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**DOCUMENTATION OF COMPLIANCE WITH
SECTION 20107A OF
PART 201 OF MICHIGAN ACT 451
PURSUANT TO ADMINISTRATIVE RULE 1003(5)**

**PONTIAC VALIDATION CENTER
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PONTIAC, MI 48341**

**Prepared For:
Motors Liquidation Company**

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1.0 INTRODUCTION

CRA was retained by Motors Liquidation Company (MLC) to evaluate and prepare documentation of compliance with Section 20107a of the Natural Resources and Environmental Protection Act (NREPA) 1994, Public Act 451, as amended (also known as Due Care Plan Report [Report]), for the property located at 200 South Boulevard West in Pontiac, Michigan (Site). NREPA requires owners and operators to take due care measures relative to substances in soil or groundwater exceeding criteria including mitigating possible human exposures to hazards that may exist on a property. A Site location map is presented on Figure 1. An historical aerial photograph is presented on Figure 2. A Site Plan is presented on Figure 3. The Site is approximately 80 acres in size.

Information for this Report was obtained from the data collected through Phase I and Phase II Environmental Site Assessments (ESAs), completed by CRA on behalf of Environmental Corporate Remediation Company Inc. (ENCORE) between 2006 and 2008.

2.0 CURRENT AND PROPOSED USES

The Site is currently owned by MLC and is comprised of asphalt paved parking areas, landscaped areas, Building 30, an office building, and concrete floor slabs remaining from the demolition of Plants 3, 4, and 5. There are no on going operations currently conducted at the Site, with the exception of temporary equipment storage by third parties via a leasing agreement with MLC.

General Motors Corporation (GM) began operation of the Site in 1906 after they purchased the northern half of the Site from the Rapid Motor Car Company. The acquired area was developed into Plant 1, which was one of the original buildings on Site. Based on the review of available information, historical operations conducted at former Plant 1 included metal finishing operations (plating, phosphating, heat treating, pickling, and painting), stamping, machining, grinding, polishing, solvent and oil storage, and several other manufacturing processes.

GM acquired Plants 3 and 4 in 1940 and 1937, respectively, and Plant 5 was purchased in 1963 (each Plant was formerly located in the south portion of the Site). These Plants became part of the GM Truck and Bus Group in 1983 and part of North American Truck Platforms (NATPs) in 1993. The Site operated concurrently with the GM Truck Product Center (TPC), to run prototypes for utility vehicle assembly line production. The Site also ran prototype production for painting processes, including usage rates, coating effectiveness, and actual viability of the process. Ancillary operations included research and development and engineering for individual components for new utility vehicle models. Operations at the Site ceased in August 2005.

A detailed Site history is provided in the Phase I ESA Report (CRA, 2006).

3.0 HAZARDOUS SUBSTANCE INFORMATION

3.1 RELEVANT PATHWAYS AND APPLICABLE CRITERIA

Based on the intended industrial/commercial use of the Site, soil and groundwater constituent analytical results for the Site were evaluated against Michigan Act 451 Part 201 Generic Industrial and Commercial II, III, and IV Criteria (Industrial and Commercial Criteria) with consideration given to Site specific conditions.

Each potential exposure pathway corresponds to a category of Industrial and Commercial Criteria, as listed below:

- Soil:
 - Drinking Water Protection Criteria (DWPC)
 - Groundwater Surface Water Interface Protection Criteria (GSIPC)
 - Groundwater Contact Protection Criteria (GCPC)
 - Soil Volatilization to Indoor Air Inhalation Criteria (SVIIC)
 - Infinite Source Volatile Soil Inhalation Criteria (VSIC)
 - Particulate Soil Inhalation Criteria (PSIC)
 - Direct Contact Criteria (DCC)
 - Soil Saturation Concentration Screening Levels (C_{sat})
- Groundwater:
 - Drinking Water Criteria (DWC)
 - Groundwater Surface Water Interface Criteria (GSIC)
 - Groundwater Volatilization to Indoor Air Inhalation Criteria (GVIIC)
 - Groundwater Contact Criteria (GCC)
 - Flammability and Explosivity Screening Level (FESL)
 - Acute Inhalation Screening Level (AISL)

The Site is exclusively provided with municipal water as a source of drinking water, and it is not anticipated that future groundwater drinking wells will be installed. Accordingly, the DWPC and the DWC are not applicable from a due care standpoint. Similarly, the GSIPC and GSIC are not applicable from a due care standpoint as no surface water bodies exist on Site and the Site does not contain a known applicable groundwater surface water (GSI) monitoring point. The remaining criteria are

applicable due to the potential that humans may contact impacted media and/or inhale airborne particles or volatiles.

Based on the intended land use (industrial/commercial) and Site specific characteristics described above, the following Industrial and Commercial Criteria are applicable for the Site:

- Soil:
 - GCPC
 - SVIIC
 - VSIC
 - PSIC
 - DCC
 - Csat
- Groundwater:
 - GVIIC
 - GCC
 - FESL
 - AISL

3.2 KNOWN CONTAMINATION

Contamination that may exist at the Site as a result of spills, disposal activities, or other hazardous substance releases was evaluated by CRA by conducting a Phase I and Phase II ESA. Known contamination that has been identified at the Site has been characterized by the following Site assessment activities:

- CRA, Phase I Environmental Site Assessment, General Motors Pontiac Centerpoint Campus – Validation Center, Pontiac, Michigan, October 2006
- CRA, Phase II Environmental Site Assessment, General Motors Pontiac Centerpoint Campus – Validation Center, Pontiac, Michigan, April 2009

The results of soil and groundwater analysis at the Site indicate the presence of constituents above Industrial and Commercial Criteria. Exceedances of applicable

Industrial and Commercial Criteria (from a due care perspective) are summarized in Table 1 (soil) and Table 2 (groundwater). The soil boring and monitoring well locations are presented on Figure 3.

During the Phase II ESA, CRA completed a background metals concentration soil investigation in accordance with the requirements presented in the Michigan Department of Environmental Quality (MDEQ) document *Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria* (MDEQ, 2002, referred to as the "S³TM"). Site specific background metals concentrations (as defined in Section 4.3 of "Statistical Methods" (Tab 7) of the S³TM) were determined for naturally occurring metals in Site soils, and are used when comparing of metals concentrations in soil to Part 201 Criteria as shown in Table 1. Further information pertaining to the development of background metals concentrations is provided in Appendix A.

As shown in Table 1, soil exceedances of the applicable Industrial and Commercial Criteria are limited to the following:

- Aroclor 1254 [and thus, total polychlorinated biphenyls (PCBs)] exceeds DCC at soil boring BH-72-08
- Anthracene, fluoranthene, and pyrene exceed GCPC at test pit sample TP 1 (floor)
- Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3 cd)pyrene exceed DCC at test pit sample TP 1 (floor)
- Phenanthrene exceeds VSIC at test pit sample TP 1 (floor)

As shown in Table 2, groundwater exceedances of the applicable Industrial and Commercial Criteria are limited to the following:

- Benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, and chrysene exceed GCC at monitoring well MW-74-08

In addition, based on the results of the Phase II ESA, a light non-aqueous phase liquid (LNAPL) plume is present beneath the former Plant 3. The LNAPL plume was delineated vertically and horizontally using a laser induced fluorescence (LIF) survey. Under Part 201, LNAPL is presumed to exceed all applicable Industrial and Commercial Criteria.

The locations of potential concern due to constituent concentrations in soil and groundwater are distinguished as follows:

- Area 1 (Former Plant 3 South)
- Area 2 (North of Building 30)
- Area 3 (Former Plant 3 East)
- Area 4 (LNAPL Plume)

The locations of Areas 1 through 4 are presented on Figure 4.

Area 1 consists of the southern portion of the former Plant 3 interior. PCBs are present in soil at a depth of 12 to 14 feet below ground surface (bgs) at concentrations in exceedance of DCC in Area 1. The DCC exceedance in Area 1 is present beneath the concrete floor slab (currently remaining in place from building demolition), and as such, does not pose a threat to human health under normal operations without construction.

Area 2 consists of a sparsely vegetated grassy/bare soil area north of Building 30. Semi-volatile organic compounds (SVOCs) including anthracene, fluoranthene, and pyrene are present in soil at concentrations exceeding GCPC in Area 2 at a depth of 10 feet bgs. SVOCs including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3 cd)pyrene are present in soil at a depth of 10 feet bgs at concentrations exceeding DCC in Area 2. Phenanthrene is present in soil at a depth of 10 feet bgs at a concentration that exceeds VSIC in Area 2. None of these exceedances were present in soil samples collected from 6 to 7 feet bgs in Area 2 (i.e., in the interval above the impacted soil). The soil exceedances in Area 2 are present 10 feet beneath an area of bare soil with some sparse vegetation, and as such, does not pose a threat to human health under normal operations without construction.

Area 3 consists of the eastern portion of the former Plant 3 interior. SVOCs including benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, and chrysene are present in groundwater screened at a depth of 8 to 16 feet bgs at concentrations exceeding GCC in Area 3. The GCC exceedances in Area 3 are present beneath the concrete floor slab of the former Plant 3 (currently remaining in place from building demolition), and as such, do not pose a threat to human health under normal operations without construction.

Area 4 consists of an LNAPL Plume delineated using LIF. The LNAPL Plume is considered to be a middle distillate such as diesel fuel, kerosene, or similar material. Additionally, there is an abundance of isoprenoids and a lack of normal alkanes in the sample, indicating that the fuel has undergone substantial biological degradation over time. The LNAPL Plume is present beneath the former Plant 3 concrete floor slab (currently remaining in place from building demolition) and a paved area immediately north of the former Plant 3, and as such, Area 4 does not pose a threat to human health under normal operations without construction.

3.2.1 LEGACY DATA

In addition to the data presented in Tables 1 and 2 collected during the Phase II ESA by CRA, a review of available historical data related to Site soil and groundwater was conducted to determine if exceedances of Industrial and Commercial Criteria (from a due care perspective) existed. The results of the historical data review indicated that no constituents were present in soil or groundwater at concentrations exceeding the relevant Industrial and Commercial Criteria with exception of ethylbenzene and xylene in soil and benzene in groundwater south of Plant 3. The area of the groundwater exceedance was subsequently remediated in the 1990s. The exact locations of the historical ethylbenzene and xylene impacts are unknown; however, the suspected area south of Plant 3 was investigated during the Phase II ESA by CRA and the results did not confirm the presence of any remaining legacy ethylbenzene or xylene impacts. Thus, the historical data is not evaluated further for the purposes of this Report.

3.3 USTS AND ABANDONED OR DISCARDED CONTAINERS

As required by the Part 10 rules promulgated under the authority of Michigan Act 451 Part 201, all known abandoned aboveground storage tanks (ASTs), underground storage tanks (USTs), containers, or other receptacles containing hazardous substances are to be managed in a manner that can be reasonably expected to prevent a release which may become injurious to human health or the environment. There are no abandoned ASTs or abandoned substances present at the property. Miscellaneous 55-gallon drums staged inside Building 30 are presently being evaluated/inventoried for future off Site disposal and as such are not considered abandoned.

Based on a review of historical information available for the Site, 32 USTs may have been in use at the Site in the early to mid 1900s as part of operations associated with previous Site owners or operations in the area of former Plant 1. The status of these USTs was unknown at the time of the Phase I ESA by CRA; however, each UST was associated with a former operation for which the infrastructure no longer exists. All known, registered USTs were removed by GM prior to recent demolition of the remaining Plants (Plants 3 to 5). During the Phase II ESA conducted by CRA, soil borings and monitoring wells were installed in the subsurface areas in the vicinity of the potential historical USTs to confirm or deny the presence of the USTs and to determine if any significant environmental impact existed within the subsurface as a result of a release from the USTs. Based on the results of the Phase II ESA, the presence of historical USTs was not confirmed by field observations or by analytical data.

Based on the above information, the presence of potential historical USTs was not confirmed during the Phase II ESA. Accordingly, MLC does not have current knowledge of the presence of any potential historical USTs; therefore, the potential historical USTs are not considered to be abandoned or discarded containers.

3.4 DETAILS OF HAZARDOUS SUBSTANCE CONCENTRATION, FATE, AND TRANSPORT

Based on a review of the Phase II ESA, the Site geologic and hydrogeologic framework is summarized as follows:

- The Site geologic setting is primarily dominated by a sand and gravel fill layer, underlain by native clay/silt glacial deposits, underlain by bedrock.
- The water table is found at depths from 1.5 to 15.5 feet bgs within the fine grained material and the sand layers of the clay/silt glacial deposits.
- Groundwater flow in the shallow system is mainly to the north northwest at an average horizontal hydraulic gradient of 0.01 to 0.02.
- The horizontal groundwater flow velocity would be 0.2 feet/day or 73 feet/year in the fine grained silty material. The horizontal groundwater flow velocity would be 0.0002 feet/day or 0.07 feet/year within the clay and silt of the clay/silt glacial deposits.

- The clay till has a vertical hydraulic conductivity of approximately 1.0×10^{-7} centimeters per second, thereby prohibiting the downward migration of groundwater (e.g. the clay acts as an aquitard).
- Groundwater flux within the upper 15 feet of the clay/silt glacial deposits would be about 0.0002 to 0.2 gallons per minute, per linear foot perpendicular to groundwater flow for the fine grained and sand layers, respectively.

The concentrations of substances present in soil and groundwater are presented in Tables 1 and 2, respectively. The fate of these substances is governed by the physical/chemical characteristics of the individual substances, and physical/geochemical properties of the Site. PCBs at the Site will largely remain in their current distribution due to their relatively stable and immobile nature, and the lack of significant forces that would cause them to move elsewhere (the paved land surface does not promote overland runoff; the PCBs are located well below a concrete slab; the groundwater has a low hydraulic conductivity). SVOCs are at, or will reach, an equilibrium condition between transport forces (volatilization to atmosphere; percolation of precipitation to the groundwater) and decomposition forces (biodegradation; oxidation, etc.). Given that no further release and loading of SVOCs to Site soil is anticipated, no further significant distribution of these substances beyond their current location is expected (i.e., SVOC distribution is expected to be at a steady state or reducing condition). The SVOCs will slowly biodegrade at the Site.

3.5 EXPOSURE PATHWAYS

The exposure pathways are presented in the following sections. These exposure pathways were selected based on a review of the exposure pathway guide sheets presented in the "*DEQ Training Material for Part 201, Cleanup Criteria*", with considerations given to Site-specific conditions such as current and anticipated land use, determination that groundwater is or is not in an aquifer, and other relevant conditions. It should be noted that the following pathway analyses are based on the current environmental setting.

3.5.1 SOURCE CONTROL AND EXISTING CONTAMINATION

The impacts identified consist of SVOCs and PCBs caused by historical releases from on-Site sources. No current on-Site releases are ongoing or threatened. Given the nature

and fate of contamination at the Site and the anticipation that no future releases will occur, source control has been achieved.

3.5.2 DRINKING WATER EXPOSURE

Groundwater has been identified at the Site at depths ranging from 1.5 to 18.5 feet bgs within the fine grained material and the sand layers of the clay/silt glacial deposits and is considered groundwater in an aquifer. As groundwater is in an aquifer, the pathway is considered relevant. However, as the Site is provided drinking water exclusively by a municipal system, the exposure pathway is not applicable.

With the presence and exclusive use of the municipal drinking water system, ingestion of contaminated groundwater will not occur on Site. As such, DWC are not shown in Table 2 for comparison to constituent concentrations. It should be noted, however, that values reported for various constituents do exceed DWC. MLC would consider a deed restriction of on-Site potable groundwater use if a Remedial Action Plan (RAP) was prepared for the Site.

3.5.3 DERMAL EXPOSURE

As indicated in Table 1, there are known soil constituent exceedences of DCC at the Site. Accordingly, direct contact with potentially impacted soil is a relevant and applicable exposure pathway in areas not beneath Site buildings, concrete slabs, and/or pavement.

Groundwater has been identified at the Site at depths ranging from 1.5 to 18.5 feet bgs. As such, dermal exposure to groundwater contamination is a relevant and applicable pathway for construction and/or utility workers during potential future subsurface activities at the Site. As indicated in Table 2, there are known GCC exceedances at the Site. Accordingly, direct contact with potentially impacted groundwater is a relevant and applicable exposure pathway in areas not beneath Site buildings, concrete slabs, and/or pavement.

3.5.4 INHALATION OF INDOOR AIR CRITERIA

Based on the presence of buildings on Site, indoor air inhalation of volatile constituents from soil is a relevant and applicable pathway. However, as indicated in Table 1, there

are no known SVIIC exceedances at the Site. As such, there are no known indoor air inhalation risks associated with the groundwater contamination. Therefore, this exposure pathway has been eliminated from further consideration.

Based on the presence of buildings on Site, indoor air inhalation of volatile constituents from groundwater is a relevant and applicable pathway. However, as indicated in Table 2, there are no known GVIIC exceedances at the Site. As such, there are no known indoor air inhalation risks associated with the groundwater contamination. Therefore, this exposure pathway has been eliminated from further consideration.

3.5.5 INHALATION OF AMBIENT AIR EXPOSURE

Contaminants in soil have the potential to volatilize to ambient air and also migrate through particulate emissions (i.e., fugitive dust) at the Site. Therefore, this pathway is relevant and applicable.

As indicated in Table 1, there are known exceedences VSIC at the Site. Accordingly, particulate inhalation from soil is a relevant and applicable exposure pathway in areas not beneath Site buildings and/or pavement.

3.5.6 SURFACE WATER AND SEDIMENT EXPOSURE

There are no surface water bodies present at the Site. As no surface water features are located on Site, exposure to surface water potentially affected by soil contamination that has leached to groundwater cannot occur.

The Site does not contain a significant amount of exposed soil that would be prone to erosion. The majority of the property is adequately covered by buildings, pavement, or vegetation. Based on Site conditions, risk of contaminated soil runoff to surface waters is not a significant concern.

There are no known locations of sediment throughout the Site. Consequently, surface water sediment contamination risks are not a concern.

3.5.7 ACUTE TOXIC AND PHYSICAL HAZARD RISKS

To evaluate acute toxicity and physical hazards, consideration should be given to those parameters that are present in soil at concentrations approaching or exceeding soil saturation (C_{sat}) levels (which would suggest the potential presence free product). Also, concentrations of constituents in groundwater approaching FESL and AISL levels should be considered. Based on the analytical results presented in Tables 1 and 2, there are no exceedences of C_{sat}, FESLs, or AISLs at the Site. However, LNAPL is present in the subsurface in Area 4. Therefore, there are potential acute toxic or physical hazard risks present in Area 4.

3.5.8 SUMMARY OF RELEVANT EXPOSURE PATHWAYS

Based on the use of the Site (industrial/commercial; currently vacant with the exception of temporary equipment storage), for the purpose of this Report, soil and groundwater analytical results were evaluated against applicable Industrial and Commercial Criteria. Criteria protective of the drinking water and GSI pathways were not used for comparison due to the presence and exclusive use of municipal drinking water, and the lack of a surface water body. To ensure protection of the drinking water pathway, the Site will maintain use of the municipal system and no drinking water wells will be installed at the Site. In addition, MLC would consider a deed restriction on potable groundwater use if there is a RAP prepared for the Site.

Tables 1 and 2 present the results of the soil and groundwater analytical data comparison to the applicable Industrial and Commercial Criteria. Soil constituent exceedances present potential unacceptable exposure risks with respect to GCPC, DCC, and VSIC. Groundwater constituent exceedances present potential unacceptable exposure risks with respect to GCC. Additionally, LNAPL provides a potential acute toxic or physical hazard risks present in Area 4. Section 4.0 describes the Response Activities (RAs) that address these potential risks.

3.6 POTENTIAL FIRE OR EXPLOSION HAZARDS

There are no known conditions that may result in fire and/or explosion hazards under normal operating conditions. There are also no known chemically incompatible materials that are in proximity to each other on the Site.

LNAPL bailed from the subsurface is stored in a drum with an overpack in Building 30. Although it is not anticipated that the contents of the drum are explosive under normal operating conditions, MLC has the drum grounded as a precautionary measure. Based on the LNAPL analysis conducted by CRA during Phase II ESA activities, there would not be a significant volatile fraction of LNAPL constituents present in the drum. This drum will remain grounded until removed off Site for disposal as liquid industrial waste.

4.0 RESPONSE ACTIVITIES

As summarized throughout Section 3.0, constituents present in soil at concentrations exceeding DCC were encountered at the Site in Areas 1 and 2. The depths of these exceedances ranged from 10 to 14 feet bgs. Each location at which DCC exceedances exist is currently situated below a concrete slab remaining from a demolished building or beneath soil that does not appear to be impacted by constituents exceeding DCC and therefore, during normal Site operations, direct contact exposure is not a concern.

GCPC and GCC exceedances in soil and groundwater were encountered at the Site in Areas 2 and 3. The depths of these exceedances ranged from 8 to 16 feet bgs. Each location at which GCPC or GCC exceedances exist is currently situated below a concrete slab remaining from a demolished building or beneath soil that does not appear to be impacted by constituents exceeding GCPC or GCC and therefore, during normal Site operations, direct contact exposure is not a concern.

However, for situations where contact with contaminated soil or groundwater (DCC, GCPC, and GCC) is possible, (i.e., during future subsurface construction or utility work) RAs are necessary. The RA for potential unacceptable dermal exposures to contaminated soil consists of communication of potential exposures with construction and/or utility workers, oversight by an environmental professional during intrusive activities, and by employment of a Health and Safety Plan (HASP). If intrusive activities will be conducted, unacceptable exposure will be mitigated by notifying workers of the impacted areas. Additionally, any such soils will be screened, handled, removed, analyzed, and disposed of under the supervision of an environmental professional and performed in accordance with applicable federal, state, and local rules and regulations including 29 CFR 1910 and 1926 (Health and Safety). These actions ensure that appropriate regulatory and health and safety practices will be followed and provide for an effective and reliable means of mitigating potentially unacceptable dermal exposures to contaminated soil.

As summarized throughout Section 3.0, a VSIC exceedance in soil was encountered at the Site in Area 2. The VSIC soil exceedance in Area 2 is located 10 feet bgs beneath soil that does not appear to be impacted by constituents exceeding VSIC, and as such do not pose a threat to human health under normal operating conditions. In the event that intrusive activities will occur in Area 2, communication of potential exposures with construction and/or utility workers, oversight by an environmental professional during intrusive activities, and employment of a HASP will be completed to mitigate

unacceptable exposures. Further protective measures may be required, and would be evaluated in the event that intrusive activities will occur.

As summarized throughout Section 3.0, Area 4 consists of an LNAPL plume. The LNAPL plume is currently being passively remediated by extracting LNAPL from a monitoring well on a quarterly basis. LNAPL that is removed from the subsurface is temporarily stored in a drum located inside Building 30. MLC is presently evaluating the future remedial strategy for the LNAPL. Based on current conditions, the RA for potential unacceptable exposures to LNAPL consists of communication of potential exposures with construction and/or utility workers, oversight by an environmental professional during intrusive activities (including rudimentary soil gas screening or headspace screening), and by employment of a HASP.

In addition to the RAs above, the Site is presently enclosed by a perimeter security fence, which prevents access to the Site by trespassers. MLC also contracts the services of a security guard that patrols the Site to ensure Site conditions remain unchanged, the perimeter fence remains in good condition, and that trespassing does not occur.

These RAs are based on current Site use. Should the use or intended use of the Site change, these RAs will be re-evaluated.

