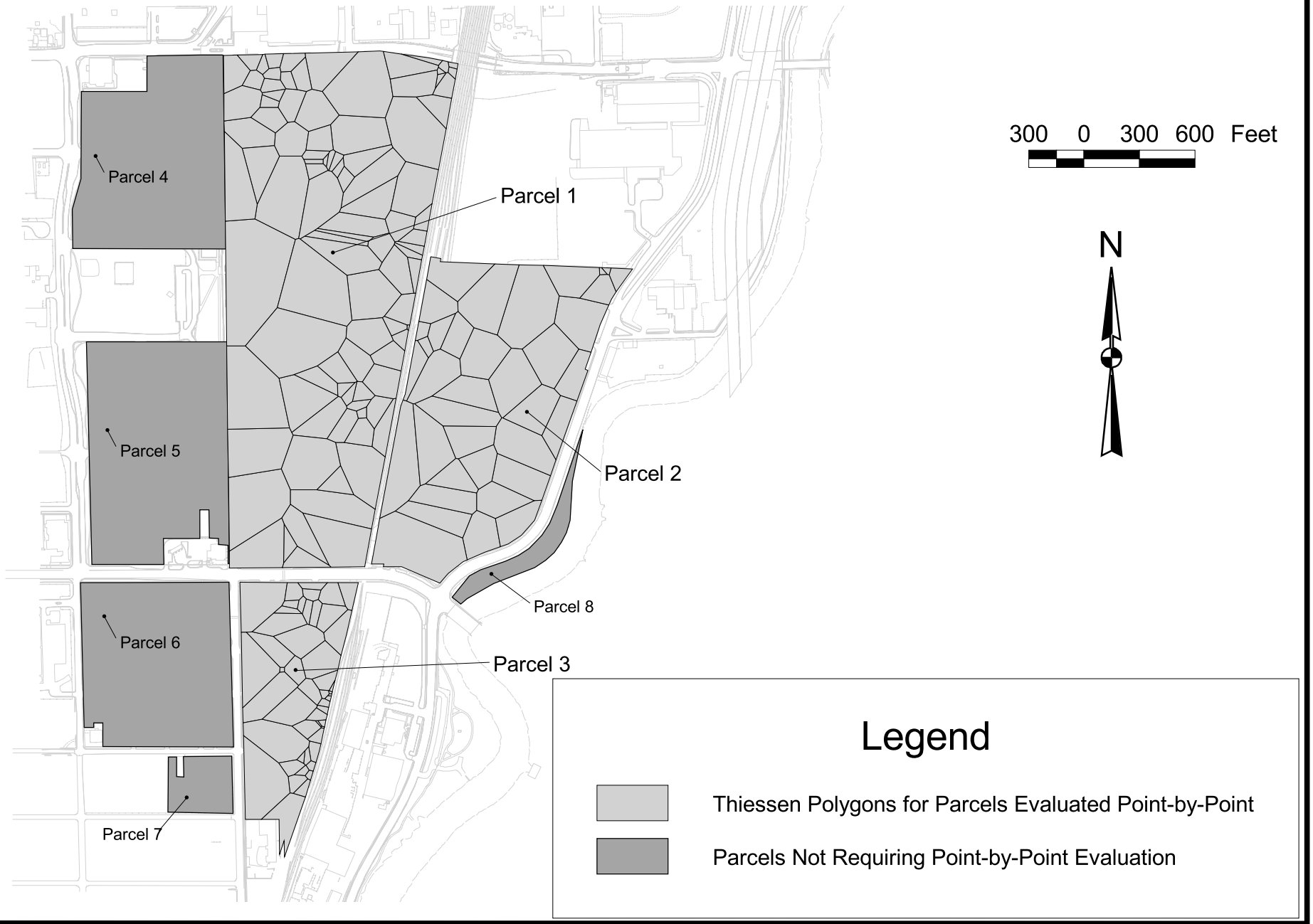
GENERAL MOTORS CORPORATION
NAO FLINT OPERATIONS SITE – FLINT, MICHIGAN
RFI PHASE II REPORT