4.1 NOTIFICATION OF DISCARDED OR ABANDONED CONTAINERS

According to Rule 299.51015, an owner or operator who is subject to Section 20107a must notify the MDEQ of the presence of discarded or abandoned containers which may become injurious to human health or the environment. As identified in Section 3.3, there are no known discarded or abandoned containers at the Site. As such, no notices are required.

4.2 NOTICE OF MIGRATION

There are no known subsurface impacts migrating off Site. Accordingly, a notice of migration does not need to be submitted at this time.

4.3 USE RESTRICTIONS

No use restrictions are required beyond operating the property consistent with uses anticipated under this Report (e.g., industrial/commercial Site use with municipal water supply).

**4.4 OPERATION AND MAINTENANCE AND MONITORING
PLANS**

No operation and maintenance or monitoring plans are required, with the exception of the quarterly LNAPL bailing and day to day security of the Site.

5.0 EVALUATION AND DEMONSTRATION OF COMPLIANCE WITH SECTION 20107A OBLIGATIONS

This Section presents an evaluation of the information presented in Sections 3.0 and 4.0 to demonstrate compliance with the obligations of the owner/operator under Section 20107a.

5.1 EXACERBATION

All known impacts identified by the Phase I and II ESAs by CRA are summarized in Section 3.0. No activities are anticipated which would move or affect soil and groundwater such that the extent of contamination, or costs to address it, would be increased.

No construction activities are currently planned that would disturb the subsurface. However, if the intrusive activities are necessary, impacted soils or groundwater that are encountered will be screened, characterized, and disposed of appropriately, under the direct supervision of an environmental professional and performed in accordance with applicable federal, state, and local rules and regulations including 29 CFR 1910 and 1926 (Health and Safety). Additionally, potentially impacted soils and groundwater will not be spread, thus, preventing exacerbation of hazardous substances or associated response action costs.

5.2 DUE CARE

Based on potential unacceptable human exposures that exist on Site, certain RAs to meet due care obligations are required. As described in Section 4.0, the RAs will effectively mitigate potential unacceptable exposures.

It is important to note that due care obligations are based on the current environmental setting, the intended land use (i.e., industrial/commercial), and the presence of a municipal water supply. Should any of these circumstances change, due care obligations will need to be re-evaluated.

5.2.1 COMMUNICATION OF EXPOSURE AND NOTICE REQUIREMENTS

Areas of known impacts are covered with paved parking/roadways, concrete building floors, and soil covered areas. If current configuration of the Site is maintained, there are no known unacceptable exposures from the contamination to the identified receptors. However, if the ground cover is significantly disturbed (e.g., excavation for new construction, utility work, etc.), due care should be exercised to minimize the risk of unacceptable exposures. Site personnel are responsible for bringing these projects to the attention of the MLC Project Manager. The procedures to assess the soil in areas where soil is proposed to be disturbed are:

1. Prior to ground cover disturbance, contact the MLC Project Manager (Mr. Robert Hare, 313-486-2928) to review the project objectives and determine the extent of disturbance.
2. Based on the characteristics of the impacts and nature of the disturbance, the MLC Project Manager will determine the type and extent of evaluation required to minimize the risk of unacceptable human exposure. This would include the preparation of a HASP for the required activity.
3. A copy of this Report and relevant subsurface data will be provided to the contractor management or maintenance workers whose activities involve significant ground cover disturbance.
4. Documentation of any new subsurface analytical data acquired will be maintained by the MLC Project Manager in the due care file.
5. Findings from any due care sampling will be reviewed by the MLC Project Manager to determine if this Report needs to be revised.

5.2.2 REASONABLE PRECAUTIONS

In accordance with Section 20107a, the owner or operator of a Facility (as defined by Act 451 Part 201) is required to take reasonable actions against the reasonably foreseeable acts or omissions of a third party. As an indication that Section 20107a compliance requirements will be met, RAs are in place (see Section 4.0), no drinking water wells are or will be installed at the Site, and MLC commits to notifying any potential subsurface workers of subsurface impacts.

Other than hazards routinely associated with industrial and commercial activities (vehicle traffic, sidewalk activity, etc.) there are no intrinsically hazardous conditions that require action to prevent harm due to acts or omissions of a third party.

6.0 RULE 1003(5)(A) COMPLIANCE SUMMARY

**6.1 IDENTIFICATION OF EXPOSURE PATHWAYS -
RULE 1003(5)(a)(i)**

Exposure pathways are described in Section 3.0

**6.2 CONCENTRATIONS OF HAZARDOUS SUBSTANCES -
RULE 1003(5)(a)(ii)**

Information regarding the concentrations of hazardous substances are presented in Tables 1 and 2.

6.3 RESPONSE ACTIVITIES - RULE 1003(5)(a)(iii)

Descriptions of response activity or other measures that mitigate any potential unacceptable exposures are provided in Section 4.0.

6.4 RECORDS OF RESPONSE ACTIVITIES - Rule 1003(5)(a)(iv)

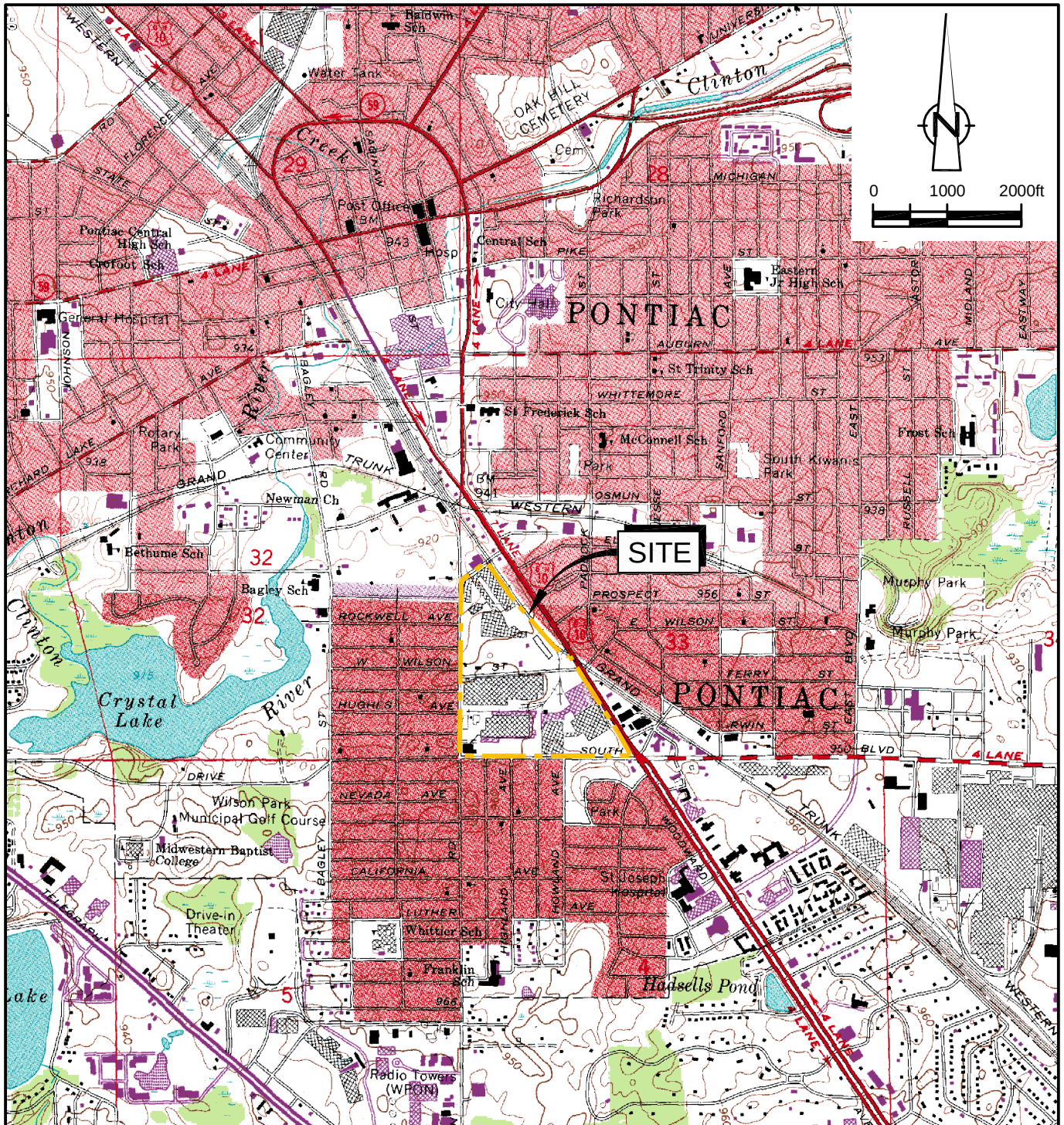
Records regarding Site response activities are provided as discussed in this document, and are available from the MLC Project Manager.

6.5 COPIES REQUIRED FOR NOTICES - Rule 1003(5)(a)(v)

There are no holders of easement rights in areas of the property with constituent concentrations that hold the potential for unacceptable exposures; thus, notification to easement holders is not required. MLC does not believe available information provides a reason to believe substances are moving off the property at concentrations exceeding relevant criteria. As discussed in Sections 3.3 and 4.1, there are no abandoned containers present for which notification is required.

7.0 REFERENCES

- CRA, Phase I Environmental Site Assessment, General Motors Pontiac Centerpoint Campus – Validation Center, Pontiac, Michigan, October 2006
- CRA, Phase II Environmental Site Assessment, General Motors Pontiac Centerpoint Campus – Validation Center, Pontiac, Michigan, April 2009



SOURCE: USGS QUADRANGLE MAPS;
PONTIAC NORTH AND SOUTH, MICHIGAN; 1968

LEGEND

— — — — — APPROXIMATE SITE BOUNDARY

DRAFT

PRIVILEGED AND CONFIDENTIAL
PREPARED AT THE REQUEST OF COUNSEL

figure 1

SITE LOCATION MAP
DOCUMENTATION OF COMPLIANCE WITH SECTION 7A (DUE CARE)
PONTIAC VALIDATION CENTER
200 South Boulevard West, Pontiac, Michigan





SOURCE: THE EDR AERIAL DECADE PHOTO PACKAGE;
ENVIRONMENTAL DATA RESOURCES INC.;
JUNE 30, 2006

LEGEND

--- APPROXIMATE SITE BOUNDARY

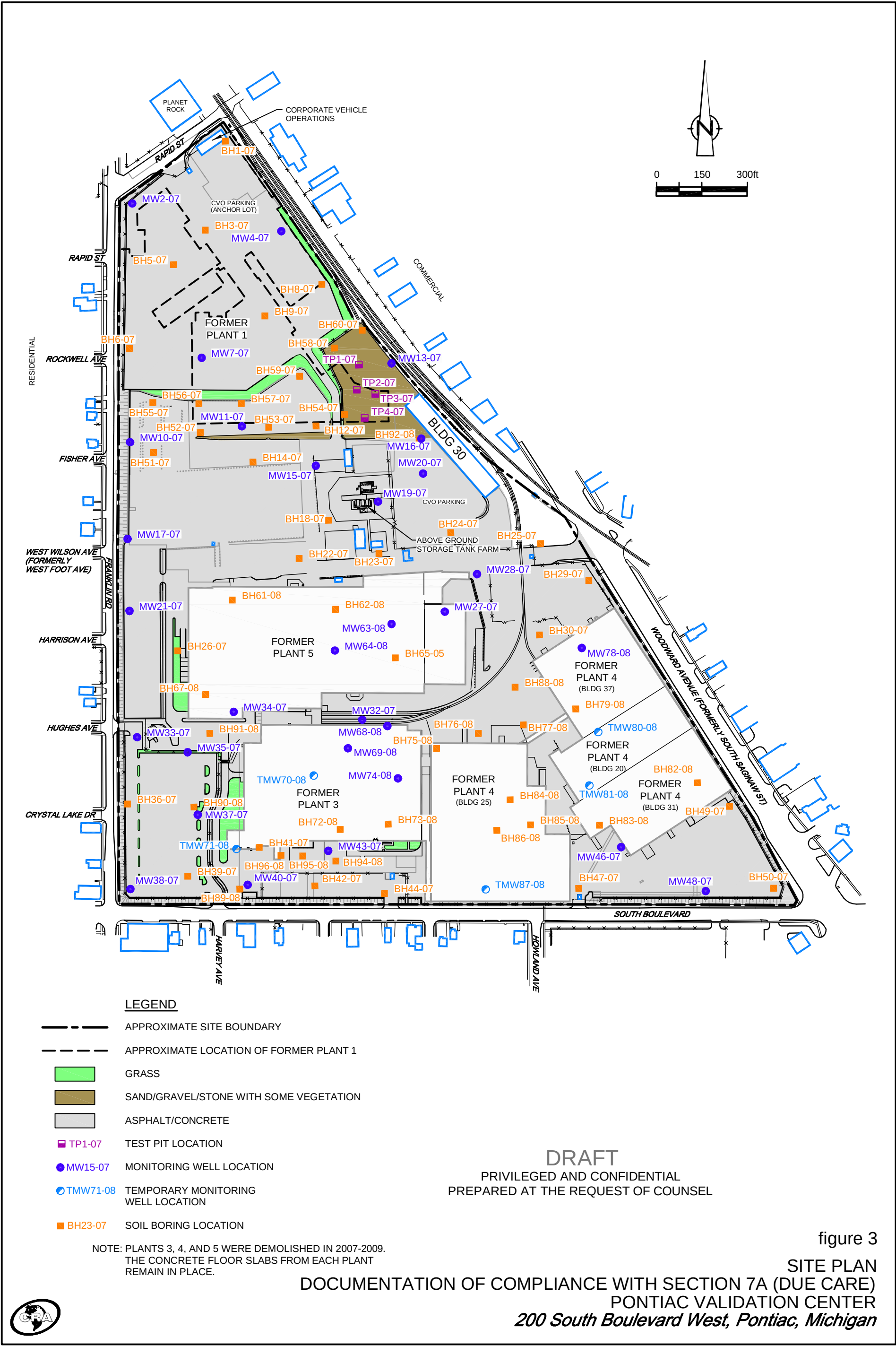
DRAFT

PRIVILEGED AND CONFIDENTIAL
PREPARED AT THE REQUEST OF COUNSEL

figure 2

1964 HISTORICAL AERIAL PHOTOGRAPH
DOCUMENTATION OF COMPLIANCE WITH SECTION 7A (DUE CARE)
PONTIAC VALIDATION CENTER
200 South Boulevard West, Pontiac, Michigan





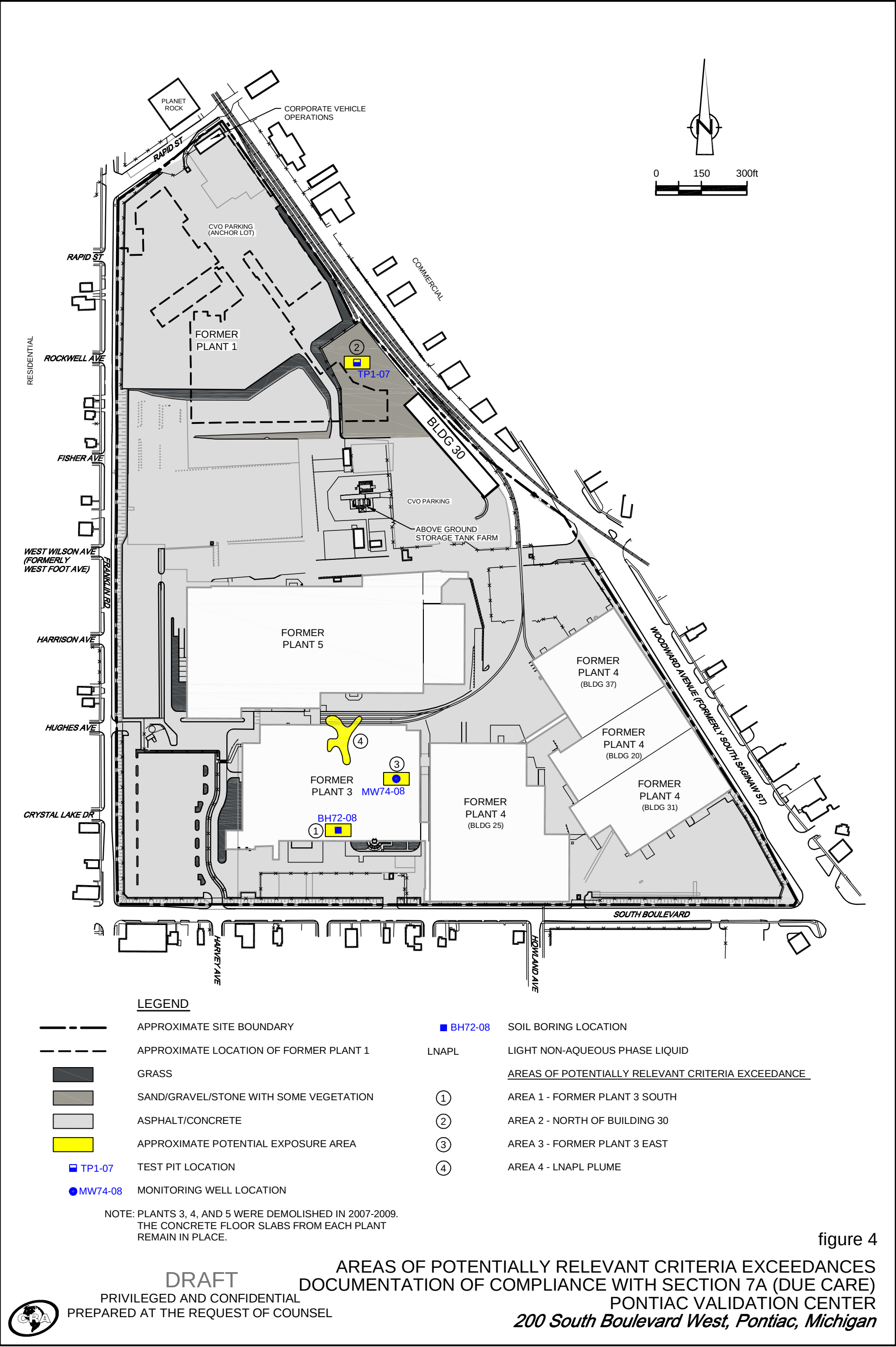


figure 4

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		BH-1-07 (8-10) SO-17322-120707-CB-141 12/07/2007 Clay		MW-2-07 (11.75-13.75) SO-17322-101207-CB-044 10/12/2007 Clay		MW-4-07 (15-17) SO-17322-101107-CB-028 10/11/2007 Clay		BH-6-07 (0-2) SO-17322-101207-CB-036 10/12/2007 Clay		BH-6-07 (0-2) SO-17322-101207-CB-037 10/12/2007 Clay (Duplicate)		MW-11-07 (0-2) SO-17322-101607-CB-056 10/16/2007 Clay		MW-13-07 (0-2) SO-17322-101807-CB-085 10/18/2007 Clay		MW-13-07 (0-2) SO-17322-101807-CB-086 10/18/2007 Clay (Duplicate)		
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels								
Parameter: SVOCs	Units	a.1	a.2	a.3	b	c	d	e	f	g								
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	0.0073 U	--	0.0073 U	0.015	0.017	0.0077 U	0.032 U	0.035 U
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0073 U	--	0.0073 U	0.083	0.15	0.015	0.032 U	0.035 U
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	0.0073 U	--	0.0073 U	0.11	0.18	0.0077 U	0.032 U	0.035 U
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	0.0073 U	--	0.0073 U	0.21	0.18	0.022	0.032 U	0.035 U
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	0.0073 U	--	0.0073 U	0.12	0.14	0.0088	0.11	0.059
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	0.0073 U	--	0.0073 U	0.068	0.2	0.0085	0.032 U	0.035 U
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	0.0073 U	--	0.0073 U	0.12	0.21	0.023	0.032 U	0.035 U
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	0.0073 U	--	0.0073 U	0.033	0.0073 U	0.0077 U	0.032 U	0.035 U
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	0.0073 U	--	0.0073 U	0.13	0.26	0.052	0.15	0.12
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0073 U	--	0.0073 U	0.082	0.1	0.0077 U	0.095	0.035 U
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	0.033	--	0.0073 U	0.049	0.072	0.027	0.1	0.061
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	0.0073 U	--	0.0073 U	0.12	0.2	0.065	0.15 J	0.075 J
Metals																		
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	4760	--	3730	5220	4550	8090	6320	8190
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.18 UJ	--	0.18 UJ	0.16 J	0.13 J	0.18 UJ	1.5 J	2.5 J
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	3.2	3.8	3.3	5.0	5.3	6.4	6.9	3.8
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	24.9 J	--	23.5	26.4	24.6	61.7	84.6 J	114 J
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.18 UJ	--	0.18 U	0.18 U	0.17 U	0.51	0.10 J	0.14 J
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.098	--	0.088 U	0.088 U	0.087 U	0.30	1.5 J	7.8 J
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	8.6 J	--	9.7	8.0	9.9	14.7	18.3	22.9
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	8.6 J	--	8.0	7.5	9.1	14.7	16.6	21.8
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	0.88 UJ	--	0.88 U	2.3	0.76 J	0.92 U	1.7	1.2
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	5.3 J	--	4.3	5.2	4.6	12.4	8.2	7.2
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	14.3	--	9.4	15.5	14.0	67.1 J		113 J
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	10700	--	8960	11100	10100	16200	38700	17100
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	5.7	--	5.3	13.2	18.8	7.1	242	446
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	12900 J	--	23200	15600	11000	14200 J	11100 J	6070 J
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	288	--	235	304	275	452	469	317
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	62	8800	580	--	0.019 J	--	0.014 J	0.032 J	0.027 J	0.046 U	0.44 J	0.39
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	13.7	--	11.3	13.8	21.5	20.0		28.8
Selenium	mg/kg	0.41	0.922	0.803	59000	NLV	NLV	59000	9600	--	0.54	--	0.34	0.19 U	0.17 J	0.20 U	0.33	0.15 J
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.056 J	--	0.059 J	0.062 J	0.063 J	0.092 U	0.13	0.15
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	118	--	115	569	494	400	182	192
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.18	--	0.14	0.18	0.15	0.19	0.22	0.17
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	12.4	--	12.4	15.1	13.7	20.7	17.9	20.0
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	23.8	--	8.6 J	33.7 J	34.4 J	40.2 J	122	79.0
PCBs																		
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.036 U	--	0.036 U	0.017 J	0.036 U	0.038 U	0.039 U	0.035 U
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.036 U	--	0.036 U	0.0225	0.036 U	0.038 U	0.039 U	0.035 U
General Chemistry																		
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	0.22 UJ	--	0.68	0.22 U	0.22 U	0.23 U	0.24 U	0.21 U

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated

value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

Notes:

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		MW-13-07 (7-9) SO-17322-101807-CB-087 10/18/2007 Clay		BH-14-07 (0-2) SO-17322-101607-CB-051 10/16/2007 Clay		MW-15-07 (0-2) SO-17322-101607-CB-053 10/16/2007 Clay		MW-16-07 (0-2) SO-17322-101707-CB-083 10/17/2007 Clay		BH-18-07 (0-2) SO-17322-101607-CB-064 10/16/2007 Clay		MW-21-07 (0-2) SO-17322-120307-CB-091 12/03/2007 Clay		BH-22-07 (0-2) SO-17322-120707-CB-131 12/07/2007 Clay		BH-24-07 (0-2) SO-17322-101707-CB-073 10/17/2007 Clay			
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels									
Parameter: SVOCs		Units	a.1	a.2	a.3	b	c	d	e	f	g								
Anthracene	mg/kg	--	--	--	--	41	1000000 D	1600000	29000000	730000	--	--	0.0078 U	0.0076 U	0.15 U	0.014	0.0079	0.0078 U	0.0077 U
Benzo(a)anthracene	mg/kg	--	--	--	--	NLL	NLV	NLV	ID	80	--	--	0.0078 U	0.0076 U	0.15 U	0.02	0.025	0.0078 U	0.03
Benzo(a)pyrene	mg/kg	--	--	--	--	NLL	NLV	NLV	1900	8	--	--	0.0078 U	0.0076 U	0.15 U	0.017	0.021	0.0078 U	0.027
Benzo(b)fluoranthene	mg/kg	--	--	--	--	NLL	ID	ID	ID	80	--	--	0.0081	0.0076 U	0.15 U	0.02	0.032	0.0078 U	0.036
Benzo(g,h,i)perylene	mg/kg	--	--	--	--	NLL	NLV	NLV	350000	7000	--	--	0.0078 U	0.0076 U	0.15 U	0.011	0.018	0.0078 U	0.021
Benzo(k)fluoranthene	mg/kg	--	--	--	--	NLL	NLV	NLV	ID	800	--	--	0.0078 U	0.0076 U	0.15 U	0.0097	0.011	0.0078 U	0.015
Chrysene	mg/kg	--	--	--	--	NLL	ID	ID	ID	8000	--	--	0.0078 U	0.0076 U	0.15 U	0.021	0.027	0.0078 U	0.03
Dibenzo(a,h)anthracene	mg/kg	--	--	--	--	NLL	NLV	NLV	ID	8	--	--	0.0078 U	0.0076 U	0.15 U	0.0075 U	0.0075 U	0.0078 U	0.0077 U
Fluoranthene	mg/kg	--	--	--	--	730	1000000 D	890000	4100000	130000	--	--	0.011	0.0076 U	0.15 U	0.055	0.062	0.0078 U	0.062
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	--	NLL	NLV	NLV	ID	80	--	--	0.0078 U	0.0076 U	0.15 U	0.0093	0.012	0.0078 U	0.016
Phenanthrene	mg/kg	--	--	--	--	1100	5100	190	2900	5200	--	--	0.0091	0.0076 U	0.15 U	0.062	0.029	0.0078 U	0.03
Pyrene	mg/kg	--	--	--	--	480	1000000 D	780000	2900000	84000	--	--	0.01	0.0076 U	0.15 U	0.044	0.039	0.0078 U	0.055
Metals																			
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	--	4120	7460	4050	9220	7350	10700	8170	
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	--	5.5 J	0.18 UJ	0.18 UJ	0.18 UJ	0.072 J	0.22 UJ		
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	--	5.5	1.5	4.4	6.1	5.0	4.5		
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	--	71.6	38.0	34.9	38.8	35.1	71.2 J	77.0	
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	--	0.41	0.44	0.11 J	0.46	0.18 U	0.35 J	0.13 J	
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	--	0.28	0.25	0.062 J	0.26	0.31	0.093 U	0.084 J	
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	--	10.9	13.1	8.5	14.8	12.3	17.9 J	13.8	
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	--	10.3	12.7	7.8	14.3	11.6	17.1 J	13.8	
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	--	0.57 J	0.36 J	0.92 U	0.90 U	0.72 J	0.78 J	0.93 U	
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	--	5.2	7.0	6.1	8.0	5.7	9.1 J	6.4	
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	--	284	14.7	27.5	13.4	12.3	14.3	22.9	
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	--	7280	14500	12300	14800	12900	19600	15000	
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	14.5 J	301	6.6	14.3	10.3	8.8 J	12.5	25.4	
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--	
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--	
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--	
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	--	830 J	11700 J	10800 J	3040 J	10500 J	2880 J	8400 J	
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	--	441	344	339	194	294	427	335	
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	NLV	8800	580	--	--	0.034 J	0.023 J	0.046 U	0.026 J	0.017 J	0.045 J	0.036 J	
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	--	7.0	16.6	13.0	14.6	13.4	22.0	17.4	
Selenium	mg/kg	0.41	0.922	0.803	78000	NLV	NLV	59000	9600	--	--	0.37	0.19 U	0.12 J	0.19 U	0.12 J	0.19 U	0.20 U	
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	--	0.094 U	0.091 U	0.086 J	0.090 U	0.059 J	0.077 J	0.10	
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	--	431	231	129	876	531	2950	1060	
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	--	0.11 U	0.091 U	0.14 J	0.19	0.10	0.17	0.18 J	
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	--	23.7	19.7	12.4	22.2	17.2	23.6	19.4	
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	--	25.4 J	9.9 J	44.1 J	43.8 J	28.6 J	40.5	65.5 J	
PCBs																			
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	--	0.039 U	0.037 U	0.038 U	0.037 U	0.037 U	0.038 U	0.026 J	
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	--	0.039 U	0.037 U	0.038 U	0.037 U	0.037 U	0.038 U	0.0315	
General Chemistry																			
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	--	0.23 U	0.23 U	0.23 U	0.22 U	0.23 UJ	0.23 U	0.23 U	

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		BH-29-07 (0-2) SO-17322-101707-CB-080 10/17/2007 Clay		MW-33-07 (8-10) SO-17322-120307-CB-095 12/03/2007 Clay		MW-34-07 (0-2) SO-17322-120407-CB-108 12/04/2007 Clay		BH-36-07 (8-10) SO-17322-120307-CB-098 12/03/2007 Clay		BH-36-07 (13.5-15.5) SO-17322-120307-CB-099 12/03/2007 Clay		MW-37-07 (0-2) SO-17322-120307-CB-102 12/03/2007 Clay		BH-44-07 (0-2) SO-17322-120607-CB-128 12/06/2007 Clay		MW-46-07 (9-10) SO-17322-100907-CB-013 10/09/2007 Clay		
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels								
Parameter:	Units	a.1	a.2	a.3	b	c	d	e	f	g								
SVOCs																		
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	0.0075 U	0.0076 U	0.0078 U	0.0076 UJ	0.0076 UJ	0.074 U	0.0075 U	
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0075 U	0.0076 U	0.015	0.0076 UJ	0.0076 UJ	0.16	0.0075 U	
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	0.0075 U	0.0076 U	0.012	0.0076 UJ	0.0076 UJ	0.12	0.0075 U	
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	0.0075 U	0.0076 U	0.013	0.0076 UJ	0.0076 UJ	0.25	0.0075 U	
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	0.0075 U	0.0076 U	0.012	0.0076 UJ	0.0076 UJ	0.074 U	0.0075 U	
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	0.0075 U	0.0076 U	0.0078 U	0.0076 UJ	0.0076 UJ	0.074 U	0.0075 U	
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	0.0075 U	0.0076 U	0.023	0.0076 UJ	0.0076 UJ	0.17	0.0075 U	
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	0.0075 U	0.0076 U	0.0078 U	0.0076 UJ	0.0076 UJ	0.074 U	0.0075 U	
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	0.0075 U	0.0076 U	0.023	0.0076 UJ	0.0076 UJ	0.37	0.0075 U	
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0075 U	0.0076 U	0.0078 U	0.0076 UJ	0.0076 UJ	0.074 U	0.0075 U	
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	0.0075 U	0.0076 U	0.099	0.0076 UJ	0.0076 UJ	0.19	0.0075 U	
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	0.0075 U	0.0076 U	0.028	0.0076 UJ	0.0076 UJ	0.32	0.0075 U	
Metals																		
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	9940	8520	9010	8320	7230	7110	5300	6240
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.18 UJ	0.081 J	0.16 J	0.087 J	0.079 J	0.53 J	0.46 J	0.067 J
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	4.6	3.2	4.1	5.3	6.5	3.5	2.0	2.2 J
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	59.5	43.4	40.1	54.9	34.9	58.8	92.5 J	42.5
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.14 J	0.15 J	0.53 J	0.19	0.17 J	0.25	0.19 UJ	0.16 J
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.090 U	0.12 U	0.16	0.29 J	0.22 J	0.49	0.47	0.091
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	17.8	15.3 J	14.9	15.2 J	11.9 J	17.6	12.4 J	12.3 J
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	16.3	15.3 J	14.3	13.4 J	11.1 J	17.6	10 J	12.3 J
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	1.4	0.92 U	0.60 J	1.8	0.83 J	0.89 U	2.4	0.89 U
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	9.3	7.5	8.1 J	7.5 J	6.1 J	8.3	5.8 J	6.4 J
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	15.1	15.3	16.1	15.8 J	13.1 J	142	30.4	17.3 J
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	19500	16400	17400	19200	16100	16200	31900	17000
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	8.9	6.3	10.3 J	6.7	6.8	18.7 J	78.2	6.1
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	139	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	237	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	175	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	5520 J	14500 J	6840 J	14700	18200	10700 J	2410 J	15100 J
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	484	352	295	382	268	306	327	315
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	62	8800	580	--	0.020 J	0.046 U	0.10	0.045 U	0.045 U	0.024 J	0.17	0.021 J
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	19.8	19.0	19.0	21.6 J	17.3 J	13.3	10.3	17.1 J
Selenium	mg/kg	0.41	0.922	0.803	78000	NLV	NLV	59000	9600	--	0.11 J	0.19 U	0.20 U	0.19 U	0.19 U	0.27	0.16 J	0.19 U
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.069 J	0.074 J	0.13	0.096	0.099	0.094	0.16	0.10
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	1380	1210	167	1210	625	1040	937	1170
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.12 J	0.20	0.27	0.24	0.17	0.12	0.16	0.11
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	25.0	18.7	20.1	21.1 J	15.9 J	21.2	12.8	20.5 J
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	35.1 J	35.9	52.8	38.6 J	33.6 J	41.6 J	92.4	27.7 J
PCBs																		
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.037 U	0.038 U	0.038 U	0.037 UJ	0.038 U	0.04	0.039 U	0.037 U
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.037 U	0.038 U	0.038 U	0.037 U	0.038 U	0.054	0.039 U	0.037 U
General Chemistry																		
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	0.22 U	0.23 UJ	0.23 U	0.23 UJ	0.23 UJ	0.22 UJ	0.24 U	0.23 J

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated

value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

Notes:

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		MW-46-07 (9-10) SO-17322-100907-CB-014 10/09/2007 Clay (Duplicate)		BH-47-07 (8-10) SO-17322-100907-CB-010 10/09/2007 Clay		BH-50-07 (0-2) SO-17322-100907-CB-001 10/09/2007 Clay		BH-57-07 (0-2) SO-17322-101807-CB-088 10/18/2007 Clay		BH-61-08 (8-10) SO-17322-031008-CB-007 03/10/2008 Clay		BH-62-08 (9-11) SO-17322-031008-CB-005 03/10/2008 Clay		MW-63-08 (10-12) SO-17322-031008-CB-003 03/10/2008 Clay		MW-64-08 (10-11.75) SO-17322-031008-CB-012 03/10/2008 Clay		
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels								
Parameter:	Units	a.1	a.2	a.3	b	c	d	e	f	g								
SVOCs																		
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	0.0075 U	--	0.0075 U	0.41	0.0075 U	0.0077 U	0.0079 U	0.0073 U
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0075 U	--	0.045	0.87	0.0075 U	0.0077 U	0.0079 U	0.0073 U
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	0.0075 U	--	0.048	0.59	0.0075 U	0.0077 U	0.0079 U	0.0073 U
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	0.0075 U	--	0.058	0.9	0.0075 U	0.0077 U	0.0079 U	0.0073 U
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	0.0075 U	--	0.033	0.24	0.0075 U	0.0077 U	0.0079 U	0.0073 U
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	0.0075 U	--	0.027	0.35	0.0075 U	0.0077 U	0.0079 U	0.0073 U
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	0.0075 U	--	0.052	1.1	0.0075 U	0.0077 U	0.0079 U	0.0073 U
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	0.0075 U	--	0.0075 U	0.061	0.0075 U	0.0077 U	0.0079 U	0.0073 U
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	0.0075 U	--	0.081	3.8	0.0075 U	0.0077 U	0.0079 U	0.0073 U
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0075 U	--	0.029	0.25	0.0075 U	0.0077 U	0.0079 U	0.0073 U
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	0.0075 U	--	0.033	4.4	0.0075 U	0.0077 U	0.0079 U	0.0073 U
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	0.0075 U	--	0.071	2.8	0.0075 U	0.0077 U	0.0079 U	0.0073 U
Metals																		
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	5130	--	8250	7040	9680	6040	7110	6250
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.098 J	--	0.13 J	0.18 UJ	0.060 J	0.074 J	0.077 J	0.074 J
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	0.57 J	4.1	4.1	2.4	2.5 J	4.1 J	4.7 J	4.7 J
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	29.9	--	40.4	48.5 J	55.7	23.8	35.3	29.5
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.12 J	--	0.069 J	0.16 J	0.44	0.29	0.37	0.33
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.084 J	--	0.074 J	0.19 J	0.25	0.16	0.31	0.26
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	10.7 J	--	16.6 J	13.2	18.6	13.6	12.9	11.3
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	10.7 J	--	16.1 J	12.1	18.6	13.6	12.9	11.3
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	0.89 U	--	0.90 U	1.1 U	0.90 U	0.93 U	0.94 U	0.88 U
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	6.0 J	--	7.5 J	7.3	7.1	6.8	8.1	7.4
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	16.0 J	--	12.8 J	11.4 J	15.9	16.9	21.0	18.0
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	14300	--	19700	13500	14900	12400	18600	13900
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	5.8	--	15.3	9.8	7.4	9.4	8.2	6.9
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	14800 J	--	3890 J	2580 J	15700	11500	14200	13700
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	291	--	279	585	419	339	542	394
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	NLV	8800	580	--	0.018 J	--	0.046	0.053	0.025 J	0.046 U	0.020 J	0.044 U
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	15.0 J	--	16.9 J	13.1	22.2 J	19.2 J	21.8 J	19.2 J
Selenium	mg/kg	0.41	0.922	0.803	78000	NLV	NLV	59000	9600	--	0.21	--	0.19 U	0.18 J	0.55 J	0.72 J	0.86 J	0.65 J
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.078 J	--	0.077 J	0.13	0.022 J	0.026 J	0.035 J	0.034 J
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	1020	--	90.2 U	107	98.8	134	99.4	167
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.079 J	--	0.12	0.081 J	0.21	0.21	0.23	0.23
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	15.6 J	--	20.9 J	20.1	20.2	14.4	16.7	15.5
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	17.2 J	--	40.5 J	26.3	39.7 J	33.7 J	41.7 J	79.4 J
PCBs																		
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.037 U	--	0.037 U	0.01 J	0.037 U	0.038 U	0.039 U	0.036 U
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.037 U	--	0.037 U	0.0155	0.037 U	0.038 U	0.039 U	0.036 U
General Chemistry																		
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	0.48 J	--	0.23 U	0.23 U	0.23 U	0.23 U	0.24 U	0.22 U

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated

value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

Notes:

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		BH-65-08 (10-12) SO-17322-031108-CB-015 03/11/2008 Clay		BH-67-08 (8-10) SO-17322-031008-CB-009 03/10/2008 Clay		MW-68-08 (10-12) SO-17322-031208-CB-040 03/12/2008 Clay		MW-69-08 (12-14) SO-17322-031208-CB-043 03/12/2008 Clay		BH-72-08 (12-14) (8-10) SO-17322-031308-CB-053 03/13/2008 Clay		BH-73-08 (8-10) SO-17322-031408-CB-067 03/12/2008 Clay		BH-75-08 (8-10) SO-17322-031208-CB-037 03/12/2008 Clay		BH-76-08 (15.5-17.5) SO-17322-031108-CB-018 03/11/2008 Clay		
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels								
Parameter: SVOCs	Units	a.1	a.2	a.3	b	c	d	e	f	g								
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	0.0076 U	0.0075 U	0.0075 U	0.0074 U	0.39 U	0.0081 U	0.0075 U	
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0076 U	0.0075 U	0.0075 U	0.0074 U	0.39 U	0.0081 U	0.0075 U	
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	0.0076 U	0.0075 U	0.0075 U	0.0074 U	0.39 U	0.0081 U	0.0075 U	
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	0.0076 U	0.0075 U	0.0075 U	0.0074 U	0.39 U	0.0081 U	0.0075 U	
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	0.0076 U	0.0075 U	0.0075 U	0.0074 U	0.39 U	0.0081 U	0.0075 U	
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	0.0076 U	0.0075 U	0.0075 U	0.0074 U	0.39 U	0.0081 U	0.0075 U	
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	0.0083	0.0075 U	0.0075 U	0.0074 U	0.39 U	0.0081 U	0.0075 U	
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	0.0076 U	0.0075 U	0.0075 U	0.0074 U	0.39 U	0.0081 U	0.0075 U	
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	0.0076 U	0.0075 U	0.0075 U	0.0074 U	0.39 U	0.0081 U	0.0075 U	
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0076 U	0.0075 U	0.0075 U	0.0074 U	0.39 U	0.0081 U	0.0075 U	
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	0.0076 U	0.0075 U	0.0075 U	0.0074 U	0.5	0.0081 U	0.0075 U	
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	0.0076 U	0.0075 U	0.0075 U	0.0074 U	0.39 U	0.0081 U	0.0075 U	
Metals																		
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	3190	7900	6190	5720	8950	5200	7110	7650
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.063 J	0.071 J	0.072 J	0.070 J	0.034 J	0.045 J	0.069 J	0.070 J
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	6.0	3.8 J	3.3 J	4.1 J	5.6 J	4.8 J	5.3	
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	26.0	56.4	38.7	28.2	64.4	28.8	34.7	48.5
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.20	0.39	0.44 U	0.41 U	0.26 U	0.19 U	0.40 U	0.40
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.30	0.25	0.17 U	0.15 U	0.093 U	0.12 U	0.11 U	0.28
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	6.5	14.8	10.2	9.7	14.3 J	8.9 J	14.1	13.7
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	6.5	14.8	10.2	9.7	13.3	8.5	13.6	12.6
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	0.91 U	0.90 U	0.90 U	0.89 U	1.0	0.35 J	0.50 J	1.0
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	4.4	5900	6.6	6.2	4.6	5.8	6.8	9.1
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	18.2	15.9	17.5	15.5	13.4 J	16.6 J	13.2	15.6
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	9560	16000	12400	11800	12800	13400	12600	15600
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	6.1	6.2	6.4	5.6	7.4 J	6.8 J	7.7	6.8
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	10900	14400	9690	15300	18600 J	15700 J	1940	14100
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	286	351	331	356	218	340	293	495
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	NLV	8800	580	--	0.045 U	0.045 U	0.045 U	0.018 J	0.031 J	0.024 J	0.038 J	0.023 J
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	11.5 J	19.5 J	15.8	16.3	13.3 J	15.0 J	13.9	21.3 J
Selenium	mg/kg	0.41	0.922	0.803	78000	NLV	NLV	59000	9600	--	0.48	0.52 J	0.43 J	0.43 J	0.37	0.45	0.45 J	0.50
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.024 J	0.019 J	0.090 U	0.026 J	0.027 J	0.097 U	0.089 U	0.018 J
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	85.3 J	93.8	106	86.6 J	120	131 U	428	241
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.19	0.24	0.16	0.24	0.095	0.24	0.11 U	0.23
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	10.1	20.4	14.7	13.8	21.5 J	14.4 J	18.7	17.9
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	34.7 J	33.4 J	33.8 J	31.9 J	30.3	43.5	25.1 J	36.1 J
PCBs																		
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.037 U	0.037 U	0.037 U	0.037 U	20 ^b	0.04 U	0.037 U	0.037 U
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.037 U	0.037 U	0.037 U	0.037 U	22 ^b	0.04 U	0.037 U	0.037 U
General Chemistry																		
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	0.23 U	0.22 U	0.23 U	0.22 U	0.23 U	0.24 U	0.22 U	0.22 U

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated

value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

											BH-77-08 (8-10) SO-17322-031108-CB-020 03/11/2008 Clay	BH-77-08 (8-10) SO-17322-031108-CB-021 03/11/2008 Clay (Duplicate)	BH-79-08 (12-14) SO-17322-031108-CB-029 03/11/2008 Clay	TMW-80-08 (4-6) SO-17322-030508-MC-BH8008 03/05/2008 Clay	TMW-81-08 (4-6) SO-17322-030508-MC-BH8108 03/05/2008 Clay	BH-82-08 (8-10) SO-17322-031208-CB-034 03/12/2008 Clay	BH-82-08 (8-10) SO-17322-031208-CB-035 03/12/2008 Clay (Duplicate)	BH-83-08 (10-12) SO-17322-031208-CB-032 03/12/2008 Clay
Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infimite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels								
Parameter:	Units	a.1	a.2	a.3	b	c	d	e	f	g								
SVOCs																		
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0074 U	0.0075 U	0.0074 U	0.0081 U
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0074 U	0.0075 U	0.0074 U	0.0081 U
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0074 U	0.0075 U	0.0074 U	0.0081 U
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0074 U	0.0075 U	0.0074 U	0.0081 U
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0074 U	0.0075 U	0.0074 U	0.0081 U
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0074 U	0.0075 U	0.0074 U	0.0081 U
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	0.0074 U	0.0074 U	0.0074 U	0.023	0.0088	0.0075 U	0.0074 U	0.0081 U
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0074 U	0.0075 U	0.0074 U	0.0081 U
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	0.0095	0.0096	0.0074 U	0.022	0.0074 U	0.0075 U	0.0074 U	0.0081 U
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0074 U	0.0075 U	0.0074 U	0.0081 U
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	0.0075	0.0078	0.094	0.022	0.01	0.0075 U	0.0074 U	0.0081 U
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	0.0075	0.008	0.021	0.016	0.0074 U	0.0075 U	0.0074 U	0.0081 U
Metals																		
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	5250	5290	6920	6710	6070	7610	6990	10400
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.044 J	0.041 J	0.057 J	0.034 J	0.047 J	0.092 J	0.080 J	0.14 J
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	4.2	4.1	5.0	3.8 J	4.8 J	4.7 J	5.2 J	5.2 J
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	34.6	31.5	39.3	44.0	65.6	47.3	45.8	83.9
Beryllium	mg/kg	1.2	0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.27	0.27	0.33	0.39	0.32	0.51	0.48 U	1.1
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.22	0.21	0.28	0.39	0.31	0.19 U	0.20 U	0.17 U
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	12.4	10.4	13.7	12.9	12.1	13.0	12.3	18.4
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	11.4	10.1	13.2	12.4	12.1	12.0	12.3	18.4
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	1.1	0.27 J	0.47 J	0.49 J	0.89 U	1.0	0.89 U	0.97 U
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	5.3	6.2	7.4	6.0	7.8	7.0	7.2	7.2
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	10.6	11.1	13.7	14.7	11.6	17.5	17.2	13.4
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	10900	10800	13500	13800	9780	16100	14500	29300
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	4.9	5.2	6.1	6.8	6.4	6.6	6.5	9.9
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	18500	15300	19600	15500	16500	14100	12600	2210
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	278	302	349	285	222	421	391	230
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	62	8800	580	--	0.044 U	0.017 J	0.021 J	0.045 U	0.044 U	0.022 J	0.022 J	0.037 J
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	13.8 J	13.7 J	18.0 J	16.2 J	11.6 J	20.8	19.7	15.4
Selenium	mg/kg	0.41	0.922	0.803	78000	NLV	NLV	59000	9600	--	0.35	0.30	0.39	0.90 J	0.89 J	0.49 J	0.43 J	0.90 J
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.089 U	0.088 U	0.089 U	0.091 UJ	0.055 J	0.090 U	0.089 U	0.040 J
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	834	627	121	323	90.0 U	78.7 J	1850	
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.13	0.14	0.18	0.18	0.11	0.25	0.22	0.11 U
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	14.3	14.2	18.4	16.2	14.3	17.4	16.0	44.6
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	27.6 J	26.7 J	33.4 J	34.8 J	20.4 J	37.4 J	35.6 J	43.1 J
PCBs																		
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.037 U	0.036 U	0.037 U	0.037 U	0.037 U	0.037 U	0.037 U	0.04 U
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.037 U	0.036 U	0.037 U	0.037 U	0.037 U	0.037 U	0.037 U	0.04 U
General Chemistry																		
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	0.22 U	0.22 U	0.22 U	0.23 U	1.2	0.22 U	0.22 U	0.24 U