ISOCONCENTRATION MAP OF BENZENE IN GROUNDWATER - SOUTHEND

BBL BLASLAND, BOUCK & LEE, INC. engineers, scientists, economists

FIGURE 5-6

X: 64410X01, X3A, X06.DWG
L: ON=*, OFF=*REF*, |SHD-BUILDING, *|HIST_SB
P: PAGESET/SYR-DL
7/11/06 SYR-85-NES LAF GMS
64410112/RFI-06/64410B11.DWG



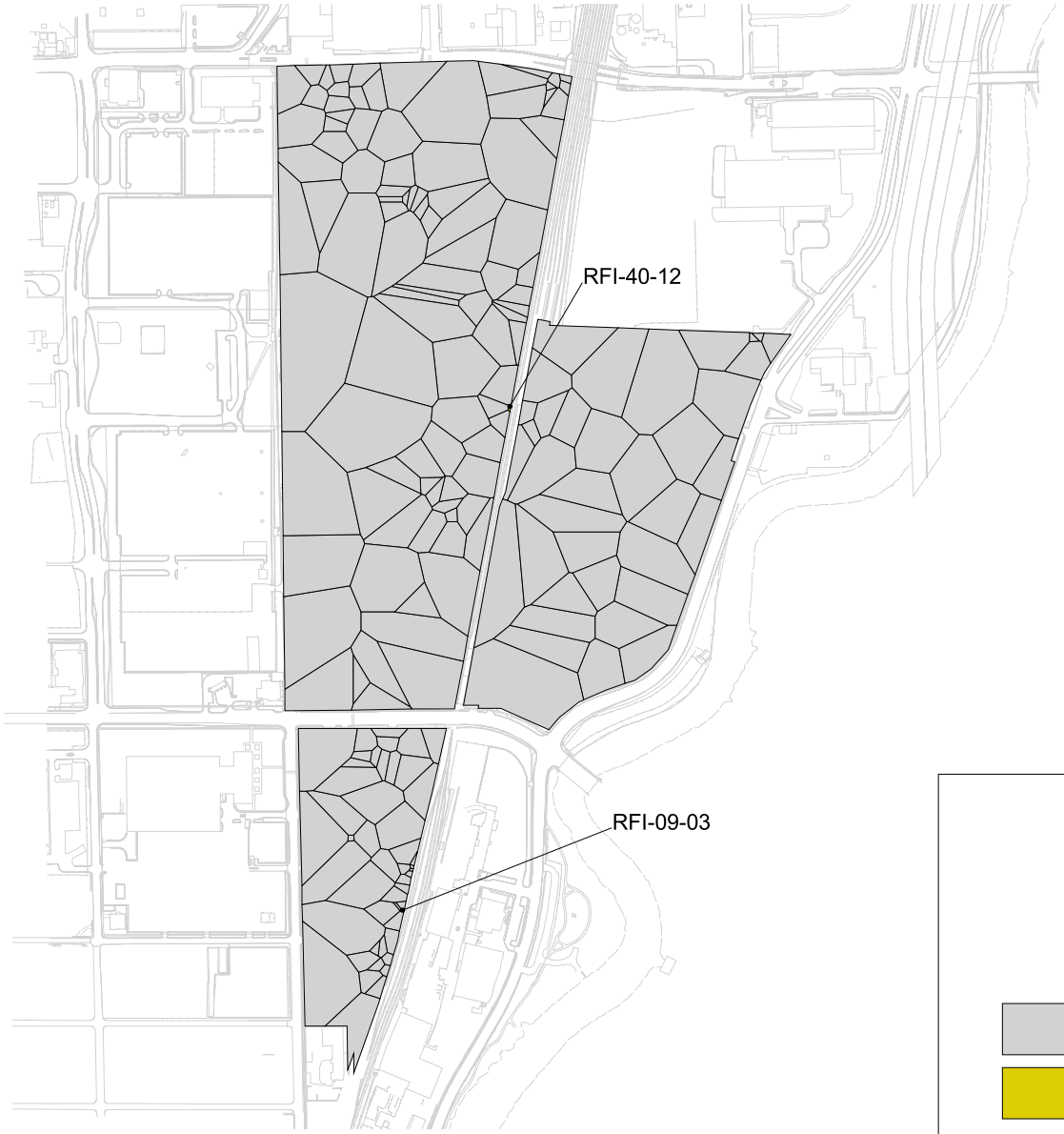
ENVIRON

Date: 7/14/2006

THIESSEN POLYGONS FOR SOUTHEND PARCELS
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Figure 6-1