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.
D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).
DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.
ID Insufficient data available to calculate risk-based criteria.
J The associated value is qualified as an estimated quantity.
mg/kg Milligrams per kilogram.
NLL Hazardous substance is not likely to leach under most soil conditions.
NLV Hazardous substance is not likely to volatilize under most conditions.
PCBs Polychlorinated biphenyls.
SVOCs Semi-volatile organic compounds.
T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.
U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

Notes:

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		BH-84-08 (10-11.5) SO-17322-031208-CB-047 03/12/2008 Clay		BH-84-08 (10-11.5) SO-17322-031208-CB-048 03/12/2008 Clay (Duplicate)		BH-85-08 (8-10) SO-17322-031308-CB-055 03/13/2008 Clay		BH-86-08 (8-10) SO-17322-031208-CB-050 03/12/2008 Clay		BH-88-08 (8-10) SO-17322-031108-CB-023 03/12/2008 Clay		BH-89-08 (10.5-12.5) SO-17322-031308-CB-059 03/13/2008 Clay		BH-90-08 (7-9) SO-17322-031308-CB-060 03/13/2008 Clay		BH-91-08 (6-8) SO-17322-031308-CB-061 03/13/2008 Clay	
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infimite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels							
Parameter:	Units	a.1	a.2	a.3	b	c	d	e	f	g							
SVOCs																	
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0076 U	0.0075 U	0.16 U
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0076 U	0.0075 U	0.16 U
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0076 U	0.0075 U	0.16 U
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0076 U	0.0075 U	0.16 U
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0076 U	0.014	0.16 U
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0076 U	0.0075 U	0.16 U
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0076 U	0.0075 U	0.18
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0076 U	0.0075 U	0.16 U
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0076 U	0.025	0.31
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0076 U	0.0075 U	0.16 U
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0076 U	0.034	2.6
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	0.0074 U	0.0074 U	0.0074 U	0.0076 U	0.0076 U	0.025	0.56
Metals																	
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	5490	5930	6220	4840	6790	6790	8700
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.064 J	0.067 J	0.18 UJ	0.049 J	0.18 UJ	0.043 J	0.19 UJ
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	4.6 J	4.4 J	3.9 J	0.97 J	7.4	3.1 J	3.1 J
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	38.1	38.4	41.1	38.2	43.6	25.3	68.3
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.40 U	0.43 U	0.18 U	0.32 U	0.36	0.18 U	0.11 U
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.30	0.33	0.12 U	0.14 U	0.23	0.14 U	0.093 U
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	9.7	10.7	11.3 J	9.4	12.8	12.0 J	15.0 J
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	9.7	10.7	10.7	9.1	11.7	12.0	14.4
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	0.89 U	0.89 U	0.55 J	0.30 J	1.2	0.90 U	0.62 J
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	5.3	5900	6.4	2.2	6.8	7.5	6.5
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	12.6	14.3	12.7 J	6.8	13.8	15.7 J	18.1 J
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	11000	12700	12500	5980	13700	13300	17300
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	4.2	5.1	5.5 J	3.9	5.5	6.8 J	6.5 J
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	15400	19400	14500 J	17300	14300	12800 J	15100 J
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	338	290	277	150	308	343	391
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	NLV	8800	580	--	0.020 J	0.063	0.045 U	0.021 J	0.019 J	0.021 J	0.047 U
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	14.4	14.8	15.3 J	8.0	16.3 J	19.3 J	18.2 J
Selenium	mg/kg	0.41	0.922	0.803	78000	NLV	NLV	59000	9600	--	0.34 J	0.36 J	0.32	0.30 J	0.37	0.54	0.46
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.089 U	0.089 U	0.089 U	0.037 J	0.091 U	0.032 J	0.021 J
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	88.9 U	108	89.0 U	105	256	283 U	506
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.16	0.17	0.15	0.12 U	0.12	0.20	0.16
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	14.0	15.7	14.8 J	8.2	17.6	15.7 J	20.2 J
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	35.4 J	37.4 J	31.2	21.4 J	28.6 J	36.4	37.6
PCBs																	
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.037 U	0.037 U	0.037 U	0.038 U	0.038 U	0.037 U	0.039 U
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.037 U	0.037 U	0.037 U	0.038 U	0.038 U	0.037 U	0.039 U
General Chemistry																	
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	0.22 U	0.22 U	0.22 U	0.23 U	0.23 U	0.23 U	0.23 U

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.
D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).
DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.
ID Insufficient data available to calculate risk-based criteria.
J The associated value is qualified as an estimated quantity.
mg/kg Milligrams per kilogram.
NLL Hazardous substance is not likely to leach under most soil conditions.
NLV Hazardous substance is not likely to volatilize under most conditions.
PCBs Polychlorinated biphenyls.
SVOCs Semi-volatile organic compounds.
T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.
U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.
UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

Notes:

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		BH-92-08 (7.5-9.5) SO-17322-031408-CB-062 03/14/2008 Clay		BH-96-08 (8-10) SO-17322-031408-CB-069 03/14/2008 Clay		BG-01 (17-19) SO-17322-030708-MC-013 03/07/2008 Clay		BG-02 (16-18) SO-17322-030708-MC-002 03/07/2008 Clay		BG-03 (12-14) SO-17322-030608-MC-004 03/06/2008 Clay		BG-04 (12-14) SO-17322-030608-MC-002 03/06/2008 Clay		BG-05 (11-13) SO-17322-030708-MC-003 03/07/2008 Clay		BG-06 (13-15) SO-17322-030708-MC-005 03/07/2008 Clay		
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels								
Parameter: SVOCs	Units	a.1	a.2	a.3	b	c	d	e	f	g								
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	0.56	0.0078 U	--	--	--	--		
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.69	0.0078 U	--	--	--	--		
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	0.46	0.0078 U	--	--	--	--		
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	0.16	0.0078 U	--	--	--	--		
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	0.38	0.0078 U	--	--	--	--		
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	0.04 U	0.0078 U	--	--	--	--		
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	0.96	0.0078 U	--	--	--	--		
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	0.098	0.0078 U	--	--	--	--		
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	0.04 U	0.0078 U	--	--	--	--		
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.083	0.0078 U	--	--	--	--		
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	1.5	0.0078 U	--	--	--	--		
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	1.8	0.0078 U	--	--	--	--		
Metals																		
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	14700	9050	4580	3050	7650	6550	7820	6380
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.12 J	0.077 J	0.063 J	0.16 J	0.066 J	0.066 J	0.074 J	0.030 J
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	12.1 J	7.4 J	3.5 J	6.6	4.6 J	6.7	2.7 J	1.2 J
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	55.8	50.2	22.7	12.9	54.9	41.9	42.0	27.6
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.24 U	0.19 U	0.22	0.20 J	0.42	0.36	0.41	0.30
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.097 U	0.12 U	0.17	0.62	0.25	0.31	0.14	0.12
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	23.6 J	15.5 J	9.3	6.4	14.3	12.3	14.0	11.9
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	23.6	14.4	9.3	6.4	14.3	11.9	13.4	11.6
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	0.97 U	1.1	0.88 U	1.0 U	0.91 U	0.91 U	0.94 U	0.89 U
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	15.0	8.9	5.2	5.0	13.3	6.3	7.9	4.6
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	48.9 J	19.8 J	9.5	15.7	18.0	15.9	14.2	9.0
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	34200	18100	9920	10600	16200	16600	13300	9620
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	18.0 J	8.6 J	4.3	6.1	8.5	7.2	7.0	6.0
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	4460 J	9930 J	18500	24900	14500	11400	14400	19900
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	923	536	231	334	583	336	350	227
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	62	8800	580	--	0.028 J	0.023 J	0.044 U	0.052 U	0.020 J	0.046 U	0.047 U	0.045 U
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	40.0 J	24.8 J	13.2 J	15.3 J	24.9 J	18.1 J	20.9 J	13.7 J
Selenium	mg/kg	0.41	0.922	0.803	59000	NLV	NLV	59000	9600	--	1.6	0.56	0.32 J	0.71	0.53 J	0.48	0.55 J	0.47 J
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.042 J	0.035 J	0.023 J	0.038 J	0.026 J	0.091 U	0.031 J	0.026 J
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	709	905	127	196	497	811	588	206
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.42	0.24	0.17	0.39	0.23	0.15	0.22	0.19
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	36.2 J	19.6 J	16.7	11.4	19.0	16.1	17.7	14.4
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	92.1	45.2	25.0 J	42.9 J	36.5 J	57.9 J	33.3 J	31.6 J
PCBs																		
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.04 U	0.039 U	--	--	--	--	--	--
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.04 U	0.039 U	--	--	--	--	--	--
General Chemistry																		
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	0.24 U	0.23 U	--	--	--	--	--	--

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		BG-07 (12-14) SO-17322-030708-MC-007 03/07/2008 Clay		BG-08 (6-8) SO-17322-030708-MC-009 03/07/2008 Clay		BG-09 (4-6) SO-17322-030708-MC-011 03/07/2008 Clay		BG-10 (8-10) SO-17322-030708-MC-015 03/07/2008 Clay		TP-4 (10-10) SO-17322-101007-CB-015 10/10/2007 Clay		MW-2-07 (0-2) SO-17322-101207-CB-042 10/12/2007 Sand		BH-5-07 (0-2) SO-17322-101507-CB-045 10/15/2007 Sand		BH-9-07 (0-2) SO-17322-101107-CB-030 10/11/2007 Sand		
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels								
Parameter: SVOCs	Units	a.1	a.2	a.3	b	c	d	e	f	g								
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	--	--	--	0.0079 U	0.0071 U	0.007 U	0.0076 U	
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	--	--	--	0.0079 U	0.016	0.007 U	0.0076 U	
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	--	--	--	0.0079 U	0.018	0.007 U	0.0076 U	
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	--	--	--	0.0079 U	0.026	0.007 U	0.0076 U	
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	--	--	--	0.0079 U	0.016	0.007 U	0.0076 U	
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	--	--	--	0.0079 U	0.0083	0.007 U	0.0076 U	
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	--	--	--	0.0079 U	0.02	0.007 U	0.0076 U	
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	--	--	--	0.0079 U	0.0071 U	0.007 U	0.0076 U	
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	--	--	--	0.0079 U	0.027	0.007 U	0.0076 U	
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	--	--	--	0.0079 U	0.013	0.007 U	0.0076 U	
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	--	--	--	0.0079 U	0.014	0.007 U	0.0076 U	
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	--	--	--	0.0079 U	0.025	0.007 U	0.0076 U	
Metals																		
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	7830	8930	5060	7510	3650	2390	1640	2290
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.067 J	0.064 J	0.060 J	0.067 J	0.19 UJ	0.12 J	0.17 UJ	0.18 UJ
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	3.5 J	4.5 J	5.6 J	5.2 J	3.3	5.1	7.7	3.3
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	42.3	56.1	26.1	44.5	17.2	15.0	8.9	10.8
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.38	0.44	0.27	0.40	0.19 U	0.17 U	0.13 J	0.18 U
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.21	0.23	0.20	0.23	0.15	0.063 J	0.15	0.091 U
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	13.7	15.3	11.3	13.5	8.1	6.3	4.3	7.5
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	13.7	14.7	11.3	13.5	7.7	5.1	3.1	6.5
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	0.91 U	0.91 U	0.89 U	0.90 U	0.49 J	1.2	1.2	1.1
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	5.0	8.9	5.0	4.6	3.3	2.7	3.5	3.5
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	14.5	17.3	11.5	17.8	17.1	10.2	9.0	11.2
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	14000	17200	11500	15300	10200	7140	5450	7320
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	6.1	7.7	27.6	7.3	5.6	10.3	4.1	5.8
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	12500	14500	17600	14900	15700	27000	19400 J	10200
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	288	467	294	396	370	263	260	242
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	62	8800	580	--	0.046 U	0.018 J	0.045 U	0.021 J	0.047 U	0.023 J	0.042 U	0.046 U
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	17.5 J	25.1 J	13.8 J	18.4 J	10.2	8.4	7.2	8.3
Selenium	mg/kg	0.41	0.922	0.803	78000	NLV	NLV	59000	9600	--	0.44 J	0.47 J	0.36 J	0.50 J	0.15 J	0.18 U	0.11 J	0.22
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.091 UJ	0.091 UJ	0.089 UJ	0.019 J	0.048 J	0.043 J	0.084 U	0.042 J
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	1210	861	195	90.2 U	368	164	151	378
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.17	0.26	0.14	0.22	0.13	0.16	0.10	0.15
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	17.8	19.7	15.8	17.7	11.4	8.9	6.4	7.1
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	35.9 J	39.1 J	27.3 J	36.1 J	25.0	33.1 J	24.3 J	25.8 J
PCBs																		
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	--	--	--		0.039 U	0.035 U	0.035 U	0.038 U
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	--	--	--		0.039 U	0.035 U	0.035 U	0.038 U
General Chemistry																		
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	--	--	--		0.24 U	0.21 U	0.21 U	0.23 U

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated

value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

Notes:

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:											BH-9-07 (0-2) SO-17322-101107-CB-031 10/11/2007 Sand (Duplicate)	BH-25-07 (0-2) SO-17322-101807-CB-089 10/18/2007 Sand	MW-27-07 (0-2) SO-17322-120707-CB-134 12/07/2007 Sand	MW-28-07 (0-2) SO-17322-101707-CB-077 10/17/2007 Sand	MW-28-07 (8-10) (12.75-14.75) SO-17322-101707-CB-078 10/17/2007 Sand	MW-28-07 (12.75-14.75) SO-17322-101707-CB-079 10/17/2007 Sand	MW-33-07 (0-2) SO-17322-120307-CB-094 12/03/2007 Sand	MW-35-07 (0-2) SO-17322-120307-CB-100 12/03/2007 Sand
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infimite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels								
Parameter:	Units	a.1	a.2	a.3	b	c	d	e	f	g								
SVOCs																		
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	0.0076 U	0.061	0.038	0.029 U	--	--	0.23	0.0069 U
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0076 U	0.29	0.13	0.18	--	--	0.49	0.0069 U
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	0.0076 U	0.33	0.11	0.18	--	--	0.43	0.0069 U
Benzo(b)fluoranthene	mg/kg	--	--	--	ID	NLL	ID	ID	80	--	0.0076 U	0.43	0.17	0.26	--	--	0.61	0.012
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	0.0076 U	0.25	0.069	0.11	--	--	0.32	0.0069 U
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	0.0076 U	0.22	0.071	0.14	--	--	0.24	0.0069 U
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	0.0076 U	0.38	0.15	0.24	--	--	0.55	0.0069 U
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	0.0076 U	0.029 U	0.0073 U	0.029 U	--	--	0.096	0.0069 U
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	0.0076 U	0.68	0.37	0.23	--	--	1.4	0.0069 U
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0076 U	0.2	0.059	0.11	--	--	0.27	0.0069 U
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	0.0086	0.25	0.16	0.1	--	--	0.91	0.0092
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	0.0076 U	0.48	0.23	0.21	--	--	1.1	0.0069 U
Metals																		
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	2500	6600	2370	10800	--	--	10600	1590
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.091 J	0.32 J	0.078 J	0.63 J	--	--	0.13 J	0.17 UJ
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	3.9	4.6	2.8	4.5	--	--	3.5	3.8
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	14.5	62.0 J	16.8 J	139	--	--	130	6.3
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.18 U	0.18	0.18 UJ	0.17 U	--	--	1.1	0.17 U
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.091 U	0.47 J	0.14	0.11	--	--	0.32 J	0.13 U
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	10.0	14.6	5.4 J	103	--	--	33.8 J	4.0
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	9.4	11.2	5.1 J	102	--	--	33.1 J	4.0
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	0.61 J	3.4	0.31 J	1.5	--	--	0.73 J	0.83 U
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	3.7	5.8	2.2 J	65.4	--	--	4.8 J	1.8
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	13.2	25.7 J	7.4	65.6	--	--	19.0 J	3.8
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	8210	14200	5530	31100	--	--	11100	4430
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	7.5	71.8	16.9	54.6	--	--	19.4	3.2 J
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	7100	10200 J	10100 J	3660 J	--	--	24400	14900 J
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	228	392	158	2270	--	96.6 J	921	116
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	62	8800	580	--	0.015 J	0.056	0.020 J	0.35	--	--	0.027 J	0.042 UJ
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	8.9	15.2	5.2	48.4	--	--	10.4 J	3.7
Selenium	mg/kg	0.41	0.922	0.803	78000	NLV	NLV	59000	9600	--	0.13 J	0.32	0.19 U	0.24	--	--	0.24	0.18 U
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.050 J	0.10	0.052 J	0.18	--	--	0.18	0.024 J
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	357	139	156	852	--	--	640	248
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.15	0.12	0.072 J	0.036 J	--	--	0.10 U	0.083 U
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DDD	--	8.9	17.3	7.6	28.5	--	--	24.5 J	6.4
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	27.5 J	81.6	31.2	84.0 J	--	--	38.9 J	20.1 J
PCBs																		
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.038 U	0.035 U	0.017 J	0.036 U	--	--	0.037 UJ	0.034 U
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.038 U	0.0427	0.0305	0.036 U	--	--	0.3504	0.034 U
General Chemistry																		
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	0.23 U	0.21 U	0.31	0.22 U	--	--	0.64	0.21 U

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated

value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		BH-36-07 (0-2) SO-17322-120307-CB-097 12/03/2007 Sand		MW-40-07 (0-2) SO-17322-120507-CB-117 12/05/2007 Sand		BH-47-07 (0-2) SO-17322-100907-CB-009 10/09/2007 Sand		BH-47-07 (17.5-20) SO-17322-100907-CB-011 10/09/2007 Sand		MW-48-07 (5-7) SO-17322-100907-CB-007 10/09/2007 Sand		TMW71-08 (4-6) 03/06/2008 Sand		MW-78-08 (0-2) 03/11/2008 Sand		MW-78-08 (0-2) 03/11/2008 Sand (Duplicate)	
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels							
Parameter:	Units	a.1	a.2	a.3	b	c	d	e	f	g							
SVOCs																	
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	0.82	0.0076 U	--	0.0072 U	0.033 U	0.0075 U	0.0073 U
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	3.7	0.0076 U	--	0.0072 U	0.033 U	0.0075 U	0.0088
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	2.6	0.0076 U	--	0.0072 U	0.033 U	0.0075 U	0.0081
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	3.6	0.0076 U	--	0.0072 U	0.033 U	0.0075 U	0.0086
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	1.5	0.0076 U	--	0.0072 U	0.033 U	0.0075 U	0.0088
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	1.3	0.0076 U	--	0.0072 U	0.033 U	0.0075 U	0.0073 U
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	2.9	0.0076 U	--	0.0072 U	0.037	0.0075 U	0.012
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	0.43	0.0076 U	--	0.0072 U	0.033 U	0.0075 U	0.0073 U
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	10	0.0076 U	--	0.0072 U	0.033	0.0075 U	0.014
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	1.4	0.0076 U	--	0.0072 U	0.033 U	0.0075 U	0.0073 U
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	3.4	0.0089	--	0.0072 U	0.035	0.0075 U	0.0073 U
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	8.1	0.0076 U	--	0.0072 U	0.043	0.0075 U	0.0077
Metals																	
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	4850	3280	--	3020	2690	6920	2930
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.17 UJ	0.22 J	--	0.074 J	0.11 J	0.052 J	0.098 J
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	3.0	2.6	4.3	11.1	3.5	1.7 J	5.1
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	42.2	15.2	--	13.9	21.6	45.1	17.1
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.25	0.18 U	--	0.17 U	0.20 U	0.36	0.21
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.32	0.091 U	--	0.18	0.066 J	0.34	0.30
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	8.3	6.3	--	6.5 J	4.4 J	11.5	6.5
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	8.3	6.3	--	6.0 J	3.7 J	10.2	4.7
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	0.84 U	0.91 U	--	0.86 U	0.98 U	1.3	1.8
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	2.8	2.6	--	5.8 J	2.6 J	4.5	4.3
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	8.8	8.1	--	20.9 J	5.0 J	8.0	9.6
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	7500	16300	--	12000	8660	8760	7900
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	16.2 J	8.3	--	9.0	6.4	8.7	5.9
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	16100 J	636	--	8530 J	941 J	1770	11800
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	285	130 J	--	334	74.0	130 J	250
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	NLV	8800	580	--	0.042 U	0.046 U	--	0.028 J	0.049 U	0.023 J	0.043 U
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	6.9	5.7	--	12.9 J	4.1 J	8.8	11.2 J
Selenium	mg/kg	0.41	0.922	0.803	78000	NLV	NLV	59000	9600	--	0.15 J	0.19 U	--	0.10 J	0.28	0.85 J	0.31
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.070 J	0.030 J	--	0.072 J	0.032 J	0.042 J	0.019 J
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	308	210	--	108 U	212	554	87.0 U
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.052 J	0.041 J	--	0.26	0.098 U	0.12 U	0.22
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	13.8	10.2	--	11.4 J	6.8 J	15.2	9.9
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	27.7 J	14.6	--	63.4 J	25.5 J	32.8	40.9 J
PCBs																	
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.035 U	0.038 U	--	0.035 U	0.04 U	0.037 U	0.036 U
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.08065	0.038 U	--	0.035 U	0.04 U	0.037 U	0.036 U
General Chemistry																	
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	0.21 U	0.23 U	--	0.22 U	0.36 J	0.23 U	0.22 U

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

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ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated

value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

											TMW87-08 (7-9) SO-17322-030608-MC-BH8708 03/06/2008 Sand	BG-01 (4-6) SO-17322-030708-MC-012 03/07/2008 Sand	BG-02 (11-13) SO-17322-030708-MC-001 03/06/2008 Sand	BG-03 (7-8) SO-17322-030608-MC-003 03/06/2008 Sand	BG-06 (7-9) SO-17322-030708-MC-004 03/07/2008 Sand	BG-07 (3-5) SO-17322-030708-MC-006 03/07/2008 Sand	BG-08 (1.5-2) SO-17322-030708-MC-008 03/07/2008 Sand	BG-09 (2-3) SO-17322-030708-MC-010 03/07/2008 Sand
Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels								
Parameter: SVOCs	Units	a.1	a.2	a.3	b	c	d	e	f	g								
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	0.0077 U	--	--	--	--	--	--	
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0077 U	--	--	--	--	--	--	
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	0.0077 U	--	--	--	--	--	--	
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	0.0077 U	--	--	--	--	--	--	
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	0.0077 U	--	--	--	--	--	--	
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	0.0077 U	--	--	--	--	--	--	
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	0.0077 U	--	--	--	--	--	--	
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	0.0077 U	--	--	--	--	--	--	
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	0.0077 U	--	--	--	--	--	--	
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.0077 U	--	--	--	--	--	--	
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	0.0077 U	--	--	--	--	--	--	
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	0.0077 U	--	--	--	--	--	--	
Metals																		
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	4140	2430	1640	4590	7220	2120	4950	2740
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.051 J	0.069 J	0.080 J	0.054 J	0.056 J	0.057 J	0.053 J	0.053 J
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	4.2 J	4.1 J	3.7	2.6 J	5.8 J	3.6 J	2.8 J	3.3 J
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	20.4	12.6	7.6	23.7	214	4.7	44.3	12.2
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.21	0.14 J	0.18 U	0.24	0.43	0.17 U	0.26	0.17 J
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.42	0.12	0.26	0.064 J	0.45	0.082 J	0.15	0.098
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	13.6	5.7	4.6	8.4	12.9	7.6	8.7	5.9
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	13.6	5.7	4.6	8.1	12.6	7.4	8.4	5.9
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	0.92 U	0.83 U	0.89 U	0.95 U	0.93 U	0.87 U	0.94 U	0.93 U
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	5.0	3.3	2.4	2.7	9.3	2.8	5.4	4.0
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	15.4	8.9	8.0	6.6	6.1	6.2	6.5	14.1
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	10800	6240	5150	8370	20500	5580	8700	8270
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	5.4	4.5	3.6	4.0	5.7	3.5	18.2	6.0
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	12100	15200	7290	1160	1530	9700	1260	4710
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	365 J	285	124	55.7	4110	184	517	374
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	62	8800	580	--	0.046 U	0.041 U	0.045 U	0.018 J	0.048	0.044 U	0.032 J	0.019 J
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	13.4	8.8 J	8.2 J	8.4 J	14.1 J	7.5 J	8.0 J	9.8 J
Selenium	mg/kg	0.41	0.922	0.803	78000	NLV	NLV	59000	9600	--	1.4 J	0.21 J	0.38 J	0.21	0.76 J	0.17 J	0.41 J	0.41 J
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.092 U	0.083 UJ	0.089 U	0.095 UJ	0.021 J	0.087 UJ	0.028 J	0.093 UJ
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	115	224	89.0 U	442	248	87.2 U	515	186
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.20	0.11 U	0.13	0.095 U	0.19	0.087 U	0.094 U	0.14
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	12.5	8.1	8.5	12.4	24.2	8.7	12.9	8.9
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	29.7	22.1 J	33.2 J	19.2 J	47.5 J	18.7 J	28.6 J	30.1 J
PCBs																		
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.038 U	--	--	--	--	--	--	--
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.038 U	--	--	--	--	--	--	--
General Chemistry																		
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	0.21 J	--	--	--	--	--	--	--

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated

value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		BG-10 (2-4) SO-17322-030708-MC-014 03/07/2008 Sand		TP-1 (6-6) SO-17322-101007-CB-019 10/10/2007 Sand		TP-1 (7-7) SO-17322-101007-CB-020 10/10/2007 Sand		TP-1 (10-10) SO-17322-101007-CB-017 10/10/2007 Sand		TP-1 (10-10) SO-17322-101007-CB-018 10/10/2007 Sand		TP-2 (4-4) SO-17322-101007-CB-022 10/10/2007 Sand		TP-2 (6.5-6.5) SO-17322-101007-CB-021 10/10/2007 Sand		TP-3 (3-3) SO-17322-101007-CB-024 10/10/2007 Sand		
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels								
Parameter: SVOCs	Units	a.1	a.2	a.3	b	c	d	e	f	g								
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	--	0.074 U	1.5	0.1	200^b	0.073	0.26	0.084
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	--	0.074 U	3.3	0.39	350^b	0.16	0.97	0.21
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	--	0.14	3.3	0.43	270^b	0.17	0.82	0.29
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	--	0.15	4.4	0.62	360^b	0.28	1.1 J	0.45
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	--	0.074 U	2.9	0.36	150	0.13	0.59	0.26
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	--	0.1	1.4	0.17	170	0.098	0.39	0.15
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	--	0.093	3.2	0.38	350	0.22	0.95	0.33
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	--	0.074 U	0.58	0.084	47^b	0.036	0.14	0.059
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	--	0.3	7.3	0.77	960^b	0.3	1.9 J	0.41
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	--	0.074 U	2.3	0.28	130^b	0.1	0.5	0.21
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	--	0.25	4.9	0.37	900^b	0.34	0.98	0.21
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	--	0.28	6.1	0.6	700^b	0.24	1.6 J	0.37
Metals																		
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	7550	5660	5790	5390	9920	5550	5460	4420
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.056 J	0.18 UJ	0.53 J	0.31 UJ	1.5 J	0.27 UJ	0.39 J	0.51 J
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	4.8 J	4.1	5.9	5.1	11.4	7.3	4.3	6.5
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	35.9	35.6	64.8	44.8	263	42.1	40.3	39.9
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.36	0.056 J	0.077 J	0.074 J	0.26	0.17 J	0.077 J	0.10 J
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.22	0.21	0.43	0.30	1.4	0.23	0.15	0.56
Chromium	mg/kg		18.7	20.2	140000	NLV	NLV	240	9200	--	14.7	11.5	21.8	16.7	67.4	11.6	11.1	9.7
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	14.2	8.4	21.1	16.0	67.4	10.8	9.9	9.2
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	0.91 U	3.1	0.77 J	0.74 J	1.4	0.74 J	1.3	0.51 J
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	6.9	5.9	6.8	5.8	12.9	5.6	4.4	5.3
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	13.0	17.2	203	67.0	404	21.3	17.6	25.6
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	13500	12600	15500	16000	39300	14500	11500	12000
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	6.6	14.0	127	139	835	52.7	33.0	20.6
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	4310	11500	7060	10200	11900	12100	9250	7890
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	413	363	240	317	391	349	254	348
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	62	8800	580	--	0.028 J	0.022 J	0.091	0.058	0.39	0.087	0.024 J	0.040 J
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	15.8 J	17.3	39.3	38.2	123	13.2	10.4	19.8
Selenium	mg/kg	0.41	0.922	0.803	78000	NLV	NLV	59000	9600	--	0.49 J	0.19 U	0.23	0.21 U	1.2	0.41	0.20 U	0.16 J
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.019 J	0.060 J	0.13	0.098 J	0.44	0.075 J	0.066 J	0.093
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	178	552	191	543	711	574	472	97.0
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.11 U	0.15	0.15	0.14	0.28	0.15	0.13	0.17
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	21.4	15.3	16.8	15.3	28.3	14.9	13.7	26.0
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	31.8 J	57.1	101	152	411	55.1	41.3	70.6
PCBs																		
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	--	0.037 U	0.051	0.041 U	0.052 U	0.033 J	0.012 J	0.033 J
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	--	0.037 U	0.0565	0.0545	0.187	0.0385	0.0175	0.038
General Chemistry																		
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	--	0.22 U	0.13 J	0.31 J	1.4 J	0.12 J	0.20 J	0.18 J

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated

value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:											TP-3 (7-7) SO-17322-101007-CB-023 10/10/2007 Sand	TP-4 (5-5) SO-17322-101007-CB-016 10/10/2007 Sand	MW-2-07 (8-10) SO-17322-101207-CB-043 10/12/2007 Other Soils	BH-3-07 (0-2) SO-17322-101207-CB-040 10/12/2007 Other Soils	MW-7-07 (0-2) SO-17322-101207-CB-033 10/12/2007 Other Soils	BH-8-07 (1.5-2.5) SO-17322-101107-CB-025 10/15/2007 Other Soils	MW-10-07 (0-2) SO-17322-101507-CB-048 10/15/2007 Other Soils	BH-12-07 (0-2) SO-17322-101607-CB-058 10/16/2007 Other Soils
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels								
Parameter:	Units	a.1	a.2	a.3	b	c	d	e	f	g								
SVOCs																		
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	0.066 J	0.061	--	0.0072 U	0.0074 U	0.0076 U	0.0078 U	0.0079 U
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.2 J	0.14	--	0.023	0.0074 U	0.0076 U	0.012	0.0094
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	0.21 J	0.16	--	0.019	0.0074 U	0.0076 U	0.015	0.0079 U
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	0.3 J	0.24	--	0.023	0.0074 U	0.0076 U	0.022	0.01
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	0.18 J	0.14	--	0.015	0.0074 U	0.0076 U	0.015	0.0079 U
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	0.12 J	0.085	--	0.01	0.0074 U	0.0076 U	0.0086	0.0079 U
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	0.26 J	0.22	--	0.029	0.0074 U	0.0076 U	0.016	0.0093
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	0.043 J	0.032	--	0.0072 U	0.0074 U	0.0076 U	0.0078 U	0.0079 U
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	0.44 J	0.34	--	0.04	0.0074 U	0.0076 U	0.02	0.023
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.15 J	0.1	--	0.012	0.0074 U	0.0076 U	0.011	0.0079 U
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	0.3 J	0.25	--	0.015	0.0074 U	0.0076 U	0.011	0.021
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	0.37 J	0.27	--	0.033	0.0074 U	0.0076 U	0.02	0.019
Metals																		
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	4320	5070	--	2520	6030	4230	5250	2070
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.22 UJ	0.57 J	--	0.10 J	0.095 J	0.10 J	0.19 UJ	0.19 UJ
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	4.6	4.9	4.1	4.1	5.9	4.1	5.2	2.4
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	32.0	54.9	--	12.6	34.5	23.6	46.1	8.5
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.089 J	0.14 J	--	0.17 U	0.18 U	0.18 U	0.36	0.16 J
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.27	0.33	--	0.086 U	0.088 U	0.091 U	0.19	0.12
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	10.9	12.9	--	8.1	11.6	9.5	8.5	5.0
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	10.2	12.1	--	5.4	9.8	8.3	7.1	3.6
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	0.69 J	0.79 J	--	2.6	1.8	1.2	1.5	1.4
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	4.8	5900	--	3.6	5.9	4.1	3.8	2.8
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	22.9	22.9	--	11.4	12.0	10.8	16.0	9.0
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	11800	10400	--	7690	13400	10600	7400	5620
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	29.2	61.9	--	6.0	5.5	5.5	12.4	3.6
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	10000	10100	--	22800	22300	14900	19800 J	7270 J
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	270	208	--	276	269	241	266	169
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	62	8800	580	--	0.044 J	0.092	--	0.021 J	0.015 J	0.015 J	0.017 J	0.047 U
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	12.9	11.7	--	9.4	14.3	10.8	10.3	6.9
Selenium	mg/kg	0.41	0.922	0.803	78000	NLV	NLV	59000	9600	--	0.11 J	0.40	--	0.16 J	0.19 U	0.20	0.20 U	0.20 U
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.062 J	0.097	--	0.044 J	0.067 J	0.061 J	0.094 U	0.094 U
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	420	408	--	267	521	443	757	105
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.12	0.15	--	0.11	0.11	0.11	0.11	0.11 U
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	13.3	14.7	--	10.2	18.0	12.9	11.8	7.0
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	58.6	104	--	23.9 J	28.7 J	28.2 J	31.9 J	21.7 J
PCBs																		
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.22	0.61	--	0.036 U	0.036 U	0.037 U	0.039 U	0.039 U
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.2255	0.621	--	0.036 U	0.036 U	0.037 U	0.039 U	0.039 U
General Chemistry																		
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	0.13 J	2.9 J	--	0.22 U	0.22 U	0.23 U	0.44	0.24 U

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		MW-17-07 (0.5-2.5) SO-17322-101607-CB-061 10/16/2007 Other Soils		MW-19-07 (0-2) SO-17322-101707-CB-067 10/17/2007 Other Soils		MW-20-07 (0-2) SO-17322-101707-CB-069 10/17/2007 Other Soils		MW-20-07 (0-2) SO-17322-101707-CB-070 10/17/2007 Other Soils (Duplicate)		BH-23-07 (0-2) SO-17322-101707-CB-072 12/03/2007 Other Soils		BH-26-07 (0-2) SO-17322-120307-CB-105 12/03/2007 Other Soils		BH-26-07 (0-2) SO-17322-120307-CB-106 12/03/2007 Other Soils (Duplicate)		BH-30-07 (0-2) SO-17322-101707-CB-107 10/17/2007 Other Soils		
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infinite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels								
Parameter:	Units	a.1	a.2	a.3	b	c	d	e	f	g								
SVOCs																		
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	0.037 U	0.14	0.15 U	0.35	0.021	0.077 U	0.013	0.0072 U
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.037 U	0.4	0.15 U	0.85	0.073	0.077 U	0.056	0.0072 U
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	0.037 U	0.36	0.15 U	0.15 U	0.064	0.077 U	0.051	0.0072 U
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	0.037 U	0.32	0.15 U	0.15 U	0.08	0.17	0.073	0.0072 U
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	0.037 U	0.19	0.15 U	0.15 U	0.039	0.077 U	0.039	0.0072 U
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	NLV	800	--	0.037 U	0.34	0.15 U	0.15 U	0.035	0.077 U	0.029	0.0072 U
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	0.058	0.4	0.15 U	0.95	0.074	0.077 U	0.053	0.0072 U
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	0.037 U	0.0071 U	0.15 U	0.15 U	0.0073 U	0.077 U	0.0073 U	0.0072 U
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	0.07	1	0.15 U	1.8	0.16	0.085	0.11	0.0098
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.037 U	0.18	0.15 U	0.15 U	0.033	0.077 U	0.033	0.0072 U
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	0.037 U	0.51	0.15 U	1.5	0.08	0.077 U	0.048	0.011
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	0.077	0.8	0.19 J	1.7 J	0.13	0.077 U	0.087	0.0098
Metals																		
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	1490	3890	4020	4690	3170	2720	2480	1880
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.18 UJ	0.17 UJ	0.18 UJ	0.18 UJ	0.18 UJ	0.18 UJ	0.18 UJ	0.17 UJ
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	5.8	2.6	4.1	3.0	4.4	3.5	4.4	
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	11.3	33.8	34.7	44.1	24.5	27.9	15.9	14.7
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.14 J	0.17 U	0.12 J	0.11 J	0.049 J	0.18 U	0.18 U	0.17 U
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.22	0.085 U	0.089 U	0.089 U	0.10	0.33	0.22	0.18
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	4.6	11.2	6.9	7.8	6.8	7.5	5.8	13.4
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	4.1	10.8	5.1	5.9	6.3	7.5	5.8	11.7
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	0.88 U	0.85 U	1.9	1.9	0.88 U	0.92 U	0.88 U	1.8
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	2.0	2.9	3.2	3.5	2.9	5.1	2.9	3.8
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	7.0	8.3	13.6	12.7	12.6	12.0	8.9	8.8
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	4540	8380	11200	13400	8960	8240	6640	8830
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	10.7	8.5	18.4	38.9	10.8	14.7 J	8.6 J	4.9
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	17700 J	15800 J	2090 J	2370 J	12100 J	11400 J	10500 J	39700 J
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	221	317	119	143	348	232	222	541
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	62	8800	580	--	0.023 J	0.042 U	0.019 J	0.037 J	0.044 U	0.046 U	0.044 UJ	0.043 U
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	5.9	9.0	7.4	7.8	11.9	9.8	7.5	10.4
Selenium	mg/kg	0.41	0.922	0.803	78000	NLV	NLV	59000	9600	--	0.19 U	0.14 J	0.32	0.30	0.19 U	0.11 J	0.19 U	0.18
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.088 U	0.054 J	0.046 J	0.057 J	0.034 J	0.049 J	0.031 J	0.038 J
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	216	385	292	365	194	92.0 UJ	87.8 U	416
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.20	0.037 J	0.046 J	0.038 J	0.068 J	0.11	0.088 U	0.21 J
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	7.4	13.7	10.0	11.1	10	8.8	7.9	16.0
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	44.1 J	16.9 J	23.1 J	33.0 J	30.9 J	29.9 J	25.1 J	27.7 J
PCBs																		
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.92	0.035 U	0.037 U	0.037 U	0.023 J	0.1	0.1	0.036 U
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.9335	0.035 U	0.037 U	0.037 U	0.0365	0.114	0.1135	0.036 U
General Chemistry																		
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	0.13 J	0.13 J	0.13 J	0.22 U	0.22 U	0.23 U	0.22 UJ	0.22 U

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated

value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:											MW-32-07 (15-17) SO-17322-120707-CB-139 12/07/2007 Other Soils	MW-33-07 (16-18) SO-17322-120307-CB-096 12/03/2007 Other Soils	MW-38-07 (0-2) SO-17322-120407-CB-111 12/04/2007 Other Soils	BH-39-07 (0-2) SO-17322-120407-CB-114 12/04/2007 Other Soils	BH-41-07 (0-2) SO-17322-120507-CB-120 12/05/2007 Other Soils	BH-42-07 (0-2) SO-17322-120507-CB-123 12/05/2007 Other Soils	BH-42-07 (0-2) SO-17322-120507-CB-124 12/05/2007 Other Soils (Duplicate)	MW-43-07 (0-2) SO-17322-120607-CB-126 12/06/2007 Other Soils
		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infimite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels								
Parameter:	Units	a.1	a.2	a.3	b	c	d	e	f	g								
SVOCs																		
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	--	0.079 U	0.0078 U	0.0061 J	0.015	0.019	0.0082	0.0075 U
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	--	0.079 U	0.0078 U	0.0076 U	0.061	0.13	0.053	0.023
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	--	0.079 U	0.0078 U	0.0076 U	0.06	0.15	0.069	0.024
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	--	0.079 U	0.0078 U	0.008	0.008	0.16	0.088	0.037
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	--	0.079 U	0.0078 U	0.0076 U	0.041	0.17	0.12	0.025
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	--	0.079 U	0.0078 U	0.0076 U	0.03	0.095	0.037	0.011
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	--	0.079 U	0.0078 U	0.0076 U	0.074	0.14	0.074	0.035
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	--	0.079 U	0.0078 U	0.0076 U	0.0099	0.018	0.013	0.0075 U
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	--	0.079 U	0.0078 U	0.0076 U	0.12	0.28	0.11	0.055
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	--	0.079 U	0.0078 U	0.0076 U	0.037	0.088	0.047	0.015
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	--	0.096	0.0078 U	0.0088	0.06	0.087	0.037	0.03
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	--	0.079 U	0.0078 U	0.0076 U	0.097	0.19	0.095	0.041
Metals																		
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	--	4350	6860	2650	7060	4620	3250	7410
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	--	0.19 UJ	0.19 UJ	0.18 UJ	0.18 UJ	0.25 J	0.15 J	0.10 J
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	--	1.1	3.4	3.8	2.7	3.8	2.7	4.4
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	--	16.0	41.0	11.4	38.3	50.8 J	16.8 J	46.5 J
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	--	0.19 U	0.39 J	0.17 J	0.12 J	0.091 J	0.18 U	0.20 J
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	--	0.21 U	0.19	0.17	0.082 J	0.27	0.091 U	0.20
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	--	8.8	12.2	6.0	11.6	9.7	5.6	14.7 J
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	--	8.8	11.1	5.4	11.6	8.6	5.0	14.2 J
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	--	0.95 UJ	1.1	0.64 J	0.92 U	1.1	0.61 J	0.41 J
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	--	5.3	5.3 J	3.1 J	6.9	3.8	3.0	7.9 J
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	--	12.1	13.5	7.2	11.7	21.5	11.6	19.5
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	--	7290	13300	7780	12200	8040	6120	15400
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	7.5 J	15.5 J	3.8 J	7.0	36.5 J	7.2 J	18.7
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	--	8190 J	8270 J	17000 J	14200	2860	2140	8810 J
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	--	322	251	225	373 J	101 J	91.8 J	286
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	62	8800	580	--	--	0.019 J	0.050	0.046 U	0.024 J	0.74 J	0.071 J	0.054
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	--	12.7	13.1	6.9	14.2	9.9	5.8	15.2
Selenium	mg/kg	0.41	0.922	0.803	59000	NLV	NLV	59000	9600	--	--	0.31	0.27	0.19 U	0.20 U	0.27	0.12 J	0.19 U
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	--	0.10	0.059 J	0.032 J	0.064 J	0.099	0.031 J	0.075 J
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	--	633	166	464	422	999	473	983
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	--	0.19	0.10	0.082 J	0.12	0.13	0.090 J	0.14
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	--	10.8	17.6	11.5	16.1	11.7	10.4	18.0
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	--	42.6 J	33.0	24.3	30.6	68.0 J	21.1 J	49.5
PCBs																		
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	--	0.039 U	0.039 U	0.038 U	0.038 U	0.039 U	0.038 U	0.6
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.039 U	0.039 U	0.039 U	0.038 U	0.0425	0.039 U	0.038 U	0.6695
General Chemistry																		
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	--	0.24 UJ	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U	0.22 U