Arcview Plot



300 0 300 600 Feet

N

Legend

Routine Worker Soil Contact

Cumulative Cancer Risk <= 1E-4

Cumulative Cancer Risk >1E-4

ENVIRON

Date: 7/14/2006

ROUTINE WORKER SOIL CONTACT (ANY DEPTH)
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Figure 6-2

Arcview Plot

300 0 300 600 Feet

N

Legend

Redevelopment Construction Worker Soil Contact

HI <= 1

HI > 1

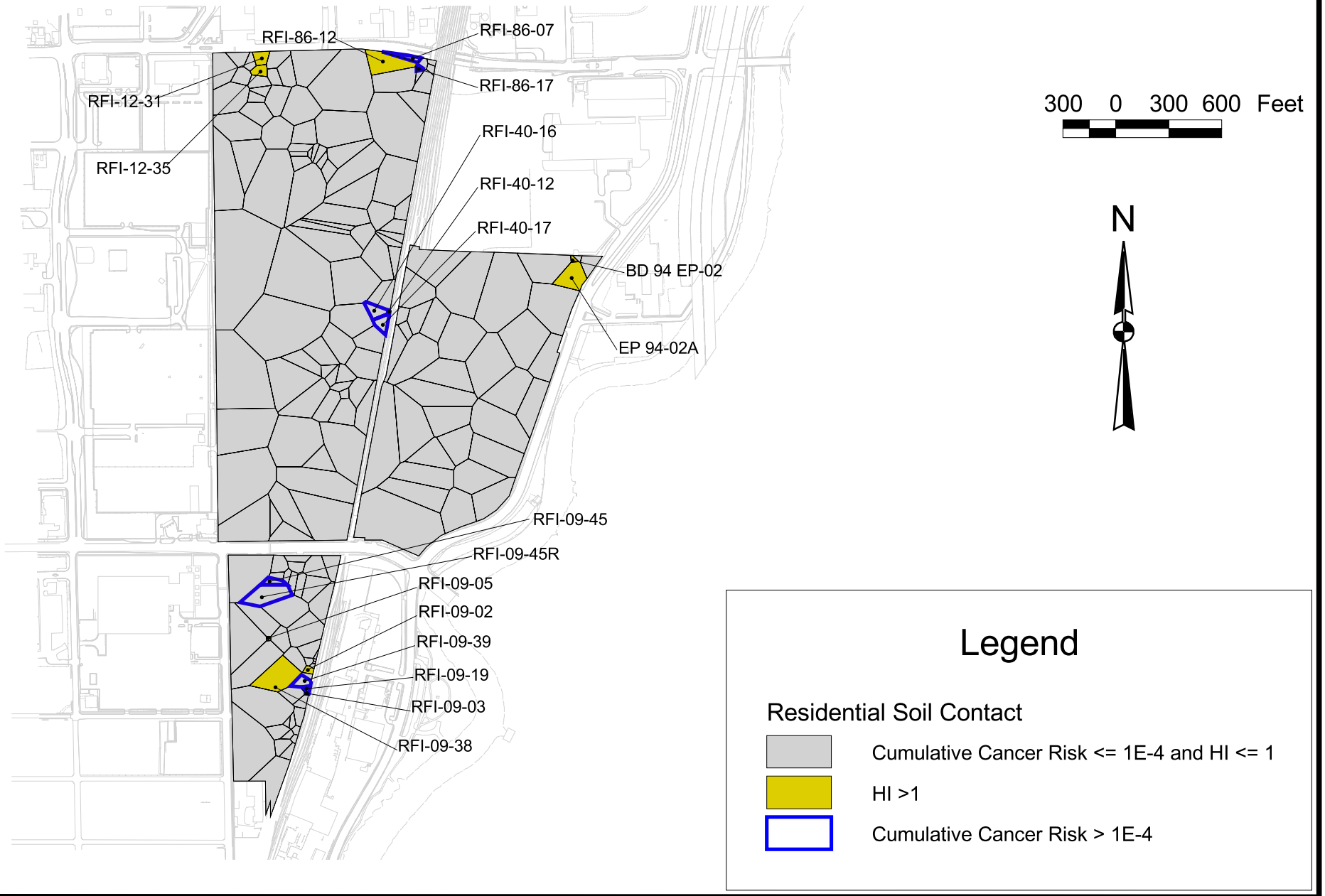
ENVIRON

Date: 7/14/2006

REDEVELOPMENT CONSTRUCTION WORKER SOIL CONTACT (ANY DEPTH)
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Figure 6-3