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated

value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

TABLE 1

SOIL ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

											BH-49-07 (0-2) SO-17322-100907-CB-004 10/09/2007 Other Soils	MW-69-08 (18-20) SO-17322-031208-CB-044 03/12/2008 Other Soils	TMW-70-08 (4-6) SO-17322-030508-MC-BH7008 03/05/2008 Other Soils	BH-72-08 (0-2) SO-17322-031308-CB-051 03/13/2008 Other Soils	BH-72-08 (8-10) SO-17322-031308-CB-052 03/13/2008 Other Soils	MW-74-08 (0-2) SO-17322-031408-CB-063 03/14/2008 Other Soils	BG-04 (3-5) SO-17322-030608-MC-001 03/06/2008 Other Soils
Sample Location: Sample Depth: Sample ID: Sample Date: Sample Type:		Statewide Default Background Levels	Site Specific Sand	Site Specific Clay	Groundwater Contact Protection Criteria	Soil Volatilization to Indoor Air Inhalation Criteria	Infimite Source Volatile Soil Inhalation Criteria	Particulate Soil Inhalation Criteria	Direct Contact Industrial and Commercial II	Soil Saturation Concentration Screening Levels							
Parameter:	Units	a.1	a.2	a.3	b	c	d	e	f	g							
SVOCs																	
Anthracene	mg/kg	--	--	--	41	1000000 D	1600000	29000000	730000	--	0.008 U	0.0076 U	0.0081 U	--	--	0.0071 U	--
Benzo(a)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.008 U	0.0076 U	0.0081 U	--	--	0.0071 U	--
Benzo(a)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	1900	8	--	0.008 U	0.0076 U	0.0081 U	--	--	0.0071 U	--
Benzo(b)fluoranthene	mg/kg	--	--	--	NLL	ID	ID	ID	80	--	0.008 U	0.0076 U	0.0081 U	--	--	0.0071 U	--
Benzo(g,h,i)perylene	mg/kg	--	--	--	NLL	NLV	NLV	350000	7000	--	0.008 U	0.0076 U	0.0081 U	--	--	0.0071 U	--
Benzo(k)fluoranthene	mg/kg	--	--	--	NLL	NLV	NLV	ID	800	--	0.008 U	0.0076 U	0.0081 U	--	--	0.0071 U	--
Chrysene	mg/kg	--	--	--	NLL	ID	ID	ID	8000	--	0.008 U	0.0076 U	0.0081 U	--	--	0.0071 U	--
Dibenzo(a,h)anthracene	mg/kg	--	--	--	NLL	NLV	NLV	ID	8	--	0.008 U	0.0076 U	0.0081 U	--	--	0.0071 U	--
Fluoranthene	mg/kg	--	--	--	730	1000000 D	890000	4100000	130000	--	0.008 U	0.0076 U	0.0081 U	--	--	0.0071 U	--
Indeno(1,2,3-cd)pyrene	mg/kg	--	--	--	NLL	NLV	NLV	ID	80	--	0.008 U	0.0076 U	0.0081 U	--	--	0.0071 U	--
Phenanthrene	mg/kg	--	--	--	1100	5100	190	2900	5200	--	0.008 U	0.088	0.0081 U	--	--	0.0071 U	--
Pyrene	mg/kg	--	--	--	480	1000000 D	780000	2900000	84000	--	0.008 U	0.0076 U	0.0081 U	--	--	0.0071 U	--
Metals																	
Aluminum	mg/kg	6900	10800	12000	1000000 D	NLV	NLV	ID	370000 DD	--	17000	1930	2740	--	--	1600	5240
Antimony	mg/kg		0.08 J	0.16 J	49000	NLV	NLV	5900	670	--	0.11 J	0.042 J	--	--	--	0.17 UJ	0.053 J
Arsenic	mg/kg	5.8	7.02	9.61	2000	NLV	NLV	910	37	--	5.2	2.2	4.4 J	--	--	2.7 J	4.7
Barium	mg/kg	75	240	79.7	1000000 D	NLV	NLV	150000	130000	--	63.5	6.4	19.6	--	--	6.9	38.3
Beryllium	mg/kg		0.584	0.6	1000000 D	NLV	NLV	590	1600	--	0.56	0.18 U	0.21	--	--	0.17 U	0.28
Cadmium	mg/kg	1.2	0.549	0.673	230000	NLV	NLV	2200	2100	--	0.10	0.082 J	0.27	--	--	0.085 U	0.23
Chromium	mg/kg	18 NA	18.7	20.2	140000	NLV	NLV	240	9200	--	27.8 J	5.2	8.0	--	--	3.6 J	9.7
Chromium III (Trivalent)	mg/kg	18	18	19.7	1000000 D	NLV	NLV	150000	1000000 D	--	27.8 J	5.2	7.4	--	--	0.43 U	9.2
Chromium VI (Hexavalent)	mg/kg		0.95 U	1.0 U	140000	NLV	NLV	240	9200	--	0.96 U	0.91 U	0.68 J	--	--	4.1	0.88 U
Cobalt	mg/kg	6.8	11.6	14.9	48000	NLV	NLV	5900	9000	--	8.5 J	2.4	3.3	--	--	2.2	5.3
Copper	mg/kg	32	20.6	24.3	1000000 D	NLV	NLV	59000	73000	--	25.6 J	8.8	13.5	--	--	5.1 J	15.4
Iron	mg/kg	12000	24400	22000	1000000 D	NLV	NLV	ID	580000	--	25800	5300	8640	--	--	4370	11800
Lead	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	10.7	3.0	4.2	--	--	2.9 J	6.1
Lead - Coarse Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--
Lead - Fine Fraction	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--
Lead - Total (Calculated by fine/coarse fraction)	mg/kg	21	18.2	27.6	ID	NLV	NLV	44000	900 DD	--	--	--	--	--	--	--	--
Magnesium	mg/kg		20900	28300	1000000 D	NLV	NLV	2900000	1000000 D	--	3700 J	11500	10700	--	--	7430 J	10700
Manganese	mg/kg	440	4560	677	180000	NLV	NLV	1500	90000	--	301	151	263	--	--	138	373
Mercury	mg/kg	0.13	0.0541	0.052 U	47	89	62	8800	580	--	0.034 J	0.045 U	0.049 U	--	--	0.043 U	0.044 U
Nickel	mg/kg	20	20	31.3	1000000 D	NLV	NLV	16000	150000	--	32.8 J	5.7	9.9 J	--	--	5.5 J	13.9 J
Selenium	mg/kg	0.41	0.922	0.803	NLV	NLV	NLV	59000	9600	--	0.20 U	0.30	0.58 J	--	--	0.15 J	0.39
Silver	mg/kg	1	0.095 UJ	0.0661	200000	NLV	NLV	2900	9000	--	0.12	0.091 U	2.1 J	--	--	0.085 U	0.088 U
Sodium	mg/kg		1060	1640	1000000 D	NLV	NLV	ID	1000000 D	--	1990	87.9 J	123	--	--	85.3 U	826
Thallium	mg/kg		0.19	0.432	15000	NLV	NLV	ID	130	--	0.19	0.091 U	0.13	--	--	0.067 J	0.17
Vanadium	mg/kg		30.8	23.8	1000000 D	NLV	NLV	ID	5500 DD	--	27.8 J	7.8	9.1	--	--	6.1 J	13.7
Zinc	mg/kg	47	56.3	64.1	1000000 D	NLV	NLV	ID	630000	--	44.8 J	19.7	22.0 J	--	--	17.1	33.8 J
PCBs																	
Aroclor-1254 (PCB-1254)	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.039 U	0.037 U	0.04 U	0.24	0.038 U	0.035 U	--
Total PCBs	mg/kg	--	--	--	NLL	16000	810	6500	16 T	--	0.039 U	0.037 U	0.04 U	0.258	0.038 U	0.035 U	--
General Chemistry																	
Cyanide (total)	mg/kg	0.39	--	--	250	NLV	NLV	250	250	--	0.24 U	0.23 U	0.24 U	--	--	0.21 U	--

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 3 Soil: Industrial and Commercial II, III, and IV Generic Cleanup Criteria and Screening Levels.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

DD Hazardous substance cause developmental effects. Residential and Commercial I direct contact criteria are protective of both prenatal and postnatal exposure. Industrial and commercial I, III, and IV directo contact criteria are protective for a pregnant adult receptor.

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/kg Milligrams per kilogram.

NLL Hazardous substance is not likely to leach under most soil conditions.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

SVOCs Semi-volatile organic compounds.

T Refer to the federal Toxic Substances Control Act (TSCA) to determine applicability of TSCA cleanup standards.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated

value and may be inaccurate or imprecise.

200^b Exceeds the indicated criteria.

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location:		MW-2-07		MW-4-07		MW-7-07		MW-10-07		MW-11-07		MW-15-07		MW-15-07		MW-17-07		MW-19-07		MW-32-07		MW-33-07	
Sample ID:		GW-17322-112807-CB-008		GW-17322-112807-CB-009		GW-17322-112707-CB-007		GW-17322-112707-CB-004		GW-17322-112707-CB-002		GW-17322-112707-CB-005		GW-17322-112707-CB-006		GW-17322-112707-CB-001		GW-17322-112707-CB-003		GW-17322-010908-CB-016		GW-17322-010808-CB-011	
Sample Date:		11/28/2007		11/28/2007		11/28/2007		11/27/2007		11/27/2007		11/27/2007		11/27/2007		11/27/2007		11/27/2007		01/09/2008		01/08/2008	
Sample Type:														Duplicate									
		Groundwater Volatilization to Indoor Air Inhalation Criteria	Groundwater Contact Criteria	Flammability and Explosivity Screening Level	Acute Inhalation Screening Level																		
Parameter:	Units	a	b	c	d																		
SVOCs																							
Anthracene	mg/L	0.043 S	0.043 S	ID	ID	0.0002 U	0.001 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--
Benzo(a)anthracene	mg/L	NLV	0.0094 S,AA	ID	ID	0.0002 U	0.001 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--
Benzo(a)pyrene	mg/L	NLV	0.001 M,AA	ID	ID	0.0002 U	0.001 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--
Benzo(b)fluoranthene	mg/L	ID	0.0015 S,AA	ID	ID	0.0002 U	0.001 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--
Benzo(g,h,i)perylene	mg/L	NLV	0.001 M	ID	ID	0.0002 U	0.001 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--
Benzo(k)fluoranthene	mg/L	NLV	0.001 M,AA	ID	ID	0.0002 U	0.001 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--
Chrysene	mg/L	ID	0.0016 S,AA	ID	ID	0.0002 U	0.001 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--
Dibenzo(a,h)anthracene	mg/L	NLV	0.002 M,AA	ID	ID	0.0002 U	0.001 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--
Fluoranthene	mg/L	0.21 S	0.21 S	ID	ID	0.0002 U	0.001 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--
Indeno(1,2,3-cd)pyrene	mg/L	NLV	0.002 M,AA	ID	ID	0.0002 U	0.001 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--
Phenanthrene	mg/L	1 S	1 S	ID	ID	0.0002 U	0.001 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--
Pyrene	mg/L	0.14 S	0.14 S	ID	ID	0.0002 U	0.001 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.00024 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--
Metals																							
Aluminum	mg/L	NLV	64000	ID	ID	0.0116 J	0.0142 J	0.05 U	0.644	0.523	0.0098 J	0.05 U	0.191	0.463	0.325	--	--	--	--	--	--	--	--
Antimony	mg/L	NLV	68	ID	ID	0.002 U	0.002 U	0.002 U	0.0011 J	0.002 U	0.002 U	0.002 U	0.0013 J	0.002 U	0.0017 J	--	--	--	--	--	--	--	--
Arsenic	mg/L	NLV	4.3	ID	ID	0.005 U	0.005 U	0.005 U	0.0059	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	--	--	--	--	--	--	--	--
Barium	mg/L	NLV	14000	ID	ID	0.394	0.0795	0.197	0.0097 J	0.0526 J	0.31	0.296	0.0212 J	0.012 J	0.0081 J	--	--	--	--	--	--	--	--
Beryllium	mg/L	NLV	290	ID	ID	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	--	--	--	--	--	--	--	--
Cadmium	mg/L	NLV	190	ID	ID	0.001 U	0.001 U	0.00071 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	--	--	--	--	--	--	--	--
Chromium	mg/L	NLV	460	ID	ID	0.0051	0.005 U	0.005 U	0.0065	0.005 U	0.005 U	0.005 U	0.0092	0.005 U	0.0076	--	--	--	--	--	--	--	--
Chromium III (Trivalent)	mg/L	NLV	290000	ID	ID	0.0051 J	0.0050 UJ	0.0050 UJ	0.0050 UJ	0.0050 UJ	0.0050 UJ	0.0050 UJ	0.0050 UJ	0.0050 UJ	0.0076 J	--	--	--	--	--	--	--	--
Chromium VI (Hexavalent)	mg/L	NLV	460	ID	ID	0.01 UJ	0.01 UJ	0.01 UJ	0.006 J	0.01 UJ	0.01 UJ	0.01 UJ	0.01 J	0.01 UJ	0.01 UJ	--	--	--	--	--	--	--	--
Cobalt	mg/L	NLV	2400	ID	ID	0.0025 J	0.0021 J	0.007 U	0.0021 J	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	--	--	--	--	--	--	--	--
Copper	mg/L	NLV	7400	ID	ID	0.002 U	0.0024 U	0.0022 U	0.0044	0.0021 U	0.002 U	0.002 U	0.0063	0.0025 U	0.0024 U	--	--	--	--	--	--	--	--
Iron	mg/L	NLV	58000	ID	ID	1.81 J	0.0871 J	0.125 J	1.03 J	0.879 J	0.1 U	0.829 J	0.415 J	0.829 J	0.783	--	--	--	--	--	--	--	--
Lead	mg/L	NLV	ID	ID	ID	0.003 U	0.003 U	0.003 U	0.0056	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	--	--	--	--	--	--	--	--
Magnesium	mg/L	NLV	1000000 D	ID	ID	56	16.2	70.9	2.02	23.4	59.3	57.1	6.86	4.7	3.59	--	--	--	--	--	--	--	--
Manganese	mg/L	NLV	9100	ID	ID	2.15	0.0577	0.192	0.0235	0.245	0.121	0.114	0.0151	0.0145 J	0.0108 J	--	--	--	--	--	--	--	--
Mercury	mg/L	0.056 S	0.056 S	ID	ID	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--	--	--	--	--	--
Nickel	mg/L	NLV	74000	ID	ID	0.0067 J	0.02 U	0.0035 J	0.02 U	0.004 J	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	--	--	--	--	--	--	--	--
Selenium	mg/L	NLV	970	ID	ID	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	--	--	--	--	--	--	--	--
Silver	mg/L	NLV	1500	ID	ID	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	--	--	--	--	--	--	--	--
Sodium	mg/L	NLV	1000000 D	ID	ID	876	643	488	68.9	444	2060	2030	54.9	284	66.8	--	--	--	--	--	--	--	--
Thallium	mg/L	NLV	13	ID	ID	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	--	--	--	--	--	--	--	--
Vanadium	mg/L	NLV	970	ID	ID	0.004 U	0.004 U	0.004 U	0.0054	0.004 U	0.004 U	0.004 U	0.0033 J	0.0032	0.0033 J	--	--	--	--	--	--	--	--
Zinc	mg/L	NLV	110000	ID	ID	0.0058 J	0.02 U	0.0058 J	0.0162 J	0.006 J	0.02 U	0.02 U	0.0105 J	0.02 U	0.02 U	--	--	--	--	--	--	--	--
PCBs																							
Aroclor-1254 (PCB-1254)	mg/L	0.045 S	0.0033 AA	ID	ID	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	--	--	--	--	--	--	--	--
Total PCBs	mg/L	0.045 S	0.0033 AA	ID	ID	0.00062	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.000105	0.0001 U	0.0001 U	--	--	--	--	--	--	--	--

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 1 Groundwater: Residential and Industrial-Commercial Generic Cleanup Criteria and Screening Levels.

AA Comparison to these criteria may take into account an evaluation of whether the hazardous substances are adsorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/L Milligrams per liter.

M Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

S Criterion defaults to the hazardous substance-specific water solubility limit.

SVOCs Semi-volatile organic compounds.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise.

0.0033^JExceeds the indicated criteria.

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location:						MW-33-07	MW-34-07	MW-35-07	MW-35-07	MW-37-07	MW-38-07	MW-40-07	MW-40-07	MW-48-07	MW-48-07	MW-63-08	
Sample ID:						GW-17322-010908-CB-011	GW-17322-010808-CB-013	GW-17322-010808-CB-012	GW-17322-010908-CB-012	GW-17322-010808-CB-010	GW-17322-010908-CB-017	GW-17322-010808-CB-014	GW-17322-010808-CB-015	GW-17322-040808-CB-006	GW-17322-040808-CB-007	GW-17322-040708-CB-002	
Sample Date:						01/09/2008	01/08/2008	01/08/2008	01/09/2008	01/08/2008	01/09/2008	01/09/2008	01/08/2008	01/08/2008	04/08/2008	04/08/2008	04/07/2008
Sample Type:													Duplicate		Duplicate		
		Groundwater Volatilization to Indoor Air Inhalation Criteria	Groundwater Contact Criteria	Flammability and Explosivity Screening Level	Acute Inhalation Screening Level												
Parameter:	Units	a	b	c	d												
SVOCs																	
Anthracene	mg/L	0.043 S	0.043 S	ID	ID	0.00025 U	0.0002 U	0.0002 U	0.0005 U	0.0002 U	--	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Benzo(a)anthracene	mg/L	NLV	0.0094 S,AA	ID	ID	0.00025 U	0.0002 U	0.0002 U	0.0005 U	0.00073	--	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Benzo(a)pyrene	mg/L	NLV	0.001 M,AA	ID	ID	0.00025 U	0.0002 U	0.0002 U	0.0005 U	0.00064	--	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Benzo(b)fluoranthene	mg/L	ID	0.0015 S,AA	ID	ID	0.00025 U	0.0002 U	0.0002 U	0.0005 U	0.0012	--	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Benzo(g,h,i)perylene	mg/L	NLV	0.001 M	ID	ID	0.00025 U	0.0002 U	0.0002 U	0.0005 U	0.00057	--	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Benzo(k)fluoranthene	mg/L	NLV	0.001 M,AA	ID	ID	0.00025 U	0.0002 U	0.0002 U	0.0005 U	0.00038	--	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Chrysene	mg/L	ID	0.0016 S,AA	ID	ID	0.00025 U	0.0002 U	0.0002 U	0.0005 U	0.00094	--	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Dibenzo(a,h)anthracene	mg/L	NLV	0.002 M,AA	ID	ID	0.00025 U	0.0002 U	0.0002 U	0.0005 U	0.0002 U	--	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Fluoranthene	mg/L	0.21 S	0.21 S	ID	ID	0.00025 U	0.0002 U	0.00023	0.0005 U	0.0025	--	0.0002 U	0.0002 U	0.00024	0.0002 U	0.0002 U	
Indeno(1,2,3-cd)pyrene	mg/L	NLV	0.002 M,AA	ID	ID	0.00025 U	0.0002 U	0.0002 U	0.0005 U	0.00049	--	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Phenanthrene	mg/L	1 S	1 S	ID	ID	0.00025 U	0.0002 U	0.00022	0.0005 U	0.00087	--	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Pyrene	mg/L	0.14 S	0.14 S	ID	ID	0.00025 U	0.0002 U	0.0002 U	0.0005 U	0.0017	--	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Metals																	
Aluminum	mg/L	NLV	64000	ID	ID	0.929	0.366	--	0.927	0.0487 J	0.148	0.0198 J	0.0252 J	0.0225 J	0.0262 J	0.172	
Antimony	mg/L	NLV	68	ID	ID	0.0019 J	0.002 U	--	0.0008 J	0.001 J	0.00014 J	0.002 U	0.002 U	0.002 U	0.002 U	0.00017 J	
Arsenic	mg/L	NLV	4.3	ID	ID	0.005 U	0.005 U	--	0.0493	0.0092	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	
Barium	mg/L	NLV	14000	ID	ID	0.448	0.095 J	--	0.046 J	0.15	0.103	0.102	0.299	0.293	0.111		
Beryllium	mg/L	NLV	290	ID	ID	0.001 U	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Cadmium	mg/L	NLV	190	ID	ID	0.001 U	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Chromium	mg/L	NLV	460	ID	ID	0.0414	0.005 U	--	0.0075	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	
Chromium III (Trivalent)	mg/L	NLV	290000	ID	ID	0.0099 J	0.0050 UJ	--	0.0050 UJ	0.0050 UJ	--	0.0050 UJ	0.0050 UJ	0.0050 U	0.0050 U	0.0050 U	
Chromium VI (Hexavalent)	mg/L	NLV	460	ID	ID	0.03 J	0.01 UJ	--	0.008 J	0.01 UJ	--	0.01 UJ	0.01 UJ	0.01 U	0.01 U	0.01 U	
Cobalt	mg/L	NLV	2400	ID	ID	0.007 U	0.007 U	--	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	0.007 U	
Copper	mg/L	NLV	7400	ID	ID	0.0075	0.0024 U	--	0.0072	0.0023 U	0.0039	0.002 U	0.002 U	0.002 U	0.002 U	0.002 U	
Iron	mg/L	NLV	58000	ID	ID	0.102	0.575	--	0.767	0.1 U	0.346	0.106	0.0825 J	7.67	7.88	0.539	
Lead	mg/L	NLV	ID	ID	ID	0.003 U	0.003 U	--	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.0225	
Magnesium	mg/L	NLV	1000000 D	ID	ID	1 U	28.7	--	1 U	39.8	80.5	80	77.7	33.5	33	32.1	
Manganese	mg/L	NLV	9100	ID	ID	0.0025 J	0.233	--	0.0111 J	0.057	0.254	0.0873	0.0898	0.324	0.323	0.595	
Mercury	mg/L	0.056 S	0.056 S	ID	ID	0.0002 U	0.0002 U	--	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Nickel	mg/L	NLV	74000	ID	ID	0.02 U	0.02 U	--	0.0033 J	0.0055 J	0.0094 J	0.0032 J	0.0043 J	0.02 U	0.02 U	0.02 U	
Selenium	mg/L	NLV	970	ID	ID	0.005 U	0.005 U	--	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	
Silver	mg/L	NLV	1500	ID	ID	0.0002 U	0.0002 U	--	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002 U	
Sodium	mg/L	NLV	1000000 D	ID	ID	277	227	--	1290	367	84.2	1080	1040	730	716	365	
Thallium	mg/L	NLV	13	ID	ID	0.001 U	0.001 U	--	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	
Vanadium	mg/L	NLV	970	ID	ID	0.0072	0.0024 J	--	0.0488	0.0018 J	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	0.004 U	
Zinc	mg/L	NLV	110000	ID	ID	0.02 U	0.02 U	--	0.02 U	0.02 U	0.0215	0.02 U	0.02 U	0.02 U	0.02 U	0.0072 J	
PCBs																	
Aroclor-1254 (PCB-1254)	mg/L	0.045 S	0.0033 AA	ID	ID	--	0.0001 U	0.0001 U	0.0001 U	0.0001 U	--	0.0001 U	0.0001 U	0.0001 U	0.0001 U	0.0001 U	
Total PCBs	mg/L	0.045 S	0.0033 AA	ID	ID	--	0.0001 U	0.0001 U	0.0001 U	0.0001 U	--	0.0000715	0.0001 U	0.0001 U	0.0001 U	0.0001 U	

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 1 Groundwater: Residential and Industrial-Commercial Generic Cleanup Criteria and Screening Levels.

AA Comparison to these criteria may take into account an evaluation of whether the hazardous substances are adsorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/L Milligrams per liter.

M Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

S Criterion defaults to the hazardous substance-specific water solubility limit.

SVOCs Semi-volatile organic compounds.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise.

0.0033^JExceeds the indicated criteria.