Arcview Plot



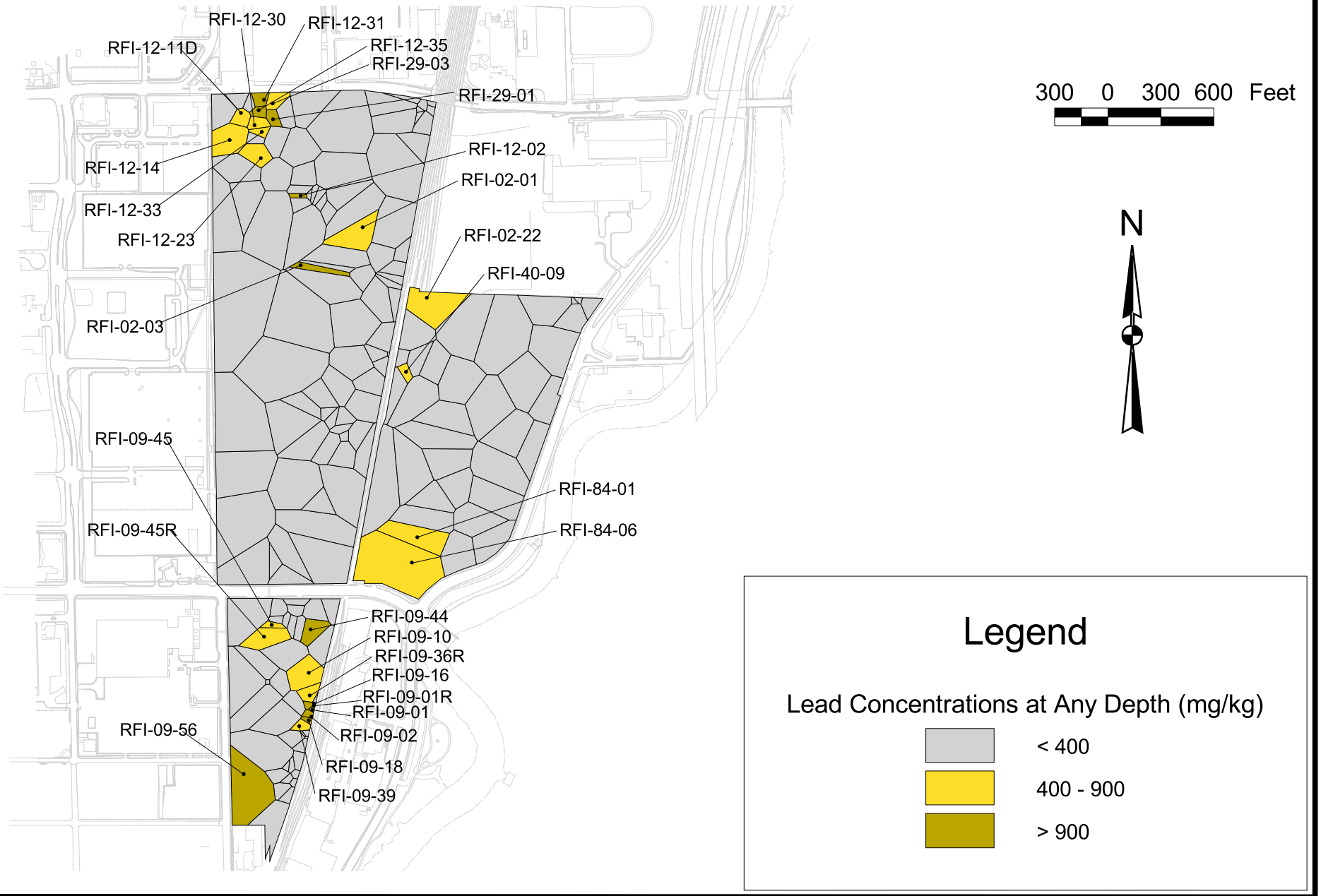
ENVIRON

Date: 7/14/2006

RESIDENTIAL SOIL CONTACT (ANY DEPTH)
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Figure 6-4