TABLE 2
GROUNDWATER ANALYTICAL RESULTS
PONTIAC VALIDATION CENTER
PONTIAC, MI

Sample Location:		MW-64-08		MW-68-08		TMW71-08		MW-74-08		MW-78-08		TMW-81-08	
Sample ID:		GW-17322-040708-CB-001		GW-17322-040708-CB-005		WG-17322-031008-MC-002		GW-17322-040708-CB-004		GW-17322-040708-CB-003		WG-17322-031008-MC-001	
Sample Date:		04/07/2008		04/07/2008		03/10/2008		04/07/2008		04/07/2008		03/10/2008	
Sample Type:													
		Groundwater Volatilization to Indoor Air Inhalation Criteria	Groundwater Contact Criteria	Flammability and Explosivity Screening Level	Acute Inhalation Screening Level								
Parameter:	Units	a	b	c	d								
SVOCs													
Anthracene	mg/L	0.043 S	0.043 S	ID	ID	0.0002 U	0.0002 U	--	0.0013	0.0002 U	--		
Benzo(a)anthracene	mg/L	NLV	0.0094 S,AA	ID	ID	0.0002 U	0.00035	--	0.0034	0.0002 U	--		
Benzo(a)pyrene	mg/L	NLV	0.001 M,AA	ID	ID	0.0002 U	0.0003	--	0.0033 ^b	0.0002 U	--		
Benzo(b)fluoranthene	mg/L	ID	0.0015 S,AA	ID	ID	0.0002 U	0.00035	--	0.0041 ^b	0.0002 U	--		
Benzo(g,h,i)perylene	mg/L	NLV	0.001 M	ID	ID	0.0002 U	0.0002 U	--	0.0022 ^b	0.0002 U	--		
Benzo(k)fluoranthene	mg/L	NLV	0.001 M,AA	ID	ID	0.0002 U	0.0002 U	--	0.0017 ^b	0.0002 U	--		
Chrysene	mg/L	ID	0.0016 S,AA	ID	ID	0.0002 U	0.00032	--	0.0033 ^b	0.0002 U	--		
Dibenzo(a,h)anthracene	mg/L	NLV	0.002 M,AA	ID	ID	0.0002 U	0.0002 U	--	0.00061	0.0002 U	--		
Fluoranthene	mg/L	0.21 S	0.21 S	ID	ID	0.0002 U	0.00074	--	0.0084	0.0002 U	--		
Indeno(1,2,3-cd)pyrene	mg/L	NLV	0.002 M,AA	ID	ID	0.0002 U	0.0002 U	--	0.002	0.0002 U	--		
Phenanthrene	mg/L	1 S	1 S	ID	ID	0.0002 U	0.00059	--	0.0058	0.0002 U	--		
Pyrene	mg/L	0.14 S	0.14 S	ID	ID	0.0002 U	0.00059	--	0.0063	0.0002 U	--		
Metals													
Aluminum	mg/L	NLV	64000	ID	ID	0.157	0.467	--	0.459	0.0928	--		
Antimony	mg/L	NLV	68	ID	ID	0.00078 J	0.0003 J	--	0.00051 J	0.00039 J	--		
Arsenic	mg/L	NLV	4.3	ID	ID	0.005 U	0.005 U	--	0.005 U	0.005 U	--		
Barium	mg/L	NLV	14000	ID	ID	0.0467 J	0.0234 J	--	0.0908 J	0.0435 J	--		
Beryllium	mg/L	NLV	290	ID	ID	0.001 U	0.001 U	--	0.001 U	0.001 U	--		
Cadmium	mg/L	NLV	190	ID	ID	0.001 U	0.001 U	--	0.001 U	0.001 U	--		
Chromium	mg/L	NLV	460	ID	ID	0.0033 J	0.0024 J	--	0.0024 J	0.005 U	--		
Chromium III (Trivalent)	mg/L	NLV	290000	ID	ID	0.0050 U	0.0050 U	--	0.0050 U	0.0050 U	--		
Chromium VI (Hexavalent)	mg/L	NLV	460	ID	ID	0.01 U	0.01 U	--	0.01 U	0.01 U	--		
Cobalt	mg/L	NLV	2400	ID	ID	0.007 U	0.007 U	--	0.0133	0.007 U	--		
Copper	mg/L	NLV	7400	ID	ID	0.0023 U	0.002 U	--	0.0041	0.002 U	--		
Iron	mg/L	NLV	58000	ID	ID	1.08	0.711	--	1.25	0.166	--		
Lead	mg/L	NLV	ID	ID	ID	0.003 U	0.003 U	--	0.003 U	0.0025 J	--		
Magnesium	mg/L	NLV	1000000 D	ID	ID	24.5	19.2	--	29.8	56.4	--		
Manganese	mg/L	NLV	9100	ID	ID	0.0917	0.0231	--	0.475	0.238	--		
Mercury	mg/L	0.056 S	0.056 S	ID	ID	0.00012 J	0.0002 U	--	0.0002 U	0.00012 J	--		
Nickel	mg/L	NLV	74000	ID	ID	0.02 U	0.02 U	--	0.0086 J	0.02 U	--		
Selenium	mg/L	NLV	970	ID	ID	0.0054	0.0045 J	--	0.005 U	0.005 U	--		
Silver	mg/L	NLV	1500	ID	ID	0.0002 U	0.0002 U	--	0.0002 U	0.0002 U	--		
Sodium	mg/L	NLV	1000000 D	ID	ID	165	124	--	593	44.4	--		
Thallium	mg/L	NLV	13	ID	ID	0.001 U	0.001 U	--	0.001 U	0.001 U	--		
Vanadium	mg/L	NLV	970	ID	ID	0.0021 J	0.001 J	--	0.004 U	0.004 U	--		
Zinc	mg/L	NLV	110000	ID	ID	0.02 U	0.02 U	--	0.0314	0.02 U	--		
PCBs													
Aroclor-1254 (PCB-1254)	mg/L	0.045 S	0.0033 AA	ID	ID	0.0001 U	0.0001 U	--	0.0001 U	0.0001 U	--		
Total PCBs	mg/L	0.045 S	0.0033 AA	ID	ID	0.0001 U	0.0001 U	--	0.0001 U	0.0001 U	--		

Notes:

Criteria All Criteria from Michigan Act 451 Part 201 Table 1 Groundwater: Residential and Industrial-Commercial Generic Cleanup Criteria and Screening Levels.

AA Comparison to these criteria may take into account an evaluation of whether the hazardous substances are adsorbed to particulates rather than dissolved in water and whether filtered groundwater samples were used to evaluate groundwater.

D Calculated criterion exceeds 100 percent, hence it is reduced to 100 percent or 1.0E+9 parts per billion (ppb).

ID Insufficient data available to calculate risk-based criteria.

J The associated value is qualified as an estimated quantity.

mg/L Milligrams per liter.

M Calculated criterion is below the analytical target detection limit, therefore, the criterion defaults to the target detection limit.

NLV Hazardous substance is not likely to volatilize under most conditions.

PCBs Polychlorinated biphenyls.

S Criterion defaults to the hazardous substance-specific water solubility limit.

SVOCs Semi-volatile organic compounds.

U The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

UJ The analyte was reported or qualified as not detected however, the sample report limit is qualified as an estimated value and may be inaccurate or imprecise.

0.0033^b Exceeds the indicated criteria.

APPENDIX A

BACKGROUND SOIL INVESTIGATION



DRAFT MEMORANDUM
PRIVILEGED AND CONFIDENTIAL
PREPARED AT THE REQUEST OF COUNSEL

TO: Mr. Robert Hare, MLC

FROM: Mr. Terry Gayman, CRA/cb/9

RE: **Background Soil Investigation**
Pontiac Validation Center
Pontiac, Michigan

REF. NO.: 017322

DATE: December 8, 2009

1.0 INTRODUCTION

Conestoga-Rovers & Associates, Inc. (CRA) has prepared this Memorandum to present the results of a background soil investigation at the Pontiac Validation Center (Site) located in Pontiac, Michigan. The background soil investigation was conducted concurrently with the Phase II Environmental Site Assessment (ESA) activities at the Site. The Phase II ESA activities were performed between October 2007 and April 2008, the results of which are summarized in a Phase II ESA Report (CRA, 2009). The purpose of the background soil investigation was to assist in evaluating due care obligations at the Site in accordance with Michigan Act 451 Part 201 Section 20107(a).

2.0 BACKGROUND

CRA was retained by Environmental Corporate Remediation Company Inc. (ENCORE), at the request of General Motors Corporation (GM) Legal Staff, to complete a Phase II ESA for the Site. The Phase II ESA was performed to further investigate potential areas of concern (PAOCs) identified during the Phase I ESA completed by CRA in 2006. The Phase II ESA included soil and groundwater investigative activities.

3.0 BACKGROUND METALS CONCENTRATIONS IN SOIL

During the Phase II ESA, CRA completed a preliminary review of background metals concentrations in Site soils. This background soil investigation was initiated after the preliminary review of soil data revealed various metals concentrations exceeding Part 201 Criteria. The background soil investigation was completed in accordance with the requirements presented in the Michigan Department of Environmental Quality (MDEQ) document *Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria* (MDEQ, 2002, referred to as the "S³TM"). Site-specific background metals concentrations (as defined in Section 4.3 of "Statistical Methods" (Tab 7) of the S³TM) were determined for naturally-occurring metals in soils (as described in the following sections), and are used as a basis of comparison in cases where on-Site soil samples contain metals at concentrations exceeding applicable Part 201 Criteria. It is known that the

Erie Lobe during the last glaciation period had higher values of naturally occurring metals than the State-wide Default Background Values.

3.1 Statistical Methodologies and Calculated Background Values

Guidance for generating and applying soil background data for assessing compliance with Part 201 requirements is detailed in "Statistical Guidesheet 10" and Chapter 4 of Tab 7 of the S³TM. If background concentrations are greater than Part 201 Criteria for naturally occurring substances, then background comparisons may be performed on a point-by-point basis using a background mean plus three standard deviations value. A number of assumptions for the background data set must be statistically assessed before the comparisons are performed. The following subsections present the required details for the statistical calculations. Background values are established separately for each soil horizon being evaluated at a Act 451 Part 201 Facility (i.e. clay, sand, etc.).

3.1.1 Background Data

The geologic framework for the Site was defined from a review of stratigraphic and instrumentation logs from the Phase II ESA investigative activities. The Site geologic setting is primarily dominated by a sand and gravel fill layer, underlain by native clay/silt glacial deposits, underlain by bedrock. Isolated and discontinuous sand layers are interspersed throughout the native clay/silt glacial deposit at varying depths and thicknesses.

Background data for metals were collected at ten locations (BG-01 to BG-10) in March 2008. At each of the ten locations, two samples were collected: one shallow sample (typically 2-8 feet below ground surface (bgs)) in a sand layer as encountered; and a second, deep, sample (typically 10-19 feet bgs) in the native clay/silt deposit. A sandy layer was not encountered during boring at BG-05, and consequently, only a clay soil sample was collected. The background sample locations are presented on Figure A.1. Stratigraphy logs are presented in Attachment A.

The background soil samples were shipped to Test America Laboratories, Inc. (Test America) under standard chain of custody (COC) procedures and were submitted for laboratory analysis of 23 metals. A summary of the stratigraphy at the sampled locations is provided in Table 1, and the resulting background data sets are provided in Table 2. The S³TM recommends a minimum of nine background samples for establishing a Facility-specific background concentration, which have been successfully obtained for both sandy (9 background samples) and clayey (10 background samples) horizons being evaluated at the Site.

3.1.2 Non-Detects in the Background Data Set

The derivation of Site-specific background concentrations (see Table 3) when non-detect data are present is presented in Chapter 5 of Tab 7 of the S³TM. Specifically, if more than 50 percent of the background data for a given inorganic parameter is non-detect, non-parametric upper tolerance limits should be used. This occurred for five cases in the background data (see Tables 2 and 3): hexavalent chromium in both sandy and clay background samples; silver and thallium in sands; and mercury in clays. In these cases, the maximum concentration (or target detection limit) was taken as the non-parametric upper tolerance limit.

For data sets with up to 50 percent non-detect data, a value of one-half the detection limit is to be substituted for each non-detect data point prior to statistical evaluations (i.e., distribution testing, outlier testing, and background value computation).

3.1.3 Assessment of Data Characteristics and Assumptions

For background data sets containing up to 50 percent non-detect data, prior to calculating a Site-specific background concentration each set must be evaluated for underlying statistical distribution (i.e., normal, lognormal, or neither) and the presence of statistical outliers (atypically large or small values), per Section 4.3.1.1 of Tab 7 of the S³TM.

The background data distribution was assessed using the Shapiro-Wilk W-test, and probability plots where needed (Sections 1.3.5 and 1.3.3, respectively, of Tab 7 of the S³TM), considering both the original and log-transformed concentration data. Concurrently, the presence of statistical outliers was assessed using Dixon's test (for up to 25 data points, Section 2.1.4 of Tab 7 of the S³TM) for the original and log-transformed data sets. Since the assessment of these two data characteristics (distribution and outliers), is interrelated, a final decision on the appropriate data distribution to use was made considering the results of both tests. In cases where a data distribution could not be identified, the non-parametric upper tolerance limit procedure (see Section 3.1.2 above) is appropriate for determining a background value.

Results of the data distribution and outlier testing are given in Table 3.

3.1.4 Calculation of Site-Specific Background Concentrations

As noted above, if greater than 50 percent of the background data are non-detect results, or a given background data set was neither normally nor lognormally distributed, then a non-parametric upper tolerance limit was used for the background value. For instances with fewer than 86 background data points (which is the case for the background sampling), the nonparametric upper tolerance limit of the 95th percentile of background data is the maximum concentration observed.

For normal and lognormal data sets containing up to 50 percent non-detects, the Site-specific background concentration is calculated as the mean plus three standard deviations (Section 4.3.1.1 of Tab 7 of the S³TM).

The treatment of statistical outliers identified is outlined in Section 2.2 of Tab 7 of the S³TM. As noted under "*Facility-specific background samples collected off of the property of interest*" in this section, the background data obtained for the Site are believed to represent naturally occurring background metals concentrations, and were therefore retained. In some cases this resulted in the background data set being neither normally nor lognormally distributed, requiring the use of an upper tolerance limit. In other cases, a discernable data distribution was appropriate (normal or lognormal), and the mean plus three standard deviation method was used to calculate background values.

Details of the background value calculations, and the values obtained, are presented in Table 3 for sandy and clayey soil at the Site.

3.2 Applicability of Background Values for Comparing On-Site Conditions

The Site-specific background concentrations have been established for the 23 inorganic chemicals analyzed in the background samples. These background values are appropriate for a point-by-point comparisons of on-Site data. The background values are not appropriate for group-based comparisons (such as comparing an area of the Site against background conditions), in which case the procedures found in Section 4.3.2 of Tab 7 of the S³TM should be applied.

4.0 REFERENCES

CRA, 2006. Phase I Environmental Site Assessment, General Motors Pontiac Centerpoint Campus - Validation Center, Pontiac, Michigan.

CRA, 2009. Phase II Environmental Site Assessment, General Motors Validation Center, Pontiac, Michigan.

MDEQ, 2002. Sampling Strategies and Statistics Training Materials for Part 201 Cleanup Criteria. Michigan Department of Environmental Quality, Environmental Response Division.

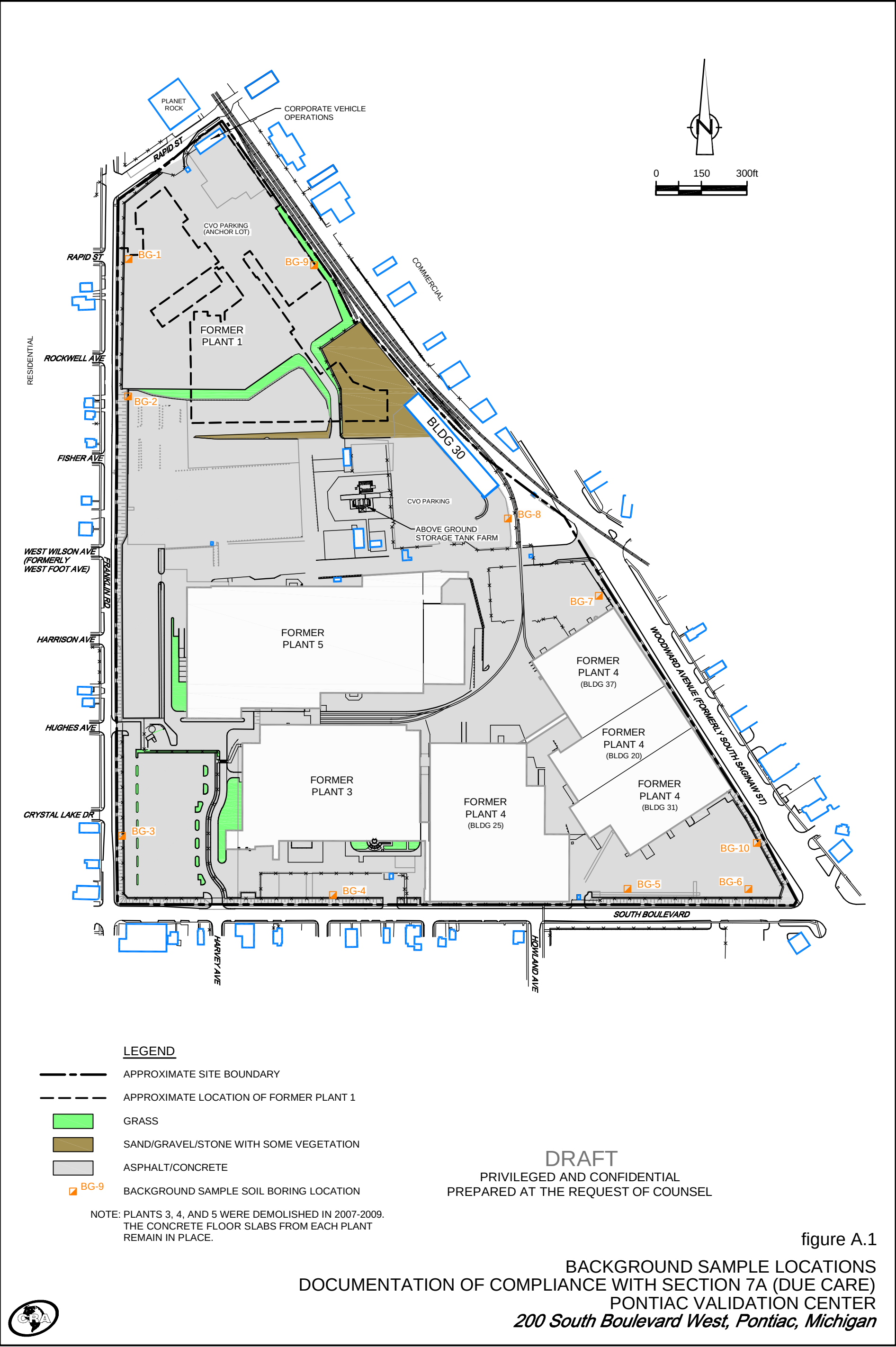


TABLE 1
BACKGROUND SAMPLE KEY AND STRATIGRAPHY
PONTIAC VALIDATION CENTER
PONTIAC, MICHIGAN

<i>Borehole Name</i>	<i>Samples Collected in Sand Layer</i>		<i>Samples Collected in Clay/Silt Layer</i>	
	<i>Depth (ft bgs)</i>	<i>Soil Description</i>	<i>Depth (ft bgs)</i>	<i>Soil Description</i>
BG-1	4-6	Sand, trace gravel	17-19	Clays, trace gravels
BG-2	11-13	Sands, trace fine gravels	16-18	Sand clays, silts
BG-3	7-8	Sands, medium to fine grained	12-14	Clays, trace gravels
BG-4	3-5	Sandy silts	12-14	Clays
BG-5	--	< no sandy soil encountered >	11-13	Clays, trace gravels
BG-6	7-9	Sands with clays	13-15	Clays, trace gravels
BG-7	3-5	Sands, trace gravels	12-14	Clays, trace gravels
BG-8	1.5-2	Sands, clays, silts	6-8	Clays, trace gravels
BG-9	2-3	Sands, trace gravels	4-6	Clays, trace gravels
BG-10	2-4	Sands, some clays	8-10	Clays, trace fine gravels

Samples in Sandy Soils

Sample Location: Depth (ft bgs)		BG-01 (4-6)	BG-02 (11-13)	BG-03 (7-8)	BG-04 (3-5)	BG-05 --	BG-06 (7-9)	BG-07 (3-5)	BG-08 (1.5-2)	BG-09 (2-3)	BG-10 (2-4)
Sample ID:		SO-17322-030708-MC-012	SO-17322-030708-MC-001	SO-17322-030608-MC-003	SO-17322-030608-MC-001	--	SO-17322-030708-MC-004	SO-17322-030708-MC-006	SO-17322-030708-MC-008	SO-17322-030708-MC-010	SO-17322-030708-MC-014
Sample Date:		03/07/2008	03/07/2008	03/06/2008	03/06/2008	--	03/07/2008	03/07/2008	03/07/2008	03/07/2008	03/07/2008
Sample Type:											
Parameter:	Units										
Metals											
Aluminum	mg/kg	2430	1640	4590	5240	--	7220	2120	4950	2740	7550
Antimony	mg/kg	0.069 J	0.080 J	R	0.053 J	--	0.054 J	0.056 J	0.057 J	0.053 J	0.056 J
Arsenic	mg/kg	4.1 J	3.7	2.6 J	4.7	--	5.8 J	3.6 J	2.8 J	3.3 J	4.8 J
Barium	mg/kg	12.6	7.6	23.7	38.3	--	214	4.7	44.3	12.2	35.9
Beryllium	mg/kg	0.14 J	0.18 U	0.24	0.28	--	0.43	0.17 U	0.26	0.17 J	0.36
Cadmium	mg/kg	0.12	0.26	0.064 J	0.23	--	0.45	0.082 J	0.15	0.098	0.22
Calcium	mg/kg	91300	37600	1010	65900	--	2060	40400	1400	24700	11400
Chromium III (Trivalent)	mg/kg	5.7	4.6	8.1	9.2	--	12.6	7.4	8.4	5.9	14.2
Chromium Total	mg/kg	5.7	4.6	8.4	9.7	--	12.9	7.6	8.7	5.9	14.7
Chromium VI (Hexavalent)	mg/kg	0.83 U	0.89 U	0.95 U	0.88 U	--	0.93 U	0.87 U	0.94 U	0.93 U	0.91 U
Cobalt	mg/kg	3.3	2.4	2.7	5.3	--	9.3	2.8	5.4	4.0	6.9
Copper	mg/kg	8.9	8.0	6.6	15.4	--	6.1	6.2	6.5	14.1	13.0
Iron	mg/kg	6240	5150	8370	11800	--	20500	5580	8700	8270	13500
Lead	mg/kg	4.5	3.6	4.0	6.1	--	5.7	3.5	18.2	6.0	6.6
Magnesium	mg/kg	15200	7290	1160	10700	--	1530	9700	1260	4710	4310
Manganese (Dissolved)	mg/kg	285	124	55.7	373	--	4110	184	517	374	413
Mercury	mg/kg	0.041 U	0.045 U	0.018 J	0.044 U	--	0.048	0.044 U	0.032 J	0.019 J	0.028 J
Nickel	mg/kg	8.8 J	8.2 J	8.4 J	13.9 J	--	14.1 J	7.5 J	8.0 J	9.8 J	15.8 J
Potassium	mg/kg	364 J	371 J	370 J	1010	--	590	281 J	592	501	841
Selenium	mg/kg	0.21 J	0.21	0.38 J	0.39	--	0.76 J	0.17 J	0.41 J	0.41 J	0.49 J
Silver	mg/kg	0.083 UJ	0.089 U	0.095 UJ	0.088 U	--	0.021 J	0.087 UJ	0.028 J	0.093 UJ	0.019 J
Sodium	mg/kg	224	89.0 U	442	826	--	248	87.2 U	515	186	178
Thallium	mg/kg	0.11 U	0.13	0.095 U	0.17	--	0.19	0.087 U	0.094 U	0.14	0.11 U
Vanadium	mg/kg	8.1	8.5	12.4	13.7	--	24.2	8.7	12.9	8.9	21.4
Zinc	mg/kg	22.1 J	33.2 J	19.2 J	33.8 J	--	47.5 J	18.7 J	28.6 J	30.1 J	31.8 J

- Notes:
- U Not present at or above the associated value.
 - J Estimated concentration.
 - UJ Estimated reporting limit.
 - R Rejected based on outlying matrix spike/matrix spike duplicate recoveries .
 - Sandy soils not encountered, no sample obtained.
 - ft bgs Feet below ground surface.

Samples in Clayey Soils

Sample Location: Depth (ft bgs)		BG-01 (17-19)	BG-02 (16-18)	BG-03 (12-14)	BG-04 (12-14)	BG-05 (11-13)	BG-06 (13-15)	BG-07 (12-14)	BG-08 (6-8)	BG-09 (4-6)	BG-10 (8-10)
Sample ID:		SO-17322-030708-MC-013	SO-17322-030708-MC-002	SO-17322-030608-MC-004	SO-17322-030608-MC-002	SO-17322-030708-MC-003	SO-17322-030708-MC-005	SO-17322-030708-MC-007	SO-17322-030708-MC-009	SO-17322-030708-MC-011	SO-17322-030708-MC-015
Sample Date:		03/07/2008	03/07/2008	03/06/2008	03/06/2008	03/07/2008	03/07/2008	03/07/2008	03/07/2008	03/07/2008	03/07/2008
Sample Type:											
Parameter:	Units										
Metals											
Aluminum	mg/kg	4580	3050	7650	6550	7820	6380	7830	8930	5060	7510
Antimony	mg/kg	0.063 J	0.16 J	0.066 J	0.066 J	0.074 J	0.030 J	0.067 J	0.064 J	0.060 J	0.067 J
Arsenic	mg/kg	3.5 J	6.6	4.6 J	6.7	2.7 J	1.2 J	3.5 J	4.5 J	5.6 J	5.2 J
Barium	mg/kg	22.7	12.9	54.9	41.9	42.0	27.6	42.3	56.1	26.1	44.5
Beryllium	mg/kg	0.22	0.20 J	0.42	0.36	0.41	0.30	0.38	0.44	0.27	0.40
Cadmium	mg/kg	0.17	0.62	0.25	0.31	0.14	0.12	0.21	0.23	0.20	0.23
Calcium	mg/kg	57000	68700	95100	74800	77700	54500	66300	79000	55500	100000
Chromium III (Trivalent)	mg/kg	9.3	6.4	14.3	11.9	13.4	11.6	13.7	14.7	11.3	13.5
Chromium Total	mg/kg	9.3	6.4	14.3	12.3	14.0	11.9	13.7	15.3	11.3	13.5
Chromium VI (Hexavalent)	mg/kg	0.88 U	1.0 U	0.91 U	0.91 U	0.94 U	0.89 U	0.91 U	0.91 U	0.89 U	0.90 U
Cobalt	mg/kg	5.2	5.0	13.3	6.3	7.9	4.6	5.0	8.9	5.0	6.5
Copper	mg/kg	9.5	15.7	18.0	15.9	14.2	9.0	14.5	17.3	11.5	17.8
Iron	mg/kg	9920	10600	16200	16600	13300	9620	14000	17200	11500	15300
Lead	mg/kg	4.3	6.1	8.5	7.2	7.0	6.0	6.1	7.7	27.6	7.3
Magnesium	mg/kg	18500	24900	14500	11400	14400	19900	12500	14500	17600	14900
Manganese (Dissolved)	mg/kg	231	334	583	336	350	227	288	467	294	396
Mercury	mg/kg	0.044 U	0.052 U	0.020 J	0.046 U	0.047 U	0.045 U	0.046 U	0.018 J	0.045 U	0.021 J
Nickel	mg/kg	13.2 J	15.3 J	24.9 J	18.1 J	20.9 J	13.7 J	17.5 J	25.1 J	13.8 J	18.4 J
Potassium	mg/kg	1000	726	1870	1190	1830	1280	1800	1840	1020	1480
Selenium	mg/kg	0.32 J	0.71	0.53 J	0.48	0.55 J	0.47 J	0.44 J	0.47 J	0.36 J	0.50 J
Silver	mg/kg	0.023 J	0.038 J	0.026 J	0.091 U	0.031 J	0.026 J	0.091 UJ	0.091 UJ	0.089 UJ	0.019 J
Sodium	mg/kg	127	196	497	811	588	206	1210	861	195	90.2 U
Thallium	mg/kg	0.17	0.39	0.23	0.15	0.22	0.19	0.17	0.26	0.14	0.22
Vanadium	mg/kg	16.7	11.4	19.0	16.1	17.7	14.4	17.8	19.7	15.8	17.7
Zinc	mg/kg	25.0 J	42.9 J	36.5 J	57.9 J	33.3 J	31.6 J	35.9 J	39.1 J	27.3 J	36.1 J

Notes:

- U
- Not present at or above the associated value.
- J
- Estimated concentration.
- UJ
- Estimated reporting limit.
-
- Sandy soils not encountered, no sample obtained.

TABLE 3
SITE-SPECIFIC BACKGROUND VALUE CALCULATIONS PER MICHIGAN PART 201 GUIDANCE
PONTIAC VALIDATION CENTER
PONTIAC, MICHIGAN

Parameter:	Units	Summary Statistics				Data distribution test results (Shapiro-Wilk)					Outlier test results (Dixon's test)				Calculated Background Values				Selected Background Value
		Number of samples	Percentage non-detects	Minimum value	Maximum value	Original data		Log-transformed data		Overall Conclusion	Original data		Log-transformed data		Mean (X)	S.D. (S)	Background (X+3S)	Non-parametric (maximum)	
						W-statistic	Conclusion	W-statistic	Conclusion		# Outliers	Values	# Outliers	Values					
(i) Sandy (shallower) soils																			
Metals																			
Aluminum	mg/kg	9	0%	1640	7550	0.910	Normal	0.926	Normal	Lognormal	0	--	0	--	4276	2186	10834	--	10800
Antimony	mg/kg	8	0%	0.053 J	0.080 J	0.733	Not Normal	0.757	Not Normal	Unknown	2	0.069J; 0.080J	2	0.069J; 0.080J	0.0598	0.010	0.089	0.080 J	0.080 J
Arsenic	mg/kg	9	0%	2.6 J	5.8 J	0.963	Normal	0.976	Normal	Lognormal	0	--	0	--	3.93	1.03	7.02	--	7.02
Barium	mg/kg	9	0%	4.7	214	0.592	Not Normal	0.954	Normal	Lognormal	1	214	0	--	43.7	65.5	240	--	240
Beryllium	mg/kg	9	22%	0.17 U	0.43	0.948	Normal	0.937	Normal	Normal	0	--	0	--	0.228	0.119	0.584	--	0.584
Cadmium	mg/kg	9	0%	0.064 J	0.45	0.876	Normal	0.972	Normal	Lognormal	1	0.45	0	--	0.186	0.121	0.549	--	0.549
Calcium	mg/kg	9	0%	1010	91300	0.883	Normal	0.877	Normal	Normal	0	--	0	--	30641	31666	125639	--	126000
Chromium III (Trivalent)	mg/kg	9	0%	4.6	14.2	0.922	Normal	0.967	Normal	Lognormal	0	--	0	--	8.46	3.18	18.0	--	18
Chromium Total	mg/kg	9	0%	4.6	14.7	0.932	Normal	0.970	Normal	Lognormal	0	--	0	--	8.69	3.35	18.7	--	18.7
Chromium VI (Hexavalent)	mg/kg	9	100%	0.83 U	0.95 U	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.95 U	0.95 U
Cobalt	mg/kg	9	0%	2.4	9.3	0.890	Normal	0.943	Normal	Lognormal	0	--	0	--	4.68	2.30	11.6	--	11.6
Copper	mg/kg	9	0%	6.1	15.4	0.823	Not Normal	0.846	Normal	Lognormal	0	--	0	--	9.42	3.72	20.6	--	20.6
Iron	mg/kg	9	0%	5150	20500	0.856	Normal	0.945	Normal	Lognormal	0	--	0	--	9790	4872	24406	--	24400
Lead	mg/kg	9	0%	3.5	18.2	0.626	Not Normal	0.814	Not Normal	Unknown	1	18.2	1	18.2	6.47	4.55	20.1	18.2	18.2
Magnesium	mg/kg	9	0%	1160	15200	0.911	Normal	0.898	Normal	Normal	0	--	0	--	6207	4900	20907	--	20900
Manganese (Dissolved)	mg/kg	9	0%	55.7	4110	0.502	Not Normal	0.909	Normal	Lognormal	1	4110	1	4110	715	1282	4560	--	4560
Mercury	mg/kg	9	44%	0.018 J	0.048	n/a	n/a	n/a	n/a	Lognormal	3	0.048; 0.032J; 0.028J	3	0.048; 0.032J; 0.028J	0.0258	0.0094	0.054	--	0.0541
Nickel	mg/kg	9	0%	7.5 J	15.8 J	0.816	Not Normal	0.841	Normal	Lognormal	3	15.8J; 14.1J; 13.9J	3	15.8J; 14.1J; 13.9J	10.5	3.18	20.0	--	20
Potassium	mg/kg	9	0%	281 J	1010	0.889	Normal	0.942	Normal	Lognormal	2	1010; 841	0	--	547	243	1276	--	1280
Selenium	mg/kg	9	0%	0.17 J	0.76 J	0.887	Normal	0.921	Normal	Lognormal	3	0.17J; 0.21J; 0.21	3	0.17J; 0.21J; 0.21	0.381	0.180	0.922	--	0.922
Silver	mg/kg	9	67%	0.019 J	0.095 UJ	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.095 UJ	0.095 UJ
Sodium	mg/kg	9	22%	87.2 U	826	0.883	Normal	0.913	Normal	Lognormal	3	826; 515; 442	2	87.2U; 89.0U	301	253	1059	--	1060
Thallium	mg/kg	9	56%	0.087 U	0.19	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.19	0.19
Vanadium	mg/kg	9	0%	8.1	24.2	0.818	Not Normal	0.870	Normal	Lognormal	2	24.2; 21.4	0	--	13.2	5.87	30.8	--	30.8
Zinc	mg/kg	9	0%	18.7 J	47.5 J	0.914	Normal	0.932	Normal	Lognormal	0	--	0	--	29.4	8.94	56.3	--	56.3
(ii) Clay (deeper) soils																			
Metals																			
Aluminum	mg/kg	10	0%	3050	8930	0.929	Normal	0.869	Normal	Normal	0	--	0	--	6536	1808	11961	--	12000
Antimony	mg/kg	10	0%	0.030 J	0.16 J	0.652	Not Normal	0.768	Not Normal	Unknown	3	0.030J; 0.074J; 0.16J	3	0.030J; 0.074J; 0.16J	0.0717	0.033	0.171	0.16 J	0.16 J
Arsenic	mg/kg	10	0%	1.2 J	6.7	0.964	Normal	0.863	Normal	Normal	0	--	0	--	4.41	1.73	9.61	--	9.61
Barium	mg/kg	10	0%	12.9	56.1	0.934	Normal	0.888	Normal	Normal	0	--	0	--	37.1	14.2	79.7	--	79.7
Beryllium	mg/kg	10	0%	0.20 J	0.44	0.902	Normal	0.875	Normal	Normal	0	--	0	--	0.340	0.087	0.600	--	0.6
Cadmium	mg/kg	10	0%	0.12	0.62	0.735	Not Normal	0.920	Normal	Lognormal	1	0.62	0	--	0.248	0.142	0.673	--	0.673
Calcium	mg/kg	10	0%	54500	100000	0.921	Normal	0.934	Normal	Lognormal	0	--	0	--	72860	15799	120256	--	120000
Chromium III (Trivalent)	mg/kg	10	0%	6.4	14.7	0.883	Normal	0.813	Not Normal	Normal	0	--	0	--	12.0	2.56	19.7	--	19.7
Chromium Total	mg/kg	10	0%	6.4	15.3	0.900	Normal	0.825	Not Normal	Normal	0	--	0	--	12.2	2.67	20.2	--	20.2
Chromium VI (Hexavalent)	mg/kg	10	100%	0.88 U	1.0 U	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	1.0 U	1.0 U
Cobalt	mg/kg	10	0%	4.6	13.3	0.777	Not Normal	0.857	Normal	Lognormal	1	13.3	0	--	6.77	2.69	14.9	--	14.9
Copper	mg/kg	10	0%	9	18	0.896	Normal	0.866	Normal	Normal	0	--	0	--	14.3	3.31	24.3	--	24.3
Iron	mg/kg	10	0%	9620	17200	0.913	Normal	0.907	Normal	Normal	0	--	0	--	13424	2874	22046	--	22000
Lead	mg/kg	10	0%	4.3	27.6	0.532	Not Normal	0.727	Not Normal	Unknown	1	27.6	2	27.6; 4.3	8.78	6.71	28.9	27.6	27.6
Magnesium	mg/kg	10	0%	11400	24900	0.912	Normal	0.954	Normal	Lognormal	0	--	0	--	16310	3999	28308	--	28300
Manganese (Dissolved)	mg/kg	10	0%	227	583	0.912	Normal	0.959	Normal	Lognormal	0	--	0	--	351	109	677	--	677
Mercury	mg/kg	10	70%	0.018 J	0.052 U	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	0.052 U	0.052 U
Nickel	mg/kg	10	0%	13.2 J	25.1 J	0.893	Normal	0.915	Normal	Lognormal	0	--	0	--	18.1	4.39	31.3	--	31.3
Potassium	mg/kg	10	0%	726	1870	0.893	Normal	0.894	Normal	Lognormal	0	--	0	--	1404	419	2662	--	2660
Selenium	mg/kg	10	0%	0.32 J	0.71	0.937	Normal	0.953	Normal	Lognormal	0	--	0	--	0.483	0.107	0.803	--	0.803
Silver	mg/kg	10	40%	0.019 J	0.091 U	0.857	Normal	0.870	Normal	Lognormal	0	--	0	--	0.0344	0.011	0.066	--	0.0661
Sodium	mg/kg	10	10%	90.2 U	1210	0.899	Normal	0.938	Normal	Lognormal	0	--	0	--	474	387	1635	--	1640
Thallium	mg/kg	10	0%	0.14	0.39	0.842	Not Normal	0.934	Normal	Lognormal	1	0.39	0	--	0.214	0.073	0.432	--	0.432
Vanadium	mg/kg	10	0%	11.4	19.7	0.927	Normal	0.880	Normal	Normal	0	--	0	--	16.6	2.40	23.8	--	23.8
Zinc	mg/kg	10	0%	25.0 J	57.9 J	0.894	Normal	0.955	Normal	Lognormal	1	57.9J	0	--	36.6	9.17	64.1	--	64.1

Notes:

- U Not present at or above the associated value
J Estimated concentration
UJ Estimated reporting limit
R Rejected
-- Sandy soils not encountered, no sample obtained.

ATTACHMENT A

STRATIGRAPHIC LOGS



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM VALIDATION CENTER

PROJECT NUMBER: 17322

CLIENT: ENCORE

LOCATION: PONTIAC, MICHIGAN

HOLE DESIGNATION: BG-1

DATE COMPLETED: March 7, 2008

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: M. CORAM

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	FILL, concrete, sands, gravels SP-SANDS, trace gravels, medium to fine grained, some clay mix, brown, moist	0.58		1GP		70		0.0
4				4-6'-012				0.0
6								0.0
8	ASPHALT SP-SANDS, fine grained, trace gravels, black, moist	7.00 7.50		2GP		60		0.0
10	CI-CLAYS, trace fine sands, trace silts, moderate plasticity, soft, dark gray, moist	9.00						0.0
12				3GP		50		0.0
14	GP-GRAVELS, medium sized, angular, orange, moist CI-CLAYS, trace gravels, trace fine sands, trace silts, soft, moderate plasticity, gray, moist	13.00 14.00						0.0
16								0.0
18	CH-CLAYS, trace gravels, trace silts, moderate plasticity, moderately stiff, gray, moist	17.00		4GP 17-19'-013		50		0.0
20	SP-SANDS, medium to fine grained, trace gravels, gray, wet END OF BOREHOLE @ 20.0ft BGS	19.00 20.00						0.0
22								
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS ☐

OVERBURDEN LOG 17322-WIN.GPJ CRA_CORP.GDT 3/12/08



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM VALIDATION CENTER
PROJECT NUMBER: 17322
CLIENT: ENCORE
LOCATION: PONTIAC, MICHIGAN

HOLE DESIGNATION: BG-2
DATE COMPLETED: March 7, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: M. CORAM

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	FILL, sands, gravels, mixed clays, asphalt							0.0
2	CI-CLAYS, trace fine gravels, moderate plasticity, moderately stiff, brown, moist	1.33		1GP		70		0.0
4	SM-SILTY SANDS, trace clays, trace gravels, some sand lenses < 2" thick, brown, moist	3.00						0.0
6								0.0
8		8.00		2GP		70		0.0
10	SP-SANDS, medium to fine grained, trace silts, trace fine gravels, brown, moist to very moist	9.00						0.0
12	SM-SILTY SANDS, some clays, trace gravels, soft, brown, moist	11.00						0.0
14	SP-SANDS, trace fine gravels, medium grained, brown, moist			11-13'-001 3GP		70		0.0
16	SC-SAND CLAYS, with silts, fine sands, low plasticity, soft, gray, very moist	16.00						0.0
18				4GP 16-18'-002		85		0.0
20	SP-SANDS, trace fine gravels, fine grained, gray, wet	19.42						0.0
22	END OF BOREHOLE @ 20.0ft BGS	20.00						
24								
26								
28								
30								
32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 17322-WIN.GPJ CRA_CORP.GDT 3/12/08



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM VALIDATION CENTER

PROJECT NUMBER: 17322

CLIENT: ENCORE

LOCATION: PONTIAC, MICHIGAN

HOLE DESIGNATION: BG-3

DATE COMPLETED: March 6, 2008

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: M. CORAM

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	FILL, sands, gravels, trace clays mixed, black, moist	1.00		1GP		80		0.0
4	CL-CLAYS, silty, trace sands, trace gravels, brown and gray mottled in areas, soft to medium soft, moderate plasticity, moist, some sand lenses with gravels <2" thick							0.0
6								0.0
8	SP-SANDS, medium to fine grained, trace fine gravels, brown, very moist to wet	7.00		2GP 7'-8'- -003		70		0.0
10	CH-CLAYS, trace gravels, stiff, moderate plasticity, brown/gray mottled, moist	8.00						0.0
12	CH-CLAYS, trace gravels, very stiff, moderate plasticity, brown, moist	10.00		3GP 12'-14'- -004		100		0.0
14								0.0
16	END OF BOREHOLE @ 15.0ft BGS	15.00						
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28								
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32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE
WATER FOUND 
CHEMICAL ANALYSIS 

OVERBURDEN LOG 17322-WIN.GPJ CRA_CORP.GDT 3/12/08



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM VALIDATION CENTER
PROJECT NUMBER: 17322
CLIENT: ENCORE
LOCATION: PONTIAC, MICHIGAN

HOLE DESIGNATION: BG-4
DATE COMPLETED: March 6, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: M. CORAM

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	FILL, asphalt, sands, gravels, brown, moist	0.66						0.0
2	SC-SANDS, with clays, (FILL), brown/black, moist			1GP				
4	SM-SANDY SILTS, trace clays, trace fine gravels, fine grained sands, brown, moist	3.00		3-5' -001				0.0
6								
8	CL-SILTY CLAYS, trace sands, trace fine gravels, fine grained, soft, moderate plasticity, dark brown to brown, moist	6.42		2GP				0.0
10								0.0
12	CH-CLAYS, stiff, moderate plasticity, brown/gray mottled, moist	11.42		3GP 12-14' -002				0.0
14								
16	END OF BOREHOLE @ 15.0ft BGS	15.00						
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34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 17322-WIN.GPJ CRA_CORP.GDT 3/12/08



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM VALIDATION CENTER

HOLE DESIGNATION: BG-5

PROJECT NUMBER: 17322

DATE COMPLETED: March 7, 2008

CLIENT: ENCORE

DRILLING METHOD: GEOPROBE

LOCATION: PONTIAC, MICHIGAN

FIELD PERSONNEL: M. CORAM

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	FILL-gravels, concrete, sands, black, moist	2.16		1GP		40		0.0
4	CL-CLAYS, trace gravels, some fine sands, some silts, soft to moderately soft, debris (glass, brick), gray/black (FILL),							0.0
6								0.0
8				2GP		70		0.0
10		10.00						0.0
12	CH-CLAYS, trace gravels, moderate plasticity, stiff, gray, moist			11-13 -003 3GP		70		0.0
14								0.0
16	END OF BOREHOLE @ 15.0ft BGS	15.00						
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NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 17322-WIN.GPJ CRA_CORP.GDT 3/12/08



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: GM VALIDATION CENTER

PROJECT NUMBER: 17322

CLIENT: ENCORE

LOCATION: PONTIAC, MICHIGAN

HOLE DESIGNATION: BG-6

DATE COMPLETED: March 7, 2008

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: M. CORAM

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	N' VALUE	PID (ppm)
	FILL, gravels, concrete, sands, brick, black							0.0
2	CL-CLAYS, sandy, trace silts, trace gravels, moderate plasticity, moderately stiff, brown, moist	1.42		1GP		70		0.0
4								0.0
6	SC-SANDS, with clays, medium to fine grained, trace fine gravels, brown, moist	6.00						0.0
8				2GP 7-9 -004		95		0.0
10	CI-CLAYS, trace sands, trace gravels, moderate plasticity, soft, moist	9.50						0.0
12								0.0
14	CH-CLAYS, trace gravels, moderate plasticity, stiff, moist	13.00		3GP		90		0.0
16	END OF BOREHOLE @ 15.0ft BGS	15.00		13-15 -005				
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34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 17322-WIN.GPJ CRA_CORP.GDT 12/12/08



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM VALIDATION CENTER
PROJECT NUMBER: 17322
CLIENT: ENCORE
LOCATION: PONTIAC, MICHIGAN

HOLE DESIGNATION: BG-7
DATE COMPLETED: March 7, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: M. CORAM

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	FILL, asphalt, sands, gravels, mixed clays, black	0.66		1GP		70		0.0
4	SP-SANDS, trace gravels, medium to fine grained, brown, moist			3-5' -006				0.0
6	CI-CLAYS, trace sands, trace gravels, moderate plasticity, soft, brown, very moist	6.00		2GP		90		0.0
8								0.0
10	CH-CLAYS, trace gravels, moderate plasticity, stiff, brown, moist	9.00		3GP 12-14' -007		100		0.0
12								0.0
14								0.0
16	END OF BOREHOLE @ 15.0ft BGS	15.00						
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34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 17322-WIN.GPJ CRA_CORP.GDT 3/12/08



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM VALIDATION CENTER
PROJECT NUMBER: 17322
CLIENT: ENCORE
LOCATION: PONTIAC, MICHIGAN

HOLE DESIGNATION: BG-8
DATE COMPLETED: March 7, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: M. CORAM

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	FILL, sands, gravels, asphalt, brick, mixed clays, moist	1.50						0.0
2	SM-SANDS, with clays and silts, very soft, low plasticity, brown, moist	2.00		1.5'-2'-008 1GP		70		0.0
4	CH-CLAYS, trace gravels, moderate plasticity, stiff, brown, moist							0.0
6								0.0
8				6'-8'-009 2GP		95		0.0
10	END OF BOREHOLE @ 10.0ft BGS	10.00						0.0
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32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 17322-WIN.GPJ CRA_CORP.GDT 3/12/08



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

Page 1 of 1

PROJECT NAME: GM VALIDATION CENTER

PROJECT NUMBER: 17322

CLIENT: ENCORE

LOCATION: PONTIAC, MICHIGAN

HOLE DESIGNATION: BG-9

DATE COMPLETED: March 7, 2008

DRILLING METHOD: GEOPROBE

FIELD PERSONNEL: M. CORAM

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	FILL, concrete, sands, gravels, clay mix							0.0
2	SP-SANDS, medium to fine grained, trace gravels, brown, moist	2.00		1GP		80		0.0
4	CH-CLAYS, trace gravels, moderate plasticity, stiff, brown, moist	3.00		2-3' -010				0.0
6				4-6' -011				0.0
8	CI-CLAYS, trace sands, trace gravels, some silts, low plasticity, soft, gray, moist	7.00		2GP		90		0.0
10	END OF BOREHOLE @ 10.0ft BGS	10.00						0.0
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34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 17322-WIN.GPJ CRA_CORP.GDT 3/12/08



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

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PROJECT NAME: GM VALIDATION CENTER
PROJECT NUMBER: 17322
CLIENT: ENCORE
LOCATION: PONTIAC, MICHIGAN

HOLE DESIGNATION: BG-10
DATE COMPLETED: March 7, 2008
DRILLING METHOD: GEOPROBE
FIELD PERSONNEL: M. CORAM

DEPTH ft BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH ft BGS	BOREHOLE	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
2	FILL, asphalt, sand SC-SANDS, some clays, trace gravels, trace silts, medium to fine grained, brown, moist	0.16		1GP 2-4' -014		90		0.0
4	CH-CLAYS, trace fine gravels, moderate plasticity, stiff, brown, moist	4.00						0.0
6	CI-CLAYS, some sands, moderate plasticity, soft, moist	5.00						0.0
8	CH-CLAYS, trace fine gravels, moderate plasticity, stiff, brown, moist	6.00		2GP		80		0.0
10	END OF BOREHOLE @ 10.0ft BGS	10.00		8-10' -015				0.0
12								
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28								
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32								
34								

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

CHEMICAL ANALYSIS



OVERBURDEN LOG 17322-WIN.GPJ CRA_CORP.GDT 3/12/08