Arcview Plot



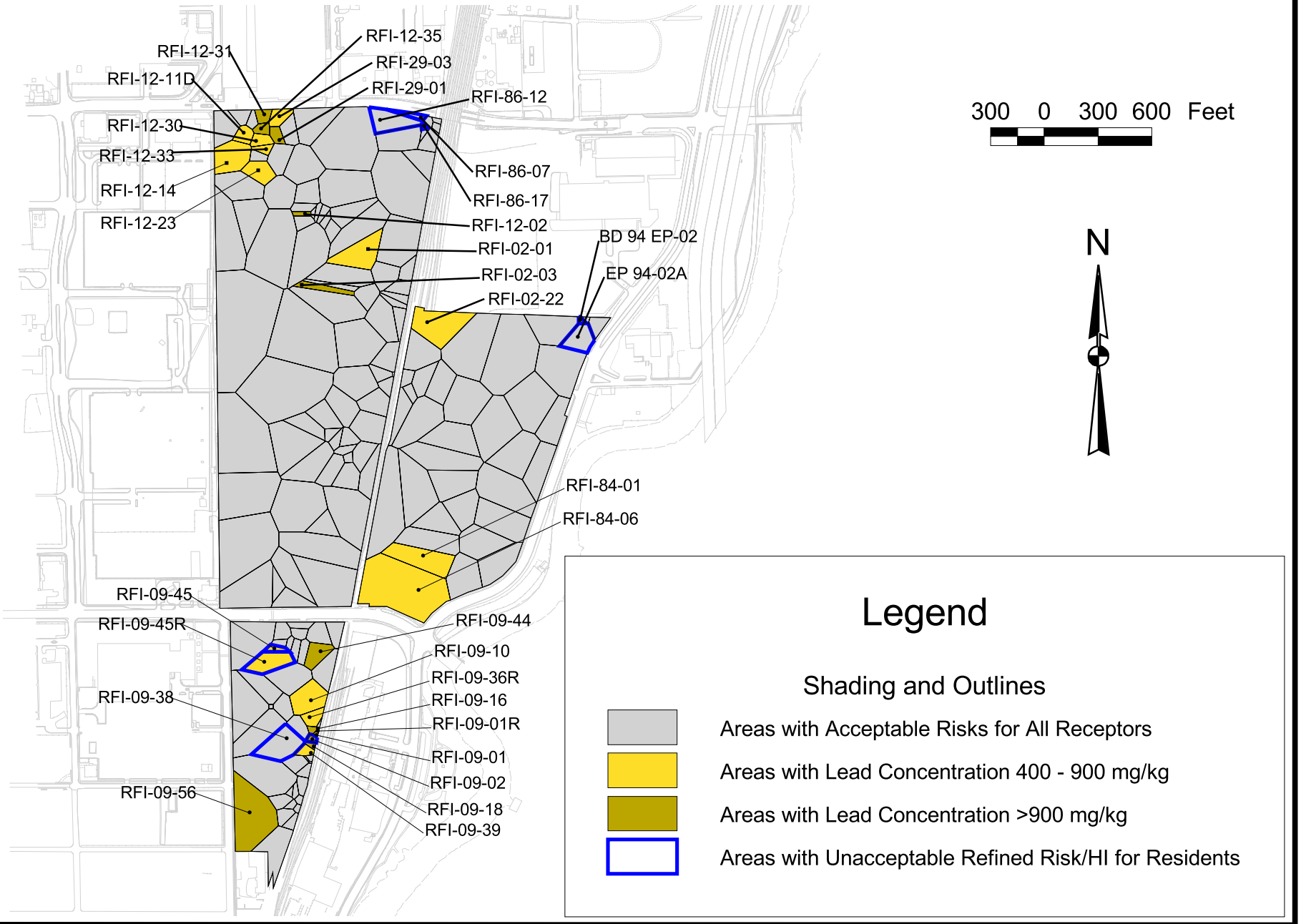
ENVIRON

Date: 7/14/2006

LEAD CONCENTRATIONS IN SOIL (ANY DEPTH)
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Figure 6-5

Arcview Plot



ENVIRON

Date: 7/14/2006

AREAS WITH POTENTIALLY UNACCEPTABLE RISKS
NAO FLINT OPERATIONS SITE - FLINT, MICHIGAN

Figure 6-6

Arcview Plot